

Draft Water Resources Management Plan 2024

Statement of Response



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1. Introduction

We published our draft Water Resources Management Plan 2024 on 7 December 2022, for a 14-week consultation period to 15 March 2023. The plan defines our strategy to achieve a long-term, best-value and sustainable plan for water supplies in the North West that is resilient to drought. It ensures that we have an adequate supply of water to meet demand over the next 60 years (from 2025 to 2085). In this document, we refer to the draft Water Resources Management Plan 2024 as our 'draft plan'.

In parallel, our regional water resources planning group, Water Resources West (WRW), consulted on its draft regional plan. The purpose of regional plans is to address the need for resilient and sustainable water supplies at the national and regional scale, driven by increasing pressure on water supplies from climate change, population increase, and the need to protect the environment. Our company draft plan was developed in an integrated way with the regional plan, so that it reflects the national and regional context.

During the 14-week consultation period, we held three consultation events during which we discussed our draft plan with customers, regulators and stakeholders. We received lots of informal feedback from these events, as well as 26 formal consultation responses on our draft plan. The comments and responses reflect a high level of interest in the North West's water supply, the environment and our proposals for the future.

This Statement of Response describes how we have taken account of feedback from the consultation events and responses, and the changes we have made to our plan as a result. It also outlines how we have addressed other changes that occurred during the consultation window, including the issue of a new version of the water resources planning guidelines and the third round of regional reconciliation planning, in which water transfers between companies and regions were agreed. This document has been sent to those who provided responses on the draft plan and has also been sent to the Secretary of State for the Department for Environment, Food and Rural Affairs (Defra). It is also published on our website. In addition to our Statement of Response, we will submit our revised draft Water Resources Management Plan 2024 by 21 June 2023, referred to in this document as our 'revised draft plan'.

This Statement of Response is structured as follows:

- Section 1 explains the background to this document;
- Section 2 describes the consultation process;
- Section 3 summarises the responses received and our replies, and changes made to our revised draft plan;
- Section 4 outlines the activities to finalise the Water Resources Management Plan, next steps, as well as our planned future engagement;
- Appendix A includes a table of all responses received, our replies and signposting to changes made to the revised draft plan;
- Appendix B includes a common statement for WRW and its member companies; and
- Appendix C includes a common statement on the need to continue developing the Severn Thames Transfer Strategic Resource Option.

2. Our consultation process

We began working on our draft plan in 2020 and completed an enhanced pre-consultation phase with statutory consultees in winter 2021. The purpose of enhanced pre-consultation was to discuss our approach to plan development and initial ambitions of the plan. During this period, consultees provided an initial view and highlighted areas they would like to work with us on as we continued to develop the plan.

The next step in our consultation process was to complete a pre-consultation phase in early 2022, where we contacted nearly 200 stakeholders and consultees via email, which included stakeholders from our previous Water Resources Management Plans and Drought Plans. We received numerous comments and questions through our pre-consultation process, as summarised in Section 3.2 of our draft plan main report, and took account of these comments in building our plan. We were also part of the pre-consultation process for the Water Resources West Regional Plan, where we presented at a series of virtual workshops.

The draft plan was published on our company website and was available in hard copy at our Head Office at Lingley Mere, Warrington. Consultation on the draft plan was promoted on our corporate website, through social media platforms, and via email to around 700 stakeholders. Our Twitter, LinkedIn and press release posts picked up over 6,500 impressions and our Water Resources webpage has had over 1000 visitors since the draft plan was published in December 2022; with 20% clicking through and opening the main document. We ensured that all consultee groups were covered by our engagement activities, in line with the Water Resources Planning Guideline.

Further to this, our website also contained an online form with our consultation questions as shown below. The responses submitted via this method were sent directly to the wrmpconsult mailbox and the Secretary of State. Where the responses shown in Appendix A have been received via this method this is shown as 'Respondent name (webform)'.

The consultation questions we asked were as follows:

1. We are planning to meet the new government requirement of being resilient to 1 in 500-year droughts by 2039 (before then we will be resilient to 1 in 200-year droughts). This improved resilience will be delivered by a combination of leakage reduction and demand management. We would appreciate your thoughts on:
 - a. The importance of this increase in resilience to you;
 - b. Our method of delivery, i.e. through reducing leakage and managing demand (e.g. offering smart meters, conducting water efficiency audits etc.); and
 - c. The timing of the change, i.e. if 2039 is acceptable or you would prefer it to occur sooner or later.
2. By 2050, our ambition is to halve leakage through investment in asset health, innovation and network optimisation. This will require significant investment, what is your view on this approach?
3. By 2050, our ambition is to help reduce customer use per person by over 20 per cent (from around 140 to 110 litres per person per day). To achieve this we will implement a large-scale programme of smart metering, as well as providing water efficiency audits and our education programme. This will all require significant investment and will need to be combined with government interventions, for example the labelling of water-using products such as taps, showers, toilets, dishwashers and washing machines. What is your view on this approach?
4. With regards to water trading, our plan is to only export water to other areas of the country if the transferred water is replaced elsewhere in the North West. We have developed a set of key criteria which a future water transfer must adhere to: our water trading principles (see below). There are also benefits of water trading for the North West, for example the options developed for trading can also be used to improve resilience here. What are your views on the potential for us to export water from the North West to other areas of the country when they are at risk of drought, and replace this water with other options in the North West? Are there particular aspects of water trading that you would like us to consider in our plan?
5. The North West is one of the most vulnerable areas in the country for temporary use bans (hosepipe bans), with a resilience of five per cent risk per year (1 in 20 years). In line with customer preferences identified by our research, our plan aims to improve this to 2.5 per cent risk per year (1 in 40 years) to be more aligned with neighbouring water companies. We would appreciate your views on whether this should be a priority for us?

During the consultation period, we held three successful consultation events, in order to discuss the plan directly with interested parties. To reach as many stakeholders as possible, two events were held online and one in person in Preston, Lancashire (24 January 2023). The events attracted 83 delegates from 60 different organisations including the Environment Agency, local authorities and councils, recreational groups, conservation and wildlife trusts, local businesses, and charities (Figure 1). We also met with our statutory consultees throughout the process in order to discuss the plan and clarify their consultation comments. In addition to the consultation process, we also conducted several pieces of customer research (see our *Revised Draft Technical Report – Customer and stakeholder engagement*) throughout the development of the draft plan, and the results from this research were also used to build the plan.

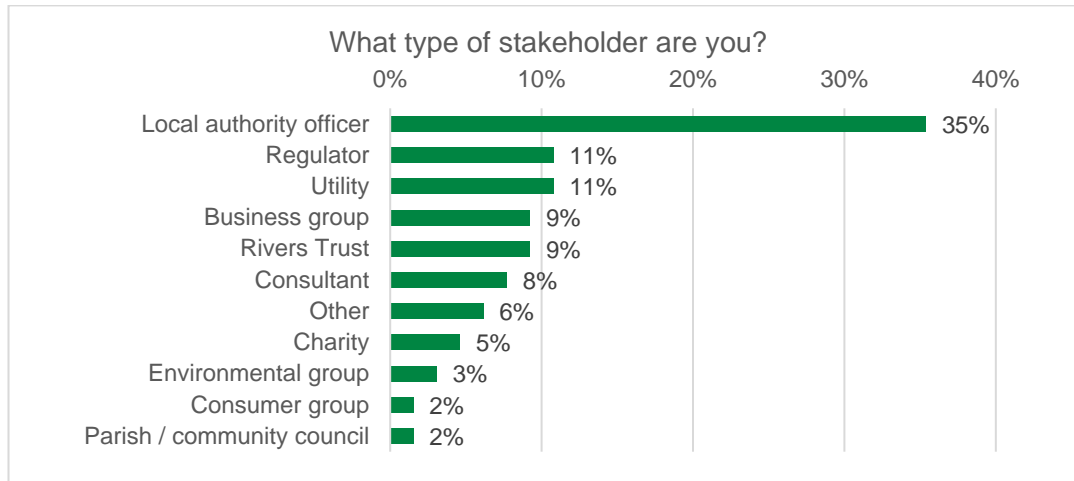


Figure 1 Stakeholder types at dWRMP24 consultation events

A total of 26 written responses on the draft plan were submitted to the Secretary of State from our consultees; a detailed list of respondents is provided in Table 1 below. Figure 2 shows the key themes of the responses.

Table 1 List of respondents and themes of responses

Respondents to our draft plan consultation	Themes of response
Arqiva	Demand management and leakage
CCW	Levels of service; Demand management and leakage; Water transfers
Cheshire West and Chester Council	General
Canal and Rivers Trust	Decision-making
Cumbria GeoConservation	Environment
Environment Agency	Drought resilience; Supply; Levels of service; Demand management and leakage; Target headroom; Water transfers; Environment; Decision-making; General
Everflow	Demand; Drought resilience
Friends of the Lake District	Environment; Demand management and leakage; Water transfers; Levels of service; Options; General
Greater Manchester Combined Authority	General
Keswick Flood Action Group	Documents; Decision-making; Options; Water transfers; Levels of service
Lancashire County Council	Levels of service; Demand management and leakage; Water transfers; Drought resilience
Mersey Rivers Trust	Levels of service; Demand management and leakage; Water transfers; General
Market Operator Services Ltd	Demand management and leakage
Natural England	Environment; Supply; Decision-making; Demand management and leakage; Water transfers; Drought resilience; Documents; Options
Natural Resources Wales	Environment; Options; Water transfers; Supply
Ofwat	Demand management and leakage; Supply; Options; Decision-making; General

Peak District National Park	Demand management and leakage; Levels of service; Water transfers
Strategic Panel & Committees	Demand management and leakage
UK Water Retailer Council	Demand management and leakage
Water Resources West	Water transfers; General
Waterscan	General; Decision-making; Environment; Options; Demand management and leakage; General
WaterWise	Demand management and leakage; Decision-making
Wave Utilities	Demand management and leakage
Welsh Dee Trust	Demand management and leakage
Individual 1	Environment
Individual 2	General

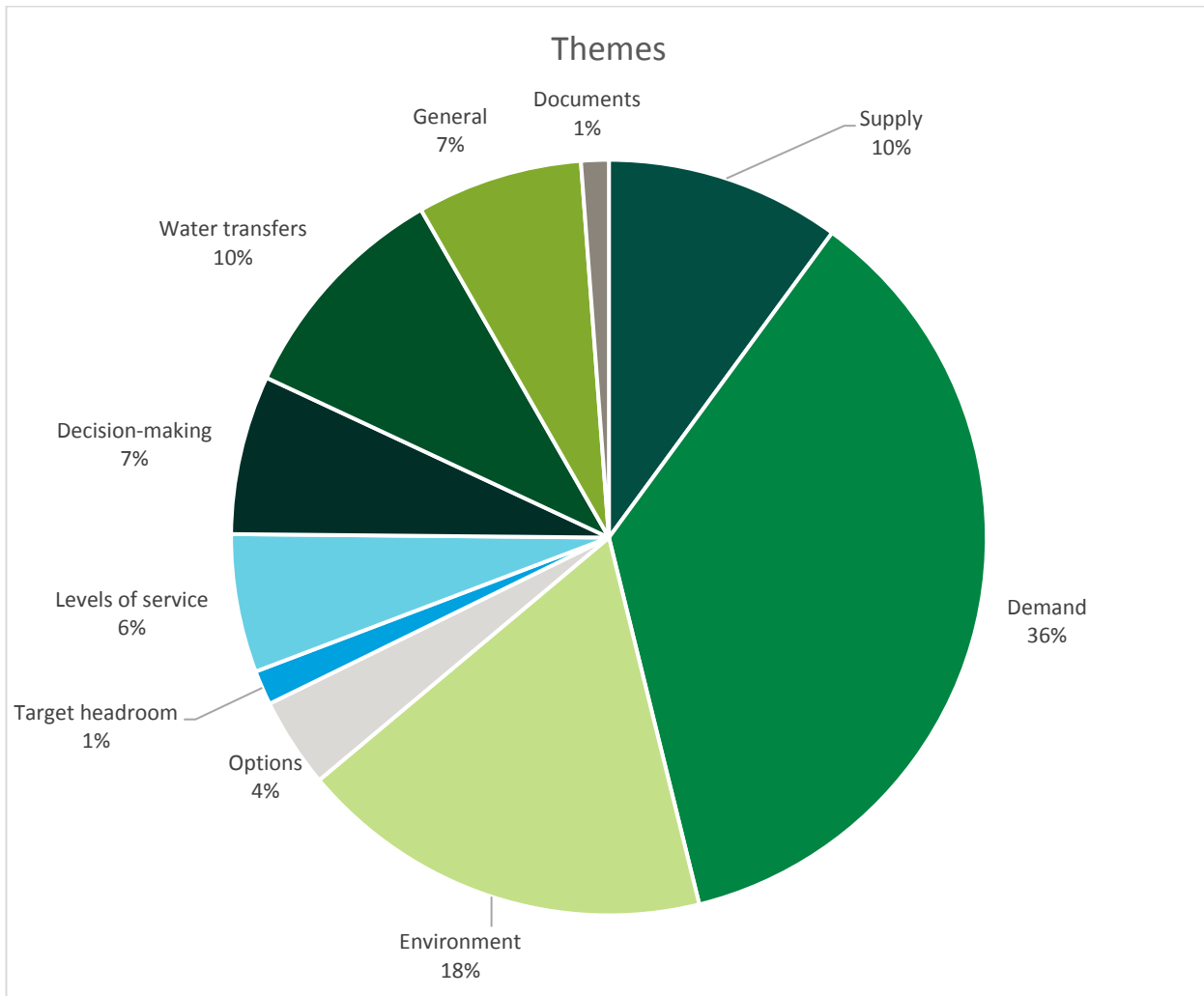


Figure 2 Breakdown of themes by category

3. Summary of responses received and our replies

3.1 Consultation events

On 12, 19 and 24 January 2023, we hosted a series of workshops focused on our draft plan. Each consultation event was designed to seek feedback from stakeholders on the following topics: reducing leakage and demand, improving levels of service, protecting and enhancing the environment, and water transfers. The fifth session of each workshop comprised a presentation from Water Resources West, followed by a question and answer session.

The first two workshops were hosted online, using Zoom, and the third was held in person, in Preston. Each session consisted of a short presentation given by United Utilities Water representatives, followed by facilitated discussions in either virtual or in-person breakout rooms. In addition, stakeholders were asked to vote, using Slido, on a number of topics. We instructed a specialist stakeholder engagement consultancy to independently facilitate the workshops and to take notes of the comments made by stakeholders. Constructive feedback was received from stakeholders on the range of topics covered and there was good opportunity for discussion and comment.

3.1.1 Topic 1: Reducing demand for water

Stakeholders were introduced to our plan to reduce demand to 110 litres of water per person per day and to halve leakage rates by 2050, and then asked for their feedback on these proposals.

In the discussions, it was clear that leakage was a critically important issue for stakeholders, and there was widespread support for our proposals for investment to achieve leakage reduction, with 79% either agreeing or strongly agreeing with the plan in electronic voting. However, some felt that the fact that it was in line with the national standard meant that it was essentially a requirement, not an ambition, and wanted to see United Utilities Water exceed this and do more to drive down leakage rates. In our revised draft plan, we have increased our leakage reduction plans for the period 2025–30 (AMP8) relative to our draft plan. Environmentally, with abstraction from the River Dee cited as a major concern, reducing leakage was a key issue for attendees, particularly those representing environmental groups.

Verbatim comment

“IT’S IN LINE WITH THE REST OF THE INDUSTRY. IT WOULD BE GREAT IF IT COULD BE QUICKER, BUT IT’S IMPORTANT TO BE REALISTIC.” - UTILITY

As Figure 3 shows, there was general agreement in our proposed target to reduce customer water use by 2050, in line with government expectations, and our proposed measures to reduce demand were favoured by stakeholders.

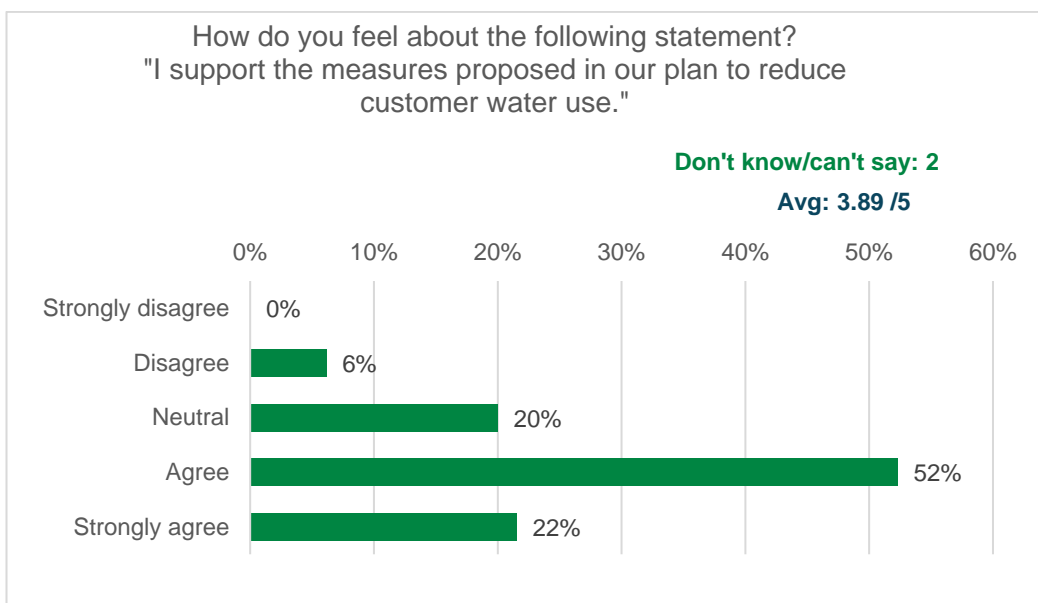


Figure 3 Bar chart showing support for proposed plan to reduce customer water use

3.1.2 Topic 2: Improving levels of service

The second session set out our plan to improve current service levels, driving down the risk of water restrictions and drought permits being implemented in any given year. Stakeholders were then asked for feedback on whether these proposed improvements were supported.

Verbatim comment

“I SUPPORT THIS APPROACH AND I SUPPORT REDUCING DROUGHT PERMITS BECAUSE IT IMPACTS THE ENVIRONMENT.”

-CONSUMER GROUP

The response to our proposal to reduce the risk of Temporary Use Bans (TUBs) was mixed. Stakeholders were either in favour or wanted to see restrictions brought in earlier. There was consensus for reducing the risk of using drought permits and drought orders, to protect the environment.

3.1.3 Topic 3: Protecting and improving the environment

In the third session, stakeholders were introduced to the concept of ‘environmental destination’, which maps water companies’ long-term destination on sustainable water resources management, including abstraction licence changes and catchment improvements. They were then asked for their feedback on long-term sustainable abstraction.

Stakeholders were clear that ensuring long-term sustainable abstraction was a critical priority, and expressed support for nature-based solutions.

Discussing the choice between investing in new water sources or reducing demand to tackle long-term sustainable abstraction, many agreed that the answer lay in a combination of the two, with particular preference given to a ‘hierarchy of actions’, where the most sustainable option is utilised first: for example, by reducing demand, tackling leakage, and keeping more water within the environment through catchment management.

Verbatim comment

“IT’S ABOUT PUTTING RESILIENCE BACK INTO THE LANDSCAPE, SUCH AS WETLANDS AND PEATLANDS, SO THAT YOU DON’T HAVE PEAKS AND TROUGHS AROUND WATER SUPPLIES AND WATER QUALITY. THEREFORE, CATCHMENT MANAGEMENT APPROACHES SHOULD BE EMBEDDED MORE STRONGLY INTO ANY PLANS.” - RIVERS TRUST

3.1.4 Topic 4: Water transfers

In the final session, stakeholders were introduced to the concept of water transfers to aid supply to areas of the UK experiencing water stress; all transfers would involve developing new sources in the North West to supplement existing supplies, providing protection for customers and the environment, while also potentially offering benefits through enhanced resilience and investment. Stakeholders were then asked for their feedback.

Verbatim comment

“I AGREE THAT IT’S SENSIBLE AND INEVITABLE, SO BEING ONE OF THE FIRST TO SUPPORT IT IS A GOOD IDEA. WE ARE ALL ONE COUNTRY, SO WE NEED TO LOOK AFTER EVERYONE IN IT AS WELL AS THE ENTIRE ENVIRONMENT.” - BUSINESS GROUP

There was lively debate over the question of water transfers; many could see the benefit in principle, but had concerns over the long-term unpredictability of climate change and any detriment to water resources and natural habitat in the North West. Others felt that it would need a sustained and sensitive communications and engagement programme to explain it to customers, while some were enthusiastically in favour. The majority of stakeholders supported the concept of water transfers.

3.2 Consultation responses

The 26 responses received on the draft plan show a high level of interest in the region's water supply and related environmental factors. There were many expressions of support for the plan, as well as proposals for modification, improvement and clarification.

Several respondents commented on more than one issue, or on different aspects of a single issue. As a result, the 26 responses gave rise to over 350 detailed comments. We have carefully considered all the responses received and have taken account of these in our revised draft plan and supporting documents. The key themes are discussed in the following sections and all the responses, with our replies, are shown in Appendix A. The key themes will be discussed below and the relevant sections can be found in Table 2.

Table 2 Key consultation response themes and relevant document section

Theme of response	Relevant section in this document
Demand and leakage	3.3
Levels of service	3.4
Environment	3.5
Water transfers	3.6
Supply	3.7
Decision-making	3.8

3.3 Reducing demand for water

In our draft plan, we set out ambitious targets to reduce water consumption to 110 litres of water per person per day and halve rates of leakage by 2050 in line with government targets. Since publication of our draft plan in December 2022, there have been several key updates that we have taken into account for our revised draft plan, as well as consultation feedback, including:

- Publication of interim targets to reduce public water supply and leakage, and new targets for reducing business demand, as set out in the Government's Environmental Improvement Plan 2023 (which means that we need to reduce demand more quickly than previously planned); and
- A commitment from Defra to launch water labelling by 2025 rather than 2030, which is reflected in the Final Water Resources Planning Guideline.

3.3.1 Leakage strategy

Consultation responses

It is clear from feedback received during our consultation events and in consultation responses, that reducing leakage is a critically important issue for stakeholders. Overall, the majority of stakeholders were supportive of our long-term leakage reduction ambition and our proposals for investment to achieve this. Furthermore, stakeholders told us that investment in demand and leakage reduction options should be a priority. Some stakeholders, however, thought we should be more ambitious and reduce leakage further and sooner.

Our reply

Leakage reduction and demand management was one of three 'Strategic Choices' included in our draft plan. We wholeheartedly believe that this is an essential part of making sure we achieve a best-value and sustainable plan for water supplies in the North West, and so it remains a strategic choice for our revised draft plan.

Our leakage reduction strategy remains largely unchanged from what was set out in our draft plan, as a result of the overall support it received from customers, stakeholders and regulators. Acting on the key updates outlined above, and other feedback received relating to reducing demand, we have made the following updates to our leakage reduction strategy as part of our revised draft plan:

- Introduced the options 'District Metered Area (DMA) optimisation' and 'pressure management' in the Strategic Resource Zone to help us reduce leakage more quickly to meet the interim leakage targets;
- Included a smart metering programme for non-households which will have leakage benefits (for example, smart meters will improve our ability to locate leaks);
- Removed the option to meter properties with common/shared supply pipes, as this costly option is no longer needed with the introduction of the non-household metering programme and water labelling for our water efficiency plan; and
- Updated the mains renewal option included in our draft plan, to reflect improvements to a key corporate system used to derive costs and benefits.

Our decision-making approach, which determines what options are required to address a resource zone supply-demand balance deficit and/or to deliver a strategic choice, considers demand and leakage management options first, before supply options are considered. We also apply our decision-making approach in a way that optimises all aspects of demand reduction (household demand, non-household demand and leakage) simultaneously to ensure we select the best value set of demand options, since some options, such as metering options, have benefits to more than one aspect of water demand.

We have applied our decision-making approach to update our revised draft plan, and in doing so we have re-optimised our demand management programme to achieve all of the interim and long-term leakage, consumption and business demand reduction targets. There is a balance to be struck on the pace of delivering leakage reductions, when considering how to do this in a sustainable way and its impact on customer bills. We feel the leakage reduction trajectory set out in our revised draft plan strikes the right balance, and achieves our objectives in a 'best value' way. We have carried out a series of sensitivity tests, alongside programme appraisal and adaptive planning, to demonstrate that our approach is best value.

Full details of our leakage reduction strategy, demand adaptive plan and sensitivity testing can be found in our *Revised Draft Technical Report – Deciding on future options*.

3.3.2 Household consumption strategy

Consultation responses

The feedback we received on our household consumption strategy was generally positive, both in terms of our proposed levels of household demand reduction, with a focus on 'per capita consumption' (PCC), and the types of approach we proposed to deliver them. Some respondents pressed us to go even further, but many recognised the challenges involved in changing customer behaviour and accurately predicting the benefits of different interventions.

Our reply

Demand targets

For the revised draft plan we retained the main government target to reach an average dry year PCC of 110 litres/head/day by 2050. In addition, we incorporated interim demand targets from the government's Environmental Improvement Plan. In terms of household demand, salient targets included a 20% reduction (from 2019/20 levels) in public water supply per head of population by 2038, with interim targets of 9% by 31 March 2027 and 14% by 31 March 2032.

Smart meters

Household smart meters remain at the core of our strategy to meet these targets. Consistent with the draft plan, we aim to deliver around 675,000 household smart meters by 2030. However, we were challenged by Ofwat with regards to the cost of our smart metering options relative to the benefits provided. Following comprehensive reviews by our consultancy providers we have significantly reduced our unit costs included in our draft plan. This was achieved by making several changes to the costs and assumed benefits of our options, as well as re-considering our plans to meter common supply pipes which is both challenging and extremely expensive. A full description of the changes we made is provided in our response to item 25.06 in Appendix A. It should be noted that if metered

charging uptake was to increase significantly due to compulsory metering, which is not currently permitted in our case, our unit cost would drop below the industry average, thereby demonstrating how efficient our costs are.

Unlike most other companies we are not located in a 'water-stressed' area, which is the requisite for compulsory metering. We first need to install a smart meter and then either: (i) encourage customers to switch to billing via the meter, for example through our 'lowest bill guarantee' scheme; or (ii) wait for a change of occupier, at which point the meter can be used for billing. Even when initially installed, however, smart meters provide significant secondary benefits, for example helping us to reduce leaks (section 3.3.1).

We received several helpful responses from companies involved in the delivery of smart meters. This helped to strengthen existing partnerships and forge new links.

Government intervention

We remain dependent on government intervention to achieve our PCC targets, in particular water labelling. This initiative involves introducing a mandatory water efficiency label for relevant appliances, to inform consumers and encourage the purchase of more water efficient products for both domestic and business use. In the draft plan we assumed that the benefits of water labelling would be realised from 2030. In line with new instructions in the updated water resources planning guidelines we have accelerated these benefits to 2025. We remain concerned about the scale and timing of these benefits, and have retained a pathway in our adaptive plan to represent under-delivery of PCC targets (*Revised Draft Technical Report – Deciding on future options*).

Water efficiency

We have an 'always on' communication plan which aims to encourage household customers to avoid waste, use less and which also connects them to where their water comes from and the broader impact of their behaviour on the local environment. We will carry this forward into AMP8 (2025-2030), evolving our messaging to ensure it remains relevant and effective, as well as expanding our focus to non-household customers.

3.3.3 Non-household consumption strategy

Consultation responses

Whilst overall our feedback in this area was positive, we received a range of useful suggestions to help significantly improve our non-household consumption strategy for the revised draft plan.

Our reply

Smart meters

In terms of feedback on our non-household strategy, adoption of smart meters featured most prominently. We received recommendations from several respondents including Market Operations Services Ltd (MOSL) to introduce non-household smart meters. Whilst our draft plan considered non-household smart meters, there were gaps in our understanding concerning the specific benefits they could provide, hence they did not feature in our preferred plan. We worked hard to fill these gaps and in our revised draft plan we set out plans to issue smart meters to around 170,000 metered non-household properties by 2030. This represents about 90% of total non-household properties.

Demand targets

We have incorporated a range of demand targets from the government's Environmental Improvement Plan including a 9% reduction in non-household water use or 'business demand' by 2037-38 and a 15% reduction by 2049/50 (from 2019/20 levels). These additional targets supported the introduction of non-household smart meters.

Water efficiency

As per the draft plan, we are still planning to deliver thousands of non-household water efficiency visits to save almost 10 Ml/d by 2030. These visits will identify and where possible fix leaking toilets, taps, urinals and showers, and where appropriate fit water-saving devices to address both leakage and wastage. We will work with retailers to structure a scheme which ensures businesses across our region have access to water efficiency visits free of charge. The scheme will encourage retailers to engage with their customers directly, however if take-up of the scheme by certain retailers or particular areas or sectors is limited then we will deliver the visits ourselves.

We are also looking to expand some of our household water efficiency initiatives to non-household customers, for example the 'always on' communication plan described above. We will work with retailers to ensure the most effective delivery of communication materials.

3.4 Improving levels of service

All water companies have stated minimum levels of service, which stipulate the frequency at which they expect to apply water use restrictions or apply for drought permits and orders during dry weather. The North West has one of the lowest levels of resilience to Temporary Use Bans (TUBs), previously known as hosepipe bans. This is due to the nature of our supply area where we have the highest proportion of surface water, and lowest proportion of groundwater sources. This means we can experience sharp decreases in supplies in response to periods of low rainfall, but also rapid refill. Therefore, the point at which TUBs may be required is reached more often than in other parts of the country.

In Section 7 of our draft plan main report, we proposed to improve our stated minimum levels of service for TUBs from 1 in 20 years to 1 in 40 years on average (or from 5% to 2.5% annual average chance) by 2031. This improvement to the TUB level of service also brings a benefit to drought permits and orders. Drought permits and orders can only be applied for after a TUB has been implemented and, therefore, have a lower expected frequency of occurrence. By improving the TUB level of service, we were also able to propose an improvement to our drought permit and order level of service from 1 in 40 years to 1 in 50 years (or from 2.5% to 2% annual average chance). These level of service improvements were one of our key strategic choices in our draft plan. We included this strategic choice after listening to customer and stakeholder views and conducting new customer research which showed strong support for improving the TUB level of service.

In the draft plan we explained that through our ongoing efforts to reduce demand and leakage we could deliver these level of service improvements by 2039. However, our initial ambition was to provide this improvement much sooner, by the end of the next business plan period, in 2030. Whilst the customer 'willingness to pay' produced by our research would support developing options solely to improve TUBs level of service within this timeframe, we decided to explore other ways to deliver this to minimise the impact on customer bills. By exploring other strategic opportunities we found that we could deliver this improvement earlier, by 2031, through reducing demand and leakage and by dual-purposing new supply options that would be required to facilitate water transfers. This was based on our understanding of utilisation patterns of transfer recipients. Water transfers will not be needed all of the time, and so the supply options developed for transfers could also be used to provide additional resilience to the North West outside of transfer periods, helping to reduce the frequency of TUBs. By dual-purposing the supply options, rather than developing some for water transfers and others to deliver the TUBs frequency improvement, the impact on customer bills would be much less.

Consultation responses

While most customers have expressed support for the planned level of service improvement for TUBs, feedback from our consultation events and consultation responses was mixed. Stakeholders were either in favour or were concerned about taking more water from the environment to reduce the frequency of TUBs. Some stakeholders wanted to see TUBs brought in earlier during dry weather events, with one stakeholder's preference to increase the frequency of TUBs, if they would address environmental effects of abstraction from rivers during periods of low rainfall. In contrast, there was consensus and strong support for reducing the frequency of drought permits and orders.

Some stakeholders also expressed a preference for reducing demand and leakage as a priority and were pleased that the improved levels of service could be achieved (in part) by demand management options. We also received feedback on our technical approach stating that we should present improvements to levels of service as options and demonstrate how these have been selected using our best value decision making methods.

Our reply

We are pleased that customers and many respondents support our plans to improve stated minimum levels of service for TUBS and drought permits and orders by 2031. We acknowledge the concerns raised in relation to potential impacts on the environment from reducing the frequency of TUBs and take this very seriously. Therefore,

acting on this feedback we now plan to deliver TUBs and drought permits and orders level of service improvements by 2031 through demand and leakage reduction options only, rather than being delivered using supply options as well, as stated in our draft plan. We now no longer need supply options for TUBs because for our revised draft plan we have:

- adopted the government's new Environmental Improvement Plan interim demand and leakage reduction targets, meaning we will reduce demand and leakage further and faster;
- included a smart metering programme for non-households;
- included the benefits of water labelling from 2025 rather than 2030; and
- a reduced water transfer volume in 2030, meaning that we do not need to develop as many supply options as identified in the draft plan, and any new sources are only required to offset the water lost from a transfer.

In order to address the feedback on the technical approach we adopted in the draft plan for selecting and presenting improvements to level of service, we have now incorporated a specific option to represent the change in level of service for TUBs from 1 in 20 years to 1 in 40 years. As shown in Table 7, this option is now included in our preferred plan. The *Revised Draft Technical Report - Deciding on future options* explains how the option was developed and appraised alongside other options.

3.5 Protecting and improving the environment

Ensuring that our plan is sustainable is crucial. While protecting the environment in the short term is our immediate priority, we also need to make sure our abstraction licences remain sustainable in the long term considering climate change and growth. This enables us to fully plan for potential licence changes in the future and ensure we have options in place at the correct point in the plan.

3.5.1 Environmental destination

Consultation responses

Stakeholders were clear that ensuring short and long-term sustainable abstraction was a key priority. We received feedback on our draft plan highlighting concerns that we were not committing to implement sustainability reductions soon enough in line with the Water Framework Directive (WFD) requirements from the River Basin Management Plans. Sustainability reductions are licence changes put in place to ensure our abstractions do not cause environmental deterioration in the short to medium term future. We received positive feedback regarding our approach to addressing problems proactively before they affect either customers or the environment within which we operate. However feedback also highlighted the lack of detail of certain elements in the draft plan, including:

- Reflection of environmental actions on Welsh legislation;
- How mitigation measures from Heavily Modified Waterbodies have been considered within the plan;
- Actions to ensure that our activities meet key legislative requirements; and
- Our partnership approach.

Our reply

With regards to the short term issues, for our revised draft plan we have reviewed the hydrological status of all water bodies from which we currently abstract, and are confident that all current issues (hydrology status not supporting 'good') are addressed in either AMP7 (2020-25) or AMP8 (2025-30) Water Industry National Environment Programme (WINEP) investigations. Waterbodies linked to our reservoirs have already been addressed from previous heavily modified waterbodies (HMWB) assessments and have been screened out from a WFD perspective accordingly. New or increased compensation flows have been implemented (or implemented by AMP8) as necessary. In response to the feedback, we have provided more details on how sustainability reductions

are investigated along with how we plan to deliver them in the *Revised Draft Technical report - Environmental destination*.

It is important to note that sustainability reductions implemented as a consequence of the WINEP investigation consider the WFD compliance against the Environmental Flow Indicator (EFI). As well as impact on flows with respect to EFI, investigations also consider the sensitivity of the relevant waterbodies, spatial impact from groundwater abstraction on surface waters and the presence of a priority species or SSSI. Where it cannot be demonstrated that abstraction up to the licence limit does not cause ecological deterioration, an option appraisal process is completed to identify and evaluate measures (solutions) for avoiding the risk of deterioration. The process for how we undertake no deterioration investigations (sustainability reductions) through WINEP is covered in more details in our *Revised Draft Technical report - Environmental destination*.

In light of feedback, in order to deliver sustainability reductions at pace we have developed a strategy to help meet this expectation - noting that only 'no regret' solutions from the AMP7 investigations (solutions implemented in AMP8) can be accelerated to 2027. In regards to potential AMP9 sustainability reductions (licence capping), we have made significant improvements by accelerating the vast majority of changes. However, it's not possible at this stage to accelerate all licence changes by 2027, because some investigations have not started or concluded. While we have made the provision in our plan to quantify what the potential impact is on the resource zone deployable output (based on Environment Agency licence capping guidelines), we will not know what solution is required (and when it can be implemented) or the potential impact, until the investigations have concluded in 2026. We have set out our strategy in the *Revised Draft Technical Report - Environmental destination*.

With regards to the long-term environmental destination, we have worked with the local Environment Agency teams to profile which licences are more likely to cause environmental deterioration first. However this is highly subjective and we've agreed at this stage that due to the very high uncertainties associated with the data, that timing (and degree) of deterioration risk will be investigated in AMP8 WINEP and therefore not taken any further at this stage. We have, however, undertaken sensitivity analysis to look at how much licence reduction could be fast tracked in our final planning supply demand balance when considering more accelerated impacts from climate change. This is set out in section in the *Revised Draft Technical Report – Environmental destination*.

Uncertainty in the potential long-term environmental deterioration risk due to climate change is very high. As a consequence, we are committed to undertaking a significant amount of investigations through AMP8 WINEP and beyond to better quantify the long-term deterioration risk (and timing) from our licences due to climate change. These investigations will also identify where specific protected areas, such as Sites of Special Scientific Interest (SSSIs) are more sensitive to our abstractions, and provide solutions to mitigate the risk of impact materialising in the long term. These investigations will identify where, when and how much licence change will need to occur and what solutions are required to ensure licences prevent deterioration in the long term, as well as the potential environmental benefits. While solutions are predominantly focused on addressing the local risk of deterioration, through the AMP8 investigations, we will look for opportunities to link solutions with wider catchment measures to ensure that the maximum benefit can be realised. We will also look to ensure that these investigations dovetail with the pilot nature-based solution investigations on the Wyre catchment as well as the wider Water Resources West (WRW) environment destination option appraisal assessments in AMP8.

Acting on feedback stating that we are not being ambitious enough in our plan with regards to the environment, we have provided more detail of what WINEP schemes we are planning for 2025-2030 (AMP8, Table 3). We have a track record of delivering environmental improvement projects and are committed to undertaking significant further investigations and implementation of schemes in AMP8 and beyond. In AMP8 alone, we have put forward 50 schemes for implementation in the North West and Wales related to Water Resources drivers for PR24. This also includes improvements to 10,667 hectares of SSSIs supporting our overall target to achieve 100% of our owned SSSIs in 'favourable' or 'unfavourable recovering' condition by 2030. Schemes include:

- licence reductions to prevent deterioration;
- River habitat improvements including schemes to re-introduce gravel downstream of reservoirs and schemes to address barriers to the passage of fish;
- Actions to protect and improve quality of water abstracted for water supply;

- Contribution towards restoration of European sites (and SSSI's) to favourable conservation status; and
- Delivery of actions to reduce the risk of spread and impacts of invasive non-native species.

Table 3 Environmental drivers and number of AMP8 implementation schemes

Strategy Drivers based on Environmental priorities	Number of Schemes in AMP8
Water Framework Directive (WFD)	30
Drinking Water Protected Areas	4
Habitat Regulations (European Sites)	5
Eels	3
Invasive non-native species (INNS)	1
SSSI	3
NERC biodiversity priority	4

The following is a summary of the changes we have made to our revised draft plan in response to feedback:

- Reviewed current known (or suspected) WFD issues related to our abstractions;
- Developed our strategy to accelerate solutions for known environmental issues to 2027 where feasible;
- Undertook sensitivity analysis to understand how much long-term licence changes due to climate change can be accelerated;
- Highlighted Heavily Modified Waterbody investigations and what water resource related mitigation measures were put forward (e.g. compensation flows); and
- Highlighted which WINEP schemes (water resource related) we have put forward for PR24 - AMP8 WINEP (2025-2030) and what legislative requirements they meet.

3.5.2 Environmental compliance

Feedback from several environmental stakeholders, for example the Environment Agency, the Mersey Rivers Trust and Natural England, highlighted that our environmental assessments of our draft plan indicated risks of non-compliance with either the Water Framework Directive (WFD) Regulations or the Habitats Regulations. This reflects precautionary conclusions in the assessments arising from uncertainties, with further investigations ongoing. Options are categorised as non-compliant (under WFD) unless, or until, the evidence is available to demonstrate compliance, even if the expectation is that they will be compliant. Therefore we cannot confirm compliance until the ongoing investigatory work is complete.

All the supply options in our WRMP preferred plan form part of the North West Transfer (NWT) Strategic Resource Option (SRO). The NWT SRO is currently being assessed as part of RAPID's gated process for SROs; this includes environmental compliance. The environmental compliance assessments, and the supporting investigations, are ongoing with the outcomes available to inform the RAPID Gate 3 submission in 2024. In consequence, the findings have not been available in time for the revised draft plan.

As explained in section 3.6, the number of supply options in our preferred plan has significantly reduced due to decreased water transfer needs. As shown in Table 4, three groundwater options will be implemented by 2030. These options have residual uncertainties until the NWT SRO Gate 3 investigations conclude, and recognising this uncertainty, and in compliance with the revised WRPG requirements, we have identified four alternative WFD and Habitats Regulations compliant WRMP options from the constrained option list (Figure 4). At a total of 21.3 Ml/d, they provide sufficient capacity to completely replace the NWT options in our preferred plan in the unlikely

event that they are required due to non-compliance of preferred plan options (the specific option capacity requirement is 20.4 MI/d). In the revised draft plan WFD Assessment and Habitat Regulations Assessment (HRA), we have assessed these options alone and in combination as a ‘reasonable alternative plan’, to ensure that our revised draft plan is compliant, resilient and robust.

Note that option WR026c, River Ribble, is a new variant which downsizes option WR026b to ensure WFD compliance. In all cases compliant options will be selected for the preferred plan according to ‘best value’.

A further nine options are also being assessed as part of the NWT SRO and, depending on the outcome of investigations for the RAPID Gate 3 submission, could be considered as supplementary options to the reasonable alternative plan.

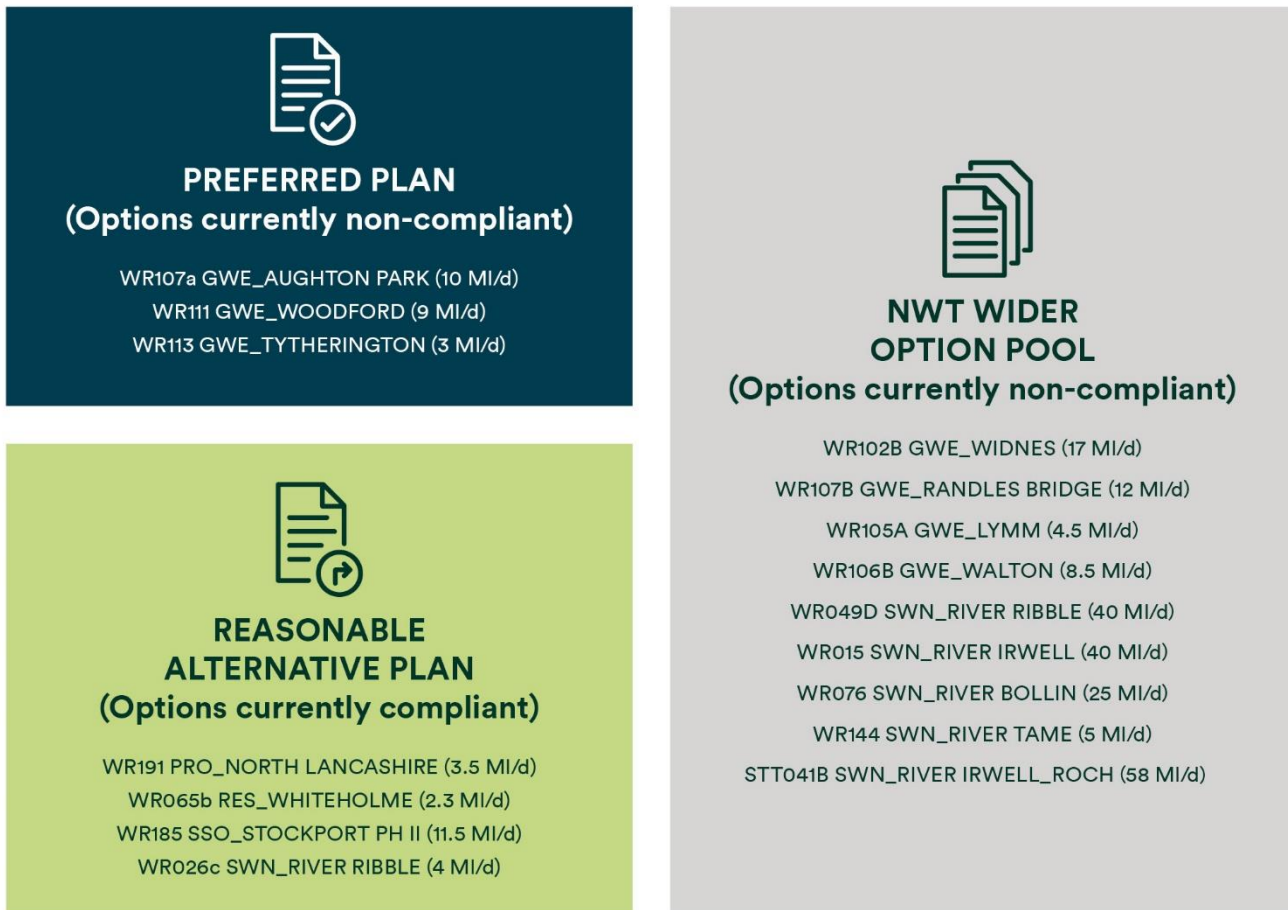


Figure 4 Options selected in revised draft plan preferred plan and reasonable alternative plan, plus the NWT wider option pool being assessed for RAPID Gate 3.

3.6 Water transfers

Consultation responses

Around 10% of our draft plan consultation responses were linked to water transfers. We received a full spectrum of views on our proposals, ranging from fully supportive to unsupportive, but on balance the feedback was positive. This was underlined by the responses received from attendees at our consultation events (83 attendees over three workshop events) when asked if they supported the proposed North West Transfer (NWT) Strategic Resource Option (SRO). As shown in Figure 5, 58% of attendees were supportive and 16% unsupportive.

We received several comments regarding the environmental compliance of our water transfer support options. These comments related to the timing of the SRO environmental assessments and are covered in Section 3.5.

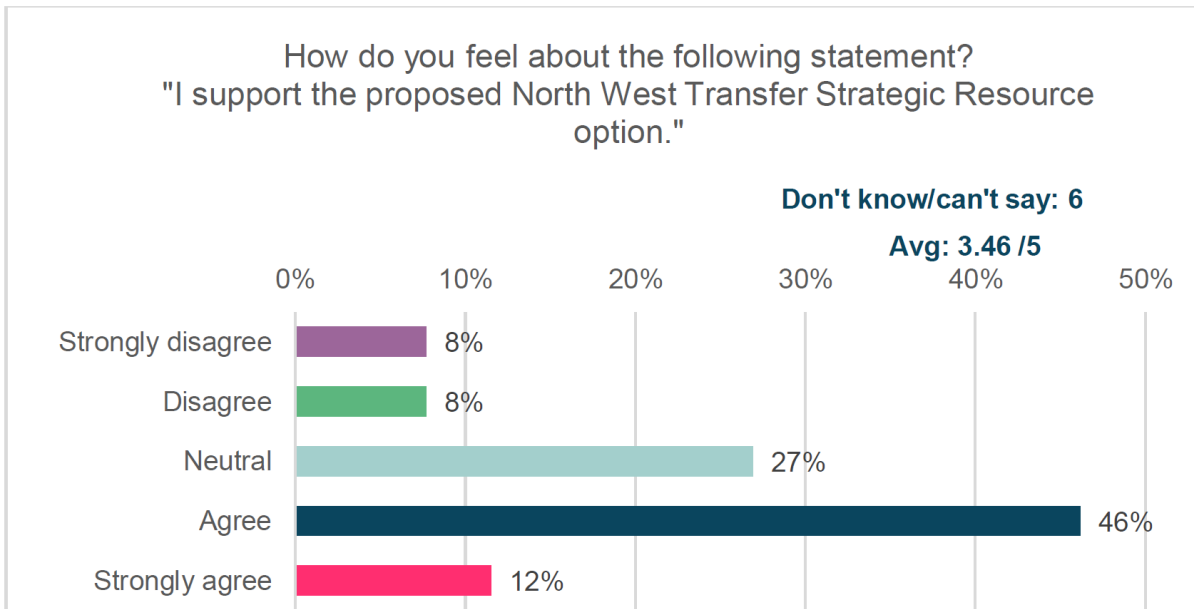


Figure 5 Bar chart showing support for proposed North West Transfer Strategic Resource Option.

Our reply

We incorporated as much consultation feedback as possible into our updated revised draft plan water transfer proposals, and directly responded to all water transfer-related comments (Appendix A).

The other factor significantly affecting our water transfer proposals between the draft and revised draft plans was an updated selection of the transfer options by the recipients, coordinated through the ‘regional planning reconciliation process’. This is the mechanism by which transfers between water companies and regional groups were formally appraised and agreed. There were three rounds of reconciliation in total. The first two rounds fed into the draft plan and the final round was completed ahead of the revised draft plan, taking into account feedback from all the affected companies and regions through the consultation process. All of the water transfers in our revised draft plan are consistent with this final agreed position.

The final round of reconciliation led to some significant changes from the view we presented in our draft plan. The draft plan included a total of 168 MI/d of exports to Severn Trent Water and Water Resources South East (WRSE) from our Strategic Resource Zone, starting with a 75 MI/d transfer in 2031. Seven supply options were included in the preferred plan to support these transfers. Moving forward to the revised draft plan, transfers to WRSE are no longer selected in the preferred plan, linked to WRSE companies lowering their demand projections following consultation feedback. The 75 MI/d transfer to Severn-Trent Water has reduced to 25 MI/d, but brought forward one year from 2031 to 2030. When combined with significant updates to our demand plan, for example new targets, accelerated water labelling and adoption of non-household smart meters (Section 3.3), this also means that improving our level of service for temporary use bans (TUBs) is no longer reliant on the dual-purposing of water transfer support options, as explained in Section 3.4. As a consequence of these changes there are fewer supply options in our preferred plan (Table 4).

All this being said, there are significant uncertainties in WRSE’s regional plan meaning that the Severn Thames Transfer (STT), hence NWT, could still be needed by WRSE. These uncertainties include the risk of projected demand management savings not materialising, or preferred supply options not being delivered. We have addressed these uncertainties by incorporating two new pathways into our water transfer adaptive plan: (i) ‘WRSE normal / higher per capita consumption (PCC)’ and (ii) ‘WRSE No-SESRO’. Our updated water transfer adaptive plan can be found in the *Revised Draft Technical Report – Deciding on future options*. Figure 6 provides a high-level overview of the new pathways and Table 4 sets out the specific options selected in each pathway, including the year of selection. Please note that while the preferred plan requirements are clear, there is still uncertainty in the specific timing of the needs for these adaptive plan pathways. We have also included a Thames Water – Severn Trent Water - United Utilities joint statement on the need to keep developing the STT scheme in Appendix C.

The timing of the 2030 transfer in the preferred plan means that elements of NWT need to be delivered as soon as possible. In addition to developing the options required in the North West, work is progressing with the STT SRO team with regards to the 25 MI/d release required from Vyrnwy (Figure 6).

Our approach to water transfers continues to follow the United Utilities Water transfer principles, which can be found in Section 7 in the revised draft plan document. We are committed to helping to address national drought resilience needs, but doing so in a way that fully protects, and where possible enhances, the North West.

Figure 6 High-level overview of WRW-WRSE regional reconciliation outcome.

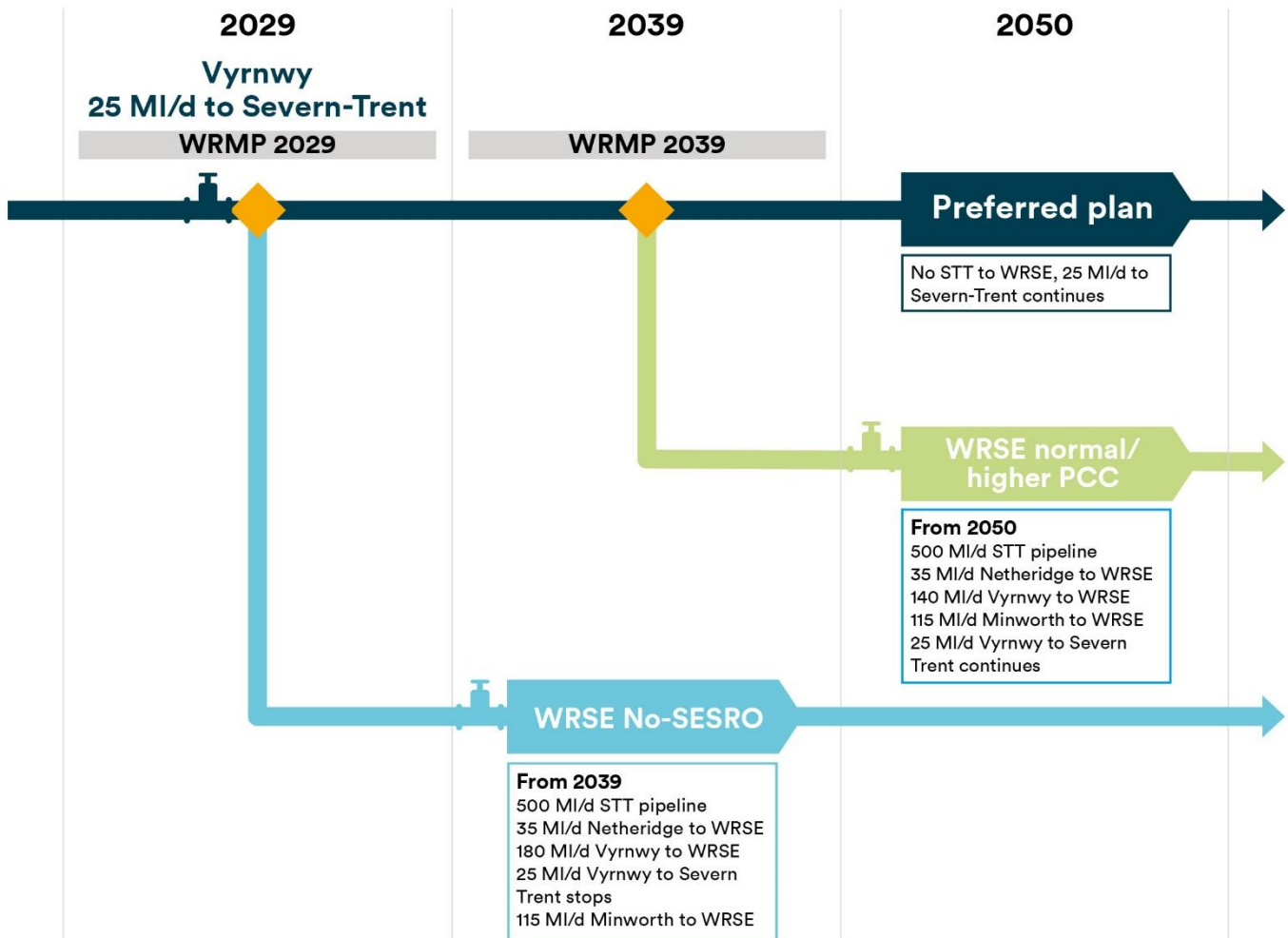


Table 4 Water transfer options selected in our preferred plan and new water transfer pathways.

ID	Option	Preferred plan (25 MI/d total export)	WRSE higher demand adaptive plan pathway (165 MI/d total export)	WRSE “No SESRO” adaptive plan pathway (180 MI/d total export)
WR107a2	GWE_AUGHTON PARK	2030	2030	2030
WR111	GWE_WOODFORD	2030	2030	2030
WR113	GWE_TYTHERINGTON	2030	2030	2030
WR015	SWN_RIVER IRWELL		2050	2042
WR049d	SWN_RIVER RIBBLE		2060	2045

ID	Option	Preferred plan (25 MI/d total export)	WRSE higher demand adaptive plan pathway (165 MI/d total export)	WRSE “No SESRO” adaptive plan pathway (180 MI/d total export)
WR076	SWN_RIVER BOLLIN		2060	2045
WR102b	GWE_WIDNES		2061	2045
WR107b	GWE_RANDES BRIDGE			2050

3.7 Supply

In our *Draft Technical Report – Supply forecast* we outlined the approach we have taken in forecasting how much water is available from the supply system in each of our four water resource zones. In doing so we followed the regulatory guidelines, which included the significant improvement of assessing the resilience of our supply systems to a 1 in 500-year drought (0.2 percent annual chance of occurrence). This marks a significant step change from the supply forecast in our Water Resources Management Plan 2019, which focused on planning to be resilient to the worst historic drought on record. The sections below cover the key supply themes raised by respondents and how we have replied.

3.7.1 Supply-demand balance starting position

Consultation responses

Responses focused on our supply-demand balance starting point for our draft plan being lower than the equivalent point in our Final Water Resources Management Plan 2019.

Our reply

The changes in the supply-demand balance position in 2024/25 reflect not only the impact of COVID-19 on demand patterns in our base year (2019/20) but also changes in regulatory requirements and updates to data and methodologies used for the assessment of supply and demand components. Given the scale of the changes to requirements, and therefore methodologies and tools, it was expected that there may be some significant differences between our WRMP19 and our draft plan for WRMP24. To expand on this we have included a new section in our revised draft plan main report.

3.7.2 Drought scenarios

Consultation responses

Other aspects of feedback referred to the drought scenarios that we have tested as part of our plan, in particular requesting an explanation of how the scenarios have been tested and the results included within the plan.

Our reply

For this plan, in line with regulatory guidelines, we have assessed how resilient our supply systems are to a 1 in 500-year drought (0.2 per cent annual chance of occurrence), using stochastic data series to simulate plausible droughts more severe than those experienced in our historic record. Our stochastic hydrological dataset is 19,200 years in length, and was produced by a weather generator. This provides a large range of plausible droughts, including many with a severity worse than 1 in 500 years, against which our system is tested to calculate reliable system response-based deployable outputs. Through these assessments, and for those resource zones with a water resources model, we have an understanding of the relationship between deployable output and return period. Drawing from this knowledge we have updated the *Revised Draft Technical Report – Supply forecast* to include this information and also to include the impacts of a 1 in 1000-year event (0.01% annual chance of occurrence). The following drought scenarios have also been used to populate WRMP Table 6 Drought Plan Links;

- 1 in 500 Emergency Drought Order or EDO (0.2% chance in any given year),
- 1 in 200 EDO (0.5% chance in any given year),

- 1 in 40 temporary use bans; and
- Worst historic drought, noting that this varies by resource zone:
 - 1976 for Carlisle Resource Zone, estimated severity of 1 in 60 (1.67% chance in any given year); and
 - 1995/96 for Strategic Resource Zone and North Eden Resource Zone, estimated severity of 1 in 100 (1% chance in any given year).

3.7.3 Drought Plan 2022

Consultation responses

Responses relating to our draft plan and our Final Drought Plan 2022 focused on the implementation of Temporary Use Bans, our previous performance and changes to proposed levels of service (refer to Section 3.4 for more detail), as well as consistency with our Final Drought Plan 2022.

Our reply

Our draft plan proposes the improvement of the level of service for implementing a temporary use ban to 1 in 40 years on average (2.5 per cent annual chance of occurrence). Our existing level of service is 1 in 20 years on average (5 per cent annual chance of occurrence). We confirm that we are committed to following our published Final Drought Plan 2022 in any developing dry weather and/or drought situation. This will ensure that we comply with our stated levels of service, which have been tested against simulated droughts of different severity during the development of our Drought Plan. It should be noted that our Drought Plan clearly states that the drought levels are linked to 'a series of actions which could be taken, depending on the situation' and that 'Actions are undertaken within the range of the level and not immediately when crossing into the level'. We acknowledge the Environment Agency's guidance relating to drought permit applications, which require measures to reduce demand (including temporary use bans) to be in place prior to any permit application being made. This requirement has been taken into account in developing our Final Drought Plan 2022.

The data and assumptions used to prepare our Water Resources Management Plan 2024 submission, and particularly our supply forecast, are aligned to those used to develop our Final Drought Plan 2022. This includes drought levels, emergency storage assumptions and levels of service for the frequency of implementing drought measures. Any updates to either our WRMP24 or our Drought Plan would be reported on through the annual Water Resources Review process. All options, drought permits and drought orders would be reviewed in the preparation of our next Drought Plan, which is due for publication in 2027.

3.7.4 Supply resilience

Consultation responses

We received feedback on our draft plan highlighting concerns that we had presented an over-optimistic view of our supply resilience in our supply forecast.

Our reply

We considerably advanced our supply forecasting capability for the Water Resources Management Plan 2024 (WRMP24), working closely with other companies in Water Resources West to develop a comprehensive supply methodology that is fully aligned to the Environment Agency's (EA's) WRMP24 water resources planning guideline (WRPG). In preparing for our WRMP24 we engaged with regulators early in the planning process, both through company and WRW regulator liaison meetings. We shared details of our regional and company methodologies and ensured feedback was taken into account. We also held special interest sessions on specific technical topics such as water resources modelling and climate change. The tools and approaches employed to develop our supply forecast for WRMP24 are considered to be advanced and industry leading, for example using our Pywr and Aquator water resources models to assess the conjunctive use systems of our Carlisle and Strategic Resource Zones. Model review, validation and development is a continuous improvement activity to ensure that model output captures system constraints, conjunctive use capability and operational response as realistically as possible. As such we believe our supply forecast is robust and therefore not over-optimistic.

3.7.5 Asset capacities

Consultation responses

Some feedback responses concentrated on our asset capacities and their representation in our water resource models.

Our reply

In deriving asset capability for this plan we completed a thorough review of our asset base and licences to ensure that deployable output calculations account for these constraints. In some instances these have been undertaken as part of sub-assessments (e.g. the groundwater review) and in others they are included within our resource zone models (where relevant) to ensure robust simulation. We reflect the available capability at the beginning of the planning horizon (April 2025), and also take account of water quality. In deriving the values for each asset we have engaged across the business to arrive at the minimum and maximum flow values that can be sustained in a dry weather event (noting that this is different from short-term peaks in supply to meet peaks in demand), taking into account any planned improvements. Where specific assets have been mentioned by respondents we provide further detailed feedback in our individual responses in Appendix A.

3.7.6 Outage

Consultation responses

Outage was a common theme in the feedback that we received. This included consideration of options to reduce outage, and whether our outage allowance is appropriate and not driving investment. Some feedback suggested our outage allowance was too high but some suggested it was too low.

Our reply

As a company we aim to maintain our assets to minimise outage. Part of our *business as usual* practice is to find ways to continuously minimise outage and as such we do not have any outage options included in our plan. Separately, as part of our 2024 Business Plan submission, we will propose investment in a number of water treatment works to upgrade the existing treatment processes and improve overall asset health. This investment is primarily driven by deterioration in raw water quality. The interventions resulting from this investment will help to reduce outage, in addition to ensuring we continue to supply safe, clean and wholesome drinking water. Since this investment isn't driven by a supply-demand balance requirement, no additional outage reduction options have been considered for the revised draft plan.

In line with the WRPG supplementary guidance we have used the UKWIR (1995 & 2016) guidance to calculate outage allowance, which involves a risk-based approach using Monte Carlo analysis. As a mid-point development between WRMP19 to WRMP29, we have updated the methodology for WRMP24 to assess the impact of individual outages for strategic assets against 1 in 500 average flow. This improvement to the methodology now means that the outage allowance is coupled to the resource zone deployable output to more accurately estimate the impact of outages at specific assets. Outage and the associated impact on deployable output is heavily dependent on the characteristics of the resource zone, for example the degree of interconnectivity between sources. Conjunctive use of sources influences the impact that individual outages have on deployable output. The type of sources and water treatment works (WTWs) also affect the level of outage. Our North Eden resource zone, which is primarily supplied from borehole sources, generally experiences very low levels of outage.

Since the Strategic Resource Zone is heavily dominated by surface water sources (approximately 90%), the zone has a high number of more complex WTWs with more advanced treatment being required. We have completed our own benchmarking exercise and found that the outage allowance for the Strategic Resource Zone is comparable to similar zones in other water companies, when expressed as a percentage of deployable output.

3.7.7 Emergency storage

Consultation responses

Emergency storage also featured in our consultation feedback, particularly with regard to other water companies involved in the Severn Thames Transfer.

Our reply

In previous WRMPs, all companies used emergency storage as a buffer to protect against more severe droughts, i.e. future events worse than those recorded historically and used for planning. The industry approach for determining supply availability, as set out in the Environment Agency's (EA's) WRMP24 water resources planning guideline (WRPG), has radically changed for WRMP24 in response to the government's new 1 in 500 year resilience requirement. Instead of using historical droughts, all companies now use very large synthetic hydrological datasets that contain hundreds of droughts. The most severe drought used has a return period of approximately 1 in 20,000 years, versus typically around 1 in 100 years for historical droughts. Therefore, the rationale for using emergency storage to protect against more severe events has been superseded.

