Revised draft Water Resources Management Plan 2019

Statement of Response

September 3rd 2018

Version 2

Southern Water

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Executive Summary

Our Draft Water Resource Management Plan (draft WRMP), published in March 2018, set out in detail how we proposed to create a resilient water future for our customers by ensuring that there is sufficient water supply to meet the anticipated environmental, climate and demands of our customers over the 50 year planning period from 2020-2070. It also shows how this plan plays a part in the development of the regional picture for securing a resilient supply of water for the South East region.

This document is our Statement of Response (SOR) to the 130 representations received on the draft WRMP, during the 12 week consultation period between 5th March 2018 and 28th May 2018. It also explains the wider customer research we have undertaken to derive our revised draft WRMP.

This document addresses the representations received during the consultation process on the draft WRMP and identifies our consideration of, and responses to the issues raised. The SOR identifies any change made to the draft WRMP as a result of the responses. A summary of the main changes to the draft WRMP resulting from the representations and other technical work is set out in Section 7 of this document. We have submitted a revised draft WRMP and associated documents to the Secretary of State alongside this SOR.

The SOR responds to a wide range of issues raised on the draft WRMP, by our Regulators, stakeholders and customers, including those relating to:

- The challenges facing the company;
- Our views on the need for system robustness and resilience;
- Supply side measures and approaches to supply forecasts;
- Our proposed approach to demand forecasting, and demand management activities for metering, leakage reduction and water efficiency;
- Our proposals for joint working with other water companies, and also with other organisations;
- Our approach to option appraisal, screening and assessment, including issues relating to specific schemes;
- The company-preferred strategy for the Western, Central and Eastern areas;
- Concerns relating to how the draft WRMP accounted for licence changes in the Western area, and the Hampshire Licence Inquiry; and
- Technical issues such as uncertainty, environmental considerations, the impact of climate change, the accounting for carbon, and accordance to Directions;

Since the publication of the draft WRMP there is a significant body of additional technical work we have undertaken, and updates that we have made to the WRMP to respond to new information since the draft WRMP was submitted in November 2017.

Importantly, in relation to the Western area (Hampshire and the Isle of Wight), we have updated the draft WRMP to reflect the commitments that we agreed with the Environment Agency during the Western area Public Inquiry which included accepting changes to abstraction licences for the Lower Itchen, Test and Candover. These commitments are also reflected in our revised draft Drought Plan. We have also included additional commitments relating to leakage reduction and provided further explanation of our Target 100 initiative, which align with our Business Plan submission.

In this SOR, we have accepted the main recommendations of a number of representations, including those of the Environment Agency, Natural England and Ofwat. We have also provided additional explanation and information within the WRMP in response to comments received from our Regulators and other stakeholders.

This SOR document, and related annexes, sets out in detail the revisions we have made to the draft WRMP in response to comments received. The changes have been incorporated into the revised draft WRMP that we have submitted to Defra alongside this SOR.

This includes revisions and updates to our preferred strategies for our three supply areas, Western, Central and Eastern, where we have undertaken further modelling and assessment of our options to reflect comments received on the draft WRMP. Importantly, for the Western area, this includes ensuring our revised draft WRMP strategy includes all of our commitments arising from the Section 20 agreement (s20 agreement) signed at the Western area Inquiry in March 2018. For all of our strategies, we have included additional information on the schemes we are committing to develop, and the alternative schemes that we will investigate and assess alongside them to minimise any risks relating to delivery.

The revised draft WRMP is not a formal requirement of the WRMP process, however we considered it important to be able to demonstrate to Defra, our regulators and our customers how we have changed the plan in response to the comments received, and outcomes from our further technical work.

Although significant additional work has been undertaken in the revision, the WRMP strategies have not needed to materially change. The prospect of sustainability reductions in the Western area had been anticipated in the draft WRMP and the agreement reached with the Environment Agency now gives greater clarity on the short-term position. The revisions to the preferred strategies (including the presentation of alternative scenarios) are features of the real options approach presented in the draft WRMP and reflect its intentional adaptive nature. Revisions and modifications to account for consultation responses are also recognised as an important part of the water resources planning process.

Our final WRMP will only be finalised and published following Defra's consideration of this SOR document, following any Hearing or Inquiry that Defra might consider needs to be held into the draft WRMP, and following any Direction(s) that Defra may make on changes it requires to be made to the WRMP.

1. Introduction

1.1 Our Water Resources Management Plan

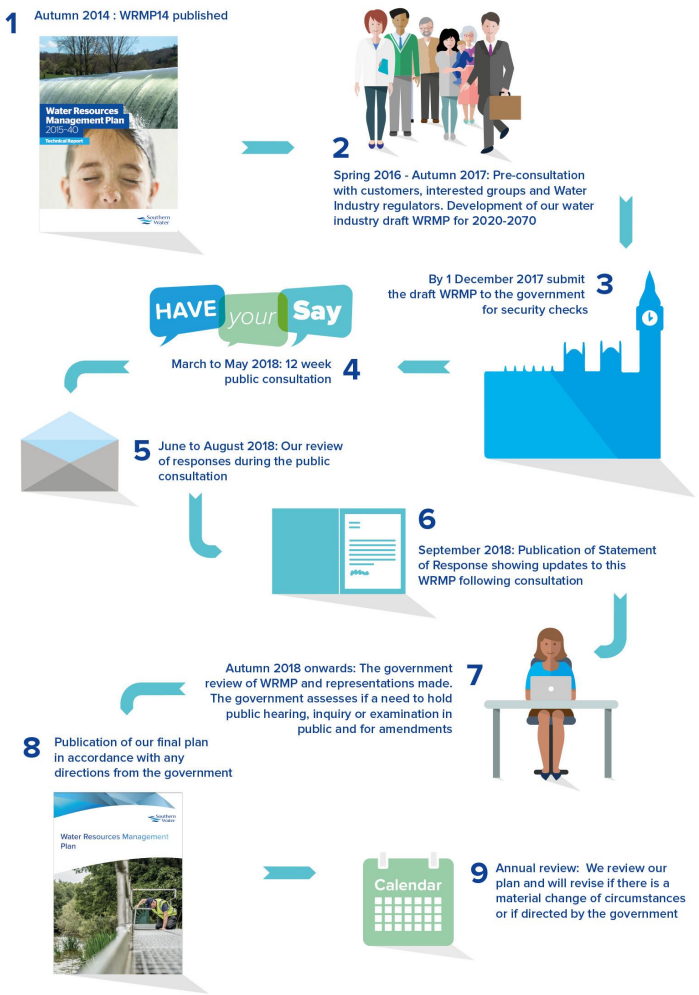
Our Water Resources Management Plan (referred to as our WRMP) sets out how we propose to ensure that there is a secure and reliable supply of water for our customers over a 50 year period. Our WRMP is updated every five years to take account of new information. Our last plan was published in 2014.

We published our draft WRMP for 2020-2070 for public consultation for 12 weeks between 5th March 2018 and 28th May 2018.

Our draft WRMP contained detailed proposals that took account of challenges we know already exist, those we know will occur in the short term, and a range of future uncertainties. We identified a number of infrastructure improvements and new developments that we proposed in response to those challenges and uncertainties, to ensure water supplies were available in the future.

Figure 1.1 includes an overview of the Regulatory process for our WRMP preparation. We are currently at Stage 6.

Figure 1.1: Overview of Regulatory Process



1.2 Our Statement of Response

Following consultation on our draft WRMP, we have carefully reviewed the feedback we received and are now publishing our response to the representations in this document, the Statement of Response (SOR). In accordance with Regulation 4 of the Water Resources Management Plan Regulations 2007 (as amended), our SOR:

- sets out the consideration we have given to representations;
- the revisions we have made to our draft WRMP as a result of the representations and our reason for doing so; and,
- where no changes are proposed as a result of our consideration of any representations, the reason for this.

When we receive confirmation from Defra that that we can finalise our plan, we will comply with any directions that Defra issue to us and then publish a final WRMP.

Each representation received has been given a unique reference number and the list of respondents is included as SOR Appendix 1. The respondent list should be used to determine the comments submitted by particular individuals or organisations. To allow the cross-referencing of comments to respondents, SOR Appendices 6 and 7 allocate the unique reference numbers to the comments made. For expediency, comments have been grouped and summarised where many respondents have made similar comments on common issues. However, our SOR document and appendices repeat responses a number of times to individual comments.

1.3 Revised draft WRMP

This SOR is accompanied by a revised draft WRMP, highlighting the revisions we have made. Our revised draft WRMP follows the structure of the draft WRMP with the exception of the Non-Technical Summary, a final version of which will be produced to accompany the final WRMP. The revised draft WRMP comprises:

- Revised draft Technical Overview – this sets out how we have developed our WRMP, the strategy for the next 50 years, and an explanation of how that strategy was derived. This document signposts where further detail and explanation can be found in the revised draft WRMP Annexes.
- Revised draft Annexes and supporting documents – a series of Annexes that comprise our WRMP, setting out the methodology we have followed in preparing it and results of our work along with the Strategic Environmental Assessment (SEA), Habitat Regulations Assessment (HRA) and Water Framework Directive (WFD) assessments of the WRMP.

2. WRMP engagement process

2.1 Our approach to engagement

In order to prepare this WRMP, we have been engaging with our regulators since the finalisation of our last WRMP in 2014. We have been engaging with customers and stakeholders since November 2015 (see Annex 1). Our engagement has focused on identifying their priorities, and seeking views on the development and delivery of our water resource strategies.

Our engagement has included two key stages:

- Pre-consultation – the engagement we undertook to inform the development of our draft WRMP; and,
- Engagement during the consultation on our draft WRMP.

2.2 Pre-Consultation prior to the draft WRMP publication

Prior to publishing our draft WRMP, we engaged with our customers, stakeholders and regulators as set out in Annex 1.

- **Customers** – building on the customer preferences established during the preparation of our previous plan, we revisited these preferences with our customers, and collected more data through online surveys, willingness to pay research and workshops.
- **Stakeholders** – we established the views of stakeholders through county-specific stakeholder workshops (Kent, Sussex, Hampshire and the Isle of Wight), stakeholder panels and pre-consultation notification to stakeholders.
- **Regulators** – we met with the Environment Agency, Natural England and Ofwat to report progress with developing our plan, explain our approach and report results. Where Defra and/or the Secretary of State supplied direction and correspondence on planning, this was taken into account.

The views of customers, stakeholders and our regulators during the pre-consultation phase were critical to the development and formulation of the draft WRMP. This included understanding customers' expectations on the supply and demand management options contained within our strategies.

We have an independent panel, the CAP (Customer Advisory Panel) which works with us to ensure we deliver customer priorities and promises. The CAP act in the same way as the Customer Challenge Group do for our business plan, ensuring that customer and engagement outcomes are reflected across the company in the strategies we take forward to balance future water supply and demand.

2.3 Consultation on our draft WRMP

We undertook public consultation on our draft WRMP for 12 weeks between 5th March and 28th May 2018. We sought to engage widely with all those who might have an interest in our plans to supply water over the next 50 years. This included our domestic and commercial customers, retail partners, community representatives, environmental groups and wider stakeholders and regulators.

2.3.1 Engagement material

The non-technical summary set out a high level outline of our WRMP, with a focus on how we plan to meet the demand for water over the next 50 years, supported by graphics and imagery. It also set out the strategies to supply water in each of our areas – Western, Central and Eastern. The document set out how the different ways people could take part in the consultation.

The document was printed, and mailed to more than 800 stakeholders in our supply area, as well as being available online at southernwater.co.uk/haveyoursay (either to download and in an e-reader tool to facilitate online reading).

The summary was supported by a questionnaire leaflet, with 20 questions about the WRMP. This questionnaire was also available online, with the completed surveys being emailed directly to Defra.

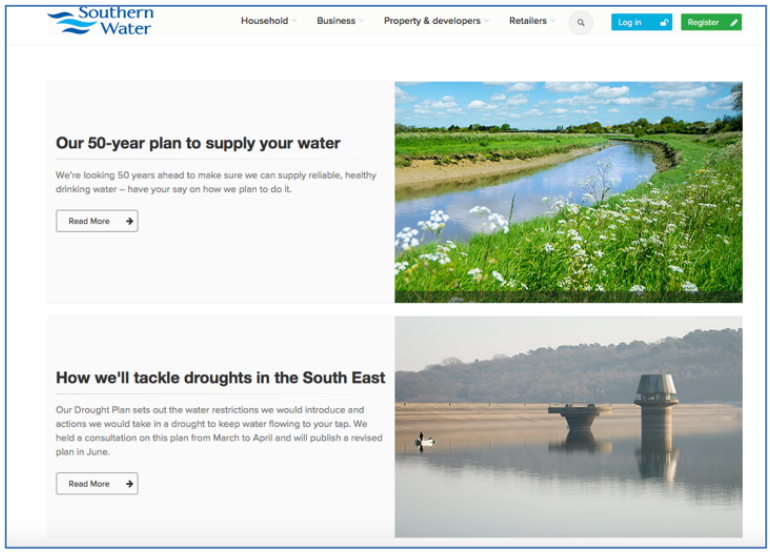
2.3.2 Website

Our website formed the central hub for the consultation, in a dedicated 'Have Your Say' area developed for engagement with customers at southernwater.co.uk/haveyoursay.

The WRMP section included information on the consultation, the contents of the draft WRMP, an animation setting out our long-term plan and how we will safeguard supplies for future generations, a full list of documents to download and the online questionnaire. A copy of the questionnaire is included as SOR Appendix 2.

In total there were the following views of our webpages during the consultation:

- www.southernwater.co.uk/water-resources-management-plan - 1,724 views
- www.southernwater.co.uk/whats-in-our-water-resources-plan - 560 views
- www.southernwater.co.uk/whats-happening-in-hampshire-and-the-isle-of-wight - 166 views
- www.southernwater.co.uk/how-to-find-out-more - 1,052 views
- www.southernwater.co.uk/have-your-say-on-how-we-supply-your-water - 505 views



2.3.3 Stakeholder engagement

We engaged with stakeholders with a potential interest in the WRMP consultation by posting a hard copy of the summary document, questionnaire and a stamped addressed envelope, addressed to Defra, and through an email announcement with a link to our online consultation.

In total, we mailed the documents to 808 individuals or groups and emailed 1,800 stakeholders as detailed in SOR Appendix 3. This was combined with similar information on the draft Drought Plan, as the consultations were running concurrently.

For the emails, the open and click rates were:

- Kent 42% opened 2.4% CTR (click through rate)
- Sussex 35% opened 5.5% CTR
- Hants & IoW 33% opened 4.1% CTR.

These engagement rates are higher than average for emails to stakeholders.

The targeted groups included:

- Regulators (Environment Agency, Natural England and Ofwat)
- Historic England
- MPs
- Government committees
- Local authorities
- Rivers trusts, fisheries
- Environmental groups, wildlife trusts
- Customer/consumer groups
- Sports groups
- Horticultural bodies
- Farmers
- Trade organisations
- Developers
- Canal, port and waterways organisations, coastal organisations (navigation authorities)
- Water companies
- Car wash associations.

The draft WRMP was also discussed during the regular meetings of stakeholder panels, which we formed to help inform our operational and strategic work on an ongoing basis. These were held in Sussex, Kent, Hampshire and Isle of Wight during the consultation. Feedback from these panels is included in Section 7.

One-to-one briefings were offered and these were taken up by the Isle of Wight Council, Natural England, Newport Rivers Group, Arun District Council, Lewes District Council, Chichester District Council, West Sussex County Council, South Downs National Park Authority and New Forest National Park Authority.

2.3.4 Customer research

We undertook both qualitative and quantitative customer research for the development and revision to this Plan. This research used a variety of customer research methods across a representative demographic cross section of our customer base.

We undertook two dedicated online surveys with YouGov and customer focus groups in Sussex, Kent and Hampshire to ensure we heard the views of a wide range of representative customers during the consultation.

Research was carried out with over nearly 5,000 of our customers in two online surveys carried out by YouGov. This was based on using a 'slider' tool to gauge customers support for activities or water resource options, while providing information about bill impact and social and environmental implications.

We held two rounds of customer focus groups (Kent, Sussex and Hampshire) with eight bill-paying customers invited to each group, from a range of backgrounds and ages. The non-technical summary draft WRMP document was used as the discussion material for each group, alongside the YouGov survey. The outcomes of the customer research are included in Section 7.

2.3.5 Customer engagement

A range of customer engagement activities were undertaken, including:

- **Social Media** - Our media team posted information about the consultation on the company's Twitter and Facebook accounts in March, April and May. The resulting engagement was:
    - Engagement on Twitter: likes, retweets, click-throughs (128)
    - Engagement on Facebook: reach (2,500), likes, shares and comments (34)
- **Press** - There was a news release on the WRMP, the details of which are included as SOR Appendix 4. There was also blog on 18th April 2018, "Working together to connect the dots" by our Director of Wholesale Water Services on our news page, included as SOR Appendix 5.
- **Advertising** - During March, April and May we published an advert online with several media organisations, to promote the draft WRMP and Drought Plan consultations with our customers. In total, the online adverts resulted in nearly three million impressions and more than 8,300 clicks to the Have Your Say website during the period of the draft WRMP consultation. It appeared on media and consumer websites run by Newsquest, Trinity Mirror, Global Advertising, Johnston Publishing and the Kent Messenger Group. The advert was also published in the Isle of Wight County Press for six weeks, which has a circulation of 23,000.
- **Community** - As part of its overall engagement with communities during the consultation periods, we attended 17 customer events to gather feedback and raise awareness, reaching a footfall of more than 71,000, with about 10% engagement.

2.3.6 Staff Engagement

Information on the draft WRMP and the consultation was shared with our employees through an announcement on the intranet, a feature in the company magazine, 'Southern Water News' and a blog by the Chief Executive Officer. Questions about water supply were included in a Survey Monkey questionnaire shared with staff to engage them on all the company's future plans.

2.3.7 Regulators

Engagement with regulators was prioritised during the pre-consultation phase to ensure the draft WRMP was in line with guidance and government policies prior to the deadline for submission to Defra in December 2017. We held meetings with the Environment Agency, Ofwat and the Drinking Water Inspectorate (DWI). Prior to and during the consultation period, meetings were held with Natural England and the Environment Agency to brief them on the draft WRMP as well as the draft Drought Plan and Business Plan.

Where DEFRA and/or the Secretary of State supplied direction and correspondence on planning, this was also taken into account.

During the consultation a number of publications were issued of relevance to the WRMP process both now and for future planning, including HM Government's 25 year Environmental Plan. We have reviewed the WRMP to ensure that it best aligns with this policy. Where publications make recommendations, we intend to develop a company policy outlining our principles on the same issues to adopt in the implementation of the strategies and to our wider future water resource planning. Our intention is to make sure that as recommendations are then considered nationally and potentially adopted in the future, our WRMP and our future WRMPs remain robust enough to adapt.

2.4 Board Assurance

The Board have been engaged during the development of the draft WRMP.

Board engagement began in January 2016 with a presentation of the water resource management planning process, and an explanation of how the plan was being derived. In April 2016 the Board was taken through a very detailed presentation on the potential use of alternative sources of water such as indirect water re-use.

In November 2016 the Board were provided with an update of the draft WRMP and progression on its development. Separate presentations were made to one of the nominated non-executives on the Board who went through the WRMP process in more detail on behalf of the Board, including visiting water supply sites and reservoirs during the course of 2017.

A legal and technical review of the draft WRMP was undertaken and a technical paper was submitted to the Board (along with the non-technical summary of the draft WRMP) in November 2017. The paper set out the component parts of the draft WRMP and the preferred plans that were being consulted on. At the meeting the Board gave its formal approval to the submission of the draft WRMP to DEFRA.

Following receipt of DEFRA's authority to publish the draft WRMP for consultation, the next procedural steps were mapped out in a paper to the Board in February 2018 providing a range of options when the consultations for the draft Drought Plan and draft WRMP could start.

The Board were also updated on the strategic decisions being adopted as part of the Western Area Public Inquiry and the outcome of the inquiry and the significance of the s20 Agreement as a short term solution for the Western area resource zone.

Jacobs completed a further technical audit of the draft plan in April 2018. The findings from this audit were incorporated into the revised draft WRMP. During April and June the draft WRMP was also taken to external recognised experts who had been appointed to provide an external challenge to our business and WRMP plans. The feedback from the challenge panel and the management

responses were reviewed by the Board PR19 Assurance sub-committee and incorporated into the revised draft WRMP and business plans.

Following the consultation a draft Statement of Response was written. Jacobs were appointed to provide both technical and Addleshaw Goddard provided legal assurance on the revised draft WRMP. The legal assurance was to check if the proposed revised draft WRMP was compliant with the relevant legislation and directives, as set out in the EA checklist, and that the Section 20 agreement had been represented correctly in the Plan. The technical review of the SOR challenged the accuracy and adequacy of the responses to the consultation responses and those parts of the revised draft WRMP which had changed. This technical assurance work is referred to in Southern Water's Business Plan (Table 4:PR19 Independent assurance).

Further updates on developing the plan were given to the non-executive Board to ensure that the revised draft WRMP would still align with the Business Plan having regard to the revisions that were then already becoming known. Updates to the revised draft WRMP and the Wholesale Water business plan were provided to the board during the development of the business plan. This non-executive board update was repeated again in June and July 2018.

In August 2018, independent legal and technical assurance advice on the draft Statement of Response, revised draft WRMP and policy/guidance was obtained from the Jacobs review and Addleshaw Goddard reviews. The conclusion of this work was that the SOR and the revised draft WRMP were materially compliant. There were some further minor improvements that could be made to the final WRMP but these were not material.

The Statement of Response will be submitted to the Secretary of State and once the company receives a letter from the SoS, granting it permission to publish its final WRMP, then the final WRMP will be assured and presented to the Board again, along with the assurance findings, for permission to publish.

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3. Commitments since the publication of the draft WRMP

3.1 River Itchen, River Test and Candover abstraction licence Public Inquiry

The Public Inquiry was instigated following our challenge to the Environment Agency's proposed variations to a number of abstraction licences in our Western area. The need for licence changes for more sustainable abstraction was never a principle that we opposed. Our concerns were that, particularly during times of drought, the conditions were such that they had the potential to impede the ability for us to meet our statutory duties to supply public water.

The Inquiry hearing opened on March 13th 2018. It focused on a proposed operating agreement between Southern Water and the Environment Agency (EA) under Section 20 of the Water Resources Act 1991 ("The s20 Agreement"). The s20 Agreement had been drafted following submissions of evidence to the Inquiry in the preceding weeks and as a result of both parties reaching a better understanding the critical issues presented by the other.

During the course of the Inquiry the s20 Agreement was finalised and an outline package of monitoring, mitigation and Habitats Regulations compensation measures prepared. The s20 Agreement was signed and presented to the Inquiry at its closure on 29th March 2018. The determination of the Secretary of State on the Inquiry is awaited (as at 3rd September 2018).

The s20 Agreement

The s20 Agreement enables a new, positive way forward for both parties, for public water supplies and for the habitats and ecology of the River Itchen and River Test. We accept the abstraction licences changes. The EA commits to a modified drought permit determination process and the inclusion of force majeure clauses in the proposed new licenses. It also sets out how we can utilise the Drought Permit and Drought Order process to maintain public water supplies pending the implementation of new reliable water supplies to replace the water resources lost by the licence changes. This is therefore a short to medium term solution for the duration of the Section 20 Agreement. It is not a permanent arrangement and is referred to within the s20 agreement as the "interim abstraction scheme". These drought options have been incorporated into this revised draft WRMP.

We also commit to a significant package of environmental monitoring, mitigation and compensation measures associated with the potential Drought Permits and Drought Orders that may be needed over the next ten years or so. It has been agreed that many of these measures will be carried out in advance of (and irrespective of the implementation of) any drought permit or drought order meaning that there is an overall positive benefit to the environment.

The main elements of the s20 Agreement have now been incorporated into our revised draft Drought Plan, and are incorporated into the revised draft WRMP, in anticipation of the Secretary of State's approval of the licence changes.

Incorporation in our revised draft Drought Plan

The revised draft Drought Plan has been updated to reflect the commitments we gave in the s20 Agreement, including a significant package of monitoring, mitigation and compensatory measures that we have discussed and agreed with the Environment Agency, Natural England, the Hampshire

and Isle of Wight Wildlife Trust, and other environmental partners. These measures will be put in place to ensure that potential effects on the environment arising from our proposed use of the interim abstraction scheme are mitigated, monitored and where appropriate compensated for.

Incorporation in our revised draft WRMP

The revised draft WRMP has also been updated to reflect the commitments we gave in the s20 Agreement. In particular, we agreed to use "all best endeavours" to implement measures to develop alternative water resources. The alternative sources will replace the water that is effectively "lost" through the proposed licence changes, and will also respond to other factors influencing our forecast future supply demand balance.

This revised draft WRMP sets out our preferred strategy and also alternative strategies. Both are intended to be set out in our final WRMP. The alternative strategies are intended to be developed concurrently with the preferred strategy in the first instance. The reason for this is simple. The s20 Agreement interim abstraction scheme will currently only be available until 2030. Ideally, the aim is to have little or no reliance on the interim abstraction scheme past 2027. Sufficient measures therefore need to be capable of delivery within this timeframe to avoid a significant risk to the supply of water to the Western area but there are a number of factors that can influence the timing of the measures becoming fully operational (e.g. planning consent timeframes, third party delivery etc.). To address this uncertainty and to be confident of having measures operational within the timeframe, the need to concurrently progress a number of measures that can "step-in" if needed, is essential.

The scale of securing alternative supplies following the abstraction changes to existing sources is massive, involving multi-million pound investment in large scale new developments to provide supplies to customers where the new licences will prevent us from abstracting from existing sources. For the most part, the schemes we will need to develop are complex engineering projects, with considerable environmental investigations required in advance of planning and other permissions being able to be secured. Until we have secured those permissions, and built the new schemes, our supplies to customers will remain at risk.

Pursuing a single strategy which has those inherent complexities and hoping that there will no issues during implementation, we believe would be irresponsible given the threat to supply. Progressing alternatives initially in the short term allows us to best use the time where the interim abstraction scheme will operate to adapt to any obstacles or delay and still be confident that a long term solution can be delivered within the timeframe. Once a measure is sufficiently secured (and the risks to delivery therefore significantly less) the need to substantively progress certain alternatives reduces. We will still favour the progression and implementation of the preferred strategies as the best value plans but this allows adaptation. Similarly, once alternative sources of water are built and become operational, the level of reliance on Drought Permits and Drought Orders under the interim abstraction scheme reduces in tandem with the rate the new schemes are able to provide water.

Not all of our proposed new resource developments can be implemented by us alone, as they involve the transfer of water from other water companies through existing or new transfer pipelines. Some of these transfers are reliant on the other water company making improvements to their own sources, or developing new ones. This can also involve significant investigations and applications for consents of their own, increasing the potential risk that they could be delayed. While we will work with those companies to best reduce that prospect, for the purpose of this plan, again we need to act responsibly and anticipate, account for and be ready to respond to any obstacles or delays.

The timings within this revised draft WRMP for the delivery of the schemes that form our preferred strategy for the Western area are our best estimates for delivery at this point in time. They are informed by engineering, environmental and planning assessments, and consideration of the

potential risks relating to scheme delivery. There are inherent risks but we hope to have minimised these by our "alternative strategy" approach developed from our real options method. We are confident that we can investigate, promote and build these schemes to the timetable that we have set out in this revised draft WRMP.

We will work closely with the Environment Agency, Natural England, other environmental partners and stakeholders including the relevant local planning authorities through our detailed technical work. We propose to maintain regular liaison and engagement through steering group meetings, and technical working groups relating to each of the individual schemes. Within the s20 Agreement we have also committed to regularly report on progress with the implementation of our preferred strategy and our assessment and promotion of the alternatives. While this is primarily to keep drought permits/orders under review (so as to remain application ready) it will also act as an update on progress so as to reduce the level of reliance on the interim abstraction scheme as early as practicable.

In addition to our regulatory reporting requirements, we will regularly report progress on our WRMP publicly on our website and proactively with stakeholders and regulators (NE, EA, Ofwat, Defra). In particular, given the strategic nature of the Western area solution, we will update for that solution at key milestones (e.g. approval, planning approval, procurement, construction start) and as part of our annual performance report. This will include where external influences / other transfers are progressing or could be at risk of delay (planning delays, construction in other companies etc).

3.2 Application of leakage reduction policy

Managing leakage is an important part of our water resources strategy. A low level of leakage is desirable for two main reasons. It allows the efficient use of the water abstracted which in turn keeps more water within the environment, and it reduces the scale of investment necessary into new resources, which in turn can impact on customer bills. However, it is not necessarily always economic to reduce leakage to very low levels, because to do so could then involve very large additional costs for relatively small savings of water.

However, our approach, and that of our regulators, is to set leakage at a level that meets the level of expectations of our customers and society as a whole (even if not necessarily optimal in terms of cost). Our draft WRMP set out a combined strategy of continued active leakage control in the short term followed by mains replacement programmes in the medium to longer term to ensure that we continue our drive down on leakage by 15% by 2025. This commitment was supported in consultation on our draft WRMP, but our customers and other respondents encouraged us to commit to do more.

As a result, in our revised draft WRMP whilst we have maintained our draft WRMP commitment to meet Ofwat's leakage reduction target of 15% (from current levels) by the end of the next AMP (2025), we have now committed to do even more.

Following customer and stakeholder feedback, and recommendations in the recently published National Infrastructure Commission report that companies should aim to be much more ambitious in terms of potential leakage reduction, we have committed to meeting the aspirations of that report to achieve a 50% reduction in leakage from current levels by 2050. We also had developed, prior to the NIC report being issued, our own target of achieving 40% reduction from current levels by 2040, and so we have adopted this as an interim target as part of our leakage reduction policy.

The leakage reduction activity proposed to achieve these profiles of reductions are described more fully in revised draft WRMP Annex 6 (Appendix C). There will be a need for innovation in leakage

reduction, however within our target date of 2050 there is considerable scope for innovation in technology, methods and process.

Achieving this level of leakage reduction will require significant investment, and we are very aware of the potential impacts on customer bills (although our customer engagement on this suggests that customers do not mind a level of increase towards reducing leakage, as it is an action they want to see). We are exploring this with our financial regulator Ofwat, and are committed to ensure that customers' bills, and in particular those of vulnerable groups, are protected from unacceptable increases.

3.3 Application of 'Target 100' water efficiency policy

We committed, as part of the draft WRMP, to delivering our 'Target 100' water efficiency policy, which aims to achieve a per capita consumption (pcc) of 100l/h/d by 2040. This is well-aligned with Defra's 25 Year Environment Plan (Defra, 2018) which states that "We will work with the industry to set an ambitious personal consumption target and agree cost effective measures to meet it".

We have retained this measure in the revised draft WRMP, and reinforced our commitment to it. We will adopt a variety of measures that will be kept under continuous review in order to deliver the highly ambitious reduction in pcc the strategy aims for. Our Target 100 strategy has four key strands:

1. **Installation of smart metering technology**: We are currently undertaking trials of devices that can read meters and send the reading to customers using their WiFi. The aim is to provide customers with near real-time information so that they can see the consumption associated with various water-using activities and take measures to conserve water where they can. If the trial proves successful, we plan to roll out 100,000 devices over AMP7.

2. **Home audits**: We currently undertake home audits to promote water efficiency. The programme, which supports the installation of water saving devices, has a high uptake rate and can result in up to 10% further savings on top of the savings achieved through metering. We plan to continue with this programme and combine it with leak detection so that whilst we offer help and advice on water efficiency, we can also help detect and fix any plumbing losses or supply-pipe leaks.

3. **Proactive customer contact:** As a large number of consumers are now metered, we will develop a system that uses that information proactively to identify significant increases in consumption so that we can proactively engage with our customers to distinguish and identify potential leaks from changes in circumstances. This will also allow us to specifically target customers or geographical areas for water efficiency messages during periods of high demand.

4. **Incentivising water efficiency behaviour:** Our customer and stakeholders have shown little appetite for seasonal tariffs as way of managing demand. In acknowledgement of this, we are looking to reward customers for conserving water. Given the scale of sustainability reductions in the Western area, the first scheme will be rolled out in Hampshire in partnership with the Eastleigh Borough Council. The scheme will offer rewards to residents for recycling waste and reducing water consumption on a monthly basis. The scheme will be introduced in the Central area towards the end of AMP7 and in the Eastern area during AMP8. We are also launching Water Levels - a collaboration behavioural change project with Ebbsfleet Development Corporation, Thames Water and WaterAid. In addition to incentivising water efficient homes and pooling resources on 'Smarter Homes' visits, both companies will work with WaterAid to link the amount of water saved to an increase in available clean water in a community in a partnership country. Customers and stakeholders have told us they prefer incentives to reduce

their consumption, rather than penalties, and this type of 'nudge' is more likely to encourage sustained behaviour change.

Further details of these measures are described in revised draft WRMP Annex 6, and in our Business Plan published in September 2018.

3.4 Other Commitments to Future Planning and Scheme Implementation

With each WRMP we aim to improve on the last. The evolution of our plans has seen the introduction of stochastic forecasts of supply, strong demand management options and increased environmental forecasting. The delivery of this plan introduces a real options and futures method to allow our plan to adapt to uncertainties but we recognise that there is still more that we can do both in the implementation of the schemes presented in this plan, and in ensuring a confident adaptive approach can be taken into our future WRMP's.

To advance our future planning, we will therefore commit to:

- Further improve the way that we plan for uncertainty, by considering a greater range of climate change scenarios, incorporating Regional Climate Model outputs into our weather generator model and working with regulators and regional groups to develop an industry-consistent climate change dataset.

- Develop a more quantitative metric for considering customer preferences so that this feedback becomes a more integrated feature of our investment model when deriving the initial least cost plan and best value plans.

- Develop an environmental net gain concept, and means of valuation, specifically for use in water resource planning that sufficiently balances economic social and environmental capital (and which goes above and beyond biodiversity net gains principles required under the planning consent regime). This environmental net gain concept can then be used to influence the decisions for future strategies. We have already commissioned a review of our preferred plan strategies to assess environmental net gain. We will also build on Natural Capital valuations.

- Creating a resilient water future for the South East, consistent with our Business Plan commitments. Continue being a visible and proactive contributor to regional and national water resource groups, collaboratively supporting the development of methodologies and a regional South East WRMP, and improvements to national water resource planning frameworks.

- Encourage the use of local partnering opportunities with regulators, stakeholders and local/regional groups in the development, implementation and delivery of schemes and any required mitigation measures.

- Producing a company policy outlining the core principles that we intend to adopt to develop planning strategies and to consult on those principles.

- Develop our robust decision making process which combines adaptive planning approaches with Real Options to ensure that future plans remain robust to meet the growing diverse range of challenges that we face

- Further develop our environmental forecast, building on the work set out in the revised draft WRMP Annex 4 of our draft WRMP.

- Continue to develop and improve links between drought management plans and water resource management planning such that the drought plan sets out the actions we take during a drought and the strategic elements of the Drought Plan are incorporated into the WRMP

- Providing collaboration and support to improvements to water trading methods between abstractors for future resource resilience improvements, e.g. with farming sector.

- Continue to develop catchment first solutions to provide alternative innovative ways to solve future resource challenges

- Work with the DWI to incorporate a wider and broader range of water quality considerations into the development of a WRMP

- Improving our data collection and analysis for water resource planning, in particular for outage allowance.

4. Overview of WRMP consultation responses

4.1 Process for handling responses

A wide range of options were made available for respondents to submit their feedback on the draft WRMP to Defra during the public consultation. This included:

- Providing comments through our website or completing the online questionnaire on Have Your Say website, which were forwarded direct to Defra;
- By emailing the feedback form or written comments direct to Defra (copying responses to us, the Environment Agency and Ofwat);
- Posting the completed feedback form or written comments to Defra;
- Media news releases and advertising including a link to the Have Your Say website.

All the information we received directly was recorded and forwarded to Defra. Defra also shared feedback, received directly from respondents. When the consultation closed on 28th May 2018, records were checked with Defra to ensure that both we and Defra had a full copy of all correspondence to consider for this Statement of Response.

The overall number of responses was 130. A list of respondents is included as SOR Appendix 2.

4.2 Feedback received from the WRMP consultation

Tables 4.1 to 4.3 set out the number and range of feedback we received on the draft WRMP. Table 4.4 sets out how respondents who completed the online questionnaire heard about the consultation.

Table 4.1 Means of feedback

Means of feedback	Number of respondents
Online questionnaire	94
Email or Letter	36
Total	**130**

Table 4.2 Respondent type

Respondent type	Number of unique respondents
Member of public	79
County / District / Unitary Authority	11
Parish / Town Council	0
Private Sector	2
Government Agency / Statutory Body	8
Action / Resource Group / Voluntary / Charitable Group	13
MP / MEP	1
Southern Water employee	2
Other	3

Category unidentified	11
Total	**130**

Table 4.3 Geographic area of interest

Supply area most relevant to respondent	Number of respondents
Western – Hampshire and Isle of Wight	47
Central – Sussex (North, Worthing, Brighton)	22
Eastern – Kent and Sussex (Hastings)	15
Outside of Southern Water supply area	20
Other (those who didn't specify a location or represent a regional or national interest)	26
Total	**130**

Table 4.4 How respondents of the online questionnaire heard about the consultation

How respondents of the online questionnaire heard about the consultation	Number of respondents
Radio advertising	2
Newspaper	13
Southern Water website	13
Email	26
Community event	2
Social media	21
Other*	13

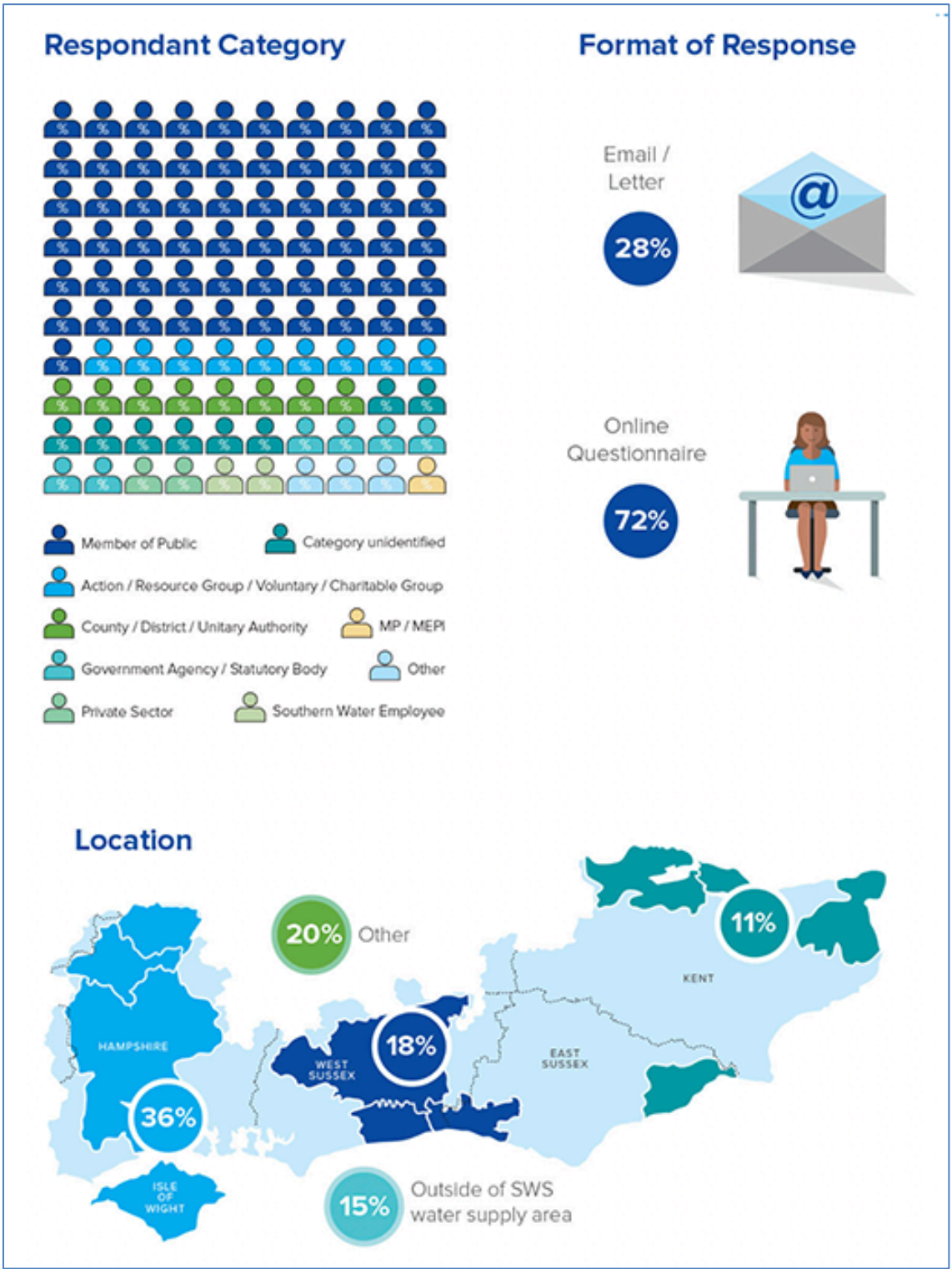
**'Other' included the following:*

- *SWS employee*
- *SWS employee's relative*
- *Consultation letter from Southern Water*
- *Southern Water briefing*
- *Emails with MP*
- *Family member*
- *Hampshire and IoW Wildlife Trust*
- *Online news site including 'KentOnline' and 'On the Wight'*
- *Solent Water Basin Management*

Percentage breakdowns of feedback, respondent type and geographic area of interest are shown in Figure 4.1.

We read all of the individual responses to identify the issues raised by each respondent. Where an issue was raised by more than one respondent, the comments were grouped together and we have provided a single response to that issue. However, where individual responses from technical and statutory consultees made similar comments we have not grouped these and so our SOR document and appendices repeat responses a number of times to individual comments.

Figure 4.1 Percentage breakdowns of means of feedback, respondent type and geographic area of interest for the 130 consultation responses received



A number of the consultation responses, particularly from statutory consultees, tended to have more detailed information and comments than those made by members of the public. As a result, we have separately analysed and responded to the issues raised in questionnaire responses in Section 5 of this report (and in SOR Appendix 6), and technical and statutory consultee responses in Section 6 (and SOR Appendix 7). The consultation feedback we received on the draft WRMP has also been fed into our separate Business Plan preparation.

5. Analysis of questionnaire responses

5.1 Introduction

Details of the comments made in the questionnaire responses, together with our responses to those comments, is included within SOR Appendix 6. This section of the report presents an overview of the responses to each of the questions in the questionnaire.

5.2 Question 3: Do you think we should plan for a wide range of possible 'futures' and how much water we may need to supply in each?

5.2.1 Analysis

91% of respondents believe that we should plan for a wide range of possible 'futures' and how much water we may need to supply in each. 3% disagreed with this approach, whilst 6% of respondents were not sure or no views were expressed.

Figure 5.1: Question 3 – feedback results

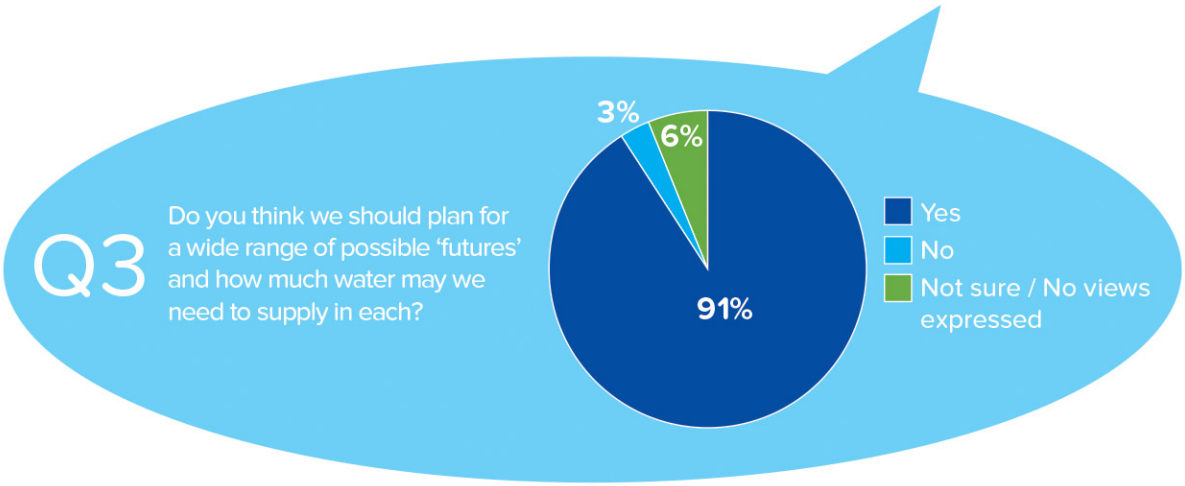


Table 5.1: Question 3 – feedback results

Response	Summary of main comments in questionnaire responses
Yes (91%)	• Yes, the uncertainties about potential licence changes, planned growth and climate change, mean the company must be agile in order to secure the very best new sustainable sources, innovate and avoid standard investment. • Generally in agreement and support with SWS's plan for a wide range of possible 'futures'. • The long-term approach of the Water Management Plan to 2070 is particularly welcomed to this effect. • SWS's WRMP should set out the critical path leading up to the 2025 WRMP. That creates a sense that SWS are committed to an end point, as agreed in the Public Inquiry.

	• SWS's approach to plan for a wide range of possible 'futures' needs to be narrowed down further to a smaller number of realistic futures, otherwise there is no defined route and little certainty what the goal is or when it will be achieved. • Long term planning in support of water re-cycling • Timely, decisive/robust and transparent action is fundamentally important in the new WRMP. The timing and clarity of actions by others including the Environment Agency & Natural England is crucial to enable SWS to make its own decisions with certainty. • Consistent approach across water companies is required. • Need to plan for minimum adverse impact on the environment in drought and normal water supply conditions. • Concerned about the level of abstraction carried out. • Concern about the expense of using Desalination in long term • The potential for increasing abstraction during flood conditions is ignored and it is not accepted that this would be too expensive. • Increased level of storage is needed to retain water during excess rainfall conditions. • Need to consider the use of the canal system to move water from North Wales, or a big pipeline, that can fill some major new storage reservoirs. • Concerns about using abstraction and the adverse impacts upon the condition of rivers and their eco-systems, especially when coupled with an increasing demand. • Several respondents agree with the approach and think it is important due to the increase in water demand associated in housing and development. • New reservoirs are needed to support housing growth. • Provided not at the expense of the rivers and its wildlife. • Plans must undertake relevant consultation and fully evaluate the environmental impacts on rivers and wildlife to ensure these are fully protected. • Plans should be in favour of desalination or other innovations rather than river and bore hole extraction • Several respondents stated that water saving should be prioritised and plans must encourage and educate customers to use water more wisely. • Monitoring of water leaks and upgrading of the water distribution network should be carried out in the short term and the water company penalised if these targets are not meet. • Concerned about water supply from chalk wells and the risk of pollution to wells from leaching of landfills.
No (3%)	• Using existing evidence of related issues such as global warming should be sufficient to identify two or three models at most to plan for.
Not sure / No views expressed (6%)	

5.2.2 Summary response and how we have changed the WRMP as a result

Most respondents agreed that we should plan for a wide range of potential futures in our WRMP, and supported our use of innovative modelling approaches including real options to provide greater confidence in delivering adaptable solutions. The real option approach is used to understand how our plan varies in a range of possible future scenarios. We present in our plan a preferred set of options for the next 50 years. We also intentionally list strategic alternatives which may need to be investigated and promoted concurrently in the short term. We wish to ensure that the WRMP is flexible enough in the short term to adapt to a wide range of possible futures while longer term strategies are being secured. The real option method allows us to learn about uncertainty over time, and build in flexibility so that we can act on new information and ensure that schemes do not become rapidly redundant if circumstances change or differ. Our approach seeks to put together strategies that despite uncertainties are 'no regrets' solutions. This gives increased confidence that they are, and will remain, viable in a range of different scenarios.

Some concerns were expressed that our approach is too complex, and that a simpler basis would be more transparent and readily understandable. We recognise the complexities of the approach we have taken, and have sought to explain this in an accessible way within the WRMP Non-Technical Summary and in the Technical Overview documents. We have mapped out the process that we went through to reach our plan and we strongly believe that the range of futures and challenges we face requires us to develop our WRMP in this way. It is important to note that we are not committed to a single set of solutions only, and we will review and update our plans in subsequent WRMPs. The approach we have taken enables us to adapt as new information becomes available, but with the confidence that we have adopted least regret options in the meantime.

A number of respondents commented on issues relating to the Western area, including uncertainties relating to future resources arising from licence changes. Other respondents identified concerns with the need for significant new infrastructure schemes in response to the licence changes, including criticising the reliance on desalination or other high tech solutions.

Our statutory duties mean that our primary objective has to be ensuring that we maintain supply but we will do so responsibly and having regard to a number of other factors. This was fundamental to our position at the Western area Public Inquiry. We have included additional information in the WRMP in response to the outcomes of the Inquiry and the s20 agreement. We have also expanded information on the 'Long Term Water Resources Scheme' (our preferred strategy for the Western area) and we are committed to delivering that scheme in the agreed timescales. For all of our supply areas (Western, Central and Eastern) we have included information on the risks and uncertainties we face, and described the way we will investigate, assess and promote both our preferred strategies and strategic alternatives to them to minimise and mitigate potential risks to delivery. We will be working closely with our partner organisations and other stakeholders and will regularly report on progress as part of stakeholder working groups, and more publicly via our annual returns to the Secretary of State. We will also be reporting on progress with schemes in the Western area publicly through updates on our website.

A full response to the comments is set out in SOR Appendix 6.

5.3 Question 4: Do you think it's a good idea to plan for future changes to our abstraction licences which could mean we need to invest in new sources?