As such, the EA WRPG no longer stipulates the use of emergency storage. It states that the point of failure, i.e. the implementation of emergency drought orders (EDOs) such as standpipes, should be defined by the company (Section 4.7 of WRPG). Different companies have defined different failure points, including at emergency storage, dead water storage and other bespoke metrics, based on which is most appropriate for their particular supply systems. In our case, the failure point corresponds to those included in our recently published drought plan. This aligns with experience from the 1995/96 drought when reservoirs in the North West reached very low levels (below emergency storage), and standpipes were not introduced. It should be noted that the actual implementation point varies from company to company, and in some cases even from water resource zone to water resource zone. Critically, the choice of failure point is linked to the characteristics of the water resource zone. More detail on our deployable output approach and failure points for each of our resource zones can be found in Section 4.1 of our *Revised Draft Technical Report – Supply forecast*.

Further to the change to the WRPG it should be noted that emergency storage only applies to reservoir sources, and not to river or groundwater sources. As an example our Strategic Resource Zone, with many reservoirs, would previously have had a significant volume of emergency storage. Some water resource zones have no reservoirs, hence no emergency storage. Many sit somewhere in-between. The level of connectivity in a water resource zone has also been shown to have a significant effect on the resilience benefit of a given volume of emergency storage. There may also be differences in how companies in other regions define emergency storage, for example linked to treatability. Therefore, if two companies implement standpipes at emergency storage, this does not indicate an equivalent level of resilience.

For United Utilities Water's planning EDOs are assumed to be implemented when any single reservoir reaches dead water storage or when there are issues with supplying particular areas. At this time, however, other reservoirs (as well as other source types) will still have water available which can be moved across the network to maintain a normal supply to the vast majority of customers, and meet an EDO level of demand from those directly affected.

Therefore, we believe our approach to exclude emergency storage from certain water resource zones is correct and disagree that this leads to an inherent discrepancy in resilience. If we reintroduced emergency storage into these water resource zones, as part of the new approach to calculating supply availability, it would lead to:

1. Unrealistic representation of EDO failures in the models, misaligned with United Utilities Water's and Severn Trent Water's Board's positions on when standpipes would be implemented during a drought; and
2. Significantly understated supply availability during EDO periods, leading to over-investment (i.e. beyond new supply investment already planned to address environmental destination and water transfers for example).

Our supply forecast for WRMP24 uses advanced, industry-leading approaches while following the Environment Agency's Water Resources Planning Guidelines. As such we believe that our supply forecast is robust and therefore not over-optimistic. We acknowledge the feedback raised through the consultation process and have provided further evidence within this statement of response and the revised draft plan. It should also be noted that as part of the water transfer in 2030 we will be developing a small number of new borehole supply options.

3.8 Decision making

In our *Draft Technical Report – Deciding on future options*, we outlined our approach to options appraisal. This included:

- Measuring benefits of options across a range of metrics;

- Our decision-making and adaptive planning approach;
- Sensitivity tests we carried out;
- Programme appraisal, including our least cost plan;
- Our resulting preferred plan;
- Our adaptive plans, including diagrams; and
- The actions we continue to take to monitor key elements of uncertainty.

We received largely positive feedback on our decision-making approach, and the principal elements of the feedback requested further information to be provided on the results of our decision-making process.

Since our draft plan, there have been a number of changes to baseline planning assumptions and needs. These come as a result of:

- Other feedback detailed earlier in this Statement of Response;
- Updated water transfer needs as a result of the third regional reconciliation process for water trading; and
- The Water Resources Planning Guideline update, which was received on 14 April 2023, after our consultation had closed.

The sections below cover the key themes raised by respondents to our consultation, and detail some changes to our plan since the draft plan.

3.8.1 Demand targets

Consultation responses

There were a number of pieces of consultation feedback, including that from MOSL¹, regarding demand reductions, including the new targets as described in Section 3.3, and the inclusion of smart metering for non-households within our preferred plan.

Our reply

Since the draft plan, we have included all of the long-term demand targets and interim targets as set out in the government's Environmental Improvement Plan 2023². In addition to our own research and ongoing internal reviews of our smart metering programme, we have included as part of our preferred plan the option to roll out smart metering to all metered non-household customers. Research undertaken by Artesia in April 2022 makes a strong case for enhanced metering technology for the benefit of non-household customers, water companies, retailers, and regulators. Alongside demand reduction benefits, the research identified a number of wider holistic benefits.

Our demand plan was optimised using the decision-making approach from the draft plan. See Table 5 and Figure 7 for the updated plan.

Table 5 Preferred demand options in our Revised Draft WRMP24

Option ID	Option name	Year of selection	Demand reduction (MI/d)
WR502c	Permanent network sensors	2035	20.0
WR510	In-pipe repairs and lining technologies	2026	4.5
WR511g	Pressure management	2049	1.0
WR520c	DMA optimisation	2030	2.0
WR524d	Upstream tile optimisation	2027	5.8

¹ MOSL, <https://mosl.co.uk/>

² [Environmental Improvement Plan 2023](#), HM Government, 2023

Option ID	Option name	Year of selection	Demand reduction (MI/d)
WR619c	Replace existing household meters with smart meters	2026	10.2
WR658c	Free water efficiency devices (inside/internal)	2026	4.6
WR661c	Free water efficiency visits (households)	2026	13.0
WR677c	Non-household water efficiency programme	2026	12.9
WR694f	Government intervention (e.g. water labelling)	2026	36.3
WR659c	Free water efficiency devices (outside/external)	2026	4.0
WR603e	Enhanced metering of households on single supplies (smart meters)	2026	60.5
WR516h1	Mains rehabilitation/renewal/replacement	2026	49.1
WR516h2	Mains rehabilitation/renewal/replacement	2037	50.8
WR615c	Replace existing non-household meters with smart meters	2026	10.4
WR502a	Permanent network sensors	2029	0.5
WR511a	Pressure management	2026	0.1
WR520a	DMA optimisation	2027	0.5
WR603a	Enhanced metering of households on single supplies (smart meters)	2026	0.8
WR619a	Replace existing household meters with smart meters	2026	0.2
WR658a	Free water efficiency devices (inside/internal)	2026	0.1
WR661a	Free water efficiency visits (households)	2028	0.3
WR677a	Non-household water efficiency programme	2026	0.4
WR685a	Rainwater harvesting and water reuse (new builds)	2026	0.1
WR694d	Government intervention (e.g. water labelling)	2026	0.6
WR659a	Free water efficiency devices (outside/external)	2048	0.1
WR669b	Flow regulators	2026	0.1
WR516a1	Mains rehabilitation/renewal/replacement	2038	1.2
WR615a	Replace existing non-household meters with smart meters	2026	0.2
WR603b	Enhanced metering of households on single supplies (smart meters)	2026	0.3
WR619b	Replace existing household meters with smart meters	2026	0.0
WR694e	Government intervention (e.g. water labelling)	2026	0.1
WR615b	Replace existing non-household meters with smart meters	2026	0.1

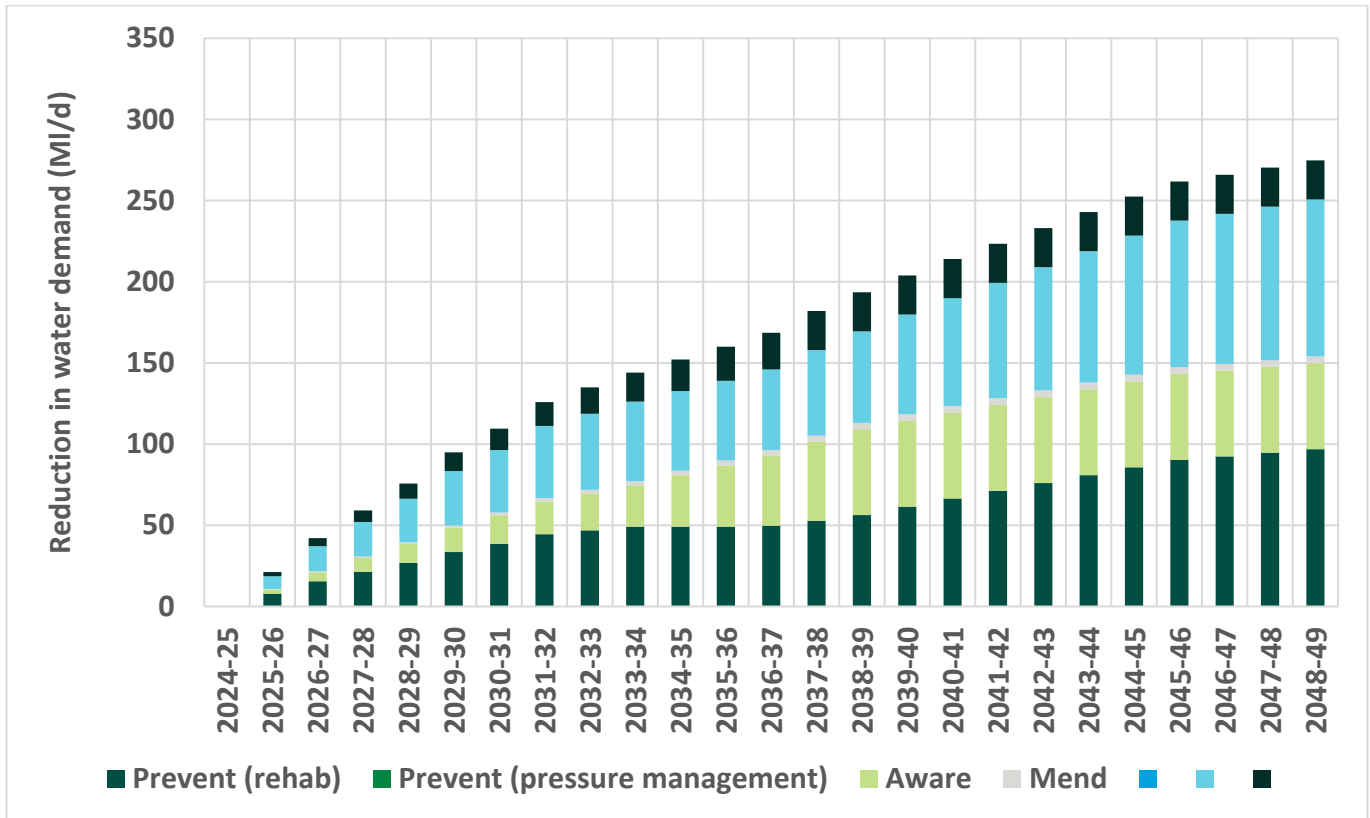


Figure 7 Benefits of demand options for our revised draft demand reduction plan. Reductions are expressed relative to the WRMP baseline demand forecast.

3.8.2 Water transfers

Consultation responses

We were asked in our consultation feedback to ensure alignment with other water companies on water transfers. Between January and March 2023, there was a third regional reconciliation process, in which Water Resources South East and Severn Trent confirmed their updated transfer needs. This is described in further detail in Section 3.6.

Our reply

Therefore, in addition to the options listed in Table 5 above, the following supply options have been included in our preferred plan to meet water transfer needs.

Table 6 Preferred supply options in our Revised Draft WRMP24

Option ID	Option name	Year of selection	Capacity (MI/d)
WR107a2	GWE_AUGHTON PARK a2	2030	10
WR111	GWE_WOODFORD	2030	9
WR113	GWE_TYThERINGTON	2030	3
Total			22

3.8.3 Drought measures

Consultation responses

We received feedback from the Environment Agency that we should treat our drought permits as options and select them using our best value approach. The Environment Agency also suggested that we should include levels of service for customer restrictions as options.

Our reply

We used our WRMP24 best value approach, including our ValueStream decision support tool, to assess which, if any, drought permits would be selected in the preferred plan. This assessment is described in Section 3 of the *Revised Draft Technical Report – Deciding on future options*, and the drought permits selected are shown in Table 7.

In terms of levels of service for customer restrictions, we included these as constraints in our supply forecast and supply-demand balance rather than as options. We explained this to the Environment Agency and agreed that we would retain this general approach but assess a single option for the proposed 1 in 20 years to 1 in 40 years temporary use ban level of service improvement. This option was more challenging to develop because unlike all of our other options it decreases rather than increases the supply-demand balance. As per the drought permits, the option was selected using ValueStream to demonstrate that the planned level of service improvement represents best value. This assessment is described in Section 3 of the *Revised Draft Technical Report – Deciding on future options*, and the option is shown as part of the preferred plan in Table 7.

Table 7 Preferred drought measures in our Revised Draft WRMP24

Option ID	Option name	Year of selection	1 in 500 year deployable output benefit (Ml/d)
WR167	DPS_DELPH	2026	1.1
WR168	DPS_DOVESTONE	2026	2.5
WR169	DPS_JUMBLES	2026	5.2
WR170	DPS_LONGDENDALE	2026	5.2
WR171	DPS_RIVER LUNE	2026	12.5
WR172	DPS_RIVINGTON 1	2026	0.9
WR173	DPS_RIVINGTON 2	2026	1.3
WR174	DPS_ULLSWATER	2026	13.8
WR175	DPS_VYRNWY	2026	3.3
WR176	DPS_WINDERMERE	2026	24.4
WR179a	DPS_TARN WOOD	2026	0.8
WR179b	DPS_BOWSCAR	2026	1.7
WR179c	DPS_GAMBLESBY	2026	0.2
WR184	DPS_FERNILEE	2026	1.7
WR749	TUBS LEVEL OF SERVICE CHANGE (1:20 to 1:40)	2026	-100*
		Total	-25.4

* This option provides a disbenefit because it effectively increases demand by having fewer and later TUBs

3.8.4 Adaptive planning

Consultation responses

Adaptive planning is a step forward in terms of addressing uncertainty in WRMPs, requiring a significant amount of data and analysis. We received a large amount of feedback requesting additional information on our adaptive pathways, above and beyond what we originally presented in our *Draft Technical Report – Deciding on future options* and WRMP data tables. We also received feedback regarding the number of pathways and detail surrounding them on our adaptive plan diagram for demand and technology. Some feedback requested further clarity on decision points and our monitoring plan.

Our reply

In our revised draft plan, in response to feedback, we have provided more clarity on how our adaptive planning process aided the identification of low regret options. The key low regret option we identified in the draft plan, and which continues to be an option in the preferred plan for our revised draft plan, is the improvement in Temporary Use Bans (TUBs) level of service from 1 in 20 year (5%) annual chance to 1 in 40 years (2.5%). In adverse pathways, this is used as an optional improvement and may not be provided unless the supply-demand balance is in surplus.

Since the draft plan, we have revised our analysis on the Ofwat technology scenarios and provided more clarity on their impacts in the *Revised Draft Technical Report – Deciding on future options*, including on the adaptive plan diagrams.

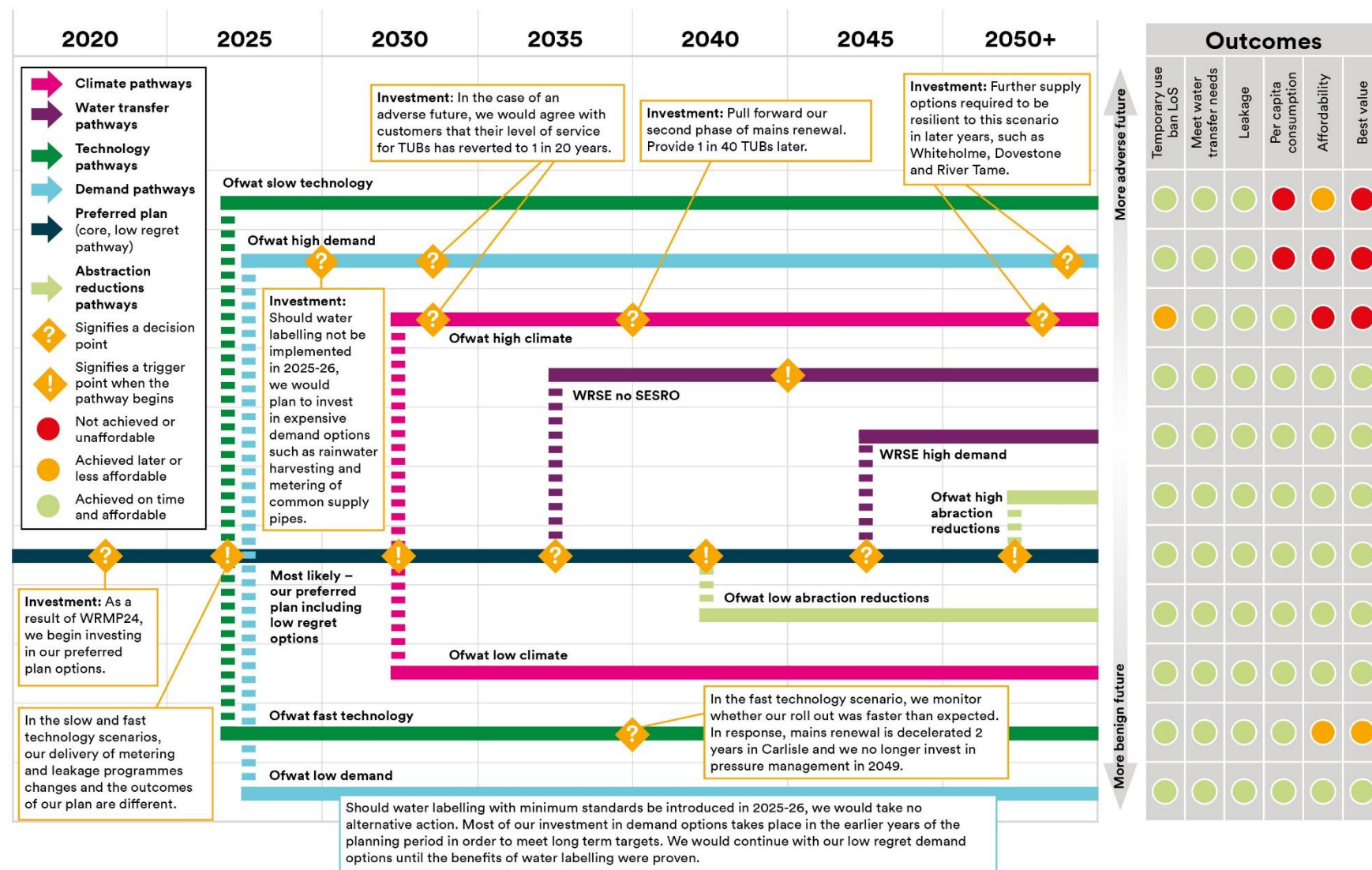
For example, in high demand scenarios, where there is no government intervention on water labelling, PCC targets cannot be met in the long-term. Options such as common supply pipe metering and rainwater harvesting are selected in order to reduce PCC as much as possible. In high climate scenarios, the 1 in 40 year TUBs level of service improvement is no longer selected as an option, and instead the additional deployable output is used to maintain a 1 in 20 year level of service. Additional supply options are also required later in the planning period to meet deficits in the 1 in 500 year (0.2%) EDO supply-demand balance. More detail on the options selected and cost differences are set out in WRMP data tables and the *Revised Draft Technical Report – Deciding on future options*.

We have improved the description of how we will monitor key metrics in Section 11 of the *Revised Draft Technical Report – Deciding on future options*, and have included decision points clearly on our diagrams.

Within our WRMP data tables, we have now expanded the number of scenarios detailed. This will help customers and stakeholders to understand in more detail the influences of scenarios on our investment.

All of the detail on our adaptive plan can be found in Section 11 of the *Revised Draft Technical Report – Deciding on future options*, however Figure 8 shows one whole adaptive plan diagram which aims to demonstrate each of the key uncertainties and how they interact with our plan.

Figure 8 Adaptive plan diagram



3.8.5 Testing the sensitivity of our plan

Consultation responses

We have sensitivity tested our plan to a number of uncertainties. Consultation feedback requested further information on the results of these tests, including a number of additional tests. We were also requested to explain how the sensitivity testing of decision points was undertaken within each adaptive plan.

Our reply

In the *Revised Draft Technical Report – Deciding on future options*, we have detailed the outcome of these tests, including bill impacts. Our report therefore now details sensitivity tests such as:

- The timing of achieving a 2.5 per cent annual chance of TUBs;
- The timing of achieving resilience to 1 in 500 year droughts;
- Alternative delivery profiles for demand reduction, including doing more on leakage;
- The impact of preferred plan options becoming infeasible; and
- Upper and lower profiles for carbon pricing.

With regards to the test on the timing of 1 in 500 year resilience, our analysis suggests that there would be no cost saving or bill impact as a result of bringing 1:500 EDO sooner or later in the planning period. The results therefore suggest that we could potentially meet the 1:500 level of service sooner. However, we cannot guarantee this as a minimum level of service until 2039. In the shorter term there are uncertainties related to the delivery of demand reductions, for example the effectiveness of government interventions (i.e. water labelling).

With regards to sensitivity testing of decision points, our decision points are linked to delivery timescales of our adaptive plan options, our monitoring points and the year in which we expect a pathway to divert from the most likely scenario. We have included an explanation of the sensitivity to decision points within Section 11 of the *Revised Draft Technical Report – Deciding on future options*. The future is uncertain, and therefore uncertainty will be considered through all stages of our approach, as has been done at all stages of this WRMP.

3.8.6 Understanding best value for our plan

Consultation responses

We were asked to provide more detail on the differences between our least cost and preferred (best value) plan.

Our reply

In Section 9 of the *Revised Draft Technical Report - Deciding on future options*, we have included a detailed description of the differences between the best value (Preferred) plan and the least cost and other alternative plans. This includes key detail on the differences in environmental and social benefits according to the approach set out in Section 2 - Measuring the benefits of our plan. This approach was designed at regional level with regulator and industry-wide involvement, and has been through our external assurance process.

Since the draft plan, this section has been expanded to include additional statistical breakdowns of differences between plans, and detail from environmental assessment reports on key options.

It is important to note that due to the constraints of the demand management targets and water transfer principles, option selection does not differ completely between programmes. A number of options are required to meet these constraints in all scenarios. For these common options, differences in metric costs across plans are solely attributed to changes in when the options are selected. The appraisal therefore focuses on exceptions (i.e. options that are unique to one or more plans) to better understand what trade-offs these options may have had on the selection of our preferred plan.

3.9 Summary of changes for our Revised Draft Water Resources Management Plan

Figure 9 provides an overview of the key changes that have been incorporated into the revised draft plan, as well as the drivers of change the corresponding impacts on the plan.

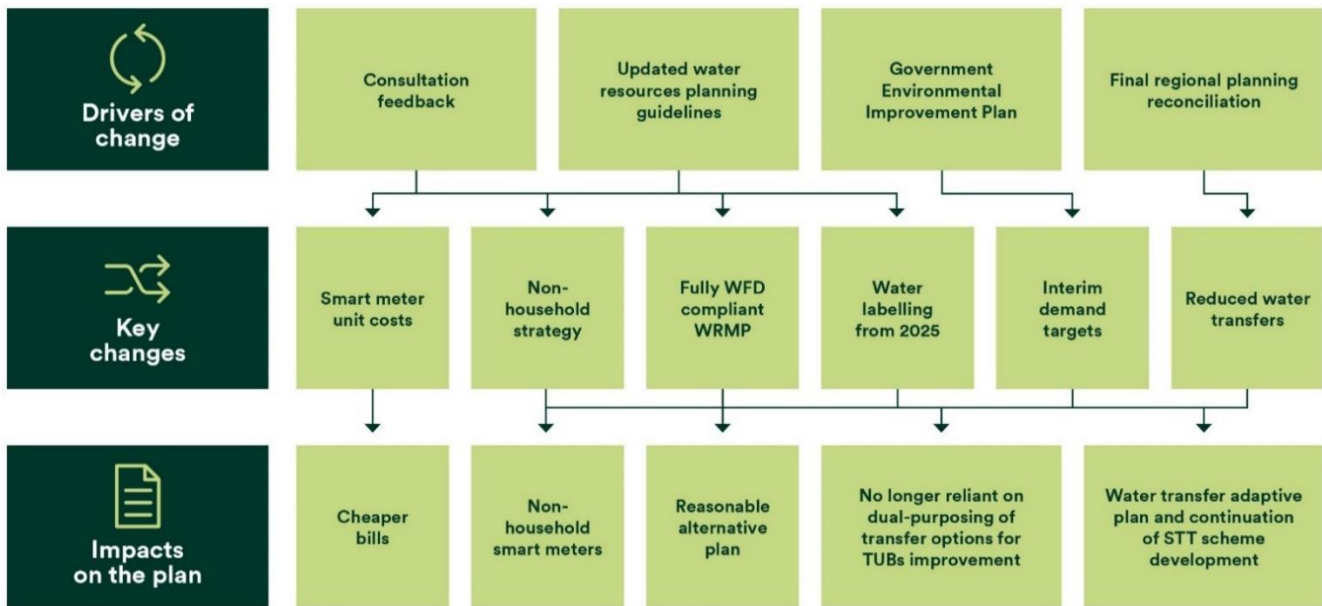


Figure 9 Summary of changes applied within the revised draft plan.

Figure 10 provides a summary of our best value plan, highlighting the key benefits we will be delivering to our regions.

Our best value plan

Our plan meets the needs of our area and supports other regions. It delivers:

- Halving the level of leaks and reducing water use per person per day to 110 litres by 2050
- Rolling out smart meters, including for non-household properties
- Supporting national drought planning with a wide range of water transfer options
- Improving levels of service for temporary use bans and drought permits by 2031
- Protecting the environment in the short, medium and long term
- Adaptive planning to address future uncertainties such as climate change, population growth and environmental changes
- Total greenhouse gas emissions reductions of over 400,000 tCO₂e, significantly helping achieve our long-term net zero ambition by 2050.

By 2050 we aim to deliver:

- 3,800 km mains renewed
- 1,800,000 new smart meters installed
- 195,000 water efficiency audits
- 3 new groundwater sources
- 15 drought permit options
- 1 TUBs Level of Service change

Groundwater options Former boundary to the West Cumbria Resource Zone

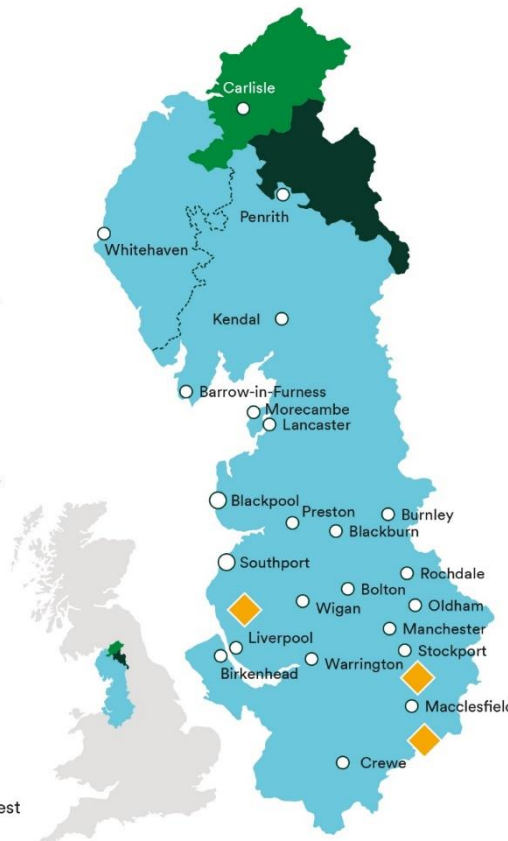


Figure 10 Our best value plan on a page

4. Finalising our Water Resources Management Plan and next steps

4.1 Ensuring our plan is legally compliant

The Water Resources Management Plan (England) Direction 2022 came into force on 28 April 2022. It sets out the requirements a statutory water undertaker must meet with respect to publication and consultation of a draft Water Resources Management Plan and the publication of a final plan. Through consultation, the Environment Agency raised that we had not fully complied with two of the requirements in our draft plan as below:

- Direction 3 (d) - description of greenhouse gas emissions; and
- Direction 3 (j) - cost-effectiveness of domestic metering.

Taking this feedback on board we have updated our revised draft plan and provided more detail on how we have met the requirements for the abovementioned directions. An overview of our response to this matter is provided in the following sections and cross-referenced as appropriate to our revised draft plan.

4.1.1 Description of greenhouse gas emissions

In our revised draft plan we have included additional information on how we have met Direction 3 (d) description of greenhouse gas (GHG) emissions, the UUW GHG baseline and the revised draft preferred plan GHG emissions. This is summarised below.

We have a strong legacy of managing emissions and public disclosures and have disclosed our GHG emissions via the Carbon Disclosure Project annually since 2010. Our baseline carbon footprint is calculated by estimating the individual GHGs that result from all of United Utilities Water's activities, converted to a carbon dioxide equivalent (tCO₂e). We report scope 1, 2 and all relevant scope 3 emissions and Table 8 summarises these for the 2021/22 reporting year³. Our reporting is fully compliant with UK Government Environmental reporting guidelines and applies international best practice such as Greenhouse Gas Protocol Corporate Accounting and Reporting Standards (2015).

Table 8 Scope 1, 2 & 3 greenhouse gas emissions (company-wide, 2021/22)

Scope 1, 2 & 3 GHG emissions	2021/22 tCO ₂ e
Scope 1 & 2 (net) location-based ⁴	118,429
Scope 3	495,145

For our revised draft plan we have undertaken a whole-life GHG emissions assessment of all our feasible options across an 80-year lifecycle. This included a cradle-to-build assessment of capital carbon (initial build and replacement) classified as scope 3 emissions, and build-up of operational carbon (power, chemicals and maintenance) and considered a combination of scope 2 and 3 emissions. Carbon cost (total NPV of monetised carbon) is one of eight best value metrics used in our decision-making and following customer preferences research, it was given the highest weighting of all the best value metrics. These data have fed into our best value multi-criteria analysis which was used to determine our preferred programme of options. The total GHG emissions for our preferred plan over 80 years is a reduction of 417,668 tCO₂e (Table 9) which reflects the predominance of demand management options as we look to meet our demand policy ambitions and targets. As the preferred options are taken forward and implemented, the associated GHG emissions will be recorded and disclosed as part of our annual

³ Further information on our approach to climate change and baseline GHG emissions can be found at unitedutilities.com/annualreport2022/our-approach-to-climate-change.

⁴ Location-based figures use average grid emissions to calculate electricity emissions.

reporting. For further information on our options carbon assessment, please see Section 5 of in our *Revised Draft Technical report - Options Identification*.

Table 9 80-year whole-life carbon for the preferred options

Option ID	Option name	Resource zone	Year selected	80-year whole-life carbon (tCO ₂ e)*
WR107a2	GWE_AUGHTON PARK a2	SRZ	2030	6,759
WR111	GWE_WOODFORD	SRZ	2030	13,256
WR113	GWE_TYTHERINGTON	SRZ	2030	3,760
WR510	In-pipe repairs and lining technologies	SRZ	2026	(6,440)
WR516h1	Mains rehabilitation/renewal/replacement	SRZ	2026	(78,822)
WR603e	Enhanced metering of households on single supplies (smart meters)	SRZ	2026	(205,579)
WR615c	Replace existing non-household meters with smart meters	SRZ	2026	(13,411)
WR619c	Replace existing household meters with smart meters	SRZ	2026	(13,151)
WR658c	Free water efficiency devices (inside/internal)	SRZ	2026	(1,384)
WR659c	Free water efficiency devices (outside/external)	SRZ	2026	(1,938)
WR661c	Free water efficiency visits (households)	SRZ	2026	(11,621)
WR677c	Non-household water efficiency programme	SRZ	2026	(1,902)
WR694f	Water labelling without minimum standards	SRZ	2026	-
WR524d	Upstream tile optimisation	SRZ	2027	(11,080)
WR520c	DMA optimisation	SRZ	2030	(253)
WR502c	Permanent network sensors	SRZ	2035	(43,633)
WR516h2	Mains rehabilitation/renewal/replacement	SRZ	2037	(50,308)
WR511g	Pressure management	SRZ	2049	(1,105)
WR511a	Pressure management	CRZ	2026	430
WR603a	Enhanced metering of households on single supplies (smart meters)	CRZ	2026	(1,814)
WR615a	Replace existing non-household meters with smart meters	CRZ	2026	(537)
WR619a	Replace existing household meters with smart meters	CRZ	2026	(419)
WR658a	Free water efficiency devices (inside/internal)	CRZ	2026	(14)
WR669b	Flow regulators	CRZ	2026	0
WR677a	Non-household water efficiency programme	CRZ	2026	(40)
WR685a	Rainwater harvesting and water reuse (new builds)	CRZ	2026	524
WR694d	Water labelling without minimum standards	CRZ	2026	-
WR520a	DMA optimisation	CRZ	2027	2,292
WR661a	Free water efficiency visits (households)	CRZ	2028	(152)
WR502a	Permanent network sensors	CRZ	2029	(343)
WR516a1	Mains rehabilitation/renewal/replacement	CRZ	2038	686
WR659a	Free water efficiency devices (outside/external)	CRZ	2048	(40)
WR603b	Enhanced metering of households on single supplies (smart meters)	NERZ	2026	(642)
WR615b	Replace existing non-household meters with smart meters	NERZ	2026	(606)
WR619b	Replace existing household meters with smart meters	NERZ	2026	(144)
WR694e	Water labelling without minimum standards	NERZ	2026	-

Option ID	Option name	Resource zone	Year selected	80-year whole-life carbon (tCO ₂ e)*
WR167–176 & 184	SRZ drought permits	SRZ	2026	-
WR179a–c	NERZ drought permits	NERZ	2026	-
WR749	SRZ Level of service change (1:20 to 1:40)	SRZ	2026	-
				(417,668)

*negative values indicate a net reduction in carbon

4.1.1.1 Reducing greenhouse gas emissions to support net zero targets and commitments

Our approach to managing emissions will continue into detailed delivery, working closely with our supply chain to fully value GHG emissions throughout our decision-making to ensure that we keep minimising the emissions from our infrastructure investments, taking a whole life view of all the drivers we need to deliver to secure the overall best value for customers. Our 2030 science-based targets to reduce emissions and our long-term plan to achieve Net Zero for scope 1, 2 and 3 emissions by 2050, requires transformation, innovation and agility in response to an evolving understanding of emerging technologies and associated cost benefit. We have demonstrated our capability to reduce our GHG emissions having reduced them by over 70 per cent since 2005/6, largely from working to balance our energy consumption, self-generation and being smart about how we operate our assets to get best value while maintaining security of supply. In 2021/22 we generated a record 210 GWh of renewable energy from a mix of generation from wind, hydro, solar photovoltaics and energy recovery from bioresources (using sewage sludge to power combined heat and power generators). Between self-generated power and purchased electricity, from October 2021 100 per cent of the electricity we use has been from renewable sources.

We are also working towards meeting our other carbon pledges. We are trialling alternative fuels to replace fossil fuels used in our treatment processes and for transport, and have projects underway to restore peatland and plant new woodlands which will have a net GHG reduction. To address our scope 3 targets we are already working with suppliers such as Sapphire Utility Solutions to reduce emissions from their fleet as they carry out maintenance on our network and with Changemaker 3D on making made-to-measure objects out of sustainable concrete on site through 3D printing.

Implementation of our WRMP24 will support achievement of our science-based targets to reduce our scope 1 and 2 emissions by 42% and our scope 3 emissions by 25% by 2030, and help achieve our long-term net zero ambition by 2050. As each preferred option is progressed through to implementation, the associated capital and operational GHG emissions will be included in our emissions inventory and disclosed in our annual reports. Collectively, our science-based targets, carbon pledges and net zero ambition fully support delivery of the UK government's net zero GHG targets and commitments.

4.1.2 Cost-effectiveness of domestic metering

In our revised draft plan we have included additional information on how we have met Direction 3 (j) on the cost-effectiveness of domestic metering. This is summarised below.

Table 10 shows the metering options we considered during the options identification and appraisal process for all metering types. This breakdown was not previously provided in our draft plan as change of occupier (COO) metering is included as part of our enhanced metering for cost efficiency. Having carried out a cost and benefit assessment at WRMP19 where COO metering was screened out, our current enhanced metering strategy ensures that customers are placed on a measured bill at COO on a metered property. This is much more efficient than attempting to install a meter during COO. Selective and optant metering are baseline activities which will progressively get smaller in part due to the enhanced metering programme. As part of our metering strategy, we will only be installing AMI capable meters in AMP8 many of which will be AMI active, however inevitably some will be installed in areas that have not yet been prioritised for communication network coverage.

Table 10 Household metering options considered

Metering strategy	Option ID	Baseline or option status	Rationale
Compulsory metering of new households		Baseline	
Free Meter Option (FMO) optant metering		Baseline	
Enhanced Free Meter Option (FMO) optant metering promotion	WR604 and WR628	Baseline	UUW continually seek out opportunities to increase the uptake of the Free Meter Option (FMO) – therefore, this is considered a baseline activity
Change of occupier metering	WR605	Preferred option (as part of WR603)	
Replace existing household meters with smart meters	WR618 and WR619	Preferred option (as part of WR619)	
Selective metering (where these meters are used for billing/charging)	WR613 and WR614	Preferred option (as part of WR603)	
Selective metering (irrespective of whether these meters are used for billing/charging) – UUW refer to this as “enhanced metering”	WR601, WR603, WR606, WR607, WR608, WR609, WR610, WR611 and WR612	Preferred option (as part of WR603)	
Compulsory metering of all households	WR600	Unconstrained option	The area supplied by UUW is not classified as an area of serious water stress and, therefore, the option of charging by metered volume for all customers is not available

4.2 Next steps

Following the publication of this Statement of Response on 7 June 2023, we will:

- Complete our revised draft Water Resources Management plan and publish this by 21 June 2023. Our revised draft plan will take account of:
 - Comments received from consultees, as set out in Section 3 and Appendix A;
 - The outcomes of the third water transfer regional reconciliation process;
 - The interim targets to reduce public water supply and leakage as set out in the government’s Environmental Improvement Plan 2023;
 - Further advice from regulators, including items to help improve consistency and understanding of the plan; and
 - New information that has become available since publication of the draft plan, including the updated guidance.
- Continue to work with Water Resources West (WRW) on the Regional Plan Statement of Response, which is due to be published on 21 June 2023, and the Final Regional Plan due to be published in Autumn 2023.

Copies of this Statement of Response, our revised draft plan and accompanying reports will be available at: <https://www.unitedutilities.com/corporate/about-us/our-future-plans/water-resources/developing-our-water-resources-management-plan/>.

Following the publication of this Statement of Response and our revised draft plan, regulators will review these and provide advice to the Secretary of State for the Department for Environment, Food and Rural Affairs (Defra) who will decide whether our revised draft plan can become our final plan and be published. We anticipate receiving permission to publish the final plan on our website in autumn 2023.

Outputs from our final plan will be included in our PR24 Business Plan, which will be submitted to Ofwat in October 2023. The determination of our PR24 Business Plan will inform our AMP8 delivery programme, starting in April 2025 and continuing to March 2030.

4.3 Future engagement

Water resources planning is an ongoing process, not a one-off static deliverable, and this applies in particular to dialogue with customers and stakeholders. Pre-consultation and consultation processes have supported the development of WRMP24 to date, however, once the plan has been formally adopted (subject to any requirements from Defra to further amend the plan) the plan will be reviewed each year as part of the Annual WRMP process, which may result in updates using the latest evidence and position. Similarly, beyond WRMP24, we commit to continue active engagement on activities associated with the WRMP process to support the WRMP29 planning round and future Drought Plans. Future expected activities include, but are not limited to:

- Ongoing collaborative work with other companies, regulators and stakeholders, as appropriate, to explore and develop future water transfers:
 - Senior management providing leadership and coordination of the work on the transfer scheme across the various parties, ensuring effective governance arrangements are in place, and engagement with multiple stakeholders;
 - Collaborative work with the Environment Agency (EA) to develop EA groundwater models to assess groundwater availability;
 - Consultation ahead of potential planning applications if required;
 - Participation in Regulators' Alliance for Progressing Infrastructure Development (RAPID) steering groups on regulatory and commercial matters as well as active participation in All Company Working Group matters;
 - Environmental studies for a number of supporting options;
 - More detailed engineering assessments of the scope and costs of the supporting options, supported by multi-disciplinary site-based investigations;
 - A study to assess the contribution that our transfer options will make to the well-being goals for Wales contained in the Well-being of Future Generations (Wales) Act 2015;
 - A study to assess whether changes to the magnitude of timing of River Severn support would affect water levels at Vyrnwy reservoir and the environmental effects of any changes; and
 - On-going proactive participation as part of the national water trading/planning agenda, and supported by our active involvement in Water Resources West, and Severn Working Group and Modelling Group activities;
- Publication of the Annual WRMP (our Annual Water Resources Review) on our website;
- Ongoing regular engagement with our regulators in defined liaison meetings;
- Engagement and collaboration with partners as part of the activities described in Section 2 of our *Revised Draft Water Resources Management Plan – Main report*; and
- Continuing to engage with local authorities and non-household retailers on a routine basis to consider future growth and new development, and consider the impacts on future demand, alongside activities to encourage water efficiency with domestic customers.

If you require any further information please contact: 39TWater.Resources@uuplc.co.uk

Appendix A: Details of consultation responses and our replies

We received 352 comments from a total of 26 formal consultation responses on our draft plan. We would like to thank all respondents for taking the time to input into the development of our Water Resources Management Plan.

This annex includes a table of all the individual comments received and our replies, which are grouped by respondent and sorted alphabetically. It should be read alongside the summary of key consultation themes and our replies in Section 3 of this document.

Reference	Respondent	Feedback	Our response
21.01	Arqiva	<p>We welcome United Utilities focus on delivering the benefits of AMI smart metering and its ambition to ‘implement a large-scale programme of smart metering.’ We encourage United Utilities to pursue an ambitious rollout of AMI smart metering from the next asset management plan period (AMP8), to help ensure the delivery of its benefits to demand reduction are not delayed. Accelerating a rollout of AMI within AMP8 would enable United Utilities to realise its benefits sooner. It is critical that the right investment decisions are made now to address the challenges faced by the water industry. AMI has an important role to play in providing data that puts companies on a trajectory to achieve targets for water security and resiliency. Government and the regulator also have important roles to play in enabling companies to deliver the benefits of smart water metering. DEFRA in its recent Environmental Improvement Plan 2023 (EIP23) stated that it was ‘working to develop additional policy options...including...increased smart metering for households and businesses through accelerated investment between 2020 and 2030...[and] reducing non-household water demand by 9% by 31 March 2038 through smart metering.</p> <p>‘2Collaboration between industry and government to deliver policies that support smart water metering will be important to realising the technology’s full benefits.</p>	<p>Thank you for taking the time to respond to our draft Water Resources Management Plan (dWRMP) 2024 consultation. We fully support collaboration between industry and government to deliver policies that support smart water metering given our current position of not being able to implement compulsory metering but still being expected to hit the national PCC and leakage reduction targets.</p>

Reference	Respondent	Feedback	Our response
21.02	Arqiva	<p>As the regulator, it is essential that Ofwat supports water companies roll out AMI technology in the next regulated asset management period. Its final PR24 methodology highlighted the need for companies to 'embrace the opportunities to improve performance through smart technology' and 'consider the benefits of increasing detailed demand data that can be read without directly accessing the meter and provided on a near real time basis'. It is critical that this is translated into support for companies' investment in the delivery of new AMI smart meters and upgrading of old and less advanced metering types within forthcoming business plans for 2025-2030. The faster AMI data is available and effectively used, the faster its benefits can be realised. Arqiva is ready to support UK water companies to take the steps and together to transform the UK's water industry into a leader in efficient water demand management.</p>	We agree with this feedback.

Reference	Respondent	Feedback	Our response
21.03	Arqiva	<p>We welcome United Utilities focus on AMI smart metering and encourage an ambitious approach to the rollout of AMI. AMI provides water companies with hourly data on the amount of water delivered to a property, 24 hours a day, 7 days a week, with data transmitted securely from water meters to water company data centres. This level of insight enables water companies to deliver a range of benefits, as detailed below.</p> <ul style="list-style-type: none"> • AMI enables companies to detect more leaks across their network and respond quickly. More rapid leak detection is essential to bring down the amount of potable water wasted each day. The hourly data provided by AMI enables faster detection of leaks. In 2013-14, before adopting AMI, Anglian Water reported that it identified about 6,000-7,000 leaks per year. In 2021-22, driven by Arqiva's gold-standard AMI smart metering network, the company identified about 65,000 total leaks. <p>3 By using AMI, companies can identify leaks across their networks quickly, including common leaks such as toilets, which have been found to impact a substantial number of homes and waste about 450 litres of water a day.</p> <p>4 A wider deployment of AMI would enable millions more litres to be saved and help secure the UK's future water supplies.</p> <ul style="list-style-type: none"> • AMI helps empower consumers to reduce per capita consumption and household bills. Consumers lack the knowledge they need to reduce their water consumption. One study found that almost half (46%) of people believe they only use 20 litres of water a day <p>5 while the average water consumption per person per day is 145 litres.</p> <p>6 Smart metering data encourages small behavioural changes that cut household water waste. Thames Water has shown that consumers with an AMI smart meter typically reduce consumption by 12-17%.</p> <p>7 They have also demonstrated that smart meters can deliver savings for households that need it most; vulnerable consumers using over 500 litres of water a day reduced their consumption by between 8-17%, the equivalent of £40 and £166 a year</p>	<p>Thank you. Your comments on the benefits of AMI metering align with our expectations. We are conducting a large scale (3000 meters) smart metering trial to help us fully understand and validate the benefits and to establish the requirements for United Utilities Water to unlock the value of smart metering.</p>

Reference	Respondent	Feedback	Our response
21.04	Arqiva	<p>AMI could prevent 1 billion litres of water a day from being wasted by the mid-2030s, lowering carbon emissions. The leakage and water consumption reductions made possible by AMI smart meters provides the opportunity to improve the UK's water resiliency and support the water industry's transition to net zero. Approximately 6% of the UK's greenhouse gas emissions come from the supply and use of water within households. If one million smart meters are fitted per year over the next 15 years to homes that are not metered, the UK would secure an annual saving of one billion litres of water a day by the mid-2030s. This reduced household consumption could cut the UK's greenhouse gas emissions by 0.5% from 2019 levels (2.1 MtCO₂e),⁹ a significant and positive step towards reducing the sector's greenhouse gas emissions.</p> <ul style="list-style-type: none"> • AMI delivers wider economic benefits through improving operational efficiency AMI delivers a range of benefits to water companies. These include more efficient leakage control costs; operating cost savings from reduced consumption; capacity benefits of reduced consumption (deferred investment or opportunity to trade water); reduced meter reading costs; improved infrastructure management; and improved forecasting data. Unlocking these benefits of AMI helps water companies' lower their costs, enabling greater focus and spend on delivering better services to customers. Modelling from Frontier Economics and Artesia shows a positive business case for investing in a wider rollout of AMI, with positive benefit to cost ratios for companies across England and Wales. <p>¹⁰ Accounting for the lower carbon emissions smart metering makes possible alongside expected cost savings further increases the overall benefits of a wider AMI rollout. In a 2022 study, Frontier Economics and Artesia outlined that an AMI rollout across England and Wales by 2030 could deliver up to £2.2 billion in net benefits by 2050.</p> <p>¹¹ In comparison, an AMR rollout was anticipated to deliver benefits between £30 million and £400 million</p>	<p>We agree, in fact we make reference to the report by Frontier Economics and Artesia supported by Arqiva in our PR24 Business case for smart metering. We found the cost benefit analysis to be quite compelling, making smart metering the right solution to invest in.</p>

Reference	Respondent	Feedback	Our response
21.05	Arqiva	<p>The importance of government and regulatory support to unlocking the benefits of smart metering. As the regulator, Ofwat has a critical role to play in enabling the delivery of AMI through its settlements for the next regulated asset management plan period (AMP8). It is important that Ofwat encourages water companies to put forward ambitious smart water metering proposals and enables investment in advanced metering technology. This should include the rollout of new AMI meters and replacement of old, less advanced meters. Ofwat recently released its final price review 2024 methodology. It outlined its expectation that companies ‘embrace the opportunities to improve performance through smart technology and better use of data’.</p> <p>12 Further, Ofwat outlines that water companies should consider smart meter solutions the ‘standard meter installation type for residential and business customers’</p> <p>13, and that compelling evidence is needed to otherwise justify proposals to install ‘older visual read meter technologies’.</p> <p>14 Importantly, the methodology stated that Ofwat will ‘support smart metering enhancement requests where these form part of best value programmes justified by final WRMPs and are supported by sufficient and convincing evidence in business cases’.</p> <p>15 Enhancement allowances for the costs of upgrading meters are also addressed, with Ofwat stating ‘we will consider enhancement allowances for the costs associated with upgrading to a smarter technology when meters are replaced.’</p> <p>16 The final price review 2024 methodology is a step in the right direction. As companies draw up their final Water Resources Management Plans and business plans for 2025-2030, the regulator must ensure that it is supporting water companies with the right financial settlement to deliver smart water metering as one of the key tools enabling companies to meet water demand reduction targets.</p>	<p>We agree about the importance of government and regulatory support, especially for a company like United Utilities Water operating in an area that is not deemed as water stressed, meaning that we are unable to roll out a compulsory metering programme for customers in our region.</p>

Reference	Respondent	Feedback	Our response
21.06	Arqiva	<p>We are the UK's only large-scale provider of gold-standard smart water meter infrastructure, having installed over 1.9 million advanced smart meters to date for customers including Thames Water and Anglian Water. We know from experience the impact of installing AMI smart metering: greater water efficiency and better outcomes for consumers. Examples include:</p> <ul style="list-style-type: none"> • Since ramping up its AMI implementation programme in 2020, Anglian Water has increased the number of leaks it detects by about ten-fold, with Anglian now capable of spotting as many as 70,000 incidents in a 12-month period. Speaking on a webinar hosted by the Chartered Institution of Water and Environmental Management (CIWEM), Doug Spencer, head of AnglianWater's Smart Metering programme, noted that the company has been able to 'reduce leakage by 85 – 90% on the customer side' as a direct result of AMI in its trial areas in Norwich and Newmarket. • Thames Water has used AMI to improve leak detection in residential and non-residential properties alike. On that same CIWEM webinar, the company shared statistics that showed an 8% 'continuous flow' rate for its household customers, rising to 26% amongst business users. • The insight AMI provides has enabled Thames Water to zero in on high-use properties and prioritise them for an in-home visit from its Smarter Homes team. The result of this laser focused programme is a per household reduction of around 10%. We are at a critical moment. As climate change worsens and our demand for water increases, the UK faces a generational challenge to the long-term security and resilience of our public water supplies. Meeting this challenge requires concerted and decisive action. We must take the right decisions now to empower us to make a difference in the years ahead. Smart metering and the digitisation of water networks, which can transform the management of water supplies through near real-time data and insight, are essential tools to success. As a leader in smart metering, Arqiva can help companies to unlock the benefits of smart water metering data and thereby deliver the step change needed to ensure the long-term security and resiliency of public water supplies. 	<p>Thank you. This is very insightful and in line with what we are expecting from our smart meter roll out in AMP8. We recognise Arqiva's expertise in smart metering and are engaged in discussions around the solutions you offer. We will be going out to tender for our smart metering solution for AMP8 (2025-2030) and we welcome Arqiva to participate in the process</p>

Reference	Respondent	Feedback	Our response
12.01	CCW (Web form response)	<p>1a. Resilience to drought needs to be increased given the changing climate. doing so through a combination of reducing leakage and how much household and non-household customers use plays an integral part. Climate change and how companies are going to find more Nature-based solutions to securing water supplies while protecting the environment are among the biggest concerns for customers. Furthermore, by the 2050s, summer temperatures are likely to increase while spring/summer rainfall decreases, leading to increased risks of short-duration droughts.. While demand management will have an important role, significant new water resources will be needed to meet the needs of people, businesses and the environment. Clearly there will be parts of the country which are exposed to higher risks of water restrictions than the public might expect and would expect to see the case to make water supplies more resilient in the northwest. UU is ensuring that it can continue to meet the needs of people, businesses and the environment in its operating area while also contributing to improving the resilience of the areas beyond its boundaries that are seriously water stressed. In doing so it will help secure the long-term resilience of our water supplies, help to deliver a cleaner, healthier environment, benefiting people and the economy. Working in partnership with neighbouring companies through Water Resources West and with other regional groups to make best possible use of available resources for its customers and more widely</p>	<p>Thank you for taking the time to respond to our draft Water Resources Management Plan (dWRMP) 2024 consultation. We appreciate the positive feedback on our dWRMP submission and our collaboration with Water Resources West.</p>

Reference	Respondent	Feedback	Our response
12.02	CCW (Web form response)	<p>1b. Given that water supply is under increasing pressure and UU like all water companies face more stringent leakage targets, we feel that effective leak management is crucial. Leakage is an important issue for customers and can often be a reason why customers fail to engage in water saving. Reducing leakage is therefore an essential element of this plan. You also mention in your plan that you intend to carry out education pieces and water audits and efficiency advice for household and non-household customers. More detail is needed to understand how these will be rolled out, to whom and how and are there specific areas that will be targeted. At the moment more detail is needed with actual targets. The challenges posed by an ageing infrastructure, changing environmental factors and increased demand from a growing population add to the complexity. Finding an effective method of detecting and managing leaks is paramount. Traditionally, the water industry has taken a reactive 'find and fix' approach to managing leaks and the broader water network. The problem with that is as quickly as leaks are found, more are forming. So whilst offering smart meters, conducting water efficiency audits and delivering an education programme are all commendable concepts, network leaks continue in the background, which is worrying. We believe that your approach is good it could be strengthened to include how you intend to encourage the increase of metering to household customers as well as targeted education pieces. We know UU have been trailing new technology to identify leaks as well as smart metering which will also assist in network monitoring. This would be a large investment to install these 'detectors' to the whole network. We presume that their installation will be prioritised -Do you intend to place these in certain leakage "hotspots". We would also like to see improvements to your website, so a customer will understand what happens after a leak has been reported, have an indication of when the leak might get fixed, and have better information about the progress towards fixing the leak. Customers also need to be educated on what to do when they spot a leak who and how they report this and the timescale this will take to visit and/or repair. This plan should be a detailed timeline explaining the steps you plan to take to make the improvements to your website and to how you communicate with customers. For example, the steps you take to repair a leak, indicative timescales, the way customers report a leak and how they receive information about the progress of the repair. I note that you have in your plan mentioned that most non household customers in your area are metered and over 90% use Waterplus as their retailer. The draft plan does not mention specifically your plans for helping this group of customers use less water, or how you plan to work with Waterplus or other retailers in this area. We would like to understand if you are planning to accelerate the role out of</p>	<p>Our draft Water Resources Management Plan 2024 (dWRMP24) sets out our plan to achieve all of our existing commitments, as well as the water targets, including interim targets, from the government's Environmental Improvement Plan 2023. This includes the targets related to:</p> <ul style="list-style-type: none"> • Public water supply in England per head of population (measured as distribution input per capita); • Total leakage; • Per capita consumption (PCC); and • Non-household consumption/usage or 'business demand'. <p>We have made improvements to our revised draft Water Resources Management Plan 2024 (rdWRMP24) and supporting technical reports, which now more clearly set out in detail what demand and leakage reduction targets we are planning to meet, what demand management options have been selected as part of our best value preferred plan in order to meet these targets, and how these will be delivered and monitored.</p> <p>We thank you for your suggested improvements to our website with regards to leak reporting and progress on fixing leaks.</p>

Reference	Respondent	Feedback	Our response
		<p>smart meters for these customers. Will you tackle this strategically, i.e. high user or water stressed areas. In addition to this could you also advise how you intend to address the issues for Long Unread meters (LUM's) and Long Long Unread meters (LLUM's) in the next AMP? The non-household retail market has so far failed to deliver a market for water efficiency assistance for business customers in England to the extent that was envisioned when the non-household retail market opened for all businesses in 2017. While the introduction of a new business demand Performance Commitment by Ofwat in the PR24 final methodology means there will be greater transparency and an opportunity set challenging targets, this is not a regulatory measure that can deliver demand reduction by itself. Wholesale companies' plans need to be clearer on how they will manage business demand, especially in areas more at risk of water scarcity. We would like to see greater innovation and ambition in demand management, with the wholesale company showing how it will engage with customers and retailers on joined up strategies to help reduce demand</p>	

Reference	Respondent	Feedback	Our response
12.03	CCW (Web form response)	1c. This should be a priority and we would like to see this target met before 2039 if possible. The EIP gives also gives 2 interim goals which given an indication of how successful the achievement of target can be	The government's first revision of the 25-year Environmental Improvement Plan (2023) also sets out interim targets to reduce distribution input (overall demand) by 9%, 14% and 20% by 2026/27, 2031/32 and 2037/38 respectively, including reductions in non-household demand of 9% by 2037/38 and 15% by 2050. These targets are challenging but our revised draft Water Resources Management Plan 2024 is designed to meet them.
12.04	CCW (Web form response)	2. Significant investment is mentioned many times in the draft plan, without reference to the potential cost and customer bill impact of this. We expect the company to confirm the investment it needs to deliver the plan and the costs/bill impacts to customers. The company should demonstrate that it is pacing the delivery of investment in a way that achieves the required outcomes and is affordable and acceptable to customers. I understand from your stakeholder engagement webinar this plan equates to an additional £1.38 per month or £16.56 a year. This is only one of many areas requiring investment and therefore bills going forward. It will be important to consider all these potential investment drivers at PR24 and to give appropriate account to customer preferences. Given the current struggle that some customers are experiencing in meeting financial commitments already affordability will be a key consideration, while recognising the importance of investing in the resilience of these essential services and the protection of the environment.	We are acutely aware of the ongoing cost of living challenges, and we have therefore engaged extensively with customers throughout the development of the plan, through research and consultation, to ensure that our plan places customer priorities at the heart of our decision-making process. Sections 3 and 9 of our main Water Resources Management Plan document, and our Revised Draft Technical Report - Customer and stakeholder engagement, provide further details of how we have addressed this important aspect. Our plan aims to deliver a number of strategic choices, including both government targets and customer preferences, as efficiently as possible to minimise the impact on customer bills. The bill impact of our revised draft Water Resources Management Plan will be clearly stated in our updated documents. Our business plan submission for PR24 will set out the required investment profile for all areas requiring investment; the development of our business plan is similarly underpinned by extensive customer engagement.