5.3.1 Analysis

76% of respondents believe that it's a good idea to plan for future changes to our abstraction licences which could mean we need to invest in new sources. 11% of respondents think it is not a good idea and 13% stated that they were not sure.

Figure 5.2: Question 4 – feedback results

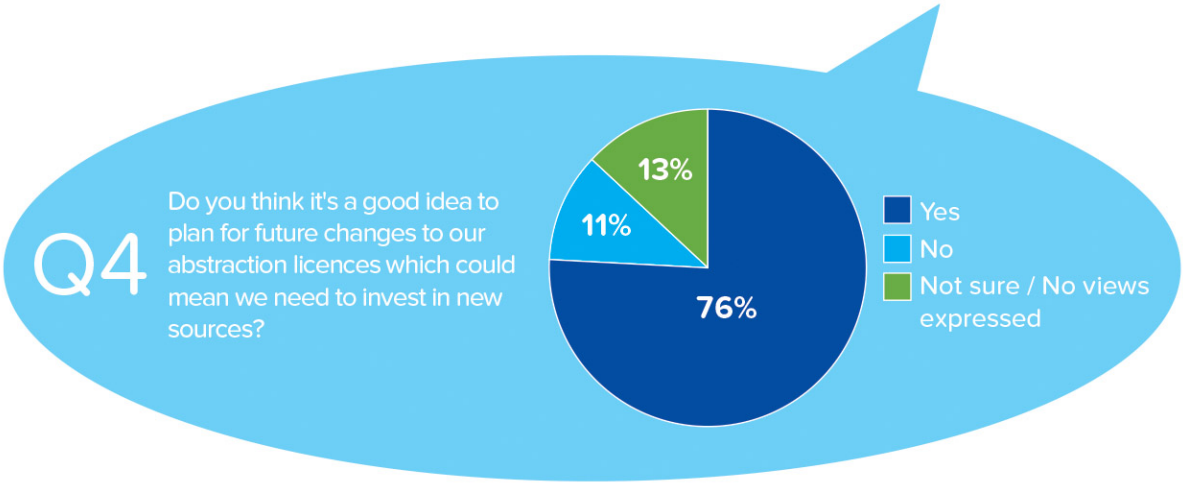


Table 5.2: Question 4 – feedback results

Response	Summary of main comments in questionnaire responses
Yes (76%)	• Support the approach • The WRMP doesn't accept that abstraction is at unsustainable levels • The WRMP should be flexible • Negligent not to do so • SWS should be seeking to minimise abstraction rates and invest in solutions such as partnering with other water companies or desalination • Abstraction is at unsustainable levels • New sources need to be environmentally sound, and ecological risks and benefits considered • What steps are SWS taking to manage the process of making decisions about licence changes? • Not enough detail about the programme of work • Many of the possible abstraction licence changes are foreseeable • Criticism of the process of making licence changes • Technology for producing drinking water in drought conditions needs to be more highly developed / researched • Additional water sources required to cope with a growing population • Why have SWS not built more reservoirs? • Government is not best qualified to issue abstraction permits • Need to investigate how to use water more efficiently

No (11%)	• Question worded to encourage support for more abstraction • 'New sources' must mean importing water or desalination • No more water should be extracted from rivers because it is ruining them • It will damage wildlife and fisheries • Use less water from existing sources • SWS need to increase storage and / or secure water from the North West • Concerns about new residential developments • No major issues have yet been encountered
Not sure / No views expressed (13%)	• Damage to the environment needs to be minimised • The term 'plan' should be better defined • Not if it involves major development of land • Less water should be taken from watercourses

5.3.2 Summary response and how we have changed the WRMP as a result

Many respondents supported our approach to plan for future licence changes, although a number expressed concern about the likely nature of new sources of water that may be required as a result. Respondents also took the opportunity to highlight their concerns over the current rate of abstractions from rivers or groundwater, particularly in relation to chalkstreams.

We supply water in a part of the country that has been classified as water stressed by the Environment Agency, and also an area where the sustainability of future water abstraction is being continually re-assessed. We already know that we will be facing further limitations on how much water is available from our sources, and this will increase the gap between supply and demand in parts of our supply area. Our existing asset base will need to be transformed to cope with these challenges. The difficulty we face is planning for these changes, as the timing and extent of these could vary considerably, both over time and between WRZs. These challenges are set out within our WRMP.

Our approach to taking account of future licence changes remains the same as in our draft WRMP, as some sustainability reductions to licences was anticipated. These reductions represent one of the most significant challenges we face in the future. In each of the Western, Central and Eastern areas, we have identified a preferred strategy that takes account of the prospect of potential future licence changes. The extent of those changes however is not always clear. Over the next few years we will plan to deliver these strategies, alongside undertaking work to investigate and assess the potential impacts of licence changes. As the scale and extent of future licence changes becomes clearer (anticipated in the early 2020s), we will have a number of solutions to develop equivalent alternative supplies to replace any water that is "lost" as a result of the licence changes.

For the Lower Itchen, Test and Candover licence changes, we have incorporated into the revised draft WRMP our commitments from the s20 agreement signed at the Western area Inquiry in March 2018. We have also updated our modelling and assessment of options in light of comments received on the draft WRMP. Our preferred strategy for the Western area will enable us to fully meet the commitments we have given as part of the s20 agreement.

Concerns have been expressed about the types of options we may need to develop in the face of the licence changes. We have committed in the revised draft WRMP to go further in our plans to tackle leakage, and we have provided further information on our Target 100 water efficiency and demand management proposals. We have increased our plans to share water with other companies, including that proposed to be provided through the development of Havant Thicket reservoir, and we will further investigate the potential for additional storage of water in South Hampshire. We will still also, however, need to develop a large scale desalination plant on the Solent, potentially in combination with other high tech solutions such as indirect potable water re-use.

A full response to the comments is set out in SOR Appendix 6.

5.4 Question 5: Do you agree with our plan to start investigating new options for water recycling, desalination and reservoirs now, in case they are needed in the future?

5.4.1 Analysis

94% of respondents were in agreement with our plan to start investigating new options for water recycling, desalination and reservoirs now, in case they are needed in the future. 2% of respondents do not agree with our plan to start investigating new options now, whilst 4% were unsure.

Figure 5.3: Question 5 – feedback results

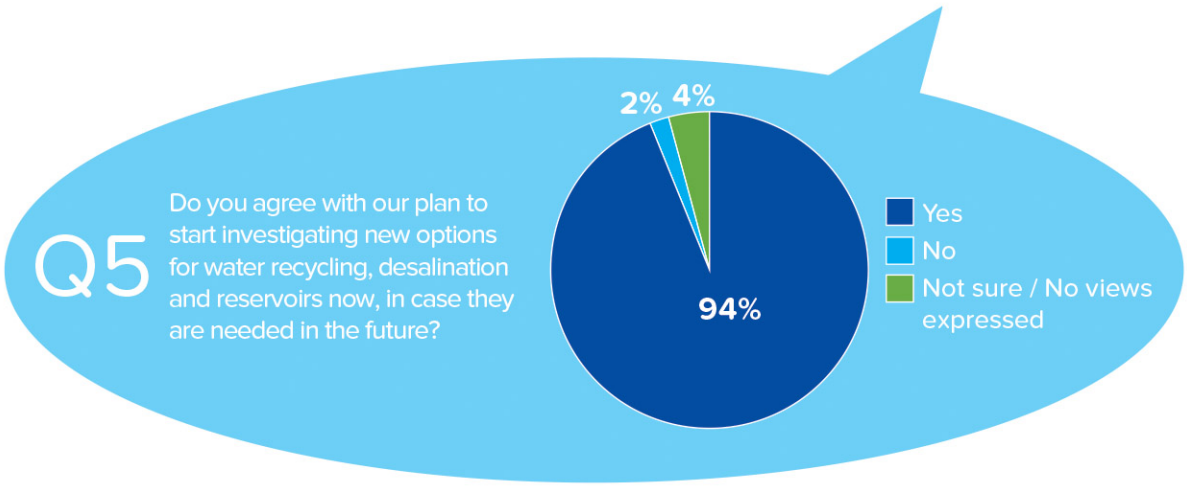


Table 5.3: Question 5 – feedback results

Response	Summary of main comments in questionnaire responses
Yes (94%)	• In support of the plan to start investigating new options for water recycling, desalination and reservoirs, and some suggest that this should have already been considered • Welcome clarification in relation to preparing Local Plans if such infrastructure is required • Preference for water recycling and / or reservoirs over desalination • SWS need to be clear with local planning authorities that further major developments cannot be approved until capacity is improved • Comments about water efficiency measures, including reducing leakage before high tech solutions • Opportunities to implement customer rewards and penalties, and behavioural programmes • Desalination is the most obvious option for the Isle of Wight • Priority must be given to improving existing sources • Concerns about environmental impacts • Must contribute to business resilience in long term

No (2%)	• Should have been done before Labour committed to the Thames Gateway proposals
Not sure / No views expressed (4%)	• Depends if it leads to the destruction of the environment and habitats • Support water reuse and reduction because desalination is too expensive

5.4.2 Summary response and how we have changed the WRMP as a result

As with the preceding question, many respondents supported our approach to planning ahead, although a number expressed concern about the likely nature of new sources of water that we may need to develop.

Despite us increasing our commitments to leakage reduction and our Target 100 water efficiency and demand management proposals since the draft WRMP was published, the scale of new water resources infrastructure that we will need to develop to maintain supply is very significant, particularly in the Western area. We are committed to investigating and promoting any new developments in an environmentally responsible manner, working closely with local planning authorities, our regulators and stakeholders, and with the local communities within which we plan to build and operate these schemes.

We have undertaken further assessments of the options since our draft WRMP was published, including amending the details of a number of our larger scale proposals in response to comments and concerns highlighted on the draft WRMP. This is particularly the case for the proposed routing of new water transfers where we have adapted our proposals with the aim of further reducing their potential environmental impact. We will look to go further as we design those schemes in detail and develop them in close co-operation with the Environment Agency, Natural England and our other partners. We will also develop them having regard to the net gain principles of current national planning policy.

Acknowledging that the large scale new infrastructure schemes inherently have engineering, environmental and consenting risks to their successful development, we have included additional information in our revised strategies set out in the revised draft WRMP on alternative schemes (called our alternative strategies). We are committed to progressing these alternatives, in parallel with our preferred strategies, to the extent that is required to give confidence in delivery. This parallel process will continue until a scheme is sufficiently far through the design, assessment and consenting processes, so as to minimise risks relating to scheme delivery.

A full response to the comments is set out in SOR Appendix 6.

5.5 Question 6: This plan includes the use of water restrictions (hosepipe bans) during a drought once in every 10 years on average. (In Hampshire and the Isle of Wight this is likely to be once every two or three years on average until at least 2027). Do you support this?

5.5.1 Analysis

87% of respondents are in support of the plan which includes the use of water restrictions (hosepipe bans) during a drought once in every 10 years on average, which is likely to be once every two or

three years on average until at least 2027 for Hampshire and the Isle of Wight. 8% of respondents are not in support of the plan which includes water restrictions (hosepipe bans), whilst 5% were unsure.

Figure 5.4: Question 6 – feedback results

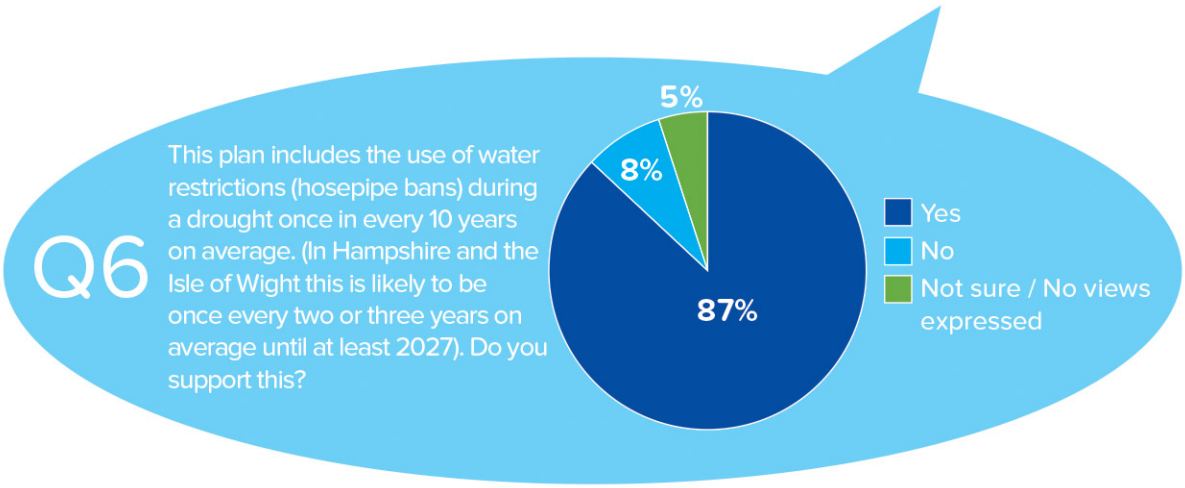


Table 5.4: Question 6 – feedback results

Response	Summary of main comments in questionnaire responses
Yes (87%)	• In support of the plan including the use of water restrictions during a drought, especially if proved to be vital • Welcome the robust approach taken but state that shorter-term water restrictions up to 2027 should be considered and improvements to pipe infrastructure are needed • Leaks need to be reduced • Need more / better storage of water • Seems unnecessary given amount of rain in north • Hosepipe bans should be permanent, expect for one hour in the evenings, and for legitimate businesses. • Restrictions should be placed on farmers and horticulturalists etc. to prevent spraying of crops with water during daylight • Opportunities to educate people on reducing water usage • An increasing population is a challenge
No (8%)	• Water companies must work together to share water • Hampshire and Isle of Wight should have hosepipe bans every 10 years • Has to happen if necessary • Statement is misleading for North Kent where it is not every 10 years
Don't know / No views expressed (5%)	• SWS need to secure water sources instead of punishing customers • Wouldn't be necessary with effective management

5.5.2 Summary response and how we have changed the WRMP as a result

Respondents were generally supportive of our proposals in relation to levels of service and the potential need for restrictions including temporary use bans, drought permits and drought orders. A number of respondents provided detailed comments on the types and timings of restrictions. Others highlighted the need to reduce leakage and to avoid water use generally, to reduce demand.

Our Levels of Services in the revised draft WRMP have been updated and additional information included to explain the latest proposals for drought permits and drought orders as set out in our revised draft Drought Plan. This includes the commitments we have given in the s20 agreement that was signed during the Western Inquiry in March 2018. We have agreed with the Environment Agency on the approaches we will take to using drought permit and orders in the Western area for an interim period until new water resources infrastructure schemes can be developed. We have also committed to significant packages of monitoring, mitigation and compensatory messages which will be implemented independent to, and in advance of, any drought permit or order applications that we may need to make. The commitments given in the s20 Agreement have reduced the potential frequency of needing Temporary Use Bans (TUBs) in the Western area.

Our Levels of Service table in Annex 1 of the WRMP has also been expanded to identify the different frequencies that we anticipate needing to apply for a drought permit or order, and the frequency that we expect to have to implement the permit or order. In a number of scenarios, we forecast that we may need to apply for a drought permit or order, but then subject to actual weather conditions that are experienced, we may not need to implement it.

A full response to the comments is set out in SOR Appendix 6.

5.6 Question 7: Do you think water recycling (from wastewater) has a role to play in securing water supplies for the future?

5.6.1 Analysis

91% of respondents believe that water recycling has a role to play in securing water supplies for the future. 3% do not think water recycling has a role to play, and 6% were not sure.

Figure 5.5: Question 7 – feedback results

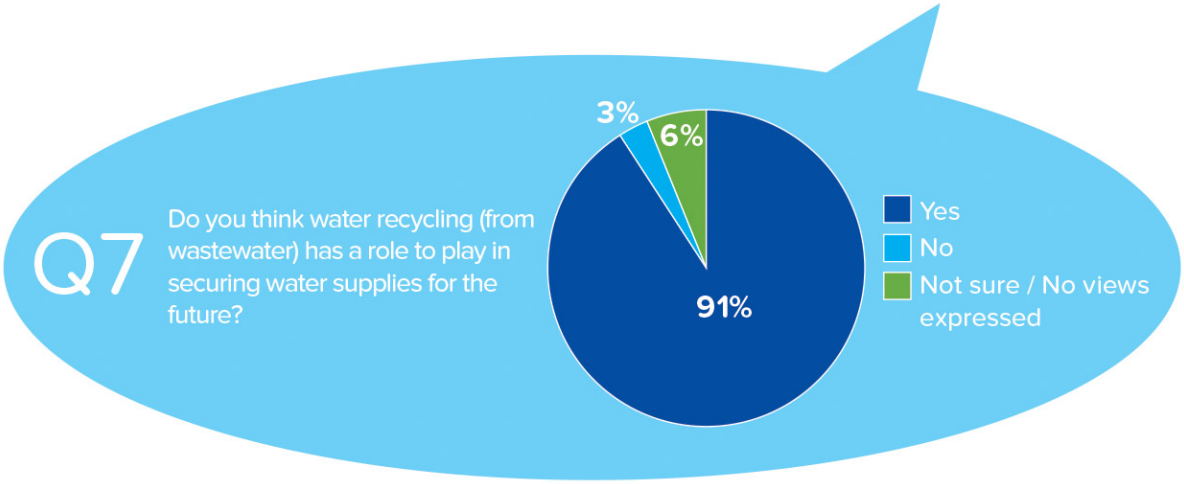


Table 5.5: Question 7 – feedback results

Response	Summary of main comments in questionnaire responses
Yes (91%)	• support water recycling, some thinking this is already happening • Opportunities to develop new recycling infrastructure and reduce the need from more sensitive supply sources should be maximised • Preferably for non-potable uses • Concern about chemicals and hormones • Process mustn't create pollution • May require a second-distribution network • Depends how much it will cost and how much energy is used • Why is SWS not using sea water with salt removed for non-drinking purposes? • Not a priority if leaks are sorted and rain shared by water companies • Not obvious how SWS optimise linkages between the water supply and wastewater management side of the business • Opportunity to reverse old schemes, like Sea Clean Wight, to retain water within local catchments • This is a high-risk option and the draft WRMP does not set out how SWS will work with others to test its feasibility and acceptability • Working relationship between SWS and the Environment Agency isn't as close as it used to be • Measures to get more households / businesses to recycle water.
No (3%)	• Need to conserve water before this.
Not sure / No views expressed (6%)	• Would like more information • Not for drinking water

5.6.2 Summary response and how we have changed the WRMP as a result

The majority of respondents are supportive of the principle of water reuse schemes, and of their inclusion within our draft WRMP. Some concerns were expressed about technical aspects of these schemes, including whether they should be for potable or non-potable use, issues relating to chemicals and hormones, and the extent to which water re-use options are feasible and acceptable.

We have undertaken significant research and investigations over the last decade or so on the potential role that water re-use could play in providing future water resources. Our work has included extensive customer research on attitudes and concerns relating to water re-use. We have also investigated different potential treatment technologies, and analysed treated wastewater qualities and considered the concerns expressed related to pharmaceuticals and chemicals.

All of the work we have undertaken to date provides us with the confidence that water re-use schemes are technically viable. We know that customers have expressed some concerns relating to direct potable water re-use schemes, and so we have made a policy decision for the WRMP that we would only include non-direct potable water re-use schemes (in which highly treated wastewater is discharged into a waterbody, and then re-abstracted further downstream and treated again before entering public water supply). The only exception to this is if we have an option to provide a direct supply to industry.

There remain a number of environmental issues to resolve on individual schemes, including through further engagement with the Environment Agency in relation to the Water Framework Directive (WFD) and Natural England in relation to its Common Standards Monitoring Guidance (CSMG). These essentially seek to protect water quality and environmental standards in waterbodies from deterioration, and we will need to robustly demonstrate how our proposals meet the expected standards. Whilst we have therefore retained non direct potable water reuse schemes in our revised draft WRMP, we have also identified alternative options that we will investigate and assess in parallel, so that we can be sure either our preferred or alternative schemes will be deliverable.

A full response to the comments is set out in SOR Appendix 6.

5.7 Question 8: Do you think desalination has a role to play in securing water supplies for the future?

5.7.1 Analysis

63% of respondents believe that desalination has a role to play in securing water supplies for the future. 11% do not think desalination has a role to play, and 26% were not sure.

Figure 5.6: Question 8 – feedback results

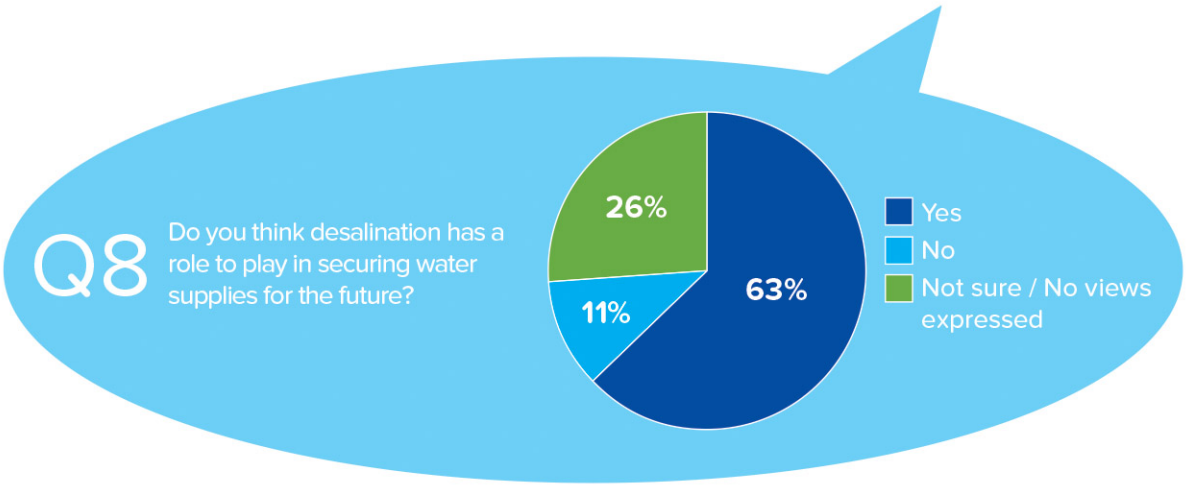


Table 5.6: Question 8 – feedback results

Response	Summary of main comments in questionnaire responses
Yes (63%)	• In support of desalination having a role to play • Desalination is less weather dependant, more sustainable in long term, has less impact on the environment and will become more economically viable • The need for damaging abstraction can be drastically reduced • Necessary given increasing population and tourism • No choice unless SWS build a transfer pipe from north west • Other options should be developed first • Should be a last resort • Depends on financial and energy costs • Process must not harm the environment

	• If done with renewable energy it'll be better for the environment than over-abstraction • No other source without a national grid • Water needs to taste better than other desalinated water • Draft WRMP needs more detail of how SWS will manage process of developing options, and timelines
No (11%)	• More research of health impacts needed • Expensive and uses too much energy • Scope for more wastewater to be reused • Not sustainable • Ok for dry countries but not here
Not sure / No views expressed (26%)	• Desalination plants should be a last resort due to substantial costs, energy needs and impacts on groundwater and the environment • The energy implications of desalination need to be carefully planned for and that it would be helpful to have an indication of the role of renewable energy in future supply and a target percentage for its usage • Process is convoluted and not efficient • Other options should be explored first • Don't see why is would be necessary with widespread water recycling • Clear idea of impacts needed • Environmental consequences need to be considered • Economic issues • Lobby government to spread the population more evenly • More information is needed

5.7.2 Summary response and how we have changed the WRMP as a result

A majority of respondents were supportive of the inclusion of desalination as part of the overall solution to providing long term water supplies, however, a number of respondents also highlighted concerns. Those supporting the use of desalination technology recognised that it is resilient to changing weather patterns, and is a secure source of water supply. Those against the use of such technology highlighted concerns about the environmental impact and energy use associated with such schemes, and the potential risks of pollution of the environment. A number of respondents suggested that desalination should be seen as a form of last resort, with other potential water resources options being preferred first.

We have investigated the technologies associated with desalination plants, the potential environmental impacts and energy use associated with them, and engaged with our regulators, environmental partners and other stakeholders over potential schemes. This has included research into other desalination plants that have been constructed and are in operation. All of this work has enabled us to be confident that we have investigated and assessed desalination at an appropriate level of detail for this WRMP (as a strategic plan), and that the broad locations where we have identified schemes are capable of accommodating a desalination plant. As the development of any desalination plant progresses, the more substantive detail on design and additional mitigation that may be necessary can be produced based on close consultation and the policy requirements of the planning consent regime. It is not the purpose of a WRMP to fully detail and assess the exact design and specifications, only to assess what are feasible and viable options.

Our revised draft WRMP strategies for the Western and Central areas retain proposals for desalination plants, following our additional work since the draft WRMP. The details of the proposals have, however, been updated for the revised draft WRMP (see revised draft WRMP Annex 6) and sensitivity runs have been included in our strategy development (see revised draft WRMP Annexes

9 and 10). A significant amount of technical work and assessment still remains to be undertaken, as part of our detailed design, environmental assessment, preparation and submission of applications for necessary consents to enable us to construct a desalination plant. Depending on the final scale of the plant this may be an application for planning permission to the relevant local planning authority, or it could be an application for Development Consent to the Planning Inspectorate – if the plant is large enough to be considered as a 'Nationally Significant Infrastructure Project' (NSIP). We will also need to secure the necessary land to enable the plant to be constructed.

Whilst the concerns expressed by respondents in relation to desalination as a technology, including potential environmental impacts, are acknowledged, we are confident that desalination is a necessary and appropriate scheme type for inclusion in our WRMP. We are committed to working with our regulators, environmental stakeholders and customers as we further assess and promoted these solutions. Our revised draft WRMP also identifies alternative options that we will investigate and assess in parallel, so that we can be sure either our preferred or alternative schemes will be deliverable.

A full response to the comments is set out in SOR Appendix 6.

5.8 Question 9: After we've introduced options to save water, such as reducing leaks and Target 100, which would you prefer us to develop first – water recycling or desalination?

5.8.1 Analysis

After we have introduced options to save water, such as reducing leaks and Target 100, 62% of respondents would prefer us to first develop water recycling, instead of desalination. 10% of respondents would prefer us to develop desalination first instead of water recycling, whilst 28% were not sure.

Figure 5.7: Question 9 – feedback results

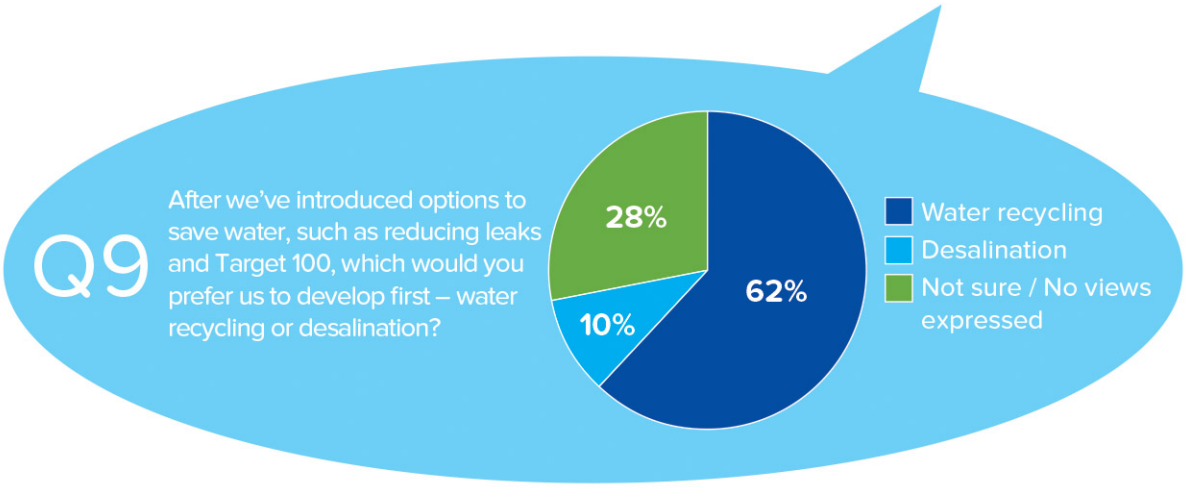


Table 5.7: Question 9 – feedback results

Response	Summary of main comments in questionnaire responses
Water recycling (62%)	• Water recycling should be developed first due to environmental and energy benefits • Water recycling is a more efficient, cheaper and less damaging to the environment • Evidence base needed to prove the ecological acceptability of re-use of wastewater • As much water as possible should be recycled • Water is already recycled • Simpler solutions, such as reducing leaks, should be tried first
Desalination (10%)	• Water recycling has a higher risk of reducing river flows in lower reaches of rivers • Ease of access to the sea
Not sure / No views expressed (28%)	• Preference for whichever option is cost efficient / environmentally sustainable / socially sustainable / practicable / quick / able to provide a continuous water supply • Should be developed together • Desalination should be developed first • Desalination might be expensive • Is the reservoir an option? • More information needed on both options

5.8.2 Summary response and how we have changed the WRMP as a result

The majority of the consultation responses expressed a preference for water reuse (water recycling) to be developed first, before desalination, which mirrors a number of comments on the preceding question which suggested desalination should be seen as a form of last resort. A number of respondents indicated their view that reducing leaks and other 'simpler solutions' should be adopted before either water reuse or desalination, whereas some respondents considered that both should be developed together.

It is important to note that in our draft WRMP we committed to leakage reduction and our Target 100 initiative as well as the water re-use and desalination technologies. Our revised draft WRMP includes a significant additional commitment to leakage reduction (as set out in section 3 of this SOR document), and additional explanation of our commitment to Target 100 (also in section 3).

As indicated in our summary response to the preceding two questions, we consider that we have investigated and assessed both water re-use and desalination technologies in sufficient detail to be confident that they are both viable solutions. In the Western and Central areas, where the scale of known or expected potential sustainability reductions/licence changes is significant, and where the potential range of large scale water resource options available to us are limited, we have concluded that both water re-use and desalination options will be required to be developed in order to provide secure supplies to customers and to protect the environment. In our Eastern area, we have included a water reuse scheme on the Lower Medway but no desalination scheme. Information on our preferred strategies, and alternatives to them, are set out in full in the revised draft WRMP Annexes 9, 10 and 11. A summary of the preferred strategies is set out in section 8 of this SOR document.

A full response to the comments is set out in SOR Appendix 6.

5.9 Question 10: Do you support our Target 100 Initiative to reduce personal water use to 100 litres per day by 2040?

5.9.1 Analysis

84% of respondents are in support of our Target 100 to reduce personal water usage to 100 litres per day by 2040. 9% of respondents stated they did not support our Target 100, whilst 7% were not sure.

Figure 5.8: Question 10 – feedback results

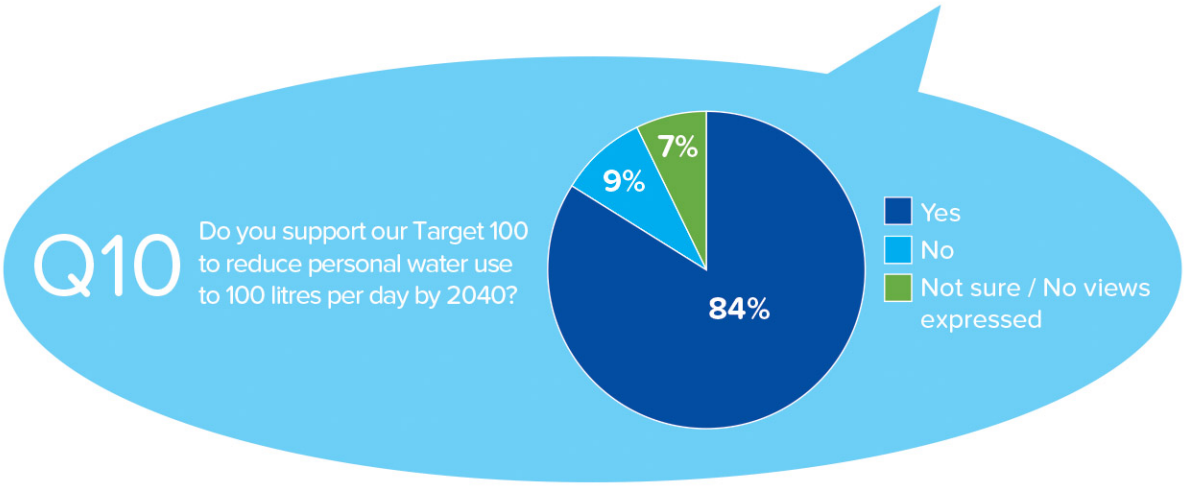


Table 5.8: Question 10 – feedback results

Response	Summary of main comments in questionnaire responses
Yes (84%)	• In support of the Target 100 • A clearer explanation of how Target 100 will be achieved would be helpful. • A nationwide approach would enable water efficiency measures to be integrated more easily into all new homes and refurbishments. • Will the standard for developers be enforced through Local Plans in areas of water stress when factoring in Part G of Building Regulations • Target should be higher or achieved sooner • It depends on individual circumstances • More education and publicity • Behavioural programmes should be implemented • More local initiatives, such as River Itchen Challenge • New homes should be more water efficient • Measures to limit and recycle domestic waste water • Meters are the most effective way to help people decrease their water usage • Households should store more rain to reuse • How do SWS plan to achieve this reduction? • Difficult to meet target if you don't know how much you're using • Difficult to meet target even if trying to be economical
No (9%)	• Greater controls on commercial use and system leaks to be addressed first • SWS should stop agreeing to supply new builds that they can't guarantee a supply to • Collect rain and share it more effectively

	• Target should be achieved sooner • Depends on individual circumstances
Not sure / No views expressed (7%)	• Water supplies should be fixed first • Why?

5.9.2 Summary response and how we have changed the WRMP as a result

There was strong support for our Target 100 initiative in the questionnaire responses, with some respondents indicating that further information was needed on the actual measures that we intended to promote. A number of respondents questioned whether the target was achievable, and others considered that measures including leakage reduction should also be promoted.

As stated in section 3 of this SOR document, we committed, as part of the draft WRMP, to delivering our 'Target 100' water efficiency policy, which aims to achieve a per capita consumption (pcc) of 100l/h/d by 2040. This is well-aligned with Defra's 25 Year Environment Plan (Defra, 2018) which states that "We will work with the industry to set an ambitious personal consumption target and agree cost effective measures to meet it". We have retained this measure in the revised draft WRMP, and reinforced our commitment to it. We will adopt a variety of measures that will be kept under continuous review in order to deliver the highly ambitious reduction in pcc the strategy aims for. Our Target 100 strategy has four key strands at the current time; Installation of smart metering technology; Home audits; Proactive customer contact; and Incentivising water efficiency behaviour. Further information is included in Section 3 of this SOR document, with detailed explanations provided in revised draft WRMP Annex 6.

For those respondents suggesting we should tackle leakage as well, this is already part of our commitment in the WRMP – see response to question 11 below. A full response to the comments is set out in SOR Appendix 6.

5.10 Question 11: Should we do more to reduce leaks, even if it pushes your bills higher? (We plan to reduce leaks by 15% by 2025)

5.10.1 Analysis

68% of respondents agreed that we should do more to reduce leaks, even if it pushes bills higher. 18% disagreed with this, whilst 14% were not sure. Several respondents who disagreed or were not sure expressed that the responsibility should be on us, without the need for increasing bills.

Figure 5.9: Question 11 – feedback results

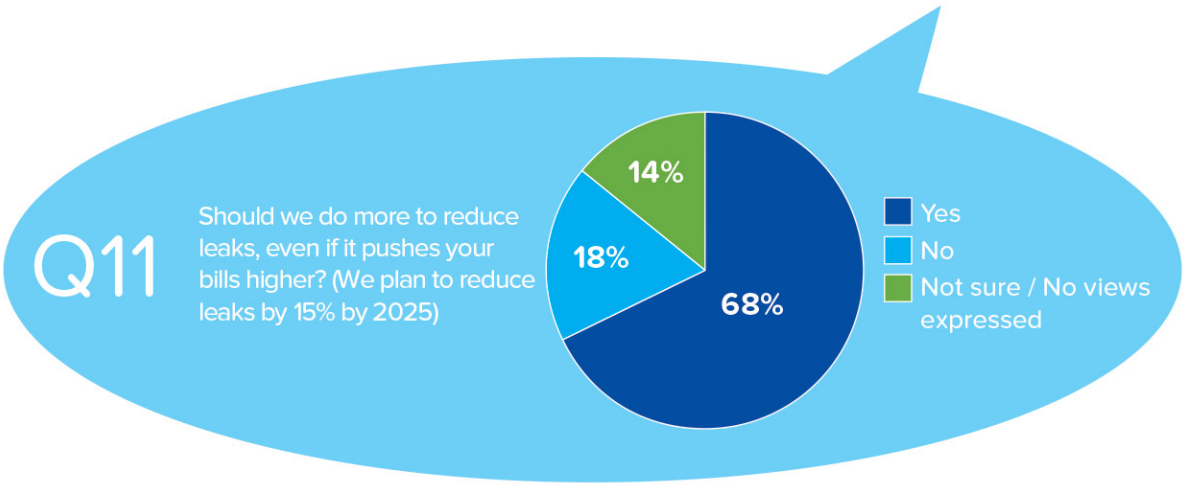


Table 5.9: Question 11 – feedback results

Response	Summary of main comments in questionnaire responses
Yes (68%)	• In support of SWS doing more to reduce leaks, even if it pushes bills higher • A proportionate approach should be taken which balances costs and benefits, and technological innovation to tackle this should be a priority • Improvements to pipe infrastructure should be as ambitious as possible to minimise water loss and reduce the demand on more sensitive supply sources • Target is not ambitious enough • Bills should not be pushed up too much because SWS should be reducing leaks anyway • Would pay more if SWS took steps to avoid damaging waterways and countryside • Bills should not be pushed higher because it is SWS's statutory duty to reduce leaks • Need to balance cost and benefit • The Ouse & Adur Rivers Trust stated that they appreciate there comes a point when reducing leakage further would be economically unviable • Cheaper to address now than in future • Too much water is wasted • Invest in infrastructure • Charge utilities and builders for repairs if they caused the leak • Why do customers have to pay more? • It is a criminal offence to lose water through leakage
No (18%)	• More should be done to reduce leaks without increasing bills • SWS charges should already include costs for reducing leaks • Shareholders should pay to reduce leaks • Bills shouldn't be pushed up because water is a necessity • SWS should find the economical rate of leakage • Water that leaks surely ends up in underground storage • Concern about not being allowed a water meter

Not sure / No views expressed (14%)	• Profits should be spent on reducing leaks • It is SWS's responsibility to reduce leaks and additional costs shouldn't be passed onto the consumer • SWS shouldn't because the price reviews already allow for this • Cost benefit analysis needed • SWS should do more in regard to leaks • Wording of question is disingenuous

5.10.2 Summary response and how we have changed the WRMP as a result

Our draft WRMP set out a combined strategy of continued active leakage control in the short term followed by mains replacement programmes in the medium to longer term to ensure that we continue our drive down on leakage by 15% by 2025. This commitment was supported in consultation on our draft WRMP, but our customers and other respondents encouraged us to commit to do more.

As a result, in our revised draft WRMP whilst we have maintained our draft WRMP commitment to meet Ofwat's leakage reduction target of 15% (from current levels) by the end of the next AMP (2025), we have now committed to do more. Following customer and stakeholder feedback, and recommendations in the recently published National Infrastructure Commission report that companies should aim to be much more ambitious in terms of potential leakage reduction, we have committed to meeting the aspirations of that report to achieve a 50% reduction in leakage from current levels by 2050. We also had developed, prior to the NIC report being issued, our own target of achieving 40% reduction from current levels by 2040, and so we have adopted this as an interim target as part of our leakage reduction policy.

The leakage reduction activity proposed to achieve these profiles of reductions are described more fully in revised draft WRMP Annex 6 (Appendix C).

Achieving this level of leakage reduction will require significant investment, and we are very aware of the potential impacts on customer bills which was a concern in questionnaire responses (although our wider customer engagement on this suggests that customers do not mind a level of increase towards reducing leakage, as it is an action they want to see). We are exploring this with our financial regulator Ofwat, and are committed to ensure that customers' bills, and in particular those of vulnerable groups, are protected from unacceptable increases.

A full response to the comments is set out in SOR Appendix 6.

5.11 Question 12: Do you think it's a good idea to trade water with neighbouring water companies in a 'regional grid' as part of the Water Resources in the South East group?

5.11.1 Analysis

82% of respondents think it is a good idea to trade water with neighbouring water companies in a 'regional grid' as part of the Water Resources in the South East group. 4% did not think it's a good idea to trade water, whilst 14% were unsure. Respondents supported this idea and believed this is needed and should already be in practice, however, this must be on provision that surpluses can be accurately identified, it's cost effective and environmental impacts are assessed and mitigated.

Figure 5.10: Question 12 – feedback results

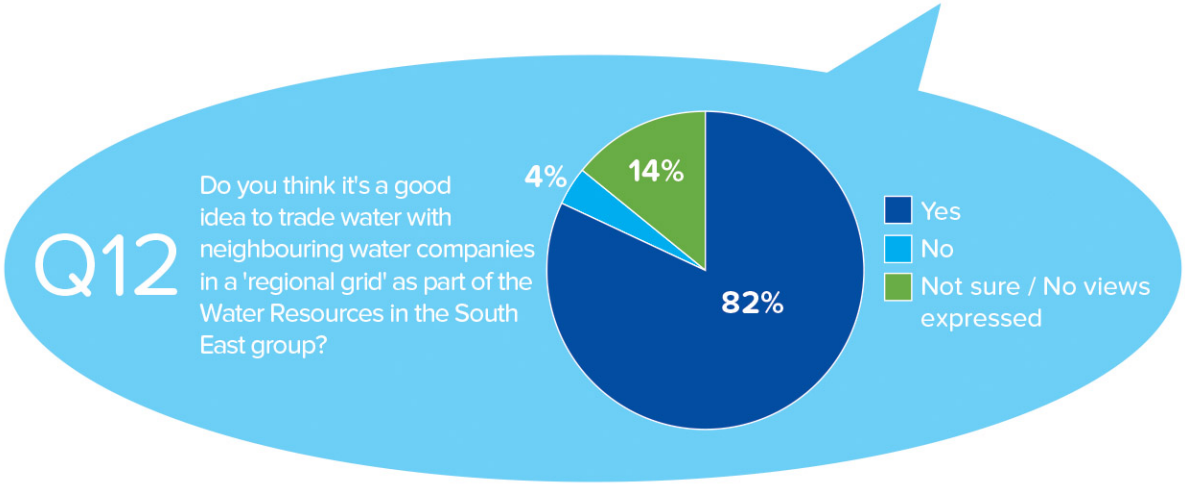


Table 5.10: Question 12 – feedback results

Response	Summary of main comments in questionnaire responses
Yes (82%)	• In support of the idea to trade water with neighbouring water companies and some suggest that this should already be in practice. • Unsure how practical this would be for the Isle of Wight? • On provision that any available surpluses can be accurately identified. • Cost effective • Ecological and environmental impacts must be assessed and mitigated • A wider grid or national grid is needed. • Opportunity to become an industry leader by exploring the feasibility for the use of a direct supply system of transferred water & recycled water. • Must not involve increased abstraction from rivers
No (4%)	• Could lead to an unsustainable situation • A larger network or nationwide water grid is needed to source water from the North West. Pointless trading with neighbouring water companies as they will have the same issues. • To be avoided. Get to your Target 100 first.
Not sure / No views expressed (14%)	• Concerns over costs • Requires oversight from the Regulators • As long as neighbouring companies have a sustainable approach to their water sources • All regions are expected to experience same conditions so little opportunity for trading. • An option in the short term, but with burgeoning development and the probability of more prolonged and severe droughts, there may not be enough spare capacity to do this.

5.11.2 Summary response and how we have changed the WRMP as a result

The respondents indicated strong support for the proposal to trade water with neighbouring water companies, and through a regional water grid, through working with the Water Resources in the South East (WRSE) group. Where concerns were expressed, these related to the potential costs and resilience of such transfers, the environmental impacts of abstraction of water in other areas, and the practicality of providing transfers to some areas, including the Isle of Wight.

We are committed and proactive members of the WRSE Group, and also involved in wider work with other water companies including at the national level. The development and operation of a water grid, connecting together our own water resources zones (WRZs), and providing inter-company transfer opportunities forms a key element of our long term water resources strategy.

We have provided information to neighbouring companies on resources potentially available for sharing, under different environmental conditions, including the extent to which any might be considered to be at risk of future sustainability reductions (licence changes). They have provided corresponding information to us. We included within our draft WRMP a number of schemes to share water resources with other companies. We will continue to work with other companies in seeking to develop necessary infrastructure to facilitate future water sharing.

We have worked closely with other companies, including through the WRSE group and the equivalent grouping in the south west, since our and other company's draft WRMPs were published for consultation. We have updated information within our plan on other companies requirements for water, updated our modelling as a result, and included changes to our proposals to share water in our preferred strategies in the revised draft WRMP. In the Western area we will import more water from neighbouring companies, including from Portsmouth Water following its development of Havant Thicket reservoir, and from the Bournemouth area. In the Central and Eastern areas, we are now proposing to share less water with other companies than in the draft WRMP, as the amount of water they are seeking from us has reduced.

A full response to the comments is set out in SOR Appendix 6.

5.12 Question 13: Do you support our Catchment First approach, to work with landowners, farmers and river trusts to improve the health of rivers and groundwater sources, before investing in new solutions such as water recycling or desalination?

5.12.1 Analysis

79% of respondents supported our Catchment First approach, to work with landowners, farmers and river trusts to improve the health of rivers and groundwater sources, before investing in new solutions such as water recycling or desalination. 12% did not support the Catchment First approach, whilst 9% were not sure.

Figure 5.11: Question 13 – feedback results

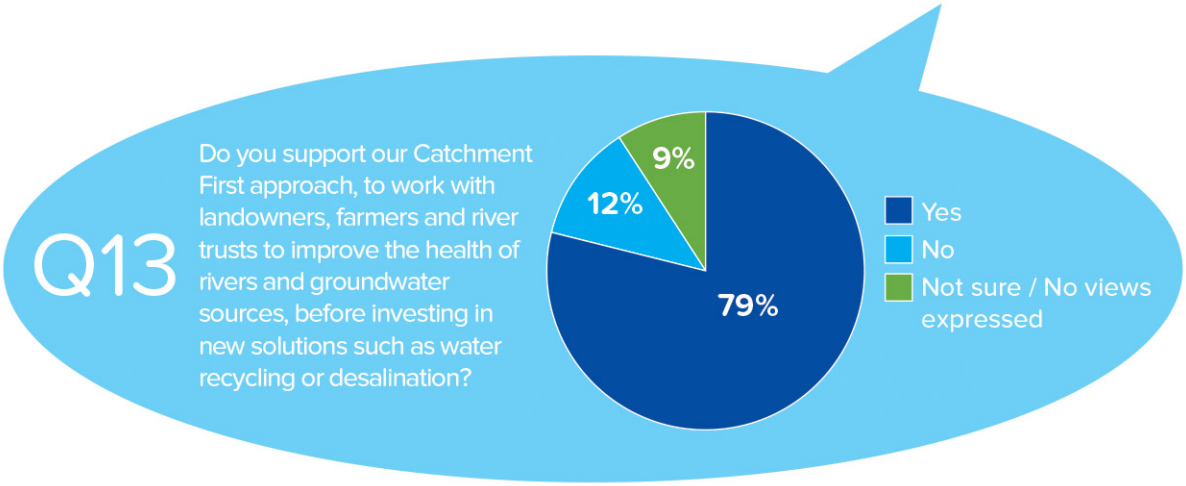


Table 5.11: Question 13 – feedback results

Response	Summary of main comments in questionnaire responses
Yes (79%)	• In support of Catchment First approach • A catchment approach which addresses the issues of over-abstraction and water quality is essential • Full support the approach • Needs to be done at the same time as investing in water recycling and / or desalination • Alternative sources of water will be required in drought years • Should have already been done • The environment is the first priority • Should be mitigation measures in all rivers / wetlands and aquifers that are affected by significant abstraction • Economic and environmental benefits, including on flood risk • Evidence to link catchment management with enhanced chalkstream condition and resilience, and chalk aquifer recharge is weak • Over extraction of rivers needs to be reduced • Ditches and rivers need to be kept cleaned out • More stringent restrictions on permissible discharge needed
No (12%)	• Should be done alongside desalination and water recycling • Should be done alongside water recycling • Water recycling is a sustainable option and the way forward in implementing a circular economy in the water industry • Commercial enterprises should be legally required to recycle as much water as possible and have measures to contain polluted water
Not sure / No views expressed (9%)	• Ensuring the health of rivers and groundwater sources must involve abstracting less water, reducing wastewater and leaks, educating the public and capacity to bring on new supplies • Landowners should have their own focus to improve the environment • It depends what's the most cost-effective option • Water recycling is an equally valid approach • Not possible to answer the question

5.12.2 Summary response and how we have changed the WRMP as a result

Respondents indicated strong support for the adoption of our Catchment First approach, in advance of other infrastructure based solutions. Respondents highlighted the importance of catchment based solutions, but also identified the need to avoid over abstraction and protect environmental quality from discharges and potential pollution.

We are working closely with the Environment Agency, Natural England and a wide range of environmental partners in designing and implementing catchment based solutions to help deliver improvements in environmental quality, increased environmental resilience, and overall environmental benefits. We have committed to delivering a significant package of catchment management measures in the WRMP, and recognise that this is part of a body of work being undertaken by many different organisations seeking to deliver wider sustainable catchment solutions.