Reference	Respondent	Feedback	Our response
12.05	CCW (Web form response)	<p>3. We appreciate this is a stretching target for all companies. While the roll out of smart metering will assist greatly in this, we need to understand fully how this is going to be undertaken. Will this be universal metering for all in United Utilities area, a targeted approach or changing current meters to AMI? It is important that customers fully understand how having a meter can benefit them and not just feel like this is just for the benefit of United Utilities. It is also important to consider the potential financial impact on customers if moved onto metered charges. While many will save money others will not and it is therefore important to provide both practical support on reducing water use, as well as financial support to those that need it. United Utilities are already very good at communicating to customers regarding the meter option and how to save water through television adverts, apps etc. We would be interested to understand what UU are planning to do differently, or above this to meet this reduction target</p>	<p>Our current metering strategy focuses on: maximising meter penetration and meter capabilities as a key enabler of demand reduction; customer engagement and network management objectives, in conjunction with a communications campaign, to nudge or encourage customers to moderate their usage around the home; as well as continuing the promotion of our Lowest Bill Guarantee incentive, targeted at customers likely to save money through converting to a measured bill. Operating in a non-water stressed area means billing can only occur on a meter where customers opt for this, or where a customer has moved into a property with a meter installed.</p> <p>We are currently developing a plan to enable customer self-serve in terms of viewing water use through an app. This will be for all customers with a meter (AMI, AMR and visual).</p> <p>We are also setting up a smart meter trial of value – Project Beehive - to understand the value of smart in saving water and to understand how to operate as a smart meter business before larger scale deployment from 2025</p>
12.06	CCW (Web form response)	<p>4. Given the current climate changes and unsettled weather it should be a priority for water companies to be able to transfer water within its area to other parts of the country if it has capacity to do so. I also understand that with the development of new supplies from boreholes and river abstractions it will help reduce the use of temporary use bans as well as aid transfer solutions. UU customers will probably need reassurance that these transfer arrangements have appropriate protections in place and Water Resources West is providing mutual support. Furthermore, it will be important to address any concerns raised about the potential impact of transfer on security of supply, or customer perceptions of water quality</p>	<p>We agree that transferring water is an effective way to mitigate the impacts of climate change, as well as provide benefits to the North West. Our water transfer proposals are designed according to our water transfer principles, which ensure that customers and the environment in the North West would be fully protected. These principles include resilience and drinking water quality, and can be found in Section 7 of our revised draft Water Resources Management Plan 2024 (rdWRMP24).</p>
12.07	CCW (Web form response)	<p>5. Increased resilience should be a priority. I understand that this has been driven by customer research and I would expect that given last year was an exceptionally hot, dry year with temporary use bans in place in other parts of the country, that customers are understandably wanting supplies to be resilient to a changing climate.</p>	<p>Water companies are now required to demonstrate resilience to 1 in 500 year droughts (or 0.2% probability of occurrence in any given year) by 2039, and our customer research has indicated a strong preference to improve the level of service for implementing temporary use bans.</p>

Reference	Respondent	Feedback	Our response
26.01	Cheshire West and Chester Council	<p>Thank you for consulting Planning Policy at Cheshire West and Chester Council on the Draft Water Resources Management Plan (2024). We have no specific comments to make at this stage, however we would welcome continued consultation as your Plan is developed to allow us to understand any potential specific impacts of the proposed options on our borough and implications for future planning and policy development in any updates to our Local Plan.</p> <p>The Cheshire West and Chester Local Plan (Part One and Part Two) includes policies which seek to address flood risk, SuDs and water quality, supply and treatment at a local level. We have undertaken an informal Local Plan 'early conversation' with our stakeholders which focused in on a number of environmental topic areas, including climate change and addressing the climate emergency. We are now looking at the next steps in relation to progressing any update to the Local Plan (Part One). The updated plan will need to set out how much development is required in Cheshire West and may allocate sites required to deliver the level of development needed. The new Plan will also need to consider what changes have taken place in national policy and how we respond to these. We would therefore be grateful for continued liaison with UU as this work progresses.</p>	<p>We thank Cheshire West and Chester Council for participating in the consultation of our draft 2024 Water Resources Management Plan and we look forward to continuing to work together as we take the plan forward. We are also grateful to Cheshire West and Chester Council for sharing a progress update on its local plan. We use local authority plans directly in our WRMP via a plan-based population and property forecast, which helps us forecast the future demand for water.</p>

Reference	Respondent	Feedback	Our response
13.01	CRT	<p>Since WRMP19, the Trust have been developing a number of potential further canal transfer schemes with United Utilities. These schemes have all been deemed feasible by United Utilities in their Options Appraisal summary, but none have been selected in their preferred plan. The decision process around this is not clear and the Trust would like to understand the reasoning behind these assumptions so that we are assured that the canal schemes proposed have been evaluated fairly and consistently.</p> <p>United Utilities have published their WRMP24 Tables but have redacted the comparative cost data therein. This has made it impossible to evaluate their claim that this plan is 'best value' for their customers. We would recommend that information is provided on a consistent and transparent basis, across the sector, to promote an open and collaborative approach to water resource planning</p>	<p>Thank you for taking the time to respond to our draft Water Resources Management Plan (dWRMP) 2024 consultation. Our preferred plan is dominated by demand options to meet our demand management policy ambitions and targets and supply options to support water transfer. All options (both our own options and third party options) have been treated equally and gone through the same level of assessment in terms of options development and environmental appraisal. We have applied the regional-level best value optimisation methodology to select options to meet our supply-demand needs using metrics that were produced in collaboration with Water Resources West to ensure consistency with other water companies in the region. Our optimisation process has undergone rigorous testing and third party assurance to give us confidence in the outputs which are also sense-checked. Further details on the decision-making process can be found in our Revised Draft Technical Report - Deciding on future options.</p> <p>You are correct that cost information has been redacted from the public-facing WRMP tables but unfortunately this is unavoidable. The financial data are however available to the regulators and are used alongside other data sources to scrutinise our plan.</p>

Reference	Respondent	Feedback	Our response
1.01	Cumbria GeoConservation	<p>I write as Chair of Cumbria GeoConservation (https://www.cbdc.org.uk/cumbria_geoconservation_home/) to ask that your Water Resources Management Plan takes into account not only Biodiversity but also GeoDiversity.</p> <p>I was pleased to see that you will consider Biodiversity Net Gain in your planning, but you should also consider Geodiversity - geology underpins the biosphere and should not be ignored, though sadly it seems to have a lower profile than Biodiversity.</p> <p>It is likely that any engineering work to move water from one catchment to another (as, for example, the major recent project to supply West Cumbria from Thirlmere) has the potential to adversely impact Local Geological Sites (LGS). Information about the Local Geological Sites in Cumbria (of which there are almost 300) can be obtained from Cumbria Biodiversity Data Centre (CBDC), who routinely supply this sort of information to Local Planning Authorities. We automatically get consulted if planning applications received by Local Authorities affect any LGS and we will always respond. In many cases the proposed development has no potential to affect a LGS and we do not raise any objections; unless your engineers are aware that their work may affect an LGS there is a risk that inappropriate work is undertaken without proper consultation regarding geological issues.</p> <p>I am sure you are as keen as we are to avoid damage to geodiversity: we will be pleased to advise if such a situation seems likely to arise</p>	<p>Thank you for taking the time to respond to our draft Water Resources Management Plan (dWRMP) 2024 consultation. Ensuring that our Water Resources Management Plan 2024 (WRMP24) is sustainable in both the short and long term is a crucial element to our plan. All options undergo a rigorous assessment process to ensure that the selected options have the lowest risk to the environment. Options that are deemed to have a tangible impact to the environment will not be progressed in our preferred plan.</p> <p>The assessment of any impacts from the construction and operation phase on geodiversity are undertaken as part of the Strategic Environmental Assessment (objective 4 - soils, geodiversity and landuse). Outputs from the SEA feed into the option decision making element of the plan to ensure the most 'best value/lowest environmental risk' option is chosen.</p> <p>For more information on how options are chosen, please see our Revised Draft Technical Report - Deciding on future options. For more information on the environmental assessments, please see our 'Strategic Environmental Assessment' report.</p>

Reference	Respondent	Feedback	Our response
23.01	Environment Agency	The draft plan suggests that United Utilities has enough water for both its customers and to provide supplies to other companies, as well as improving drought resilience. We do not believe this is the case. The new sources that could enable water to be transferred to other companies could potentially damage the environment in either the short or long-term. We are also concerned that this would affect the resilience of the company to future droughts.	<p>Thank you for taking the time to respond to our draft Water Resources Management Plan (dWRMP) 2024 consultation. Our baseline supply-demand balance shows a deficit in the Strategic Resource Zone, however the strategic choices of leakage reduction and demand management, achieve a supply-demand balance that is in surplus for the entire planning period (2025-2085) and a plan that meets all government targets. In our draft plan, supply options were dual-purposed to deliver temporary use ban (TUBs) resilience and water transfer. TUBs resilience will now largely be delivered via demand management options and supply options are selected primarily to support a 25 MI/d water trade with STW in 2030. The reasons for this change are: we are now required to do more on demand reduction (to meet government interim targets, include NHH smart metering and include benefits of water labelling from 2025 rather than 2030), and the transfer need with Severn Trent Water has reduced by two thirds to 25 MI/d. All options continue to be developed under the North West Transfer project in order to confirm their viability and compliance with all regulatory requirements.</p> <p>We recognise the importance of providing a level of service that is satisfactory for customers, and our extensive research has demonstrated this is in fact viewed as a priority. We currently have the lowest level of service in the Water Resources West region for temporary use bans. As part of this plan our proposal to improve this level of service from 1 in 20 to 1 in 40 years on average will make it equal to the best level of service offered in the region and upper quartile across England and Wales. We are also planning to improve the level of service for Drought Permits, reducing the frequency of taking from the environment during a drought, from 1 in 40 to 1 in 50 years on average. This is planned to happen in 2031 and is in addition to an improvement from 1 in 20 to 1 in 40 years on average delivered in 2023. These improvements from the worst to the best in our region, also ensure that we aren't transferring water to areas elsewhere in the country with a better level of service than our own.</p>

Reference	Respondent	Feedback	Our response
23.02	Environment Agency	<p>Performance over the past 10 years has shown that in 6 to 8 months the company can go from full reservoirs to being weeks away from an emergency. The company then relies on taking more water out of the environment. The company must provide better resilience to these short-term droughts, which are often made worse by higher than planned outage due to poor asset health. Our climate is changing, and hotter and drier summers could be more frequent. United Utilities reservoir-based system, that relies on rain throughout the year, will be high risk.</p>	<p>In our region, in a typical year 94 per cent of the water we supply comes from river or reservoir sources, and only six per cent comes from groundwater; this balance may vary slightly in a dry year. During short intense periods of warm, dry weather, river flows and reservoir levels can drop rapidly as surface water reacts more directly to short-term changes in rainfall patterns. This can be exacerbated by parallel increased peaks in demand, for example reflecting increased garden watering during significant periods of little or no rainfall. However, for similar reasons our surface water sources often experience rapid recovery after dry periods, due to a fast response to rainfall events, which can be of significant magnitude particularly in our upland reservoir catchments.</p> <p>Our supply forecast for WRMP24 marks a significant advance compared to previous planning rounds. Among these improvements (listed in section 4 of the revised draft Water Resources Management Plan 2024 (rdWRMP24) Main Report) we have updated our hydrological data series (river flows and reservoir catchment inflows), which support our water resources models; these now cover periods of between 57 and 91 years. We also use new spatially coherent stochastic data series, of up to 19,200 years, to enable us to assess the impacts of droughts more severe than those experienced in our historic record. This provides a large range of plausible droughts, against which our system is tested. Our approach aligns with that adopted by our regional group, Water Resources West.</p> <p>In preparing our Water Resources Management Plan as well as examining where there are deficits forecast in our region, we also considered the opportunity to make some 'strategic choices'. They include:</p> <ul style="list-style-type: none"> o Meeting ambitious government targets to halve the level of leakage and reduce the use of water to 110 litres per person per day by 2050; o Improving levels of service for the frequency of water use restrictions and drought permits; and o Supporting national and regional water resources needs through water transfers. <p>These choices protect and, where possible, benefit customers and the environment. Combined, these actions improve our resilience by reducing the amount that we will need to abstract from the environment.</p>

Reference	Respondent	Feedback	Our response
23.03	Environment Agency	We expect the company to demonstrate clearly how it will provide improved drought resilience for its own customers as a priority, before considering transferring water to other companies. The strategic grid has a number of vulnerabilities that need to be addressed to ensure resilience. These include erroneous modelling assumptions e.g. the Lune Wyre transfer, asset health and the security of the Pennine sources.	We currently have the lowest level of service in the Water Resources West region for temporary use bans. As part of this plan our proposal to improve this level of service from 1 in 20 to 1 in 40 years on average will make it equal to the best level of service offered in the region and upper quartile across England and Wales. We are also planning to improve the level of service for Drought Permits, reducing the frequency of taking from the environment during a drought, from 1 in 40 to 1 in 50 years on average. This is planned to happen in 2031 and is in addition to an improvement from 1 in 20 to 1 in 40 years on average delivered in 2023. These improvements from the worst to the best in our region, also ensure that we aren't transferring water to areas elsewhere in the country with a better level of service than our own. For our response to your feedback on modelling assumptions please refer to our response to issue 23.13.
23.04	Environment Agency	The supply side options that have been presented have not been assessed for their risk of causing environmental deterioration. There is a high risk to customers and the environment if the company doesn't complete these assessments and take the relevant actions to protect the environment.	The WFD assessment of the draft Water Resources Management Plan 2024 (dWRMP24) examined whether the individual revised feasible and preferred options and the plan as a whole will (amongst others): - Prevent deterioration between WFD status class of any element in the waterbody as set out in WFD Regulation 13 - Ensure that the planned programme of measures to help attain the WFD objectives for the waterbody in the current cycle of RBMPs, are not compromised. These objectives are used as a test of constraint, and assess if an option and the plan is compliant or non-compliant with the WFD. The WFD assessment of United Utilities Water's revised draft WRMP24 considers the effects of the revised preferred options selected against the same requirements. This will ensure that the risks of the plan on environmental deterioration have been identified, described and assessed.
23.05	Environment Agency	The company plans to reduce the planned frequency of Temporary Use Bans. While this is encouraged, the plan does not present clearly how this improved resilience will occur, especially when the company plans to sell water it may not have available. The company should assess Temporary Use Bans as an option, demonstrate that the water is available and justify the change as part of the best value solution	As set out in response 23.11, whilst we have proposed plans to sell / transfer water from current sources the solution involves replacing this water with new sources. In the Draft WRMP our improvement to Temporary Use Bans (TUBs) level of service was based on a combination of leakage reduction, demand management and dual-purposing water transfer options. However, additional government leakage and demand interim targets, as well the acceleration of water labelling and adoption of non-household smart meters, mean that we are able to improve TUBs level of service through leakage reduction and demand management alone, without any dependency on water transfer. We have assessed this change in level of service as an option, as set out in response 23.19.

Reference	Respondent	Feedback	Our response
23.06	Environment Agency	<p>The company is dependent upon substantial reductions in water demand to maintain resilient supplies to customers throughout the life of the plan. We welcome the company's plans to reduce per capita consumption to 110 litres per person per day by 2050, as per government expectations and in contribution to the Environment Act water demand target. Achieving this will be hugely important to help maintain customer supplies and protect the environment. Therefore, it is essential that the company continuously monitors and reacts to delivery progress. The company should set out in its final plan, clear alternative options, should the pace of these reductions be slower than expected.</p>	<p>We thank the Environment Agency for their positive comments relating to these matters.</p> <p>We continuously monitor and report on demand reduction. Measuring the benefits of our demand options is critical in allowing us to adapt and target our approach to reducing demand for water as effectively as possible. In order to continually refine and improve our understanding of the benefits of demand options, we will take steps to increase monitoring in order to assess the impact on customer demand.</p> <p>As part of normal operations, our Water Systems Team undertakes a weekly review of demand levels to support our production planning and other operational activities (e.g. activities related to our leakage and water efficiency programmes). We monitor demand for water at a resource zone level, as well as at a demand monitoring zone (DMZ) level and a district metered area (DMA) level. These demands are also retrospectively analysed to better understand the factors that influence demand for water (e.g. weather patterns).</p> <p>In addition to our weekly review of demand levels, we collate and analyse data from customer meters to gain further insight into the relative movement of the components of demand for water.</p> <ul style="list-style-type: none"> • Automatic meter reading (AMR) data from household and non-household customer meters; and • Continuously logged data from non-household customer meters. <p>We are combining more of this information together in operational and management dashboards to allow us to have a full picture of consumption/usage and leakage. This, combined with analytics and customer research into water using behaviour, will allow us to better quantify (and reduce) demand-related uncertainties. Thereby, improving the estimation of demand option benefits.</p> <p>We included a demand adaptive pathway as part of our overall adaptive plan in our draft plan, and have updated this for our revised draft Water Resources Management Plan 2024 (rdWRMP24). See our Revised Draft Technical Report - Deciding on future options for details. This provides an alternative plan for us to follow should demand reductions be slower than expected.</p>

Reference	Respondent	Feedback	Our response
23.07	Environment Agency	<p>We welcome the company's leakage reduction plans, which meet the government expectation to reduce leakage by a minimum of 50% by 2050 from 2017/18 levels. But we would challenge that United Utilities could reduce further than the minimum expectation, especially over the next 5-10 years. In 2021-22, the company leaked 23% of the water that entered its distribution system. At the same time other companies were leaking a lot less, some as little as 13%. United Utilities has the potential to deliver more and should explore this. Furthermore, the present plan does not clearly set out how the current leakage reductions will be delivered. Under-delivery would have serious consequences for the company's security of supply, and risks impacting customers and the environment. The company should set out the specific actions it will undertake to reduce distribution losses and supply pipe leakage.</p>	<p>We thank the Environment Agency for their positive comments relating to this matter.</p> <p>Reducing demand for water, including leakage, was an integral part of our draft plan and it remains so for our revised draft plan; but we have also made several key improvements. Since publication of our draft plan, the government has published its Environmental Improvement Plan (EIP), which sets out interim targets for reducing water supply and leakage. The following EIP targets have been included in our revised draft Water Resources Management Plan:</p> <ul style="list-style-type: none"> * a 20% reduction (from 2019/20 baseline) in public water supply per head of population by 2038, with interim targets of 9% by 31st March 2027 and 14% by 31st March 2032 * a 20% reduction in leakage by 31st March 2027 and 30% by 31st March 2031 <p>Our revised draft plan also sets out our plan to achieve a 9% reduction in non-household water use or 'business demand' by 2037-38 and a 15% reduction by 2049-50 (from 2019-20 levels), which are also EIP targets. All of these interim targets are part of the trajectory to achieving long-term targets for household water use (to 110 l/h/d), leakage (by 50%), and non-household water use (15%) by 2050. There is a balance to be struck on the 'pace' of delivering leakage reductions versus the cost to achieve leakage reductions in a sustainable way and the impact on customer bills. We feel the interim and long-term leakage targets strike the right balance between these aspects.</p> <p>Our Revised Draft Technical Report - Deciding on future options has been improved and sets out how we will deliver leakage reductions.</p>

Reference	Respondent	Feedback	Our response
23.08	Environment Agency	<p>We are disappointed that United Utilities is putting the environment at risk by not planning to deliver its sustainability reductions at pace and throughout the planning period as expected to through its Environmental Destination. We expect the company to provide further details and justify its approach and the environmental impact. Additionally, the current environmental assessments accompanying the plan are inadequate and further work is required. It is critical that all feasible and alternative options have been assessed appropriately, with consideration of transboundary impacts and this should help underpin decisions around options selected in the best value plan.</p>	<p>For our revised draft Water Resources Management Plan 2024 (rdWRMP24), we have reviewed the hydrological status of all water bodies from which we currently abstract, and have concluded that all current issues (hydrology status not supporting good) are addressed in either AMP7 (2020-2025) or AMP8 (2025-2030) Water Industry National Environment Programme (WINEP) investigations. Waterbodies pertinent to our reservoirs have already been addressed from previous heavily modified waterbodies (HMWB) assessments and have been screened from a WFD perspective accordingly. In this case, new or increased compensation flows have been implemented (or implemented by 2025-2030) as necessary. We have set this out in the Appendix within the Revised Draft Technical Report - Environmental destination.</p> <p>It is important to note that sustainability reductions implemented as a consequence of the WINEP investigation consider the WFD compliance against the Environmental Flow Indicator (EFI). As well as impact on flows with respect to EFI, investigations also consider the sensitivity of the relevant waterbodies, groundwater spatial impact on surface waters and the presence of a priority species or SSSI. Where it cannot be demonstrated that the projected growth in abstraction will not cause ecological deterioration, an option appraisal process is completed to identify and evaluate measures (solutions) for avoiding the risk of deterioration. For further information on how these investigations are conducted, please see section 3 in the Revised Draft Technical Report - Environmental destination.</p> <p>With regards to delivering sustainability at pace, we have developed a strategy to help meet this expectation however noting that only 'no regret' solutions from the AMP7 (2020-2025) and AMP8 (2025-2030) investigations can be accelerated to 2027, due 2026. For further information, please refer to section 3 in the Revised Draft Technical Report - Environmental destination.</p> <p>With regards to the environmental assessments for the feasible and alternative solutions, we have taken on board feedback from yourselves and other respondents and responded to these separately. For further information, please refer to the relevant revised draft environmental reports.</p>

Reference	Respondent	Feedback	Our response
23.09	Environment Agency	We do not consider that United Utilities has complied with the water Resources management Plan (England) Direction 2022. It has not met the following directions: 3 (d) - description of greenhouse gas emissions 3 (j) - cost-effectiveness of domestic metering	Thank you for taking the time to respond to our draft Water Resources Management Plan (dWRMP) 2024 consultation. We have taken this feedback on board and updated our rdWRMP to provide more detail on how we have met the requirements for Directions 3d and 3j in Sections 5 and 7 of the rdWRMP technical report - Options Identification (3d) and Section 4 of the rdWRMP technical report - Demand for water (3j). We have also provided an overview of our response to this matter in our Statement of Response document in Section 4.1.
23.1	Environment Agency	Recommendation 1: Provide assurance that the company is resilient, particularly to short duration droughts. Recent history has shown the company has 6-8 months of storage and relies on rainfall to avoid emergency drought measures. If the company cannot provide this reassurance, it should reconsider transfers of water to other companies. The company should also review its resilience in the context of the 2018 and 2022 droughts.	This entry is the overarching recommendation, with specific detail provided in our response to items 23.11 and 23.12. Our response to, and lessons learned from, previous droughts is included in the new Revised Draft Technical Report - Dry weather lessons learned, produced in line with the Water Resources Planning Guideline (March 2023).
23.11	Environment Agency	Issue 1.1 The company should: • Provide assurance on its resilience including a review on whether the transfer of water to other companies should be reconsidered	Whilst the transfer of water to other companies utilises some of our current sources it also involves developing new sources to replace the lost water. Furthermore, there will be an opportunity to use these new sources at times when they are not being used for water transfer. As such our water transfer solution has been designed to protect / enhance the resilience of the North West, therefore we respectfully disagree that water transfers should be reconsidered. Please also note that the design of our water transfer solution received positive feedback from regulators including the Environment Agency in the recent RAPID Gate 2 draft decision.
23.12	Environment Agency	Issue 1.1 The company should: • review the drought response for the 2018 and 2022 droughts and identify lessons, with particular focus on the security of the Pennines sources and the ability to supply customers that cannot access water from the grid • present any lessons identified and corresponding actions relevant to its WRMP within the revised draft plan • highlight any changes it is going to make to its plan as a result of the 2018 and 2022 droughts	In line with the updated Water Resources Planning Guidelines (March 2023) we have prepared a new Revised Draft Technical Report – Dry weather lessons learned, to be submitted alongside our revised draft Water Resources Management Plan 2024 (rdWRMP24). This includes how experiences from 2022 have been considered and we have extended this to include 2018. With regards to customers that cannot access water from the grid this is covered in a bespoke water service resilience ODI, and we are currently on track to out-perform on this measure.

Reference	Respondent	Feedback	Our response
23.13	Environment Agency	<p>Recommendation 2: Improve supply forecasting to reduce risks to security of supply, improve resilience during a drought and demonstrate United Utilities' ability to trade water by taking the following actions:</p> <ul style="list-style-type: none"> o Improve deployable output modelling so that it provides a realistic representation of the Strategic Zone's conjunctive use system, including specific operational capacity limitations such as the Lune-Wyre Transfer. o Reinstate an emergency storage volume for Haweswater so that it has consistent resilience assumptions with companies it plans to trade with. 	<p>We considerably advanced our supply forecasting capability for WRMP24, working closely with other companies in Water Resources West to develop a comprehensive supply methodology that is fully aligned to the Environment Agency's (EA) WRMP24 water resources planning guideline (WRPG). In preparing for our Water Resources Management Plan 2024 we engaged with regulators early in the planning process, both through company and WRW regulator liaison meetings. We shared details of our regional and company methodologies and ensured feedback was taken into account. We also held special interest sessions on specific technical topics such as water resources modelling and climate change.</p> <p>Our Strategic and Carlisle Resource Zones are conjunctive-use supply systems whereby local sources operate in a conjunctive manner with the regional sources, particularly in the Strategic Resource Zone, so that risk can be balanced in their use relative to the regional sources. Due to the complex nature of how these resource zones work sophisticated approaches and tools are required to determine the deployable outputs for each level of service, including the 1 in 500 deployable output (0.2% annual chance of failure). For both of these zones, water resources models (Hydro-Logic® Aquator and Pywr) have been used to simulate system behaviour. As detailed in our Revised Draft Technical Report – Supply forecast, we have also improved the representation of any new and existing assets in our water resources models. Following our experience of dry weather in 2018, we completed a validation exercise to check the performance of our models compared to reality. Model review and development is a continuous improvement activity, which includes making updates to represent changes to our assets for example, but also includes migrating our models to the latest software versions. Since our 2019 plan we carried out a significant upgrade of our Hydro-Logic® Aquator modelling software to version Aquator XV making sure we have the best available tool for water resources modelling. In using a system response to assess deployable output this also captures system constraints, conjunctive use capability and operational response.</p> <p>With regards to specific assets and their representation in our models:</p> <p>The West East Link Main (WELM) project is currently underway and will provide an increased maximum capacity. The ability to use this additional capability will be limited until the completion of other projects in the area which has been accounted for in component 7.4BL - Change in DO from prolonged Outage reduction.</p> <p>The Wyre project will enable the maximum capacity at the Wyre pumping station to be achieved. This is coupled with the maximum capacity at the Lune pumping station. In line with our overarching operating principles, we expect to use these rivers mainly in Spring and Autumn to help protect our borehole licence, and Barnacre and Thirlmere storage. Where possible we will aim to use them in the summer, however we are more likely to lose the rivers in the summer due to the hands-off flow conditions (reflected in our models), and when it does rain we initially experience water quality issues. It</p>

Reference	Respondent	Feedback	Our response
			<p>should be noted that as more expensive, carbon intensive, sources which are more challenging to treat than some other sources we will minimise abstraction from the rivers if our other sources are healthy.</p> <p>In previous WRMPs, all companies used emergency storage as a buffer to protect against more severe droughts, i.e. future events worse than those recorded historically and used for planning. The industry approach for determining supply availability, as set out in the EA WRPG, has radically changed for WRMP24 in response to the Government’s new 1 in 500 year resilience requirement. Instead of using historical droughts, all companies now use very large synthetic hydrological datasets that contain hundreds of droughts. The most severe drought used has a return period of approximately 1 in 20,000 years, versus typically around 1 in 100 years for historical droughts. Therefore, the rationale for using emergency storage to protect against more severe events has been superseded.</p> <p>As such, the EA WRPG no longer stipulates the use of emergency storage. It states that the point of failure, i.e. the implementation of emergency drought orders (EDO) such as standpipes, should be defined by the company (Section 4.7 of WRPG). Different companies have defined different failure points, including at emergency storage, dead water storage and other bespoke metrics, based on which is most appropriate for their particular supply systems. In our case, the failure point corresponds to those included in our recently published drought plan. It should be noted that the actual implementation point varies from company to company, and in some cases even from water resource zone to water resource zone. Critically, the choice of failure point is linked to the characteristics of the water resource zone. More detail on our deployable output approach and failure points for each of our resource zones can be found in Section 4.1 of our Revised Draft Technical Report – Supply forecast.</p> <p>Emergency storage only applies to reservoir sources, and not to river or groundwater sources. As an example, our Strategic Resource Zone, with many reservoirs, would previously have had a significant volume of emergency storage. Some water resource zones have no reservoirs, hence no emergency storage. Many sit somewhere in-between. The level of connectivity in a water resource zone has also been shown to have a significant effect on the resilience benefit of a given volume of emergency storage. There may also be differences in how companies in other regions define emergency storage, for example linked to treatability. Therefore, if two companies implement standpipes at emergency storage, this does not indicate an equivalent level of resilience.</p> <p>In United Utilities Water, emergency drought orders (EDOs) are implemented when any single reservoir reaches dead water storage or during a major demand centre failure. At this time, however, other reservoirs (as well as other source types) will still have water available which can be moved across the network to maintain a normal</p>

Reference	Respondent	Feedback	Our response
			<p>supply to the vast majority of customers, and meet an EDO level of demand from those directly affected.</p> <p>Therefore, we believe our approach to exclude emergency storage from certain water resource zones is correct and disagree that this leads to an inherent discrepancy in resilience. If we reintroduced emergency storage into these water resource zones, as part of the new approach to calculating supply availability, it would lead to:</p> <ol style="list-style-type: none">1. Unrealistic representation of EDO failures in the models, misaligned with United Utilities Water's and Severn Trent Water's Board's positions on when standpipes would be implemented during a drought; and2. Significantly understated supply availability during EDO periods, leading to over-investment (i.e. beyond new supply investment already planned to address environmental destination, water transfer etc.).

Reference	Respondent	Feedback	Our response
23.14	Environment Agency	Issue 2.1 The company should: <ul style="list-style-type: none"> • improve the Aquator model to ensure the system is realistically represented and provide the EA with sufficient information to increase confidence in the modelling and plan • use the Annual Review process to provide a clear update on a yearly basis on how the system has been amended to changes within that year 	For our response to your feedback on modelling assumptions please refer to our response to issue 23.13. We will continue to use the Annual Water Resources Review process to report on our performance in the previous year in the context of our Water Resources Management Plan.

Reference	Respondent	Feedback	Our response
23.15	Environment Agency	<p>Issue 2.2 The company should:</p> <ul style="list-style-type: none"> • ensure the approach to emergency storage is consistent with other water company's Water Resources Management Plans involved in the Severn Thames Transfer • calculate an appropriate emergency storage provision for all of its reservoirs. This may be less than 30 days of storage and may be based on a restricted level of demand • set this emergency storage provision level as the Level 4 restrictions failure point within its water resources modelling • include the resultant deployable output results as the basis of the supply forecast that underpins the plan • explain the impact of these changes on the deployable output of the reservoirs and the Strategic resource zone 	<p>In previous WRMPs, all companies used emergency storage as a buffer to protect against more severe droughts, i.e. future events worse than those recorded historically and used for planning. The industry approach for determining supply availability, as set out in the EA WRPG, has radically changed for WRMP24 in response to the government's new 1 in 500 year resilience requirement. Instead of using historical droughts, all companies now use very large synthetic hydrological datasets that contain hundreds of droughts. The most severe drought used has a return period of approximately 1 in 20,000 years, versus typically around 1 in 100 years for historical droughts. Therefore, the rationale for using emergency storage to protect against more severe events has been superseded.</p> <p>As such, the EA WRPG no longer stipulates the use of emergency storage. It states that the point of failure, i.e. the implementation of emergency drought orders (EDO) such as standpipes, should be defined by the company (Section 4.7 of WRPG). Different companies have defined different failure points, including at emergency storage, dead water storage and other bespoke metrics, based on which is most appropriate for their particular supply systems. We have worked closely together with WRW on our definition of failure points across the region. In WRW's case, the failure points all correspond to those included in our recently published drought plans. The actual implementation point varies from company to company, and in some cases even from water resource zone to water resource zone. Critically, the choice of failure point is linked to the characteristics of the water resource zone.</p> <p>Emergency storage only applies to reservoir sources, and not to river or groundwater sources. A water resource zone with many reservoirs, for example the largest Severn Trent Water and United Utilities Water zones, would previously have had a significant volume of emergency storage. Some water resource zones have no reservoirs, hence no emergency storage. Many sit somewhere in-between. The level of connectivity in a water resource zone has also been shown to have a significant effect on the resilience benefit of a given volume of emergency storage. There may also be differences in how companies in other regions define emergency storage, for example linked to treatability. Therefore, if two companies implement standpipes at emergency storage, this does not indicate an equivalent level of resilience.</p> <p>In WRW, therefore, we have a range of implementation points for EDO, depending on the characteristics of water resources zones and company choice around when to implement standpipes. For Severn Trent Water and United Utilities Water, EDO are implemented when any single reservoir reaches dead water storage or during a major</p>

Reference	Respondent	Feedback	Our response
23.16	Environment Agency	<p>Issue 2.2 The company should:</p> <ul style="list-style-type: none"> • calculate an appropriate emergency storage provision for all of its reservoirs. This may be less than 30 days of storage and may be based on a restricted level of demand • set this emergency storage provision level as the Level 4 restrictions failure point within its water resources modelling • include the resultant deployable output results as the basis of the supply forecast that underpins the plan • explain the impact of these changes on the deployable output of the reservoirs and the Strategic resource zone 	<p>demand centre failure. At this time, however, other reservoirs (as well as other source types) will still have water available which can be moved across the network to maintain a normal supply to the vast majority of customers, and meet an EDO level of demand from those directly affected.</p> <p>Therefore, we believe our approach to exclude emergency storage from certain water resource zones is correct and disagree that this leads to an inherent discrepancy in resilience. If we reintroduced emergency storage into these water resource zones, as part of the new approach to calculating supply availability, it would lead to:</p> <ol style="list-style-type: none"> 1. Unrealistic representation of EDO failures in the models, misaligned with our Board's position on when standpipes would be implemented during a drought; and 2. Significantly understated supply availability during EDO periods, leading to over-investment (i.e. beyond new supply investment already planned to address environmental destination, water transfer etc.).

Reference	Respondent	Feedback	Our response
23.17	Environment Agency	<p>Issue 2.2 The company should:</p> <ul style="list-style-type: none"> • provide a clear explanation within the plan on which drought scenarios have been tested and how the results have been included within the plan, in particular the events more severe than a 1 in 500 year drought 	<p>For this plan, in line with regulatory guidelines, we now assess how resilient our supply systems are to a 1 in 500-year drought (0.2 per cent annual chance of occurrence), using stochastic data series to simulate plausible droughts more severe than those experienced in our historic record. Our stochastic hydrological dataset is 19,200 years in length, and was produced by a weather generator. This provides a large range of plausible droughts, including many with a severity worse than 1 in 500 years, against which our system is tested to calculate reliable system response-based deployable outputs. Using the Scottish deployable output (DO) method uses the frequency of failure, whereby the models are run multiple times using the stochastic hydrological dataset and incrementally increasing demand. The number of years with failure is counted at each demand step and can be presented on a DO versus return period graph (as shown in our Revised Draft Technical Report – Supply forecast, Figure 4). Using this high volume of model runs we have an understanding of the relationship between DO and return period. Drawing from this knowledge we have updated the Revised Draft Technical Report – Supply forecast (Section 4) to include the impacts of a 1 in 1000-year event (0.01% annual chance of occurrence).</p> <p>In populating Table 6 Drought Plan Links we have used all available spaces in the table to assess the following drought scenarios. A description of how this has been populated for our resource zones can be found in Section 12 of our Revised Draft Technical Report – Supply forecast.</p> <p>Drought scenarios included in table 6 cover the drought severity of;</p> <ul style="list-style-type: none"> 1 in 500 EDO (0.2% chance in any given year), 1 in 200 EDO (0.5% chance in any given year), 1 in 40 TUBs <p>Worst historic drought, noting that this varies for RZ;</p> <ul style="list-style-type: none"> 1976 for Carlisle RZ, estimated severity of 1 in 60, 1.67% chance in any given year 1995/96 for Strategic RZ and North Eden RZ, estimated severity of 1 in 100, 1% chance in any given year.

Reference	Respondent	Feedback	Our response
23.18	Environment Agency	<p>Recommendation 3: Assess reducing the frequency of Temporary Use Bans as an option in the plan and demonstrate that the plan can provide this additional benefit and that it is part of the best value plan. The company’s plan states that it will reduce its planned frequency of Temporary Use Bans, but does not clearly demonstrate that this water is available and does not adequately assess the costs and benefits of this option.</p>	<p>We did not include an option for improving the level of service for temporary use bans (TUBs) in the Draft WRMP because we did not consider it to be an option. Our WRMP options improve the supply-demand balance, either by increasing supply or reducing demand. Improving the level of service for TUBs effectively increases demand and worsens the supply-demand balance. We treated the improvement as a 'strategic need' and applied this to the supply-demand balance so that options could be selected to deliver the improvement. We believe this is by far the clearest way to present this change in our WRMP.</p> <p>As instructed we have now included this change as an option in the preferred plan. We have demonstrated that the option is cost-effective by using customer willingness to pay to offset the negative impact on the supply-demand balance, i.e. the customer willingness to pay offsets the cost of options required to offset the increase in demand. The analysis is described within our Revised Draft Technical Report - Deciding future options.</p> <p>Unfortunately the WRW best value assessment was not designed with this type of option in mind. Crucially, we do not have an SEA assessment of an improvement to the TUBs level of service. We will review how best to more fully incorporate this type of option into our WRMP29 best value assessment.</p>

Reference	Respondent	Feedback	Our response
23.19	Environment Agency	<p>Issue 3.1 The company should:</p> <ul style="list-style-type: none"> include changing levels of service as an option within the plan and planning tables the options for changing levels of service should be included in the assessments for selecting best value plan and the other alternative plans 	
23.2	Environment Agency	<p>Issue 3.2</p> <p>Reductions to levels of service before 2040 should be presented as an option, with the deployable output benefit of a level of service reduction set out in 6.3FP in Table 3b (and Table 3e where relevant for Dry Year Critical Period). This option must also be set out in Table 4 (option appraisal table) and Table 5 (preferred option benefits table). You should make it clear that the option description reflects the Water Available For Use benefits from a defined lower level of service such as 1 in 200 up to the point at which you move to 1 in 500. Your final planning Table 3c will then be automatically calculated to reflect the benefits from your reduced levels of service alongside your other options. The benefit of levels of service reduction in Table 5 must match the value presented in Table 3b in 6.3FP as both are Dry Year Annual Average tables.</p>	<p>We incorporated changes in level of service into the supply-demand balance directly (i.e. our deployable output is constrained by all levels of service, as it always has been), in order to demonstrate that we can comply with the more frequent drought measures (L1-L3), which was raised as EA Issue 1.6 (our reference 23.74). Ultimately, our approach produces exactly the same supply-demand balance, but we believe it is much more transparent and easier to follow for other stakeholders. We have since discussed this approach with our local EA representatives and they are satisfied of its validity. We agreed, however, that we would also reflect the decision to improve levels of service for TUBs as an option (see response 23.19).</p>

Reference	Respondent	Feedback	Our response
23.21	Environment Agency	Recommendation 4: Review the target headroom allowance. In particular take account of the consistent gradual source pollution issues experienced or provide a clear explanation why not. Source quality issues, which are not properly accounted for, reduce resilience and represent an additional risk to security of supply particularly during periods of hot and dry weather.	We have fully reviewed all areas of uncertainty for our WRMP24 target headroom assessment, including a comprehensive review of gradual pollution risks at both groundwater and surface water sources. It should be noted that seasonal and event-driven deterioration in water quality is incorporated into our outage allowance, and temporary events of this nature are therefore excluded from the headroom allowance in order to avoid double-counting of risk.
23.22	Environment Agency	Issue 4.1 The company should provide <ul style="list-style-type: none"> • a clear explanation of the source data going into the gradual pollution uncertainty calculation • a clear justification that the headroom includes an appropriate allowance for the uncertainty around source pollution 	We have added further clarification on the approach taken to calculating gradual pollution source risks, in our Revised Draft Technical Report - Allowing for uncertainty. The percentage contribution to the headroom allowance of the gradual pollution component has increased significantly since WRMP19, reflecting a full review of all sources undertaken for this plan.
23.23	Environment Agency	Issue 4.2 The company should consider reducing the size of target headroom in its plan for its North Eden zone.	Having reviewed the output from our draft Water Resources Management Plan 2024 (dWRMP24) assessment and benchmarked this against other UK water resource zones, we are adjusting the risk profile for North Eden Resource Zone to a flat 90% percentile (10% risk). This results in a reduction to the profile of target headroom allowances for North Eden Resource Zone in our revised draft assessment. Due to the limited interconnectivity and lack of surface water storage in this small, predominantly rural zone, it would not be appropriate to adopt a higher level of risk than 10% for the uncertainties in the supply-demand balance, particularly the groundwater quality risks which have been fully reviewed for WRMP24. As the resource zone is forecast to be in surplus throughout the WRMP24 planning period, this change does not impact on our decision-making process for the best value plan.
23.24	Environment Agency	Issue 4.3 The company should provide a clear explanation on what uncertainty has been separately included within the target headroom allowance and within the adaptive plans. Amending Table 2 in the Allowing for future uncertainty Technical Report to include this information should be considered.	We have added a new section within our Revised Draft Technical Report - Allowing for uncertainty, to set out the details of customised target headroom profiles which are applicable to our adaptive plan scenarios. Use of these customised profiles ensures that there is no double-counting of uncertainty within the adaptive plan.

Reference	Respondent	Feedback	Our response
23.25	Environment Agency	<p>Issue 4.4 The company should:</p> <ul style="list-style-type: none"> • identify uncertainty associated with the carbon data and assessment • provide a clear explanation on how the uncertainty - should any be identified, has been accounted for within the plan 	<p>Our engineering estimates upon which the carbon assessments are based, are within a ± 30 per cent margin of error and are aligned to the Association of Advancement of Cost Engineering (AACE) Class 4 estimates for project definition at the conceptual level. Optimism bias adjustments have also been applied to reflect uncertainty risk at this stage of option development. The expectation is that as option scopes are developed further in later stages, there will be a reduction in the level of uncertainty which will be reflected in the carbon assessments as changes in scope/design would be the main contributor to significant carbon value changes. The carbon models have been developed to align with the option scope inclusions and exclusions to avoid double-counting between models.</p> <p>With regards to greenhouse gas (GHG) emissions modelling, uncertainty percentages are relatively low, ranging from about 1-5% depending on the asset and standard required. The majority of emissions factors are based on the Inventory of Carbon and Energy (ICE) database v3 and Civil Engineering Standard Method of Measurement Carbon and Price Book 4 (2013). These are both industry recognised datasets but it is acknowledged that some values may be outdated given that CESMM4 has not been updated since 2013. The carbon estimates are based on standard water industry assets and conventional methods of construction and do not account for anything that would fall outside of this, for example additional levels of security for a kiosk. The estimates also do not cover emissions associated with preliminary activities such as undertaking surveys which are considered to have negligible associated carbon. Carbon estimating for contractor add-ons such as interconnecting pipework & channels and service ducting are based on regression models characterised from previous projects. Other add-ons such as connections and service diversions apply an average tCO₂e/£ for project approach.</p> <p>For operational carbon estimates, we have focused on power, chemicals and maintenance and applied these as annual values from the assumed project in use date. Power grid decarbonisation (including transmission and distribution losses) has been accounted for as per the BEIS modelling data table in the Green Book Supplementary Guidance (grid average for commercial/public sector). Values are only available to 2100 and are assumed constant thereafter to the end of the planning period. For chemical emissions, an annual carbon value is determined based on the mass of the different chemicals and the associated emission factor. The potential decarbonisation of the chemical industry and thus reduction in associated chemical carbon intensity has not been accounted for due to the high uncertainty and lack of publicly available carbon reduction forecasts. It is recognised that data on chemical composition and type will improve as the option scopes are further developed. Maintenance carbon is based on a proportion of the construction cost and will similarly change as the option scopes are</p>

Reference	Respondent	Feedback	Our response
			<p>developed further.</p> <p>Carbon cost is one of eight best value metrics considered in our decision-making. The whole life carbon values have been monetised using the BEIS modelling central value (2021 £/tCO₂e) as per the Water Resources Planning Guidance. Sensitivity testing using the high and low values has been undertaken to ascertain what, if any, changes would pertain to our preferred plan.</p>

Reference	Respondent	Feedback	Our response
23.26	Environment Agency	Recommendation 5: Set out how the company will monitor its demand management programme and set out alternative options that could be used if the pace of these reductions is slower than planned. The company should demonstrate how it will achieve its planned demand management programme.	<p>We continuously monitor and report on demand reduction and we have included details in our Revised Draft Technical Report - Deciding on future options. Measuring the benefits of our demand options is critical in allowing us to adapt and target our approach to reducing demand for water as effectively as possible. In order to continually refine and improve our understanding of the benefits of demand options, we will take steps to increase monitoring in order to assess the impact on customer demand.</p> <p>As part of normal operations, our Water Systems Team undertakes a weekly review of demand levels to support our production planning and other operational activities (e.g. activities related to our leakage and water efficiency programmes). We monitor demand for water at a resource zone level, as well as at a demand monitoring zone (DMZ) level and a district metered area (DMA) level. These demands are also retrospectively analysed to better understand the factors that influence demand for water (e.g. weather patterns).</p> <p>In addition to our weekly review of demand levels, we collate and analyse data from customer meters to gain further insight into the relative movement of the components of demand for water.</p> <ul style="list-style-type: none"> • Automatic meter reading (AMR) data from household and non-household customer meters; and • Continuously logged data from non-household customer meters. <p>We are combining more of this information together in operational and management dashboards to allow us to have a full picture of consumption/usage and leakage. This, combined with analytics and customer research into water using behaviour, will allow us to better quantify (and reduce) demand-related uncertainties, thereby improving the estimation of demand option benefits.</p> <p>We included a demand adaptive pathway as part of our overall adaptive plan in our draft plan, and have updated this for our revised draft plan. See our Revised Draft Technical Report - Deciding on future options for details. This provides an alternative plan for us to follow should demand reductions be slower than expected.</p>

Reference	Respondent	Feedback	Our response
23.27	Environment Agency	<p>Issue 5.1 The company should:</p> <ul style="list-style-type: none"> • provide a clear explanation as to what has caused the demand impact as stated in Table 6, this should include the impact of delivering demand management strategy • provide a clear explanation within the plan of how delivering the demand technology has been incorporated into the adaptive plan for demand and technology, with particular focus on the delivery on the metering and leakage strategies. The explanation should include decision points, alternative options and how the plans will be monitored and communicated • consider revising Figure 23 to include the demand management technology scenarios and the population growth as detailed in Section 11 or consider new figures for these uncertainties 	<p>There are a number of sources of uncertainty for the delivery of our demand management strategy. As we cannot predict exactly which of these elements are going to impact the delivery of our demand management plan, and simulating and testing each individual and combined impact would be impossible to do for every feasible eventuality, we have simulated any of these events within alternative demand scenarios, where our glidepaths achieve demand reduction at faster and slower paces, and some targets are achieved while others are not. The table referenced from the WRMP24 Technical Report - Deciding on future options, therefore demonstrates how demand has been changed in our scenarios, rather than the specific potential event that may lead to that outcome. To provide more detail, in the table we have expanded the defined impact of the demand options that are selected in order to simulate the Ofwat technology scenarios. The table details the difference in assumptions used from the most likely scenario to generate the alternative supply-demand balance or outcome.</p> <p>In our demand and technology adaptive plan, we have expanded our explanation of the technology scenarios, their assumptions and how they impact our metering and leakage strategies and other investments.</p> <p>We have included the technology and population growth scenarios on the whole adaptive plan diagram in Section 11 of the Revised Draft Technical Report - Deciding on future options.</p>
23.28	Environment Agency	<p>Issue 5.2 The company should provide:</p> <ul style="list-style-type: none"> • a clear explanation within the plan on how the water efficiency programme will be monitored throughout the planning period • clarity on how the water efficiency programme has been captured within the demand and technology adaptive plan, identifying clear decision points and alternative options, should the delivery of the programme be slower than planned 	<p>In section 11 of the Revised Draft Technical Report - Deciding on future options, we have provided more detail on how we monitor water efficiency and how water efficiency changes within our alternative pathways for demand and technology. We identify decision points and the alternative investment required in each pathway, including pathways where delivery of demand reduction is slower than planned.</p>
23.29	Environment Agency	<p>Issue 5.3 The company should:</p> <ul style="list-style-type: none"> • provide a clear explanation within the plan on how the reduction for leakage will be achieved year on year to support the planning table figures 	<p>We are continuing to deliver our AMP7 (2020-25) leakage reduction programme throughout the WRMP19 / PR19 period of 2020-25. We report annually on our progress against our WRMP19 forecasts and our PR19 performance commitments related to water resources, through our annual review of the Water Resources Management Plan. During the first two years of WRMP19, we have met all our targets relating to our delivery of leakage reduction and, despite a significant freeze-thaw event in December 2022, we remain on track to deliver savings of at least 15% in leakage across our region over the full AMP7 (2020-2025) period. We have added a new table in our demand forecast technical report setting out the yearly and cumulative resource benefits of each of our AMP7 funded leakage reduction schemes.</p>

Reference	Respondent	Feedback	Our response
23.3	Environment Agency	<p>Issue 5.3 The company should:</p> <ul style="list-style-type: none"> • update the planning assumptions surrounding leakage and water taken unbilled using actual 2022/23 out-turn data for the revised draft and final WRMP 	<p>It is not possible to incorporate 2022/23 out-turn data in the revised draft plan, as this data will not be finalised within the available timescales for updating the revised draft Water Resources Management Plan 2024 (rdWRMP24) analysis. However, our leakage forecasts for the period 2020-2025 (the pre-plan years) have been updated to align with actual out-turn data up to and including 2021/22. We have also updated our void billing adjustment to take account of actual numbers of properties converted from voids to billed households (via our void billing strategy) up to and including 2021/22. We have reflected this in the revised draft WRMP24 tables (34.6BL/FP) as an adjustment for the movement of properties between unbilled and billed categories as well as assumptions for property deletions (properties that become void before being demolished). This ensures that the overall forecasts of household population and household consumption correctly reflect the impacts of the actual void billing activity up to 2021/22. However, the impact on the overall WRMP24 demand forecast is negligible, as the void billing adjustment is calculated as a shift in water used from the water unbilled component to the household consumption component. It should be noted that there is a significant degree of year-on-year variability in the reported water unbilled component, and the forecasts of water unbilled are therefore based on a five-year average and covered by a wide uncertainty range within the target headroom assessment. Our Water Resources Management Plan is updated on a five-yearly basis, and the timescales of the process do not allow for a full update of all forecasts on a yearly basis to align with our reported annual out-turn data. However, our Annual Water Resources Review does provide a comparison of annual out-turn data against the current published WRMP.</p>

Reference	Respondent	Feedback	Our response
23.31	Environment Agency	<p>Issue 5.4 The company should:</p> <ul style="list-style-type: none"> include options within the option appraisal to decrease leakage past the 50% commitment provide a clear justification within the plan on the level of leakage reduction selected after considering reducing leakage past the 50% commitment 	<p>In our Revised Draft Technical Report - Deciding on future options, we have included a number of sensitivity tests where leakage reduction follows an alternative glidepath, such as a test to reduce leakage by 60% by 2060, and to do as much on leakage and demand reduction as soon as possible. In our adaptive plan, we have included a number of other scenarios where the selected programme of interventions/options are not as impactful and we do not achieve the planned leakage and other demand reductions. The adaptive plan details the resulting plan and investment should that be the case. We have used the results from these tests to demonstrate why the planned level of leakage reduction is 'best value' for customers.</p> <p>In summary, we designed our preferred programme to have a pace of delivery which is achievable and an impact that is sustainable, as well as allowing us to measure the benefits and effectiveness of our interventions. Our plan is designed to meet all of our demand reduction targets, including the interim and final targets on leakage reduction. Increasing our planned levels of leakage reduction would exceed these targets at a much greater cost, and have no further supply-demand balance benefits to customers in this planning period. This is because our preferred plan meets our desired levels of service in a timely way.</p>
23.32	Environment Agency	<p>Issue 5,5 The company should:</p> <ul style="list-style-type: none"> provide a clear explanation within the plan on how the pattern of use for each metering type has been calculated, between the baseline and the final plan forecast provide a clear explanation within the plan on the assumptions behind the growth factors for each metering category 	<p>On metering, our WRMP24 baseline demand forecast assumes:</p> <ul style="list-style-type: none"> Metering of new households (new households are more water efficient) and non-households with smart meters Delivery of Free Meter Option (FMO) optant metering and promotion of this, including our 'lowest bill guarantee', with smart meters – around 15,000 per year <p>Our WRMP24 final planning demand forecast includes the selected 'best value' programme of interventions/options:</p> <ul style="list-style-type: none"> Enhanced/proactive metering, which encompasses 'change of occupier' metering and could enable 'selective metering' if , with smart meters – around 85,000 per year and achieving a 14% reduction in household consumption/usage, as well as supporting with leakage reductions Replacement of basic/dumb and automatic meter reading (AMR) meters with smart meters – around 50,000 per year and achieving up to a 6% reduction in consumption/usage, as well as supporting with leakage reductions.

Reference	Respondent	Feedback	Our response
23.33	Environment Agency	<p>Issue 5.6</p> <p>The company should provide clear explanations within the plan on how the feasible or revised feasible demand options are different to baseline activities.</p>	<p>The primary baseline activities to manage demand for water are:</p> <ul style="list-style-type: none"> • Activity to maintain leakage levels, including 'find and fix' to offset the natural rate of rise (we have now, therefore, discounted option WR500 'find and fix' as a baseline activity); • Free Meter Option (FMO) optant metering and promotion of this, including our 'lowest bill guarantee'; • Metering of new households and non-households; • Meter replacements (like for like); and • Water efficiency communications and engagement. <p>Assuming they meet the screening criteria, activities/interventions/options not covered in the above list will be considered as options to reduce demand for water.</p>
23.34	Environment Agency	<p>Issue 5.7</p> <p>The company should provide clear explanations within the plan on the methodology used, the assumptions and limitations of each methodology used to calculate:</p> <ul style="list-style-type: none"> • population forecasting • each individual micro-component • leakage • metering 	<p>We have updated our Revised Draft Technical Report - Demand for water. Further information can be found in:</p> <ul style="list-style-type: none"> • population forecasting (figure 4 and section 3 with regards to it's limitations) • each individual micro-component (section 4) • leakage (section 6 and 10) • metering (section 4 and 10).

Reference	Respondent	Feedback	Our response
23.35	Environment Agency	<p>Issue 5.8</p> <p>The company should provide clear explanations within the plan on how measured, unmeasured, and void properties have been estimated for both household and non-household properties.</p>	<p>We have worked with Edge Analytics to derive our property forecast, where in line with water planning guidance, household property forecasts are underpinned by local authority plans. To calculate the split between measured and un-measured properties, a fixed meter optant (FMO) rate of 1% is applied to unmeasured properties (from 2019/20 base year). In line with planning guidance, FMO in our baseline is the equivalent recent actual number of unmeasured billed properties (customers) that voluntarily opt for a meter (excluding any enhanced metering strategy). FMO serves to gradually decrease the number of unmeasured properties (and consumption) and increases measured properties (and consumption). Section 4 in the Revised Draft Technical Report – Demand for water highlights the baseline split between unmeasured and measured consumption.</p> <p>Non-household properties forecast (unmeasured) has been derived from reported base year (2019/20) and projected forward excluding the PR19 forecast for non-household voids and deletions. With regards to measured non-household properties, this is derived from the reported base year (2019/20), where the average number of non-household connections as a percentage of new household connections is calculated over the past 5 years (2015/16 to 2019/20 inclusive). This fixed percentage is then applied to forecast household connections over the planning period, to produce a forecast of non-household new connections for each year across the planning period. This is then applied to reported measured non-household properties. It's important to note that unlike household properties (and consumption), the non-household properties (or population) forecast has no bearing on the non-household consumption forecast. We have provided this detail in section 3 in the Revised Draft Technical Report - Demand for water.</p> <p>Void household forecasts are derived from our AMP7(2020-2025) void billing strategy where a fixed percentage of measured and unmeasured household properties from our base year (2019/20) is applied through the rest of the planning period. Void non-household forecasts are also derived from the PR19 forecast which goes up to the start of planning period (2025) and then held flat. We have provided this detail in section 3 in the Revised Draft Technical Report - Demand for water.</p>

Reference	Respondent	Feedback	Our response
23.36	Environment Agency	<p>Issue 5.9</p> <p>The company should provide a clear explanation within the plan as to how property billing data has been used to estimate both the household population and the non-household population, and the metered and unmetered properties within those populations.</p>	<p>The growth forecast (property and population) underpins the household consumption forecast but it is important to note that all growth (and demand) forecasts are reconciled to reported 2019/20 numbers as a starting point. This is consistent with all other forecasts in the supply-demand balance forecast. 2019/20 reported property billing data forms the starting point of both measured and unmeasured property forecasts where household population is derived by multiplying metered and unmetered properties by their equivalent occupancy (number of people living in a billed property). Our occupancy forecast has been derived by Edge Analytics, however has been re-based by applying the new occupancy survey undertaken in 2021.</p> <p>We have provided additional detail on how we have calculated household and non-household properties, occupancy and population in section 3 in the Revised Draft Technical Report – Demand for water.</p>
23.37	Environment Agency	<p>Issue 5.10</p> <p>The company should provide further information within the plan to clearly explain:</p> <ul style="list-style-type: none"> • how the volumes have been determined to be small • what is a 'peak demand assessment' • how the volumes have been incorporated into the demand forecast • the rationale behind the decision made on how to include the volumes within the forecast • the title for Section 5.3 should be amended from non-potable source to third party abstractors. 	<p>In our assessment for the switching of non-potable sources to public water supply, we reviewed how many connections were made in 2018 (the most severe recent dry weather event from a demand perspective). Connections were screened out where they were expected to be permanent connections (i.e. linked directly to non-household demand). This led to 18 new connections, 17 for water trough use and one for a small garden centre. For calculating use for trough supply we used the example of a large dairy farm (based on water requirement assessment of dairy herds from the FWI) as this is considered the highest user of farm animal supply which is up to 1.2 MI/d. As this water use will be for a short period of the year, the impact on annual average demand is considerably smaller. We therefore decided not to include any further uplift to total demand as the impact from this temporary type of water use is better suited to applying peak demand assessment. This effectively allows us to test the system impact (i.e. impact on deployable output) within our Aquator™ model. Considering that the anticipated additional demand is small, and only over a small window of time, it was decided assessment through Aquator was more appropriate. We have updated section 5 in the Revised Draft Technical Report - Demand for water to clarify our approach.</p>

Reference	Respondent	Feedback	Our response
23.38	Environment Agency	<p>Issue 5.11 The company should</p> <ul style="list-style-type: none"> • provide a clear explanation within the plan as to whether the company would consider using UKCP18 figures in future • provide further clarity within the plan on how climate change has been assessed for non-household demand, in particular the enhancements incorporated into the model and the results of the uncertainty analysis • provide clear justification for why the statistical technique 'Extreme Value Analysis' is deemed provisional • provide a clear explanation as to whether the uncertainty surrounding the statistical technique has been considered and if necessary accounted for within the plan 	<p>Through the regional plan, to ensure consistency, it was agreed to apply UKCP09 climate change uplift factors in line with the UKWIR study in 2013 to household consumption. However, it has been agreed that we would consider updating the study using UKCP18 data to feed into WRMP29. Further details can be found in section 7 in the Revised Draft Technical Report - Demand for water.</p> <p>Impact of climate change on non-household demand however has been treated differently to household demand. In this case, impacts of future climate change were based on deriving a relationship between historical temperature and rainfall with different sectors of non-household demand and then applying that forward considering anticipated changes in temperature and rainfall due to climate change. We have clarified this in section 7 in the Revised Draft Technical Report - Demand for water.</p> <p>With regards to the derivation of 1 in 500 demand using extreme value analysis (and equivalent uncertainty), we have provided additional detail in section 7 in our Revised Draft Technical Report - Demand for water. With guidance from the Met Office, we have applied a +/- 3% error margin (over and above the dry year annual average error margins) to account for the uncertainty. Noting that the uncertainty in the EVA statistical method is high above 1 in 100 year weather-related demand, therefore we have treated the results with caution and not applied it to either our baseline or adaptive plan forecasts. We plan to undertake further assessment for WRMP29 using stochastic temperature series to better derive the equivalent 1 in 500 weather related demand (and associated uplift to household demand).</p>
23.39	Environment Agency	<p>Issue 5.12</p> <p>The company should consider the assessment of smart metering for all non-households (if it has not already done so).</p>	<p>In our draft Water Resources Management Plan 2024 (dWRMP24), we have included smart metering for non-households as a preferred plan option and this is reflected in the Revised Draft Technical Report - Deciding on future options.</p>
23.4	Environment Agency	<p>Recommendation 6: Ensure the information provided on transfers is aligned with other water resources management plans so security of supply is not at risk for United Utilities or other companies. There are significant discrepancies with the North West Transfer as well as discrepancies in both the size and timing of the Severn Thames transfer between United Utilities, Severn Trent Water and Thames Water.</p>	<p>Aligning transfers between multiple companies and regions within the statutory WRMP timescales has been challenging. In our case, as a donor company, transfers significantly affect other parts of our WRMP which makes it difficult to accommodate late changes. Unfortunately, we received change requests subsequent to the conclusion of regional planning reconciliation and the completion of our WRMP decision-making. We have based the revised draft Water Resources Management Plan 2024 (rdWRMP24) on the updated final agreed (March 2023) regional planning reconciled position.</p>

Reference	Respondent	Feedback	Our response
23.41	Environment Agency	<p>Issue 6.1</p> <p>The company should review the transfer volumes presented within the planning tables. After the review, the company should:</p> <ul style="list-style-type: none"> • provide justifications for the transfer volumes presented in the tables • if required, represent new tables with the transfer volumes confirmed 	<p>We have updated the transfer volume for the preferred plan and alternative transfer scenarios. The volumes requested are detailed in Section 5 of the Revised Draft Technical Report - Deciding on future options. More detail on the regional reconciliation and specifics on Strategic Resource Options can be found in the North West Transfer and Severn Thames Transfer Gate 2 documents and the Water Resources West (WRW) regional plan.</p>
23.42	Environment Agency	<p>Issue 6.2 The company should:</p> <ul style="list-style-type: none"> • work with Severn Trent Water, Thames Water as well as WRSE and WRW to ensure consistent assumptions for the Severn Thames Transfer and confirm its viability before final plan • consider any changes in the scheme as a result of consultation responses on the regional plans and WRMPs • ensure appropriate mitigation is identified making the option viable 	<p>All transfers included in our draft Water Resources Management Plan 2024 (dWRMP24) are fully aligned to the final formally agreed regional planning reconciliation position (March 2023). There are no changes to the elements of the scheme located in our area (i.e. 'The North West Transfer') as a result of consultation responses on the regional plans and WRMPs. There is a risk regarding the environmental compliance of water transfer options linked to ongoing assessment under the RAPID process for Gate 3 (December 2024). However, we expect these risks to be resolved through further assessment, and have identified several compliant options should this not be the case.</p>
23.43	Environment Agency	<p>Issue 6.3 The company should provide:</p> <ul style="list-style-type: none"> • a clear explanation on the assumptions behind the capacities of the options for each individual driver • evidence that the capacities of the options would be able to support both an increase in resilience and the NWT when required 	<p>Due to a reduced water transfer need, the acceleration of water labelling benefits (as required by the WRP) and a range of new government demand targets our level of service improvement can now be delivered by leakage reduction and demand management.</p>
23.44	Environment Agency	<p>Recommendation 7: Ensure that the plan does not pose a risk of deterioration by completing the outstanding assessments before the final plan is complete. The company should address any issues identified and should also reduce abstraction where advised to by the Environment Agency.</p>	<p>The WFD assessment of the draft Water Resources Management Plan 2024 (dWRMP24) examines whether the individual revised feasible and revised preferred options and the plan as a whole will (amongst others):</p> <ul style="list-style-type: none"> - Prevent deterioration between WFD status class of any element in the waterbody as set out in WFD Regulation 13 - Ensure that the planned programme of measures to help attain the WFD objectives for the waterbody in the current cycle of RBMPs, are not compromised. <p>These objectives are used as a test of constraint, and assess if an option and the plan is compliant or non-compliant with the WFD. Where possible, and to ensure consistency and use of the most up to date information, any modelling or investigation outputs arising from the NWT SRO Gate 3 programme of work has been used. Where the current stage of SRO Gate 3 assessment does not allow potential non-compliance to be ruled out, 'no effect' supply alternatives have been identified.</p>

Reference	Respondent	Feedback	Our response
23.45	Environment Agency	<p>Issue 7.1</p> <p>The outstanding groundwater modelling, water quality, ecological and hydrological monitoring and fish pass assessments referred to in the plan, should be prioritised and completed before the company's final Water Resources Management Plan is submitted, to ensure no deterioration is caused by the preferred options.</p>	<p>The additional groundwater modelling, water quality, ecological and hydrological monitoring and fish pass assessments are being undertaken as part of the NWT SRO Gate 3 programme of work, which is being completed to meet the RAPID requirements. These are not currently aligned to the WRMP24 process. Where possible, and to ensure consistency and use of the most up to date information, any modelling or investigation outputs arising from the NWT SRO Gate 3 programme of work has been used to updated the findings of the WFD assessment of the revised preferred options. Where the current stage of SRO Gate 3 assessment does not allow potential non-compliance to be ruled out, 'no effect' supply alternatives have been identified.</p>
23.46	Environment Agency	<p>Issue 7.2 The company should:</p> <ul style="list-style-type: none"> confirm if Ecclestone Hill is going to be utilised within the planning period seek agreement with the Environment Agency to confirm the maximum annual abstraction for Ecclestone Hill undertake monitoring to improve the modelling data for the licence reduction the abstraction should be included as an option within the plan, and included within the option appraisal process 	<p>Investigations are still ongoing on the best solution for Ecclestone Hill borehole. Currently, the source is not included in our baseline plan however we will agree our plans with the EA once the investigations and decisions have been made. Pump testing was undertaken as part of the AMP7 (2020-2025) WINEP investigation to ascertain the impact on the local surface waterbody. This concluded that a licence reduction was required, however if the source is to be re-instated, we would plan to undertake additional monitoring where necessary to improve any model outputs.</p> <p>We have clarified this in our Revised Draft Technical Report - Environmental destination, section 3.</p>
23.47	Environment Agency	<p>Issue 7.3 The company should:</p> <ul style="list-style-type: none"> seek agreement with the Environment Agency to confirm the maximum annual abstraction for Scales borehole the change in volume should be included as an option within the plan, and included within the option appraisal process 	<p>Currently, Scales borehole (BH) is not included in our baseline model for WRMP24. Investigations are still ongoing into the best solution and operational use of Scales BH however we will agree our plans with the EA once the investigations and decisions have been made.</p>
23.48	Environment Agency	<p>Issue 7.4 The company should:</p> <ul style="list-style-type: none"> provide the previously agreed water quality modelling methodology, which should include intermittent and continuous modelling for all relevant parameters, sanitary, nutrient, and chemical, and all improvements due to be delivered in AMP7 revise the options proformas for WR76 and WR105 to provide an update on the modelling required to understand the impacts and to provide assurance that the options would not increase the difficulty in achieving WFD good status in future 	<p>The comment is noted (and it is assumed that the reference to WR105 was an error and which should have been WR015). United Utilities Water's revised draft WRMP24 preferred plan includes the following options: WR107a2 GWE_AUGHTON PARK a2, WR111 GWE_WOODFORD and WR113 GWE_TYThERINGTON. The WFD assessment of these revised preferred options has been updated. As neither WR076 or WR015 has been selected for the revised preferred options, no further work has been undertaken to update the option assessments.</p>

Reference	Respondent	Feedback	Our response
23.49	Environment Agency	Issue 7.5 The company should provide a clear explanation on its approach to assessing the impact of the groundwater options and how the outcomes of the assessments would be included within the plan.	The WFD assessment of United Utilities Water's draft Water Resources Management Plan 2024 (dWRMP24) has been updated to include revision of the information presented with respect to the groundwater options. Where possible, and to ensure consistency and use of the most up to date information, any modelling or investigation outputs arising from the NWT SRO Gate 3 programme of work has been used to update the findings of the WFD assessment of the revised preferred options (the assessment approaches for NWT were reported in the Gate 2 deliverables and have been discussed with the EA). Where potential non-compliance cannot be ruled out, 'no effect' supply alternatives have been identified.
23.5	Environment Agency	Issue 7.6 The company should provide a clear explanation on how the geomorphological impacts of option WR049d have been assessed, and the results included within the plan.	The WFD assessment of United Utilities Water's draft Water Resources Management Plan 2024 (dWRMP24) has been updated to include revision of the information presented. United Utilities Water's revised draft WRMP24 includes the following options: WR107a2 GWE_AUGHTON PARK a2, WR111 GWE_WOODFORD and WR113 GWE_TYTHERINGTON. The WFD assessment of these revised preferred options considering potential for impact on all classification elements (including hydromorphology) has been updated. As WR049d has not been selected for the revised preferred options, no further work has been undertaken to update the option assessments.
23.51	Environment Agency	Issue 7.7 The company should: <ul style="list-style-type: none"> state how mitigation measures have been considered within the plan provide a list of any mitigation measures required to ensure the HMWBs reach its ecological potential objectives as set out in the 2021 draft RBMP's provide a clear assessment of implications of the mitigation measures potentially have on the supply forecasts and how they have been included within the plan 	<p>We have provided additional details regarding Heavily Modified Waterbodies (HMWBs) and the corresponding mitigation changes (which could impact the WRMP) which were required, and when they were implemented, in the Appendix within the Revised Draft Technical Report - Environmental destination. HMWBs were investigated in detail in AMP5 and AMP6 where subsequent outputs from the investigations concluded what mitigation measures were required to support or improve the ecological status of the waterbody.</p> <p>Mitigation measures included the provision of brand new and increased compensation flows at several of our reservoirs where new compensations flows are to be provided (in AMP7 at Dean Clough reservoir and AMP8 at Pennington reservoir). These were assessed in our Aquator model to understand the impact of mitigation measures on deployable output, and therefore our Water Available For Use (WAFU) forecast.</p>

Reference	Respondent	Feedback	Our response
23.52	Environment Agency	<p>Recommendation 8: Deliver Environmental Destination licence changes earlier than 2040 or explain why this cannot be achieved. United Utilities should provide justification for differences in licence reductions between the National Framework business as usual (BAU) scenario and the volumes included in the baseline supply forecast in the draft WRMP. The plan must reflect Water Resources West regional plan or justify where it does not and must comply with statutory requirements under the Water Environment Regulations 2017 and must not result in prolonged impacts on the environment.</p>	<p>Ensuring that WRMP24 is sustainable is a crucial element of the plan. Whilst ensuring that our abstraction is sustainable in the short term is our first priority, we need to ensure that our abstraction licences remain sustainable in the long-term considering climate change.</p> <p>In our baseline supply forecast, we included potential long-term licence reductions which considers the risk of climate change on the long-term sustainability of our licences between 2040 and 2050. We are treating the short-term (known) issues as higher priority and will look to address these by 2027 (or as soon as is feasible) subject to the outcome of specific Water Industry National Environment Programme (WINEP) investigations in AMP8 (2025-2030).</p> <p>We provided a potential timeline of when certain licences (which impact deployable output) may change between 2040 and 2050 after discussion with the local EA teams. However, this was subjective and it was agreed that it requires significant further investigation, which we are planning for in the AMP8 (2025-2030) WINEP to better understand the potential timetable and scale of licence reductions of long-term deterioration due to climate change. A key part of environmental destination (climate change impact) is the impact of abstraction on surface waterbodies - where in the case of groundwater licences, it is assumed there is an equal impact on surface water as for groundwater bodies. In reality, this is unlikely to be the case where we have found in AMP7 (2020-2025) WINEP investigations that the impact of groundwater abstraction (at fully licenced limit) is sufficiently small that the waterbody remains WFD compliant (from an EFl perspective) . For further information on the differences in the National Framework and what we have put forward in the WRMP24, and the reasons for differences, please refer to the Appendix in the Revised Draft Technical Report - Environmental destination.</p>

Reference	Respondent	Feedback	Our response
23.53	Environment Agency	<p>Issue 8.1</p> <p>The company need to explain the timings of abstraction reductions under the Environmental Destination to demonstrate that the plan meets the requirements of the Water Environment Regulations 2017 and Conservation of Habitats and Species Regulations 2017. If any changes are not planned as quickly as feasible, the company will need to justify why abstraction reductions cannot be delivered sooner. The plan should clearly describe what outcome the proposed environmental destination will have on the environment and explain if any sources have been screened out of the Environmental Destination and why. The company should review the volumes of the licence reductions in line with National Framework and clearly set out the reasoning and the justification for any differences.</p>	<p>With regards to known sustainability reductions in AMP8 (2025-2030), following investigation in AMP7 (2020-2025) Water Industry National Environment Programme (WINEP), we will look to accelerate as much as is feasible by 2027. This has been reflected in our rdWRMP tables where we aim to implement licence changes at Schneider Road and Thornccliffe Road BHs, Corn Close BHs and Bearstone BH. However, it will not possible to accelerate sustainability reductions as part of the Wirral and West Cheshire no deterioration investigation to 2027. This is because there is the requirement for further environmental assessment (AMP8 WINEP) for the stream support solution therefore it won't be practically possible to undertake the additional assessments and implementation of solutions by 2027. Whilst we will plan to accelerate licence changes as much as possible, in the unlikely scenario there is a short-term local or wider resilience issue, then we may need to push back licence changes to 2030. This will be managed through our annual review.</p> <p>With regards to potential AMP9 (2030-2035) sustainability reductions (licence capping), it's not possible at this stage to accelerate all licence changes by 2027, chiefly because the investigations have not started or concluded. Whilst we have made the provision in the WRMP to quantify what the potential impact is on the deployable output (based on EA licence capping guidelines), we will not know what solution is required, it's potential impact (and when it can be implemented) until the investigations have concluded in 2026.</p> <p>With regards to the long-term environmental destination, we have worked with the local EA teams to profile which licences are more likely to cause environmental deterioration first. This is highly subjective and we've agreed at this stage that due to the very high uncertainties attached to the data, the timing of deterioration risk will be investigated in AMP8 WINEP and therefore not taken any further. We have however undertaken sensitivity analysis to look at how much licence reduction could be fast-tracked in our final planning supply-demand balance considering more accelerated impacts from climate change. Please see section 5 in the Revised Draft Technical Report - Environmental destination.</p> <p>For further information on our strategy of accelerating sustainability reductions, please see section 3 in the Revised Draft Technical Report - Environmental destination. A summary table of the current timetable for licence changes (both short and long-term) can be found in section 4 in the revised draft WRMP24 main report. A more detailed version can be found in the appendix of the Revised Draft Technical Report - Environmental destination.</p> <p>We have assessed our proposed long-term licence reductions against the waterbody</p>

Reference	Respondent	Feedback	Our response
			status (EFI compliance) outputs from the National Framework - please refer to the appendix in the Revised Draft Technical Report - Environmental destination.