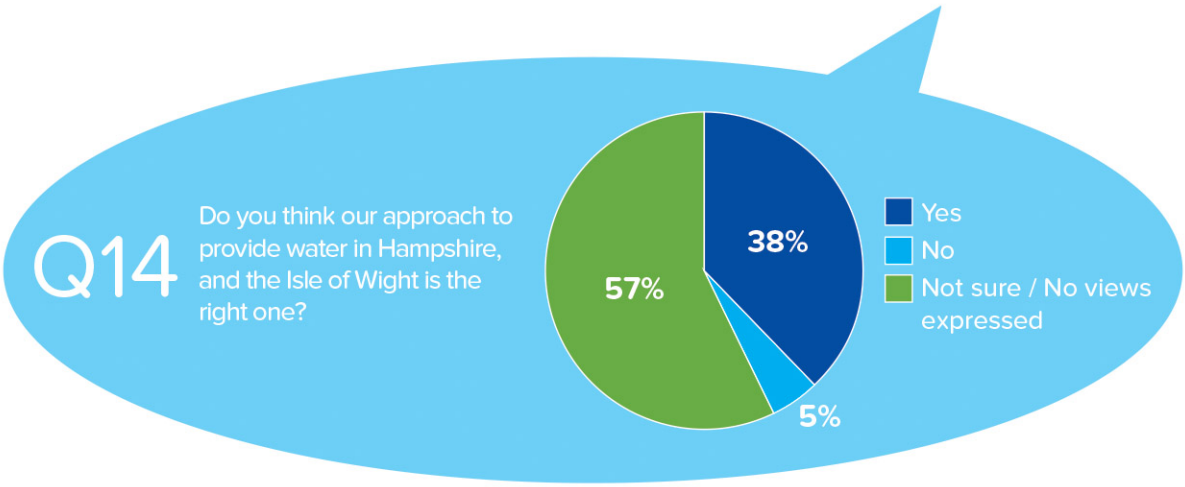
A full response to the comments is set out in SOR Appendix 6.

5.13 Question 14: Do you think our approach to provide water in Hampshire, and the Isle of Wight is the right one?

5.13.1 Analysis

When considering responses across all three of our supply areas, 38% of overall respondents believed our approach to provide water in Hampshire and the Isle of Wight is the right one. 5% did not believe our approach to provide water is the right one whilst 57% were unsure. The high percentage of respondents who answered 'Not sure' is believed to be due to respondents only answering to the approach specific to their location, and so we undertook further analysis (see below).

Figure 5.12: Question 14 – overall feedback results



To explore these results further, we analysed the responses from the 38 respondents who are within the Hampshire and Isle of Wight water supply area. 49% of respondents believed our approach to provide water in Hampshire and the Isle of Wight is the right one. 10% did not believe our approach to provide water is the right one whilst 41% were unsure.

Figure 5.13: Question 14 – Hampshire and Isle of Wight focused feedback results

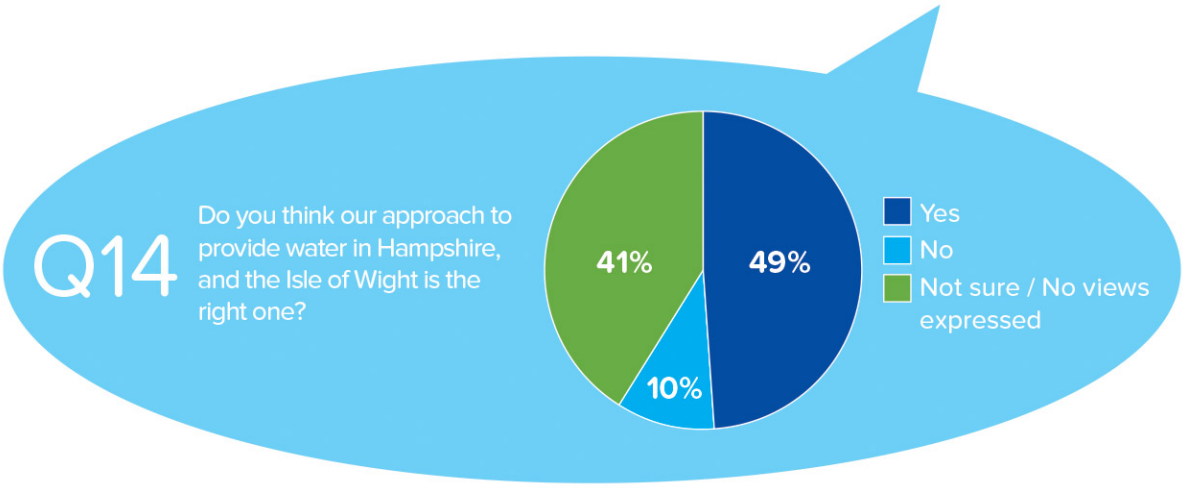


Table 5.12: Question 14 – feedback results

Response	Summary of main comments in questionnaire responses
Yes (38% of all responses) (49% of Western area responses)	• In support of the approach • Agree with Strategy A • Wastewater re-use, desalination and a reservoir are sustainable when water is most needed and environmental damage risk is great • Mostly right that SWS are investing in innovation and efficiencies • Insufficient emphasis on environmental aspects and encouraging wiser use of water • Repairing leaks would probably resolve the issues • It's always right to look after the planet • Local authorities will continue to work in partnership with infrastructure providers such as Southern Water to achieve targets in their emerging Local Plan
No (5% of all responses) (10% of Western area responses)	• More abstraction is not the answer • Water shouldn't be abstracted from chalk catchment areas in droughts • Agree with water recycling and desalination
Not sure / No views expressed (57% of all responses) (41% of Western area responses)	• Desalination should be a higher priority • Environment and wildlife should take priority • SWS need to store more water • Target 100 may be difficult to achieve on the Isle of Wight • The Isle of Wight should be put first over Hampshire • It depends which approaches to providing water this refers to • Not qualified to comment

5.13.2 Summary response and how we have changed the WRMP as a result

The responses to the questions on the preferred strategies in the draft WRMP identified a lower level of supportive comments than many other questions in the questionnaire, and a higher number of no views / don't knows. This is considered to reflect the fact that questionnaire respondents tended to comment only on the Strategy for the geographic area that they were located in, or were interested in. It is also the case that the draft WRMP strategy for the Western area predated the signing of the s20 agreement at the Western area Inquiry in March 2018, and a number of comments were made as a result. The s20 Agreement was well supported during the Inquiry itself.

Our preferred strategy for the Western area in the draft WRMP included significant investment in new water resources in response to proposed licence changes affecting the Lower Itchen, Test and Candover, and our assessment of other future challenges. Since publication of the draft WRMP, we signed a s20 agreement with the Environment Agency during the Western Inquiry into the proposed licence changes. We have already incorporated the various commitments in the s20 agreement into our revised draft Drought Plan, and now include our commitments in the revised draft WRMP. Further information on this is set out in section 3.1 of this SOR document, and in revised draft WRMP Annex 9.

As well as the commitments in the s20 agreement, we have also taken account of new information since the publication of the draft WRMP, including consultation responses on the draft WRMP, new information from other water companies on potential shared resources, and updated technical and assessment information on our potential schemes.

Our revised draft WRMP includes an updated preferred strategy for the Western area, reflecting this updated information and modelling work. This still aligns with the s20 agreement which acknowledged that the WRMP at that time was draft, and that some revisions were likely before the final WRMP was published. Our revised draft WRMP also identifies alternative options that we will investigate and assess in parallel, so that we can be sure either our preferred or alternative schemes will be deliverable. The revised draft Strategy for the Western area is summarised in section 8 of this SOR document, and set out in full in the revised draft WRMP Technical Overview and in the revised draft WRMP Annex 9.

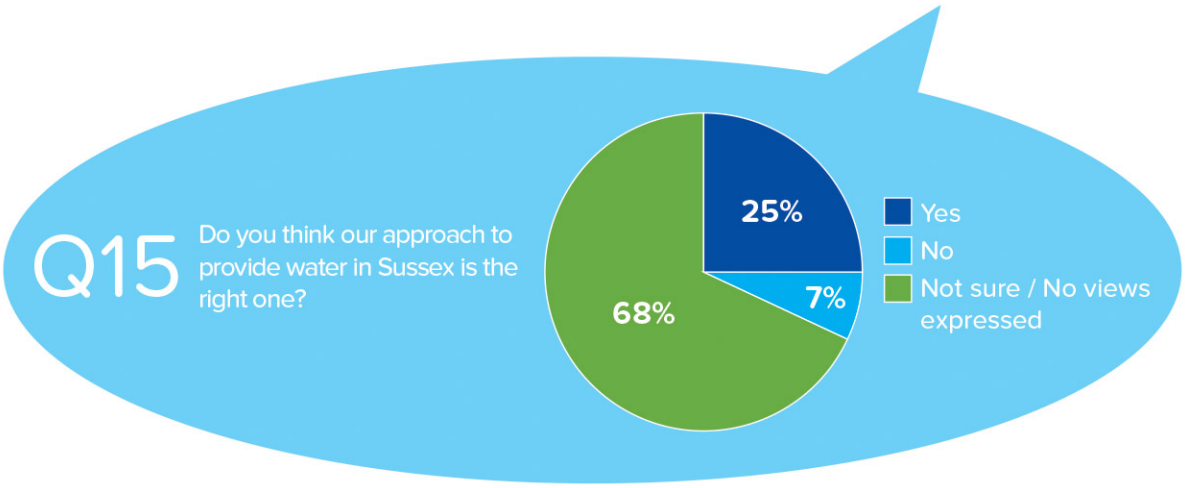
A full response to the comments is set out in SOR Appendix 6.

5.14 Question 15: Do you think our approach to provide water in Sussex is the right one?

5.14.1 Analysis

When considering responses across all three of our supply areas, 25% of overall respondents believed our approach to provide water in Sussex is the right one. 7% did not believe our approach to provide water is the right one whilst 68% were unsure. The high percentage of respondents who answered 'Not sure' is believed to be due to respondents only answering to the approach specific to their location, and so we undertook further analysis (see below).

Figure 5.14: Question 15 – overall feedback results



To explore this result further we analysed the responses from the 20 respondents within the Sussex water supply area. 70% of those respondents believed our approach to provide water in Sussex is the right one. 5% did not believe our approach to provide water is the right one whilst 25% were unsure.

Figure 5.15: Question 15 – Sussex focused feedback results

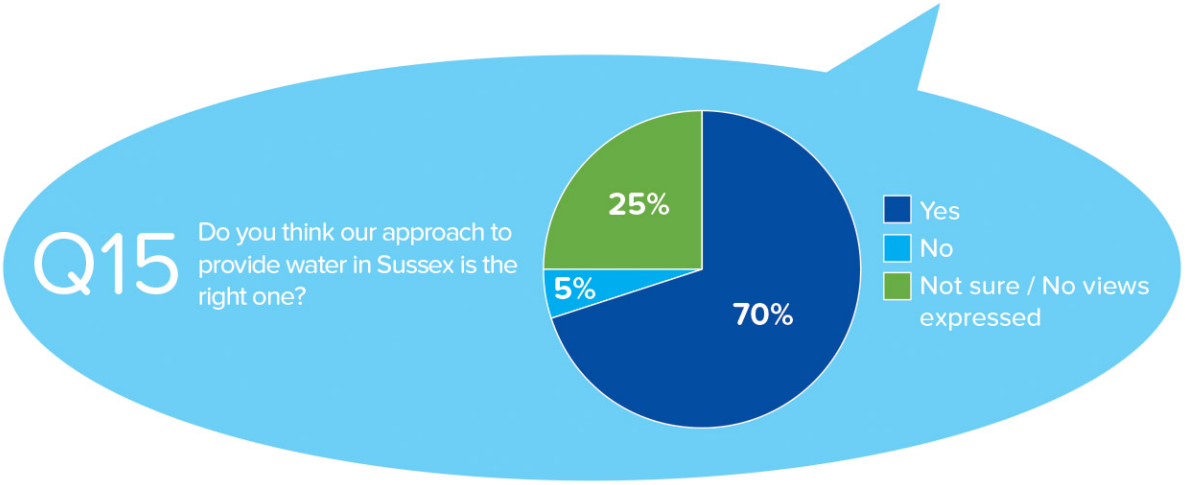


Table 5.13: Question 15 – feedback results

Response	Summary of main comments in questionnaire responses
Yes (25% of all responses) (70% of Central area responses)	• No additional comments to the previous questions
No (7% of all responses) (5% of Central area responses)	• Too much reliance on borehole abstraction and effluent re-use and more desalination is preferable • Unambitious and short-sighted. Don't understand why there is no plan for direct wastewater reuse but plans for increased groundwater abstraction

Not sure / No views expressed (68% of all responses) (25% of Central area responses)	• Disagree with plan to build a desalination plant at Shoreham Harbour because it's expensive and environmentally challenging, and would support review of other options first

5.14.2 Summary response and how we have changed the WRMP as a result

The responses to the questions on the preferred strategies in the draft WRMP identified a lower level of supportive comments than many other questions in the questionnaire, and a higher number of no views / don't knows. This is considered to reflect the fact that questionnaire respondents tended to comment only on the strategy for the geographic area that they were located in, or were interested in.

Our preferred strategy for the Central area in the draft WRMP included significant investment in new water resources in response to what we have forecast to be potentially large scale licence changes affecting our sources in the next few years, and notably by 2027. As well as taking account of and responding the consultation responses on the draft WRMP, we have also taken account of new information since the publication of the draft WRMP, including from other water companies on potential shared resources, and updated technical and assessment information on our potential schemes.

Our revised draft WRMP includes an updated preferred strategy for the Central area, reflecting this updated information and modelling work. Our revised draft WRMP also identifies alternative options that we will investigate and assess in parallel, so that we can be sure either our preferred or alternative schemes will be deliverable. The revised draft strategy for the Central area is summarised in section 8 of this SOR document, and set out in full in the revised draft WRMP Technical Overview and in the revised draft WRMP Annex 10.

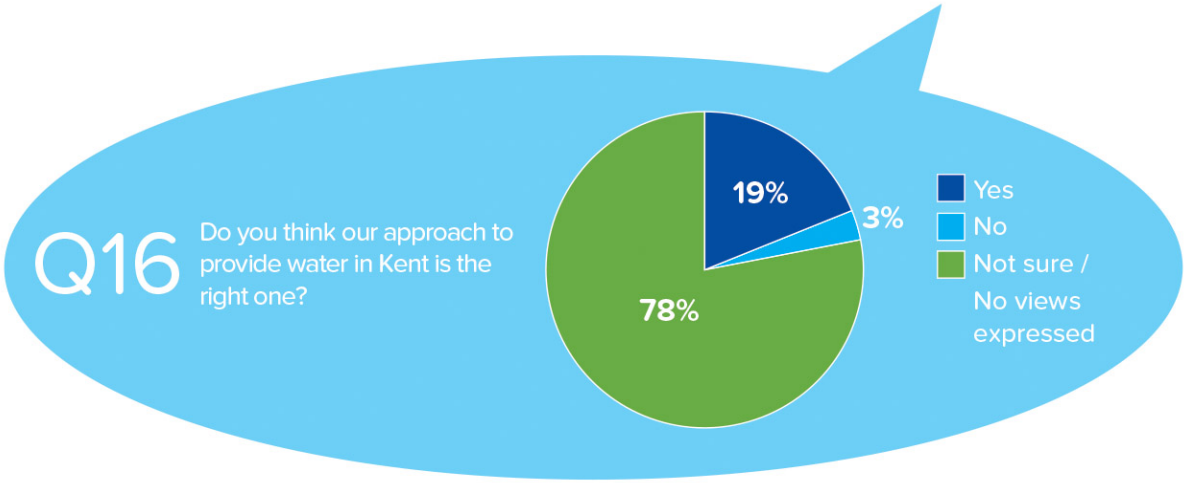
A full response to the comments is set out in SOR Appendix 6.

5.15 Question 16: Do you think our approach to provide water in Kent is the right one?

5.15.1 Analysis

When considering responses across all three of our supply areas, 19% of overall respondents believed our approach to provide water in Kent is the right one. 3% did not believe our approach to provide water is the right one whilst 78% were unsure. The high percentage of respondents who answered 'Not sure' is believed to be due to respondents only answering to the approach specific to their location, and so we undertook further analysis (see below).

Figure 5.16: Question 16 – overall feedback results



To explore this result further we analysed the responses from the 9 respondents within the Kent water supply area. 22% of those respondents believed our approach to provide water in Kent is the right one. 11% did not believe our approach to provide water is the right one whilst 67% were unsure.

Figure 5.17: Question 16 – Kent focused feedback results

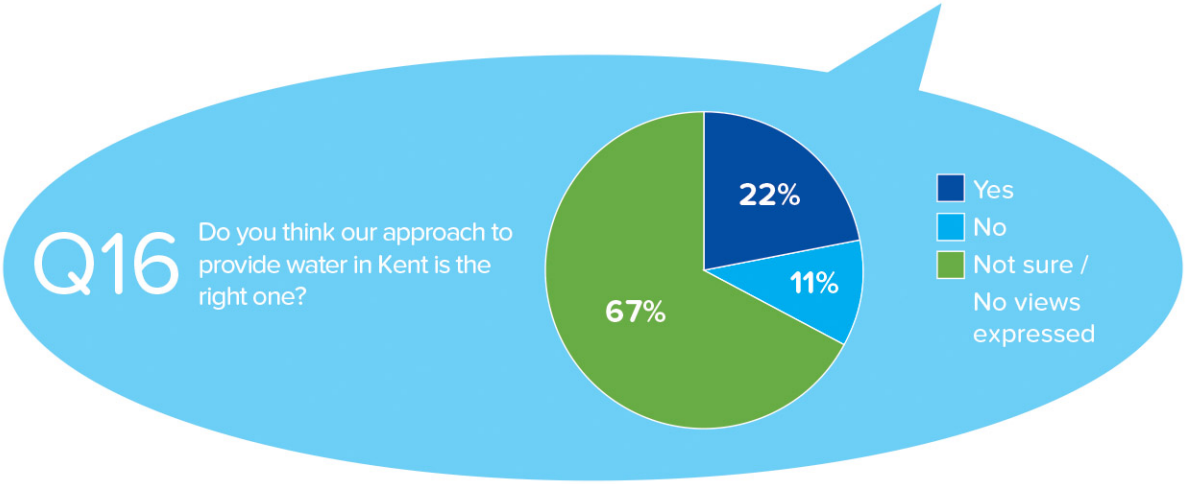


Table 5.14: Question 16 – feedback results

Response	Summary of main comments in questionnaire responses
Yes (19% of all responses) (22% of Eastern area responses)	• No comments from respondents within the Kent supply area
No (3% of all responses) (11% of Eastern area responses)	• The respondent referred to the comments they made in response to the previous questions
Not sure / No views expressed	• Seeking confirmation that the draft WRMP has used the housing and employment figures in adopted Local Plans. The draft WRMP

(78% of all responses) (67% of Eastern area responses)	makes no reference to the Government's forthcoming standard methodology for calculating housing numbers.

5.15.2 Summary response and how we have changed the WRMP as a result

The responses to the questions on the preferred strategies in the draft WRMP identified a lower level of supportive comments than many other questions in the questionnaire, and a higher number of no views / don't knows. This is considered to reflect the fact that questionnaire respondents tended to comment only on the strategy for the geographic area that they were located in, or were interested in.

Our preferred strategy for the Eastern area in the draft WRMP included investment in new water resources in response to forecast licence changes affecting our sources in the next few years, and notably by 2027, and to ensure we have developed sufficient supplies to be able to share with other water companies. As well as taking account of and responding to the consultation responses on the draft WRMP, we have also taken account of new information since the publication of the draft WRMP, including from other water companies on potential shared resources, and updated technical and assessment information on our potential schemes. We have checked and updated our base year for the demand forecast, and are confident that our range of forecasts is sufficiently robust to take account of potential variations in housing and employment growth. We will work closely with local planning authorities as we update our forecasts for our next WRMP.

Our revised draft WRMP includes an updated preferred strategy for the Eastern area, reflecting this updated information and modelling work. Our revised draft WRMP also identifies alternative options that we will investigate and assess in parallel, so that we can be sure either our preferred or alternative schemes will be deliverable. The revised draft Strategy for the Eastern area is summarised in section 8 of this SOR document, and set out in full in the revised draft WRMP Technical Overview and in the revised draft WRMP Annex 11.

A full response to the comments is set out in SOR Appendix 6.

5.16 Question 17: How important is it to you that we use renewable energy (by buying or developing it) to power our water network?

5.16.1 Analysis

The use of renewable energy (by buying or developing it) to power our water network was stated as important to 85% of respondents. 10% thought it was not important, whilst 5% were unsure. The support is qualified due to reasons given including the environmental benefits and the long term sustainability and resilience in terms of energy and consumption.

Figure 5.18: Question 17 – feedback results

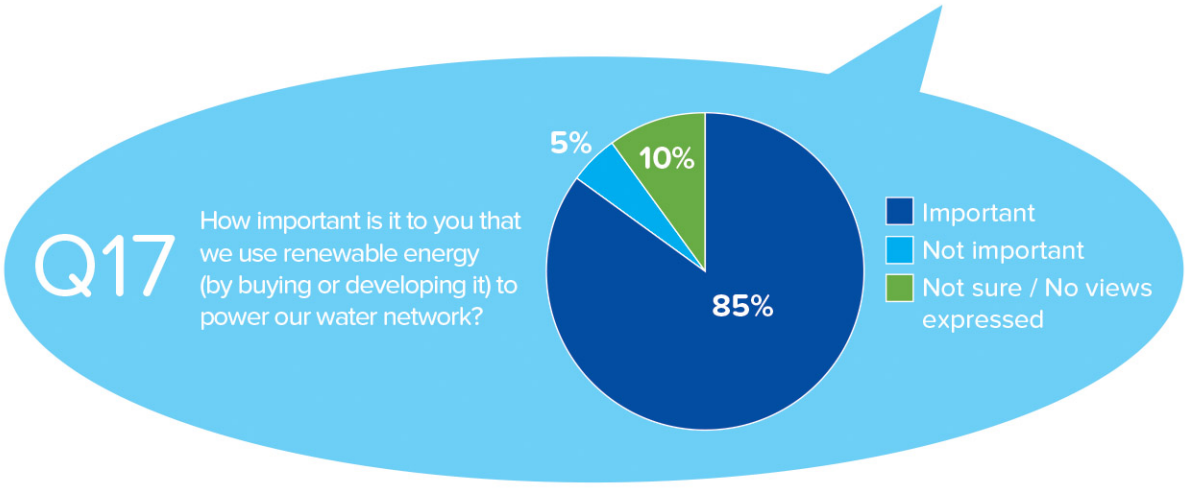


Table 5.15: Question 17 – feedback results

Response	Summary of main comments in questionnaire responses
Important (85%)	• Important that SWS use renewable energy • Support ambitions in Water Futures in the South East – towards 2050. • Strongly support the use of renewable energy due to environmental benefits and recommend that SWS investigate the potential to develop its own source of renewable energy, potentially from sewer sludge • Water companies should lead the way • Long term sustainability is essential • Critical for a resilient future in terms of energy and consumption • SWS shouldn't invest but take up contracts with others • Suggestions including water power, solar energy and dams • As long as it doesn't impact adversely on the environment • If it's economically viable • Prepared for bills to increase • It's more important to look after supplies and protect the aquatic environment
Not important (5%)	• Why would SWS not use renewables? • Renewable energy should be developed not bought. SWS should invest in more efficient treatment • Sewage Treatment Works have the potential to produce energy • Renewable energy has been put on the UK by Europe
Not sure / No views expressed (10%)	• Important but not vital • It should be the most cost-effective option • What is the most cost-effective and sustainable option?

5.16.2 Summary response and how we have changed the WRMP as a result

Respondents indicated strong support for the development and use of renewables to power our water supply system. We have invested in renewables infrastructure over recent years, including harnessing solar energy at a number of our sites, and also the generation of heat and power through sludge treatment processes at our wastewater sites. We are committed to continuing to develop new

renewable sources of energy, and to explore the purchase of electricity from renewable sources, subject to the necessary financial and consenting approvals.

A number of our water resources schemes have the potential to incorporate renewable technologies and we will work closely with local planning authorities and our wider environmental partners as we investigate and plan to deliver these alongside our new resources infrastructure.

A full response to the comments is set out in SOR Appendix 6.

5.17 Question 18: Would you like to get involved in developing our solutions to provide water, for example, community schemes to save water, developing water recycling and desalination options or in any other way?

5.17.1 Analysis

40% of respondents stated they would like to get involved in developing our solutions to provide water. 30% did not want to get involved, and 30% were not sure. The issue of time commitment was a common theme for respondents who were not sure or did not want to get involved.