Reference	Respondent	Feedback	Our response
23.54	Environment Agency	<p>Issue 8.2 The company should:</p> <ul style="list-style-type: none"> review the volumes of the licence reductions in line with National Framework and clearly set out within the plan the reasoning and the justification for any differences include the within the plan details of those sources that have been screened out for requiring sustainability changes including licence, location, and reason for screening out 	<p>Please refer to the Appendix in the Revised Draft Technical Report - Environmental destination. This highlights the band 3 potential WFD 'hydrology' compliance banding in 2050 (from the National Framework) after we have applied proposed long-term licence changes and the reasons for screening out. Further details on the screening out of licence reductions (i.e. reservoir and surface water abstractions) are set out in section 4 in the Revised Draft Technical report - Environmental destination.</p> <p>For the specific breakdown of known and potential licence changes between 2025-2030, please refer to the Appendix in the Revised Draft Technical Report - Environmental destination.</p> <p>We are committing to extensive AMP8 WINEP investigations to reduce the uncertainty in the potential long-term licence changes (which are significant). They will include (but not be limited to), how much licences may need to change, by when and what options (both locally and resource zone wide) need to be put forward to prevent deterioration (including environmentally-focussed options), considering various climate change scenarios. In agreement with the EA, and as part of WRW, we are also committing to undertaking an environmental destination option appraisal.</p>
23.55	Environment Agency	<p>Issue 8.3</p> <p>The company should provide a detailed breakdown of the company's environmental destination and sustainability reduction scenarios at a licence level (including licence number and licence point), clearly detailing and justifying when these are expected in the plan and use sensitivity testing to consider earlier delivery to support this justification. The company should also say what outcome they expect the changes will achieve for the environment. The predicted benefits from the Environmental Destination for protected areas should be clearly explained. Where appropriate this should include:</p> <ul style="list-style-type: none"> chalk streams SSSIs covered by the Wildlife and Countryside Act 1981 sites designated under the Conservation of Habitats and Species Regulations 2017 	<p>For further information on specific licence changes (both for sustainability reductions and environmental destination) and when we expect them to come in force, please refer to the Appendix within the Revised Draft Technical Report - Environmental destination. Note that, whilst we have attempted to profile licence changes for the long-term environmental destination considering climate change, based on discussion with local EA, it was concluded that uncertainty is too high to develop it any further for this plan. In this case, we are committing to significant WINEP investigations in AMP8 and beyond to reduce the uncertainty in the potential long-term licence changes which will feed into it.</p> <p>At this stage, it is not possible to ascertain the predicted benefits for protected areas considering potential long-term impacts from climate change due to the lack of available data. The no deterioration investigations underpinning our sustainability reductions look to ensure that we are compliant with the EFI. We have included further licence reductions as part of the 'Enhanced' scenario in the adaptive plan which provides greater protection to catchments with SSSIs, however further investigation would be required in AMP8 and beyond to better understand the benefits to the local environment from licence reductions.</p>

Reference	Respondent	Feedback	Our response
23.56	Environment Agency	<p>Issue 8.4</p> <p>In addition to sustainability reductions, we expect to see complimentary catchment and nature-based solutions included in the plan to deliver environmental resilience.</p> <p>Where there is believed to be insufficient evidence of the benefits of certain types of nature-based solutions, we expect to see pilot schemes implemented to test and understand the potential benefits.</p>	<p>Currently, we believe that there is insufficient evidence to quantify the benefits on water resources and other elements from nature-based solutions. Based on the outputs from a workshop with catchment stakeholders in April 2022, we have put forward four pilot AMP8 (2025-2030) Water Industry National Environment Programme (WINEP) investigations for the Wyre catchment to better understand the benefits of nature-based solutions. Further detail is provided in section 4 in our Revised Draft Technical Report - Environmental destination.</p>
23.57	Environment Agency	<p>Recommendation 9: Revise the strategic environmental assessment (SEA) so that it is clear how the options compare to least cost, best value and best for society and the environment plans. The company should also address other shortcomings in its SEA, including identifying transboundary effects and showing how in-combination and cumulative effects have been considered within the SEA.</p>	<p>The SEA Environmental Report of our draft Water Resources Management Plan 2024 (dWRMP24) has been amended to reflect the changes in the revised preferred options and reasonable alternatives to the plan, consistent with the requirements of SEA Regulation 12 (2), government and sector guidance and case law. This necessitates that alternatives to the plan must meet the plan objectives (consistent with the WRPG requirement that the plan must achieve best value). Reasonable alternatives to the plan have then been identified, described and evaluated to be consistent with this requirement.</p> <p>SEA findings from the revised feasible option assessment have also been used in the completion of the detailed screening of the revised feasible options and as inputs into the into the MCDA ('ValueStream') for option appraisal and plan selection. This is presented in the WRW Decision metrics supplementary note v1.0 (16.06.2020)) and the WRW Regional Plan Decision Tool Workshop Report (August 2021).</p> <p>Section 6 of the dWRMP SEA Environmental Report details cumulative effects, including consideration of transboundary issues. These have been revised as necessary to reflect the revised preferred option suite.</p>

Reference	Respondent	Feedback	Our response
23.58	Environment Agency	<p>Issue 9.1</p> <p>The reasonable alternative options need to be re-assessed as reasonable alternative plans, to include a least cost, best value and best for society and environment plan.</p> <p>The company should improve the clarity in the SEA that the revised feasible options are considered the reasonable alternatives.</p>	<p>The SEA Environmental Report of our draft Water Resources Management Plan 2024 (dWRMP24) has been amended to reflect the changes in the revised preferred options and reasonable alternatives to the plan, consistent with the requirements of SEA Regulation 12 (2), government and sector guidance and case law. This necessitates that alternatives to the plan must meet the plan objectives (consistent with the WRPG requirement that the plan must achieve best value). Reasonable alternatives to the plan have then been identified, described and evaluated, to be consistent with this requirement.</p> <p>Each revised feasible option was subject to SEA. The SEA findings from each revised feasible option assessment were then used in United Utilities Water's option appraisal process:</p> <ul style="list-style-type: none"> - as part of the detailed screening of the revised feasible options to determine the constrained options (by informing the assessment against the criterion 'Does the option meet the social and environmental objectives of the relevant SEA?') - by conversion into values for input into the MCDA ('ValueStream') for assessment of four of the eight decision-making metrics. This is presented in the WRW Decision metrics supplementary note v1.0 (16.06.2020)) and the WRW Regional Plan Decision Tool Workshop Report (August 2021). <p>In consequence, and with reference to reasonable alternatives, each revised feasible option is considered as a reasonable alternative, when selecting the constrained and preferred options. For the avoidance of doubt, an individual feasible option is not considered a reasonable alternative to the plan.</p>
23.59	Environment Agency	<p>Issue 9.2</p> <p>Further information on the characteristic of effects should be included within the SEA.</p> <p>Further clarity should be provided within the SEA to demonstrate no significant cross-boundary conflicts or issues that could significantly affect the approval and adoption of the WRMP.</p>	<p>The SEA Environmental Report of our draft Water Resources Management Plan 2024 (dWRMP24) has been amended to reflect the changes in the revised preferred options that have been selected and for those options, where appropriate, reference has been made to the characteristics of effects (such as timing and location) and transboundary effects.</p>
23.6	Environment Agency	<p>Issue 9.3</p> <p>The company should include the objectives listed under Section 1.1 of the Main report within the SEA report to meet legislative requirements</p>	<p>The SEA Environmental Report of our draft Water Resources Management Plan 2024 (dWRMP24) has been amended to include the revised draft WRMP24 objectives.</p>

Reference	Respondent	Feedback	Our response
23.61	Environment Agency	<p>Issue 9.4 The company should:</p> <ul style="list-style-type: none"> • update Table 2.2 or text supporting Table 2.2 to clearly explain how policy objectives and messages have influenced the development of the objectives and focus of the SEA report • provide a clear explanation on which plans, and programmes have been considered within the SEA and the influence these plans and programmes have had on the SEA 	The SEA Environmental Report of our draft Water Resources Management Plan 2024 (dWRMP24) has been amended. Table 2.1 lists all the plans, programmes and strategies that have been considered within the SEA (with each plan and programme reviewed and included in Appendix C). Supplementary information has been included in Table 2.2 of the updated Environmental Report linking the key policy objectives and messages explicitly to the relevant SEA objectives and guide questions.
23.62	Environment Agency	<p>Issue 9.5 The company should:</p> <ul style="list-style-type: none"> • review Section 6.5 to ensure that all synergistic, cumulative, and secondary effects have been correctly identified and are clearly explained • the potential cumulative effects included within Section 6.5 should be linked to the objectives of the SEA. The company should consider presenting this information in a table similar to Table 6.9 in Section 6.3 of the SEA 	The SEA Environmental Report of our draft Water Resources Management Plan 2024 (dWRMP24) has been amended. Section 6 of the SEA Environmental Report has been reviewed to ensure appropriate identification, description and assessment of likely significant cumulative, secondary and synergistic effects. A summary RAG assessment has also been provided to supplement the detailed analysis with a high-level overview of the likely significant effects using the framework of the SEA objectives.
23.63	Environment Agency	<p>Issue 9.6</p> <p>The company should provide a clear outline of the reporting timescales involved with the monitoring required in both the SEA and the WRMP.</p>	The SEA Environmental Report of our draft Water Resources Management Plan 2024 (dWRMP24) has been amended. Table 7.1 which outlines the potential indicators to monitor effects has been supplemented. Note that this list is provisional; monitoring proposals will be considered further and a final monitoring framework that satisfies the requirements of the SEA Regulation will be presented in the Post Adoption Statement.
23.64	Environment Agency	<p>Issue 9.7</p> <p>The 'Summary of Responses' Tables in Appendix B of the SEA should be updated to signpost to where comments received from the statutory consultees have been addressed, to ensure all comments have been adequately addressed.</p>	The SEA Environmental Report of our draft Water Resources Management Plan 2024 (dWRMP24) has been amended. Appendix B of the SEA which contains the 'Summary of Responses' Tables has been updated to signpost to where comments received from the statutory consultees have been addressed.
23.65	Environment Agency	<p>Recommendation 10: Ensure the plan is legally compliant by adhering to the WRMP Directions. The plan fails direction 3 (d) and 3 (j).</p>	See response to item 23.09.

Reference	Respondent	Feedback	Our response
23.66	Environment Agency	<p>Issue 10.1</p> <p>The company must provide a description of how it's current and future operations will individually and collectively contribute to its greenhouse gas emissions and the steps taken to reduce those greenhouse gases. The company must show how these steps will support the delivery of its net zero greenhouse gas emissions commitment and how these will support the delivery of the UK government's target.</p>	<p>We have demonstrated our capability to reduce our greenhouse gas (GHG) emissions having reduced them by over 70 per cent since 2005/6 largely from working to balance our energy consumption, self-generation and being smart about how we operate our assets to get best value while maintaining security of supply. In 2021/22 we generated a record 210 GWh of renewable energy from a mix of generation from wind, hydropower, solar photovoltaics and energy recovery from bioresources (using sewage sludge to power combined heat and power generators). Between self-generated power and purchased electricity, from October 2021, 100 per cent of the electricity we use has been from certified renewable sources and 100 per cent of our fleet will be 'green' by 2028. We aim to develop more successful innovation projects (for instance in pioneering UV LED water treatment) and by meeting more of our own energy demands, we can rely less on imports from the grid and mitigate the risks of future energy price fluctuations and uncertainty, as well as bolstering our own security of supply.</p> <p>We are also working towards meeting our other carbon pledges. We are trialling alternative fuels to replace fossil fuels used in our treatment processes and for transport, and have projects underway to restore peatland and plant new woodlands which will have a net GHG emissions reduction. To address our scope 3 targets, we are already working with suppliers such as Sapphire Utility Solutions to reduce emissions from their fleet as they carry out maintenance on our network and with Changemaker 3D on making made-to-measure objects out of sustainable concrete on site through 3D printing.</p> <p>Delivery of our WRMP will be underpinned by our existing carbon reduction policies, strategies and procedures to ensure that we achieve our carbon pledges and science-based targets. Our carbon management frameworks ensures that whole-life carbon is taken into account in decision-making steps throughout the project lifecycle. We continue to challenge ourselves and our supply chain to identify and embrace innovation across our processes, designs, technologies and culture, to help us to achieve our ambitious targets.</p>

Reference	Respondent	Feedback	Our response
23.67	Environment Agency	<p>Issue 10.2</p> <p>The company must provide an estimated cost and assessment of the cost-effectiveness for all metering types:</p> <ul style="list-style-type: none"> • selective • change of occupier • new build • optant <p>This should be presented individually to allow a comparison of each metering type.</p>	<p>A table showing the metering options we considered through the options identification and appraisal processes has now been included for all the metering types in the Revised Draft Technical Report - Options identification.</p> <p>Having carried out a cost and benefit assessment at WRMP19 where change of occupier (COO) metering was screened out, our current enhanced metering strategy ensures that customers are placed on a measured bill at COO on a metered property. This is a lot more efficient than attempting to install a meter during COO. Selective and optant metering are baseline activities which will progressively get smaller in part due to the enhanced metering programme. As part of our metering strategy, we will only be installing AMI capable meters in AMP8 many of which will be AMI active, however inevitably some will be installed in areas that have not yet been prioritised for communication network coverage.</p>
23.68	Environment Agency	<p>Improvement 1: Provide greater clarity and justification on issues relating to supply and resilience such as climate change, outage reduction and the Haweswater Aqueduct Resilience Programme (HARP).</p>	<p>Improvement 1 in the Environment Agency Representation document is then expanded upon in Appendix 1: WRMP evidence report, with details included under Issues 1.1 to 1.14. Please refer to the individual responses prepared in this consultation response document: 23.69 through to 23.82.</p>
23.69	Environment Agency	<p>Issue 1.1</p> <p>The company should provide further clarity on how the climate change factors have been used to derive:</p> <ul style="list-style-type: none"> • the change in rainfall, temperate and evaporation time series • the impact on daily inflow time series 	<p>Each of the climate change projections produced by the Met Office from the Regional, Global and Probabilistic Climate Models provided 12 monthly perturbation factors for temperature and precipitation for different future reference periods. The future reference period selected as part of the Regional Climate Data Tools project (see report: https://www.wrse.org.uk/media/ok1mtsoq/wrse_file_1338_regional-climate-data-tools.pdf) was 2061-2080, though is often referred to as 2070s as this is the middle of the period. The monthly factors were used to perturb the historic timeseries of temperature and precipitation data for the baseline reference period (1981-2000) in order to create temperature and precipitation time series that represented the future reference period of 2061-2080. The temperature timeseries were then used to create potential evapo-transpiration (PET) timeseries using the Oudin formula, which utilises inputs of temperature and latitude, for the relevant locations.</p> <p>Our existing rainfall-runoff models were used to simulate flow for the relevant catchments for both the baseline reference period and the future reference period using the perturbed climate inputs. The monthly flows were calculated for each timeseries and flow change factors were calculated for each month of the year. These flow change factors were then applied to the stochastic flow timeseries that had previously been produced to represent the 1950-1997 period, in order to represent stochastic flows in the 2070s.</p>

Reference	Respondent	Feedback	Our response
23.7	Environment Agency	<p>Issue 1.2 The company should provide:</p> <ul style="list-style-type: none"> • a clear explanation on the impact the selected method has against directly running the perturbed flows • a clear justification for the method used • a clear explanation within the plan on the selection of probabilistic projections • clarity that the sample has been adjusted to follow the North West England range 	<p>As noted in the response to EA Issue 1.1 (Statement of Response ID 23.69) the temperature and precipitation perturbation factors used from UKCP18 are provided as monthly values (i.e. 12 values for each variable in each climate change scenario). Every year therefore has the same pattern of perturbations applied across the 12 months. As the input data to the rainfall runoff models is subjected to perturbation by 12 month profiles there is not a significant loss of granularity in calculating monthly flow perturbation factors.</p> <p>This approach was taken as it was consistent with the approach in WRMP19, which was subjected to and passed regulatory scrutiny, and it also gave a significant advantage in allowing more thorough testing of the different climate scenarios available. By producing flow factors that represented each climate change scenario it was possible to apply these factors dynamically in our Pywr rapid simulation water resources model. This allowed the assessment of over 3,100 climate scenarios based on simulating system response to the perturbed flow inputs using the entire 19,200 year stochastic record. Analysis of the products using system response aligns with the regulatory framework set out in the Water Resources Planning Guideline. We were able to gain a deep understanding of the impacts of the probabilistic, GCM and RCM climate scenarios. This is thought to be the most rigorous testing of UKCP18 products undertaken in England and Wales for WRMP24.</p> <p>Another significant advantage to this approach was that it enabled the representation of different time periods and Relative Concentration Pathways (RCPs) as the flow factors could be scaled using temperature based relationships. This has allowed more thorough testing of resilience to climate change in other work streams such as options assessment and the potential for water transfer. Direct application of the climate factors would have caused a significant reduction in the robustness of other assessments as fewer scenarios would have been tested due to time requirements to generate so many flow sequences and the size of the data sets created.</p> <p>Through the thorough testing undertaken it was possible to select 20 probabilistic scenarios from the 120 provided by Atkins that were geographically coherent across the Water Resources West region, that represented the distribution of 3,000 scenarios that were specific to the United Utilities Water area. This was achieved by assessing the system response to all 120 Water Resources West scenarios, and the 3,000 United Utilities specific scenarios, and selecting those from the 120 that provided a reasonable representation of the United Utilities Water specific scenarios.</p> <p>The approach taken was therefore beneficial to the amount of climate change analysis</p>

Reference	Respondent	Feedback	Our response
			that could be undertaken as part of WRMP24 and has enhanced the outputs of the plan.

Reference	Respondent	Feedback	Our response
23.71	Environment Agency	1.3 The company should provide clarity on whether pledges four and five of its net zero plan are aimed at carbon offsetting, if so, the company should provide a clear explanation on what the pledges are offsetting and how much it aims to offset.	Our pledges to create 500 ha of woodland and restore 1,000 ha of peatland by 2030 will result in verified and validated carbon units (using the woodland carbon code and the peatland code, respectively). As this woodland and peatland is within our estates, this is commonly known as insetting.
23.72	Environment Agency	Issue 1.4 Given the company's commitment to the NWT, we suggest the company consider looking at options to reduce outage. We suggest the company: <ul style="list-style-type: none"> • explicitly state if other options to reduce outage have been considered, providing an adequate justification where the options are not included in the preferred plan • clearly explain within the plan how the company plans to resolve/reduce outage over the planning period to maintain the static outage allowance 	As a company we aim to maintain our assets to minimise outage. Part of our business as usual practice is to find ways to continuously improve outage and as such we do not have any WRMP outage options. As part of our PR24 submission we will propose investment in a number of water treatment works to upgrade the existing treatment processes and improve overall asset health. This investment is primarily driven by deterioration in raw water quality. The interventions resulting from this investment will help to reduce outage, in addition to ensuring that we continue to supply safe, clean and wholesome drinking water. Since this investment isn't driven by a supply-demand balance requirement, no additional outage reduction options have been considered for WRMP.
23.73	Environment Agency	Issue 1.5 Further information should be provided to justify the exclusion of the HARP loss of deployable output from the supply demand balance for the Strategic resource zone.	We have provided further information on the exclusion of the HARP loss of deployable output from the supply-demand balance for the Strategic Resource Zone in the Revised Draft Technical Report - Supply forecast.
23.74	Environment Agency	Issue 1.6 The company should: <ul style="list-style-type: none"> • report on the method it has used to confirm that it can comply with the more frequent drought measures (L1-L3) • clearly justify any significant reduction in deployable output as a consequence of including the frequency as a constraint or outline how it intends to minimise the reduction 	As set out in response 23.20, we confirmed that we can comply with the more frequent drought measures (L1-L3) by directly incorporating them into our deployable output calculations and supply-demand balances as constraints. We believe this is the most robust, transparent and easy to follow approach to demonstrate that our levels of service will be met. There is a reduction in deployable output when we move from 1 in 200 to 1 in 500 year return period for emergency drought orders (EDO). This is equivalent to the reduction in demand that we can satisfy with a probability of EDO occurring of 1 in 200 versus 1 in 500. Our deployable output approach is fully explained in Section 4 of the Revised Draft Technical Report - Supply forecast.

Reference	Respondent	Feedback	Our response
23.75	Environment Agency	<p>Issue 1.7 The company should:</p> <ul style="list-style-type: none"> • consider the concerns outlined • provide assurance that the proposed levels of service will be complied with • acknowledge the requirements for drought permit applications 	<p>We have considered the concerns raised and we confirm that we are committed to following our published Final Drought Plan 2022 in any developing dry weather and/or drought situation. This will ensure that we comply with our stated levels of service, which have been tested against simulated droughts of different severity during the development of our Drought Plan. It should be noted that our Drought Plan clearly states that the drought levels are linked to a 'a series of actions which could be taken, depending on the situation' and that 'Actions are undertaken within the range of the level and not immediately when crossing into the level'. We acknowledge the Environment Agency's guidance relating to drought permit applications, which require measures to reduce demand (including temporary use bans) to be in place prior to any application being made. This requirement has been taken into account in developing our Final Drought Plan 2022.</p>
23.76	Environment Agency	<p>Issue 1..8</p> <p>The company should clarify which percentage is correct, and if different from the WRMP19 figure provide a clear explanation on why the figure has changed.</p>	<p>The percentage of total water supplied which comes from groundwater sources varies year by year, depending on weather and seasonal and spatial patterns of demand, for example. Inspection of our abstraction records shows that the annual percentage varied from about 5% to about 15% over the period from 1989 to date, however over a recent ten-year period from 2012/13 to 2021/22 the groundwater percentage varied from about 6% to 9%, with the slightly higher proportions tending to occur in drier years. We have therefore quoted the figure of 6% as a typical percentage but clarified in the text that this balance can vary slightly in a dry year.</p>
23.77	Environment Agency	<p>Issue 1.9</p> <p>The company should provide a clear justification on why the benefits of the drought measures under each drought scenario remain static across the plan for both the Carlisle and North Eden zone.</p>	<p>In both the Carlisle and North Eden Resource Zones there are no options and there is no water transfer; the base year results are equivalent to the final planning scenario and the values are flat across the planning period. In the Strategic Resource Zone the approach taken in our draft WRMP24 submission accounted for significant water transfers from 2031. The corresponding options had a significant impact on the supply system and therefore the benefits of drought measures. These differences in system configuration led to the change in total benefit between the base year and such a trade coming into effect.</p>

Reference	Respondent	Feedback	Our response
23.78	Environment Agency	<p>Issue 1.10</p> <p>The company should:</p> <ul style="list-style-type: none"> • review whether the dead water storage option for Castle Carrock should be included in the plan. Providing justifications for the decision made on whether to include it or not • confirm whether the Lower Rivington drought permit is included within the drought permit savings. Further information should be provided on this drought permit, in particular what the permit would involve, any environmental impact and any drinking water implications • provide clear explanations for the differences in total savings stated between the company's drought plan and the draft WRMP • provide a clear explanation for the differences in savings from the pressure reductions • review whether a revised drought plan should be submitted to allow consistency between plans 	<p>- Our Carlisle Resource Zone maintains a surplus throughout the planning horizon and delivers the required level of resilience to a 1 in 500 year drought event. Due to this reasoning, the dead water storage option remains as an option but has not been developed in this plan. Should any new information come to light that would risk the surplus in this zone then we would consider adopting this option, along with others, as part of the decision-making process. We will also reconsider it for WRMP29 depending on the outlook at that time.</p> <p>- The Rivington reservoir Brinscall Brook and White Coppice drought permits are included in the drought permit savings in WRMP24. However, as stated in the Drought Plan SEA Post Adoption Statement 'Major adverse effects were identified in the SEA in relation to the Rivington (Douglas) drought permit and this has now been removed from the drought plan'. As such the Rivington (Douglas) permit does not feature in either our Drought Plan or WRMP.</p> <p>- The savings in our Final Drought Plan 2022 are based on looking at each drought permit or order individually, and are stated as benefit to the deployable output of the reservoir. Previous Hydro-Logic® Aquator modelling has shown that compensation flow reductions of these types have a 1:1 benefit on source yield, with benefits to the wider resource zone being drought event specific. For our WRMP24, and in populating Table 6 Drought Plan Links, the assessment implemented all of the drought permits and orders aligning to the drought levels presented in our Drought Plan 2022. Therefore the WRMP24 benefits represent a system response to them being applied in combination. As stated in our Drought Plan, the drought permits listed are a suite of options; the permits used during a drought will be determined by the type of drought, time of year and season of implementation. Due to the length of our stochastic hydrological dataset (19,200 years) and the number of dry weather events that it contains it was not feasible to assess these on an event by event basis to select individual permits to implement in specific events.</p> <p>- The savings from pressure reduction differ between our plans because our Drought Plan uses indicated savings based on distribution input values. For our WRMP we were able to apply these percentage savings in our water resources models to calculate the system response DO benefit. The reductions are only effective during the times that modelled reservoir storage is below the corresponding drought levels, and any savings are dependent on both the demand step at which the model is being run as well as the system response to the measure coming into effect. For these reasons there is a difference between those savings stated in our Drought Plan and those in our WRMP.</p> <p>- We feel there is no need to submit a revised version of our Final Drought Plan 2022. The data and assumptions used to prepare our WRMP24 submission, and particularly our supply forecast, are aligned to those used to develop our Final Drought Plan 2022. This includes drought levels, emergency storage assumptions and levels of service for the frequency of implementing drought measures. Any updates to either our WRMP24</p>

Reference	Respondent	Feedback	Our response
			<p>or our Drought Plan would be reported on through the annual Water Resources Review process. All options, drought permits and drought orders would be reviewed in the preparation of our next Drought Plan, which is due for publication in 2027.</p>

Reference	Respondent	Feedback	Our response
23.79	Environment Agency	<p>Issue 1.11 The company should:</p> <ul style="list-style-type: none"> include all drought measures as options in the plan and take them through the options appraisal and best value planning process in the same way as any other type of option. Any drought measure selected through this process should be included as a preferred option within the planning tables add entries for all relevant drought measures to Table 5 and ensure the benefits of the preferred options match those presented in Table 3b 	<p>We have now included all of our drought permits as options in the preferred plan. We assessed them against other options using our full best value approach. The analysis is described in the Revised Draft Technical Report - Deciding on future options.</p> <p>We have included the improvement to TUBs level of service as an option in the preferred plan, as outlined in response 23.18.</p> <p>We have represented our current levels of service (TUBs, NEUBs, EDO) as deployable output constraints in our supply-demand balances, as discussed and agreed with our local Environment Agency representatives.</p>
23.8	Environment Agency	<p>Issue 1.12</p> <p>The company should review the discrepancy, confirm what the water should be classed as and provide a revision of the tables if necessary.</p> <p>The outcome of the review should also be consistent with subsequent Annual Review data tables.</p>	<p>We have reviewed this issue and can advise that the water classed as non-potable supplies was included with raw water exports in our draft WRMP data tables submission. The non-potable water supplies volume is shown separately in our revised draft Water Resources Management Plan 2024 (dWRMP24) data tables submission and will be fully consistent with the approach used for our Annual Review data tables.</p>

Reference	Respondent	Feedback	Our response
23.81	Environment Agency	<p>Issue 1.13 The company should:</p> <ul style="list-style-type: none"> • review Table 1g and the Strategic zone imports and exports, to ensure both tables are consistent, and volumes are correctly entered • ensure Tables 21 and 1g are consistent in the transfers and the volumes listed • confirm if all transfers are uni-directional, if not amend the Supply forecast Technical Report to accurately reflect the direction of the transfers included in Table 1g • ensure the NAV companies are listed under the correct code within Table 1g 	<p>We have reviewed Tables 1g and the relevant components in Table 3a for the Strategic Resource Zone. In populating Table 1g the values used in column J 'Annual limit MI/d' are based on the contractual maximum. Emergency connections are also included in Table 1g. For Table 3a the potable imports and exports values are calculated based on a combination of different methods, depending on availability of data and information, including: Contractual max; Average using 2019/20 annual average reported data; and Dry year forecast PNHC/PHC. The sum total included in Table 3 excludes emergency connections, as stated in our Revised Draft Technical Report - Supply forecast: 'We also have a number of emergency-only connections, however, these are not included in deployable output and WAFU, since they are only used by exception'.</p> <p>To remedy this we have removed the emergency connections listed in Table 1g. We have retained the contractual maximums in column J, and have included the assumptions on use taken forward into Table 3 in column H 'DYAA Deployable output MI/d'. A commentary has been added in column L specifying the method of calculation. Due to these changes column H of Table 1g is now consistent with Table 3.</p> <p>The inconsistency between Table 1f raw water transfers and Table 3a row reference 4BL Raw water exported has now been rectified. As part of the feedback from consultation on the draft WRMP24, the EA requested that non-potable water supplies and consumption are separated out from raw water exports for the Strategic Resource Zone. For our draft WRMP24 submission it was not possible to do this since there was an error in the EA tables. The error was that non-potable water supplies did not contribute to the potable WAFU, however non-potable water consumption did contribute to overall distribution input. Therefore for our draft submission a decision was taken to keep non potable demand combined with raw water exports to avoid reporting an incorrect supply-demand balance.</p> <p>The updated EA tables have resolved this error so we are now able to complete this request. This row has been updated to reflect the raw water export only.</p>
23.82	Environment Agency	<p>Issue 1.14 The company should:</p> <ul style="list-style-type: none"> • make a commitment in its plan to share data with the Environment Agency • develop a groundwater data-sharing system to allow it to share this information with the Environment Agency 	<p>Currently we share data with the Environment Agency whether this is on request, via business as usual weekly reporting, or via the annual returns and Annual Water Resources Review processes. With regards to groundwater specific data we have recently added a groundwater abstraction data report as part of our weekly reporting. We plan to maintain data sharing via these methods.</p>

Reference	Respondent	Feedback	Our response
23.83	Environment Agency	Improvement 2: Demonstrate appropriate consideration for the sustainability of abstractions including: clear explanations on how Protected Areas have been considered; assessments of any abstraction licence changes required to improve or protect locally important sites; and justifications for retaining unused licences.	<p>As part of the AMP7 WINEP no deterioration investigations, the impact of flows with respect to the EFI is a core element, however the investigations and subsequent licence changes consider whether there are other conservation drivers (i.e. SSSI/RAMSAR/SAC designations or other locally important sites). Solutions (including revocation of unused sources) are scored through the MCA approach where potential impacts on locally important sites are assessed. The overall approach to sustainability reduction investigations is set out in section 3 in the Revised Draft Technical Report - Environmental destination.</p> <p>With regards to our wider approach to unused sources; we have provided further detail within section 3 in our Revised Draft Technical Report - Environmental destination.</p>
23.84	Environment Agency	<p>Issue 2.1</p> <p>The company should provide a clear explanation on how regulatory actions for Protected Areas have been considered within the plan and how the results from these considerations have influenced the plan.</p>	<p>Ensuring that WRMP24 is environmentally sustainable is crucial to United Utilities Water and is a key objective of the plan. The latest WRPG advises that water companies have a requirement to have regard to various regulations including the Water Framework Directive (WFD), and the Habitats Regulations. WRMPs are subject to the provisions of the Conservation of Habitats and Species Regulations 2017 (as amended) (the 'Habitats Regulations' since 2019). Regulation 63 transposed from the Habitats Directive states that if a plan or project is "(a) is likely to have an effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects); and (b) is not directly connected with or necessary to the management of the site" then the competent authority must "...make an appropriate assessment of the implications for the site in view of that site's conservation objectives" before giving consent or authorisation. The plan or project can only be given effect if it can be concluded (following an 'appropriate assessment') that it "...will not adversely affect the integrity" of a site, unless the provisions of Regulation 64 are met.</p> <p>This assessment process is known as Habitats Regulations Assessment (HRA). An HRA determines whether there will be any 'likely significant effects' (LSE) on any European site as a result of a plan's implementation (either on its own or 'in combination' with other plans or projects) and, if so, whether there will be any 'adverse effects on site integrity'. The HRA is a key part of our plan where any option leading to the likely adverse effect on a particular protected site will not progress. For further information on the stages of the HRA and for details on the outcome of the HRA for specific supply options, please refer to section 4, both from the revised draft HRA report.</p>

Reference	Respondent	Feedback	Our response
23.85	Environment Agency	<p>Issue 2.2</p> <p>The company should provide a clear assessment to determine if any changes are needed to abstractions to protect or improve locally important sites (undesigned sites), including those supporting priority habitats and species.</p>	<p>Table 4.2 of the SEA Environmental Report presents the assessment framework. Against the SEA objective for biodiversity, flora and fauna, there is a guide question regarding the locally important (non-designated) sites 'Will it [the water resource option] protect, restore and enhance non-designated sites and local biodiversity?'. Guidance on determining whether such an effect is positive or negative and minor, moderate or significant is presented in Appendix E 'Definitions of Significance'. For example, a minor positive effect is defined as 'The option would result in a minor enhancement of the quality of designated and/or non-designated sites / habitats due to changes in flow or groundwater levels, water quality or habitat creation and enhancement measures.' Appendix F and G present the findings of the individual revised feasible and preferred option assessments. These include reference to LNRs e.g. for WR015, there are '3 [LNRs] within 1km of the option (Chapelfield, approximately 0.3km from the works, Clifton Country Park, approximately 0.5km from the pipeline works and Moses Gate approximately 1km from the works) whilst the remaining LNRs would be situated 1.1km or more from the works. It is not anticipated that there will be any significant effects from construction on any of the SSSIs due to the distance between the works and the closest sites, however, where the works are situated in close proximity to the LNRs highlighted above there is potential for disturbance (e.g. noise/vibration/dust deposition/air quality impacts.' Where relevant, the SEA of our revised preferred options has been amended.</p>
23.86	Environment Agency	<p>Issue 2.3</p> <p>The company should provide a clear explanation within the plan on how the benefits and disbenefits potentially caused by the sustainability reductions have been considered, with particular reference to flood risk potential and increases in flow downstream.</p>	<p>As part of appraising options developed for sustainability reductions investigations, we applied 'multi-criteria analysis' (MCA) to options that passed screening. Each solution was scored (least to most favourable) against a wide list of criteria. These include but are not limited to:</p> <ul style="list-style-type: none"> - Effect on water flows/resources - Effects on ecology - Effects on water quality - Risk of flooding/erosion <p>With regards to effects on water flows and flood risk potential, selected measures are intended to avoid risk of deterioration rather than a current impact. Flows will therefore not increase as a result of the measures being implemented. Where there is a potential impact from our current abstraction and measures need to be implemented to help increase river flows (e.g. stream support), these will impact lower flows and therefore have a negligible impact to high flows and risk of flooding.</p> <p>We have provided this detail on in section 3 in the Revised Draft Technical Report - Environmental destination.</p>

Reference	Respondent	Feedback	Our response
23.87	Environment Agency	<p>Issue 2.4 The company should:</p> <ul style="list-style-type: none"> • provide a clear explanation on whether any measures are required for the Eels Regulations within the plan • clearly identify within the plan any implications the measures may cause on the supply forecast • provide a clear explanation within the plan about how the implications have been considered and mitigated 	<p>In AMP8 (2025-2030) Water Industry National Environment Programme (WINEP), we have three implementation schemes and six investigations under the Eel Regulations. For the implementation schemes in AMP8, it has been determined that two will be delivered by Alternative Measures by Other Means (AMbOM) as it was concluded from previous investigations that best practice eel screening would be not technically infeasible or not cost beneficial. The third scheme is likely to comprise a screening solution, however is not anticipated to influence abstraction volumes. The outcome of the AMP8 (2025-2030) investigations is not yet known, however we are not expecting measures will impact our supply forecast for WRMP24.</p>
23.88	Environment Agency	<p>Issue 2.5 The company should:</p> <ul style="list-style-type: none"> • provide a list confirming unused abstraction licences, which have not been included within the plan • provide justifications for each unused licence, clarifying the reasons for why that licence will either be surrendered or retained 	<p>We have provided a breakdown of all current unused sources in section 3 in the Revised Draft Technical Report - Environmental destination. This table includes details of which licences we are looking to surrender and which licences we are currently looking to retain, including the reasons why.</p>
23.89	Environment Agency	<p>Issue 2.6 The company should:</p> <ul style="list-style-type: none"> • provide a clear explanation within the plan as to how time limited licences have been reviewed and how the uncertainty has been incorporated into the plan • review the current statement included within the plan and amend it to show the potential for licences to not be renewed on a like for like basis 	<p>In line with the Water Resources Planning Guideline, we have reviewed the status of our time-limited licences and this is summarised in section 4 of our Revised Draft Technical Report - Supply forecast. We work with the Environment Agency on licence renewals, and we have evaluated the risk of non-renewal of our time-limited licences as low, as we have not received any indication from the EA that any of our time-limited licences are environmentally damaging. We have not included any allowance for uncertainty relating to potential non-renewal of time-limited licences in our target headroom assessment, in line with the Water Resources Planning Guideline which states that water companies 'should not include uncertainty related to non-replacement of time-limited licences on current terms' in their uncertainty allowance.</p>

Reference	Respondent	Feedback	Our response
23.9	Environment Agency	<p>Issue 2.7 The company should:</p> <ul style="list-style-type: none"> confirm whether AMP8 investigations for the stream support are planned for and the completion date provide a clear explanation on how the uncertainty for the stream support feasibility has been considered within the plan 	<p>We can confirm that WINEP investigations of stream support as part of the Wirral and West Cheshire AMP7 investigations have been planned for implementation in AMP8. These investigations have been extended to December 2024 where licence changes will be implemented before 31st March 2030.</p> <p>From a WRMP perspective, assumed reductions are currently provisional (for the Wirral and West Cheshire sources) until further model validation and stream support investigations have concluded. The total licence reduction we have assumed for WRMP24 includes the full allocation of the licence for stream support, and this will be refined for WRMP29. Impact on system DO as a consequence of the full licence reductions on the Wirral and West Cheshire sources is very minimal (2 MI/d), therefore any issue around uncertainty for stream support feasibility is likely to be inconsequential. We have clarified this in section 3 within the Revised Draft Technical Report - Environmental destination. In the interim, we will update all confirmed AMP8 licence changes in our annual review.</p>
23.91	Environment Agency	<p>Issue 2.8 The company should:</p> <ul style="list-style-type: none"> acknowledge the conditions within the Lymm abstraction licence surrounding water quality impact and confirm they are aware that should evidence of deterioration or potential of deterioration be determined, the abstraction would need to be reduced as per licence conditions confirm the monitoring for the abstraction as per the licence condition will be resumed and the analysis of the samples shared with the Environment Agency 	<p>United Utilities Water acknowledges the conditions as set out in the Lymm abstraction licence document. We however cannot locate any evidence of water quality samples ever being taken as per the licence conditions. It is suspected that there was an agreement at some point that the samples were not required, but for some reason the licence was not updated to reflect this. It may be that monitoring of the production boreholes at Lymm was accepted as a suitable alternative. Monitoring from the production boreholes is likely to give a more representative sample than from the static water column in the observation borehole.</p> <p>Data from drinking water regulatory and operational monitoring since the early 1980s do not show any deterioration in salinity at the Lymm source, although it is noted that the abstraction volume has rarely exceeded 5 MI/d. It is proposed that this monitoring is continued and the licence condition varied to reflect this. Alternatively, if it is required to retain monitoring at the observation borehole, United Utilities Water will require the Environment Agency to modify the headworks of the borehole to allow water quality samples to be taken. Access to any secure cover will also need to be provided by means of a key or facility for a dual padlock.</p>
23.92	Environment Agency	Improvement 3: Provide clear explanations on sensitivity testing, how the risk of double counting was managed and decision making and communication in adaptive planning.	Please see our response to item number 23.93.

Reference	Respondent	Feedback	Our response
23.93	Environment Agency	<p>Issue 3.1' The company should:</p> <ul style="list-style-type: none"> • provide a clear explanation within the plan on what sensitivity testing has been conducted for the outage allowance for both Dry Year Annual Average and Dry Year Critical Period • provide a clear explanation on how results of the sensitivity testing conducted on outage has been considered within the plan 	<p>The EA draft supplementary outage guidance (EA, 2020) specifies that the guiding principles in the UKWIR report 'Outage allowances for water resources planning' (UKWIR 1995), and methods stated in the UKWIR 'Risk based planning methods' (UKWIR, 2016) should be used to calculate an outage allowance for water resources management plans. These reports were also recommended for use by the EA in the previous planning cycle and were used, along with 'Uncertainty and Risk in Supply & Demand Forecasting' (UKWIR, 2002), to calculate our WRMP19 outage allowance.</p> <p>An outage allowance is calculated per water resource zone according to the following general method:</p> <ul style="list-style-type: none"> • Identify outages (planned and unplanned) that will have an impact on deployable output. These are termed 'Legitimate Outage Scenarios'. • Assign frequencies (probabilities) and durations to the outages. • Carry out Monte-Carlo simulations of all the legitimate outage scenarios. Each simulation will generate an overall deployable output impact for the resource zone. • Combine the results from several simulations to derive a probability distribution for deployable output reductions due to asset outages in the resource zone. • Select a risk percentile and identify the corresponding MI/d outage allowance from the probability distribution. <p>A Monte Carlo simulation is a model used to predict the probability of a variety of outcomes when the potential for random variables is present. Using Monte Carlo in sensitivity analysis is a much more realistic way of describing uncertainty in a risk analysis containing multiple variables, compared to manually investigating changes arising from perturbations to individual component values. It accomplishes this by utilizing probability distributions, thus, variables can have occurrences of different probabilities of different outcomes.</p> <p>The choice of percentile from the resulting probability distribution from the Monte Carlo simulation therefore represents the level of risk that the company wishes to plan for. In our previous plan, we adopted the 80th percentile, which we have retained for WRMP24. This is also consistent with the Water Resources West methodology used for producing the draft regional plan. This sensitivity analysis using Monte Carlo simulation is applicable to both dry year annual average (DYAA) and dry year critical period (DYCP) planning scenarios.</p>

Reference	Respondent	Feedback	Our response
23.94	Environment Agency	<p>Issue 3.2 The company should provide:</p> <ul style="list-style-type: none"> • a clear explanation within the plan as to how the risk of double counting was managed and avoided between the best value metrics • clearly identify within the plan the assumptions underlying the best value metrics, preferably within Table 1 of the Deciding on future options Technical Report 	<p>As outlined in the Revised Draft Technical Report - Deciding on future options, each environmental metric pulls together different objectives of the SEA assessment. These have been carefully mapped to prevent double-counting of the same impacts. Table 2 demonstrates the mapping of SEA objectives and NCA ecosystem services to the Water Resources West metrics. NCA metrics are used to provide additional context in the programme appraisal. For example, SEA Objective 9 – To reduce greenhouse gas emissions was excluded from the WRW best value metric formulation as this is directly impacted by the carbon cost of an option, which is another existing metric.</p>
23.95	Environment Agency	<p>Issue 3.3</p> <p>The company should provide a clear explanation within the plan on how regulators, customers and stakeholders will be informed on when triggers are met within each adaptive plan and the subsequent decision taken.</p>	<p>In Section 11 Monitoring our plan of the Revised Draft Technical Report - Deciding on future options, we detail how our adaptive plan will be monitored. We set out that: If we reach a decision point in our plan which puts us onto one of our defined alternative pathways and this requires additional investment, we will discuss the implications of this with regulators. Our decision points align with WRMPs, and at these points we will consult on any changes that deviate from our current adaptive plan. Through the WRMP process, we will ensure that the adaptive plans we have chosen now remain the best decision at that point in the future, and revise these according to any future regulatory expectations.</p>
23.96	Environment Agency	<p>Issue 3.4 The company should:</p> <ul style="list-style-type: none"> • provide a clear explanation on how the sensitivity testing for the decision points within each adaptive plan was undertaken • provide a clear explanation within the plan on how the results of the sensitivity testing have been incorporated within each adaptive plan 	<p>For our transfer adaptive plan, our decision points are linked to the transfer needs of Water Resources South East, and therefore the sensitivity testing around these needs is a requirement for their Water Resources Management Plan and/or Regional Plan. In order to sensitivity test this ourselves, we have considered the possibility of moving the year of implementation of our trade. We have found that due to the delivery timescales of our larger NWT options, any larger transfer needs would need to be confirmed at least 8 years in advance of the transfer start date. We included the results of this test in the Revised Draft Technical Report - Deciding on future options.</p> <p>For other alternative scenarios, such as the Ofwat scenarios on demand and climate change, we have tested the sensitivity of our plan to alternative decision points. Our monitoring points align closely to the timescales of the WRMP cycle, including the Annual Review process. Outside of the transfer adaptive plan, most of the options we are intending to implement are either in the short term and are included as part of our core (Preferred) pathway, or they are much longer term, which gives us time to revise our adaptive plan and time estimates for delivery. In the short to medium term, we have included our preferred plan option to improve our resilience to temporary use bans (TUBs) as a low regret option. This option is inherently flexible, and so on an annual basis, as part of the review, we will understand whether this should continue to be implemented according to supply-demand balance needs.</p> <p>The future is uncertain, and therefore uncertainty will be considered through all stages of our approach, as it has been done at all stages of this WRMP.</p>

Reference	Respondent	Feedback	Our response
23.97	Environment Agency	Improvement 4: Ensure the company's revised draft plan takes account of any decisions on its scheme acceleration proposals where applicable.	The outcome of our scheme acceleration proposal is non-applicable to our revised draft Water Resources Management Plan 2024 (rdWMP24).
23.98	Environment Agency	Issue 4.1 The company should ensure the revised draft plan takes account of any decisions on its scheme acceleration proposals where applicable.	The outcome of our scheme acceleration proposal is non-applicable to our revised draft Water Resources Management Plan 2024 (rdWMP24).
27.01	Everflow	<p>Business (non-household) customers use around 30% of water supplies, but water efficiency work has focussed heavily on household rather than non-household customers over recent decades. It was expected that the opening of the business retail market would stimulate water efficiency delivery but neither customers nor retailers have been incentivised sufficiently for this to happen. Some structural barriers have contributed to this, and we helped develop the Retailer Wholesaler Group's plan, which proposes regulatory changes to provide the industry with targets, incentives and funding for water-saving interventions.</p> <p>We were pleased to see that Defra announced the 9% demand reduction target for NHHs. We would like to understand further how this will be applied in practice, particularly in companies' WRMPs. For example, will certain areas of England take on a greater share of water saving than others? It does not seem fair that already water stressed areas with high demand are asked to save more than others – particularly with Ofwat's encouragement of water transfer between regions.</p>	<p>Thank you for taking the time to respond to our draft Water Resources Management Plan 2024 (dWRMP24) consultation. Reducing non-household (NHH) demand for water during AMP8 (2025-2030) is a fundamental element of our plan not only in contributing to Defra's proposed national water consumption reduction target of 9% by 2037/38, but also in reducing overall water demand.</p> <p>NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions in our revised draft Water Resources Management Plan 2024 (rdWRMP24) to enable us to deliver a 9% reduction in business demand by 2037/38. Our rdWRMP24 sets out that we will deliver thousands of NHH water efficiency visits in AMP8 to save almost 10 Ml/day to meet demand targets, and deliver smart meter upgrades to all NHH premises.</p> <p>We will work with retailers to structure a scheme which ensures that businesses across our region have access to a free of charge water efficiency visit. The scheme will be structured to encourage retailers to engage with their customers directly however if take up of the scheme by certain retailers or particular areas or sectors is limited then we will deliver the visits ourselves.</p>

Reference	Respondent	Feedback	Our response
27.02	Everflow	Regional and wholesaler Water Resources Management Plans do not adequately consider the potential of the NHH market to deliver water demand reduction. Some general commitments to the NHH market are included, e.g., retrofitting NHHs with smart meters alongside households over 10 to 15 year periods, but we would like to see more details about NHH smart metering and water efficiency plans before final WRMPs.	<p>Reducing non-household (NHH) demand for water during AMP8 (2025-2030) is a fundamental element of our plan not only in contributing to Defra's proposed national water consumption reduction target of 9% by 2037/38, but also in reducing overall water demand.</p> <p>NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions in our revised draft Water Resources Management Plan 2024 (rdWRMP24) to enable us to deliver a 9% reduction in business demand by 2037/38. Our rdWRMP24 sets out that we will deliver thousands of NHH water efficiency visits in AMP8 to save almost 10 Ml/day to meet demand targets, and deliver smart meter upgrades to all NHH premises.</p> <p>We will work with retailers to structure a scheme which ensures that businesses across our region have access to a free of charge water efficiency visit. The scheme will be structured to encourage retailers to engage with their customers directly however if take up of the scheme by certain retailers or particular areas or sectors is limited then we will deliver the visits ourselves.</p>

Reference	Respondent	Feedback	Our response
27.03	Everflow	<p>Echoing MOSL's point from their WRMPs response, several WRMPs barely mention the NHH market in the main document, and in some cases, important NHH information is buried in appendices. The NHH market consumes 30% of water in England, so it's essential to include an overview of how it features in your plans in the main document. Business customers' involvement is essential to the industry meeting its demand reduction targets, but they have low awareness of water scarcity threats and how they could affect their businesses. Business customer awareness also feeds into general household awareness and employers are in a prime position to influence their employees' behaviour.</p>	<p>Reducing non-household (NHH) demand for water during AMP8 (2025-2030) is a fundamental element of our plan not only in contributing to Defra's proposed national water consumption reduction target of 9% by 2037/38, but also in reducing overall water demand.</p> <p>NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions in our revised draft Water Resources Management Plan 2024 (rdWRMP24) to enable us to deliver a 9% reduction in business demand by 2037/38. Our rdWRMP24 sets out that we will deliver thousands of NHH water efficiency visits in AMP8 to save almost 10 Ml/day to meet demand targets, and deliver smart meter upgrades to all NHH premises.</p> <p>We will work with retailers to structure a scheme which ensures that businesses across our region have access to a free of charge water efficiency visit. The scheme will be structured to encourage retailers to engage with their customers directly however if take up of the scheme by certain retailers or particular areas or sectors is limited then we will deliver the visits ourselves.</p> <p>We have an 'always on' communication plan which aims to encourage household customers to avoid waste, use less and educate them to where their water comes from and the broader impact of their behaviour on the local environment. We will carry this forward into AMP8 (2025-2030), evolving our messaging to ensure that it remains relevant and effective, as well as expanding our focus to NHH customers. We will use regional messaging to target all NHH customers and use more targeted communications in areas of water stress or high consumption. We will work with retailers to ensure the most effective delivery of communication materials.</p>
27.04	Everflow	<p>Smart meters This market is ideally placed to support overall demand reduction targets, which will avoid investing in expensive and environmentally destructive new infrastructure. Our market consumes a third of potable water in England and Wales and lends itself to very targeted interventions. For example, 3% of NHH customers use 72% of water in the NHH market – or 20% of all consumption. Just 11,000 large meters and 152,000 medium-sized meters could be targeted for smart meters to achieve 80% of the impact of fixing leaks promptly and reducing consumption.</p>	<p>Agreed. We have included the replacement of all NHH meters in AMP8 (2025-2030) with smart meters in our revised plan.</p>

Reference	Respondent	Feedback	Our response
27.05	Everflow	Recent research by Artesia for MOSL found a strong business case for rolling out smart meters to NHH customers alongside domestic customers (e.g., by geographic area rather than prioritising one over the other). It also recommended companies without large-scale meter investment programmes would benefit from replacing or upgrading selected NHH customers' meters, particularly the largest customers and/or where businesses are close together.	Agreed. We have included the replacement of all NHH meters in AMP8 (2025-2030) with smart meters in our revised plan.
27.06	Everflow	Ensuring that customers' usage is visible to water providers and customers themselves, and that water scarcity situations are proactively communicated and linked to usage, is key to getting customers to understand their potential contribution towards reducing water scarcity and protecting the environment. We therefore urge wholesalers to align with the national NHH metering strategy being developed by MOSL.	Agreed. We are working closely with MOSL on their Strategic Metering Review and are fully in support of the recommendations made so far where smart metering and usage data are concerned
27.07	Everflow	From our review of WRMPs, many wholesalers are intending to roll out smart meters from 2025 or have already started. However, there are no set dates for when every business will have one. Wholesalers that have already rolled out smart meters identified around 25% of the water being used by NHH customers is continuous flow – a large proportion of this could be leakage and/or wastage. Smart meters enable leaks to be detected much quicker so that wasted water can be minimised.	Our plan for AMP8 (2025-2030) is to replace all NHH meters with smart meters, ideally in the first 2 years of the AMP8 period.
27.08	Everflow	One million smaller NHH customers use water in a very similar way to households (toilets, sinks, etc.) and have similar meter sizes and usage. We would like clarity on how many smart meters (AMI not AMR) you intend to deploy in AMP8 and beyond, including visibility for retailers on when and where they will be rolled out, to avoid duplication of effort or customers paying for loggers when they don't need to.	We recognise the importance of smart metering data and fully understand that the value of smart metering is in the actionable insights provided by the data. We are open to working with the wider industry to develop a consistent data strategy in line with data sharing.

Reference	Respondent	Feedback	Our response
27.09	Everflow	<p>We would like wholesalers to align with the national NHH metering strategy position on data sharing.</p> <p>Proactive logging and continuous flow/high usage alerts for customers via retailers are also key to obtaining 'in the moment' conversations about water efficiency which NHH customers are more likely to engage with, so smart data should be shared with the customers' retailer.</p> <p>We would also urge wholesalers to pool their NHH benchmarking data (ideally nationally) and share this with retailers operating in their area, so that the benefits of big data can be realised and result in better targeting of water efficiency and leakage services by retailers.</p>	<p>We recognise the importance of smart metering data and fully understand that the value of smart metering is in the actionable insights provided by the data. We are open to working with the wider industry to develop a consistent data strategy in line with data sharing.</p>
27.1	Everflow	<p>National research by the RWG Water Efficiency sub-group steering group has shown that customer incentives to increase their water efficiency are insufficient and the savings required to achieve the customers' expected return on investment time unrealistic. The initial (time and money) investment required to achieve water efficiency relative to the size of their bill is a particular barrier to SME customers, which make up the majority of the NHH market.</p> <p>Wholesalers are in a position to apply for funding which they can use to incentivise retailers or collaborate with us on delivering water efficiency. A collaborative approach is important to avoid undermining competition and to increase customer uptake.</p>	<p>Our revised draft Water Resources Management Plan 2024 (rdWRMP24) sets out that we will deliver thousands of NHH water efficiency visits in AMP8 (2025-2030).</p> <p>We will work with retailers to structure a scheme which ensures that businesses across our region have access to a free of charge water efficiency visit. The scheme will be structured to encourage retailers to engage with their customers directly however if take up of the scheme by certain retailers or particular areas or sectors is limited then we will deliver the visits ourselves.</p>
27.11	Everflow	<p>There is low demand for water efficiency services among businesses¹ - even when they are offered for 'free' to the non-household customer. Retailers' relationships with their customers are key to improving this and communications by wholesalers and retailers must be coordinated.</p> <p>We would like more detail on how water efficiency services will be offered to different categories of NHH customers.</p> <p>We want to be able to offer water efficiency services consistently nationwide so that water saving is simpler for NHHs to engage with. We would prefer a nation-wide approach to demand reduction so that multi-site customers have clarity about the services and funding and/or incentives available to them.</p> <p>This is another reason why wholesalers need to focus their efforts on incentivising and collaborating with retailers.</p>	<p>Our revised draft Water Resources Management Plan 2024 (rdWRMP24) sets out that we will deliver thousands of NHH water efficiency visits in AMP8 (2025-2030) to save almost 10 Ml/day to meet demand targets.</p> <p>We will work with retailers to structure a scheme which ensures that businesses across our region have access to a free of charge water efficiency visit. The scheme will be structured to encourage retailers to engage with their customers directly however if take up of the scheme by certain retailers or particular areas or sectors is limited then we will deliver the visits ourselves.</p>

Reference	Respondent	Feedback	Our response
27.12	Everflow	<p>We would like to see true collaboration between wholesalers and business retailers that delivers value for customers, as well as environmental and water security benefits.</p> <p>In a recent trial with a large water wholesaler targeting customers with continuous flows, we demonstrated the value of our enhanced data and relationship management by more than tripling their usual engagement rate. However, it's important that adequate funding is transferred to retailers to cover such marketing, service provision (e.g., leak detection or water efficiency audits, products etc) and/or contact list costs, at a market rate which recognises the quality of the data they've invested in improving and enhancing since market opening.</p>	<p>Our draft Water Resources Management Plan 2024 (dWRMP24) sets out our plan to achieve a 9% reduction in non-household consumption/usage or 'business demand' by 2037-38 and a 15% reduction by 2059-50 (from 2019-20 levels). We will deliver this via a combination of non-household smart metering and our non-household water efficiency programme.</p> <p>For non-household smart metering, in terms of scale for AMP8 (2025 to 2030), we plan to install a smart meter at every non-household that is already metered (~171,000 non-households or ~90% of non-households) and we'll continue to assess the feasibility of smart metering the other ~10% (~20,000 non-households).</p> <p>We are planning to deliver our non-household water efficiency programme collaboratively with water supply retailers. The proposed scale for AMP8 (2025 to 2030) is ~5,500 audits/visits, initially working with the education and health sectors, although non-household smart metering will provide greater insights and will inform our audits/visits programme over time.</p>
27.13	Everflow	<p>Funding also needs to reflect actual costs of engaging and delivering such services. Wholesaler water efficiency incentive schemes for retailers to date have been based on per litre usage reductions, and there are inadequate commercial retailer incentives. Due to low business engagement and willingness to pay for leakage and water efficiency services, retailers therefore have not been able to cover the costs of water efficiency services and delivering them.</p>	<p>We look forward to working with Everflow and other water supply retailers on the collaborative delivery of leakage and water efficiency services, but we will also continue to evolve our incentive schemes taking into account feedback from water supply retailers.</p>
27.14	Everflow	<p>While not all retailers will prioritise providing water efficiency services for their customers, those that do should not be prevented from providing competitive services and innovations that benefit customers and the retail market, as well as the environment and security of supply. Being kept informed and involved in communications between wholesalers and customers is also crucial to maintaining great customer service.</p>	<p>We will work with retailers to structure a scheme which ensures that businesses across our region have access to a free of charge water efficiency visit. The scheme will be structured to encourage retailers to engage with their customers directly however if take up of the scheme by certain retailers or particular areas or sectors is limited then we will deliver the visits ourselves.</p> <p>We have an 'always on' communication plan which aims to encourage household customers to avoid waste, use less and educate them to where their water comes from and the broader impact of their behaviour on the local environment. We will carry this forward into AMP8 (2025-2030), evolving our messaging to ensure that it remains relevant and effective, as well as expanding our focus to NHH customers. We will work with retailers to ensure the most effective delivery of communication materials to NHHs.</p>

Reference	Respondent	Feedback	Our response
27.15	Everflow	<p>We would echo Waterwise’s request last year for a wholesaler commitment to greater collaboration with retailers in the plan, and a more detailed plan for how they will deliver demand reduction in the NHH sector. This could involve:</p> <ul style="list-style-type: none"> • Technical support with abstraction options • Providing a sterner ‘police’ type function when customers don’t respond to retailers about potential leaks and over consumption (e.g., issuing leak notices and showing local connections with water deficits/risks to supply or the environment) • Sharing smart meter and logger data • Sharing plans for smart meter/logger roll outs • Offering white label services (as most wholesalers already do for meter reading) for leak detection and repair, water efficiency site surveys and installing water efficiency products. However, we believe a competitive market for these services would serve customers best, so do not think that wholesalers should offer these directly to NHH customers. 	<p>We are looking at options and opportunities to work with large users to reduce demand. We may consider abstraction options such as alternative supplies or non-potable supplies.</p> <p>We recognise the impact of supply pipe leakage and are developing plans to address our approach to this.</p> <p>It is our intention to share smart meter and logger data with retailers and will align with the national metering strategy for the NHH market.</p> <p>We will deliver smart meter upgrades to all NHH premises in AMP8.</p> <p>We will work with Retailers to structure a scheme which ensures businesses across our region have access to a free of charge water efficiency visit. NHH water efficiency visits will identify and where possible fix leaking toilets, taps, urinals and showers, and where appropriate fit water saving devices. The scheme will be structured to encourage retailers to engage with their customers directly however if take up of the scheme by certain retailers or particular areas or sectors is limited then we will deliver the visits ourselves.</p>
27.16	Everflow	<p>Retaining TUBs and NEUBs for peak demand or droughts is regrettable for our customers, but if they must be used, we ask that the plan details how retailers will be involved in customer communications around these. Ideally communication protocols should be agreed in advance so that they can be sent out in a timely and organised way.</p>	<p>Our 'Final Drought Plan 2022' and 'Final Drought Plan 2022 Appendix B: Communications Plan' provide full details of our drought communications strategy. In the event of a drought, we will communicate with customers, the wider community and a range of stakeholders including business retailers and interested parties, to keep them informed about the event and how they can play their part in helping to reduce demand.</p> <p>The activities detailed within the drought plan are supplemented throughout each year with an 'always on' approach to communicating with customers on water efficiency, linked to our 2019 Water Resources Management Plan and now our 2024 plan. Encouraging customers to be water efficient all year round is part of a wider strategy to nudge customers to change their long term behaviour to save water. By saving more water, the likelihood of needing to implement more serious drought restrictions such as temporary use bans (TUBs) and Non-essential use bans (NEUBS) will reduce.</p>

Reference	Respondent	Feedback	Our response
27.17	Everflow	<p>In summary, we ask that all wholesalers:</p> <ul style="list-style-type: none"> • Specifically detail their plans for NHH metering and water efficiency • Align with MOSL led national approaches • Think about how to incentivise retailers to deliver water efficiency or collaborate. <p>We look forward to working with you on delivering greater water saving in the NHH sector in the coming years.</p>	<p>NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions in our revised draft Water Resources Management Plan 2024 (rdWRMP24) to enable us to deliver a 9% reduction in business demand by 2037/38. Our rdWRMP24 sets out that we will deliver thousands of NHH water efficiency visits in AMP8 (2025-2030) to save almost 10 Ml/day to meet demand targets, and deliver smart meter upgrades to all NHH premises and align with the national metering strategy for the NHH market.</p> <p>We will work with retailers to structure a scheme which ensures that businesses across our region have access to a free of charge water efficiency visit. The scheme will be structured to encourage retailers to engage with their customers directly however if take up of the scheme by certain retailers or particular areas or sectors is limited then we will deliver the visits ourselves.</p> <p>We have an 'always on' communication plan which aims to encourage household customers to avoid waste, use less and which also connects them to where their water comes from and the broader impact of their behaviour on the local environment. We will carry this forward into AMP8 (2025-2030), evolving our messaging to ensure it remains relevant and effective, as well as expanding our focus to NHH customers. We will use regional messaging to target all NHH customers and use more targeted communications in areas of water stress or high consumption. We will work with retailers to ensure the most effective delivery of communication materials.</p>

Reference	Respondent	Feedback	Our response
18.01	Friends of the Lake District	<p>However, as a charity that campaigns on landscape matters in Cumbria, we must begin by voicing our strong disappointment that there is not a single mention of landscape throughout the whole plan. No new water sources are planned for this county (according to the map of “new sources most likely to be developed”, UU DWRMP24, p.76) but its existing reservoirs, rivers and groundwater are key to supplying water for the North West region. Thus, there should be greater consideration in this Plan of: landscape issues; the environmental sensitivity of the area (given the high number of environmental and landscape designations) and how to ensure that all water abstraction is sustainable and avoids landscape harm. Indeed, the UK Water Efficiency Strategy to 2030 states that “over 10% of freshwater and wetland species are threatened with extinction in UK” and there is “concern over the impact of water abstraction on precious” (UK Water Efficiency Strategy to 2020, p.11) rivers, lakes and wetlands. Such habitats are most vulnerable at times of low flow, so saving water and reducing water demand are vital to their protection. Plus, the environment is good for our own wellbeing.</p>	<p>Thank you for taking the time to respond to our draft Water Resources Management Plan 2024 (dWRMP24) consultation. Ensuring that WRMP24 is environmentally sustainable is crucial to United Utilities Water and a key objective of the plan. We rely on the environment as one of our key resources so it is important for the sustainability of our business and the WRMP24 that we protect and enhance its value. Through our regulators including the Environment Agency and Natural England, we are required to meet increasingly stringent environmental consent levels - which in turn are underpinned by several key legislative requirements including the Water Framework Directive and Habitats Directive. If our existing abstractions are deemed to be causing environmental harm, we will work with our regulators to implement solutions which mitigate impacts from our abstraction and enhance the environment.</p> <p>Outputs from the Strategic Environment Assessment (SEA) of feasible options were used in the detail screening of options, leading to some options not being taken forward on environmental grounds: for example, options that will likely cause adverse and unavoidable effects on international biodiversity sites, significant invasive non-native species transfer risk and significant effects on designated landscapes and cultural heritage. Please see table NTS.1 and NTS.2 on page 11 and 12 in the revised draft SEA report for further details around how we have included the assessment of impact on landscape in our screening of options.</p>

Reference	Respondent	Feedback	Our response
18.02	Friends of the Lake District (Web form response)	<p>1a. FLD wants both the landscape and customers to have more drought resilience.</p> <p>Most parties are now agreed that “climate change...means...rainfall patterns are changing. Projections show some rivers could have 50 to 80% less water in summertime by 2050 from drier summers, increasing the...impact of water abstraction on the environment. (Plus) wetter winters and more infrequent intense rainfall lead to increased flooding” (Environmental Improvement Plan 2023, p.101). It is understandable therefore that the government “target a level of resilience to drought so that emergency measures are needed only once in 500-years” (Environmental Improvement Plan 2023 p.99) This is borne out by UU wanting to reduce the frequency of emergency restrictions (UU DWRMP24 Summary Document, p.5 - these are alternative arrangements for supplying water, such as standpipes) – from 0.5% chance of being used in any year (no more than once every 200 years on average) to 0.2% chance of being used in any year (no more than once every 500 years on average) by 2039.</p> <p>However, FLD does not want drought resilience for customers to come at the expense of drought resilience for the landscape. So, for example, FLD could not support continued water abstraction at a time of low flow (due to lack of rainfall) as this would clearly result in environmental damage. The government intends to “use the Water Resources Licensing Digital Service to send e-alerts to require abstraction to reduce or cease when flows are low, and where necessary...utilise new powers to vary or revoke permanent abstraction licenses” (Environmental Improvement Plan 2023, p.115), so it is disappointing that there is no mention of this in the UU Water Resources Management Plan. FLD is pleased that, according to its Summary Document, UU is planning to reduce the frequency of drought orders and permits (UU DWRMP24 Summary Document, p.5 – these are issued by Environment Agency (EA) to give UU permission to take water from specific sources or to increase the amount UU takes from specific sources) - from 2.5% chance of being used in any year (no more than once every 40 years) to 2% chance of being used in any year (no more once every 50 years) by 2031 as these are damaging to the environment. But there appears to be no mention of this in the Main Document.</p>	<p>In order to develop our plan we prepare a forecast of water supply availability, taking into account a range of factors including climate change, population growth and environmental changes. The assessment methods that we use are industry leading and aligned to the complexity of each resource zone and the strategic questions they face. Over the planning horizon, available water supply is forecast to decrease by around 244 Ml/d in our Strategic and Carlisle Resource Zones combined, due to the combined effects of climate change impacts and environmental changes to our abstraction licences. Also accounted for in our supply forecast are the conditions of the abstraction licences that we hold, and these may include a hands-off flow condition requiring abstraction to stop when the river flow drops below a certain amount.</p> <p>We welcome your positive feedback on our proposals to improve the level of service for drought permits and orders to augment supply to a 2% annual chance, or no more than once in 50 years on average. Drought permits can only be applied for after temporary use bans have been implemented and therefore have a lower expected frequency of occurrence (because sometimes the situation will recover in this window of time). Further details on this strategic choice, along with a comparison of our current and proposed minimum stated levels of service can be found in section 7 of the revised draft Water Resources Management Plan 2024 (rdWRMP24). The best value plan presented in our rdWRMP24 focuses on an ambitious demand management plan to reduce consumption, as well as halving our leakage by 2050, both of which will reduce our abstraction. We are aware of the actions set out in the Environmental Improvement Plan and will abide with any new requirements that come into effect regarding abstraction alerts.</p>

Reference	Respondent	Feedback	Our response
18.03	Friends of the Lake District (Web form response)	<p>1b. FLD is supportive of UU's method of delivery.</p> <p>We have additional comments on leakage in response to Question 2 (see below) and on demand management (reducing customer use) in response to Question 3 (see below). It is worth noting that, in a recent survey by Waterwise in collaboration with Northumbrian Water, "87% of people who had had a home visit were not engaged in simple conversations about behaviour change and had no follow-up communication with their water company" (Waterwise February 2023 newsletter, p.5), so clearly there is work to be done by UU - and all regional water companies - with respect to conducting water efficiency audits.</p>	<p>Our consumption strategy, detailed in section 6 of our Revised Draft Technical Report - Deciding on future options, has five key pillars and seeks to reduce demand for water. Driving behavioural change is one of these pillars and we have a number of ways of encouraging water efficiency, which audits form a part of.</p> <p>We have water home audits targeted at customers who have high consumption, leaks or require help due to financial difficulties or other reasons. We have had a 50% uptake with leaks found and fixed. In addition to this, we have been trialling various nudge methods with customers in our region. Those with an active continuous flow on their meter are very receptive with 50% of customers taking action to fix their leak following a letter inclusive of a leaky loo strip. A further 16% of customers take action after a follow up email / text containing a URL to our website regarding sneaky leaks and help to be obtained from Water safe.</p>
18.04	Friends of the Lake District (Web form response)	<p>1c. FLD feels that the timing of the change is acceptable.</p> <p>It is unrealistic to expect UU to significantly reduce leakage and customer use (i.e. demand) in a shorter timescale.</p>	<p>We thank Friends of the Lake District for their comments and support for our plans to reduce water consumption and leakage.</p>

Reference	Respondent	Feedback	Our response
18.05	Friends of the Lake District (Web form response)	<p>FLD would like UU to reduce leakage further still and sooner.</p> <p>It is a target in the government’s Environmental Improvement Plan (published January 2023) to “ensure water companies deliver a 50% reduction in leakages by 2050” (p.11). As UU states, this “will require significant investment” in, for example, sensors on underground pipes to detect leaks – which the company has started installing. However, other water companies are being more ambitious and we would like UU to do likewise. “SES Water aims to reduce its leakage by more than half by 2045” (Waterwise January 2023 newsletter, p.5). A key factor in achieving this is “intelligent technology that’s been rolled out across SES Water’s entire distribution network” which “allows for near real-time monitoring meaning issues such as leaks can be resolved quicker” (Waterwise January 2023 newsletter, p.4).</p> <p>Furthermore, continuing with a high rate of leakage (data from EA shows that UK loses over 3 billion litres of water every day through leaks, Waterwise January 2023 newsletter, p.5) undermines UU’s work to persuade all its customers to consume less water. Customers will understandably question the point of them “saving” water when so much is being lost through leaks, in part due to the “ageing infrastructure” (Environmental Improvement Plan, p.101) of all the water companies.</p>	<p>Reducing demand for water, including leakage, was an integral part of our draft Water Resources Management Plan 2024 (dWRMP24) and it remains so for our revised draft Water Resources Management Plan 2024 (rdWRMP24), but we have also made several key improvements. Since publication of our draft plan, the government has published its Environmental Improvement Plan (EIP), which sets out interim targets for reducing water supply and leakage. The following EIP targets have been included in our rdWRMP24:</p> <ul style="list-style-type: none"> * a 20% reduction (from 2019/20 baseline) in public water supply per head of population by 2038, with interim targets of 9% by 31st March 2027 and 14% by 31st March 2032 * a 20% reduction in leakage by 31st March 2027 and 30% by 31st March 2031 <p>Our rdWRMP24 also sets out our plan to achieve a 9% reduction in non-household water use or 'business demand' by 2037-38 and a 15% reduction by 2049-50 (from 2019-20 levels), which are also EIP targets. All of these interim targets are part of the trajectory to achieving long term targets for household water use (to 110 l/h/d), leakage (by 50%), and non-household water use (15%) by 2050. There is a balance to be struck on the 'pace' of delivering leakage reductions versus the cost to achieve leakage reductions in a sustainable way and the impact on customer bills. We feel the interim and long-term leakage targets strikes the right balance between these aspects.</p> <p>Whilst our rdWRMP24 sets out the options selected as part of this plan to deliver reductions in leakage, we are continuously engaged with various research activities and trials to identify new and innovative options, and if viable and effective these will be included for consideration in future water resources planning rounds. For example, we:</p> <ul style="list-style-type: none"> • Have several research partnerships with universities – for example, with the University of Salford (notably the IGNITION Living Lab) and with Cranfield University, Newcastle University and The University of Sheffield via the Water Infrastructure and Resilience Centre for Doctoral Training (https://cdtwire.com/); • Have submitted several bids into the Ofwat Innovation Fund and we are involved in 'The National Leakage Research and Test Centre' as a partner company (https://waterinnovation.challenges.org/winners/nlrct/); • Work with our partners and suppliers to find innovative solutions to the challenges that face us, as well as running an innovation accelerator programme (our 'Innovation Lab') – this 14-week programme provides successful applicants with the opportunity to test their solutions in a live environment, as well as building relationships and potentially commercial partnerships with United Utilities (https://www.unitedutilities.com/corporate/about-us/innovation/innovation-lab/); and

Reference	Respondent	Feedback	Our response
			<ul style="list-style-type: none">• Work with UK Water Industry Research (UKWIR) on research projects that cover an array of topics from leakage and water demand to water resources planning to challenges that face the water sector more widely.

Reference	Respondent	Feedback	Our response
18.06	Friends of the Lake District (Web form response)	<p>3. We support UU's goal of implementing a large-scale programme of smart metering and it is encouraging that all new properties are metered. However, we were told, at a UU WRMP workshop at Preston in January 2023, that "50% of properties are un-metered" and "reducing numbers of people opting to have a meter fitted." Furthermore, UU is "legally unable to implement compulsory metering" because it is "not located in an 'area of serious water stress'" (UU DRWMP24, p.65). These are serious obstacles to overcome when we feel that comprehensive smart metering is the key to both "more efficient leakage reduction" (UU DRWMP24, p.64) and being able to incentivise customers in the future (through cheaper bills) to reduce water consumption.</p>	<p>Whilst it is true that we are legally unable to implement compulsory metering of households, as we are not located in an area of water stress, we are nonetheless actively progressing activities to increase the percentage of customers who are metered. Our metering activities that contribute to annual growth span across four main areas:</p> <ul style="list-style-type: none"> • New properties – by law all new developments must be metered. • Free meter options – customers have the right to request a meter for billing purposes (note, however, that as meter penetration increases, the number of unmetered customers who still stand to benefit most from a free meter reduces, and we therefore expect the number of customers opting for a free meter to reduce in future years). • Enhanced metering – we introduced a progressive programme last year to increase meter penetration and encourage customers to switch to billed charges. This is supported by our 'Lowest Bill Guarantee' price promise to provide security and certainty of charges for the consumers whilst transitioning to a meter. • Compulsory metering for non-households – where practical to do so. <p>We continue to develop our proposals for an ambitious smart metering programme in our 2025-2030 (AMP8) business plan period and as part of this we are progressing well with a targeted trial of 3,000 smart meters in our current business plan period 2020-25 (AMP7). This will help us inform elements such as our new system requirements, procurement approach, metering and communications technology choice, operating model and deployment and customer engagement approach.</p>
18.07	Friends of the Lake District (Web form response)	<p>3. There is also considerable effort required to deliver a successful, comprehensive education programme on water efficiency, as a recent study by the Consumer Council for Water revealed "low public engagement with the water industry" (Waterwise January 2023 newsletter, p.6). Most consumers outside Cumbria will make little connection between their water use and the resulting impacts on the landscape and environment of the source location of the Lake District. Such education is so key that it forms three (of the ten) strategic objectives of the UK Water Efficiency Strategy to 2030. One objective is "increasing awareness of why we need to use water wisely"; a second objective is "life-long learning about the value of water" and a third objective is that "organisations are more motivated to save water" (UK Water Efficiency Strategy to 2030, p.4).</p>	<p>In response to your feedback additional text has now been added to section 8 of the revised draft Water Resources Management Plan 2024 (rdWRMP24), which details our approach to water efficiency education.</p>

Reference	Respondent	Feedback	Our response
18.08	Friends of the Lake District (Web form response)	<p>3. We would like to see more in UU's Draft Water Resources Management Plan on how it proposes to reduce non-household water use, as there is a target in the government's Environmental Improvement Plan to achieve "a 15% reduction in non-household water use by 2050" (p.105). Any programme will need to install smart meters, address leaks and carry out water audits for businesses, as "smart meter data shows that up to 25% of business water consumption is likely to be leakage" (Waterwise January 2023 newsletter, p.5).</p>	<p>Our revised draft Water Resources Management Plan 2024 (rdWRMP24) sets out our plan to achieve a 9% reduction in non-household consumption/usage or 'business demand' by 2037-38 and a 15% reduction by 2059-50 (from 2019-20 levels). We will deliver this via a combination of non-household smart metering and our non-household water efficiency programme.</p> <p>For non-household smart metering, in terms of scale for AMP8 (2025 to 2030), we plan to install a smart meter at every non-household that is already metered (~171,000 non-households or ~90% of non-households) and we'll continue to assess the feasibility of smart metering the other ~10% (~20,000 non-households).</p> <p>We are planning to deliver our non-household water efficiency programme collaboratively with water supply retailers. The proposed scale for AMP8 (2025 to 2030) is ~5,500 audits/visits, initially working with the education and health sectors – although non-household smart metering will provide greater insights and will inform our audits/visits programme over time.</p>
18.09	Friends of the Lake District (Web form response)	<p>4. FLD has concerns for the landscape of exporting water from the North West.</p> <p>The government has acknowledged that only "half of additional 4,000 megalitres of water a day needed in England by 2050 will...be delivered through reducing demand for water" (Environmental Improvement Plan, p.107), so the remainder will need to be "through increased supply" (EIP, p.107). FLD is clear that any water transfer would have to benefit the North West region first and foremost, otherwise it goes against the government's own economic commitment to "levelling up" across England. Sending water to the SE, for example, in times of drought could not be allowed to negatively impact on the landscapes of the North West, as those landscapes underpin the natural and cultural heritage; the visual amenity; the social fabric and the rural economy (which is heavily dependent on agriculture and tourism) of this region.</p>	<p>Our water transfer proposals are designed to protect customers and the environment in the North West. Furthermore, there are several benefits of water transfer for the North West. For example, new sources will be developed but will only be needed to support transfer some of the time. At other times they can be used to improve resilience in the North West. Also, for each new source we develop we will deliver a 10% improvement in 'biodiversity net gain', as set out in the revised draft Water Resources Management Plan 2024 (rdWRMP24).</p>

Reference	Respondent	Feedback	Our response
18.1	Friends of the Lake District (Web form response)	4. Though SE England is clearly already facing increasing pressure on its water resources (from lower average rainfall and increasing population), NW England is still vulnerable to drought, especially in the short term as much of its water supply is from reservoirs and rivers. UU notes that “surface water reacts more directly to short-term changes in rainfall patterns” (UU DWRMP24, p.17). The water company accepts that “during short, intense periods of warm, dry weather, river flows and reservoir levels can drop rapidly” (UU DWRMP24, p.17) and “this can be exacerbated by...increased...demand” (UU DWRMP24, p.17) as, for example, customers water their gardens more if it has not rained for a few weeks. There can therefore be no water transfer if the North West region is suffering from this scenario and checks and balances need to be in place to ensure that.	Our water transfer proposals involve the development of new sources in the North West to replace water transferred out of our area. As these sources will not be used for water transfer all of the time there is a net benefit to drought resilience in the North West.
18.11	Friends of the Lake District (Web form response)	4. Looking at UU’s water transfer principles (outlined on Page 59 of its Draft Water Resources Management Plan 2024), FLD supports in particular the resilience principle, whereby “the transfer must not have a net detrimental impact – and should ideally improve – the resilience of the water resource and assets used to provide services to customers” (UU DWRMP24, p.59). FLD would go further with UU’s environmental principle (that “projects must not have a significant adverse effect on the environment”, UUDWRMP24, p.59 – my italics) and demand that projects have no adverse impact on the environment.	Our water transfer principles were established at the start of the RAPID process and form an important part of our solution design to ensure that both customers and the environment in the North West are protected. We note the proposed wording change to the environmental principle but do not intend to change the principles at this stage.
18.12	Friends of the Lake District (Web form response)	4. FLD still has concerns about the potential impact of water transfer in the long term on Cumbrian water supplies and its landscape. UU will need to reassure us that Lake District sources will be unaffected by such transfer, as any increase in water taken from Cumbria would have a consequential decrease in landscape quality.	Our water transfer proposals are designed according to our water transfer principles, which ensure that customers and the environment in the North West would be fully protected. These principles include, for example, resilience, drinking water quality, and environment and can be found in Section 7 of our revised draft Water Resources Management Plan 2024 (rdWRMP24) main document. In addition, the Strategic Environmental Assessment (SEA) process undertaken for all potential new options includes assessment of potential effects on designated landscapes and cultural heritage. If the SEA were to identify options which have adverse effects on these aspects (as well as others such as international biodiversity sites for example), they would not be taken forward on environmental grounds. See our revised draft Environmental Report - SEA for further details.

Reference	Respondent	Feedback	Our response
18.13	Friends of the Lake District (Web form response)	<p>5. FLD does not agree in reducing the frequency of hose pipe bans.</p> <p>As a landscape charity, we do not see the need to halve the frequency of temporary use bans (from “5% chance of being used in any one year, (so) no more than once every 20 years on average”, to “2.5% chance of being used in any one year, (so) more than once every 40 years on average”, UU DWRMP24 Summary Document, p.5). These temporary use bans are “sometimes referred to as hosepipe bans” (UU DWRMP24 Summary Document, p.5) and are about restricting water-use for such “nice to do” activities as watering the garden or washing the car; activities which penalise especially poorer people in cities that may not have cars or gardens. Indeed, we feel that UU should be quicker to introduce temporary use bans (and even non-essential use bans – that restrict more activities than a temporary use ban, UU DWRMP24 Summary Document, p.5) at times of low rainfall, in order to raise public awareness of the increasing seriousness of the water supply situation. This way demand from customers can be reduced which then avoids the need for more emergency restrictions (eg. standpipes) and protects lakes, rivers and wetlands from any damage due to low flow and water levels. Furthermore, the environmental cost of making temporary use bans less frequent is unclear. We simply do not see halving the frequency of these as a priority for UU.</p>	<p>Our extensive customer research shows that an improvement to the level of service for temporary use bans is a priority for many customers in our region, indicating strongly through research that they would support this improvement (see Section 9 in the draft Water Resources Management Plan 2024 Main Report). We currently have the lowest level of service in the Water Resources West region for temporary use bans. As part of this plan our proposal to improve this level of service from 1 in 20 to 1 in 40 years on average will make it equal to the best level of service offered in the region and upper quartile across England and Wales. We are also planning to improve the level of service for Drought Permits, reducing the frequency of taking from the environment during a drought, from 1 in 40 to 1 in 50 years on average. This is planned to happen in 2031 and is in addition to the WRMP19 improvement from 1 in 20 to 1 in 40 years on average delivered in 2023. These improvements from the worst to the best in our region, also ensure that we aren't transferring water to areas elsewhere in the country with a better level of service than our own.</p> <p>Our Drought Plan includes details on the actions we will undertake to protect customers' supply and the environment. The drought levels and the point at which a temporary use ban would be implemented is not changing. The method to do this would be via our Drought Plan, which will be refreshed in the year 2027. The ambitious demand management plan to reduce consumption, as well as halving our leakage, by 2050 reduces our overall demand and contributes to the existing drought levels being crossed less frequently.</p> <p>Further information on our strategic choices and best value plan can be found in sections 7 and 9 of the revised draft Water Resources Management Plan 2024 (rdWRMP24) main report respectively.</p>
18.14	Friends of the Lake District	<p>a) No Detail on Outlined Supply-Side Options – In Chapter 8 Deciding on Future Options, there is some detail on the demand-side options that were explored by UU in drafting this Water Resources Management Plan (UU DWRMP24, pages 63-66 – leakage reduction, metering & water efficiency) but there is no equivalent information about all the supply-side options that were considered by UU. They are listed in the Plan (on pages 67-68 of UUDWRMP24) and UU notes that “in some cases there are technical constraints and/or potential water quality risks” (UU DWRMP, p.68) but still no detail is given in the Plan itself.</p>	<p>Our preferred supply plan has been updated since our draft WRMP24 due to updated and reduced transfer needs from other regions. In our Revised Draft WRMP24 Technical Report - Deciding on future options, we have included more detail on the preferred plan supply options, such as their capacity and high level detail on what will be implemented. Our environmental assessment reports for each option also detail the impact of the options on the environment and are available upon request, however some detail is not included in the public domain to protect the security of our water supply.</p>

Reference	Respondent	Feedback	Our response
18.15	Friends of the Lake District	<p>b) No Detail on the “Environmental Destination” – There are plenty of references to the term “environmental destination” in this draft Water Resources Management Plan but again no detail. One of the key benefits of this UU Plan is that it “protects the environment by assuming reductions in certain abstractions by 2050” (UU DWRMP24, p.4) and this is UU’s “environmental destination scenario, which will take shape over time in response to ongoing investigations” (UU DWRMP24, p.4). The company states that it has a “target...to achieve (its) long-term environmental destination by 2050 in line with the national framework UUDWRMP24, p.34) and that “this will require a number of short, medium and long-term actions including abstraction licence changes and environmental improvements to...catchments” (UU DWRMP24, p.34). Environmental destination is then one of several key uncertainties that were considered by UU as part of its adaptive planning; the other uncertainties were: “the future effects of climate change, changes in demand...water quality influences and the timing and magnitude of water transfer” (UU DWRMP24, p.77). Clearly, reducing abstraction over time benefits the environment but there needs to be greater clarity in this Plan on the concept “environmental destination” and what exactly it entails in order to be confident of the benefits to the landscape.</p>	<p>Ensuring that the draft Water Resources Management Plan 2024 (dWRMP24) is sustainable is a crucial element of the plan. Whilst ensuring that our abstraction is sustainable in the short term is our first priority, we need to ensure that our abstraction licences remain sustainable in the long term considering climate change. Planning for the short and long-term impacts of our abstractions is a core element of our environmental destination where we also look to improve the catchments we abstract from. For further detail of the breakdown of potential licence changes (alongside our anticipated short-term sustainability reductions), please refer to section 4 in the revised draft Water Resources Management Plan 2024 main report. For more detailed information on how the sustainability of our licences are assessed in the short and long term, please refer to the Revised Draft Technical Report - Environmental destination, where we also provide a definition for the term environmental destination. Note that potential licence changes beyond 2030 are currently unconfirmed and we have put forward a significant amount of investigations as part of the AMP8 (2025-2030) Water Industry National Environment Programme (WINEP). This is to investigate the risk of environmental deterioration from our licences in both the short and long term in conjunction with catchment intervention investigations to ensure that the best net benefit to the environment can be realised</p>
18.16	Friends of the Lake District	<p>c) More Information Needed on Place-Based Planning – The UU Summary Document states that the company is “trailing ‘place-based’ planning in priority areas, working with community groups and stakeholders, such as Environment Agency, local councils and the Rivers Trust to deliver a more reliable supply and resilience to droughts in the future.” The UU Main Document tells us that this approach is being trialled “within the Eden, Wyre and Upper Mersey catchments” (UU DWRMP24, p.20) and the Main Document includes a case study on the Wyre catchment (UU DWRMP24, p.21). But it is not clear what the outcomes of these trials will be or where other priority areas will be, so more information is needed on this.</p>	<p>The aim of the pilots of place-based planning is to test various elements including governance, planning, stakeholder management and community engagement with a drive towards more nature-based solutions. The learning from the pilots will help develop a framework and provide case studies to inform and support the next company business plan (PR24). The measures of success will be whether there is stable governance created to ensure catchment plans are co-owned, that the approach helps to identify a pipeline of co-funded projects and that it supports regulator influencing.</p> <p>Evaluation on the pilots in the Wyre, Eden and Upper Mersey catchments will take place later in 2023 to support the business in assessing its approach in readiness for AMP8 (2025-2030). This could lead to rolling out the approach across other catchments in the North West region.</p> <p>We have provided this detail in the revised draft Water Resources Management Plan 2024 (rdWRMP24) main report, section 2.6.</p>

Reference	Respondent	Feedback	Our response
18.17	Friends of the Lake District	<p>d) More Information Needed on Catchment Systems Thinking (CaST) – The UU Summary Document states that “by working together with stakeholders, planners and community groups (the company) will be better able to manage water closer to where it falls and tackle issues where they occur.” It is laudable to be “viewing...water assets and the environment in which they operate as one end-to-end water system” (UU DWRMP24, p.22) but there is no detail as to how CaST is driving “a new way of thinking across catchments” (UU DWRMP24, p.22). Championing the landscape across Cumbria, FLD is of course interested in the fact that UU is proposing to “increase the uptake of catchment and nature-based solutions” (UU DWRMP24, p.22) but again more information is needed. In Cumbria, partner organisations are trying hard to take a catchment-based approach (CaBA) to water planning. UU could support this approach financially, in the same way that Thames Water is investing £5 million in its CaBA Partnerships (Cumbria Catchment Partnership meeting, March 2023).</p>	<p>United Utilities Water has supported the Catchment-based approach (CaBA) since its inception in 2012. We provided seed-funding to establish all the North West CaBA groups that matched the level of funding provided by Defra. In addition we ran a Catchmentwise campaign, which provided £500,000 funding for projects across the region.</p> <p>Since 2015 United Utilities Water has supported the 3 CaBA groups in Cumbria by funding project officer roles where the purpose of these roles are to increase the uptake of catchment and nature-based solutions. We plan to continue this in our next funding cycle from 2025-2030. For example, we have supported the West Cumbria Rivers Trust to undertake work at Ennerdale and Thirlmere (i.e. tree planting to help reduce catchment erosion). We have also supported the South Cumbria Rivers Trust and Eden Rivers Trust to work with stakeholders across areas of land that are not owned by United Utilities Water such as the Petteril, Upper Duddon valley, Poaka Beck and Windermere catchments. In the Petteril catchment as an example, the project looked to engage and influence farmers to implement solutions to help reduce phosphorus pollution.</p> <p>When Catchment Systems Thinking (CaST) was launched in 2020, charitable organisations were invited to bid for funding to deliver projects totalling £30,000. In Cumbria, the Eden Rivers Trust and South Cumbria Rivers Trust were among those successful. You can find out more about those projects on the website https://www.unitedutilities.com/corporate/responsibility/stakeholders/catchment-systems-thinking/cast-account.</p> <p>For further information about CaST, please check out the website https://www.unitedutilities.com/corporate/responsibility/stakeholders/catchment-systems-thinking/ and speak to one of our team at the next catchment partnership meeting. For further information on our partnership work in this area, please see section 6 in the Revised Draft Technical Report - Environmental destination. For further information on other examples of partnership working, please see section 2 in the revised draft Water Resources Management Plan 2024 (rdWRMP24) main report.</p>

Reference	Respondent	Feedback	Our response
18.18	Friends of the Lake District	<p>e) More Information Needed on Biodiversity Net Gain – The UU Summary Document states that “as a business delivering significant development in the North West, (UU) will try hard to play (its) part in helping nature to recover and making improvement in biodiversity.” But there is only one mention of this in the Main Document, namely: “water companies are required to consider and/or incorporate a biodiversity net gain and proportionate natural capital approach in their decision-making process” (UU DWRMP24, p.16), so more information is needed. Indeed, FLD would wish the water company to go further and not only consider natural capital (in other words biodiversity) in all its decisions but also cultural capital (such as scheduled ancient monuments, registered common land and pastoral commoning, native livestock breeds), visual amenity, health and wellbeing, recreation and access.</p>	<p>A key element of our draft Water Resources Management Plan 2024 (dWRMP24) is ensuring that the plan is sustainable, does not materially impact the environment and looks for opportunities to improve it. Biodiversity net gain is an important element of this process. For further information, please refer to section 2 in the Revised Draft Technical Report - Deciding on future options.</p> <p>With regards to cultural capital, whilst this element is not captured through the biodiversity net gain process, we assess all options through the Strategic Environmental Assessment (SEA). This assessment is highly detailed and includes the assessment of options on Cultural Heritage - 'To conserve and enhance the historic environment including the significance of heritage assets and their settings and archaeological important sites'. For further information, please refer section 4 in our WRMP24 SEA report.</p>

Reference	Respondent	Feedback	Our response
18.19	Friends of the Lake District	<p>f) More Information on Future Reservoir Levels in View of Climate Change – In Summer 2022 alone, record high temperatures and “prolonged dry weather” meant “widespread drought” (UK Water Efficiency Strategy to 2030, p.9) leading to hosepipe bans in several regions. Clearly, climate change is “increasing the frequency and severity of high temperature events and drought, putting more stress on our water supplies” (UK Water Efficiency Strategy to 2030, p.10). It is also clear that, in the North West, climate change is creating bigger and more frequent storms. Indeed, it is predicted that there will be a “35% increase in rainfall intensity by 2070’s” and “40% increase in peak flow in rivers by 2080’s” in Cumbria. We will need to find “huge additional storage capacity”, as “making space for water” (Cumbria Catchment Partnership meeting, March 2023), through natural flood management, will become vital. Going forward, there will need to be a balance therefore between allowing reservoirs to stock up from winter rainfall (to help with summer droughts) and lowering their levels so that they can accommodate excess water in high storm events to help reduce flooding. Such tensions will only worsen with climate change.</p>	<p>After six consecutive months (March to August 2022) of below average rainfall and above average temperatures drought status was declared across most of England. However the North West and North East of the country were categorised as being in 'prolonged dry weather'. We followed the actions as set out in our Final Drought Plan 2022 to manage water resources and we did not implement any water use restrictions such as a temporary use ban or apply for any drought permits or orders. This proved to be an excellent test of our Final Drought Plan 2022, and more information about summer 2022 can be found in our Revised Draft Technical Report – Dry weather lessons learned.</p> <p>We agree that there are future uncertainties relating to climate change. We considerably advanced our supply forecasting capability for WRMP24, working closely with other companies in Water Resources West to develop a comprehensive supply methodology that is fully aligned to the Environment Agency’s (EA) WRMP24 water resources planning guideline (WRPG). Together, as a regional water resources group, we generated regional-level hydrological and climate change datasets, collaborated on extensive water resources model development, and undertook in-depth analysis of our outputs. Further detail on our assessment of potential climate change impacts on supply can be found in the revised draft Water Resources Management Plan 2024 (rdWRMP24) main report (Section 4) and the Revised Draft Technical Report – Supply forecast (Section 7).</p> <p>We already undertake flood management at a number of our reservoirs. Using public water supplies for flood risk management is extremely complex, especially around the duties and liabilities of all organisations involved. We are aware of the Environment Agency's operating framework on the utilisation of public water supply reservoirs for flood risk benefit and we will continue to engage in this area in future.</p>

Reference	Respondent	Feedback	Our response
18.2	Friends of the Lake District	<p>In summary, FLD is supportive of UU's aims to reduce water consumption by customers (Qu.3) and leakage (Qu.2), though it would like the company to go further and sooner. It wants both the landscape and customers to have more drought resilience (Qu.1). It has concerns for the landscape of exporting water from the North West (Qu.4). It does not agree in reducing the frequency of hose pipe bans (Qu.5). It is disappointing that there is no explicit mention of landscape throughout the whole plan.</p> <p>We believe that reducing water use through demand management is more sustainable than seeking new water sources. UK Water Efficiency Strategy to 2030 agrees, as it says: "reducing water demand can...help avoid, or delay, the need for water companies to invest more money...in supply-side interventions such as new reservoirs, desalination plants or water transfers" (UK Water Efficiency Strategy to 2030, p.13). We want UU to concentrate therefore on: significantly reducing leaks; persuading customers to consume less water (through behavioural change initiatives) and introduce comprehensive nature-based solutions, across catchments, to address the twin risks to the environment and consumers of flooding and drought.</p>	<p>We thank Friends of the Lake District for their comments and support for our plans to reduce water consumption and leakage. Our draft plan set out our strategy to ensure a surplus of water for the future, which was based primarily on reducing demand for water (consumption and leakage) through the identification of multiple demand management options in our preferred plan. Our draft plan also included details of our integrated water planning concept. This involves applying a place-based planning approach and partnership working to identify diverse solutions to safeguard water resources and provide catchment and flood resilience. We currently have three pilot areas (Eden, Wyre, and Upper Mersey) where we are applying place-based planning. Our revised draft Water Resources Management Plan 2024 (rdWRMP24) builds upon the strategy set out in the draft plan, but now goes further on demand reduction by meeting the government's short-term or interim targets for demand reduction as set out in the Environmental Improvement Plan, as well as continuing to meet the long-term targets set for 2050 (to reduce consumption to 110 litres per head per day, and reduce leakage by 50%). Another key update for our rdWRMP24 is the inclusion of the smart metering option for non-household customers in the preferred plan. Going further on demand reduction also delivers improvements to Temporary Use Bans (TUBs) and Drought Permit and Order frequencies, with fewer supply options now selected in the rdWRMP24 to facilitate water transfer only.</p> <p>In addition, the Strategic Environmental Assessment (SEA) process undertaken for all potential new options includes assessment of potential effects on designated landscapes and cultural heritage. If the SEA were to identify options which would have adverse effects on these aspects (as well as others such as international biodiversity sites for example), they would not be taken forward on environmental grounds. See our revised Draft Environmental Report - SEA for further details.</p>
19.01	Greater Manchester Combined Authority	<p>The consultation plan (section 2.6) refers to working in partnership and local area planning, however the level of detail of how activities will be developed to deliver against other plans such as the Drainage and Wastewater Management Plan, future AMPs, development plans and other plans such as Local Nature Recovery Strategies is missing. What are the partnerships and how will they be utilised? This is important as we recognise that closer alignment between the plans requires changes by United Utilities and other partners at a strategic sub-regional and operational level, supported by changes nationally as well</p>	<p>Thank you for taking the time to respond to our draft Water Resources Management Plan (dWRMP) 2024 consultation. We work with a wide range of organisations, including the Environment Agency, the Rivers Trust, Natural England, local authorities, and an extensive number of landowners and stakeholders. For example, we have collaborated on our Drainage and Wastewater Management Plan through Strategic Planning Group workshops, with partners across the Environment Agency, Lead Local Flood Authorities and CaBA, to identify areas of shared risk and potential opportunities. Our online collaboration portal at https://collab-uu.co.uk/ facilitates discussion and sharing of information on several key topics, including the Water Resources Management Plan, Drainage and Wastewater Management Plan, Catchment Systems Thinking (CaST), green recovery schemes and climate adaptation. We have added some further details and examples of our partnership approaches to section 2.</p>

Reference	Respondent	Feedback	Our response
19.02	Greater Manchester Combined Authority	Section 2.7 on Systems Thinking should also be extended to identify the relationship between this Plan and other Plans e.g. DWMP, flood risk management plan, future development (Local Plans) the associated objectives/outcomes and governance/accountability arrangements	Our draft Water Resources Management Plan 2024 (dWRMP24) forms part of an overall planning framework which also includes the Water Resources West Draft Regional Plan, our Drainage and Wastewater Management Plan and our Drought Plan, all of which align with our five-yearly business plan. The WRMP also considers the requirements of relevant external plans, such as government environmental plans and local authority plans. We have added a new section to our main WRMP report to summarise the links with other plans and signpost sources of further information.
9.01	Individual 1	<p>I add my voice to the calls for more sustainable water use. I want to see your plan:</p> <ul style="list-style-type: none"> • Prioritise nature: Ensuring that having enough water in our rivers to support healthy and abundant wildlife is a top organisational priority. • Reduce water use: Helping households and businesses save water and supporting vulnerable customers, and significantly reducing leakage. • Use win-win natural solutions: Prioritising nature-based solutions - like wetland creation - to help tackle flooding, pollution, and replenish water supplies, making sure every project improves wildlife. 	<p>Thank you for taking the time to respond to our draft Water Resources Management Plan (dWRMP) 2024 consultation. We agree that delivering more sustainable water use is a key priority for our Water Resources Management Plan 2024. Our plan aims to address the objectives listed in your bullet points, as follows:</p> <ul style="list-style-type: none"> • We are working closely with the Environment Agency and other environmental stakeholders to determine abstraction reductions aimed at restoring, protecting and improving the environment whilst ensuring that resilient water supplies are available to meet the needs of all users in the future (see Section 4 of our main report); • Our demand management strategy is an integral part of our plan and aims to deliver significant reductions in both household and non-household water use, and in levels of leakage, in order to achieve the challenging targets set for water companies by the government and enable us to reduce the amount of water taken from the environment (see Sections 8 and 9 of our main report); and • Our catchment management strategy, delivered through strong partnerships and collaborative working with stakeholders, aims to increase the uptake of catchment and nature-based solutions to maximise value for customers and the environment (see Section 2 of our main report).

Reference	Respondent	Feedback	Our response
4.01	Individual 2 (Web form response)	<p>1a. Good but far too slow. 1b. Acceptable 1c. Far too slow</p> <p>2. Halving the leaks is not enough. 2050 too late, needs done much quicker</p> <p>3. good but there must also be opportunities to work with industry to design in efficiency to new homes and products. do we make enough use of grey water?</p> <p>4. in it together</p> <p>5. definitely a priority</p>	<p>Thank you for taking the time to respond to our draft Water Resources Management Plan 2024 (dWRMP24) consultation. We are committed to ensuring that we are resilient to a 1 in 500 drought by 2039. Our current level of service allows us to be resilient to a 1 in 200 drought, however time is required in order to allow demand management options to take effect. Where opportunities arise, we will look to accelerate 1 in 500 drought resilience before 2039.</p> <p>In line with other water companies, we are committed to reducing leakage by 50% by 2050. This is a big challenge to the industry, which requires significant investment in asset health, innovation and network optimisation.</p> <p>Working with industry is a key element in our strategy to help reduce per capita consumption to 110 l/p/d by 2050, however we are also reliant on early government intervention with regards to the early introduction of water efficiency labelling legislation. For further information on what demand options are being selected (and when) for our preferred plan, please refer to our Revised Draft Technical Report - Deciding on future options, section 6.</p>
5.01	KFAG	There are some terms used in the main report whose meaning is not defined. For example, the term “low regrets” is introduced in relation to your best value plan without indicating who/what it refers to. It is therefore difficult to assign any meaning to it.	Thank you for taking the time to respond to our draft Water Resources Management Plan 2024 (dWRMP24) consultation. As a result of this feedback we have included a definition of 'low regrets' within the Revised Draft Technical Report - Deciding on future options and our WRMP glossary.
5.02	KFAG	The main report shows a baseline deficit in 2049/50 of 329.1 MI/d (Table 12) turning into a surplus of 199.7 MI/d (Table 21). A clear breakdown of how this is to be achieved (ie contributions both positive and negative of main elements such as leakage reduction, PWS, climate change, environmental destination etc) should be included in the main report. These numbers may be extractable from the associated reports, but they are lengthy and need considerable effort to understand.	The future impacts of climate change and environmental reductions in abstraction are already reflected in the baseline deficit of 323.3 MI/d in our Strategic Resource Zone forecast for 2049/50. Our final, best value, plan will deliver over 500 MI/d of supply and demand benefits to restore the supply-demand balance in the resource zone to a surplus of 179.3 MI/d by 2049/50; the approximate breakdown of these elements is: savings in household consumption, 28.1%, savings in non-household consumption, 4.0%, savings from leakage reduction, 30.6%, benefits of drought measures, 14.8%; benefits of supply schemes, 22.5%. In summary about 63% of the forecast supply-demand benefit by 2049/50 is from the company's demand management strategy including leakage reduction, metering and water efficiency activities (and also including the benefits of government water saving interventions).

Reference	Respondent	Feedback	Our response
5.03	KFAG	The main drivers to reduce leaks and PWS usage are from government rather than water companies and contribute significantly to achieving a positive water balance. The main report discusses adaptive planning but gives little feel for the vulnerability of the chosen plan to achieving each element. For example if only 80% of the leakage and PWS reduction targets are met by 2049/50, what impact does that have on the supply – demand balance and what steps would UU plan to take?	Within our Revised Draft Technical Report - Deciding on future options, we have included a number of alternative scenarios for demand reduction, including but not limited to the 'WRW higher demand' and 'Company high' scenarios. These scenarios assume that our demand interventions are not as effective, and some include alternative scenarios for our baseline demand. More detail on the assumptions behind these scenarios, the alternative interventions we would take and resulting investment profiles are included in the aforementioned technical report and we have included the scenarios within our adaptive plan diagrams.
5.04	KFAG	The government's February 2022 strategic priorities for Ofwat include expectations that Ofwat will "challenge and incentivise the water companies to identify and deliver greater customer, societal and environmental benefits from their water and wastewater infrastructure and systems, such as using reservoirs to provide greater flood resilience". There does not seem to be any provision for this in the WRMP, for example keeping storm space in reservoirs or building new storage reservoirs to allow transfers of water away from at risk areas towards areas in need of additional stocks.	Flood resilience is a crucially important issue to us, and we explore many ways in which we can contribute to reducing the risk of flooding. Understanding the interactions between the land and the water is crucial to the successful management of our essential water resources. Catchment management investigates these interactions and works to combat or mitigate the activities in the catchment that are detrimental to the sustainability of the water quality and biodiversity, as well as reducing the risk of flooding to downstream communities. For many years we have been at the forefront of catchment management through implementing programmes such as our 'Sustainable Catchment Management Programme (SCaMP)' since 2005, and our 'Catchment Systems Thinking approach (CaST)'. We continue to drive integrated water (and wastewater) planning through a 'place-based planning' approach. Since 2020 we have started, and continue to, trial place-based planning within the Wyre, Eden and Upper Mersey catchments. Through partnership working, place-based planning will help to diversify solutions to include a combination of traditional hard engineering approaches, nature-based solutions and behavioural change initiatives. Together, these will help safeguard water resources and also provide catchment and flood resilience.
5.05	KFAG	The double use of water resource to both provide water for transfer and improve levels of service (eg reduced TUBs) seems to depend on the 2 not being required at the same time. This seems to rely on droughts not occurring across the country at the same time. We would question if this is a robust approach.	Our proposed dual-purposing of water transfer options to improve levels of service was linked to droughts often not occurring across the country at the same time (2022 was a good example). However, it was not dependent on droughts never occurring across the country at the same time (this certainly will happen). We were not aiming to eliminate temporary use bans (TUBs), but reduce their frequency by utilising transfer options at those times when it is drier in the North West than other parts of the country. The expected level of improvement was derived by modelling significant volumes of hydrological data. Note however that due to a decrease in the water transfer need and new government demand management targets we are now planning to deliver the TUBs level of service improvement by leakage reduction and demand management only.

Reference	Respondent	Feedback	Our response
5.06	KFAG	Whilst we in Cumbria live in a water rich part of the country, we are aware that we are dependent on the local rainfall for our supply needs. Impervious geology rules out back up ground water supplies and our elevated location rules out transfers of water from other areas. In our view, the introduction of early TUBs in drier months is preferable to risking devastating flooding in the wetter months.	Our customer research indicates that customers would like us to reduce the frequency of temporary use bans (TUBs) down to similar levels as those experienced by customers in neighbouring water company areas, or areas we are considering transferring water to. We do not believe that reducing the frequency of TUBs will lead to increased flood risk.
5.07	KFAG	Finally, the tables spreadsheet provides a huge amount of data, and certain numbers from it are used in the main report. However, it is difficult for a person coming to it without detailed background to understand the provenance of all numbers. As one example, in sheet UUXSTG row 122 "Raw water abstracted" shows a lower number than row 132 "Total water available for use". We would appreciate a more in-depth discussion of the numbers in these spreadsheets as that may well help us to understand some of the questions raised above.	We welcome the opportunity to have more detailed discussions about our plan with stakeholders. Please contact wrmpconsult@uuplc.co.uk if you would like to arrange a meeting.
15.01	Lancashire county council (Web form response)	1a. This is important to us. We want all Lancashire residents to be water secure and have a reliable source of clean water. Building resilience to respond to the impacts of climate change and addressing nature recovery are key priorities for the council, as set out in the council's Environment and Climate Strategy and the Lancashire 2050 Strategic Framework. We welcome the place-based planning approach and opportunities to work in partnership to deliver multiple benefits to manage water resource, build resilience and reduce flood risk, mitigate climate change through nature-based solutions and enhance biodiversity. We want to see increase resilience delivered alongside work to improve river water quality.	Thank you for taking the time to respond to our draft Water Resources Management Plan (dWRMP) 2024 consultation and we appreciate the positive feedback.
15.02	Lancashire county council (Web form response)	1b. A proactive approach to addressing leakage is needed, upgrading the infrastructure before leaks are allowed to happen. This could be achieved through increased level of collaboration in terms of upgrading the water/sewage infrastructure when road works are already planned. • Opportunities to maximise water re-use should be taken (such as property level SuDS – grey water recycling, water butts, rain gardens, blue and green roofs etc) to minimise demand on water supply as well as help to manage flood risk.	Aligned to Water UK's 'A Leakage Routemap to 2050' (https://www.water.org.uk/publication/a-leakage-routemap-to-2050/), we have utilised the PALM (Prevent, Aware, Locate and Mend) model to develop our leakage strategy and ensure that we have the right mix of interventions/options in the shorter and longer term to ensure that the leakage reductions we deliver are sustainable. Our strategy is set out to drive a transformation from 'find and fix' to Dynamic Network Management, predicting and preventing leaks to drive continual improvement in our leakage performance. We will provide additional detail in our revised draft Water Resources Management Plan 2024 (rdWRMP24) and supporting technical reports.

Reference	Respondent	Feedback	Our response
15.03	Lancashire county council (Web form response)	1c. We would like to see change as soon as possible to see leakage reduced and resilience increased to ensure a secure water supply.	<p>In preparing our draft Water Resources Management Plan 2024 (dWRMP), as well as examining where there are deficits forecast in our region, we also considered the opportunity to make some 'strategic choices' to protect and, where possible, benefit customers and the environment. The strategic choices have been developed principally in response to the views of customers, regulators and other stakeholders. They include:</p> <ul style="list-style-type: none"> o Meeting ambitious government targets to halve the level of leakage and reduce the use of water to 110 litres per person per day by 2050; o Improving levels of service for the frequency of water use restrictions and drought permits; and o Supporting national and regional water resources needs through water transfers. <p>To deliver these strategic choices we identified possible options, using outcomes from customer research to shape our plan to their preferences. Collaborating with Water Resources West we developed a set of 'best value metrics' to quantify and maximise the benefits of our plan. We are acutely aware of the ongoing cost of living challenge. With this in mind we have identified effective ways to deliver our strategic choices to minimise the impact on customer bills.</p> <p>To further illustrate the delivery of these challenging targets, activity in the first five years of our plan includes installing smart meters in 674,000 households and 167,000 non-households, a programme to renew 695km of mains, and implementing three new sources to enhance water supply capability.</p>
15.04	Lancashire county council (Web form response)	2. Investment is needed to take a proactive approach to address leakage.	See response to 15.02
15.05	Lancashire county council (Web form response)	3. Education programmes need to be inclusive and not solely provided online. There may be opportunities to link up with local organisations to deliver water efficiency audits and advice in partnership with those providing energy efficiency advice, for example. Support measures to protect vulnerable customers as part of any smart meter roll out.	In response to your feedback additional text has now been added to section 8 of the revised draft Water Resources Management Plan 2024 (rdWRMP24), which details our approach to water efficiency education.

Reference	Respondent	Feedback	Our response
15.06	Lancashire county council (Web form response)	4. • Support water transfer to address national water supply risks where there is no detriment to NW residents in terms of water supply and bills and no negative impact on the natural environment. • Any income generated from water transfer should be reinvested to support the priorities of leakage reduction and demand management in the NW and to help support climate resilience measures. • The potential for the transfer of invasive species in exporting water to other regions needs to be considered.	Our water transfer solution has been carefully designed to ensure that customers and the environment in the North West are fully protected. Furthermore, we have identified opportunities to provide benefits to the North West, for example by using new sources to improve resilience at times when they are not needed for transfer. The risk of transfer of invasive species has been carefully considered for all options. In relation to the transfer of invasive species to other regions, this has been assessed separately as part of the Severn Thames Transfer Strategic Resource Option (an option in the RAPID gated process). No scheme will be implemented without the necessary invasive species protection measures in place.
15.07	Lancashire county council (Web form response)	Increasing resilience is important, however, ensuring long-term stability to water supply should be the priority. Effective communication to the public on the reason for 'hosepipe' bans is important.	In order to develop our plan we prepare forecasts of water supply availability and demand for water, taking into account a range of factors including climate change, population growth and environmental changes. The assessment methods that we use are industry leading and aligned to the complexity of each resource zone and the strategic questions they face. Over the planning horizon, available water supply is forecast to decrease by around 244 Ml/d in our Strategic and Carlisle Resource Zones combined, due to the combined effects of climate change impacts and environmental changes to our abstraction licences. Our baseline demand forecast shows a very small increase (around 0.7 per cent) across the 25-year planning horizon, excluding the impacts of our ambitious demand management programme (see Section 9 of the revised draft Water Resources Management Plan 2024 (rdWRMP24) for details). More information on water use restrictions can be found in our Final Drought Plan 2022. This includes details on how we would communicate with customers, stakeholders, regulators, government and other water companies in a dry weather event.
14.01	Mersey Rivers Trust (Web form response)	1a. We support the need for increased supply resilience for the communities served by UU, which also in turn has an environmental benefit by reducing the risk of requiring drought permits/orders to take more water from rivers, lakes, reservoirs and groundwater.	Thank you for your feedback which aligns to the latest water resources planning guidelines where we are now required to plan for our system to be resilient to a 0.2% annual chance of failure caused by drought, also described as a '1 in 500-year' level of resilience. Our proposed best value plan provides the key benefits of: reducing leakage and water use; supporting national water transfer; developing new supplies; and improving our levels of service for the implementation of temporary use bans and drought permits and orders, while protecting and improving the environment.
14.02	Mersey Rivers Trust (Web form response)	1b. We are pleased to note that this improved level of service can be achieved by leakage reduction and demand management measures.	Thank you for your positive feedback on our proposed method of delivery to improve levels of service.
14.03	Mersey Rivers Trust (Web form response)	1c. This timing appears reasonable given the measures required to achieve it will take time to deliver the water savings necessary to provide the higher level of service.	Thank you for your response.

Reference	Respondent	Feedback	Our response
14.04	Mersey Rivers Trust (Web form response)	2. We consider this to be a challenging but correct target for UU to seek to achieve given the increasingly more expensive/more difficult measures required to drive leakage below the economic level. We welcome this commitment from UU.	We thank Mersey Rivers Trust for their support for the leakage targets set out in our plan.
14.05	Mersey Rivers Trust (Web form response)	3. We consider this to be a challenging but correct target for UU to seek to achieve given the increasingly more expensive/more difficult measures required to drive PCC down in the region. We welcome this commitment from UU. We hope that other parties such as Defra will play their full part in supporting UU in terms of regulations such as water labelling and reintroduction of sustainable water code for new development (domestic and commercial). Local planning authorities also need to enforce sustainable codes for water for new development.	Thank you for your consultation response and for your support in our plans to reduce demand for water. As highlighted, several elements of our plan require government intervention (for example, the roll-out of new water efficiency labelling and delivery of the ten actions in the Roadmap to Water Efficiency in new developments) and support.

Reference	Respondent	Feedback	Our response
14.06	Mersey Rivers Trust (Web form response)	<p>4. We recognise the national water resources challenges and that some water resource transfer schemes may be required in the longer term due to climate change and population pressures. However, we have two principal concerns (at the national, regional and local level) about the current water resources strategy being promoted by UU and Water Resources West (and the wider regional planning groups and water companies in the Midlands, south and east of England). Firstly: we consider that water companies in the Midlands, South and East of England need to do far more locally first over the next decade or so to address supply deficits before looking further afield for new water supplies. This obviously includes leakage and demand management, but also there is a need for better optimisation of existing sources and better management to reduce some relatively large outage allowances in some companies (e.g. Southern Water). These actions would reduce the total volume of transfers required and defer the investment to a later period when there will be more certainty as to the climate/population challenges. Secondly, and more importantly, there should be an over-riding national government and Water Company principle of at least 10% biodiversity net gain for rivers / wetlands specifically for any new water sources that need to be developed to allow transfers to take place. This net gain must be delivered in the river catchments from where the new source is developed. At the moment, UU's WRMP24 Water transfer principles (Table 15 of Main Report) for the environment are wholly unacceptable: i.e. that 'projects must not have a significant adverse effect on the environment'. This is substantially below the Government's principles and strategic intent that biodiversity net gain should accompany new development. 'No significant adverse effect' implies no gain whatsoever and that some deterioration to the environment should be acceptable. We fundamentally disagree and we have made similar representation to Water Resources West which replicates a similarly worded principle (and raised this repeatedly during Water Resources West consultation workshops). We firmly believe that if a new water source in the UU region is required to enable water transfers it can readily be achieved with a 10% net gain to the water environment. We would be very happy to work with UU to determine how this can be delivered at relatively low cost. We call on UU to make this a firm commitment to the environment in writing 'on the face' of its Final WRMP24 that can be subject to regulatory oversight. We know that UU has a historic strong track record on delivery of environmental enhancement linked to strategic water resources schemes and so it is very disappointing that this has not been promoted in the draft WRMP24. UU can and must do far better on this key principle to protect the river environment of the Mersey Catchment and other North West river catchments. We call on</p>	<p>Thank you for providing your views on water transfer schemes. We are not best placed to comment on other water companies' local planning issues, although we believe they are aiming to meet all of the government's stretching targets on leakage reduction and demand management. We have assumed the delivery of 10% biodiversity net gain for all supply options in our draft Water Resources Management Plan 2024 (dWRMP) and have included a corresponding cost estimate for each option. In relation to the Mersey catchment, we would welcome your involvement in determining precisely how these improvements could be delivered. Many of the options we have considered and progressed for water transfer involve bringing back into supply existing abandoned / mothballed groundwater sources. However, it should be noted that these sources are not without technical challenges or environmental concerns. For example, the Environment Agency's concerns about water availability mainly relate to groundwater sources.</p>

Reference	Respondent	Feedback	Our response
		<p>UU to engage with the environmental sector in the North West, many of whom are key partners of UU, on this matter as part of developing the final WRMP24. This is not just purely about the environment: it is equally important for the communities that UU serves who require and deserve access to good quality, healthy rivers for recreation, health and well-being (i.e. social capital). UU customers should not have to suffer a deterioration in local river health to support water transfer to effectively deliver improved river health for the benefit of communities in the Midlands, South and East. Customers and Communities in the North West should not have to accept a deterioration to their river environment. Communities across the country deserve improved river health and this can definitely be achieved in a cost-effective manner while still delivering the improved level of service for customer supply reliability. A win/win can and must be achieved. Additional to above points, we also consider that UU should not need to develop new water sources to support any required transfers but instead should bring back into supply more existing, but abandoned/mothballed groundwater sources that have historically been shown to have a very low environmental impact even in drought and which were only closed down in the early 21st century due to a supply surplus and to avoid investing in modern water treatment processes to meet more stringent Drinking Water Quality standards that would have led to higher water bills. This is important as we have specific, substantial concerns about some proposed new water supply schemes in the Mersey catchment which will lead to adverse effects on river ecology. These are not detailed here as it is beyond the question posed, but our concerns are set out in our detailed written response.</p>	

Reference	Respondent	Feedback	Our response
14.07	Mersey Rivers Trust (Web form response)	<p>5. We do not consider this should be a priority for UU from an environmental perspective as this will require more water to be abstracted in a drought when the ecology of our rivers can least tolerate reductions in river flow/level. We consider that 1 in 20 years is a reasonable balance between a relatively mild inconvenience to customers and protection of the river environment in drought. This level of service has been in place since 1996 (for hosepipe ban at least) and with relatively low levels of customer complaints. We consider it should remain at the 1 in 20 year level (even if it can be achieved by leakage reduction and demand management, as this still means more water will be abstracted in drought than would be the case with a TUB in place).</p>	<p>In our draft Water Resources Management Plan 2024 (dWRMP24), the proposed level of service improvements were achieved via a combination of leakage reduction, demand management and water transfer options. In our revised draft Water Resources Management Plan (rdWRMP24), due to a reduction in transfer requirements and new government demand targets, our proposed level of service improvements are now largely delivered by demand management and leakage reduction. The drought levels and the point at which a temporary use ban would be implemented is not changing. The method to do this would be via our Drought Plan, which will be refreshed in the year 2027. Our Drought Plan also includes details of the other actions we would take during a dry weather event, including the drought permits and orders that we may apply for (noting that these have been assessed and none of them are deemed to have a high environmental impact).</p> <p>Our extensive customer research shows that an improvement to the level of service for temporary use bans is a priority for many customers in our region, indicating strongly through research that they would support this improvement (see Section 9 in the revised draft WRMP24 Main Report). We currently have the lowest level of service in the Water Resources West region for temporary use bans. As part of this plan our proposal to improve this level of service from 1 in 20 to 1 in 40 years on average will make it equal to the best level of service offered in the region and upper quartile across England and Wales. We are also planning to improve the level of service for Drought Permits, reducing the frequency of taking from the environment during a drought, from 1 in 40 to 1 in 50 years on average. This is planned to happen in 2031 and is in addition to an improvement from 1 in 20 to 1 in 40 years on average delivered in 2023. These improvements from the worst to the best in our region, also ensure that we aren't transferring water to areas elsewhere in the country with a better level of service than our own.</p> <p>Our plan protects the environment in the shorter term in that all of our abstraction licences do not materially deteriorate the environment. In the longer term, further environmental protection and improvement is assessed and planned for. This looks to ensure that abstraction licences remain sustainable in the long term considering climate change, but also to improve the environment through our Catchment Systems Thinking (CaST) approach. This is our 'environmental destination', and will take shape over time in response to ongoing investigations.</p>

Reference	Respondent	Feedback	Our response
19.03	Mersey Rivers Trust	<p>1.1) Since an initial stakeholder consultation seeking views on high level principles and strategic objectives, there has been very little in the way of consultation and engagement by UU with environmental stakeholders, including with MRT. There has been no consultation on the emerging plan and specific options being proposed for inclusion in the preferred plan. This is disappointing given the previous good consultation activities that UU carried out for previous WRMPs.</p> <p>1.2) We generally have a constructive working relationship with UU at both the strategic and operational level. We are therefore disappointed at UU's lack of engagement with MRT during preparation of its draft WRMP24, particularly given that there are several new water source schemes being proposed in the WRMP in the Mersey catchment, including one to be delivered very soon (by 2031). We consider this a missed opportunity to engage and understand possible concerns before putting the plan into the statutory arena; we would very much prefer to engage early than wait for the formal consultation and regulatory processes.</p> <p>1.3) At our request, following publication of the draft WRMP24, a meeting was arranged by UU to discuss our concerns and several reports were provided to MRT to aid our understanding of water source schemes being promoted in the WRMP24 in the Mersey Catchment. This was appreciated but it would have been much better to have been consulted in this way much earlier and before the draft plan publication.</p> <p>1.4) We trust that this absence of engagement (until very recently) will be rectified as UU works to prepare its Final WRMP24. We are very happy to engage constructively with UU.</p>	<p>During the development of the draft plan we have completed several consultation processes as required by the Water Resources Planning Guidelines including: Enhanced Pre-Consultation, Pre-consultation and Consultation on the draft plan. We have also held regular liaison meetings with our regulators, including our environmental regulators, throughout the development of the plan. The views of both our regulators and stakeholders are very important to us and are integral to shaping our plan. We thank Mersey Rivers Trust for highlighting that they would like greater engagement with us as we continue to progress the plan. We take this on board and will ensure Mersey Rivers Trust are included in our future engagement plans.</p>
19.04	Mersey Rivers Trust	<p>Although there are some issues with how the supply-demand balance assessment is presented in the Main Report (which could be made a little easier to follow), we have no concerns with the robustness and quality of the work that has been carried out to assess the supply-demand components and supply-demand balance. UU appears to have followed all available best practice guidance and methods, and has explained where uncertainties exist and how these have been addressed.</p>	<p>Thank you for your positive feedback on our technical assessment of the supply-demand balances.</p>

Reference	Respondent	Feedback	Our response
19.05	Mersey Rivers Trust	<p>3.1) We support the need for increased supply resilience for the communities served by UU. The move to protecting essential water supplies in a 1 in 500-year drought also provides an environmental benefit by reducing the risk of requiring drought permits/orders to take more water from rivers, lakes, reservoirs and groundwater (and particularly reduces the risk of the need for more damaging emergency drought orders to take even more water from the environment in very severe drought).</p> <p>3.2) We are pleased that the improved resilience standard can be achieved by leakage reduction and demand management measures.</p> <p>3.3) The timing of achieving the enhanced standard by 2039 appears reasonable given that it will take time to deliver the water savings necessary to provide the higher resilience.</p>	Thank you for your positive feedback on our proposed method of delivery to improve levels of service and drought resilience.
19.06	Mersey Rivers Trust	<p>4.1) We do not consider that improving the level of service for Temporary Use Bans (TUBs) should be a priority for UU from an environmental perspective as this will require more water to be abstracted in a drought when the ecology of our rivers can least tolerate reductions in river flow/level</p> <p>4.2) We consider that the current 1 in 20 years level of service standard for TUBs is a reasonable balance between a relatively mild inconvenience to customers and protection of the river environment in drought. This level of service has been in place since 1996 (for hosepipe bans at least, prior to the TUB legislation being in place) and there have been relatively low levels of customer complaints about this level of service. We consider the level of service standard should remain at the 1 in 20-year level (even if it can be improved by leakage reduction and demand management, as this still means more water will be abstracted in drought than would otherwise be the case with a TUB in place).</p>	Thank you for your positive feedback on our plans to reduce leakage.
19.07	Mersey Rivers Trust	5.2) Although it would be advantageous to the environment to reduce leakage more quickly, we do recognise the substantial challenges involved in further reducing leakage. We consider halving leakage by 2050 is a challenging but appropriate target, taking account of the increasingly more expensive/more difficult measures required to drive leakage below the economic level.	Thank you for your positive feedback on our plans to reduce leakage.