Figure 5.19: Question 18 – feedback results

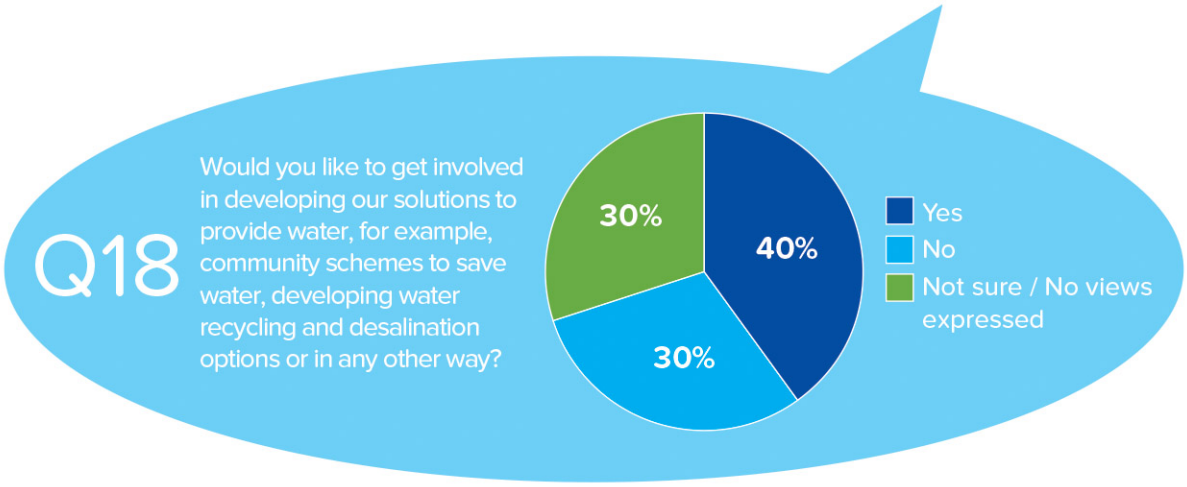


Table 5.16: Question 18 – feedback results

Response	Summary of main comments in questionnaire responses
Yes (40%)	• Would like to get involved • Would welcome further engagement with Southern Water to develop renewable energy or water recycling schemes • Already involved in SWS's stakeholder panels • What would this involve? • Look to SWS to take a strong lead on managing water sensibly • Developing water recycling solutions is the only sustainable option
No (30%)	• Don't have time

Not sure / No views expressed (30%)	• Don't currently have time • Depends on time commitment • Not clear what is meant. SWS are paid to provide services and shouldn't offload responsibilities • Already have a low water usage and it's up to others to do the same • Difficult as an individual

5.17.2 Summary response and how we have changed the WRMP as a result

We are committed to involving customers, stakeholders and regulators in our decision making processes, both through our statutory plan preparation and wider engagement activities. We make use of customer research and stakeholder panels to enable us to explore issues in more detail, and to seek feedback and information to help us deliver better outcomes for our customers and the environment. The feedback we receive from the questionnaire responses help us to devise appropriate mechanisms to provide opportunities for customers and others to appropriately engage with us.

A full response to the comments is set out in SOR Appendix 6.

5.18 Question 19: Did you find the information you needed in our consultation? What else would you like to know?

5.18.1 Analysis

52% of respondents agreed that they had found the information needed in our consultation. 20% of respondents did not find the information needed in our consultation, whilst 28% were not sure.

Figure 5.20: Question 19 – feedback results

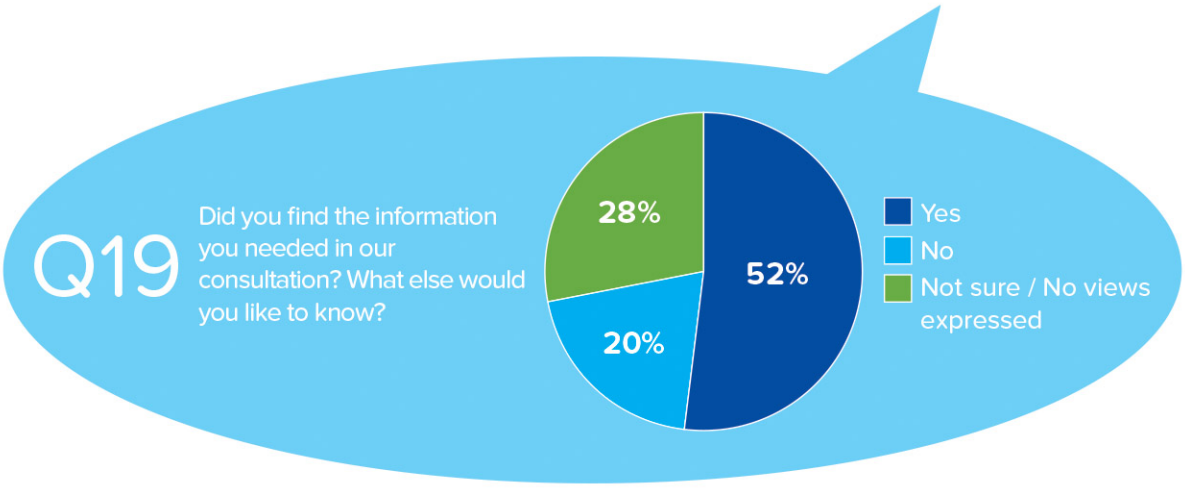


Table 5.17: Question 19 – feedback results

Response	Summary of main comments in questionnaire responses
Yes (52%)	• Good documents online • Good to see this consultation • Would be helpful if the questions and answers fitted into the boxes • Would like to be kept updated with future progress, proposals and consultations

	• Leak reduction should be the top priority and the target should be increased • Hosepipes should only be permitted for one hour in the evenings • Plan doesn't seem to protect wildlife • Comments commending elements of SWS's work • Comments setting out the shortcomings of SWS's work • Comments stating how SWS could do more to protect the environment
No (20%)	• The consultation lacked some detail, for example on abstraction and how Target 100 will be achieved • Important that the findings of the PUSH Integrated Water Management Study are factored in • Suggested additional reference to working with LPAs to ensure water efficiency policies are included in emerging local plans • No reference to improvements required to the Peel Common WTW • A broad identification of the costs associated with proposals would be helpful • Too general • More needed on environmental issues • More needed about desalination • More needed about fracking • Clarification needed if the leaks mentioned refer to existing leaks or upgrading the network to reduce further leaks • Inadequate public information about the impact of housing development • Why do SWS consider it ok to increase abstraction rates? • More needed about how the proposals will be implemented and timescales • More needed about how to get water rates down • Would like to hear SWS's criticisms to its approaches • The WRMP should be presented to employees with more detail of sites and sources that will have work down on
Not sure / No views expressed (28%)	• Not enough on personal responsibilities and SWS's vision for the future • Area too large to engage with • How are SWS committed to Sustainable Development Goal 6? • Need to feel sure that any future plans do not adversely affect the environment and wildlife • Didn't look at it in detail • Need to do more research

5.18.2 Summary response and how we have changed the WRMP as a result

The feedback from the questionnaire responses, together with wider customer and stakeholder research, helps inform our future consultation and engagement activities. We are committed to providing customers and stakeholders with information appropriate to their level of interest, and specific to their geographic areas.

Specifically in relation to our Western area, in addition to our regulatory reporting requirements, we will regularly report progress on our WRMP publicly on our website and proactively with stakeholders and regulators (NE, EA, Ofwat, Defra). We will update on our delivery of the Western area strategy at key milestones (e.g. approval, planning approval, procurement, construction start) and as part of our annual performance report. This will include where external influences / other transfers are progressing or could be at risk of delay (planning delays, construction in other companies etc).

A full response to the comments is set out in SOR Appendix 6.

6. Analysis of technical, statutory consultee and non-questionnaire responses

We received 36 responses to the consultation from technical and statutory consultees, and from other organisations who did not provide a 'Have your say' Questionnaire response.

Appendix 7 to this SOR document includes the full schedules of comments and our responses to them. This section summarises these responses, and how we have responded.

6.1 Environment Agency

As an Executive Non-Departmental Public Body responsible to the Secretary of State for Environment, Food and Rural Affairs, the Environment Agency (EA) has a statutory duty to manage water resources in England, and provide information, advice and guidance to water companies on WRMPs. The EA is responsible for assessing whether we have complied with the Water Resources Management Direction 2017. The EA response comprises four sections; a summary of the EA's view of our draft WRMP; review of compliance with the WRMP Direction 2017; recommendations for changes to the draft WRMP; and further improvements that the EA consider we should make.

The EA's recommendations for change and outline of further improvements are set out below.

1. Recommendation 1 requires further evidence and assessment regarding our approach to outage and further consideration of options to reduce or minimise outage.

2. Recommendation 2 requires us to confirm bulk supply arrangements with neighbouring companies including confirming quantities, implementation dates and legal arrangements of all transfers, including reliability during drought events and continuing to work with neighbouring companies to explore resource sharing in regional working groups.

3. Recommendation 3 encourages us to be more ambitious by reducing leakage further in both the short and long term. We are also recommended to show the impact on the supply-demand balance where the proposed level of leakage is changed and clarify the differences in leakage assessment between the previous plan and this current plan.

4. Recommendation 4 sets out that we should demonstrate the reliability and environmental acceptability of options in the preferred plan for the Western supply area and to consider alternatives. This includes the Fawley desalination options and considering wider supply-side options.

5. Recommendation 5 requires us to ensure the plan is legally compliant by adhering to the WRMP Direction.

The EA also set out a series of suggested further improvements to our WRMP, these improvements relate to the following:

- Clarify the use of stochastics in the plan and the impact to the company's supplies;
- Ensure the calculation of deployable output is accurate;
- Provide reassurance around the delivery of the well field improvements planned for our Pulborough groundwater source;
- More fully describe our risk based planning and real options analysis approach and show how this affects the plan;

- Demonstrate the company is resilient to a full range of droughts, including our design drought;
- Provide further information on non-drought resilience; and
- More thoroughly assess the potential environmental impacts from options in the preferred plan and ensure the options do not adversely affect the environment.

Separate to its response to our draft WRMP, the EA also identified a series of minor improvements for us to consider as we develop our next WRMP for consultation in 2023.

6.1.1 Summary of our response and how we have changed the WRMP in response

We have accepted many of the Environment Agency's recommendations and improvements, and made necessary changes to our revised draft WRMP in response. This has included additional information and explanation of our approach to the development of the plan, the assumptions underlying our forecasts and modelling, and providing additional explanation of the development and testing of our preferred strategies.

As noted in section 3.1 of this SOR document, we have also included the commitments we made in the s20 agreement that we signed with the Environment Agency in March 2018 at the Western area Inquiry.

The Environment Agency's recommendations and improvements have been responded to in detail in SOR Appendix 7.1.

Where appropriate, the minor improvements the EA identified for us to consider as we develop our next WRMP for consultation in 2023, have been included within the revised draft WRMP Annexes. We will continue to work closely with the EA as we undertake further work on these areas ahead of our next WRMP.

6.2 Natural England

Natural England (NE) is an Executive Non-Departmental Body responsible to the Secretary of State for Environment, Food and Rural Affairs. In summary, NE's response states:

- The options in the draft WRMP do not fully reduce the risk of harm to the environment from public water supply abstraction during a drought and in the face of climate change.
- SWS have produced an adaptable plan that can be adjusted to meet the full scale of sustainability reductions, many of which are uncertain in particular in the Central area. The dominance of coastal and desalination options on the supply side effectively transfers some of the impacts of public water supply, particularly in drought, from the freshwater to the marine environment.
- NE welcomes and supports the demand management options including leakage reduction and per capita consumption targets in the draft WRMP.
- NE welcomes the extensive 'catchment first' programme of catchment schemes to protect raw water quality and improve asset resilience. NE recommends expanding the scope of these schemes to build in measures that improve environmental resilience to abstraction.
- With significant modification, additional mitigation and alteration to a number of potentially damaging options, the draft WRMP has the potential to result in a net gain in biodiversity and enhance the environmental resilience of landscapes (including freshwater habitats). There are some potential risks to the marine and coastal environment.

- The information within the Habitats Regulations Assessment (HRA) is insufficient to remove reasonable scientific doubt with regards to some of the conclusions within the HRA. Notably with respect to:
    - Solent and Southampton Water Special Protection Area (SPA), Ramsar site and Solent Maritime Special Area of Conservation (SAC),
    - New Forest SAC, SPA and Ramsar site,
    - River Itchen SAC
- The HRA does not have sufficient regard to the conservation objectives and the supporting conservation advice and/or favourable condition tables that underpins them.
- The Strategic Environmental Assessment (SEA) has not fully identified all the significant adverse effects on the environment including those on Sites of Special Scientific Interest (SSSI) and biodiversity. Those environmental impacts that have been identified have not always been sufficiently mitigated including those on designated sites, marine protected areas, protected landscapes and priority biodiversity.
- The information provided is insufficient to rule out the potential to hinder the achievement of the conservation objectives of Marine Conservation Zones (MCZ) of draft WRMP options in combination with other plans or project including SWS draft Drought Plan.

In relation to the above comments, NE have provided a number of detailed responses in relation to the Habitats Regulations Assessment and Strategic Environmental Assessment carried out to accompany the draft WRMP. These are summarised further in Appendix 7.2.

6.2.1 Summary of our response and how we have changed the WRMP in response

We have accepted many of Natural England's comments and incorporated more detailed explanation and assessment in our revised draft WRMP in response. We have met with Natural England to discuss its comments, and sought to address the concerns expressed in the representation about potential impacts arising from a number of our proposed schemes on designated sites and habitats. We have modified our proposals in a number of respects, including adjusting proposed pipeline routings in response to Natural England's comments. Our updated information on the individual schemes is included in revised draft WRMP Annex 6 (Options Appraisal), and our updated SEA, HRA and WFD assessments are in revised draft WRMP Annexes 14, 15 and 16.

We have also taken on board the comments regarding net gain. While the implementation of the strategies will have regard to biodiversity net gain (in accordance with planning consent policy) we would like to develop this further so that a wider "environmental net gain" concept and valuation can be developed which has regard to the specific economic, social and environmental issues relevant to water resource planning. This is something that we will look to develop independently from the WRMP but that we hope it will have a more prominent influence in our future planning. We look forward to sharing and consulting with Natural England and other stakeholders as this develops.

We have updated the SEA, HRA and WFD assessments of our revised draft WRMP, with the results reported in revised draft WRMP Annexes 14, 15 and 16 respectively.

Natural England's comments have been responded to in detail in SOR Appendix 7.2.

6.3 Ofwat

Ofwat is the economic regulator of the water and sewerage sectors in England and Wales. The regulator states a number of points that we need to consider in finalising our draft WRMP.

Ofwat request that we provide further evidence of customer participation to give confidence that customers have been fully engaged on levels of service and bill impacts whilst further detail and transparency is also requested on decision making.

Ofwat also ask us to clarify our approach to the level of service and non-drought resilience, decision making and national and regional considerations.

In regard to the supply forecast Ofwat request greater clarity on the approach taken to forecast licence reduction impacts, climate change, water quality, operational losses and outage. It is also requested that greater clarity is provided on a number of specific points relating to the demand forecast and further justification is provided in the final plan regarding forecast uncertainty.

Ofwat also request further clarity regarding the range of supply and demand options we have considered, including leakage reduction and costing assumptions.

Further specific comments raised by Ofwat in relation to the above topics are detailed in SOR Appendix 7.3.

6.3.1 Summary of our response and how we have changed the WRMP in response

We have included additional information and explanation in our revised draft WRMP and Annexes in response to the comments of Ofwat, and sought to respond to the comments in full within the revised draft WRMP.

Ofwat's comments have been responded to in detail in SOR Appendix 7.3.

6.4 Historic England

Historic England (HE) is keen to ensure that the protection of the historic environment is fully taken into account at all stages and levels of the water planning process. No comments were made on the contents of the draft WRMP at this stage, as there are no issues that will directly impact upon the historic environment in a strategic way.

HE welcomes the opportunity for continuing dialogue in the preparation of our WRMP particularly if there is the involvement of the implementation of physical measures that may have effects on archaeological or other heritage assets, such as the laying of pipelines, new reservoirs or abstraction points.

6.4.1 Summary of our response and how we have changed the WRMP in response

Our responses to these comments are contained in SOR Appendix 7.4. We welcome the comments received by Historic England on the draft WRMP. We will need to undertake more detailed feasibility investigations and modelling, environmental assessment, preparation of planning documentation, and detailed design. Where there are proposals with the potential to interact with or affect historic environment interest, we will liaise and engage with Historic England.

6.5 West Sussex County Council

West Sussex County Council (WSCC) are supportive of our approach to provide water in Sussex; planning for a wide range of possible futures and for future changes to abstraction licences; the plan to start investigating new options for water recycling, desalination and reservoirs; and, Target 100.

A number of suggestions were made by WSCC, including the following: approach desalination with caution; look at water recycling and desalination options in combination; river restoration should not be compromised at the expense of future investment in efficient technologies; more could be done to look at 75 and 100 year plan scenarios; increase the amount of renewable energy generation; and, a 'regional grid' would need to be tightly controlled and independently regulated because it could present issues and over inflate pricing.

The Council also state that water restrictions need to be managed on a needs basis and that residents would like reassurance we are doing all we can to minimise the need to introduce restrictions. It is recommended that Drought Permits and Orders are used sparingly and in combination with softer approaches. WSCC believe more should be done to reduce leaks but with careful consideration, and a representative rise in cost for security of supply would be supported.

WSCC is keen to work with us to understand the value of their natural capital and to learn more about the studies in the Arun and Western Streams.

6.5.1 Summary of our response and how we have changed the WRMP in response

Our responses to these comments are contained in SOR Appendix 7.5. We welcome the many areas of support demonstrated by WSCC.

Our revised modelling for the revised draft WRMP continues to identify the need for a desalination plant in West Sussex, with preference in the Shoreham Harbour area. We will investigate this option in more detail, considering alternative sizes and whether an alternative location could represent any advantages. Our preferred strategy is to deliver a combination of new schemes, including river restoration, demand management and new resource developments.

The WRMP process currently only requires us to look ahead over the next 50 years however we need to consider longer term trends. We will be actively looking to innovate in the way we secure power for our water supply network, potentially increasing our reliance on renewable sources of energy. We agree that it would not benefit customers if trading options were significantly more expensive than our resource development options and continue to discuss and explore these options with neighbouring companies.

We work closely with the EA, water companies and wider stakeholders in co-ordinating action when we approach the period when restrictions may be required. Our Drought Plan introduces a new way of planning for droughts, meaning we will need to act to tackle them less often, and sets out what we will do to keep supplying water during a drought.

Our approach to leakage is to set it at a level that is optimal for our customers and society as a whole. Our draft WRMP set out a combined strategy of further active leakage control followed by mains replacement programmes to ensure we continue to drive down on leakage by 15% by 2025. We have now increased this commitment in the revised draft WRMP to achieve a 40% reduction by 2040 and a 50% reduction by 2050.

We are keen to work with the EA, NE, the Council and our catchment partners to identify the wider potential co-benefits of our catchment management schemes. We will actively work with NE and our

catchment partners to maximise benefits for biodiversity and society, adopting ecosystem services and Natural Capital assessment approaches in line with government and our own approaches.

6.6 Kent County Council

Our approach to engaging with Kent County Council (KCC) and our role in the Water Resources in the South East (WRSE) group is welcomed, and the Council looks forward to working with us over the next AMP period. Overall, KCC believe that the strategy provides a high level of resilience. A 50 year outlook is considered valuable, however concern was raised that this makes the headline costs of the draft WRMP less meaningful and makes it more difficult to compare total cost of plans across different water companies.

KCC are supportive of the key objectives of the draft WRMP, and the high level of ambition of the Target 100 and Catchment First initiatives but state that details on these are lacking. Since the local authority planning areas do not align with water company supply zones, it is difficult for the Council to check that they agree with the final housing growth figures used in each company's draft WRMP.

Our leadership in Target 100 is considered important, and it is suggested that the WRSE group provide greater ownership and resourcing of strategic approaches to demand management. KCC wish to collaborate with the Catchment First initiative and to encourage a joined-up approach that maximises benefits for the County.

Our long-term record on managing demand and supply is considered to be exemplary, however the Council understands the challenges we face as a result of sustainability reductions. It is believed that there is a growing need for open debate and joined-up thinking about what a sustainable water industry in the South East should look like in the future. KCC would like to be kept informed about our work developing a long-term environmental forecast.

It is believed that there is further to go with reducing leakage, and that determining whether we are planning to deliver an "optimal level of leakage" is difficult with the information presented. The Council support our approach to plan for future scenarios; options appraisal; and, strategy for the Eastern area.

6.6.1 Summary of our response and how we have changed the WRMP in response

Our responses to KCC's comments are contained in SOR Appendix 7.6. The Council's comments and support are welcomed. The difficulties comparing costs of different water company plans over differing time horizons are noted and we will take this point forward in our regional and national discussions. Looking ahead over 50 years invariably involves looking at infrastructure schemes that may or may not be needed, depending on the future that evolves. Our real options approach was developed to best find solutions that are adaptable.

We have included additional explanation in our revised draft WRMP on the Catchment First and Target 100 initiatives. Additional information is also included that provides more explanation of how the housing growth information provided by the local authorities is used by Experian, however the data is tabulated by WRZ and supply area, and not sub-divided into local authority boundaries.

We will continue to actively work with neighbouring companies through the WRSE group to further enhance the benefits of joint working, including promotion of water efficiency, development of joint schemes or trading options and cumulative environmental assessment. We are keen to work with Natural England and our catchment partners to identify the wider potential co-benefits of our catchment management schemes.

Changes to our supplies as a result of sustainability reductions are immediate or very short term, and can be very significant in scale, making them harder to plan and accommodate within our WRMP. We would be pleased to share more information on our Environmental Forecast approach with the Council, and to engage with it.

Our draft WRMP set out a combined strategy of further active leakage control followed by mains replacement programmes to ensure we continue to drive down on leakage by 15% by 2025. We have now increased this commitment in the revised draft WRMP to achieve a 40% reduction by 2040 and a 50% reduction by 2050.

6.7 Hampshire County Council

Hampshire County Council (HCC) welcomes that the plan is long-term and plans for a range of possible scenarios. It is stated that every effort should be taken to reduce demand and the short-term approach to focus on existing resources is supported. Target 100 is also supported, as is the plan to reduce existing leakage which the Council consider to be a key area. We are encouraged to have early discussions with Hampshire local planning authorities in regard to infrastructure options between 2025 and 2070 for which only broad locations are indicated.

6.7.1 Summary of our response and how we have changed the WRMP in response

Our responses to these comments are contained in SOR Appendix 7.7. The support for the approach being adopted in the WRMP is welcomed. Our plan contains both supply and demand side options, however we face some significant deficits that cannot be met by demand management alone. We are committed to meeting Ofwat's leakage reduction target of 15% by the end of next AMP (2024/25) and have increased this commitment in the revised draft WRMP to 40% reduction by 2040 and a 50% reduction by 2050.

We have revised the modelling for the revised draft WRMP and there is an increase in water sharing between companies, and large scale new infrastructure proposed within Hampshire. We will look to work closely with Hampshire County Council, individual local planning authorities, and other stakeholders as we investigate and promote these schemes through the planning system.

6.8 Worthing & Adur Councils

Worthing & Adur Councils look forward to working with us on proposals that are within or have the potential to impact on the area. The Councils support Target 100, however state that the results of the Government's Housing Standards Review and national technical standards limits the level of water efficiency measures it can require through planning policy. They hope to work with us on these matters as the emerging Worthing Local Plan progresses.

The Shoreham Harbour Joint Area Action Plan was recently submitted and it is highlighted that there may be opportunities for the desalination plant in Shoreham Harbour to link to the proposed heat network.

6.8.1 Summary of our response and how we have changed the WRMP in response

Our response to the Councils' comments are contained in SOR Appendix 7.8. The comments and willingness to work with us on our proposals is welcomed. We have set ourselves the target of reducing water use to 100 litres per day by 2040 and to achieve this across the board we need Local Plan policy support. We will need to innovate and lead the way in ensuring that we can achieve this target and look forward to working closely with the Councils in this regard.

Our revised draft WRMP retains the proposal for a desalination plant in the Shoreham Harbour area and we wish to explore the potential relationship with the heat network further. We will need to undertake additional more detailed feasibility investigations and modelling, environmental assessment, preparation of planning documentation, and detailed design. We will do this in collaboration with local planning authorities.

6.9 Test Valley Borough Council

Test Valley Borough Council (TVBC) highlight that the local water environment is an important resource within Test Valley, and that they are keen to ensure its quality is retained and where possible enhanced, as well as making sure water resources are sustainably managed. The proposals to promote the efficient use of water resources and reduction in leakage are supported and TVBC consider it important that these are done together. The Council would welcome working with us as part of their Local Plan review in terms of the ways they can continue to support more water efficient development.

Disappointment was expressed that residents may face restrictions on water use or that temporarily higher levels of abstraction may be necessary, and request that appropriate water supply schemes are progressed as quickly as possible to ensure that customers' bills remain affordable. TVBC support the proposals to increase the connectivity of the Water Resources Zones and request that further opportunities to enhance the resilience of network are pursued.

The Council also made generally supportive comments to some of the questions in the consultation questionnaire; for ease of reference these responses are contained in SOR Appendix 7.9.

6.9.1 Summary of our response and how we have changed the WRMP in response

Our responses to these comments are contained in SOR Appendix 7.9. The support for Target 100 and leakage reduction measures are welcomed. To achieve our target of reducing water use to 100 litres per day by 2040 across the board we will need Building Regulations and Local Plan policy support, and we welcome the opportunity to work collaboratively on this.

The outcome of the Inquiry means that some sustainability reductions will be brought in with immediate effect, and this means that we will have insufficient supplies of water in our Western area in all but normal environmental conditions. Our supplies to customers will remain at risk during the AMP7 period and into AMP8. The extent of the deficit is such that we need to deliver large new resources, and we will seek to deliver these in a timely manner and in consultation with key stakeholders. The interim abstraction scheme established in the s20 agreement seeks to minimise risks in the short term and was well supported at the Western area Inquiry.

We will continue to actively work with neighbouring water companies through the Water Resources South East group and will continue to discuss and explore water trading and/or joint water resource scheme options with neighbouring companies. The preferred strategy in the revised draft WRMP includes transfers from the west into Hampshire Southampton West WRZ, the east into Hampshire Southampton East WRZ, as well as the Hampshire grid interzonal transfer system.

TVBC's comments to the questions in the consultation questionnaire are noted.

6.10 New Forest National Park Authority

New Forest National Park Authority (NFNPA) welcomes the approach of a long-term plan to ensure reliable water supplies whilst recognising that more needs to be done to tackle water leaks and incentivise customers. Our commitment to become a delivery partner in the New Forest Partnership

(NFP) Plan 2020-2025 is also welcomed. NFPA highlight a commitment relating to new developments and water use in its emerging Local Plan.

NFNPA note that the NFP would be ideally placed to help implement catchment-based solutions and would welcome support from us to do this. Concern is raised about significant environmental impacts as a result of options such as new pipelines. NFPNA look to us to fully examine a "natural capital approach" to determining future water supplies and urge us to consider how we can support the Green Halo Partnership.

Creating stronger links with local communities and providing educational opportunities at water treatment works is supported, and NFNPA note that with appropriate funding it would be ideally placed to support us with our proposal in the New Forest. The Authority would welcome the opportunity to continue working with us to help raise awareness of waste pipe blockages amongst New Forest communities.

Our "Look to a greener future" is supported however NFNPA think there should be a measurable future target relating to renewable energy in the WRMP. The recognition that we play an important role in minimising plastic waste is welcomed and NFNPA looks forward to seeing a measurable commitment to this in the next iteration of the draft plan.

6.10.1 Summary of our response and how we have changed the WRMP in response

Our responses to these comments are contained in SOR Appendix 7.10. The NFNPA's support is welcomed and we look forward to working with it in the future. To achieve our target of reducing water use to 100 litres per day by 2040 across the board we will need Building Regulations and Local Plan policy support, and we support NFNPA's emerging policy on water use.

We will actively work with Natural England and our catchment partners to maximise benefits for biodiversity and society, adopting ecosystem services and Natural Capital assessment approaches in line with the Government's approach and our intention to independently develop a wider "environmental net gain" concept and valuation for future water resource planning. We will work closely with our partners including the Green Halo Partnership. Further work has been undertaken to review pipeline routes to avoid designated sites and sensitive habitats where possible, and justification and mitigation measures for any sections that cannot be rerouted have been provided.

We have been pleased to work with the Authority on educational initiatives to date and would be happy to explore further opportunities for joint working.

We are targeting our use of renewable energy and have included proposals within our emerging Business Plan in this area. Tackling plastics is a wider issue than the WRMP and is being addressed through the Business Plan process and our Plastics Policy. Our carbon and plastics policies are published on our website.

6.11 Dover District Council

Dover District Council made comments to the questions in the consultation questionnaire and are supportive of the following: planning for future changes to abstraction licences; water restrictions during droughts; Target 100; trading water with neighbouring water companies; Catchment First; and, the approach to provide water in Kent. The Council highlighted that water recycling needs to be actively looked at as part of the design of new development.

The Council is keen to work with us in relation to planning for a wide range of possible futures and their Local Plan review. It would be considered helpful if we could enter into a planning performance agreement with it in relation to new options for water recycling, desalination or reservoirs so that it

can allocate the necessary resources to support a NSIP (Nationally Significant Infrastructure Project). The Council consider that not much information is provided on desalination and water recycling.

It is stated that a major priority is ensuring that a wide range of measures to reduce leaks are investigated and used, and that this needs to be linked to investment in replacing old infrastructure. If customer bills are going to be raised to tackle this, it needs to be transparent with clear measurable performance related targets. In regard to catchment improvement schemes, the Council would welcome the opportunity to work in partnership with us.

6.11.1 Summary of our response and how we have changed the WRMP in response

Our responses to NFNPA's comments are contained in SOR Appendix 7.11. We welcome the comments and support for a number of our approaches, and the opportunity to work with the Council on the Local Plan Review. In regard to water recycling, the question related to recycling from wastewater, however the potential for the use of recycled water in the domestic setting will be investigated as part of Target 100.

Based on current NSIP thresholds it is unlikely that any of our resource schemes would fall within the regime, however Defra has recently announced its intention to amend the water related thresholds, and so this may be a possibility in the future. We will liaise closely with the Council over any options within its area. There is additional information on our desalination and water re-use proposals within the revised draft WRMP Technical Overview and supporting annexes.

Managing leakage is an important part of our strategy. Our draft WRMP set out a combined strategy of further active leakage control followed by mains replacement programmes to ensure we continue to drive down on leakage by 15% by 2025. We have now increased this commitment in the revised draft WRMP to a 40% reduction by 2040 and a 50% reduction by 2050. We are very aware of the potential impacts on customers' bills and are committed to ensuring that vulnerable groups and customers are protected.

We are very keen to work with the Council on our initiatives for water efficiency and leakage reduction, and with our wider partners through our Catchment First approach.

6.12 Canterbury City Council

Canterbury City Council (CCC) welcomes long-term planning for water supply needs and recognises the need for significant infrastructure investment. Policy CC13 in Canterbury District Local Plan (2017) is highlighted and the Council state that they will continue to work with water suppliers to ensure that necessary, appropriate infrastructure can be planned for and provided in a timely manner to support future growth.

CCC would require detailed assessment and robust justification for proposals for a reservoir at Broad Oak, significant infrastructure at Reculver and new development to facilitate the Weatherlees scheme. The opportunity to engage further to better understand the selection process and detail of the preferred proposals is welcomed.

6.12.1 Summary of our response and how we have changed the WRMP in response

Our responses to these comments are contained within SOR Appendix 7.12. The Council's comments, and planning policy support is noted and welcomed. We also welcome collaborative working. Whilst the Broad Oak reservoir is a South East Water scheme, we will look to work closely with the Council over any proposals that we look to bring forward within the City Council's area. We

will need to undertake additional more detailed feasibility investigations and modelling, environmental assessment, preparation of planning documentation, and detailed design. This will involve engagement with Local Planning Authorities.

6.13 New Forest District Council

New Forest District Council (NFDC) support our approach to plan for a range of possible futures and for future changes to our abstraction licences. The Council agree with our plan to start investigating options for water recycling and reservoirs and feel these should be prioritised ahead of desalination. NFDC also support our Catchment First approach and Target 100 as long as it is in line with the government approach.

The idea of trading water with neighbouring companies in a regional grid was also supported in principle, provided that habitat considerations are adequately addressed and where levels of abstraction can be accommodated without adverse environmental impact. NFDC note that the impact of routing pipelines would need careful consideration where located through sensitive locations.

The Council gave further comments on a number of specific proposals regarding our approach to providing water in Hampshire and the Isle of Wight, including the water recycling plant on the Test Estuary; desalination plant in Fawley and associated pipeline; application of a Drought Order for River Test; a new supply of water from River Avon through the New Forest; and, creation of a new storage reservoir at a lake near the River Test in the Hampshire Southampton East Zone.

6.13.1 Summary of our response and how we have changed the WRMP in response

Our responses to these comments are contained in SOR Appendix 7.13. We welcome NFDC's support for a number of our approaches. Our re-modelling for the revised draft WRMP confirms that a high tech solution will be required, in addition to increased metering, improved sharing of water, and other solutions. We have identified in our revised draft WRMP our preferred solution and alternatives and we will investigate these in parallel.

To achieve our target of reducing water use to 100 litres per day by 2040 across the board, we will need Building Regulations and Local Plan policy support, and we look forward to working with the Council and other partners on this.

Environmental impacts of schemes to share water with neighbouring companies is considered within the SEA and HRA that supports our plan, and this includes impacts from abstraction and routing of pipelines. Further work has been undertaken to review pipeline routes to avoid designated sites and sensitive habitats where possible, and justification and mitigation measures for any sections that cannot be rerouted has been provided.

We have provided detailed responses to the Council's comments on specific proposals in Hampshire and the Isle of Wight in SOR Appendix 7.13.

6.14 Partnership for Urban South Hampshire

Partnership for Urban South Hampshire (PUSH) supports our approach to improve water efficiency and Target 100 and also welcome the reference to encouraging developers to build more sustainable homes. The addition of a reference to working with Local Planning Authorities to ensure water efficiency policies are included in emerging local plans was suggested.

PUSH welcome clarification on whether any additional pipeline routes relating to water supply provision sourced from Havant Thicket reservoir (Portsmouth Water) would have any safeguarding of land implications beyond the safeguarded route already identified in Havant Borough (Portsmouth Water). The investigation of new options for desalination and reservoirs are welcomed in principle, however there is a need for early discussion with any Local Planning Authorities potentially affected by this type of infrastructure requirement so that any issues can be discussed.

Concern is raised regarding potential improvements which may be required to the Peel Common Waste Water Treatment Works (WwTW) (Fareham Borough). The financial costs associated with infrastructure options was also noted as a matter which would be benefit from further clarification.

6.14.1 Summary of our response and how we have changed the WRMP in response

Our responses to PUSH's comments are contained in SOR Appendix 7.14. The support for our long term approach is welcomed. We have set ourselves the target of reducing water use to 100 litres per day by 2040, and to seek to achieve this across the board we will engage with local authorities in their Local Plan preparation and development management decision making.

Environmental impacts of schemes to share water is considered within the SEA and HRA that support our plan. Further work has been undertaken to review pipeline routes to avoid designated sites and sensitive habitats where possible, and justification and mitigation measures for any sections that cannot be rerouted have been provided. In respect of our proposed resource options, we will need to undertake further work and will also engage with Local Planning Authorities and consider the need for safeguarding of land.

The WRMP does not directly consider the potential improvements at Peel Common WwTW as this is a wastewater matter and therefore not a consideration within a WRMP.

Our Business Plan due to be published in September 2018, sets out how much we need to spend for the first five years on options in our WRMP.

6.15 Royal Society for the Protection of Birds

The RSPB made a series of comments and specific requests on the following topics: Multisector, pan-regional water resource planning; resilience; sustainability reductions and Abstraction Incentive Mechanism (AIM); ambition on demand management; supply side schemes; adopting the catchment based approach; and the use of natural capital.

The work of the Water Resources South East (WRSE) group is welcomed. RSPB wants us to commit to playing a full role in national and regional scale water resource planning initiatives and to assess the scale of future challenge across sectors and to develop solutions that work for multiple sectors.

RSPB believes our current level of drought resilience is poor with significant reliance on drought permits and orders. Although our plan recognises this might lead to temporary deterioration in WFD status, RSPB want us to commit to take proactive measures to reduce the risks of adverse environmental impacts and any deterioration in WFD status. RSPB are pleased to see us collaborating with Portsmouth Water but would like more collaboration on demand side measures. RSPB want us to clearly set out what steps we are taking to understand, promote and build the resilience of the natural environment in line with Ofwat's Resilience in Planning Principle 2.

RSPB is pleased to see that there will be ongoing work relating to addressing WFD risk of status deterioration and would like to see a similar approach more widely undertaken in other sectors. It is stated that the sustainability reduction programme has not considered future long-term risks to water

dependant conservation sites from abstraction. RSPB ask us to set out in more detail our proposals for utilising AIM.

It is believed that we should be prioritising demand management solutions. RSPB are pleased to see our commitment to metering but highlight that in the longer term our ambition relating to metering and leakage falls short of other water companies. RSPB consider Target 100 to be sector leading and would like to see household and community incentives extended, and for us to commit to working with developers, and other stakeholders to advocate for stronger building regulations in water stressed areas.

Concern is raised that there is uncertainty about the blend of supply side solutions from 2025 and their relative environmental and customer acceptability. It is suggested that we start planning for 2025 early, working with stakeholder and customers. RSPB is satisfied with our efforts to identify the environmental implications of supply side schemes but have found it difficult to get a clear picture on scale and location of inter-company transfers. RSPB want us to commit that all supply side schemes will deliver a net gain in biodiversity and environment.

The RSPB are pleased to see us significantly expanding the scale and remit of our catchment management work, and that we intend to take a more holistic approach. The RSPB would like to see a performance commitment (PC) relating to the Catchment First initiative and us advocating regulatory measures where voluntary catchment actions have not been sufficiently successful, and it is in the customer's interest.

The RSPB think that our work on how we can use Natural Capital to inform decision making deserves greater prominence in the plan and want to see us commit to undertake an assessment of the Natural Capital stocks we are directly responsible for and to maintain and enhance the stocks.

6.15.1 Summary of our response and how we have changed the WRMP in response

Our responses to RSPB's comments are contained in SOR Appendix 7.15. The comments and support are welcomed. We are committed to playing a full role in regional and national water resource planning initiatives, continuing its current work with other water companies.

There is a short term reliance on Drought Permits and Orders while the permanent solutions are developed and implemented. However in the longer term our customers and the environment will benefit from our planned resilience investment. As part of the section 20 Agreement, we committed to a significant package of environmental monitoring and mitigation measures, and compensation under the Habitats Regulations, associated with the potential reliance on drought permits and orders in the interim abstraction scheme. We work closely with Portsmouth Water and other companies in developing proposals for new resource development and demand management measures. We have set out the steps we are proposing to take to implement measures to further environmental resilience.

We set out ambitious plans in our draft WRMP through the Target 100 initiative to reduce demand to 100 l/h/d by 2040. We have increased our leakage commitment to seek to achieve a 40% reduction by 2040 and 50% by 2050. We already have a high metering penetration, and due to this the feasibility of some types of metering becomes an issue. Nevertheless, we are still aiming to increase meter penetration from 88% to 92% in the Western and Central areas. We are evaluating the outcomes of the community incentive pilot to determine the extent to which this can be a valuable tool to use as part of our Target 100 approach. To achieve our target of reducing water use to 100 litres per day by 2040 across the board, we will need Building Regulations and Local Plan policy support, and will engage with local authorities to seek to achieve this.

We recognise the challenges we face, in order to deliver the necessary new resources to the timetable we have agreed to. We will be working closely with the EA, Natural England, LPAs and

our other environmental partners and stakeholders. Our transfer schemes have been updated since the draft WRMP and we have also updated our SEA, HRA and WFD Annexes. Biodiversity net gain principles have been regarded in the environmental assessments and will also be further considered when developing the schemes through the planning consent regime. It is also our intention to develop environmental net gain principles in our future water resource planning. Work, independently from the WRMP, has already been commissioned on this with schemes being assessed. This work is however ongoing and so could not be directly incorporated into the WRMP but we hope it will have a more prominent influence in our future plans. Our commitment to this is evidenced below.

RSPB has asked us to set out in more detail our proposals for utilising AIM. Our proposals for this are set out in our Business Plan which is published in September 2018.

We are keen to work with Natural England and our catchment partners to identify the wider potential co-benefits of our catchment management schemes. We are not yet able to adopt a PC relating to our catchment first initiative as we want to plan and implement a number of catchment solutions to identify the most appropriate performance measures to adopt. We are however proposing to adopt a PC relating to natural and social capital in our Business Plan submission.

We will also be producing a policy document to guide our future water resource planning, which will incorporate and develop natural capital accounting and we will work closely with our partners as we develop our policies and approaches. We are trialling natural capital across our WRMP and in particular is keen to develop a wider Environmental net gain. We will seek to consult on the methodology we put forward for valuation.

6.16 Salmon and Trout Conservation UK

The Salmon and Trout Conservation UK (S&TC) response relates to the Strategy for the Western area only. S&TC state that it is not acceptable to rely on abstraction from the Itchen, Test and Candover to deal with drought except in the most extreme and unforeseen conditions. It requests that the plan makes it clear that the timescale for ceasing to rely on abstraction from the chalk streams to deal with drought conditions is “as soon as possible” and by 2027 at the latest.

To ensure the plan is delivered in a timely manner, S&TC state that it needs to include a detailed programme for each of the measures proposed that be scrutinised on at least an annual basis. Concern was raised that without a publicly available programme it will be difficult to assess whether the timescale is realistic, best endeavours are being used, and whether alternative solutions needed to be readied.

In respect of large-scale Fawley desalination plant, S&TC note that no details are given to the extent of assessments that have already been carried out and there are no details of the programme and timescale for the construction of the project. It is requested that the plan should identify work undertaken so far, provide a detailed timescale and sensitivity tests. Progress should be monitored, and this approach should be applied to other main measures being proposed including the Havant Thicket storage reservoir and water re-use schemes.

S&TC state that demand management should be progressed as quickly as possible, and that without more information about the programme it is not possible for this to be assessed and monitored.

6.16.1 Summary of our response and how we have changed the WRMP in response

Our responses to these comments are contained in SOR Appendix 7.16. The Western area Inquiry means that some sustainability reductions will be brought in with immediate effect. As soon as conditions become drier than normal we will, in the short term, have to impose temporary use bans

and apply for Drought Permits and Orders. The agreed interim abstraction scheme in the s20 agreement is only a short term solution. Where the Drought Orders are applied for we will implement river restoration and habitat mitigation measures and many of these measures have been agreed to be undertaken in advance and irrespective of any Drought Order application being made. Our supplies to customers will remain at risk during AMP7 and into AMP8 until sufficient alternative supplies are delivered, and we will seek to deliver these in a timely manner.

We have included additional information in the WRMP on the Long Term Water Resources Scheme that we are committed to delivering to the timescale agreed. We have increased the information on delivery timescales within revised draft WRMP Annex 9. We will report publicly via our annual returns to the Secretary of State and will publicly report on progress with schemes in the Western area through updates on our website.

In regard to a desalination plant, reflecting concerns raised by Fawley Waterside the revised draft WRMP now proposes a location that is not dependent on land forming part of the former power station but still with potential to utilise the discharge infrastructure. The location is south of Ashlett Creek and comprises land within the New Forest National Park. The statutory tests relating to need and alternatives for such a development in this location are acknowledged, and we will continue to explore the case for this location in tandem with exploring options with nearby landowners.

As part of Target 100 we will be pursuing a range of innovative water demand initiatives, and we have included further details in the WRMP. We aim to increase meter penetration to 92% in the Western area and have increased our commitment to leakage reduction in the revised draft WRMP.

6.17 National Farmers Union

The National Farmers Union (NFU) convey that the agricultural sector has a high dependency on water resources and those demands are forecast to change substantially over the coming years. NFU believe it highly likely that there will be key areas of consolidation and growth for the food and farming sector and that strategic network planning will be required to support this. Concern was raised that many of the specific requirements of the sector have not been taken into consideration within the assessment process of our plan.

It is believed that there is a need for a separate assessment to establish a more realistic prediction of water resource demand for farming and food production, as well as to provide a more realistic forecast of where the growth in demand, or the risks to supply interruptions, may be most likely.

6.17.1 Summary of our response and how we have changed the WRMP in response

Our responses to these comments are contained in SOR Appendix 7.17.

Demand from agriculture currently accounts for 3.6% of our total non-household demand. It is difficult to predict how the agriculture sector will develop post-Brexit but we are forecasting 10% growth in water demand by the agriculture sector over the planning period. While it is possible for actual growth in the sector to be higher, we anticipate the opening of the retail market will promote water efficiency in the non-household sector as well and lead to more efficient use of water which is a scare resource in South East England. We will work with the NFU and the farming community to help establish further details of demand forecasting for the agricultural sector for our next WRMP.

6.18 Kent Wildlife Trust and Sussex Wildlife Trust

The Kent and Sussex Wildlife Trusts provided a joint response. They welcome the WRMP approach on making the most of existing water through demand management, reducing leaks and developing catchment management, and believe these should be prioritised ahead of supply-side schemes. There is also support in regard to the long term resilience and sustainability of our plan, and commendation for our ambition to reduce per capita consumption by 9.9% in AMP7.

The aspiration of Target 100 is supported, and we are encouraged to work closely with developers and relevant national policy makers to ensure that new development is truly sustainable. The commitment to extend the universal metering programme and enhance meter reading frequency across all our supply areas is welcomed. Although the wildlife trusts would like to see our leakage ambition increased.

The Wildlife Trusts support forward thinking proposals to use water wisely such as the 'Resources Hubs', and our plans to trial seasonal tariffs and rising block tariffs in AMP7 and would like to see the outcomes of this initiative progressed as quickly as possible. They would like us to adopt a Performance Commitment of 'towards water neutrality' but are pleased to see that we plan to reduce abstraction from some of our existing sources.

The Wildlife Trusts would like to see us reduce abstraction during critical periods where it is impacting on valuable habitats in its Eastern and Central areas. It asks that any new supply options chosen are the least environmentally damaging and ideally the most environmentally beneficial. Closer working between WRSE members is encouraged to identify joint funding opportunities for environmentally beneficial schemes. The wildlife trusts welcome the opportunity for further discussion and consultation on detailed proposals.

Further investment in the Catchment First initiative would be supported, and the continuation of broader partnerships is encouraged in relation to this. Concern is raised that the short term use of Drought Orders or Permits in the Central and Western areas may lead to temporary deterioration of WFD status of some waterbodies.

Concern is also raised that locally important designated sites have not been recognised as part of the environmental baseline of the plan. We are encouraged to integrate natural capital with the decision-making process for the preferred plan. Our 'Greener Future' strategy is supported but it is recommended that we implemented a net gains policy or update our Environmental Policy to incorporate this.

6.18.1 Summary of our response and how we have changed the WRMP in response

Our responses to these comments are contained in SOR Appendix 7.18. The comments and support is welcomed. To achieve Target 100 we will also need to continue our work with developers and local planning authorities to actively promote water efficiency. Our draft WRMP set out a target to achieve a 15% reduction in leakage by 2025, and we have now increased this commitment in the revised draft WRMP to a 40% reduction by 2040 and a 50% reduction by 2050.

We are not yet in a position to formally commit to a specific commitment relating to 'towards neutrality', however we are willing to work closely with our environmental partners to explore how we can incorporate these into our policy planning.

Where applicable, we have identified mitigation measures to prevent or reduce any identified significant adverse environmental or social effects of an option. We have had regard to biodiversity net gain principles and will continue to consider this as part of the planning consent regime where

applicable. We are committed to working closely with other companies through the WRSE group, however the basis for the selection of schemes within WRSE and at a company level has to accord with guidelines published by the EA.

We are however keen to develop a wider concept of environmental net gain and to take this forward into our future water resource planning. Work, independent of this WRMP, has already been commissioned on this and we will work closely with our partners as this develops.

We are committed to working closely with the wildlife trusts and our other partners in taking forward the Catchment First initiative. Where potential adverse effects on the environment have been identified, we have committed to the implementation of mitigation (and some compensatory) measures. There is short term reliance on Drought Permits and Orders while permanent solutions are developed and implemented, but in the longer term our customers and the environment will benefit from our planned resilience investment.

6.19 Hampshire & Isle of Wight Wildlife Trust

Hampshire & Isle of Wight Wildlife Trust (HIWWT) made comments using the themes in the Blueprint for PR19 document, including ‘use water wisely and price water fairly’; ‘keep our rivers flowing and wetlands wet’; and, ‘protect and restore catchments from source to sea’.

Concern is raised that the scale of leakage reductions planned is small, although the range of leakage reduction measures is welcomed. It is suggested that we make a commitment to carrying out free repairs on customers’ supply pipes. HIWWT consider our per capita consumption proposals to be industry-leading, although state that little detail on Target 100 is provided. Expansion of our work to deliver water efficiency measures in social-housing would be welcomed, and it is suggested that metering work should be prioritised on the Isle of Wight.

It is noted that our plan is in line with the principle advocated by regulators of delivering a twin-track approach. The drought actions are recognised as the correct and necessary way of managing abstraction and the wildlife trust would welcome our efforts to involve local stakeholders in the process of developing environmental monitoring, mitigation and compensation measures. HIWWT advocates that any chosen supply options should be the least environmentally damaging, or ideally, the most environmentally beneficial. Our plan to reduce abstraction from some sources to address risks of WFD status deterioration and demonstrate that no options would lead to a permanent deterioration is commended.

HIWWT note that the following comments primarily relate to Hampshire and the Isle of Wight although it wishes to see the principles applied across all supply areas. The upgrading of the supply network and construction of new network connections are supported in principle, and the Trust would want to work with us to ensure that any environmental impacts of any pipeline are limited. Schemes that look to minimise abstraction from freshwaters are welcomed. Multiple catchment management schemes should be employed before desalination, to which concerns are raised. The production of SEA, HRA and WFD assessments are welcomed.

The Trust suggest that we start engaging with stakeholders to discuss AMP8 proposals in the Western area. It is suggested that a ‘towards water neutrality’ Performance Commitment (PC) should be adopted. Closer working between Water Resource in the South East (WRSE) members is suggested to identify joint-funding opportunities, as well as engaging with other sectors such as agriculture.