Reference	Respondent	Feedback	Our response
19.08	Mersey Rivers Trust	6.2) Whilst a target of 100 litres/person/day would be better, we consider this target to be a challenging but appropriate target for UU to seek to achieve, particularly when recognising the limits of the company's powers to influence and persuade customers to use water wisely (including the lack of powers for compulsory metering which has been shown conclusively to reduce water consumption).	Thank you for your positive feedback on our plans to reduce water consumption.
19.09	Mersey Rivers Trust	6.3) Setting an improved target of 100 litres/person/day by 2050 should be the aspiration and we very much hope that other parties, including Government, will play their full part in supporting UU in driving down consumption. This includes long overdue regulations being introduced by the government, such as water labelling and mandatory sustainable water codes for new development (domestic and commercial). Local planning authorities also need to encourage sustainable water codes for new development through their planning policies. If others also play their part in the near future, we believe the target could then be improved in subsequent WRMPs to 100 litres/person/day.	Thank you for your constructive comments.

Reference	Respondent	Feedback	Our response
19.1	Mersey Rivers Trust	<p>7.1) We recognise the national water resources challenges and that some new water resource transfer schemes may be required in the longer term due to climate change and population growth pressures. However, we have two principal material concerns (at the national, regional and local level) at the current water resources strategy being promoted by UU and Water Resources West, as well as the other regional planning groups and water companies in the Midlands, south and east of England.</p> <p>7.2) Firstly: we consider that water companies in the Midlands, South and East of England need to do far more locally first over the next decade or so to address supply deficits before looking further afield for new water supplies. This obviously includes pursuing aggressive leakage and demand management measures, but also there is a need for:</p> <p>a) improved optimisation of existing water sources (both within and between the many water companies in the south and east). There is still a stark contrast between the well-optimised, highly integrated, conjunctive use supply systems of UU (and Yorkshire Water) and those in the south and east where the opposite still largely remains despite the very substantial supply deficits faced (due in part to the continued fragmented nature of the many water supply companies).</p> <p>b) improved operational maintenance and maintenance investment in the supply systems to reduce some relatively large outage allowances in the supply-demand balance calculations of some water companies in the south. These actions need to be pursued first before any transfers are considered. These actions should both reduce the total volume of transfers required and defer the need for investment in water transfer to later in the century when there will be more certainty as to the climate/population impacts.</p>	<p>Thank you for providing your views on water transfer schemes. We are not best placed to comment on other water companies' local planning issues or operations, although we believe they are aiming to meet all of the government's stretching targets on leakage reduction and demand management.</p>

Reference	Respondent	Feedback	Our response
19.11	Mersey Rivers Trust	<p>7.3) Secondly, and more importantly: there should be an over-riding national government and Water Company principle of at least a 10% biodiversity net gain specifically for rivers/wetlands for any new water sources that need to be developed to allow transfers to take place. This net gain must be delivered in the river catchments where the new source is developed.</p> <p>7.3.1) UU's WRMP24 Water transfer Principles (Table 15 of Main Report) for the environment are unacceptable: i.e. that 'projects must not have a significant adverse effect on the environment'. This is substantially lower than the Government's environmental protection principles and strategic intent that biodiversity net gain should accompany all new development. The UU stated objective of 'No significant adverse effect' implies no environmental gain whatsoever, and more concerning still, that some deterioration to the environment should be accepted. We fundamentally disagree with this UU principle.</p> <p>[Note: we made similar representation to Water Resources West: the Regional Plan includes a similarly worded principle (and we raised our concerns and disagreement with this principle repeatedly during the Water Resources West consultation workshops)].</p> <p>.</p> <p>7.3.2) We firmly believe that if a new water source in the UU region is required to enable water transfers (and we do not believe the case has yet been made – see Section 8 below), provision of 10% biodiversity net gain to the local water environment impacted by the new source development and operation can readily be achieved. We would be very happy to work with UU to determine how this net gain can be readily delivered at relatively low cost.</p> <p>7.3.3) We call on UU to make 10% biodiversity net gain a firm written commitment clearly written 'on the face' of its Final WRMP24 as part of its Water transfer Principles. We ask Defra to require this written commitment from UU to be included in its Final WRMP.</p> <p>7.3.4) We know that UU has a strong track record on environmental enhancement linked to development of strategic water resources schemes – and has worked with other Rivers Trusts and other NGOs in designing these enhancements (for example in West Cumbria). It is therefore very disappointing that net gain principles associated with new water source development has not been promoted in the draft WRMP24. UU can - and must - do far better on its water transfer environmental principle in order to protect the river environment of the Mersey Catchment and other North West river catchments.</p>	<p>We have assumed the delivery of 10% biodiversity net gain for all supply options in our draft Water Resources Management Plan 2024 (dWRMP24) and have included a corresponding cost estimate for each option. Our specific approach to delivering biodiversity net gain is still evolving. In relation to the Mersey catchment, we would welcome your involvement in determining precisely how these improvements could be delivered.</p> <p>Our United Utilities Water transfer principles were established at the start of the RAPID process and form an important part of our solution design to ensure that both customers and the environment in the north west are protected. We note the proposed wording change to the environmental principle but do not intend to change the principles at this stage. The transfer principles do not prevent the delivery of biodiversity net gain.</p>

Reference	Respondent	Feedback	Our response
19.12	Mersey Rivers Trust	<p>7.3.5) We call on UU to fully engage with the environmental sector in the North West, many of whom are key partners of UU, on this matter as part of developing its final WRMP24.</p> <p>7.3.6) Requiring environmental gain is not just purely about the environment: it is equally important for the communities that UU serves who require and deserve access to good quality, healthy rivers for recreation, health and well-being (i.e. social and human capital). UU customers should not have to suffer a deterioration in local river health and their own health and well-being to support water transfer that is required, in part, to deliver improved river health for the benefit of the environment and communities in the Midlands, South and East. Customers and communities in the North West should not have to accept a natural and social/human capital deficit in order to enhance natural and social/human capital further south. This is implied by the “no significant adverse effect” wording of UU’s environmental water transfer principle.</p> <p>7.3.7) All communities across the country deserve improved river health. This can definitely be achieved in a cost-effective manner while still delivering an improved level of service for customer water supply reliability. A win/win should be achieved across England.</p>	<p>We engage with a wide range of environmental stakeholders in the North West, many of whom are referenced in our draft Water Resources Management Plan 2024 (dWRMP24) document and Customer and stakeholder and Environmental destination technical reports. Our company approach to environmental net gain is still evolving but we have assumed the delivery of 10% biodiversity net gain for all supply options in our dWRMP24, and have included a corresponding cost estimate for each option. In relation to the Mersey catchment, we would welcome your involvement in determining precisely how these improvements could be delivered. We believe that when implemented correctly, regional water transfers can offer a win/win situation across England.</p>

Reference	Respondent	Feedback	Our response
19.13	Mersey Rivers Trust	<p>8.1) We do not believe that UU has made the case for needing to develop new water sources to deliver water transfer. The option appraisal process identifies a substantial number of groundwater options in the Constrained List that relate to bringing previously operational boreholes back into supply. However, the majority of these options do not feature in the preferred plan, with new direct river abstractions being selected instead (including the River Irwell and River Bollin schemes). It is not transparent in the Option Appraisal and Decision-Making reports why these schemes have been selected in preference to utilising existing, groundwater sources. More information is required on the rationale and decision-making that has led to this decision.</p> <p>8.2) We consider that UU should not need to develop new water sources to support any required transfers. Instead, UU should bring back into supply more of its existing, but abandoned/mothballed groundwater sources that appear in the Constrained Options List and which have historically been shown to have a very low environmental impact even in drought. These groundwater sources were only closed down in the early 21st century due to a supply surplus and to avoid investing in modern water treatment processes to meet more stringent Drinking Water Quality standards. These groundwater sources abstract from the extensive Permo-Triassic sandstone aquifer which has a large storage and low transmissivity that 'buffers' abstraction effects, even in severe drought, thereby minimising impacts on surface water features and rivers (unless an abstraction source is located close to a river or wetland/mere feature).</p> <p>This is an important point as we have specific, substantial concerns about some of the proposed new river abstraction schemes in the Mersey catchment (see Section 9).</p>	<p>Our revised draft Water Resources Management Plan 2024 (rdWRMP24) does not include in its preferred options either of the previously proposed new river abstraction sources in the Mersey Catchment. This follows a reduction in the volume of water requested for transfer, as well as revisions to the demand management strategy and proposed water efficiency and leakage measures, consistent with the Ofwat submission to the draft WRMP24 and the introduction of the Environmental Targets (Water) England Regulations 2023.</p> <p>The revised draft Water Resources Management Plan 2024 (rdWRMP24) includes the following options: WR107a2 GWE_AUGHTON PARK a2, WR111 GWE_WOODFORD and WR113 GWE_TYHERINGTON and the Mersey Rivers Trust support for these options is noted. The HRA and WFD assessment of the revised draft WRMP24 has identified some uncertainties. The options are also part of the North West Transfer SRO, and as such subject to the RAPID Gated decision-making process. This includes further investigations and groundwater modelling to resolve these uncertainties.</p> <p>Our decision-making process is described in detail in our Revised Draft Technical Report - Deciding on future options and the NWT SRO Gate 2 submission document, both of which are publicly available.</p>

Reference	Respondent	Feedback	Our response
19.14	Mersey Rivers Trust	<p>9.1) We have several material concerns about two proposed new river abstraction sources in the Mersey Catchment. We are very surprised that UU is promoting new unsupported, run-of-river abstraction schemes in the 21st Century. UU has invested significantly in removing or substantially reducing the volume of direct, unsupported river abstractions due to the impact on downstream flows and ecology over the past 30 years. Similarly, other water companies across England have been investing in reducing the impact of direct river abstractions under the NEP/WINEP.</p> <p>The only recent (2003) new direct river abstraction developed by UU on the River Eden at Carlisle was linked to an upstream river flow support scheme, designed in partnership with the local Eden Rivers Trust and local angling associations.</p> <p>We do not consider the promotion of new, unsupported river abstraction schemes is compatible with the development of an environmentally sustainable, 21st Century water resources system.</p> <p>9.2) Unsupported run-of-river abstraction schemes are the least resilient to the likely future effects of climate change. The inclusion of such schemes in the WRMP do not seem to meet the strategic needs of securing increased water supply resilience to the future effects of climate change.</p> <p>9.3) We are disappointed that there has been no prior engagement with MRT on these schemes in the Mersey Catchment despite our strong partnership working with UU on many other aspects of UU's operational and planning activities. We trust this will be rectified at the earliest opportunity moving forward as UU works on revising and preparing its Final WRMP24.</p> <p>9.4) River Irwell abstraction: this new "run-of-river", unsupported abstraction scheme is very surprising to MRT; it has never been a consideration in any previous "feasible" options lists in UU WRMPs. We are opposed to the scheme being included as a preferred option for delivery by 2031 in the draft WRMP24 for the reasons set out below.</p> <p>9.4.1) Water quality in the River Irwell remains very poor and regular pollution events occur upstream of the proposed abstraction point, including CSO spills and, more worryingly, industrial pollution incidents. We are regularly called out to carry out river water quality monitoring by concerned communities on the River Irwell due to pollution incidents.</p> <p>Even without consideration of all "contaminants of emerging concern", Environment Agency river water quality analysis (based on only a few samples at one location) indicates that Water Framework Regulations standards in the relevant water body are not met for chemicals such as Mercury, Perfluorooctane sulphonate (PFOS), Polybrominated diphenyl ethers (PBDE), Cypermethrin and Fluoranthene. Water Framework Regulations standards are</p>	<p>Our revised draft Water Resources Management Plan 2024 (rdWRMP24) does not include in its preferred options either of the previously proposed new river abstraction sources in the Mersey Catchment. This follows a reduction in the volume of water requested for transfer, as well as revisions to the demand management strategy and proposed water efficiency and leakage measures, consistent with the Ofwat submission to the draft WRMP24 and the introduction of the Environmental Targets (Water) England Regulations 2023.</p>

Reference	Respondent	Feedback	Our response
		<p>less stringent than for drinking water quality.</p> <p>High level Drinking Water Safety Plan risk assessments have been carried out which appear to conclude that there are no substantial risks that cannot be resolved by treatment processes. Given the water quality conditions in the River Irwell, we consider that this may be under-estimating the risks once detailed Catchment and Source Drinking Water Safety Plans have been developed for the proposed source.</p> <p>It is likely that there will be considerable UU customer concern about the use of the River Irwell as a source of drinking water given the pollution issues in the river are widely known across communities in Greater Manchester.</p> <p>We are not convinced, from the evidence available, that this new water source meets the UU Water transfer Principles for:</p> <ul style="list-style-type: none">a) drinking water quality (“UU customers will receive drinking water that is fully compliant with all regulatory standards”)b) customer acceptability (UU customers “must continue to have confidence in their water supply...”).	

Reference	Respondent	Feedback	Our response
19.15	Mersey Rivers Trust	<p>9.4.2) The River Irwell has been very adversely affected by nearly 200 years of industrial pollution. It has very slowly started to recover from being “biologically dead” in the 1980s, due in large part to the subsequent substantial UU investment in wastewater treatment improvements. Despite these wastewater treatment improvements, there remains a considerable number of Combined Sewer Overflows (CSOs) and many industrial point and diffuse pollution pressures. There is also a considerable absence of good quality river habitat. As a result, river ecology remains poor with a lack of diversity and low abundance of existing aquatic species.</p> <p>A lot of organisations (including UU and MRT) are working in partnership to improve the health of the River Irwell with one of the key ambitions being to enhance fish stocks and return Atlantic Salmon back to the river by 2050 as part of the Irwell Catchment Plan objectives.</p> <p>Whilst acknowledging a “hands-off” flow would be in place through the abstraction licence to protect the lowest flows, abstraction by UU above the “hands-off” flow will reduce the level of dilution of treated sewage effluent (including from the large Bolton wastewater treatment works just downstream of the proposed abstraction point), CSO spills and industrial pollutants, thereby adversely affecting river water quality and hindering achievement of the Irwell Catchment Plan objectives (which is contrary to Water Framework Regulations principles).</p> <p>9.4.3) In respect of Water Framework Regulations compliance, UU’s Water Framework Regulations assessment accompanying the WRMP states that the River Irwell scheme is potentially non-compliant. We are not surprised at this conclusion, particularly given the potential effects on water quality and biological components (including fish), as outlined in 9.4.2.</p> <p>We expect Defra to require UU to remove this option from the Final WRMP24 if UU cannot demonstrate that the option will be Water Framework Regulations compliant, as was the case for several new water source options included in Thames Water’s draft WRMP19 where Water Framework Regulations compliance could not be confirmed. We do not consider that a WRMP can be approved by the Secretary of State if the Plan is not compliant with the Water Framework Regulations.</p>	<p>Our revised draft Water Resources Management Plan 2024 (rdWRMP24) does not include in its preferred options the previously proposed new River Irwell abstraction. This follows a reduction in the volume of water requested for transfer, as well as revisions to the demand management strategy and proposed water efficiency and leakage measures, consistent with the Ofwat submission to the draft WRMP24 and the introduction of the Environmental Targets (Water) England Regulations 2023.</p>

Reference	Respondent	Feedback	Our response
19.16	Mersey Rivers Trust	<p>9.4.4) We are concerned that the scheme conflicts with proposals to remove the Ringley Fold weir (owned by UU) on the River Irwell adjacent to Bolton wastewater treatment works included in the draft AMP8 UU WINEP programme. Removal of the weir may make an upstream abstraction scheme unviable, but its removal is the preferred solution to maximise fish migration. We are concerned that if an abstraction scheme is developed that is reliant on the weir to provide sufficient depth of water for the intake, this will effectively preclude the future removal of the weir. This would hinder the Irwell Catchment Plan objectives of improving fish stocks and returning Atlantic salmon to the Irwell (contrary to Water Framework Regulations principles).</p> <p>9.4.5) We do not consider that the proposed delivery timescale of 2031 could be achieved given the likely opposition to the scheme through the abstraction licensing and planning permission processes, which would likely necessitate a planning inquiry to be held.</p> <p>9.4.6) As set out earlier at Section 8, we also consider there are much better, less environmentally damaging options in the Mersey Catchment that should be developed instead of the River Irwell scheme. These can provide the same deployable output benefit at lower whole-life cost due to lower water treatment costs and maintenance costs (no intake screens and pumps to maintain or intensive water quality sampling and analysis regimes to operate).</p> <p>9.4.7) For all the above reasons, MRT opposes the development of this River Irwell scheme and urges UU to remove it as a preferred option for water transfer support.</p>	<p>Our revised draft Water Resources Management Plan 2024 (rdWRMP24) does not include in its preferred options the previously proposed new River Irwell abstraction. This follows revisions to the demand management strategy and proposed water efficiency and leakage measures, consistent with the Ofwat submission to the draft WRMP24 and the introduction of the Environmental Targets (Water) England Regulations 2023.</p>

Reference	Respondent	Feedback	Our response
19.17	Mersey Rivers Trust	<p>9.5) River Bollin abstraction: this new proposed “run-of-river”, unsupported abstraction scheme is very surprising to MRT; it has never been a consideration in any previous “feasible” options lists in UU WRMPs. We are opposed to the scheme being included as a preferred option in the draft WRMP24 for the reasons set out below.</p> <p>9.5.1) The River Bollin in its lower reaches where the abstraction point is proposed remains vulnerable to regular pollution events, including CSO spills and, more worryingly, industrial pollution incidents. We are regularly called out to carry out river water quality monitoring by concerned communities on the River Bollin due to pollution incidents, including a recent serious Category 1 pollution incident in late February 2023 which killed several hundred fish. Even without consideration of all “contaminants of emerging concern”, Environment Agency river water quality analysis (based on only a few samples at one location) indicates that Water Framework Regulations standards in the relevant water body are not met for Mercury and Polybrominated diphenyl ethers (PBDE). Water Framework Regulations standards are less stringent than for drinking water quality.</p> <p>High level Drinking Water Safety Plan risk assessments have been carried out which appear to conclude that there are no substantial risks that cannot be resolved by treatment processes. Given the water quality conditions in the River Bollin, we consider that this may be under-estimating the risks once detailed Catchment and Source Drinking Water Safety Plans have been developed for the proposed source.</p> <p>It is likely that there will be considerable UU customer concern about the use of the lower River Bollin as a source of drinking water given the pollution issues in the river are widely known across communities in East Cheshire and South Manchester.</p> <p>We are not convinced, from the evidence available, that this new water source meets the UU Water transfer Principles for:</p> <ul style="list-style-type: none"> a) drinking water quality (“UU customers will receive drinking water that is fully compliant with all regulatory standards”) b) customer acceptability (UU customers “must continue to have confidence in their water supply...”). 	<p>Our revised draft Water Resources Management Plan 2024 (rdWRMP24) does not include in its preferred options the previously proposed new River Bollin abstraction. This follows a reduction in the volume of water requested for transfer, as well as revisions to the demand management strategy and proposed water efficiency and leakage measures, consistent with the Ofwat submission to the draft WRMP24 and the introduction of the Environmental Targets (Water) England Regulations 2023.</p>

Reference	Respondent	Feedback	Our response
19.18	Mersey Rivers Trust	<p>9.5.2) The River Bollin has been making a slow but positive recovery from the impacts of historic industrial pollution and sewage pollution. There has been some substantial UU investment in wastewater treatment improvements over the last 30 years, and more improvements are planned for AMP8. Despite these wastewater treatment improvements, there remains a considerable number of Combined Sewer Overflows (CSOs), increasing risks from agriculture runoff and several industrial point and diffuse pollution pressures. There is also a considerable absence of good quality river habitat. As a result, river ecology remains poor with a lack of diversity and low abundance of existing aquatic species.</p> <p>A lot of organisations (including UU and MRT) are working in partnership to improve the health of the River Bollin with one of the key ambitions being to enhance fish stocks and return Atlantic Salmon back to the river with a self-sustaining population by 2030 as part of the Upper Mersey Catchment Plan objectives.</p> <p>Whilst acknowledging a “hands-off” flow would be in place through the abstraction licence to protect the lowest flows, abstraction by UU above the “hands-off” flow will reduce the level of dilution of treated sewage effluent, CSO spills, agricultural and industrial pollutants, thereby adversely affecting river water quality and hindering achievement of the Upper Mersey Catchment Plan objectives (which is contrary to Water Framework Regulations principles).</p> <p>This is of particular concern in respect to the confluence of the River Bollin with the Manchester Ship Canal at Bollin Point, just downstream of the proposed abstraction location. We are concerned that the very small, and therefore very vulnerable, nascent adult Atlantic salmon run in late Autumn will be adversely affected by reduced water quality, with adult salmon being deterred from migrating up the River Bollin to reach spawning sites (and therefore failing to spawn and reproduce).</p>	<p>Our revised draft Water Resources Management Plan 2024 (rdWRMP24) does not include in its preferred options the previously proposed new river Bollin abstraction. This follows revisions to the demand management strategy and proposed water efficiency and leakage measures, consistent with the Ofwat submission to the draft WRMP24 and the introduction of the Environmental Targets (Water) England Regulations 2023.</p>

Reference	Respondent	Feedback	Our response
19.19	Mersey Rivers Trust	<p>9.5.3) In respect of Water Framework Regulations compliance, UU's Water Framework Regulations assessment accompanying the WRMP states that the River Bollin scheme is potentially non-compliant. We are not surprised at this conclusion, particularly given the potential effects on water quality and biological components (including fish), as outlined in 9.5.2.</p> <p>We expect Defra to require UU to remove this option from the Final WRMP24 if UU cannot demonstrate that the option will be Water Framework Regulations compliant, as was the case for several new water source options included in Thames Water's draft WRMP19 where WFD compliance could not be confirmed. We do not consider that a WRMP can be approved by the Secretary of State if the Plan is not compliant with the Water Framework Regulations.</p> <p>9.5.4) As set out earlier at Section 8, we also consider there are much better, less environmentally damaging options in the Mersey Catchment that should be developed instead of the River Bollin scheme. These can provide the same deployable output benefit at lower whole-life cost due to lower water treatment costs and maintenance costs (no intake screens and pumps to maintain or intensive water quality sampling and analysis regimes to operate).</p> <p>9.5.5) For all the above reasons, MRT opposes the development of this scheme and urges UU to remove it as an option for water transfer support.</p>	<p>Our revised draft Water Resources Management Plan 2024 (rdWRMP24) does not include in its preferred options the previously proposed new River Bollin abstraction. This follows a reduction in the volume of water requested for transfer, as well as revisions to the demand management strategy and proposed water efficiency and leakage measures, consistent with the Ofwat submission to the draft WRMP24 and the introduction of the Environmental Targets (Water) England Regulations 2023.</p>

Reference	Respondent	Feedback	Our response
19.2	Mersey Rivers Trust	<p>10.1) As set out earlier in Section 8, we have no material issues with the proposals to bring several previous UU operational groundwater sources back into supply, namely:</p> <ul style="list-style-type: none"> • GWE_WOODFORD • WR113 GWE_TYTHERINGTON • WR149 ITC_WIGAN • GWE_AUGHTON PARK a2 <p>These sources are either wholly or partially within the Mersey surface water catchment area, but abstract from the extensive Permo-Triassic sandstone aquifer which has a large storage and low transmissivity that ‘buffers’ abstraction effects, even in severe drought, thereby minimising impacts on surface water features and rivers (unless an abstraction source is located close to a river or wetland/mere feature).</p> <p>10.2) As set out in Section 7, the lower level of impact of these schemes should nevertheless be mitigated by securing 10% biodiversity net gain to local rivers/wetlands that may be affected by re-starting groundwater abstraction.</p> <p>10.3) We would encourage UU to re-develop other similar mothballed/abandoned former UU groundwater sources in the Mersey catchment rather than developing the River Irwell and River Bollin river abstraction schemes (see Section 8 above).</p>	<p>Our revised draft Water Resources Management Plan 2024 (rdWRMP24) includes the following options: WR107a2 GWE_AUGHTON PARK a2, WR111 GWE_WOODFORD and WR113 GWE_TYTHERINGTON and the Mersey Rivers Trust support for these options is noted. The HRA and WFD assessment of the revised draft WRMP24 has identified some uncertainties. The options are also part of the North West Transfer SRO, and as such subject to the RAPID Gated decision-making process. This includes further investigations and groundwater modelling to resolve these uncertainties.</p>
7.01	MOSL	<p>Having reviewed all water companies’ draft plans and the best-value regional plans, we do not believe that they are currently considering the needs and potential of the NHH market sufficiently.</p>	<p>Thank you for taking the time to respond to our draft Water Resources Management Plan 2024 (dWRMP24) consultation. Reducing non-household (NHH) demand for water during AMP8 (2025 - 2030) is a fundamental element of our plan not only in contributing to Defra's proposed national water consumption reduction target of 9% by 2037/38, but also in reducing overall water demand.</p> <p>NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions in our dWRMP to enable us to deliver a 9% reduction in business demand by 2037/38. Our revised dWRMP sets out that we will deliver thousands of NHH water efficiency visits in AMP8 (2025-2030) to save almost 10 Ml/day to meet demand targets, and deliver smart meter upgrades to all NHH premises.</p>

Reference	Respondent	Feedback	Our response
7.02	MOSL	We are pleased to see a number of commitments to the NHH market in your draft WRMP, including options to help NHH customers use water more efficiently. However, we couldn't see a commitment to roll out smart meters to NHH customers. In advance of, and as part of your final WRMP we would like to see a clearer acknowledgement of the role the NHH market has to play to reduce water consumption and clarity on your NHH smart metering and water efficiency commitments.	We have now included smart metering for NHH customers in our revised draft Water Resources Management Plan 2024 (rdWRMP24).
7.03	MOSL	Despite Defra's guidance to consider the NHH market in companies 'best value' plans, several WRMPs make minimal reference to the market in the main document. In some cases, important NHH information is found only as part of the appendices. Considering that the NHH market accounts for 30 per cent of water consumed in England, it is essential that key points are included in the main document – not only as business customers have a key role to play in supporting the industry meeting its demand reduction targets, but also because NHH customers' awareness of water security challenges remains low.	<p>Non-household (NHH) demand accounts for just over a fifth of the total volume of water we supply. Reducing NHH demand for water during AMP8 (2025 - 2030) is a fundamental element not only in contributing to Defra's proposed national water consumption reduction target of 9% by 2037/38, but also in reducing overall water demand.</p> <p>NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions within our revised draft Water Resources Management Plan 2024 (rdWRMP) to enable us to deliver a 9% reduction in business demand by 2037/38. Our rdWRMP sets out that we will deliver thousands of NHH water efficiency visits in AMP8 (2025-2030) to save almost 10 Ml/day to meet demand targets, and deliver smart meter upgrades to all NHH premises.</p> <p>We have an 'always on' communication plan which aims to encourage household customers to avoid waste, use less and educate them where their water comes from and the broader impact of their behaviour on the local environment. We will carry this forward into AMP8 (2025-2030), evolving our messaging to ensure it remains relevant and effective, as well as expanding our focus to NHH customers.</p>
7.04	MOSL	Despite the challenges we have outlined - as we discussed at our recent CEO Forum - there are several aspects of the market that make it ideally placed to support your water reduction targets. The first is scale. As a market that consumes a third of the potable water in England and Wales – three billion litres per day – the NHH market can, and should, be making a proportionate contribution to your water reduction targets.	<p>Non-household (NHH) demand accounts for just over a fifth of the total volume of water we supply. Reducing NHH demand for water during AMP8 (2025 - 2030) is a fundamental element not only in contributing to Defra's proposed national water consumption reduction target of 9% by 2037/38 but also in reducing overall water demand.</p> <p>NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions in our revised draft Water Resources Management 2024 Plan (rdWRMP24) to enable us to deliver a 9% reduction in business demand by 2037/38. Our rdWRMP sets out that we will deliver thousands of NHH water efficiency visits in AMP8 (2025-2030) to save almost 10 Ml/day to meet demand targets, and deliver smart meter upgrades to all NHH premises.</p>

Reference	Respondent	Feedback	Our response
7.05	MOSL	The second is structure. Just one per cent of NHH customers use half of the water in the market (three per cent use nearer 70 per cent – or 20 per cent of all consumption). Just 11,000 large meters and 152,000 medium-sized meters account for 72 per cent of consumption in the market. This represents a significant opportunity for water companies to address a large proportion of the market's water usage through a targeted programme of smart meter replacements or upgrades (AMI, AMR, smart loggers, etc.).	NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions in our revised draft Water Resources Management Plan 2024 (rdWRMP) to enable us to deliver a 9% reduction in business demand by 2037/38. Our rdWRMP sets out that we will deliver thousands of NHH water efficiency visits in AMP8 (2025 - 2030) to save almost 10 MI/day to meet demand targets, and deliver smart meter upgrades to all NHH premises.
7.06	MOSL	Wholesalers that have rolled out smart meters to date have also identified around 25 per cent of the water being used by NHH customers is continuous flow – a large proportion of this could be leakage and/or wastage.	NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions in our revised draft Water Resources Management Plan 2024 (rdWRMP) to enable us to deliver a 9% reduction in business demand by 2037/38. Our rdWRMP sets out that we will deliver thousands of NHH water efficiency visits in AMP8 (2025 - 2030) to save almost 10 MI/day to meet demand targets, and deliver smart meter upgrades to all NHH premises. NHH water efficiency visits will identify and where possible fix leaking toilets, taps, urinals and showers, and where appropriate fit water saving devices to address both leakage and wastage in NHH premises.
7.07	MOSL	I would like to remind you of the research MOSL commissioned from Artesia Consulting in 2022, which established a strong business case for rolling out smart metering to NHH customers at the same time as domestic customers. It also recommended companies without large-scale meter investment programmes would benefit from replacing or upgrading selected NHH customers' meters, particularly the largest customers and/or where businesses are in close proximity.	We have now included smart metering for NHH customers in our revised draft Water Resources Management Plan 2024 (rdWRMP24).

Reference	Respondent	Feedback	Our response
7.08	MOSL	One million of the smaller NHH customers are virtually indistinguishable from households in terms of the amount of water they consume, how they use water (toilets, sinks, etc.) and meter sizes. We recommend that wholesalers treat the smallest NHH customers effectively as households when it comes to meter replacement programmes, water conservation advice and devices, in order to minimise operating costs and maximise the economies of scale.	<p>Reducing non-household (NHH) demand for water during AMP8 (2025 - 2030) is a fundamental element of our plan not only in contributing to Defra's proposed national water consumption reduction target of 9% by 2037/38, but also in reducing overall water demand.</p> <p>NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions in our revised draft Water Resources Management Plan (rdWRMP24) to enable us to deliver a 9% reduction in business demand by 2037/38. Our rdWRMP24 sets out that we will deliver thousands of NHH water efficiency visits in AMP8 (2025-2030) to save almost 10 Ml/day to meet demand targets, and deliver smart meter upgrades to all NHH premises. Similarly to our home audit programme, NHH water efficiency visits will identify and where possible fix leaking toilets, taps, urinals and showers, and where appropriate fit water saving devices to address both leakage and wastage in NHH premises.</p> <p>We have an 'always on' communication plan which aims to encourage household customers to avoid waste, use less and educate them to where their water comes from and the broader impact of their behaviour on the local environment. We will carry this forward into AMP8 (2025-2030), evolving our messaging to ensure it remains relevant and effective, as well as expanding our focus to NHH customers.</p>
7.09	MOSL	What We Would Like to See in Companies' Final WRMPs: S Ensuring references to 'customers' are clear, in terms of whether you are referring to households, NHHs or all customers.	We agree and where applicable we will update the plan to clarify which customer types we are referring to.
7.1	MOSL	What We Would Like to See in Companies' Final WRMPs: S A clear statement regarding the recognition of the size and importance of the NHH market and the role it plays in delivering your WRMP, reducing water demand and wastage.	<p>Non-household (NHH) demand accounts for just over a fifth of the total volume of water we supply. Reducing NHH demand for water during AMP8 (2025-2030) is a fundamental element not only in contributing to Defra's proposed national water consumption reduction target of 9% by 2037/38 but also in reducing overall water demand.</p> <p>NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions in our revised draft Water Resources Management Plan 2024 (rdWRMP24) to enable us to deliver a 9% reduction in business demand by 2037/38. Our rdWRMP24 sets out that we will deliver thousands of NHH water efficiency visits in AMP8 (2025-2030) to save almost 10 Ml/day to meet demand targets, and deliver smart meter upgrades to all NHH premises. NHH water efficiency visits will identify and where possible fix leaking toilets, taps, urinals and showers, and where appropriate fit water saving devices to address both leakage and wastage in NHH premises.</p>

Reference	Respondent	Feedback	Our response
7.11	MOSL	What We Would Like to See in Companies' Final WRMPs: S Reference to Defra's nine per cent water reduction target for the NHH market by 2038 and your detailed plans for achieving this target.	<p>Reducing non-household (NHH) demand for water during AMP8 (2025 - 2030) is a fundamental element of our plan not only in contributing to Defra's proposed national water consumption reduction target of 9% by 2037/38, but also in reducing overall water demand.</p> <p>NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions in our revised draft Water Resources Management Plan 2024 (rdWRMP) to enable us to deliver a 9% reduction in business demand by 2037/38. Our rdWRMP sets out that we will deliver thousands of NHH water efficiency visits in AMP8 to save almost 10 Ml/day to meet demand targets, and deliver smart meter upgrades to all NHH premises. NHH water efficiency visits will identify and where possible fix leaking toilets, taps, urinals and showers, and where appropriate fit water saving devices to address both leakage and wastage in NHH premises.</p> <p>We have an 'always on' communication plan which aims to encourage household customers to avoid waste, use less and educate them to where their water comes from and the broader impact of their behaviour on the local environment. We will carry this forward into AMP8, evolving our messaging to ensure it remains relevant and effective, as well as expanding our focus to NHH customers.</p>
7.12	MOSL	What We Would Like to See in Companies' Final WRMPs: S Greater use of the research by MOSL and the Metering Committee to determine the business case for NHH smart metering and the benefits of making meter data available to retailers and customers.	We have now included smart metering for NHH customers in our revised draft Water Resources Management Plan 2024 (rdWRMP24).
7.13	MOSL	What We Would Like to See in Companies' Final WRMPs: S Clarity on the number of smart meters you intend to deploy in AMP8 and beyond – visibility for retailers on when they will be rolled out and where will help avoid duplication of effort.	For non-household smart metering, in terms of scale for AMP8 (2025 to 2030), we plan to install a smart meter at every non-household that is already metered (~171,000 non-households or ~90% of non-households) and we'll continue to assess the feasibility of smart metering the other ~10% (~20,000 non-households).
7.14	MOSL	What We Would Like to See in Companies' Final WRMPs: S Where appropriate, cross-referencing the findings of other water companies smart meter rollouts to support smart meter proposals and the scale of water saving opportunities.	Where appropriate in the revised draft Water Resources Management Plan 2024 (rdWRMP24) we have referenced key research findings from both industry projects and company findings.

Reference	Respondent	Feedback	Our response
7.15	MOSL	<p>What We Would Like to See in Companies' Final WRMPs:</p> <p>S An approach that treats smallest NHH customers the same as households for the purposes of water conservation messages and devices.</p>	<p>NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions in our revised draft Water Resources Management Plan 2024 (rdWRMP) to enable us to deliver a 9% reduction in business demand by 2037/38. Our rdWRMP sets out that we will deliver thousands of NHH water efficiency visits in AMP8 (2025-2030) to save almost 10 Ml/day to meet demand targets, and deliver smart meter upgrades to all NHH premises. Similarly to our home audit programme, NHH water efficiency visits will identify and where possible fix leaking toilets, taps, urinals and showers, and where appropriate fit water saving devices to address both leakage and wastage in NHH premises.</p> <p>We have an 'always on' communication plan which aims to encourage household customers to avoid waste, use less and educate them to where their water comes from and the broader impact of their behaviour on the local environment. We will carry this forward into AMP8 (2025-2030), evolving our messaging to ensure it remains relevant and effective, as well as expanding our focus to NHH customers.</p>
7.16	MOSL	<p>What We Would Like to See in Companies' Final WRMPs:</p> <p>S Explanation of how water efficiency services would be offered to different categories of NHH customers – multi-site, industrial customers, commercial/offices etc.</p>	<p>NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions in our revised draft Water Resources Management Plan 2024 (rdWRMP) to enable us to deliver a 9% reduction in business demand by 2037/38. NHH water efficiency visits will identify and where possible fix leaking toilets, taps, urinals and showers, and where appropriate fit water saving devices to address both leakage and wastage in NHH premises. The water efficiency visits are suitable for all categories of NHH customers where there are toilets, taps, urinals and/or showers. We will prioritise and target those NHH customers where we believe the biggest water savings can be made and/or set minimum standards for retailers.</p>
7.17	MOSL	<p>What We Would Like to See in Companies' Final WRMPs:</p> <p>S Explanation of how you plan to work with retailers collaboratively to engage with customers to reduce water consumption and carry out water efficiency interventions.</p>	<p>NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions in our revised draft Water Resources Management Plan 2024 (rdWRMP) to enable us to deliver a 9% reduction in business demand by 2037/38.</p> <p>We will work with retailers to structure a scheme which ensures businesses across our region have access to a free of charge water efficiency visit. The scheme will be structured to encourage retailers to engage with their customers directly however if take up of the scheme by certain retailers or particular areas or sectors is limited then we will deliver the visits ourselves.</p>

Reference	Respondent	Feedback	Our response
7.18	MOSL	<p>What We Would Like to See in Companies' Final WRMPs:</p> <p>S Exploration of how you plan to work with retailers to avoid denial of PR24 outperformance payments – e.g., a pain/gain sharing mechanism or incentives for retailer water efficiency offerings.</p>	<p>NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions in our revised draft Water Resources Management Plan 2024 (rdWRMP) to enable us to deliver a 9% reduction in business demand by 2037/38.</p> <p>We will work with retailers to structure a scheme which ensures businesses across our region have access to a free of charge water efficiency visit. The scheme will be structured to encourage retailers to engage with their customers directly however if take up of the scheme by certain retailers or particular areas or sectors is limited then we will deliver the visits ourselves.</p>
7.19	MOSL	<p>What We Would Like to See in Companies' Final WRMPs:</p> <p>S A country-wide approach to demand reduction, regardless of whether water company regions are designated as being 'water stressed' or not, recognising all areas have local demand challenges.</p>	<p>We actively collaborate with other water companies across the country, for example through Water UK, in addressing the national challenge to reduce demand and seeking best practice approaches through innovation, communication and influencing policy. Some examples of this include:</p> <ul style="list-style-type: none"> Influencing 'leaky loo' design resolution with manufacturers; Influencing government regarding issues such as water labelling and building regulations; Supporting national communication campaigns such as 'Love Water' as part of Water Week; Sharing learning and ideas across the water companies e.g. consumption insights and trialling new technology such as flow regulators; and championing the messages regarding 16% of energy bills being associated with heating water.

Reference	Respondent	Feedback	Our response
20.01	Natural England	Environmental Ambition: it is felt that the dWRMP would benefit from a higher level of environmental ambition in some areas, further details are provided in Annex 1	<p>Thank you for taking the time to respond to our draft Water Resources Management Plan (dWRMP) 2024 consultation. Ensuring that WRMP24 is sustainable is a crucial element of our plan. In light of feedback, we have developed a strategy to help bring forward (where possible) licence changes (as a consequence of sustainability reductions) by 2027 as it is clear that addressing the short-term issues is most pressing and this is a priority for us. We have had agreement with the EA that the priority is to address the known environmental issues as a consequence of our abstraction first. This is set out in section 3 in the Revised Draft Technical Report - Environmental destination.</p> <p>With regards to the potential longer term impact due to climate change, we have set out potential long-term licence reductions required to prevent environmental deterioration by 2050. We have set out a profile of when deterioration is likely to occur first at which sources, however these are very subjective and it has been agreed with the EA that significant further investigation regarding the potential timetable (and likely licence change) for licence changes is required. Whilst we have undertaken sensitivity testing with a view to fast-tracking long-term licence changes considering more accelerated climate change impacts, we have agreed with the EA not to change our baseline forecast due to the very high uncertainties involved.</p> <p>As mentioned above, uncertainty in the long-term deterioration risk is very high and as a consequence, we are committing to significant AMP8 (2025-2030) Water Industry National Environment Programme (WINEP) investigations to reduce this uncertainty. These investigations will also identify where specific protected areas (i.e. SSSIs) are more sensitive to our abstractions considering climate change, and provide solutions to mitigate the risk of impact materialising in the long-term. For further information on the assessment of longer term deterioration risk, please refer to section 4 and 5 in the Revised Draft Technical Report - Environmental destination.</p> <p>With regards to our wider response to environmental ambition, we have addressed these separately to each specific item set out in the Environmental Ambition in the Annex 1 document.</p>

Reference	Respondent	Feedback	Our response
20.02	Natural England	<p>Water Availability: Natural England is concerned about the resilience of water supplies and the implication for the environment within the Strategic and Carlisle Resource Zones over the period of the plan. We are concerned that the pressures on water supplies of Strategic Resource Options such as the North West Transfer and Severn Thames Transfer and of expected population growth in all areas have not been sufficiently considered to allow for reasonable confidence in conclusions drawn in the HRA.</p>	<p>Our supply forecast for WRMP24 marks a significant advance compared to previous planning rounds. Among these improvements (listed in section 4 of the draft Water Resources Management Plan 2024 Main Report) we have updated our hydrological data series (river flows and reservoir catchment inflows), which support our water resources models; these now cover periods of between 57 and 91 years. We also use new spatially coherent stochastic data series, of up to 19,200 years, to enable us to assess the impacts of droughts more severe than those experienced in our historic record. This provides a large range of plausible droughts, against which our system is tested. Our approach aligns with that adopted by our regional group, Water Resources West.</p> <p>All of the options included in our plans are subjected to stringent environmental assessment as required by water resources planning guidance and environmental / planning legislation. Our water transfer proposals are designed according to our water transfer principles, which ensure that customers and the environment in the North West would be fully protected. These principles include resilience and drinking water quality, and can be found in Section 7 of our draft Water Resources Management Plan 2024 (dWRMP24) document.</p> <p>The preferred options selected in our revised draft WRMP24 do not include the Severn to Thames Transfer Strategic Resource Option (STT SRO) as this is considered as an alternative scenario as part of Severn Trent Water's WRMP24. Please refer to our response to issue 16.01.</p>
20.03	Natural England	<p>Monitoring: Clarity is needed in relation to monitoring for options in regard to the HRA outcomes. This is pertinent to schemes which require mitigation. United Utilities should note how the measures would be monitored, how long for, and how success/ failure would be determined using the monitoring outputs.</p>	<p>The HRA of United Utilities Water's revised draft Water Resources Management Plan 2024 (rdWRMP24) has been amended to reflect the revised preferred options selected, with amendments made as appropriate to the proposed monitoring measures. Note that it may not be possible or appropriate to specify a monitoring regime for an option that has yet to be subject to detailed design and which may not be implemented in the short- or medium term.</p>
20.04	Natural England	<p>Preliminary Conclusions: The HRA seeks to draw preliminary conclusions despite a broad acceptance that it does not have enough information to do so. Those preliminary conclusions often suggest that significant effects on protected habitats can be ruled out even though the HRA is clear that doubts remain, or mitigation measures are suggested to overcome potential effects.</p>	<p>The HRA of United Utilities Water's revised draft Water Resources Management Plan 2024 (rdWRMP24) has been amended to reflect the revised preferred options selected, with amendments made as appropriate. Note that the HRA does not suggest that there is uncertainty over 'significant' effects (as European sites are only screened out where there is sufficient certainty, with sites / options with uncertainty taken to appropriate assessment), nor does it suggest that significant effects can be mitigated to make them 'not significant' (in accordance with case law, (People Over Wind and Sweetman v Coillte Teoranta (C-323/17))).</p>

Reference	Respondent	Feedback	Our response
20.05	Natural England	Natural England welcome the consideration of differing scenario modelling forecasts throughout the HRA and encourages the water company to consider the more precautionary approach of planning to deal with extreme conditions that will become more likely as a result of a changing climate.	Thank you for the positive feedback. Our target headroom allowance, incorporated into the supply-demand balance to help account for future uncertainty, includes more severe climate change scenarios. We have also developed a climate change adaptive plan within our draft Water Resources Management Plan 2024.
20.06	Natural England	Natural England consider United Utilities dWRMP has insufficient information to determine impacts on the Manchester Mosses SAC, Martin Mere SPA/Ramsar, Ribble and Alt Estuaries SPA/Ramsar and Sefton Coast SAC, Mersey Estuary SPA/Ramsar. Natural England requires further information in order to determine the significance of these impacts and the scope for mitigation, if any. The information required is set out in Annex 1. Without this information, Natural England may need to object to the plan. Please include this information within the plan and reconsult Natural England before it is published.	<p>The HRA of United Utilities Water's revised draft Water Resources Management Plan 2024 (rdWRMP24) has been amended to reflect the revised preferred options selected, with amendments made as appropriate. This includes consideration of likely significant effects on the identified Special Areas of Conservation (SACs), candidate SACs, Special Protection Areas (SPAs), potential SPAs and Ramsar sites, consistent with the requirements of Regulation 63 and 64 of The Conservation of Habitats and Species Regulations (2017).</p> <p>Impacts on these sites will also be considered through ongoing assessments as part of the North West Transfer SRO Gate 3 scope of work, including groundwater and river flow modelling. These will allow more detailed assessment of designated sites where necessary, although some of those listed may be discounted through the existing/historic evidence base and conceptual understanding.</p>

Reference	Respondent	Feedback	Our response
20.07	Natural England	The Environmental Destination as defined in the Regional Plan modelling that has been relied upon by United Utilities does not go far enough, fast enough nor is it prioritised in the correct locations to meet the nature recovery obligations set out in Annex 2. In addition, the company has timed the obligations it does include within its plan towards the end of the 2050 period. This is too late to meet many of the nature recovery obligations set out in Annex 2.	<p>Environmental destination constitutes both the assessment and planning of long-term deterioration risk of our abstractions considering climate change, as well as wider catchment interventions (e.g. Wyre catchment). We are undertaking investigations through the AMP8 (2025-2030) Water Industry National Environment Programme (WINEP) to better quantify the long-term deterioration risk from our licences due to climate change. This will identify where, when and how much licence changes will need to occur. In tandem, solutions will be identified which will address the potential long-term risk of deterioration where no-regret solutions (i.e. revoking unused sources) will be implemented. Whilst solutions will predominantly be focused to address the local risk of deterioration, through the AMP8 (2025-2030) investigations, we will look for opportunities to link solutions with wider catchment measures to ensure the maximum benefit can be realised.</p> <p>There is a national biodiversity crisis which has led to the drive to deliver nature recovery networks. As part of this Defra has established a Local Nature Recovery Strategy which will be piloting in 5 areas nationally; Greater Manchester is one of the trial areas for this and we are supporting and aligning our activities to this project. We propose to accelerate our Catchment Systems Thinking (CaST) approach in 3 strategic catchments where there is significant opportunity to align interests with stakeholders and facilitate a partnership approach to deliver greater environmental outcomes at an efficient cost for customers. These catchments are: the River Eden in Cumbria, the Fylde coast in Lancashire, the River Irwell in Greater Manchester and this work will be supplemented with additional opportunities to manage upland peat habitats where there is significant benefit to customers.</p> <p>For further information, please refer to section 3 and 6 in the Revised Draft Technical Report - Environmental destination. Further information about how we are implementing local nature recovery strategies, and how we are proposing to accelerate partnerships to deliver natural solutions (Green Recovery) can be found at: https://www.unitedutilities.com/globalassets/z_corporate-site/about-us-pdfs/main-documents/gr0002---accelerating-partnerships-to-deliver-natural-solutions-redacted.pdf.</p>
20.08	Natural England	Natural England note that the infographic on page 3 of the dWRMP does not include a reference to protecting the environment in relation to Water Transfer. We agree with the overarching importance of protecting customers but also believe that protecting the environment should be a clearly stated priority.	We agree that protecting the environment as a consequence of any water transfer is a key part of our plan . We have updated the infographic in the 'overview of our plan' section of the main report accordingly.

Reference	Respondent	Feedback	Our response
20.09	Natural England	Natural England note that the key consultation questions on pages 5 and 30 do not feature questions about the Environmental impacts of the plan.	Our key consultation questions were linked to our strategic choices, for example the importance of resilience (service level) and method of delivery (demand management). Ensuring that the plan is sustainable and protects the environment, however, is fundamental to our plan. We undertook customer research on the best value metrics for deciding upon future options - half of which are underpinned by environmental considerations including ecosystem resilience, carbon cost and multi-abstractor benefits. In our WRMP consultation events the environment featured heavily both in our presentational material and the discussions held.
20.1	Natural England	Figure 5 on Page 20 does not mention Environmental enhancements or nature recovery.	We recognise that environmental enhancements and nature recovery are strategic drivers which will inform the place-based plans which are co-created. The infographic you note is trying to articulate about how we might approach place-based planning rather than the specific driver, recognising there are lots of strategic drivers which need to be considered. For further information on place-based planning, please see https://collab-uu.co.uk/place-based-planning/ .
20.11	Natural England	Natural England Welcome the comments on page 22 that the dWRMP aims to 'address problems proactively before they affect either customers or the environment within which we operate' but suggests that United Utilities may also wish to consider their impact on the wider national and global environments.	A stable climate is fundamental to the sustainability of water and wastewater services. We therefore strive to lead by example, and lead others to join us, to reduce carbon emissions. For example, we were the first company in the water industry to independently verify our end emissions targets with the best practice Science-Based Targets initiative (SBTi). Whilst our main priority is to address problems that affect United Utilities Water customers and catchments for which we operate (including indirect catchments that fall out of United Utilities Water's company boundaries), we are committed to ensure United Utilities Water meets a net zero target by 2050. This in turn ensures we play our part to meet wider national and global goals for reducing carbon emissions to curb the extent of future climate change. For further information on our net zero plans, please see section 8 in the WRMP main report.

Reference	Respondent	Feedback	Our response
20.12	Natural England	Natural England welcomes the consideration of the impact of climate change on supply as set out in section 4.2. However we are concerned that the “most likely outcome” scenario may prove insufficiently robust a challenge to assumptions made in the plan.	<p>In assessing the potential impacts of climate change on supply we followed the Water Resource Planning Guideline, (Environment Agency, 2023) including the Supplementary Guidance on Climate Change (Environment Agency, 2021). We also discussed our approach, choice of climate change evidence and emissions scenarios with regulators at the pre-consultation stage. We collaborated with Water Resources West to develop a region-wide assessment of climate change. In using a system response to assess climate change impacts this also captures system constraints, conjunctive use capability and operational response.</p> <p>We have also addressed a number of significant uncertainty factors, including climate change, through both the calculation of our target headroom allowance as well as our adaptive planning approach which includes a severe climate change pathway (RCP8.5). The latter involved extensive scenario testing, assessing seventeen scenarios relating to alternative futures covering some of the key uncertainties in our supply-demand balance such as the impacts of climate change on supply (among others, see section 9 of our revised draft WRMP24). Our Revised Draft Technical Report – Deciding on future options - presents our adaptive plans for climate change (as well as water transfer and demand & technology). These alternative pathways may be implemented should any of these scenarios occur in future.</p>
20.13	Natural England	Natural England welcome the focus on Water Efficiency set out in section 8.4.3 and feel it could be strengthened by the inclusion of greater public education initiatives, including resources for schools.	In response to your feedback additional text has now been added to section 8 of our revised draft Water Resources Management Plan 2024 (rdWRMP24), which details our approach to water efficiency education.
20.14	Natural England	Natural England welcome the initiative to provide household water efficiency audits and would like to see more detail of the number of audits that are to be offered and in which locations.	Our strategy for deciding the best approach for applying water efficiency measures is done regionally (including Carlisle and North Eden resource zones) using a Catchment to Customer model. From this, customers are then prioritised based on whether they would benefit most from a meter, or are high users. Specifically, for unmeasured customers or high users, we will engage with them through direct messaging (letter, email or text) about installing a meter or direct them to our website (including our Get Water Fit app) for hints and tips to save water or offer a water efficiency visit. Our programme is based on delivering approximately 12,000 to 14,000 household water efficiency audits per year, over a 12-year period from 2026 to 2038.
20.15	Natural England	Natural England welcome the provision of “Free water efficiency devices” however continuing to supply them at historic uptake levels as set out in the HRA on page 18 may be a missed opportunity, increasing uptake and promoting them through the water efficiency audits and education programmes may help meet demand reduction targets.	In response to your feedback additional text has now been added to section 8 of our Water Resources Management Plan 2024 (rdWRMP24) document, which details our approach to water efficiency education.

Reference	Respondent	Feedback	Our response
20.16	Natural England	<p>A key issue for Natural England remains the ongoing resilience of public water supply within the Carlisle Resource Zone. This is due to the dependence for public water supply on sources within and derived from the River Eden SAC, the known development pressures and likely future increases in demand resulting from them together with the pressure on resources during prolonged dry weather periods. We raised these concerns at an early stage in WRMP development through the liaison meetings and when initial modelling had indicated a likely deficit within the zone. We understand that subsequent modelling has amended the initial forecasts to now predict a surplus in the zone throughout the planning period, albeit with decreasing margins over time. However we would seek further reassurance that through demand management measures and the management of existing abstractions and supplies, there will be a sufficient surplus to ensure that the supplies remain resilient throughout and there is no risk of additional sources being required that will result in additional pressures on and risks to the River Eden SAC.</p>	<p>Our baseline supply-demand balance indicates that Carlisle will remain in surplus across the planning period for both the dry year annual average and dry year critical period scenarios. The supply-demand balance includes an allowance for uncertainty factors. When the effects of our demand management strategy are applied to our demand forecasts, this results in a healthy surplus in both scenarios, which increases over time. Therefore we are not planning to develop any new sources in the Carlisle Resource Zone.</p>

Reference	Respondent	Feedback	Our response
20.17	Natural England	<p>A key issue for Natural England remains the ongoing resilience of public water supply within the Strategic Resource Zone. This is due to the projected supply demand deficit in the Strategic Resource Zone Area, which would appear to be significant. When Table 10 is added to Table 7 and Table 8 subtracted it appears to suggest that the deficit could amount to nearly 322 MI/d. Natural England would seek further reassurance that the deficit can be overcome by the measures set out in the plan. On page 54 the dWRMP states that the deficit can be overcome by measures in the Final Drought Plan 2022 while page 71 states that meeting leakage and per capita consumption targets will overcome the deficit. Please consider whether these two statements are compatible and whether the measures set out are sufficient. Natural England note that Table 21 on page 78 indicates that even with measures to overcome the supply demand deficit in the Strategic Resource Zone, a zero supply demand balance will exist between 2030/31 and 2035/36. More detailed information of this period is required to satisfy us that adequate plans are in place to maintain a positive supply demand balance, when bearing in mind that Table 22 demonstrates that peak demand weeks will lower the available headroom in the Carlisle Resource Zone. Is the same effect likely in the Strategic Resource Zone resulting in a supply demand deficit in Peak demand weeks during the zero supply demand balance period?</p>	<p>As indicated in Table 12, the baseline forecast deficit for the Strategic Resource Zone is approximately 323 MI/d by 2050. The measures proposed in our plan over the first 25 years of our planning period will restore this to a forecast surplus of approximately 180 MI/d by this date; in other words, the plan will deliver over 500 MI/d of resource benefit in the Strategic Resource Zone by 2050. This is from a combination of measures: around 32% from reductions in household and non-household consumption, driven by our metering and water efficiency programmes, around 31% from our leakage reduction activities, 23% from new supply schemes and 15% from the benefit of drought measures. We have added a new graph in our main report to illustrate how these measures combine to overcome the baseline deficits and restore a healthy surplus to the Strategic Resource Zone. Also we have amended the statement regarding drought plan measures to clarify that these overcome the initial deficit in 2025; they are not sufficient in isolation to address the forecast deficits over the planning period. It should be noted that our supply-demand analysis includes a margin or allowance between the forecast supply and demand, termed target headroom (as set out in section 6 of our main report and in our Revised Draft WRMP24 Technical Report – Allowing for uncertainty). This allows for uncertainty in the components of our supply-demand balance. The zero supply-demand balance shown for 2030/31 means that the available headroom (supply minus demand) for that year is equal to the target headroom required for that year (69 MI/d approximately), rather than exceeding it which would result in a surplus. Our Strategic Resource Zone is a conjunctive use system with significant raw water storage, therefore the supply-demand balance during peak demand periods is limited only by the capacity of the system and not by the average availability of resources over longer periods such as a drought year. Therefore supply-demand deficits are not forecast to occur during peak periods in the Strategic Resource Zone.</p>
20.18	Natural England	<p>The plan sets out detail of UU's role in Water Resources West (WRW) and regional planning and the North West Transfer (NWT) Strategic Resource Option (SRO) component of the Severn to Thames Transfer (STT). The plan describes the total tradeable amount for NWT to be 205MI/d for which sub-options would be developed in the North West to mitigate impacts on customers and the environment. NE also acknowledges the ongoing levels of uncertainty around this and the need for consistency and alignment between the relevant water companies and respective WRMPs. This is key to ensure that environmental assessment of the plans is as robust as possible.</p>	<p>The comment is noted. United Utilities Water as a member of Water Resources West has taken an integrated approach to preparing the WRMP (and contributing to the Regional Plan) using a regionally consistent set of methodologies to reflect local, regional and national needs in the development of the plan(s). This includes the SROs (where relevant) and water transfer with Severn Trent Water to support meeting water resource needs.</p>

Reference	Respondent	Feedback	Our response
20.19	Natural England	We note that the Kielder Water and Cow Green transfers are identified in 7.3 of the main plan as the 'most promising' of the import options considered to potentially support the NWT SRO and the Kielder transfer is diagrammatically represented on Figure 25 of the plan showing the STT SRO. As these Northumbrian Water transfer options would potentially have significant environmental implications within the Cumbria area, we therefore highlight their inclusion and referencing within the WRMP as a particular area of interest for Natural England should they be considered further. We would be grateful for clarification on the status of these options and updates on when there would be opportunity for NE's engagement and advice if they are to be considered further.	These options are promising in relation to other potential imports, however they are not being assessed as part of the NWT SRO and appear only as feasible options in WRMP24 (i.e. they were not selected in our best value preferred plan).
20.2	Natural England	In general terms the development of water transfers also clearly raises a number of environmental issues. One example is that relating to biosecurity and the risk of transferring invasive non-native species and associated pathogens and diseases between catchments and into sensitive waterbodies and freshwater environments. Natural England would expect the most robust and detailed assessment in this and all other respects before any options were developed further and welcomes ongoing discussions with UU about this.	The comment is noted. Water transfer options (where considered for the WRMP24 or through the SRO process) have been assessed against the risk of spread of invasive non-native species (INNS) and findings reflected in the relevant assessment documentation.
20.21	Natural England	As a general point, NE notes that water sources within Cumbria have been particularly stretched in periods of prolonged dry weather in recent years and UU has been required to prepare applications for drought options on several occasions as a result. The changes to the use of previous West Cumbria Resource Zone sources and the new Thirlmere Transfer Scheme connections will remove many areas of risk in respect of key designated sites in West Cumbria and Natural England welcomes the substantial environmental benefits that these changes will bring. At the same time NE would expect the plan to demonstrate sufficient resilience within the new larger Strategic Resource Zone and across the Carlisle and North Eden Resource Zones to minimise environment pressures and risks to the freshwater environment, including the necessary high levels of protection for designated sites, particularly during periods of prolonged dry weather.	In March 2023, following successful completion of the Thirlmere transfer scheme, we applied to revoke our abstraction licences at Ennerdale Water and Crummock Water. Our Overwater, Chapel House/River Ellen and Dash Beck abstraction licences will be revoked by the end of September 2023. The new connections which link our former West Cumbria Resource Zone into our new combined Strategic Resource Zone will bring substantial environmental benefits to these key sites. Our best-value set of selected options for our draft Water Resources Management Plan 2024 ensures that there are no deficits across the planning period in our final proposed plan for the Strategic, Carlisle, North Eden and Barepot Resource Zones. This is achieved through a combination of reductions in both leakage and consumption, new supply schemes and the use of drought measures only when absolutely necessary.

Reference	Respondent	Feedback	Our response
20.22	Natural England	We understand that in response to national guidance an additional appendix to the WRMP will be produced to set out lessons learnt from the 2022 drought. NE looks forward to reviewing this and providing comments in due course and would be grateful for clarification on the scope and timescales for this.	In line with the recent updates to the Water Resources Planning Guideline, we have created a new Technical report - Dry weather lessons learned, which is published alongside our revised draft Water Resources Management Plan 2024 (rdWRMP24). The scope of this document follows the guidance and demonstrates how lessons from 2022 have been considered.
20.23	Natural England	Paragraph 1 of page 19, why are Natural England not included in the list of partners?	This was an unintentional omission and has been updated in our revised draft Water Resources Management Plan 2024 (rdWRMP24).
20.24	Natural England	On Page 38 outages are discussed. The dWRMP states that “For the majority of planned outages, we predominately calculate an allowance based upon our experience of planned outages during previous years,” it would be useful to include an indication of what other factors, such as climate change and consumer demand are included in the calculation and what weighting they are given.	<p>We have followed the guiding principles in the UKWIR report 'Outage allowances for water resources planning' (UKWIR 1995), and methods stated in the UKWIR 'Risk based planning methods' (UKWIR, 2016) to develop our outage allowance. This guidance identifies the following outage events and factors which have then been mapped to the outage events captured within our corporate database of recorded outage events:</p> <ul style="list-style-type: none"> • Maintenance • Capital or revenue • Pollution of source • Water quality: turbidity, nitrates and algae • Power failure • System failure <p>The main impact of climate change on future outages is likely to be due to changes in raw water quality, which could require mitigation measures such as temporary restrictions to production capacity to ensure that we continue to supply high quality and wholesome drinking water. We have assessed and captured this future risk through our target headroom assessment, where more information can be found within the Revised Draft Technical Report - Allowing for uncertainty. This is in line with the guidance which prevents double-counting within the overall supply-demand balance.</p> <p>The outage allowance methodology follows a probabilistic approach using Monte Carlo analysis. This is designed to assess the impact on system deployable output due to planned and unplanned outages of individual assets, which are independent to customer demand. A robust demand analysis and future forecast has been completed, which includes an assessment of the impact and uncertainties associated with climate change. Further information on the demand forecasting methodology can be found in the Revised Draft Technical Report - Demand for water.</p>

Reference	Respondent	Feedback	Our response
20.25	Natural England	Can you confirm whether tables 13 and 14 on page 44 are correct as they appear to be inverted. Section 52 of the dWRMP says that 'The majority of non-household customers are metered,' however these tables seem to suggest a larger daily demand from unmeasured non-household consumption. It is also noted that the left hand axis on figure 13 is captioned "measures household consumption (Ml/d)" when the title of the figure suggests that it shows "non-household consumption".	We can confirm that there is an error in figure 13 in section 5 in the main report. This has been rectified in our revised draft Water Resources Management Plan 2024 - Main report (rdWRMP24).
20.26	Natural England	Natural England note that the HRA focusses on the assessment of the preferred options only, and of these, none of the seven supply options assessed are located within Cumbria. The approach described in 3.2.5 states that "Therefore, whilst the principles of HRA have been applied to the emerging WRMP and the feasible options the specific tests associated with Regulation 63 are applied to the preferred programme of options only." However we note from the plan and supply options proformas that there are a number of 'constrained' supply options that have been identified and considered through the options screening process in the River Eden SAC catchment in Cumbria (eg Eamont and Irthing) but which are not therefore detailed in the HRA. We also note that the supporting information states that these have been through an HRA process. As NE has not had any direct engagement in this process through the options development and screening stages of the WRMP, we would therefore seek to clarify the status of these options within the WRMP and whether the detailed record of the HRA process that has been undertaken is available in each case. Should any of these options be taken further or forward in the future, we would welcome clarity on the associated HRA process both alone and in-combination and the opportunity for NE to review.	The comment is noted. Our revised draft Water Resources Management Plan 2024 (rdWRMP24) includes the following options: WR107a2 GWE_AUGHTON PARK a2, WR111 GWE_WOODFORD and WR113 GWE_TYTHERINGTON, none of which are in Cumbria. The specific Regulation 63 tests apply to the submitted plan, and the preferred options in this; the approach is set out in Section 3 of the HRA.
20.27	Natural England	We would also highlight that NE has recently agreed new flow targets for a number of units across the SAC river networks in Cumbria and any detailed assessments would need to take these into account at the relevant stage.	The comment is noted.

Reference	Respondent	Feedback	Our response
20.28	Natural England	<p>Natural England considers that you should ensure that the HRA of the dWRMP includes existing licences where a material change has occurred since the last HRA of that licence or/and the last dWRMP. The material change can include changes to the climate (e.g. drought impact), guidance, policy, legislation, conservation objectives or SACOs (Supplementary Advice to Conservation Objectives) or evidence of site deterioration/condition change or anything that is material to the determination of either likely significant effect or adverse effect on integrity. This includes cumulative effects and in combination effects.</p>	<p>Regulation 9 of the Conservation of Habitats and Species Regulations 2017 (as amended) (the ‘Habitats Regulations’) requires that “...a competent authority, in exercising any of its functions, must have regard to the requirements of the Directives so far as they may be affected by the exercise of those functions”. The final Water Resources Planning Guidelines published in April 2023 state that “Your plan [i.e. WRMP], including any options within it, should support the achievement of favourable conservation status of habitats and species identified by [the Habitats Regulations]. They should also not prevent the achievement of favourable condition of sites designated under the regulations” (it should be noted that the explicit reference to ‘your plan’ is a recent addition: the 2020 draft WRPG (under which the 2024 WRMPs have been developed to date) states that “Your options should support the achievement of favourable conservation status... [etc.]”).</p> <p>For existing abstraction licences and their consideration in WRMPs, the requirements of Reg. 9 are met by the Environment Agency, Natural Resources Wales and the water companies through the licence review arrangements and protocols that are implemented at the start of each WRMP cycle, which also takes account of the Environment Agency’s or Natural Resources Wales’ requirements through the Water Industry National Environment Programme (WINEP) and National Environment Programme (NEP) respectively. This process (and WINEP) is undertaken in conjunction with Natural England, which identifies protected sites (including European sites) to the EA where it believes abstraction-related issues are affecting the achievement of favourable conservation status.</p> <p>This review is fundamental to the development of the supply forecast at the start of the WRMP process, and is consequently reflected in Section 5.4 (‘Developing Your Supply Forecast’) of the Water Resource Planning Guideline (2020 draft and 2023 published versions) which outlines the requirements for sustainable abstraction taking into account existing statutory requirements and environmental destination. The supply forecast informs the supply-demand balance calculations for the planning period, which is in effect the ‘predicted future baseline’ for water resources in a supply area. The water company then develops ‘options’ for resolving any predicted deficits in the supply-demand balance, which are then tested against various metrics to determine the ‘preferred plan’. Note that all references to WRMP ‘options’ in the WRPG are made in the accepted sense, i.e. explicit interventions proposed by the WRMP to increase water supply or reduce consumption (e.g. Section 1.1), and not as a broad ‘catch all’ for ongoing water company operations such as those existing abstractions that will form part of the ‘predicted future baseline’.</p> <p>Consideration of the existing consenting regime in relation to European sites is noted in</p>

Reference	Respondent	Feedback	Our response
			<p>the WRPG (2020 draft and 2023 published versions) solely in relation to the development of the supply forecast (Section 5.4), and not in those sections of the guidance that explicitly consider the application of HRA to the WRMP; and whilst the 2023 guidelines refer to “Your plan, including any options within it...” in relation to the Habitats Regulations, all references to HRA (as both a process and legislative test) are explicitly and implicitly linked to the options identified by the WRMP. Consequently, the WRMP HRA addresses Regulation 63 of the Habitats Regulations and necessarily focuses on the assessment of the additional effects that the WRMP introduces over the predicted future baseline (i.e. the supply forecast determined at the start of the WRMP process that takes account of the agreed, and any reasonably anticipated, sustainability reductions). Therefore, the HRA of the WRMP is necessarily a forward looking assessment of the specific options (feasible and preferred) proposed by the WRMP to resolve deficits; it does not (and cannot) re-litigate the existing licences agreed for the planning period (and hence the WRMP supply-demand baseline) in a continual loop since a baseline must be set to allow options to be developed (although the WRMP HRA report may include sections that summarise or reflect the outcomes of the supply forecast development process noted above).</p> <p>The process outlined above (i.e. consideration of existing consents as part of the supply forecast development, and subsequent consideration of the potential effects of the preferred options through the HRA) is the current mechanism by which the water company ensures that the WRMP meets the requirements of the Habitats Regulations (and hence the WRPG as it relates to European sites). This has some relevance to NE’s recent indication that the HRA of the WRMP should include an assessment of “existing licences where a material change has occurred since the last HRA of that licence or/and the last dWRMP”.</p> <p>NE’s definition of a ‘material change’ is extremely broad (“...can include changes to the climate (e.g. drought impact), guidance, policy, legislation, conservation objectives or SACOs (Supplementary Advice to Conservation Objectives) or evidence of site deterioration/condition change or anything that is material to the determination of either likely significant effect or adverse effect on integrity. This includes cumulative effects and in combination effects”) and in practice virtually any change (e.g. any new housing) within the catchment of a European site might constitute a ‘material change’ for that site that would then demand re-assessment of all licences or consents (abstraction or otherwise) that might operate ‘in combination’ to affect that site’s condition. These activities (firstly defining and identifying ‘material changes’ at each European site; and then determining the in combination effect of abstraction licences with other consents / activities on those sites) would be substantial undertakings. Section 5.4 of the WRPG states: "Where abstraction related issues are known now to</p>

Reference	Respondent	Feedback	Our response
			<p>be currently affecting the environment, they should be dealt with as soon as is feasible and affordable”, and this is the approach pursued in the WRMPs. The amendments to the WRPG were confirmed in March; taking into account the direction on feasibility and affordability, NE’s requirements, given their recent expression balanced against the resource and programme implications, can only be realistically addressed in future cycles of WRMP preparation, linked to future WINEP processes.</p>

Reference	Respondent	Feedback	Our response
20.29	Natural England	Natural England note that preliminary conclusions for the preferred supply options contained in the HRA are often more positively worded than the paragraphs building up to the conclusion. Your HRA demonstrates that effects cannot be ruled out at this stage and sets out plans to carry out further investigations. It would, therefore, be appropriate to make the concluding paragraphs clearly state that effects cannot be ruled out rather than couching those conclusions with aspirations for how you expect the further investigation work to progress.	An HRA of the revised draft Water Resources Management Plan 2024 (rdWRMP24) has been undertaken to assess the effects of the plan on designated conservation sites in accordance with Regulations 63 and 64 of The Conservation of Habitats and Species Regulations (2017) (the 'Habitats Regulations'). Sites covered are Special Area of Conservation (SAC), Special Protection Area (SPA); any candidate SAC (cSAC), potential SPAs (pSPAs), possible SACs (pSACs) and listed Ramsar Sites. It includes revisions to the conclusions appropriate to the revised preferred options selected.
20.3	Natural England	Page 72 paragraph 5.2.9 – Please provide further explanation of why it is appropriate to exclude PWS abstractions from the hydrological change pressures.	This section in the HRA relates to the anticipated impact of options on the Manchester Mosses SAC. As a consequence of all options being over 5km away from the SAC, it was deemed potential PWS abstraction would have no impact. However the HRA noted that the hydrological pressures relate to local water level management and the development of wetland buffers.
20.31	Natural England	Page 72 paragraph 5.3 – the calculations for Option WR 149 are not clearly communicated. A total licence capacity is given for Croft, Landside and Lightshaw even though footnote 38 says that Landside is not considered feasible for abstraction, why is it then included in the total licence capacity? Furthermore option WR149 relies on abstractions from Croft, Lightshaw and Kenyon boreholes but no figures for extraction from the Kenyon borehole are given.	Thank you for taking the time to respond to our draft Water Resources Management Plan (dWRMP) 2024 consultation. We have decided not to take this option forward in our preferred plan and it will therefore be removed from the HRA report for revised draft submission.
20.32	Natural England	Please clarify the split of abstraction referred to on page 90 paragraph 7.3.6. Natural England accepts that the proposed 12Ml/d set out in the second bullet point is within the combined licence capacity but notes that it exceeds any one of the individual licences.	The peak abstraction of this option is 12 Ml/d which is delivered from three unused boreholes. Whilst the total volume is greater than the individual licences, the peak abstraction is distributed across the three sources to ensure licence conditions for individual sources are not breached.
20.33	Natural England	Referring to Page 100 paragraph 7.3.53 - Please ensure that indirect effects of flow reduction on the protected habitats are fully considered as well as the direct impacts.	It is not possible to consider every conceivable indirect effect at the strategy level to the inevitably limited information on the precise operational parameters of the option, which would not be determined in detail at the plan level. It's important to note that we are anticipating certain mitigation measures will need to be in place to protect the downstream environment and ensure that we are fully WFD compliant. Hands-off flows (HoFs) can be a crucial mitigation measure as HoF conditions can be varied in certain months in order to protect specific species. For example, at our abstraction on the river Swindale in Cumbria, we have a highly complex HoF in place which varies throughout the year to ensure migratory fish species are not impacted. It is not possible at this stage to ascertain all indirect impacts from this option however the most likely indirect effects are considered in our option assessment within the HRA.

Reference	Respondent	Feedback	Our response
20.34	Natural England	Natural England note that paragraph 11.2.1 on page 136 claims that "Demand-side options will have no negative operational effects on European Sites as they will reduce treated water use." However the paragraph goes onto undermine this opening claim and demonstrate that negative effects cannot be ruled out at this stage. Please clarify the meaning of paragraph 11.2.1.	Paragraph 11.2.1 of the HRA of the draft WRMP24 identifies the potential for construction and operational effects arising from the demand-side options. It states: 'Demand-side options will have no negative operational effects on European sites as they will reduce treated water use', thereby ruling operational effects out. It then continues that: 'The only realistic mechanism for a negative effect would be through any construction required (for example, the leakage reduction programme may require repair of a pipe in or near an SAC)' but notes that 'this cannot be meaningfully assessed at the strategic level since information on the location of specific intervention requirements is not available'. It concludes that from the HRA perspective, 'the options are 'screened in' (as an effect pathway is conceivable [for construction effects]) but as a meaningful appropriate assessment is not possible, the assessment is necessarily deferred to the project level'. Whilst scheme details of location are unavailable, the HRA does note the effectiveness of standard avoidance measures (outlined in Appendix C) which will be considered further at the project level. The text is considered clear and appropriate. It has been retained in the HRA of United Utilities Water's revised draft Water Resources Management Plan 2024 (rdWRMP24).
16.01	Natural Resources Wales	The company's preferred draft plan includes supply schemes that could affect the environment within Wales. With regards to the Severn Thames Transfer Strategic Resource Option (STT SRO) scheme we consider that the Habitats Regulations Assessment (HRA) work undertaken to date, cannot rule out Likely Significant Effects on the features of the Severn Estuary / Môr Hafren Special Area of Conservation (SAC) and the Severn Estuary RAMSAR. Additional water released from Lake Vyrnwy will impact the Afon Vyrnwy, and the mobile species from the Severn Estuary SAC which utilise these habitats, during a critical life stage for these species (i.e. this waterbody is functionally-linked to the SAC). The company will have to incorporate the impacts to the designated features whilst utilising these waterbodies within their appropriate assessment and site integrity test.	The revised preferred options selected in our draft Water Resourced Management Plan 2024 (dWRMP24) do not include the Severn to Thames Transfer Strategic Resource Option (STT SRO), as this is considered as an alternative scenario as part of Severn Trent Water's WRMP24. The STT SRO is also subject to the separate RAPID gated decision-making process which includes separate environmental assessment. The environmental impacts and risks have been assessed using data from extensive surveys and monitoring programmes, the outputs of 1D hydraulic and water quality modelling (using a representative Severn regulation water release pattern provided by the EA), and results from in-channel habitat modelling. Using this evidence, a direct release from Lake Vyrnwy of 75Ml/d and a bypass transfer to the River Vyrnwy at Llanymynech (105Ml/d) was determined not be compliant under the Habitats Regulations or the Water Framework Directive. This conclusion was based on the likely significant adverse effects that this combined operation (i.e., with compensation flow, flood draw-down and river regulation) could have on the integrity of the Severn Estuary Special Area of Conservation (SAC) and its functionally linked habitat. This conclusion informed a change in the engineering design to avoid these adverse effects. The STT solution now comprises a significantly reduced direct release volume of 25Ml/d into the River Vyrnwy, with a bypass transfer of 155Ml/d to the River Severn. This change avoids any significant impacts to the structure and function of habitat which support the migratory fish of the Severn Estuary, thereby avoiding undermining the conservation objectives of the site, and avoiding a compliance risk with Welsh legislation.

Reference	Respondent	Feedback	Our response
16.02	Natural Resources Wales	In addition, we are also concerned that this option is not fully compliant with the Water Framework Directive Regulations (WFD Regs). All necessary permits including full HRA and WFD Regs assessments of all likely impact pathways must be undertaken prior to the scheme becoming operational, including the impacts from the proposed increase in releases from Lake Vyrnwy.	<p>The revised preferred options selected in our draft Water Resources Management Plan 2024 (dWRMP24) do not include the Severn to Thames Transfer Strategic Resource Option (STT SRO) as this is considered as an alternative scenario as part of Severn Trent Water's WRMP24. The STT SRO is also subject to the separate RAPID gated decision-making process which includes separate environmental assessment.</p> <p>Statements made on WFD compliance should be considered as appropriate to assessing feasibility, a requirement of Gate 2, and not as definitive or final statements on WFD compliance. The 'unsupported' and full STT solutions were assessed using the ACWG guideline for compliance assessments. The assessment identified that the full STT is potentially not compliant with WFD objectives, subject to further development of operating rules and treatment solutions, together with additional bespoke aquatic habitat assessment, water quality monitoring and water quality modelling planned in Gate 3.</p> <p>Assessment will continue of all possible source-receptor-pathways through which any effects from activities associated with the STT solution may cause an Adverse Effect on Integrity (AEoI) of any associated European site. A full Habitats Regulations Assessment (HRA) and WFD assessment will be required when the planning and/or permit application is submitted (or expected Development Consent Order (DCO) for STT).</p>
16.03	Natural Resources Wales	There could also be potential impacts to the environment in respect to the preferred option for a release from Vyrnwy to the River Severn a part of a trade agreement with Severn Trent Water. The final plan must clarify the volume of water which is to be traded with Severn Trent Water as the United Utilities dWRMP states 75 Megalitres per day and the Severn Trent dWRMP states 25 megalitres per day. The company must also ensure that prior to this becoming operational a full HRA and WFD Regs assessment must be completed, and all required permits obtained.	<p>Severn Trent Water will be taking 25 Ml/d from Vyrnwy raw water via the Afon Vyrnwy starting in 2030 and this is included in Severn Trent Water's revised draft WRMP24 and as enabling works in our draft Water Resources Management Plan 2024 (dWRMP24) and thus will be subject to SEA, HRA and WFD assessment. The HRA of our dWRMP has considered this option and has not identified any likely significant effects. The WFD assessment has identified it as a compliant option. In terms of the volumes of water to be traded, we have incorporated the final regional planning reconciled position.</p>

Reference	Respondent	Feedback	Our response
16.04	Natural Resources Wales	We expect the company to continue to engage with us, the Environment Agency, and Natural England along with other water companies who have a shared interest in the River Severn and the Estuary. This will ensure the current modelling capability for the river is improved to better understand the water availability, environmental and wider implications of options on the River Severn and the Estuary.	We engage with Natural Resources Wales, the Environment Agency, Natural England and other water companies in relation to the River Severn on a regular basis, both directly as a company (for example as an active participant in the 'Severn Modelling Group'), and as a sponsor of the STT SRO. Notably we have played a key role in the recent development of a new water resources model representing the STT scheme, and including the River Severn. We have liaised extensively on this model with Natural Resources Wales and the Environment Agency, and have already used it to support a review of the operation of the River Severn Regulation scheme. We recognise the importance of issues related to the River Severn and plan to maintain a high level of engagement in the future.
16.05	Natural Resources Wales	For clarification the company should also ensure that options for transfer of water from Lake Vyrnwy are referred to as part of the Severn Thames Transfer scheme rather than as part of North West Transfer otherwise the plan becomes confusing to the reader	We have updated our documents as suggested.
16.06	Natural Resources Wales	<p>The Dee System</p> <p>We are satisfied that the Dee system has incorporated the results of the Dee Consultative Committee technical group's climate change modelling. However, we note that the Dee section of the Aquator model schematic differs to ours as there is an additional section. We seek clarification of what this section is. The additional section is shown below outlined in red.</p> <p>[refer to screenshot included in response]</p>	<p>Thank you for the positive feedback on accounting for the Dee Consultative Committee technical group's climate change modelling.</p> <p>Regarding the differences in the Aquator model schematic this relates to the conversion of the model from software version Aquator v4.3 to Aquator XV in 2019. (In 2018, the developers of Aquator, Oxford Scientific Software (OSS), released a new version of the software, Aquator XV. While v4.3 would continue to be supported, it would no longer be developed). The conversion of our models focused on key objectives including: to understand any changes in behaviour; to maintain functionality; speed; and simplicity. In converting the model to Aquator XV and with the objectives in mind, the Dee system was reconceptualised as shown in the schematic you refer to. Rather than using separate regulators for Celyn and Brenig a single regulator and blender were used – this is the difference marked in your response. This change was made to improve the representation of the Dee General Directions (DGD) within the software while ensuring that the network structure is related to the implementation of the DGD. We would be happy to discuss this further with you should you have additional questions.</p>

Reference	Respondent	Feedback	Our response
16.07	Natural Resources Wales	We welcome the inclusion of section 6.4 of the environmental destination report around Welsh legislation. However, we acknowledge that the terminology used does not currently reflect Welsh Legislation as often aligned with English policy. The company should refer to the sustainable management of natural resources (SMNR) and well-being goals. The company also not acknowledged its Biodiversity and Resilience of Ecosystems Duty under section 6 of the Environment (Wales) Act to demonstrate how they are working to protect biodiversity.	Ensuring that our Water Resources Management Plan 2024 (WRMP24) is sustainable is a crucial element of the plan. Our abstractions from Wales supply a significant number of customers in our region, therefore ensuring that abstraction from these sources is sustainable is essential to meet the expectations of the sustainable management of natural resources and well-being goals set out in the Environment (Wales) Act in 2016. This includes the maintenance and enhancement of biodiversity in catchments we abstract from. We are keenly aware of our duty as an abstractor and strive to ensure that our activities meet these expectations in Wales. We have provided further details in the Revised Draft Technical Report - Environmental destination, section 6.
16.08	Natural Resources Wales	We recommend in the final plan that the company includes specific actions United Utilities intends to take over the next 25 years as part of its contribution to enhancing the environment and wider benefits within the upper Severn and meeting requirements of the Environment (Wales) Act and the Wellbeing of Future Generations Act. This should include specific details of mitigation measures (as relevant) that will be implemented to ensure the enhancement of ecosystems and wider benefits within Wales from the use of Vyrnwy reservoir and reservoirs on the River Dee system is demonstrated.	<p>Vyrnwy Reservoir is owned by Hafren Dyfrdwy and managed in partnership with RSPB Wales. We are a member of the Steering Group because we hold a licence to abstract water from Vyrnwy. The way the land around the reservoir is managed has an impact on the quality of the water that is abstracted by United Utilities Water, therefore it is important that we are engaged with the partnership. We support the Steering Group and liaise with the teams on the ground to ensure that their activities do not increase the risk of raw water quality pollution. For example, forestry management of the plantations around the reservoir can have an impact on increased sediment run off if not managed carefully. Hafren Dyfrdwy has proposed measures for PR24 (2025-2030) to improve biodiversity on their land holding at Vyrnwy. Activities such as clearing invasive rhododendron trees and replacing them with native broadleaved species will increase the resilience of the catchment which should have a positive impact on raw water quality. Similarly, continuation of long-term work to restore the peatland in the Vyrnwy catchment will increase the ability of the land to withstand the impacts of climate change and therefore benefit the resilience of both the water quality and quantity. Furthermore, at Vyrnwy, we are also undertaking (alongside Hafren Dyfrdwy) a sediment management scheme during AMP8 (2025-2030) as part of the Water Industry National Environment Programme (WINEP). This will look to improve 13km of fish spawning grounds and the wider ecosystem by re-gravelling the downstream reach of the reservoir. This has been set out in section 6 in the Revised Draft Technical Report - Environmental destination.</p> <p>Within the Dee catchment, in AMP8 (2025-2030) we have proposed a joint catchment management scheme in the Dee with Severn Trent Water and Hafren Dyfrdwy to address a particular need identified in AMP7 (2020-2025) related to turbidity spikes in raw water related to land management. This will be delivered by working in partnership with farmers and landowners to identify and deliver interventions that improve the resilience of the catchment and therefore reduce the risk of erosion and diffuse agricultural inputs of sediment.</p>

Reference	Respondent	Feedback	Our response
16.09	Natural Resources Wales	It is also unclear how United Utilities have considered the requirement to help deliver the Welsh net zero target by 2050 in accordance with the Climate Change (Wales) Regulations 2021 when considering options that may affect Wales. We recommend that the company must outline details within its final plan of how it intends to reduce greenhouse gas emissions of any proposals and contribute towards achieving net zero targets within Wales.	None of our draft Water Resources Management Plan 2024 (dWRMP) options affect Wales. Water transfer will not lead to any change in use of the Afon Vyrnwy as we would be redeploying the same water that would normally be abstracted for our own use (i.e. no additional abstraction beyond licence).
16.1	Natural Resources Wales	We welcome continued engagement with ourselves and the other regulators regarding SROs affecting Wales. However, we are disappointed in the level of engagement with wider stakeholders such as eNGOs, alongside the other water companies involved. The company should ensure they are fully engaging relevant Welsh stakeholders around the proposals, especially where it may impact the environment, society, and economy of Wales and with agreeing actions to achieve the Welsh legislation requirements. Therefore, we recommend the company includes a stakeholder engagement plan for this scheme within its final plan.	We note that this feedback has also been provided to Water Resources West and the other companies involved in the Severn Thames Transfer and its supporting SROs. We have worked with them to review and fully update our stakeholder engagement plan for Welsh stakeholders. We now have a joined-up engagement plan across the WRW core member companies and the STT and NWT projects for these aspects. We accept the need to do more engagement with Welsh stakeholders at this stage in the process, linking both to the transfer schemes and other opportunities, e.g. through environmental destination and partnership working. We have started to implement this plan, with a WRW presentation to the broadly attended NIC Wales/Consumer Council for Water conference in Cardiff on 31 March 2023, a Hafren Dyfrdwy and STT meeting with Plaid Cymru on 19 April 2023 and WRW/STT meeting with the Wildlife Trusts along the Severn on 24 April 2023. This also included the Dee Rivers Trust and the Severn Rivers Trust. Further coordinated engagement is planned, and we welcome RAPID and NRW input into our stakeholder engagement plan.
25.01	Ofwat	The Government's strategic priorities for Ofwat states that reducing demand for water can relieve pressures on water supply and increase our resilience to extreme drought. Water companies must act to reduce demand for water in a way that represents value for money in the long-term. We expect all companies to use their WRMPs to show how they will meet long term water demand targets including: <ol style="list-style-type: none"> 1. halving leakage across the industry by 2050, in comparison to 2017-18 levels²; 2. reduce per capita consumption (PCC) to 110 litres per head per day (l/h/d) by 2050³. 	Thank you for taking the time to respond to our draft Water Resources Management Plan 2024 (dWRMP24) consultation. Our draft Water Resources Management Plan 2024 (dWRMP24) sets out our plan to achieve all of our existing commitments, as well as the water targets, including interim targets, from the government's Environmental Improvement Plan 2023. This includes the targets related to: <ul style="list-style-type: none"> • Public water supply in England per head of population (measured as distribution input per capita); • Total leakage; • Per capita consumption (PCC); and • Non-household consumption/usage or 'business demand'.

Reference	Respondent	Feedback	Our response
25.02	Ofwat	A further target is now set in the Environmental Targets (Water) (England) Regulations 2023 for the reduction of potable water supplied by water undertakers in England to people in England. This is that the volume supplied per day per head of population is at least 20% lower than the 2019-20 baseline by 31 March 2038. We expect companies to demonstrate how they will deliver against this target in their final WRMP.	Our draft Water Resources Management Plan 2024 (dWRMP24) sets out our plan to achieve all of our existing commitments, as well as the water targets, including interim targets, from the government's Environmental Improvement Plan 2023. This includes the targets related to: <ul style="list-style-type: none"> • Public water supply in England per head of population (measured as distribution input per capita); • Total leakage; • Per capita consumption (PCC); and • Non-household consumption/usage or 'business demand'.
25.03	Ofwat	We welcome that United Utilities plans to reduce leakage by 50% by 2050. The company also states its intention to meet the per capita consumption (PCC) target of 110 l/h/d by 2050 but this is heavily reliant on government support such as through water labelling schemes.	Thank you for your consultation response and for your support in our plans to reduce demand for water. As highlighted, several elements of our plan require direct government intervention (roll out new water efficiency labelling and deliver the ten actions in the Roadmap to Water Efficiency in new developments) and support.
25.04	Ofwat	The company's final WRMP should reference the target to reduce distribution input by 20% by 2037-38 and demonstrate how it plans to deliver this through a combination of reductions in the key demand components, leakage, household consumption and non-household consumption.	Our draft Water Resources Management Plan 2024 (dWRMP24) sets out our plan to achieve all of our existing commitments, as well as the water targets, including interim targets, from the government's Environmental Improvement Plan 2023. This includes the targets related to: <ul style="list-style-type: none"> • Public water supply in England per head of population (measured as distribution input per capita); • Total leakage; • Per capita consumption (PCC); and • Non-household consumption/usage or 'business demand'.
25.05	Ofwat	We welcome that the company has tested different target profiles such as achieving full smart metering and its long-term leakage target via fast and slow delivery. However, the final WRMP should provide sufficient and convincing evidence on why the company selected its preferred strategy by clearly showing the costs and water savings per price control period for each scenario. This explanation and comparison should be clearly set out in the main plan even if some details are included in appendices.	In the Revised Draft WRMP24 Technical Report - Deciding on future options, we have included section 10 detailing the results of sensitivity tests around the pace of delivery of demand reduction. This includes detail on the alternative investment profiles for each approach. We have justified the pace of delivery within our preferred plan, with reasoning relating to affordability, achievement of national targets, improved resilience and resulting supply-demand balance benefits of each level of demand reduction. Our preferred plan achieves the objectives we have set out in an affordable way, providing customers with not only an improved level of service for temporary use bans (TUBs) but including this as a low regret option in order to maintain resilience to adverse alternative futures.

Reference	Respondent	Feedback	Our response
25.06	Ofwat	We are concerned that the company has presented high unit costs in some areas of its draft plan, particularly for smart meter installations. The company proposes a unit cost of £555 per advanced metering infrastructure (AMI) meter installation for the period 2025-30. This is around double the meter unit cost allowance at PR19. The draft WRMP data tables also show that the preferred metering programme delivers water savings at a unit cost of 20.7 £m/Ml/d over the 2025-30 period and 15 £m/Ml/d over the 2025-50 period. This is well above the industry median of unit costs for this activity. We expect the company to review its metering strategy and provide sufficient and convincing evidence that it is presenting a best value solution based on efficient activity costs.6	<p>Following publication of our Draft WRMP we have been reviewing evidence on our proposed Household Smart Metering investment programme, including conducting a cost benchmarking study with PwC, considering consultation responses from Ofwat and other regulators, and conducting our own review of other water companies' current and future metering programmes. As a result, our metering costs have reduced.</p> <p>It is important to note that if metered charging uptake were to increase from 30% to 90% through compulsory metering, our unit cost would be ahead of the industry average further demonstrating how efficient our costs are.</p>
25.07	Ofwat	We welcome the company's commitment to meet its PR19 performance commitment levels for leakage by 2024-25. However, we are concerned that, based on the draft WRMP data tables, the company does not forecast to deliver its PR19 performance commitment levels for PCC by 2024-25.	As a consequence of COVID-19, household consumption (and PCC) substantially increased. For our draft submission, at the time of developing our demand forecast available data suggested that meeting the original PR19 PCC target was unlikely to be feasible. However, after reviewing more recent household consumption (and PCC) data, the impacts from COVID-19 on demand have reduced significantly. As a consequence, we have reverted back to our original PCC target from PR19 (135 l/p/d) for our revised draft submission.
25.08	Ofwat	We expect the company to deliver its PR19 and WRMP19 targets. Companies should not expect additional customer funding to address deficits resulting from under delivery in the current or previous periods. We expect the company to review its proposals in these areas for its final WRMP.	We report annually on our progress against our WRMP19 forecasts and our PR19 performance commitments related to water resources, through our annual review of the Water Resources Management Plan. During the first two years of WRMP19, we have met all our targets relating to our delivery of leakage reduction and, despite a significant freeze-thaw event in December 2022, we remain on track to deliver savings of at least 15% in leakage across our region over the full AMP7 period. Our baseline forecasts for WRMP24 reflect the delivery of our planned schemes during the PR19 business plan period (2020-25). Deficits within our baseline WRMP24 forecasts are not the result of under delivery of our PR19 schemes but are influenced by a range of factors including COVID-19 impacts on base year demand, changes in regulatory requirements (e.g. improved drought resilience standard), and updates to data and methodologies used for our latest assessments of supply and demand components.

Reference	Respondent	Feedback	Our response
25.09	Ofwat	<p>United Utilities has set out its strategy to reduce non-household water consumption. We welcome the company's proposal to reduce business demand by 14.2% by 2029-30 compared to 2019-20 baseline levels.⁷ We have previously highlighted the opportunity for companies to deliver business demand reductions and our expectations for WRMP24 are that companies deliver significantly improved levels of water efficiency in the business sector.⁸ We expect the company to set out and clearly justify an ambitious strategy for non-household demand reduction in its final WRMP to inform its PR24 business plan.</p>	<p>Our WRMP24 sets out our plan to achieve a 9% reduction in non-household consumption/usage or 'business demand' by 2037-38 and a 15% reduction by 2059-50 (from 2019-20 levels). We will deliver this via a combination of non-household smart metering and our non-household water efficiency programme.</p> <p>For non-household smart metering, in terms of scale for AMP8 (2025 to 2030), we plan to install a smart meter at every non-household that is already metered (~171,000 non-households or ~90% of non-households) and we'll continue to assess the feasibility of smart metering the other ~10% (~20,000 non-households).</p> <p>We are planning to deliver our non-household water efficiency programme collaboratively with water supply retailers. The proposed scale for AMP8 (2025 to 2030) is ~5,500 audits/visits, initially working with the education and health sectors – although, non-household smart metering will provide greater insights and will inform our audits/visits programme over time.</p>
25.1	Ofwat	<p>The data provided by the company to date shows it is proposing a three-year average PCC reduction over the 2025-30 period that will deliver a level of PCC 5.2% below the 2019-20 baseline by 2029-30. This is 1.1% worse than the company's 2024-25 performance commitment level of 6.3%. The company should be delivering a PCC of 134.9 l/h/d by 2024-25 but is now proposing to deliver a PCC of 136.5 l/h/d by 2029-30. As the company further develops its forecast PCC performance trend between draft and final WRMP it should include the reasons for changes and explain the impact of any revisions on the optimisation and best value option selection in its preferred plan. We expect the company to provide sufficient and convincing evidence in its final WRMP to justify why its selected targets for demand reduction represent the best value approach to meeting a supply-demand balance or delivering long-term strategic outcomes.</p>	<p>As a consequence of COVID-19, household consumption (and PCC) substantially increased. For our draft submission, at the time of developing our demand forecast it was considered that meeting the original PR19 PCC target was unlikely to be feasible. However after reviewing more recent household consumption (and PCC) data, the impacts from COVID-19 on demand have reduced significantly. As a consequence, we will be reverting back to our original PCC target from PR19 (135 l/p/d) for our revised draft submission. We have updated this in in section 4 in our Revised Draft Technical Report - Demand for water.</p>

Reference	Respondent	Feedback	Our response
25.11	Ofwat	We welcome the inclusion of plans to reduce leakage by 50% from 2017-18 levels by 2050. However, the company does not test alternative long-term leakage targets. It only tests achieving the 50% reduction target at a faster pace by 2031. Insufficient evidence is provided why this alternative test was chosen or why different targets were also not tested. It is unclear how the testing has influenced the selected target presented in the draft plan. We expect the company to provide sufficient and convincing evidence of target testing, and an explanation of its decision-making process as well as a justification for the selected leakage reduction in its final WRMP.	In the Revised Draft Technical Report - Deciding on future options, we have included section 10 which details the results of sensitivity tests around the pace of delivery of demand reduction. This includes detail on the alternative investment profiles for each approach. We have justified the pace of delivery within our preferred plan, with reasoning relating to affordability, achievement of national targets, improved resilience and resulting supply-demand balance benefits of each level of demand reduction. Our preferred plan achieves the objectives we have set out in an affordable way, providing customers with not only an improved level of service for temporary use bans (TUBs) but including this as a low regret option in order to maintain resilience to adverse alternative futures.
25.12	Ofwat	We are concerned that the company's draft WRMP tables show that several cheaper feasible options to deliver leakage reductions were not selected. For example, for the Strategic WRZ, the plan chooses a range of leakage control options delivering leakage reductions at a unit cost higher than 12p per m3. However, cheaper feasible options (such as LEA-SRZ5_Find and fix delivering 10 MI/d at 7p per m3) are not selected by the preferred plan. The company needs to explain and provide sufficient and convincing evidence why these cheaper feasible options are not included in final preferred programme.	<p>The primary baseline activities to manage demand for water are:</p> <ul style="list-style-type: none"> • Activity to maintain leakage levels, including 'find and fix' to offset the natural rate of rise (we have now, therefore, discounted option WR500 'find and fix' as a baseline activity); • Free Meter Option (FMO) optant metering and promotion of this, including our 'lowest bill guarantee'; • Metering of new households and non-households; • Meter replacements (like for like); and • Water efficiency communications and engagement. <p>Assuming they meet the screening criteria, activities/interventions/options not covered in the above list will be considered as options to reduce demand for water.</p>

Reference	Respondent	Feedback	Our response
25.13	Ofwat	<p>United Utilities has not discussed its policy with regards to customer supply pipe leakage. We are encouraging companies to evaluate the benefits of a common industry approach to addressing leakage on customers own pipes. We expect companies to provide a view on the benefits of a common industry approach in their statements of response and final WRMPs. We will support companies in the development of a common approach but expect the industry to lead on the development. The Water UK leakage routemap to 20509 committed to an informed debate on customer supply pipe strategy by December 2022.</p>	<p>Our current policy with regards to customer supply pipe leakage is to direct customers to their insurance provider in the first instance, but to offer support in certain circumstances should no appropriate insurance be in place (https://www.unitedutilities.com/help-and-support/your-water-supply/your-pipes/water-supply-pipes/). We will continue to work with the wider industry to develop of a common approach to supply pipe leakage, but we also need to improve our understanding of supply pipe leakage and our smart metering ambitions will support with this.</p> <p>Based on the experience of the wider industry, analysis of smart metering data will allow us to identify customer-side leaks (whether they are plumbing losses and/or supply pipe leaks) more readily. This will improve our understanding of the scale of these issues and the customer expectations surrounding them. We will continue to engage with customers, as well as testing different propositions (e.g. incentives) to inform the wider debate on how best to tackle customer-side leakage. We are also piloting/trialling various technologies focused on customer-side leak location, so we can offer support should it be required.</p> <p>There is also the issue of common/shared supply pipes (https://www.unitedutilities.com/help-and-support/your-water-supply/your-pipes/lead-pipes/shared-supply-pipes/) that will hamper achieving 100% metering penetration, and such pipes are often made of lead. Industry collaboration and innovation will be required to identify the optimal solution for these pipes.</p>
25.14	Ofwat	<p>United Utilities sets out its approach to smart metering households explaining that its metering strategy requires smart metering households on common supply pipes after 2030. However, the company does not sufficiently explain how it proposes to do this and if it is via individual household meters or bulk meters. The company should explore different approaches to smart metering households on common supplies, particularly given the large investment being proposed. The company acknowledges that the preferred full smart metering option is not cost-effective. We expect the company to consider more cost-effective ways of achieving the PCC target, including different option types and delivery profiles, and to provide sufficient and convincing evidence that its metering strategy is optimal over the long-term in its final plan.</p>	<p>Given our current meter penetration, our focus is on single supplies. However, the immediate view on common supply pipes is that we will conduct work to separate them to single supply for the purposes of metering. We have concerns about bulk metering of common supplies due to the complexities this introduces to our billing system.</p>

Reference	Respondent	Feedback	Our response
25.15	Ofwat	<p>The company identifies advanced metering infrastructure (AMI) as the optimal meter technology. Although automated meter read (AMR) was identified as the alternative technology the company explains that it discarded this option in the initial screening stage of the planning process on the basis that it cannot deliver the PCC target. This represents a change in position with respect to United Utilities' Green Recovery proposals (submitted in 2020) where the company identified AMR metering as the optimal technology. To demonstrate that its metering strategy is optimal and best value, the company should clearly present the costs and benefits of the different metering technologies considered (including AMI and AMR) in its final plan. The company should also explain why AMI would be suitable and economic to rollout across its whole region, particularly in rural or remote areas where mobile coverage may not always be available and where AMI may not deliver the full benefits of this technology. The company needs to justify its choice of meter technology more robustly using sufficient and convincing evidence and explain why a blend of AMI/AMR meters would not be better value in final plan.</p>	<p>At the point when the first Green Recovery proposals back in 2020 were being advanced we were clear that AMR was chosen because that was the technology we were able to support at that moment for immediate roll-out. We also explained at the time that we were looking at AMI for the future. Since then we have worked with others, including experts in the field of smart metering and those with experience of the energy sector smart metering programme, to develop our understanding of the costs and benefits that AMI can bring.</p> <p>As summarised in Section 3 of our Revised Draft Technical Report – Options identification, it has become clear that AMI meters can deliver significantly more benefits when compared to other types of meters. AMI meters will provide a much larger decrease in consumption, and this is essential if we are to meet the per capita consumption target of 110 litres per head per day in 2050. Secondly, there are additional benefits in terms of reducing leakage, i.e. by helping to identify customer-side leaks and understanding night use. Our preference for smart metering also aligns with Ofwat's guidance on PR24 long-term strategies and the prescribed technology scenarios, which all include the delivery of smart metering. AMI metering also allows us to engage and influence customers on a different level.</p> <p>Smart metering in rural areas – Our metering strategy is focused on AMI metering. The plan is to roll out AMI capable meters where some meters will be AMI active from the onset and others can be switched to AMI from AMR mode once a communications network becomes available. Given the pace of technology development, we recognise that with smart metering, it's not a case of 'one size fits all'. Some technologies will be better suited for certain geographical locations. With a current meter penetration of less than 50%, for our enhanced metering programme, our roll out strategy prioritises urban areas with low meter penetration, high leakage, high change of occupancy rates and large numbers of void properties. We will continue to revise our strategy in line with technology development, network availability and make decisions at the right time for the best optimal solution for enhanced metering in remote areas. Some of our FMO installations will be in rural areas and the plan is to go with AMI capable meters that operate in AMR mode prior to becoming AMI active.</p>

Reference	Respondent	Feedback	Our response
25.16	Ofwat	Although the preferred metering option was assessed against an alternative of bringing investment forward to achieve full smart metering by 2035, the company has not considered alternative investment profiles. The company should provide sufficient and convincing evidence to justify why the selected profile – rather than doing more or less in the near term – is optimal from a timing of investment perspective.	In the Revised Draft Technical Report - Deciding on future options, we have included section 10 detailing the results of sensitivity tests around the pace of delivery of demand reduction. This includes detail on the alternative investment profiles for each approach. We have justified the pace of delivery within our preferred plan, with reasoning relating to affordability, achievement of national targets, improved resilience and resulting supply-demand balance benefits of each level of demand reduction. Our preferred plan achieves the objectives we have set out in an affordable way, providing customers with not only an improved level of service for temporary use bans (TUBs) but including this as a low regret option in order to maintain resilience to adverse alternative futures.
25.17	Ofwat	We provided detailed feedback on United Utilities' assessment of water needs in our pre-consultation feedback in 2022. Some of our previous feedback has not been appropriately or fully addressed in the draft WRMP and has been raised again in amongst points in this section. United Utilities should provide sufficient and convincing evidence that the feedback has been addressed in the final WRMP.	Please refer to our response to items 25.18 to 25.23 below.
25.18	Ofwat	The company's supply demand balance starting point for the draft WRMP24 is significantly lower than its forecast for the same point in the final WRMP19. The reduction in available water for 2025-26 is equivalent to 9% of company water demand (distribution input). Although some of the changes are due to supply-demand balance reporting updates, there is still insufficient evidence to understand changes in some areas, and the evidence suggests that non-delivery or underperformance is the cause. This includes not meeting expected WRMP19 PCC levels, with significantly higher (over 15%) household demand than anticipated with the company stating this is due to a Covid-19 adjustment, change in base year and methodology changes (balancing unmeasured water between PCC and leakage). The company also proposes raw water and process losses in its draft WRMP24 that are 70% higher than the same point in the final WRMP19. This means that there are significant concerns whether the overall outcome of the WRMP19 as funded at PR19 has been delivered in the round. Companies should not expect additional customer funding to address deficits resulting from under delivery in the current or previous periods. The company should fully quantify and justify the reasoning for changes between WRMP19 and the starting point for WRMP24 at a supply-demand balance component level with sufficient and convincing evidence.	We have included an additional section within the report to set out the differences in 2024/25 from our WRMP19 final plan to our baseline supply-demand balance for the draft WRMP24 assessment. The most significant changes from our Final WRMP19, by magnitude in MI/d at a regional level, are a reduction in our regional Water Available for Use, due to updates to our deployable output assessments including updated data methodology and a new (1 in 500-year) drought resilience standard, and an increase in our regional dry year distribution input, mainly due to observed data in our forecast base year, 2019/20, exceeding the equivalent forecast for that year. The change in our allowance for raw water and treated water losses is due to an updated methodology based on an assessment of the impact of the most recent observed data on our dry year deployable output. Changes in the supply-demand balance position in 2024/25 reflect not only the impact of COVID-19 on demand patterns in our base year (2019/20) but also changes in regulatory requirements and updates to data and methodologies used for the assessment of supply and demand components.

Reference	Respondent	Feedback	Our response
25.19	Ofwat	We expect the company to make substantial efforts on demand reduction for the rest of 2025-30, to ensure that WRMP19 forecast, and PR19 performance commitment targets are met annually, and to set firm foundations for delivering WRMP24. This includes setting out in the plan, how the benefits of funded PR19 activities have been appropriately factored into the draft WRMP24 baseline supply-demand balance. The company should provide granular details of the benefits of funded schemes and how and when these have benefitted the baseline supply-demand balance.	We are continuing to deliver our AMP7 (2020-25) demand management strategy to reduce demand via our water efficiency and leakage reduction programmes throughout the WRMP19 / PR19 period of 2020-25. We report annually on our progress against our WRMP19 forecasts and our PR19 performance commitments related to water resources, through our annual review of the Water Resources Management Plan. During the first two years of WRMP19, we have met all our targets relating to our delivery of leakage reduction and, despite a significant freeze-thaw event in December 2022, we remain on track to deliver savings of at least 15% in leakage across our region over the full AMP7 (2020-2025) period.
25.2	Ofwat	United Utilities has used methods and data to assess its water needs that are appropriate to the scale and complexity of the problem that it faces and has recognised the different problems across its operating area. United Utilities has used a 25-year planning horizon and has also forecast supply demand balance over a longer time period to 2100. This exceeds the requirements of the planning guidelines, however, the final plan would benefit from explaining the rationale for the chosen planning horizon and supply demand balance forecast periods.	The regulatory guidelines state that our plan must cover at least the statutory minimum of 25 years, but that it may be appropriate to plan for the next 50 years, depending on challenges and risks identified in relevant regional plans. Our regional group Water Resources West has chosen to adopt a 60-year period from 2025 to 2085 for the draft regional plan and therefore it was essential to cover at least this period in our supply and demand forecasts, and we have chosen to extend our forecasts beyond this period to ensure that our plan takes a long-term view.
25.21	Ofwat	United Utilities states that some 1-in-500-year delivery testing has been completed and that customers agree with the timing of meeting this in 2039. However, there is very little evidence presented on the impact of costs and the programme for delaying the date, including aiming to achieve this by 2050. Although it appears to have been tested with customers as part of developing the draft WRMP, how this was presented is unclear including the impact on costs, bill impacts, and the year that was used as the delayed delivery date. The timing of 1-in-500-year resilience is a draft WRMP consultation question but again insufficient information is provided on what this would mean for customers in terms of impact on the plan, impact on bills or change in service to help inform responses and achieve meaningful engagement.	In section 10 of the revised Draft Technical Report - Deciding on future options, we have included a table detailing the impact of the sensitivity test for timing of meeting 1:500 EDO. Our analysis suggests that there could be no cost saving or bill impact as a result of bringing 1:500 EDO sooner or later in the planning period. The results therefore suggest that we could meet the 1:500 level of service sooner. However, we are concerned about the uncertainties in the current assessment of 1:500 resilience, and therefore do not intend to guarantee this minimum level of service until 2039.

Reference	Respondent	Feedback	Our response
25.22	Ofwat	<p>The company's outage allowance is high compared to most other companies at over 5.5% of the company distribution input during 2025-30. Therefore, this planning assumption contributes to the company's supply-demand balance and proposal for investment. The company needs to present sufficient and convincing evidence that the outage allowance is appropriate in both the short and long term; is not driving unnecessary and high regret investment; how this level of outage tracks the reported unplanned outage performance commitment; and how the company has considered options to reduce its outage allowance.</p>	<p>The metric 'outage allowance as a % of resource zone deployable output' has some limitations as an inter-company comparison metric. Outage and the associated impact on deployable output is heavily dependent on the characteristics of the resource zone, for example the degree of interconnectivity between sources. Conjunctive use of sources influences the impact that individual outages have on deployable output. The type of sources and WTWs also affect the level of outage. Our North Eden resource zone, which is primarily supplied from BH sources, generally experiences very low levels of outage.</p> <p>Since the Strategic Resource Zone is heavily dominated by surface water sources (approximately 90% of supply is from surface water), the zone has a high number of more complex WTW works. More advanced treatment is required for treating surface water compared to groundwater. We have completed our own benchmarking exercise and found that the outage allowance for the Strategic Resource Zone is comparable to similar zones in other water companies, when expressed as a percentage of deployable output.</p> <p>The unplanned outage ODI is a measure common to all water companies reflecting the asset health of water abstraction and water treatment activities. Since this ODI is separate to the WRMP, there is no assessment of water resource impact; it is purely based on peak week production capacity. Looking at the impact of individual outages on production capacity alone is not a good indicator for the impact on deployable output for the water resource zone, since this does not take into account source yield and the conjunctive use of sources within a water resource zone. For this reason the unplanned outage performance commitment cannot be related and compared against the WRMP outage allowance.</p> <p>As part of our PR24 submission we will propose investment in a number of WTWs to upgrade the existing treatment process and improve overall asset health. This investment is primarily driven by deterioration in raw water quality. The interventions resulting from this investment will help to reduce outage, in addition to ensuring that we continue to supply safe, clean and wholesome drinking water. Since this investment isn't driven by a supply-demand balance requirement, no additional outage reduction options have been considered.</p> <p>In line with the Water Resources Planning Guideline supplementary guidance we have used the UKWIR (1995 & 2016) guidance to calculate outage allowance, which involves a risk-based approach using Monte Carlo analysis. As a mid-point development between WRMP19 to WRMP29, we have updated the methodology for WRMP24 to assess the impact of individual outages for strategic assets against 1 in 500 average</p>

Reference	Respondent	Feedback	Our response
			<p>flow. This improvement to the methodology now means that the outage allowance is coupled to the resource zone deployable output to more accurately estimate the impact of outages at specific assets. At WRMP19 the outage allowance for the Strategic Resource Zone was 101.3 MI/d. For WRMP24 this is now 94.3 MI/d, representing a 6.9% reduction.</p>
25.23	Ofwat	<p>United Utilities has provided assurance that abstraction reductions are not double counted when licence capping is combined with environmental destination scenarios.</p>	<p>We can confirm that no double-counting occurs when sustainability reductions/licence capping are combined with environmental destination.</p>

Reference	Respondent	Feedback	Our response
25.24	Ofwat	The draft plan discusses United Utilities' strategy for water transfer. The strategy is underpinned by the North West Transfer (NWT) solution, and Severn to Thames Transfer (STT) solution, that United Utilities sponsor and co-sponsor respectively in the Regulators Alliance for Progressing Infrastructure Development (RAPID) programme. We encourage United Utilities to engage closely with RAPID during the development of the final plan, where some uncertainties still exist with the solutions, such as the potential for external transfers to support NWT and within-zone resilience.	We have actively engaged with RAPID to discuss the development of the draft Water Resources Management Plan 2024 (dWRMP24) and the potential impacts any changes may have on the scope and pace of both the North West Transfer (NWT) and Severn to Thames Transfer (STT) projects. Through our Gate 2 submission and subsequent discussions we have agreed a mid-Gate 3 checkpoint in order to steer both projects following the outcomes of the final WRMPs.
25.25	Ofwat	There are some discrepancies between company and regional plans on the representation of STT, particularly when elements of it are needed to support Severn Trent Water and Water Resources South East (WRSE). While we recognise timing of change requests have limited United Utilities' ability to reconcile some discrepancies for the draft plan, we expect all companies and regional groups involved to represent the STT option consistently in their final WRMPs. Final plans should consider STT as an integrated solution, ensuring end-to-end consistency and engagement. All plans representing STT, should also adhere to Welsh legislation and engage Welsh stakeholders and customers where relevant.	Aligning transfers between multiple companies and regions within the statutory WRMP timescales has been challenging. In our case, as a donor company, transfers significantly affect other parts of our WRMP which makes it difficult to accommodate late changes. Unfortunately, we received change requests subsequent to the conclusion of regional planning reconciliation and the completion of our WRMP decision-making. We have based the revised draft WRMP on the updated final agreed (March 2023) regional planning reconciled position. We have adhered to Welsh legislation and engaged Welsh stakeholders where relevant.
25.26	Ofwat	The approach to identifying third party options and the development and appraisal of these has been clearly explained. We welcome that the company has provided support to third parties to develop options to a suitable level to ensure these are not unfairly disadvantaged and so that options can be compared on a consistent basis.	Thank you for this positive feedback and for recognising the effort we made to identify, engage and support third parties in our WRMP.

Reference	Respondent	Feedback	Our response
25.27	Ofwat	<p>There are limited options for non-household water discussed, and little evidence of engagement with retailers on options for reductions. Opportunities in this area should be identified and further expanded on for the final plan.</p>	<p>Reducing non-household (NHH) demand for water during AMP8 (2025-2030) is a fundamental element of our plan not only in contributing to Defra's proposed national water consumption reduction target of 9% by 2037/38, but also in reducing overall water demand.</p> <p>NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions in our WRMP to enable us to deliver a 9% reduction in business demand by 2037/38. Our draft Water Resources Management Plan 2024 (dWRMP24) sets out that we will deliver thousands of NHH water efficiency visits in AMP8 to save almost 10 MI/day to meet demand targets, and deliver smart meter upgrades to all NHH premises.</p> <p>NHH water efficiency visits will identify and where possible fix leaking toilets, taps, urinals and showers, and where appropriate fit water saving devices to address both leakage and wastage in NHH premises. We will work with retailers to structure a scheme which ensures that businesses across our region have access to a free of charge water efficiency visit. The scheme will be structured to encourage retailers to engage with their customers directly however if take up of the scheme by certain retailers or particular areas or sectors is limited then we will deliver the visits ourselves.</p> <p>We worked with third parties on the development of our demand management and reduction options for our dWRMP24 and more detail on this can be found in section 3 of the Revised Draft Technical Report – Options identification. In addition to this, going forward we are planning to deliver our non-household water efficiency programme collaboratively with water supply retailers. The proposed scale for AMP8 (2025 to 2030) is ~5,500 audits/visits, initially working with the education and health sectors, although non-household smart metering will provide greater insights and will inform our audits/visits programme over time.</p>

Reference	Respondent	Feedback	Our response
25.28	Ofwat	The company has included a change in level of service, bringing United Utilities in-line with the other Water Resources West (WRW) companies' levels of service for temporary use bans (hosepipe bans) at a frequency of 1-in-40 years. However, the company is proposing options that it states allows it to meet both 1-in-40 resilience in its region and support transfer with others utilising the same assets. It is likely that the water from these options will be needed both within company and to trade at the same time. The company should provide sufficient and convincing evidence in its final plan that this approach does not increase availability risks and how this complex arrangement would operate.	Due to a reduced water transfer need, the acceleration of water labelling benefits (as required by the Water Resources Planning Guideline) and a range of new government demand targets our level of service improvement can now be delivered by leakage reduction and demand management.
25.29	Ofwat	United Utilities has not provided sufficient information regarding option utilisation in its draft WRMP. We expect to see more robust evidence on utilisation in United Utilities final WRMP, in line with feedback in our pre-consultation feedback letters. This should fully explain and justify the utilisation rates given and provide sufficient and convincing evidence that modularity and scalability in optioneering has been fully considered and explored to manage low utilisation situations. We expect to see more evidence in the final plan that operational interventions have been considered and will be implemented where appropriate if this is the best value solution.	We have included a new section in our Revised Draft Technical Report - Deciding on future options to outline the utilisation modelling undertaken for the supply options in our WRMP. As explained in this new section, the NWT SRO was designed to avoid low utilisation situations despite its overall dry year focus.
25.3	Ofwat	Additional information on utilisation of options that deliver greater than 10Ml/d was provided by United Utilities through the query process. This came with a detailed written explanation on the modelling that has been undertaken. The modelling was initially undertaken for the North West Transfer option, in line with RAPID gate two guidance, and then used for the draft WRMP. All options relate to water transfer. The North West Transfer has been designed to provide water to seven water companies across three regions. A more comprehensive description of utilisation, as we've seen through the RAPID gate two submission, should be provided in the final WRMP as per our pre-consultation feedback and as set out in WRRG.	We have included a new section in our Revised Draft Technical Report - Deciding on future options to outline the utilisation modelling undertaken for the supply options in our WRMP.

Reference	Respondent	Feedback	Our response
25.31	Ofwat	Sensitivity analysis has been undertaken to test the preferred and alternative programmes to understand if cost savings could be achieved. Notably this has not yet looked at flexing the year in which plans aim to meet 1 in 500 year drought resilience. Although an explanation of the approach and decisions made for meeting 1 in 500 year drought resilience is provided, the company should include sensitivity analysis that provides sufficient and convincing evidence to justify the decisions made on the timing of 1 in 500 year drought resilience in its final plan.	In section 10 of the Revised Draft Technical Report - Deciding on future options, we have included a table detailing the impact of the sensitivity test for the timing of meeting the 1:500 EDO drought resilience standard. Our analysis suggests that there would be no cost saving or bill impact as a result of bringing 1:500 EDO sooner or later in the planning period. The results therefore suggest that we could meet the 1:500 level of service sooner. However, we are concerned about the uncertainties in the current assessment of 1:500 drought resilience, and therefore do not intend to guarantee this minimum level of service until 2039.
25.32	Ofwat	United Utilities has presented a core pathway, but it appears to focus on minimum expenditure instead of low-regret investment, which is not in line with the core pathway as described in the WRPG. This could result in an underestimation of investment in the long-term and increase the long-term costs for customers. In its final plan, we expect United Utilities to present a core pathway that includes low-regret investment to meet future uncertainties and additional option value to allow further flexibility in the future. United Utilities should discuss modular investment, investment to keep options open in the future, and investment required across a wide range of plausible scenarios.	<p>The WRMP preferred plan is designed to achieve objectives in the most likely scenario, and provide resilience to most alternative scenarios through low regret options. Our demand management plan is designed to meet the stretching targets set out in the Environmental Improvement Plan. In benign scenarios, these options are still required in the short term to ensure that we meet our targets. Our chosen supply options for the NWT support all transfers in the long term and are best value in all scenarios.</p> <p>One of our key objectives for the preferred plan is to improve our level of service for temporary use bans (TUBs) from 1 in 20 years to 1 in 40 years, and in line with the updated Water Resources Planning Guideline and other consultation feedback, we have now represented this an option. The TUBs improvement remains as a low regret option from Draft WRMP24, as in the case of more adverse futures we can return this level of service to 1 in 20 years and maintain the supply-demand balance. Therefore, 1:40 TUBs is a low regret option which features on our adaptive plan diagrams, and notably is used in the high climate pathway.</p>

Reference	Respondent	Feedback	Our response
25.33	Ofwat	United Utilities needs to demonstrate that scenario testing, including the common reference scenarios, has been used to identify low-regret investment that is required in all or most plausible futures. This should expose what investment should be undertaken regardless of future circumstances.	<p>The WRMP preferred plan is designed to achieve objectives in the most likely scenario, and provide resilience to most alternative scenarios through low regret options. Our demand management plan is designed to meet the stretching targets set out in the Environmental Improvement Plan. In benign scenarios, these options are still required in the short term to ensure that we meet our targets. Our chosen supply options for the NWT support all transfers in the long term and are best value in all scenarios.</p> <p>One of our key objectives for the preferred plan is to improve our level of service for temporary use bans (TUBs) from 1 in 20 years to 1 in 40 years, and in line with the updated Water Resources Planning Guideline and other consultation feedback, we have now represented this as an option. The TUBs improvement remains as a low regret option from Draft WRMP24, as in the case of more adverse futures we can return this level of service to 1 in 20 years and maintain the supply-demand balance. Therefore, 1:40 TUBs is a low regret option which features on our adaptive plan diagrams, and notably is used in the high climate pathway.</p>
25.34	Ofwat	<p>As part of this evidence, United Utilities should clearly set out the impact of the Ofwat common reference scenarios compared to the 'most likely' scenarios on which the preferred plan is based. This should include quantifying the impact on demand of the low and high scenarios for climate change, demand, and abstraction reductions across the planning period. The company should also quantify the estimated impact on the expenditure requirement of:</p> <ol style="list-style-type: none"> 1) planning based on the high scenarios for climate change, demand, and abstraction reductions, and the slower scenario for technology; and 2) planning based on the low scenarios for climate change, demand, and abstraction reductions, and the faster scenario for technology. 	In Section 5 of the Revised Draft Technical Report - Deciding on future options, we have detailed the impact of each of the common reference scenarios on planning assumptions, compared to the most likely scenario. We have then quantified this impact on the supply-demand balance in graphs and tables. In Section 11 - Our Adaptive Plan, we have included a table which demonstrates how the scenarios impact investment, and graphs showing how demand reduction profiles are changed. Our adaptive pathways for each of the elements listed are also included in our draft Water Resources Management Plan 2024 (WRMP24) tables and the PR24 tables LS3.
25.35	Ofwat	This will allow for improved understanding of the drivers of investment, the sensitivity of the plan to future scenarios and confidence in the investments being proposed. The company should use the results of this testing to identify and justify with sufficient and convincing evidence low regret investments, rather than just ones that meet both high and low planning needs in a non-adaptive way.	Section 11 of the Revised Draft Technical Report - Deciding on future options details how we have taken into account the scenarios, the resulting investment required, and how one of our key low regret options, the level of service improvement to 1 in 40 years for temporary use bans, is a low regret option for alternative futures.
25.36	Ofwat	United Utilities has presented multiple adaptive plans: one for each scenario as well as a bespoke scenario for water transfer. In its final plan, United Utilities should present these as one overall adaptive plan	In the Revised Draft Technical Report - Deciding on future options, we have included one overall adaptive plan diagram in Section 11.

Reference	Respondent	Feedback	Our response
25.37	Ofwat	United Utilities has not used the technology common reference scenario, as it considers it is an unfeasible scenario for the company. However, when testing the strategy against the scenarios, the operationalisation of the technologies should always be assumed to reduce the costs of meeting long-term outcomes. Where companies consider it particularly implausible that the adoption of a technology could be cost-effective in their region by the dates in the scenarios, this should be highlighted.	In Section 11 of the Revised Draft Technical Report - Deciding on future options, we detail the reasons why we do not believe the fast technology scenario to be feasible in our company. This is because of the limitation of our 'Free Meter Option' programme and the fact that we are not a 'water-stressed' region and therefore cannot compulsory meter. We have explored this scenario nonetheless and have included the impact of it within our adaptive plan, detailing the impacts it has on our short and long-term outcomes and investment needs.
25.38	Ofwat	United Utilities states that the timing of the abstraction reductions required for environmental destination falls after its short-term investment needs, and once these needs are met, the benefits provided would outweigh the difference in environmental destination between scenarios; hence, the company stated it does not require pathways related to abstraction reductions in its adaptive plan. However, uncertainty in the benefits provided should be considered.	As part of the 'enhanced' scenario for our environmental destination, additional licence reductions (over and above 'BAU+') are applied to SSSIs and other protected areas in specific waterbodies we abstract from. This scenario leads to an overall further total reduction in licence volume of over 10% compared to the BAU+ scenario. However, the impact on system deployable output (DO) is very similar to the BAU+ scenario due to further licence reductions under the enhanced scenario falling on sources where the additional lost water from the licence can be mostly made up from water in other parts of the resource zone. The impacts of our demand reduction plan outweigh this difference in environmental destination. However, in order to consider the uncertainty in the benefits of demand reduction, we have carried out sensitivity testing and also included multiple pathways in our adaptive plan, including one in which 50% of our PCC target is met. More detail on these tests and the adaptive plan can be found in Sections 10 and 11 of the Revised Draft Technical Report – Deciding on future options.
25.39	Ofwat	United Utilities has identified trigger points and decision points which are supported by a monitoring plan with well-defined metrics. Trigger points should be quantified when possible, and the company should provide evidence of this in the data tables; the company should also describe the alternative pathways in the relevant section of the data tables.	In Section 11 of the Revised Draft Technical Report - Deciding on future options, we detail the monitoring plan that we will follow for the key elements of our adaptive plan. We have aimed to quantify these where possible, with metrics such as PCC, leakage reduction and climate warming, as monitored by bodies such as the Intergovernmental Panel on Climate Change (IPCC). We monitor our supply-demand balance annually as part of the Annual Water Resources Review, and this will be a key metric for understanding a new pathway trigger. The trigger point for all scenarios will be dependent on the delivery timescale of our best value option at that point in the planning period, and the scale of the need required.
25.4	Ofwat	United Utilities has not referred to Ofwat's public value principles, although the plan adheres to most of the principles. We would like United Utilities to reference Ofwat's public value principles, and to reflect expectations set out in the PR24 final methodology, within its best value planning process in its final plan and to explain how these have been used to inform best value decision making.	The Revised Draft Technical Report - Deciding on future options now references where Ofwat's Public Values Principles have been taken into account in decision making. Please see sections 1, 2 and 9.

Reference	Respondent	Feedback	Our response
25.41	Ofwat	The costs and benefits of the least cost plan against the preferred and alternative plans should be presented. Where investment is proposed beyond least cost, the value of the additional benefit needs to be presented within the WRMP planning tables. Robust valuation data is important where companies are requesting significant areas of investment.	In Section 9 of the Revised Draft Technical Report - Deciding on future options, we have included a detailed description of the differences between the best value (Preferred) plan and the least cost and other alternative plans. This includes key detail on the differences in environmental and social benefits according to the approach set out in Section 2 - Measuring the benefits of our plan. This approach was designed at regional level with regulator and industry-wide involvement, and has been through our external assurance process.
25.42	Ofwat	United Utilities has identified £599 million (2021-22 prices) of enhancement expenditure relating to the delivery of its draft WRMP24 in the 2025-30 period. Over the 2025-50 period, the company has identified a requirement for over £3.1 billion of enhancement expenditure to deliver its long-term plan. For this investment, United Utilities plans to deliver around 68 MI/d of supply demand benefit in 2025-30. The company proposes to deliver benefits at a higher unit cost than other companies over this period. In particular we have concerns with the company's proposed metering investment, which makes up 70% of the company's 2025-30 requested expenditure. As discussed above the benefits from this investment are being delivered at a higher unit cost of 20.7 £m/MI/d when compared to the industry median of 7.5 £m/MI/d. United Utilities should demonstrate why its metering strategy is best value compared to alternative options as well as how these costs are efficient in its final WRMP.	<p>Since publication of our draft plan, we have conducted a full review of metering costs and benefits. We worked with PricewaterhouseCoopers (PwC) to carry out a full review of our smart metering proposals and have made several revisions to our draft Water Resources Management Plan 2024 (dWRMP24):</p> <ul style="list-style-type: none"> • Draft WRMP24 presented 2020-21 prices with optimism bias (optimism bias was relatively significant for our Draft WRMP24, but is now reduced and will not be included in PR24 – replaced by costed risk) • Costs include benefit enablement (e.g. new and upgraded systems for smart meter asset management and advanced analytics) • Carlisle Resource Zone option WR601a was selected at Draft WRMP24 and this included relaying common/shared supply pipes to enable full metering, but water labelling changes have removed this need as part of the 'best value' plan • We worked with Baringa to determine appropriate technology choice, as well as to benchmark smart metering costs and benefits. <p>Our Revised Draft Technical Report - Deciding on future options provides details of our best value preferred plan and demonstrates why metering options have been selected as part of this plan.</p>
25.43	Ofwat	The company should provide sufficient and convincing evidence that the preferred options being selected, across all areas of its plan, are best value in its final WRMP24. The company should ensure costs are reliable, efficient, and appropriately allocated, and continue to refine and develop detailed bottom-up cost profiles to ensure a greater level of maturity of costings. We encourage United Utilities to engage with the market further to support this work.	Our costing approaches have been through internal check and review, have been agreed across the subject matter experts in our business and have been through an external assurance process. We have carried out extensive sensitivity testing, programme appraisal and adaptive planning to evaluate a best value preferred plan. Our best value approach was developed collaboratively with Water Resources West, in line with best value planning guidance.

Reference	Respondent	Feedback	Our response
25.44	Ofwat	Results from a WRW consultation on environmental destination state that opportunities for stakeholder collaboration on the funding for different projects exist, however no further details are provided on this. Further investigation of partnership opportunities for co-funding and co-delivery with stakeholders should be undertaken and set out in the final WRMP.	<p>For AMP8 and beyond, when implementing further catchment interventions, we will always explore opportunities to work in collaboration with local key stakeholders to ensure that funding (including co-funding) and subsequent interventions are prioritised correctly to ensure benefits are fully maximised. Through discussion with local stakeholders, we will identify external funding opportunities such as woodland planting grants that partners will apply for to provide match funding to a financial contribution from United Utilities Water. Whilst we assume that there will be access to funding to allow partners to collaborate with us, there is uncertainty on what exactly these opportunities (and co-funding availability) will be beyond 2025.</p> <p>Stakeholder engagement is key to enabling partnership working and developing solutions to be delivered collaboratively and we have a strong track record of working in partnership. For example, in 2022 we undertook a workshop with stakeholders from the Wyre catchment to identify opportunities for co-funding and co-delivery. Some of these are already underway and future opportunities on the Wyre have been planned for the AMP8 WINEP including the holistic study on Grizedale Brook looking at in-stream habitat improvement and the benefits on water resources and other environmental drivers.</p>
25.45	Ofwat	We expect the company to provide sufficient and convincing evidence that the Board has challenged and satisfied itself that the WRMP and the expenditure proposals within them are deliverable in the context of the wider PR24 business plan proposals. The company should also demonstrate that it has put in place measures to ensure that the plans, of which the WRMP forms a key part, can be delivered	We have continued to gain Board assurance on our draft Water Resources Management Plan 2024 (dWRMP24), ensuring that the consultation process has resulted in an appropriately updated plan that will be integrated into our wider business planning. We have submitted an updated Board Assurance Statement along with our revised dWRMP24.

Reference	Respondent	Feedback	Our response
11.01	Peak District National Park (Web form response)	<p>1a. In terms of resilience to drought, there is a balance to be struck between the environmental effects of drought resilience compared to early measures to conserve water in drier years.</p> <p>For example, from an environmental standpoint, the early use of restrictions on public consumption would be preferable to the increased abstraction from rivers at times of low rainfall. The river environment will already be affected by low rainfall, increasing abstraction rates at such times worsens that effect.</p>	<p>Thank you for taking the time to respond to our draft Water Resources Management Plan 2024 (dWRMP24) consultation. We share your concerns regarding the management of water. We set out the actions we will take to protect water supplies should a drought occur in our Drought Plan 2022, which the WRMP24 submission aligns to.</p> <p>Our plan proposes to improve our current levels of service for the frequency of implementing temporary use bans (TUBs), from 1 in 20 years (5% annual chance) to 1 in 40 years (2.5% annual chance). This is delivered by using leakage reduction and demand management to reduce consumption (noting that delivery in our draft submission also included the dual-purposing of some of our water transfer options which will only need to support transfers some of the time). At the same time this also reduces the frequency of implementing drought permits and orders from 1 in 40 years (2.5% annual risk) to 1 in 50 years (2% annual chance). We are now able to deliver the temporary use ban improvement without the need for transfer options by reducing both leakage and consumption. This is because our revised draft submission takes into account a reduced transfer need and new government demand targets. It is important to note that the drought levels remain consistent with those detailed in our Drought Plan 2022, and the point at which we would implement a temporary use ban has not changed. As described above the combination of reduced demand and leakage along with water transfer options means that the point of TUBs implementation will be reached less frequently.</p> <p>In assessing the resilience of our supply system we take into account the conditions of our abstraction licences. The Environment Agency (EA) and Natural Resources Wales (NRW) set abstraction licence conditions that limit the duration of licences, the volumes that can be abstracted (daily limits, annual limits, seasonal limits) and set hands-off-flows to ensure that water is not abstracted below a certain river flow threshold. The conditions ensure that sufficient flows are left to sustain the ecology. Moreover, water companies have to apply for drought permits if they want to take more water from the environment during dry weather, this being a complex process that requires very robust evidence to demonstrate the water company has done everything in their power to avoid such a situation and that the damage to the environment is temporary and can be reversed, before permission is granted. Our supply forecasts and environmental destination has included forecasts of reduced availability and more restrictive abstraction licences in the future due to climate change.</p>

Reference	Respondent	Feedback	Our response
11.02	Peak District National Park (Web form response)	1b. Generally, the Authority is supportive of measures to address leakage and to protect the future water environment. The deployment of meters and other consumer-based measures may need to be tempered with significant reductions in leakage in order to maintain public support and buy-in.	We thank the Peak District National Park Authority for taking the time to respond to our consultation and for their support relating to these matters.
11.03	Peak District National Park (Web form response)	1c. From the perspective of environmental impact, addressing issues of leakage and reducing demand are positive and should be given priority. However, there may be other environmental enhancement measure to address catchments that might deliver benefits sooner, or in a way that provide Biodiversity Net Gain.	We manage our catchments holistically in partnership with tenants, landowners and other stakeholders to deliver multiple benefits including environmental enhancement measures; details of our Catchment Systems Thinking (CaST) approach and partnerships are provided in Section 2 of our main Water Resources Management Plan 2024 (WRMP24) report. Our environmental consultants have undertaken Biodiversity Net Gain and Natural Capital assessments of our draft Water Resources Management Plan (dWRMP), and we have incorporated the outcome of these assessments in our decision-making through ecosystem resilience metrics, in line with Water Resources Planning Guideline requirements that WRMPs should deliver biodiversity net gain where appropriate, deliver environmental gain and use a proportionate natural capital approach.
11.04	Peak District National Park (Web form response)	2. As stated previously, the Peak District National Park Authority is supportive of measures to address leakage and recognises that this can only be achieved through the replacement / upgrade of the existing water distribution network. Whilst accepting that the cost of this approach will inevitably be borne by the consumer, it is important to ensure that safeguards are put in place to avoid water poverty. From the National Park Authority perspective, it is also particularly important to ensure that measures to address leakage do not themselves negatively impact on the landscape, cultural heritage and wildlife of the Peak District National Park.	To deliver our strategic choices we identified possible options, using outcomes from customer research to shape our plan to their preferences. Collaborating with Water Resources West we also developed a set of 'best value metrics' to quantify and maximise the benefits of our plan. We are acutely aware of the ongoing cost of living challenge and with this in mind, we have identified effective ways to deliver our strategic choices to minimise the impact on customer bills. Ensuring that our options do not negatively impact the landscape and environment is also of great importance to us. Our options have undergone environmental assessments and these ratings have informed our selections. Our best value metrics also take these factors into account with metrics such as ecosystem resilience and human and social wellbeing. These metrics also align with our wider company six capitals thinking approach, which helps us ensure the affordability and resilience of our essential public services for current and future generations.
11.05	Peak District National Park (Web form response)	3. The Peak District National Park Authority is supportive of measures aimed at reducing water consumption through water efficiency measures. The current labelling of electrical devices enables consumers to make choices on the efficiency of products. A similar approach to products related to water use would be sensible and is supported.	Thank you for your support.

Reference	Respondent	Feedback	Our response
11.06	Peak District National Park (Web form response)	4. From the Peak District National Park's perspective, our main priority is the maintenance of the integrity of the catchments and distribution network within the National Park. We would not wish to see transfers from the North West to have an impact on the environment and wildlife of the National Park's reservoirs and catchment areas. We are also wary of the potential for the spread of invasive species through the transfer of water from other areas to the networks in and around the Peak District.	All options are subjected to stringent environmental assessment as required by water resources planning guidance and environmental / planning legislation. We also undertake a specific invasive non-native species assessment. Please also note that under the 2021 Environment Act we are required to provide 'biodiversity net gain'.
11.07	Peak District National Park (Web form response)	5. The National Park Authority's priority is the environment of the National Park. The use of measures to restrict water use in times of drought help to protect that environment and particularly water dependent species in and around the catchments of the National Park's reservoirs. Our preference would be for hose pipe bans to be more frequent if they addressed the environmental effects of increased abstraction from rivers at times of low rainfall. The river environment will already be affected by low rainfall, increasing abstraction rates at such times worsens that effect. We are also mindful of the effects of prolonged drought on the ecosystems in and around the reservoirs. In short, early use of temporary use bans that reduce the effects of drought on the environment may be preferable to a delayed approach that accepts the effects of drought and seeks to mitigate by importing water from elsewhere.	Please see answer to item 11.01 above.
17.01	Strategic Panel & Committees	Having reviewed water companies' draft plans, the Strategic Panel does not believe that they are currently considering the needs and potential contribution of NHH customers. With Defra's target to reduce NHH demand by 9% by 2038 now confirmed, more work is needed by water companies to go further, not only in the commitments set out around metering and water efficiency for the NHH market, but for these commitments to be much more prominent in companies' plans. The NHH market accounts for 30% of the total water consumed in England and Wales. Business customers therefore have a significant role to play in reducing demand and water wastage – which is particularly important given that 15 of the water company areas in England and Wales are now classified as "seriously water stressed".	Thank you for taking the time to respond to our draft Water Resources Management Plan (dWRMP) 2024 consultation. Non-household (NHH) demand accounts for just over a fifth of the total volume of water we supply. Reducing NHH demand for water during AMP8 (2025-2030) is a fundamental element not only in contributing to Defra's proposed national water consumption reduction target of 9% by 2037/38 but also in reducing overall water demand. NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions in our revised draft Water Resources Management Plan 2024 (rdWRMP24) to enable us to deliver a 9% reduction in business demand by 2037/38. Our rdWRMP sets out that we will deliver thousands of NHH water efficiency visits in AMP8 (2025-2030) to save almost 10 Ml/day to meet demand targets, and deliver smart meter upgrades to all NHH premises.

Reference	Respondent	Feedback	Our response
17.02	Strategic Panel & Committees	<p>On 9 February, MOSL CEO, Sarah McMath, wrote to you individually asking for specific actions to be taken in developing the final plans. We support the actions MOSL has set out and call on all water companies to clarify their commitments and how they intend to achieve Defra's reduction target. As stated in our market outcomes document 'Water efficiency can no longer be seen as an "add-on"'. Neither can the NHH market be simply an "add on" to water companies' plans for household customers. Instead, the NHH market must be fully integrated into these plans as business customers represent a significant opportunity to reduce demand and as the majority of NHH customers use water for the same purposes as household customers (taps and toilets).</p> <p>I urge all water companies to clarify their plans for NHH smarter metering and water efficiency within their final WRMPs and ensure engagement with the market is at a Board level.</p>	<p>Reducing non-household (NHH) demand for water during AMP8 (2025-2030) is a fundamental element of our plan not only in contributing to Defra's proposed national water consumption reduction target of 9% by 2037/38, but also in reducing overall water demand.</p> <p>NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions in our revised draft Water Resources Management Plan 2024 (rdWRMP24) to enable us to deliver a 9% reduction in business demand by 2037/38. Our rdWRMP24 sets out that we will deliver thousands of NHH water efficiency visits in AMP8 (2025-2030) to save almost 10 Ml/day to meet demand targets, and deliver smart meter upgrades to all NHH premises.</p> <p>NHH water efficiency visits will identify and where possible fix leaking toilets, taps, urinals and showers, and where appropriate fit water saving devices to address both leakage and wastage in NHH premises. We will work with retailers to structure a scheme which ensures businesses across our region have access to a free of charge water efficiency visit. The scheme will be structured to encourage retailers to engage with their customers directly however if take up of the scheme by certain retailers or particular areas or sectors is limited then we will deliver the visits ourselves.</p> <p>We have an 'always on' communication plan which aims to encourage household customers to avoid waste, use less and educate them to where their water comes from and the broader impact of their behaviour on the local environment. We will carry this forward into AMP8 (2025-2030), evolving our messaging to ensure it remains relevant and effective, as well as expanding our focus to NHH customers.</p>

Reference	Respondent	Feedback	Our response
22.01	UK Water Retailer Council	<p>At market opening, it was anticipated that competition between retailers would drive the provision of water efficiency support to NHH customers. This hasn't been the case. It is apparent that since market opening, there are neither sufficient incentives on customers to drive behaviour change and demand for water efficiency support from their retailers, nor are there sufficient incentives on retailers and wholesalers to provide it in the absence of customer demand. And even if there was demand, the lack of granularity of consumption data makes it difficult for NHH customers to assess potential benefits of water efficiency interventions or measure the benefit of any such intervention.</p> <p>To achieve the environmental target of 9% (245 Ml/d) by 2038 will require a step change in data quality and availability in the market and potential changes to the regulatory framework.</p> <p>Currently, some NHH properties are still not metered and, according to information from MOSL, most (around 75%) NHH properties are fitted with legacy, i.e. 'dumb' meters. In addition there are around 179,000 'long-unread' meters, including almost 24,000 dating from pre-market opening. In total therefore almost 14% of the NHH meters have not had a meter reading entered onto CMOS for 12 months or more. Without the funding to overcome this significant data quality and availability impediment the ability to progress water efficiency and demand reduction in the NHH market will be constrained. The 2024 Water Resources Management Plans and PR24 business Plans, together, present the opportunity to address this legacy issue holding back the market and resulting in the major cause of customer complaints</p> <p>We note and support Ofwat's inclusion in its PR24 Final Methodology that 'In</p>	<p>Thank you for taking the time to respond to our draft Water Resources Management Plan (dWRMP) 2024 consultation. We recognise the wider benefits NHH smart metering will bring to all parties involved, i.e. wholesalers, retailers, customers and the market operator.</p>

Reference	Respondent	Feedback	Our response
		<p>their WRMPs and business plans we expect companies to consider smart meter solutions as the standard meter installation type. For English companies this is in accordance with the UK government expectations for water resources planning.' Ofwat repeats this statement a number of times and qualifies this by referring to both residential and business customers</p>	

Reference	Respondent	Feedback	Our response
22.02	UK Water Retailer Council	<p>Smarter metering</p> <p>We welcome your reference to the work of Artesia commissioned by MOSL on 'A Strategy for Enhancing Metering Technology' and your review, in light of that, of the business case for upgrading existing metering for NHH customers.</p> <p>However, despite the 'Deciding on Future Options' document setting out the wider, holistic benefits including better accuracy and more timely meter readings enabling customers to better understand their water consumptions and in turn become more water efficient, and confirming that NHH demand accounts for just over 20% of total volume supplied, you state that 'Non-household smart meter upgrades have not been selected as part of the WRMP investment programme'.</p> <p>We feel your decision to exclude NHH customers from the clear and established benefits, accepted by yourselves, is a retrograde move and is out of step with the majority of other water companies who are either a) continuing their current smart metering programmes and including NHHs, b) planning to include NHHs in their smart metering programmes for AMP8 or c) will include trials of NHH smart metering alongside their HH rollout programmes.</p> <p>We also seek clarity on your suggestion of 'fitting of smart capabilities on NHH meters within future plans'. Does this mean that NHH customers will need to wait until after the 2029 WRMPs for even 'add-on' technology to existing meters?</p> <p>We are concerned that without the availability, quality, granularity and timeliness of consumption data from smart metering the company, in collaboration with retailers, will not be able to achieve the 9% target reduction in NHH demand by 2038 set by Government</p>	<p>Our revised draft Water Resources Management Plan 2024 (rdWRMP24) includes the replacement of all NHH meters with AMI meters.</p>

Reference	Respondent	Feedback	Our response
22.03	UK Water Retailer Council	<p>Water efficiency</p> <p>We appreciate your engagement with non-household customers via retailers and note your proposals to target the education and tourism sectors where you believe the most significant savings can be made.</p> <p>However, the only information we can see on delivering water efficiency savings among the NHH customer base relates to water efficiency audits within Strategic RZ. Furthermore, your plan suggests that many of your options utilise data-driven insights to target your activities, e.g. water efficiency audits. However, without the availability, quality, granularity and timeliness of consumption data from smart metering we have concerns that the company, in collaboration with retailers, will not be able to achieve the 9% target reduction in NHH demand by 2038 set by Government</p> <p>We also note that your reference to the National Infrastructures Commission's set of recommendations, including the requirement to consider systematic roll out of smart meters as a first step in a concerted campaign to improve water efficiency. However your plan does not appear to follow this recommendation, at least for NHH customers</p> <p>We would expect therefore to see greater clarity in your final WRMP on how the company in collaboration with retailers will provide meaningful consumption data to a) support water efficiency audits to NHH customers and b) enable the NHH water efficiency savings expected by Government.</p>	<p>Reducing non-household (NHH) demand for water during AMP8 (2025-2030) is a fundamental element of our plan not only in contributing to Defra's proposed national water consumption reduction target of 9% by 2037/38, but also in reducing overall water demand.</p> <p>NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions in our revised draft Water Resources Management Plan 2024 (rdWRMP24) to enable us to deliver a 9% reduction in business demand by 2037/38. Our rdWRMP24 sets out that we will deliver thousands of NHH water efficiency visits in AMP8 (2025-2030) to save almost 10 Ml/day to meet demand targets (this will not be limited to education and health sectors or the Strategic RZ), and deliver smart meter upgrades to all NHH premises.</p> <p>We have used data from United Utilities Water schools trial and data from others in the industry to complete a comprehensive analysis of SIC code data to establish potential benefits for our NHH customer base. Delivering smart meter upgrades to all NHH customers in AMP8 (2025-2030) will give us access to more timely and granular data, albeit this will be staggered throughout the AMP.</p>

Reference	Respondent	Feedback	Our response
22.04	UK Water Retailer Council	<p>We believe all water companies should include in their Final WRMPs:</p> <ol style="list-style-type: none"> 1. When referring to customers, defining whether household or non-household 2. Confirmation that NHH customers will be included in <ul style="list-style-type: none"> • The company's rollout of smarter meter installation programmes • The delivery of water efficiency advice and measures. <p>In both cases companies should set out their plans and how they propose to engage and collaborate with retailers and NHH customers.</p> <ol style="list-style-type: none"> 3. Confirm the number of smart(er) meters they intend to rollout during AMP8, broken down by HH – NHH and by AMR – AMI. 4. Demonstrate how they have taken account of evidence from the existing research work on smart(er) metering already in the Market, commissioned by MOSL, and the trials already carried out by other water companies 	Noted.

Reference	Respondent	Feedback	Our response
3.01	Water Resources West	<p>However, subject to the results of the consultation on the draft WRMPs there may be need for changes to the scheme selection. Therefore, a third reconciliation between WRW, Severn Trent, United Utilities and WRSE is needed to ensure agreement of any changes to the dates and volumes of water. This reconciliation will take place between the publication of the draft regional plan and the submission of WRMP Statements of Response to Defra.</p> <p>We therefore ask United Utilities to:</p> <ul style="list-style-type: none"> • provide us with clear and timely information through the reconciliation, in accordance with what has been agreed between the companies and regions • take appropriate evidence based decisions through the reconciliation process • include a clear articulation of timing, volumes and utilisation of transfers in your statement of response, consistent with the outcome of the third reconciliation. <p>We commit to facilitating the same in return from our other members and the other regions.</p> <p>Kielder and Cow Green transfers from Northumberland to the North West have also been identified as feasible options for the WRW plan. We are happy that these are also considered feasible options in the United Utilities draft WRMP and we will continue to work with you and Water Resources North to explore the benefits and opportunities that these options may bring.</p>	<p>Thank you for taking the time to respond to our draft Water Resources Management Plan (dWRMP) 2024 consultation. We played an active role in the third reconciliation between WRW, Severn Trent, United Utilities and WRSE. We provided clear and timely information, took appropriate evidence-based decisions, and have clearly articulated timing, volumes and utilisation of transfers in this statement of response.</p>

Reference	Respondent	Feedback	Our response
3.02	Water Resources West	<p>Water Resources West has received lots of feedback on its emerging plan, and we are pleased United Utilities has taken this into account in the production of its draft WRMP. Water Resources West is now consulting on its Draft Regional Plan and expects to receive feedback from regulators, councils, trade bodies, environmental and community groups, businesses and individuals. As a core member of WRW, this feedback will be shared with United Utilities, and we expect United Utilities to take this feedback into account as it develops its draft WRMP and contribution to the final regional plan.</p> <p>We also request that United Utilities ensures that the feedback it receives during its draft WRMP consultation is shared with Water Resources West, and any changes United Utilities plans to make to its WRMP and options selection are communicated with WRW in order to ensure the regional plan remains consistent with the company's WRMP.</p>	<p>We have taken into account all relevant feedback provided to WRW when producing this statement of response and in our revised draft Water Resources Management Plan 2024 (rdWRMP24). Likewise, we have shared our WRMP feedback with WRW, along with any changes made as a result of this feedback.</p>
10.01	Waterscan	<p>We expect Wholesalers to provide a clear, compelling roadmap to meet every target in their WRMP as the current goals are unhelpfully vague. The same applies to the industry-wide commitment to reach net zero operational carbon emissions by 2030.</p>	<p>Thank you for taking the time to respond to our draft Water Resources Management Plan (dWRMP) 2024 consultation. Key long-term government targets are set out in the National Framework for Water Resources and are specific (for example the target to reduce household consumption to 110 litres per person per day by 2050); these have also been supplemented by a range of specific interim targets in the government's Environmental Improvement Plan 2023. In the shorter term, over each five-year Business Plan period we are monitored closely by Ofwat and the Environment Agency against a range of performance commitments with specific targets set for each year. We are required to report our performance against these targets on a yearly basis, including in the case of water resources-related targets through our annual review of the Water Resources Management Plan. Our specific science-based targets in support of our commitment to reach net zero operational carbon emissions by 2030 are set out in Section 8 of our main WRMP report.</p>

Reference	Respondent	Feedback	Our response
10.02	Waterscan	It is essential that Wholesalers move more quickly and go further than Government-set targets. This is especially important considering that per capita consumption excludes non-household (NHH) consumption, undermining the incentives and funding available for improving NHH water efficiency.	The targets which the government set out for the industry in 2020, to reduce water consumption to 110 litres of water per person per day and halve rates of leakage by 2050, are already challenging but we are stretching our capabilities through increased focus and innovation to embrace these ambitions within our plan. In developing the plan we sought to identify demand-side options that push internal and external boundaries, and incorporate new technologies. Such significant demand reductions also require actions by others, for example customers reducing their usage and the government implementing new regulations such as a water labelling scheme. Section 9 of our main report sets out the selected options in our plan, which includes a non-household water efficiency programme. We understand that Ofwat will be introducing a new performance commitment relating to business demand for the next business plan period (2025 - 2050), so that water companies will be incentivised to reduce non-household demand, and that companies will also be expected to report on the combined metric of distribution input (which includes both household and non-household consumption, as well as leakage and other miscellaneous use).
10.03	Waterscan	<p>...there needs to be greater clarity and justification around why goals and deadlines have been chosen. This is particularly relevant when percentage decreases still leave excessive leakage rates due to high starting points. For example, roughly 24% of Thames Water's supply is currently lost to leakage, but halving this to 12% is still not nearly acceptable.</p> <p>We do not believe that the current targets are challenging enough. Maintaining shockingly high leakage rates disables customer motivation to change behaviours and sends the de facto message that high leakage is both acceptable and the norm.</p>	Over the last 30 years, we have reduced leakage significantly from almost 900 MI/d in 1993/94 to our lowest ever level of leakage of 414 MI/d last year. We recognise that this still needs to be reduced further and we are aiming to achieve the challenging targets set by the government. Our regional leakage targets for each of our five-year business plan periods are set by Ofwat and we have now achieved or outperformed these targets for seventeen consecutive years. Our plan seeks to maximise the opportunities to reduce leakage levels through our proactive leakage strategy which includes significant investment in mains renewal and network sensors to prevent and detect leaks (see Sections 8 and 9 of our main report for further details).
10.04	Waterscan	We urge other Wholesalers to follow Anglian Water's example to strengthen environmental protections and to go beyond mandated targets.	All water companies, including Anglian Water, are working closely with the Environment Agency to determine the abstraction reductions necessary to protect the environment in each catchment, known as the long-term environmental destination. The assessments for our revised draft Water Resources Management Plan 2024 (rdWRMP24) have been based on three alternative scenarios specified within the national framework, and we have included the estimated impacts of these scenarios within our core and adaptive planning pathways. Further site-specific investigations will be required during the next five-year Business Plan period to confirm the necessary actions to achieve our environmental destination, which will be incorporated in our subsequent Water Resources Management Plans.

Reference	Respondent	Feedback	Our response
10.05	Waterscan	We encourage water companies to measure, disclose, and work to reduce their carbon emissions - as well as their footprint - through the Carbon Disclosure Project (CDP). We are also keen for Wholesalers to consider and share their position on water neutrality.	The Carbon Disclosure Project (CDP) is known for setting the standard for companies on their environmental leadership. At United Utilities Water, we have a strong legacy of managing emissions and public disclosures and we have disclosed our greenhouse gas emissions via CDP annually since 2010. We are proud that our 2022 disclosure achieved an overall Leadership (A-) rating and we are taking steps to ensure we maintain a Leadership rating in 2023 and beyond. We are preparing our 2023 CDP submission and our Task Force on Climate-related Financial Disclosures (TCFD) report within our annual report. This will introduce our Transition Plan to meet the latest requirements from the Financial Conduct Authority for listed companies and large regulated asset owners and managers.
10.06	Waterscan	Wholesalers need to take anticipatory action before the final WRMPs are published in 2024. For Wholesalers who do not forecast a water deficit before 2040...there needs to be greater emphasis placed on innovation to channel investment into preventive measures and scoping projects that the industry as a whole would benefit from. Such trials could include water neutral partnership work and developing final effluent reuse possibilities.	Our draft Water Resources Management Plan 2024 (dWRMP24) is not solely focused on meeting any forecast deficit but instead aims to deliver the best possible outcome taking into account customer preferences, government targets and environmental requirements, as well as ensuring that we maintain the supply-demand balance into the future. We have assessed a large number of possible supply and demand options against a set of 'best value' metrics covering a range of economic, environmental and social wellbeing aspects, to ensure that our preferred plan delivers against all these objectives. More details on the approach used to select our options is provided in Section 8 of our main report. It should be noted that our plan is a continuation of our previous (2019) plan, as a result of which we are already investing in a programme to reduce both consumption and leakage during the current business plan period (2020 - 2025). We are also working in partnership with our stakeholders to trial place-based planning and catchment management approaches - more details are provided in Section 2 of our main report. We have considered a number of effluent reuse schemes within our options identification and appraisal process, however these were not selected by the optimisation process to determine the best value options for our preferred plan against the agreed set of metrics.
10.07	Waterscan	We expect pollution events to be a much more explicit focus in the final WRMPs. Failing to adequately acknowledge these events and to provide a transparent, transformative roadmap for how such incidents will be systematically prevented are blatant shortcomings in the current WRMPs.	Our draft Water Resources Management Plan 2024 (dWRMP24) focuses on the provision of clean water services and the impacts of our abstractions for water supply on the environment. We acknowledge that long-term planning in the provision of waste water services is equally important. In parallel with our draft Water Resources Management Plan 2024 (dWRMP24), we have also published our draft Drainage and Wastewater Management Plan which sets out our long-term (25-year) approach for sustainable drainage and wastewater management across the North West and how we will address pressures on our wastewater systems over the short, medium and long term.

Reference	Respondent	Feedback	Our response
10.08	Waterscan	While we support the consistent emphasis placed on partnership work, there was an overall lack of clarity and specificity over how such partnerships would be set up, run, and assessed. There is significant scope for more intensive, targeted partnership work under the umbrella of nature-based solutions, but it was not made clear how Wholesalers plan to engage with different stakeholders and under what terms.	We have developed an overarching approach to working in partnership which includes an organisation-wide partnership framework. This sets out our principles, processes and governance. It offers a foundation for our approach but we know that developing successful partnerships is complex due to the unique nature of each individual partnership scheme. Delivering projects with multiple outcomes with different partner organisations requires a flexible approach to maximise the benefits for all stakeholders. We have a long-standing history of involvement with partners such as Moors for the Future, RSPB, National Trust, Rivers Trusts, Wildlife Trusts, National Parks and Areas of Outstanding Natural Beauty. Further information on how we work in partnership is set out in section 2.6 in the Revised Draft Water Resources Management Plan 2024 - Main report (rdWRMP24).
10.09	Waterscan	Wholesalers also need to play a greater role in researching the key challenges facing the water industry by working with collectives like the National Leak Research Centre (run by Northumbrian Water), the Water Research Institute at the University of Cardiff, and the Environmental Change Institute at Oxford University.	<p>Thank you for your consultation response. We wholeheartedly agree with this sentiment and fully acknowledge our responsibility in researching the key challenges facing the water industry. Some examples of the work we do and will continue to do are:</p> <ul style="list-style-type: none"> • Several research partnerships with universities – for example, with the University of Salford (notably the IGNITION Living Lab) and with Cranfield University, Newcastle University and The University of Sheffield via the Water Infrastructure and Resilience Centre for Doctoral Training (https://cdtwire.com/); • Submitted several bids into the Ofwat Innovation Fund and we are involved in 'The National Leakage Research and Test Centre' as a partner company (https://waterinnovation.challenges.org/winners/nlrct/); • Work with our partners and suppliers to find innovative solutions to the challenges that face us, as well as running an innovation accelerator programme (our 'Innovation Lab') – this 14 week programme provides successful applicants with the opportunity to test their solutions in a live environment, as well as building relationships and potentially commercial partnerships with United Utilities (https://www.unitedutilities.com/corporate/about-us/innovation/innovation-lab/); and • Work with UK Water Industry Research (UKWIR) on research projects that cover an array of topics from leakage and water demand to water resources planning to challenges that face the water sector more widely.

Reference	Respondent	Feedback	Our response
10.1	Waterscan	Wholesalers have an untapped resource in Retailers to drive down NHH water usage. We believe Wholesalers need to develop a mechanism that empowers Retailers to offer this service to NHH customers. This would allow Wholesalers to focus on deliverables that cannot be achieved by third parties like leakage reduction, net zero, meeting household (HH) targets, and reducing pollution incidents.	<p>NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions in our revised draft Water Resources Management Plan 2024 (rdWRMP24) to enable us to deliver a 9% reduction in business demand by 2037/38.</p> <p>We will work with retailers to structure a scheme which ensures businesses across our region have access to a free of charge water efficiency visit. The scheme will be structured to encourage retailers to engage with their customers directly, however if take up of the scheme by certain retailers or particular areas or sectors is limited then we will deliver the visits ourselves.</p>
10.11	Waterscan	There is a serious lack of consideration in the draft WRMPs over how the Plans will affect other stakeholders, particularly NHH customers. There is a lack of transparency and clarity around the impact Wholesaler decisions will have on business customers. It is not acceptable to pass problems onto customers.	<p>We have developed a plan that addresses all elements of the water balance - leakage, HH and NHH consumption, to ensure a resilient supply of water now and in the future for all customers in our region (HH and NHH).</p> <p>NHH water efficiency is a fundamental element of our plan. Our revised draft Water Resources Management Plan 2024 (rdWRMP24) sets out that we will deliver thousands of NHH water efficiency visits in AMP8 (2025-2030) to save almost 10 MI/day to meet demand targets, and deliver smart meter upgrades to all NHH premises.</p>
10.12	Waterscan	While Wholesalers have a statutory requirement to protect domestic water supplies over NHH properties, this legal caveat should not translate into normal operating practice. This is particularly the case when NHH customers are proactive in managing and reducing their water use. These supply issues are happening now, yet are not analysed in the draft WRMPs. Given these issues, we require all Wholesalers to more carefully consider the cascading impacts of their Plans on other stakeholders like NHH customers.	<p>We have developed a plan that addresses all elements of the water balance - leakage, HH and NHH consumption, to ensure a resilient supply of water now and in the future for all customers in our region (HH and NHH).</p> <p>NHH water efficiency is a fundamental element of our plan. Our revised draft Water Resources Management Plan 2024 (rdWRMP24) sets out that we will deliver thousands of NHH water efficiency visits in AMP8 (2025-2030) to save almost 10 MI/day to meet demand targets, and deliver smart meter upgrades to all NHH premises.</p>
10.13	Waterscan	Importantly, we need more detail on the kinds of smart meter data that will be available, in what form, from what date, to who, and how - and at what cost - this data will be shared. There is significant lack of clarity in the messaging around what the smart meter data is expected to achieve.	We are currently developing a plan to enable customer self-serve in terms of viewing water use through an app. This will be for all customers with a meter (AMI, AMR and visual). For our NHH customers, whilst the responsibility of meter reading sits with the retailer, we recognise that rolling out smart metering will enable more granular consumption data that all parties stand to benefit from.
10.14	Waterscan	Taking these challenges into account, any smart meter investment should be focussed on where there is both opportunity and the need for water reduction. We recommend water companies target the middle sector of the NHH market where a balance between opportunity and customer engagement to reduce water use.	Our plan is to replace all meters for all NHH customers with smart (AMI) meters in AMP8 (2025-2030).

Reference	Respondent	Feedback	Our response
10.15	Waterscan	Given the risk that large scale investment in smart metering generates excellent reporting but fails to tackle underlying issues, Wholesalers need to make greater efforts to fundamentally change perceptions of water as a critical resource. Changes to price and/or data alone will not be enough to galvanise the changes needed for the majority of the market.	Agreed. Our customer research on smart metering was designed to get insight into customers' perceptions and this has helped inform our approach especially where customer engagement is concerned to help drive behavioural change.
10.16	Waterscan	Water companies have substantial responsibility to lead an urgent, large-scale cultural shift in the water industry. Perceptions are powerful and shape behaviours on all levels, so startling statistics on Wholesaler pollution events and leakage rates create a negative feedback loop that entrenches stagnation and poor practice. The market looks to Wholesalers for leadership in these and other areas. It is jarring that the more water a customer (particularly a NHH customer) uses, the cheaper this vital resource becomes. We expect Wholesalers to be much more proactive in reversing these perverse incentives in the final WRMP24s.	As outlined above, we have published our draft Drainage and Wastewater Management Plan which sets out how we will address pressures on our wastewater systems. Our leakage rates have reduced significantly from almost 900 MI/d in 1993/94 to our lowest ever level of leakage of 414 MI/d last year, however we recognise that further significant reductions are needed and we aim to meet the challenge set by the government to reduce leakage by a further 50% by 2050. We continually keep our charges and tariffs under review. This will include trialling new tariff designs to encourage all customer groups to reduce water consumption whilst recognising the importance of supporting bill affordability.
10.17	Waterscan	Wholesalers need to change the narrative in the water market that propagates, rationalises, and normalises inefficient, irresponsible, and uninspiring performance, Threats to water security, water quality, and water stewardship are very much present in the here and now, so Wholesalers must not allow the current culture to seep into yet another planning cycle.	The UK water industry works closely with economic and environmental regulators (Ofwat and the Environment Agency respectively) and a wide range of additional stakeholders. Through the National Framework for Water Resources, the government has set challenging and ambitious targets for water efficiency, leakage reduction and environmental improvement which will require joint effort from water companies, customers, government and other organisations to achieve. As a water company our performance against our long-term targets and short-term performance commitments is monitored closely, and it is in the interests of the company, customers and the environment to address the current challenges in water resources as a matter of priority. We are therefore committed to increase our efforts in water efficiency and leakage reduction to achieve further savings, and to work closely with environmental stakeholders to determine the necessary licence changes to deliver environmental improvements.

Reference	Respondent	Feedback	Our response
10.18	Waterscan	...many plans were extremely dense and formatted in a way that created barriers to close reading or clear understanding. This undermines the quality and integrity of the whole consultation process... Wholesalers must think more carefully about their audience and the role these Plans play in the consultation process. Some of the more digestible plans came from Affinity Water, United Utilities, Southern Water, South Staffordshire Water, and Severn Trent Water.	Thank you for your comment describing our plan as one of 'the more digestible plans'. All water companies when preparing the Water Resources Management Plan documents have to be mindful that these must be suitable for a wide range of potential readers, ranging from interested members of the public through to informed stakeholders and technical specialists representing regulators such as the Environment Agency and Ofwat. Our suite of reports has therefore been prepared at three different levels: firstly, we provide a high-level customer summary which is designed to be accessible to any reader, and for which we have received the Plain English Crystal Mark in recognition of the clarity of the document. Secondly, our main report is designed to provide more detail on our plan, including clear explanations of each component or topic, with minimal use of technical jargon or abbreviations. Finally, in order to comply with regulatory requirements, inevitably there is a significant amount of detailed technical material which is necessary to include: we have placed the majority of this in separate appendices aimed at the more technical water industry specialist. The aim is that a general reader should be able to understand the main objectives and activities presented in our plan without needing to refer to the technical appendices.
10.19	Waterscan	UU specific feedback: We are pleased to see a number of commitments to the NHH market in your draft WRMP, including targeted interventions to help the highest NHH users user water more efficiently. However, we couldn't see a commitment to roll out any smart meters to NHH customers. We would like to see clarity on your NHH smart metering and water efficiecnv committments in advance of and as part of your final WRMP.	<p>Reducing non-household (NHH) demand for water during AMP8 (2025-2030) is a fundamental element of our plan not only in contributing to Defra's proposed national water consumption reduction target of 9% by 2037/38, but also in reducing overall water demand.</p> <p>NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions in our revised draft Water Resources Management Plan 2024 (rdWRMP24) to enable us to deliver a 9% reduction in business demand by 2037/38. Our rdWRMP24 sets out that we will deliver thousands of NHH water efficiency visits in AMP8 (2025-2030) to save almost 10 Ml/day to meet demand targets, and deliver smart meter upgrades to all NHH premises.</p> <p>We have an 'always on' communication plan which aims to encourage household customers to avoid waste, use less and educate them to where their water comes from and the broader impact of their behaviour on the local environment. We will carry this forward into AMP8 (2025-2030), evolving our messaging to ensure it remains relevant and effective, as well as expanding our focus to NHH customers.</p>
8.01	WaterWise	We suggest the company looks at offering home visits to all customers who move onto a smart water meter and as part of the home visit programme we suggest the company also checks to see whether householders are aware of which dual flush button delivers the small flush.	Thank you for taking the time to respond to our draft Water Resources Management Plan (dWRMP) 2024 consultation. We will target home audits to high users or those with a leak as this provides the biggest benefits. We will be actively monitoring consumption profiles and re-engaging with customers based on usage. We already engage with customers about dual flushes and correct buttons when visiting homes.

Reference	Respondent	Feedback	Our response
8.02	WaterWise	<p>Areas where we think additional investment could be considered include:</p> <ul style="list-style-type: none"> - Funding to undertake or support a leaky loo campaign. The former could be progressed as a collaborative campaign on leaky loos with other water companies, the BMA and Waterwise as recommended in our position statement. The company could consider offering a leaky loo fix, or a financial incentive to customers to get a leaky loo fixed. - Water efficiency options such as home visits and flow controllers are currently not included for customers in the North Eden WRZ. Although they may not be needed from a supply demand balance in the WRZ we believe that as a minimum the home visit programme should be included both to help local customers save money through improved water and energy efficiency and also to enhance the local environment. For similar reasons we would urge the company to bring forward the 2043 trigger point for home visits in the Carlisle WRZ so that they are included alongside the NHH audits which will be offered in this WRZ from 2026. 	<p>We agree that a collaborative campaign would be useful and we would support this approach. A unified message would be very powerful and relevant across the UK. This should include some digital collateral regarding push button loos which can be used by every water company on their website.</p> <p>We are actively engaging with customers within our region regarding leaky loos through an 'always on' approach to radio and TV. As business as usual, we have direct message processes to engage with customers who have a continuous flow of water via direct communications (letter, email or text). Where the customer gives permission, flow regulators are currently being trialled and planned to be included as part of the home audit visits regionally, therefore where the customer is using above average or has a continuous flow of water a flow regulator will be offered. We are also exploring ways to incentivise unmeasured customers.</p> <p>We have set out our strategy for applying water efficiency measures in section 3 in the Draft Technical Report - Options Identification, which is summarised below:</p> <p>Our strategy for deciding the best approach for applying water efficiency measures is done regionally (including Carlisle and North Eden resource zones) using a Catchment to Customer model. From this, area specific town action plans are developed. This would include area wide/area specific communications (i.e. local radio, social media and partnership with local water advocates). Also, customers are then prioritised based on whether they would benefit most from a meter, are high users or sensitivity to dry weather. Specifically, for unmeasured customers or high users, we will engage with them through direct messaging about installing a meter or directing them to our website (including our Get Water Fit app) for hints and tips to save water. For example, there are six focus areas (DMZs) for 2023/24 where a town action plan will be developed and Carlisle is one of them. Along with other DMZs in the region via our Catchment to Customer model, North Eden will be monitored and will be included in the town action plan when appropriate, however any customer identified to benefit from a meter or as being a high consumer/having a leak will be engaged with as part of the direct communication program. Note that all customers can seek advice about water efficiency at any time by going to our website. https://www.unitedutilities.com/help-and-support/save-water/get-water-fit/</p>
8.03	WaterWise	<p>We are pleased to see United Utilities proposing to fit smart water meters going forward to HH customers and we would urge the company to develop and include a programme to upgrade existing NHH meters also in the final plan.</p>	<p>We have now included smart metering for NHH customers in our revised draft Water Resources Management Plan 2024 (rdWRMP24).</p>

Reference	Respondent	Feedback	Our response
8.04	WaterWise	Our research coupled with the experiences of Anglian and Thames Water to date have shown that smart metering is a game changer when it comes to reducing leakage and engaging with both HH and NHH customers on water use and water wastage. It would be useful to see more information in the final plan on how UU plans to engage customers with smart meter data for example through an existing app or a portal . We will also continue to advocate that all companies should be permitted to progress universal smart metering with charges based on water use.	<p>Thank you for highlighting that it would be useful for us to include more information in the plan on how we plan to engage customers with smart metering. We agree, and have included the following information in our revised draft Water Resources Management Plan 2024 - Main report (rdWRMP24) - section 8.</p> <p>Our current metering strategy focuses on maximising meter penetration and meter capabilities as a key enabler of demand reduction, customer engagement and network management objectives, in conjunction with a communications campaign, to nudge or encourage customers to moderate their usage around the home, as well as continuing the promotion of our Lowest Bill Guarantee incentive, targeted at customers likely to save money through converting to a measured bill. Operating in a non-water stressed area means billing can only occur on a meter where customers opt for this, or where a customer has moved into a property with a meter installed.</p> <p>We are currently developing a plan to enable customer self-serve in terms of viewing water use through an app. This will be for all customers with a meter (AMI, AMR and visual).</p> <p>We are also setting up a smart meter trial of value – Project Beehive -, to understand the value of smart in saving water and to understand how to operate as a smart meter business before larger scale deployment from 2025.</p>
8.05	WaterWise	The government is targeting 2025 (not 2030) to introduce the label so we are asking all companies to include a budget in their final plans to support/promote the roll-out of water labelling in AMP8 helping to explain to their customers why it is important and how they can use the label. The trial of an incentive scheme linked to the label could also be considered.	At the time that we produced our draft Water Resources Management Plan 2024 (dWRMP24), there was no formal commitment from the government to implement water labelling by 2025. However, given the government commitment to make regulations, it was assumed to be likely that water labelling would be in place (with no minimum standards) by 2030 at the latest. Since the development of our dWRMP24, there have been more formal commitments from Defra to launch water labelling (with no minimum standards) by 2025 and this in turn has been reflected in the Water Resources Planning Guidelines (which we were consulted on) and our revised draft Water Resources Management Plan 2024 (rdWRMP24). Given its importance to saving water, there will be funds available to promote it in AMP8 (2025-2030) and we are in discussions with Waterwise and other water companies to agree on the best approach.

Reference	Respondent	Feedback	Our response
8.06	WaterWise	There are further opportunities to secure additional savings through more ambitious policy-led solutions with regards to new build development and retrofit with the government publishing its Roadmap in the Environment Improvement Plan (p117-118). These opportunities could be referenced in the final plan and we value United Utilities ongoing work with Waterwise to advocate for more supportive policies.	We will continue to ensure that our charging arrangements for new connections comply with Ofwat's charging rules and principles, which includes environmental protection. We aim to evolve our current environmental incentives scheme to look for more innovative ways to encourage developers to build more water efficient homes. We are also involved in a Water UK working group that has been tasked to specifically look at environmental incentives and look forward to a potentially more consistent approach across the board. We have included additional information in the Revised Draft Technical Report - Option identification, section 3.
8.07	WaterWise	Your scheme should be kept under review and potentially expanded to include water ruse incentives as with the Thames Water incentive scheme (page 9). We believe that new developments in any area with a water supply deficit and where the companies' abstraction licences are being capped or reduced to protect the environment, should be water demand neutral....in much the same way as regulators require new developments in flood prone areas to be flood neutral. This could be achieved through proactive collaborative work with planners and developers at a WRZ or catchment level in these sensitive areas.	We are exploring opportunities to evolve our incentive schemes to look further than our current approach which encourages the use of water efficient fixtures and fittings. We are working with developers in the North West to understand what they need in order to install other water saving and re-use devices in new homes. We hope to have incentives that encourage developers to go further than national regulations or local planning guidance. We will also continue to proactively engage in the planning process to promote sustainable development.
8.08	WaterWise	We encourage as you develop the final plan to consider the impacts on social wellbeing and how you will understand impacts of decisions, including in the long-term following trade-offs, on the diverse members of the United Utilities customer base.	In Section 2 of the Revised Draft Technical Report - Deciding on future options, we detail our approach on best value. Our decision-making process includes a best value metric named 'Human and social wellbeing' which considers the impact of options we select in our plan. Our plan is optimised to ensure that positive impacts are maximised and negative impacts are minimised alongside our other metrics and according to their weightings.
24.01	Wave Utilities	1. NHH Representation: It is acknowledged that the NHH customer base accounts for a significant percentage of total water demand. We do not feel that your WRMP fully recognises this significance or the opportunities that it affords. We believe a greater emphasis within the WRMP on NHH demand is required.	Thank you for taking the time to respond to our draft Water Resources Management Plan 2024 (dWRMP24) consultation. Reducing non-household (NHH) demand for water during AMP8 (2025-2030) is a fundamental element of our plan not only in contributing to Defra's proposed national water consumption reduction target of 9% by 2037/38, but also in reducing overall water demand. NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions in our revised draft Water Resources Management Plan 2024 (dWRMP24) to enable us to deliver a 9% reduction in business demand by 2037/38. Our rdWRMP24 sets out that we will deliver thousands of NHH water efficiency visits in AMP8 to save almost 10 Ml/day to meet demand targets, and deliver smart meter upgrades to all NHH premises.

Reference	Respondent	Feedback	Our response
24.02	Wave Utilities	<p>2. Smart Metering: We believe the stated ambitions around smart metering do not go far enough. Given NHH customers make up such a significant proportion of overall water demand we believe targeting these customers with smart metering will both improve market data, ensure correct revenues and also crucially deliver significant water demand reductions. We would as a minimum hope to see a clear commitment to a point in time when you will:</p> <ul style="list-style-type: none"> a. only use smart meters to replace broken ones b. review largest consuming meters and replace with smart meters c. target long unread meters. <p>We would seek further clarity on the intentions specifically relating to NHH smart meter roll out.</p>	<p>We have now included smart metering for NHH customers in our revised draft Water Resources Management Plan 2024 (rdWRMP24).</p>
24.03	Wave Utilities	<p>3. Customer Awareness: We believe it is important that you work with Retailers to raise awareness of future water resource concerns with NHH customers. This will both educate and influence behaviours.</p>	<p>We have an 'always on' communication plan which aims to encourage household customers to avoid waste, use less and educate them to where their water comes from and the broader impact of their behaviour on the local environment. We will carry this forward into AMP8 (2025-2030), evolving our messaging to ensure it remains relevant and effective, as well as expanding our focus to NHH customers. We will use regional messaging to target all NHH customers and use more targeted communications in areas of water stress or high consumption. We will work with retailers to ensure the most effective delivery of communication materials.</p>

Reference	Respondent	Feedback	Our response
24.04	Wave Utilities	<p>4. Collaborative Working: It is essential that Wholesalers and Retailers work together on water efficiency and other demand reduction projects. Assisting Retailers in understanding key geographical areas that have particular demand concerns will help concentrate efforts to target customer behaviour in those areas. Wave is well placed to assist with activities having developed a successful suite of value-added services specifically for NHH customers.</p>	<p>NHH water efficiency visits alongside smart metering for NHH customers are the two NHH interventions in our revised draft Water Resources Management Plan 2024 (rdWRMP24) to enable us to deliver a 9% reduction in business demand by 2037/38. Our rdWRMP sets out that we will deliver thousands of NHH water efficiency visits in AMP8 (2025-2030) to save almost 10 Ml/day to meet demand targets, and deliver smart meter upgrades to all NHH premises.</p> <p>We will work with retailers to structure a scheme which ensures businesses across our region have access to a free of charge water efficiency visit. The scheme will be structured to encourage retailers to engage with their customers directly however if take up of the scheme by certain retailers or particular areas or sectors is limited then we will deliver the visits ourselves.</p> <p>We have an 'always on' communication plan which aims to encourage household customers to avoid waste, use less and educate them to where their water comes from and the broader impact of their behaviour on the local environment. We will carry this forward into AMP8, evolving our messaging to ensure it remains relevant and effective, as well as expanding our focus to NHH customers. We will use regional messaging to target all NHH customers and use more targeted communications in areas of water stress or high consumption. We will work with retailers to ensure the most effective delivery of communication materials.</p>
6.01	Welsh Dee Trust	<p>At Welsh Dee Trust we have concerns about the current levels of water abstraction from the River Dee. The storage of water within reservoirs, combined with the resulting flow regime, is damaging the river Dee's wildlife, including species designated as unfavourable in the Special Area of Conservation. A report setting out our concerns can be found here: https://www.welshdeetrust.com/environmental-flows/</p>	<p>Thank you for taking the time to respond to our draft Water Resources Management Plan (dWRMP) 2024 consultation. Ensuring that our WRMP24 is environmentally sustainable is crucial, and a key objective of the plan. We rely on the environment as one of our key resources, so it is important for the sustainability of our business and the dWRMP24 that we protect and enhance its value. As such, we work closely with our regulators, including Natural Resources Wales and the Environment Agency, to ensure that the environment is protected. This is underpinned by several key legislative requirements including the Water Framework Directive and Habitats Directive. If our existing abstractions are deemed to be causing environmental harm, we will work with regulators to plan for and implement solutions which mitigate impacts from our abstraction and enhance the environment.</p>

Reference	Respondent	Feedback	Our response
6.02	Welsh Dee Trust	At Welsh Dee Trust we want to see the overall levels of abstraction from the river Dee reduced, leaving more water in the river to benefit its ecology. To accomplish this, a reduction in demand is needed, particularly when climate change, population increase, and water transfers out of the region are considered. Creating new sources of water elsewhere will provide additional water, but these are likely to have an environmental impact, swapping environmental damage in one place for damage in another. We believe that preference therefore should always be on reducing demand.	A key part of our plan is to deliver a reduction in water demand (through reductions in water consumption and leakage) over the next 25 years and beyond. We are planning to meet all short and long-term government targets. For example we plan to reduce water consumption to 110 litres per person per day and to achieve a 50% reduction in leakage by 2050. Investment in options to reduce demand are prioritised before other options, such as a new supply option, are considered. Any new water sources identified in the plan will be developed to ensure that they are sustainable and compliant with WFD and Habitats Directives.

Reference	Respondent	Feedback	Our response
6.03	Welsh Dee Trust	<p>In general, at Welsh Dee Trust we would like United Utilities to go further and faster on the targets for reducing demand.</p> <p>Leakage Currently, 20% of abstracted water is lost via leakage (Dabell 2018). The current target is to reduce leakage by half by 2050 including a target to reduce leakage by 15% by 2030. (A reduction of 5% from the AMP7 target). At Welsh Dee Trust we would like water companies to have a rate of reduction of 15% every 5 years until 2050. This will ultimately lead to a reduction of leakage by 90% by 2050 from 2019 levels.</p> <p>Non-domestic customer usage. Non-domestic customers of water companies are some of the largest single users and individual companies making efficiency benefits here can greatly improve demand reduction. At Welsh Dee Trust we would like to see more specific targets and plans for reducing non-domestic use of water, including funding from water companies to support businesses to become more efficient.</p> <p>Per capita consumption On average an individual in the UK uses 142 litres per day. At Welsh Dee Trust we agree with the target to reduce use per person to 110l by 2050. The most effective tool for reducing demand is the installation of smart meters within homes, which help reduce total usage as well as help identify leakages. At Welsh Dee Trust we would like to see water companies expand their initiatives for using smart meters. To support this, we would also like to see more supportive legislation from governments. Smart meters alongside education should be the primary processes used to reduce per capita use as these are the most effective interventions.</p> <p>Summary Overall, at Welsh Dee Trust, we see reducing demand as the most important way of reducing the impact abstraction is having on the river Dee. Our replies to the various water resources management plans all ask for water companies to go further and faster on targets to reduce demand, particularly on reducing leakage, supporting non-domestic customers, and reducing per-capita usage via smart meters and education. We hope these recommendations are taken onboard and put into the final plans.</p>	<p>Reducing demand for water, including leakage, is an integral part of our draft Water Resources Management Plan 2024 (dWRMP24) and we have also made several key improvements to our revised draft Water Resources Management Plan 2024 (rdWRMP24). Since publication of our draft plan, the government has published its Environmental Improvement Plan (EIP), which sets out interim targets for reducing water supply and leakage. The following EIP targets have been included in our rdWRMP:</p> <ul style="list-style-type: none"> * a 20% reduction (from 2019/20 baseline) in public water supply per head of population by 2038, with interim targets of 9% by 31st March 2027 and 14% by 31st March 2032 * a 20% reduction in leakage by 31st March 2027 and 30% by 31st March 2031 <p>Our rdWRMP24 also sets out our plan to achieve a 9% reduction in non-household water use or 'business demand' by 2037-38 and a 15% reduction by 2049-50 (from 2019-20 levels), which are also EIP targets. All of these interim targets are part of the trajectory to achieving long-term targets for household water use (to 110 l/h/d), leakage (by 50%), and non-household water use (15%) by 2050. There is a balance to be struck on the 'pace' of delivering leakage reductions versus the cost to achieve leakage reductions in a sustainable way and the impact on customer bills. We feel that the interim and long-term leakage targets strike the right balance between these aspects.</p> <p>We will deliver reductions in water use and leakage via a suite of best value demand and leakage options. This set of options has been updated since our draft plan, and a key improvement is now the inclusion of non-household smart metering. Our delivery plan also includes household smart metering, water efficiency programmes, and water mains renewal, as well as several other options. Full details of options included in our revised best value preferred plan can be found in our rdWRMP24.</p>

Appendix B: Common statement for WRW and its core member companies

WRW and core members position on commonality	
<p>All members have continued to work collaboratively to develop their WRMP in a regional context and their revised WRMPs are consistent with the regional Statement of Response.</p>	
<p>Environmental destination (ED)</p>	<p>Wales</p> <p>WRW has continued to develop the plan for Wales including further meetings with NRW and stakeholders. Each of our member companies with operations in Wales have committed to investigations and schemes in their 2025-30 National Environment Programme (NEP) relating to Environmental Destination in Wales. There are also opportunities identified from the development of new water resource options.</p> <p>England</p> <p>Early in the planning period the latest position agreed with the EA on licence capping, to protect the environment from deterioration due to sustained increases in abstraction, has been included for their preferred plans.</p> <p>All members in England are using the latest best estimate of the 2050 BAU+ locally verified scenario (referred to as BAU+ in the plan). This scenario uses existing policy and regulatory approaches now and into the future. It also includes applying flow targets required for European designated riverine sites by 2050 at the latest. Locally verified refers to the analysis that the regional group has done to refine the scenario data developed at national scale by the Environment Agency for the National Framework. This incorporates the discussions held locally with stakeholders and regulators plus work that has already happened or is in progress to ensure the right level of protection and enhancement is being applied.</p> <p>There is a consistent approach across the region with regards to sustainability changes and scenarios. Further scenarios have been developed to evaluate undertaking licence reductions earlier to accelerate the achievement of current regulatory needs and bring resilience to the water environment.</p>
<p>Drought resilience position</p>	<p>All members are planning to achieve 1 in 500-year level of drought resilience by 2039/40, despite Hafren Dyfrdwy and Welsh Water not being required to meet a 1 in 500 level of resilience by 2040.</p>
<p>Demand management policy</p>	<p>All members in England are planning to achieve the government policy objectives, part of the Environmental Improvement Plan, for demand reduction:</p> <ul style="list-style-type: none"> • 20% reduction in Distribution Input per head of population by 2038 • Non-household demand reductions of 9% by 2038 and 15% by 2050 • Per Capita Consumption (PCC) reduction to 110 litres/head/day by 2050 and are using the dry year annual average position. <p>All members in England have adopted the leakage reduction targets of 20% by 2027, 30% by 2032, 37% by 2038 and 50% by 2050 (at the latest) from 2017/18 levels.</p> <p>Hafren Dyfrdwy has adopted the leakage target of 50% reduction from 2019/20 baseline levels by 2050, with a leakage reduction target of 10% in AMP8, and 110 litres/head/day PCC target in a dry year by 2050.</p> <p>Welsh Water has adopted the leakage target of 50% reduction from 2017/18 levels by 2050, 110 litres/head/day PCC target in a dry year by 2050 and the non-household reductions of 15% by 2050.</p>

<p>Supply resilience</p>	<p>All members have adopted the intermediate scenario of climate change (RCP 6.0) in their preferred plan.</p> <p>All members have generated regional-level hydrological and climate change datasets, collaborated on extensive water resources model development, and undertook in-depth analysis on outputs.</p> <p>United Utilities, Severn Trent and Welsh Water are proposing investment in new supplies and/or increased network connectivity across WRW from early on in the planning period to further bolster supply resilience. South Staffs and Hafren Dyfrdwy only have demand options selected and therefore are not.</p>
<p>Reconciliation – Scheme selection</p>	<p>All members have worked collaboratively through a reconciliation workstream to ensure the transfer scheme selection aligns across the region and with other regions. The preferred plan transfers are:</p> <ul style="list-style-type: none"> • 25 MI/d Vyrnwy raw water from United Utilities to Severn Trent in 2030; • Grand Union Canal transfer from Severn Trent to Affinity Water selected in 2031 at 50 MI/d, increasing to 100 MI/d in 2040; • Cessation of the Derwent Valley export from Severn Trent to Yorkshire Water in 2035. <p>The adaptive pathways for the STT have also been aligned with WRSE.</p>

Appendix C: The need to keep developing the Severn Thames Transfer scheme

The Severn Thames Transfer (STT) represents a strategic resource option that facilitates the transfer of water from the River Severn to the River Thames. This would be supported by several sources of water⁵ from United Utilities and Severn Trent.

During the development of the draft regional plans and Water Resource Management Plans STT was selected as part of the WRSE regional solution, in conjunction with other schemes, in 2050. This was also reflected in WRW's plans.

Whilst STT featured in both regions' draft preferred plans, a series of sensitivity tests at the time showed that the STT could be selected as early as 2039, if the South East Strategic Reservoir Option (SESRO) could not be developed, or not at all if government water efficiency policies resulted in a lower demand forecast due to increased water efficiency.

In March 2023 the regional reconciliation process began its third round. At this time none of the regions had finalised a preferred revised regional plan. Therefore, sensitivity runs were undertaken to explore what might happen under certain scenarios. This scenario modelling used the updated STT data, but some other information in the WRSE model was based on the draft plan.

The scenario testing approach confirmed that if the WRSE companies met the 110 l/p/d PCC target by 2050 then STT was not selected in the reported pathway (preferred plan). Sensitivity tests also confirmed the need for STT in scenarios without SESRO or with government water efficiency interventions not reducing demand to the levels anticipated. Therefore, the need for STT inclusion in an adaptive plan was confirmed. Given that the revised draft plan was still under development for WRSE, but we knew that the revised regional plan would seek to achieve the 110 l/p/d PCC guidance target, the more likely scenario was that STT would not be required in the preferred plan for WRSE or WRW. This was the agreed outcome of reconciliation for inclusion in the revised draft WRMPs, which includes adaptive pathways to deal with potential changes.

Although the water companies are working toward mitigating those risks through their plans, they are influenced by factors outside of the control of the companies and therefore have a reasonable likelihood of occurring. The adaptive pathways recognise different potential outcomes. In either case, there is a need to progress development of the STT system⁶ in the next 5 years so it can be delivered by 2039 if required.

As the regional plans continue to be developed the risks associated with the promotion of certain schemes or delivering the water efficiency targets, set out in the Environment Improvement Plan, remain. Both regions have developed a series of adaptive regional plans to help offset some of this risk.

The adaptive regional plans consider three scenarios:

1. benign scenario in which schemes and assumed savings from water demand reduction measures are delivered (this is aligned to the reported pathway/preferred plan)
2. a short term adverse scenario in which preferred supply options aren't delivered and STT is then required to be developed and operational by 2039/40; and
3. a long term adverse scenario in which the projected demand management savings do not materialise and additional water from STT is required by 2050.

Through this approach both regions would monitor the delivery of the schemes and benefits of their plans to understand if their plans are still on track or whether they need to adapt to one of the scenarios above.

For the regional plans to remain flexible and adaptive it is critical that key schemes are progressed in a timely manner. In the case of STT and the potential for it to play a part in the short term adverse scenario this would require development of the scheme to continue over the next AMP period (2025 to 2030) and through the next

⁵ The North West Transfer enabling use of Vyrnwy Reservoir, and recycling water from Minworth and Netheridge.

⁶ STT System includes the STT and the sources that feed water to the STT, namely Severn Trent Sources (Netheridge), Minworth and the North West Transfer. Changes to the flow regime in the Severn catchment due to releases, interactions with the Severn Regulation Scheme, a bypass pipeline for the Afon Vyrnwy and system operation are within the scope of the STT project.

gates to provide confidence that the scheme could be utilised when required. Proposed milestones are under development and in discussion with RAPID to be reflected in future gate submissions.

Therefore both regions and relevant companies are promoting the continued development of the STT system in their WRMPs, Regional Plans and business plans to provide confidence to regulators and the Secretary of State that their plans are robust and can adapt to meet their statutory duties in the future. This jointly agreed text demonstrates alignment of the companies and regions on this need to solve national water resources risks identified in the National Framework.

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