The broader interpretation of catchment management in the Options Appraisal is welcomed, and HIWWT hope we continue to involve partners in future delivery. The broad alignment of our

proposals for environmental PCs with the Blueprint for PR19 aspirations is also welcomed. The Trust would prefer to see penalty only incentives associated with pollution PCs.

6.19.1 Summary of our response and how we have changed the WRMP in response

Our responses to HIWWT's comments are contained in SOR Appendix 7.19. The comments and support are welcomed. We have now increased our leakage commitment in the revised draft WRMP to achieve a 40% reduction by 2040 and a 50% reduction by 2050. We can confirm that we carry out free repairs on customers supply pipes.

The Target 100 initiative extends across all homes, not just new homes, and our initial plans have four key strands: installation of smart metering technology; home visits; proactive customer contact; and, incentivising water efficiency behaviour. To achieve Target 100 we will need to continue our work with developers and local authorities. The Isle of Wight is already 95% metered, and our forecasts show that water usage is predicted to reduce in unmetered households.

We are committed to delivering our agreed actions set out in the s20 agreement, signed during the Western area Inquiry, which includes the details of environmental mitigation, monitoring and compensation measures that the Trust and other partners helped us to devise. Detailed SEA, HRA and WFD assessments have been undertaken for all feasible options to fully understand the overall potential effects of all our options. Where applicable, we have identified mitigation measures to prevent or reduce any identified significant adverse environmental or social effects.

We have specifically revised a number of pipeline routes to address comments from Natural England and other respondents, including re-routing pipelines to avoid designated sites wherever possible. We are committed to delivering our Catchment First initiative and we will be adopting this approach in parallel with our proposed new resource developments.

We are aware that a number of our schemes have long lead in times and we will need to investigate and promote a number of options within AMP7. We are not yet in a position to formally commit to a specific performance commitment relating to 'towards neutrality', however we are willing to work closely with our environmental partners to explore how we can incorporate these into our policy making. We will continue to actively work with the WRSE group to further enhance the benefits of joint working, including promotion of water efficiency, development of joint schemes or trading options and facilitating cumulative environmental assessment.

We are committed to working closely with the Trust and our other partners in taking forward the Catchment First initiative. Penalty only incentives are generally not supported by customers in the research we have undertaken and our research has shown little appetite for seasonal tariffs.

6.20 Arun & Rother Rivers Trust

Arun & Rother Rivers Trust (ARRT) welcome the proposed reduction of abstraction and the Catchment First approach and look forward to working with us on our scheme in the Arun and Western Streams Catchment and on the INTERREG-funded scheme for Payment for Eco-system Services specifically in the Rother.

Gratitude is expressed to us for providing funding that enabled Rother Valley Farmers Group (RVFG) to develop in its initial stages. The Trust states that RVFG members are committed to improving water quality and enhancing wildlife habitat as part of their commercial farming operations, and that the RVFG provides an excellent vehicle for future partnership working with other organisations.

6.20.1 Summary of our response and how we have changed the WRMP in response

Our responses to these comments are contained in SOR Appendix 7.20. The Trust's support is welcomed. We are keen to work with our catchment partners to identify wider potential co-benefits of our catchment management schemes. We will actively work with our catchment partners to maximise benefits for biodiversity and society from our investment, adopting ecosystem services and Natural Capital assessment approaches in line with the Government's approach and our intention to independently develop a wider "Environmental net gain" concept and valuation for future water resource planning. We look forward to working closely with ARRT.

6.21 Wessex Chalk Streams and Rivers Trust

Wessex Chalk Streams and Rivers Trust (WCSRT) provided details of its work and noted that the representation is limited to the Hampshire area. The long timeframe of the plan is welcomed. Our ambition in reducing PCC and our effort to reduce leakage is applauded, however the Trust could not identify the actual percentage in the draft WRMP.

WCSRT stated that investments into river rehabilitation are a necessity before additional abstraction is allowed. Disappointment is expressed that we will be applying for drought orders and we are urged to implement mitigation measures as agreed with the Environment Agency as soon as possible.

Working together with Portsmouth Water to develop the Havant Thicket reservoir is supported however hesitancy was expressed in relation to support for bulk import from sources that are not sustainable. Wastewater recycling is supported as long as water quality is sufficient and negative impacts on river ecology will not occur.

Concern was raised about the validity of proposing a desalination plant as a mid-term solution and it is felt there is more remit in further investment in reducing water use and recycling of water. WCSRT would welcome discussions with us and partner organisations to investigate opportunities for the organisations to work together.

6.21.1 Summary of our response and how we have changed the WRMP in response

Our responses to these comments are contained in SOR Appendix 7.21. The comments of support are welcomed. In regard to leakage, our draft WRMP set out a target of 15% reduction by 2025. We have now increased this commitment in the revised draft WRMP to a 40% reduction by 2040 and a 50% reduction by 2050.

We will actively work with Natural England and our catchment partners to maximise benefits from our catchment management investment, adopting ecosystem services and Natural Capital assessment approaches in line with the Government's approach and our intention to independently develop a wider "Environmental net gain" concept and valuation for future water resource planning. The outcome of the Western area Inquiry means that some sustainability reductions will be brought in with immediate effect and this means we will have insufficient supplies of water available in our Western area in all but normal conditions. As soon as conditions become drier than normal, we will in the short term, have to impose temporary use bans and apply for Drought Orders. Where applied for (and in advance of applications), we will implement river restoration and mitigation measures in potentially affected rivers. This is provided for in the interim abstraction scheme under the s20 agreement.

The environmental impacts of schemes to share water with neighbouring companies are considered within the SEA and HRA that supports out plan. Further work has been undertaken to review pipeline routes to avoid designated sites and sensitive habitats where possible, and justification and mitigation measures for sections that cannot be rerouted have been provided. A revised scheme has

been included in the revised draft WRMP, which involves a pipeline route that avoids the New Forest National Park and New Forest SAC, SPA and Ramsar sites.

Our WRMP contains both supply and demand side options, and we will continue to investigate alternative options in parallel with any desalination option. Our modelling undertaken indicates that under all potential futures we need to undertake investigations in AMP7, and then build in AMP8 a desalination plant. The scale of that plant varies in different future scenarios. We would welcome further engagement with WCSRT.

6.22 South East Rivers Trust

Comments were made by the South East Rivers Trust (SERT) relating to integrated water resource planning; sustainable and resilient water supply; river systems in the South East; water saving; and, working in partnership. SERT are keen to work with us to achieve our common aims and would like to be involved in developing solutions with us.

The Trust states that there is an urgent need for integrated water resource planning across the region and urges the implementation of common methodologies, protocols and data sharing by Water Resources in the South East (WRSE). Introduction of a statutory requirement for regional WRMPs and planning bodies would be welcomed.

Catchment First, Target 100 and Resource Hub initiatives are supported. We are strongly encouraged to lead the way in applying a holistic and catchment-based approach through Catchment First, and to roll the approach out further. More detail is considered to be required on Catchment Management measures. Enhancing resilience of supply and environmental systems is considered to be important. SERT believe that water restrictions should be a last resort and they are less supportive of desalination. The use of renewable energy is stated to be a priority and we should match the targets of other water companies.

Concern was raised about an increase in river abstraction and drought orders; potential ecological impacts of recycling schemes; and, the scheme to supply Hampshire and the Isle of Wight from the River Avon. The increase in height in Bewl Water reservoir is supported subject to no negative impacts on rivers and mitigation measures.

6.22.1 Summary of our response and how we have changed the WRMP in response

Our responses to SERT's comments are contained in SOR Appendix 7.22. The comments are welcomed, and we look forward to working with the Trust. We will continue to actively work with neighbouring water companies through the Water Resources South East (WRSE) group to further enhance the benefits of joint working. This includes sharing approaches and information on modelling and seeking to develop common approaches. The introduction of a statutory regional WRMP, regional planning body and common methodology is a matter for Defra.

We look forward to working with the Trust and our partners and stakeholders in implementing catchment solutions across our supply areas. Licence changes incorporated into forecasts, existing and new connections between WRZs, our plans for our own new water resources and Target 100 initiative, leakage reduction and increased metering will make our system more resilient to uncertain futures.

In the Western area we face a period of higher risk of restrictions whilst we develop new long term resources, as a result of the licence changes proposed by the EA. The s20 agreement commits both parties to a series of actions during the period whilst new resources are planned and delivered. We are committed to investigating and promoting higher technology solutions such as desalination and

water reuse as part of our longer term solutions. In relation to renewable energy, we need to embrace new technologies.

We have updated the information and commitments in our revised draft Drought Plan on monitoring, mitigation and where necessary compensation for the environment in relation to potential drought actions we may need to take. We are working closely with our partners on these measures as the schemes develop, and particularly within Hampshire where a more detailed package of monitoring, mitigation and compensation measures have been agreed. We are committed to investigating and promoting alternative sources of supply.

We have undertaken extensive investigation of potential water recycling or reuse options, including in terms of technical and environmental challenges that such options pose. Environmental impacts of schemes to share water with neighbouring companies is considered within the SEA and HRA that supports our plan. A revised scheme has now been included in the revised draft WRMP, which involves a different source of water and pipeline route that avoids the New Forest National Park and New Forest SAC, SPA and Ramsar sites. The Bewl raising option does not now form part of the preferred plan.

6.23 Canal & Rivers Trust

Comments were made detailing the area of the Canal & Rivers Trust's (CRT) interest; the role that CRT plays in managing waterways, including in relation to water supply; the extent to which CRT works with water companies; and, research that CRT has undertaken.

CRT believes it can play a significant role supporting the water sector in delivering water supply and states that with investment, waterway infrastructure could unlock resilient and cost-effective water transfer schemes. It was highlighted that the Trust has a track record of managing raw water transfer for public water supply, and that transfers along its network can support several other business sectors. The Trust believes that we have produced a draft plan that highlights the issues faced and how they will be addressed, and it will continue to work with the Water Resources in the South East (WRSE) group.

6.23.1 Summary of our response and how we have changed the WRMP in response

Our responses to CRT's comments are contained in SOR Appendix 7.23. The comments are welcomed, as is the support for our approach, and we look forward to working with CRT through the WRSE group and on any future individual proposals.

6.24 South West Water

South West Water (SWW) note that a potential bulk transfer from the Bournemouth supply area is implemented later in our plan than in their plan, however this does not have a significant effect on any other decision in their plan. It states that the details of the transfer need to be further refined.

Thanks is expressed for the assistance we provided to SWW's contractors as they undertook a study to further develop transfer options from SWW and Wessex Water. SWW notes information to be provided to us in respect of a transfer from the Bournemouth WRZ.

6.24.1 Summary of our response and how we have changed the WRMP in response

Our responses to these comments are contained in SOR Appendix 7.24. We welcome SWW's response and confirmation that it could make a bulk supply available to us during the period 2025-

2030. We have received further information from the West Country Water Resources group on details of a bulk supply from the Bournemouth WRZ.

We welcome the further work undertaken to identify opportunities for bulk transfer from SWW and Wessex Water and were pleased to receive a technical note summarising the outcome of this work. We have incorporated this within our revised modelling and our revised draft WRMP. The bulk supply option forms part of our Western area preferred strategy in the revised draft WRMP.

6.25 Affinity Water

Affinity Water believes that its draft WRMP is aligned with our draft WRMP in respect of the relevant transfer options, with the exception of the Deal bulk supply post 2024. It is requested that we provide further details on which three groundwater source options are being highlighted within our draft WRMP and whether this concern has been raised as part of the Water Resources in the South East cumulative SEA assessment. Affinity Water confirm that at this time no other related transfers between the two companies have been identified as required for inclusion within their draft WRMP.

6.25.1 Summary of our response and how we have changed the WRMP in response

Our responses to these comments are contained in SOR Appendix 7.25. We thank Affinity Water for its responses and commenting on how we have represented the transfer options between the two companies. We have had dialogue with Affinity Water to ensure that the difference relating to the Deal post 2024 is resolved.

We are liaising with Affinity Water to understand potential cumulative impacts of the three Affinity Water sources with our own West Sandwich and North Deal licence variation options and this will depend on whether these options are selected in our respective revised strategies. We also confirm that no other transfer options to/from Affinity Water have been identified for inclusion in our WRMP.

6.26 Portsmouth Water

Portsmouth Water is happy that the key features, such as new bulk supplies, are included in both company's draft WRMPs. Portsmouth Water states that we have both taken account of the Water Resources in the South East (WRSE) modelling results and that we will continue to work together on this initiative. It is noted that Havant Thicket reservoir is back in the programme.

6.26.1 Summary of our response and how we have changed the WRMP in response

Our responses to Portsmouth Water's comments are contained in SOR Appendix 7.26. We welcome Portsmouth Water's comments. The bulk supply options are included in both company's draft WRMPs with some minor amendments needed to ensure they are represented in exactly the same way with respect to timing of availability and reliability. We support the development of Havant Thicket reservoir as a new regional resource.

The £103 million Havant Thicket Reservoir Resilience Project involves the construction of a new winter storage reservoir – the first large scale new reservoir to be built in the South East since the 1970s. It is a collaboration between Portsmouth Water and us, through the Water Resources in the South East group, to provide resilient water supplies to the region. It supports reduced abstraction on chalk rivers, has an overall biodiversity net gain and will provide a new community leisure facility for the area.

The project's innovative approach to collaboration and water trading sets a precedent for the water industry and fulfils the recommendations of the National Infrastructure Commission's 'Preparation

for a drier future' report as well as being in line with the Government's 25-year environment plan.

The reservoir, which will take up to 10 years to fully commission, will be filled with surplus spring water in winter and allow Portsmouth Water to provide a flexible bulk transfer of around 21 Ml/d to Southern Water, as part of an overall commitment to supply 60 Ml/d from a range of sources by 2029. This will help meet a deficit created by the imminent reduction of our abstraction licences on the Rivers Test and Itchen.

It is part of a twin-track approach and both companies have ambitious plans to reduce leakage, help customers use less water and increase metering. A third track is to engage with partners on catchment solutions.

The project, which is supported by and developed with customers and stakeholders, forms one part of a package of solutions which can provide the best value resilient water supplies with the lowest bill impact, compared to other strategies.

Portsmouth Water and ourselves are also committed to further exploring ways to increase resilience though additional enhancements, such as two-way transfers, to reduce risks from outage and events such as extreme droughts, heatwaves, freeze/thaw and pollution.

It is viewed as the first phase of a longer-term plan to increase water trading opportunities through ambitious demand reduction and the development of further regional infrastructure.

A Design and Build delivery approach is proposed, following a thorough review of alternative options, including a Direct Procurement for Customers model. Portsmouth Water will deliver the reservoir and some of the associated network upgrades, with the relevant costs recovered from us through the pricing of the bulk supply arrangement. Despite this being an exceptionally large project for Portsmouth Water, the company will use the existing TOTEX and cost-sharing frameworks to manage the risk to customers.

6.27 Wessex Water

Wessex Water was pleased to be involved in pre-consultation discussions with us regarding existing and future bulk water transfer options and highlight discussions about the potential for a new bulk export into our Western supply area. Wessex Water's draft plan indicated the likely availability of 10 to 15 Ml/d and it looks forward to working with us further to determine volumes under specific scenarios, timings and associated costs.

6.27.1 Summary of our response and how we have changed the WRMP in response

Our responses to Wessex Water's comments are contained in SOR Appendix 7.27. We welcome Wessex Water's response and indication that it could make a bulk supply of 10-15 Ml/d available to us. We have since received further information from the West Country Water Resources Group on the volume, timing and reliability of this bulk supply, and will continue liaising with this group and Wessex Water to confirm the option and ensure it is represented consistently in both our revised draft WRMPs.

6.28 West Country Water Resources Group (Bristol Water, South West Water, Wessex Water)

The West Country Water Resources Group (WCWRG) recognise the extensive work carried out in developing our draft plan and our commitment to delivering both resilience and environmental improvements. A collaborative water transfer to us as a possible future supply option has been

identified and the water companies have developed a more definitive understanding of the possible transfer available, timing and costs. They look forward to working with us through the WCWRG.

6.28.1 Summary of our response and how we have changed the WRMP in response

Our response to these comments is contained within SOR Appendix 7.28. We welcome the opportunity for continued dialogue with WCWRG. Working with the group we have been able to develop further our scheme to import water from Bournemouth Water and look forward to continuing to work with the group to implement this plan.

6.29 Chris Lowe

Mr Lowe emphasises the need for more effort on demand management, including dramatically reducing leakage and PCC, and in regard to this Target 100 is welcomed. Areas for more focus are detailed within the response, including housing and commercial developers; the price of water; tariffs; better promotion of water saving measures; rain water harvesting; community water schemes; and, amendment to the abstraction regime. Concern was raised about the timescales in the draft WRMP, including Drought Orders and Permits not being in all parts of the plan and deferral of some water re-use schemes.

Mr Lowe supports the Sandwich and Medway water reuse schemes and Darwell and Powdermill reservoirs catchment management schemes. In relation to desalination and other treatment processes, it is suggested that water companies need to educate people and promote measures to reduce concerns, and that renewable energy could be used.

Several issues were raised about proposals in East Kent, however these relate to Affinity Water and South East Water.

6.29.1 Summary of our response and how we have changed the WRMP in response

Our responses to Mr Lowe's comments are contained in SOR Appendix 7.29. Our plan contains both supply and demand side options however the company faces significant deficits that cannot be met by demand management options alone. We have increased our leakage commitment in the revised draft WRMP to achieve a 40% reduction by 2040 and a 50% reduction by 2050. To achieve our target of reducing water use to 100 litres per day by 2040 across the board we will need to innovate and lead the way.

We are exploring potential ways in which we might be able to utilise variable infrastructure charging to reflect and reward water efficiency in new properties. In regard to the price of water, we work within a regulatory framework set by Government and regulated by Ofwat. Penalty only incentives are generally not supported by customers, and our research has shown little appetite for seasonal tariffs.

Our response in Appendix 7.29 sets out our initial plans for Target 100. We will be working to achieve rainwater harvesting measures as much as we are able to within the regulations that we and developers work within and will be pushing Government for increased water efficiency measures to be incorporated into Building Regulations, and working with planning authorities. We have undertaken a water efficiency community based scheme in Hampshire and are currently evaluating the results of this trial to determine whether it could be replicated elsewhere. We have acknowledged the challenge of licence changes in our WRMP.

The frequency of Drought Orders and Permits are set out in our Levels of Service. In determining these, we take into account customer preferences and current guidance, and we expect there to be less than a 10% chance that we will have to resort to restrictions such as rota cuts or standpipes.

Further detail can be found in our revised draft Drought Plan. The optioneering process takes account a range of considerations in determining the options and when these are needed and it is therefore not the case of deferring schemes but developing them when they are needed.

Support for the Medway water reuse and our catchments management schemes is welcome. We have undertaken customer research on water re-use, including investigating any concerns that customers may have over the use of such schemes within their local area, and the terminology used to describe them. We will investigate the potential for the use of renewables for power.

6.30 William Cutting

Mr Cutting believes that the plan does not produce a resilient future or a cheap solution and finds it disappointing because it is over optimistic; relies on unachievable and unsustainable reductions in consumption; relies on desalination and wastewater recycling; and, requires the use of drought permits and water use restrictions.

A proposal to enable abstraction to be continued without using a reservoir and maintaining the flow to sea is suggested for inclusion within the plan. Mr Cutting details an example of this which was proposed to the Environment Agency and concerns the River Medway Scheme.

6.30.1 Summary of our response and how we have changed the WRMP in response

Our responses to Mr Cutting's comments are contained within SOR Appendix 7.30. The plan contains both supply and demand side options, however the company faces some significant deficits that cannot be met by demand management options alone. We have committed to a range of measures to enhance environmental resilience. There is a short term reliance on Drought Permits and Orders, and in the longer term our customers and the environment will benefit from our planned resilience investment.

We thank Mr Cutting for the suggested solution. The potential to store water within floodplains was considered as part of our options appraisal process however the EA raised concerns about it. We commit to investigating this option further in time for subsequent WRMPs.

6.31 Tracey Crouch MP

Ms Crouch is the MP for Chatham & Aylesford, where, in our draft WRMP we proposed a water reuse scheme in Eccles alongside South East Water. The need to secure water supplies and meet future water needs is appreciated, however concern is raised about the impact of the scheme on the local community, including the increase in heavy goods traffic. Ms Crouch expects us to continue to engage with the local communities and stakeholders as we develop our plans further.

6.31.1 Summary of our response and how we have changed the WRMP in response

Our responses to these comments are contained in SOR Appendix 7.31. The comments expressed on behalf of the local constituents are welcomed and noted. We have undertaken sufficient assessment work to provide the confidence that the water reuse scheme near Eccles will not cause unacceptable levels of impacts. In respect of HGV movements, we will undertake additional, more detailed feasibility investigations and modelling, environmental assessment, and detailed design before any applications are made. We want to liaise closely with local stakeholders and hold pre-application consultation and engagement with potentially affected residents. We welcome ideas on new ways that we can get local communities engaged.

6.32 Fawley Waterside Ltd

Fawley Waterside Limited (FWL) support trading water with adjoining water companies; Target 100; the plan to start investigating new options for water recycling, desalination and reservoirs; and, water recycling having a role to play in securing water supplies. The use of existing infrastructure for water trading is suggested. FWL intends to introduce innovative measures in its developments to achieve the Target 100 objectives.

FWL state that desalination may have a role to play if other measures are not capable of providing security of supply, and that it should be combined with water recycling, where treated wastewater is released into the Lower Itchen for re-abstraction.

FWL does not currently support our proposals for a desalination plant at Fawley Waterside because its queries regarding scale, impact and safeguarding criteria have not been answered. It is willing to discuss further the potential use of the cooling water outfall for the discharge of brine (and potentially the abstraction of seawater) on the understanding that the desalination plant is not located at Fawley Waterside. Detailed comments were made on the suitability of the Fawley Waterside site for a 100Ml/d desalination plant, including the context for regeneration, concerns on potential impacts, and alternative locations for the desalination plant proposed.

6.32.1 Summary of our response and how we have changed the WRMP in response

Our responses to FWL's comments are contained in SOR Appendix 7.32. The comments of support are welcomed, as are the proposed measures you intend to introduce to seek to achieve Target 100 objectives. We are exploring options for Wessex Water or other companies to provide new resources to us, and the potential for the use of the existing pipework will be discussed.

Our plan contains both supply and demand side options however we face significant deficits that require us to look towards a mix of options. Our modelling indicates that under all potential futures we need to undertake investigations in AMP7, and then build in AMP8, a desalination plant. The scale of the plant varies in different scenarios. We will continue to investigate alternative options in parallel with any desalination option.

It is not the purpose of a WRMP to set out every scheme in entire detail, but to assess and present what is feasible. Nevertheless, we are disappointed that FWL object to a desalination plant on the basis of a lack of information. Should FWL consider that land within the former power station is no longer available for this use then we would continue to investigate and promote alternative locations whilst continuing to seek to engage with FWL. We welcome FWL's willingness to continue to discuss the proposals, including the potential for abstraction and discharge from infrastructure related to FWL's interests and we will commit to continue those discussions.

The information on the proposed development by FWL is welcomed, including the potential second phase of development following the relocation of the existing large substation. It is accepted that we have not yet been able to provide fuller details to FWL, however ourselves and Atkins have briefed representatives of FWL on the proposals. Some of the concerns expressed have the potential to be accommodated through further technical work and discussions. We have, and will continue to explore the two further options suggested by FWL and other alternatives for the development of a desalination plant.

6.33 Little River Management and Barker Mills Estate

Little River Management and Barker Mills Estate (LRM & BME) submitted a document providing summary and detailed comments on the proposed Drought Plan monitoring and mitigation plans relating to the lower River Test, which was submitted as part of the Drought Plan consultation.

Concern was raised that the proposed Environmental Monitoring Plan and mitigation measures for the Drought Plan are inadequate, particularly for the lower River Test downstream of our Test WSW abstraction point. It is highlighted that this section of the River Test is of high ecological importance and that the proposals do not directly address potential environmental damage. LRM & BME detailed the current inadequacies of the monitoring and mitigation plans within their response. They are working with us to get a consent and compensation agreement in place to address these concerns but note that they cannot yet be confident that an agreement will be reached.

6.33.1 Summary of our response and how we have changed the WRMP in response

The summary and detailed comments made relate to matters addressed in our Drought Plan, and responses to these have been provided as part of the Drought Plan SOR document, published in June 2018. To the extent that comments are relevant to the WRMP proposals, we have provided a response which is contained in SOR Appendix 7.33.

Similar concerns were raised by LRM and BME during the Western area Inquiry. We have updated the environmental monitoring and mitigation plans relating to the River Test to reflect the agreements reached with the EA in the s20 agreement. The monitoring and mitigation measures necessary as part of the proposed Drought Permit and Order applications have been agreed with the EA, and do not require the agreement of lower Test landowners/lessees. If agreement is reached and additional measures are implemented, this will be supplemental to our applications. We will continue our discussions with LRM and BME to seek to reach agreement to enable this.

6.34 Isle of Wight Rowing Forum

The Isle of Wight Rowing Forum (IWRF) is the organisation of Isle of Wight Rowing Clubs and act as the local "hub" for rowing on the Isle of Wight as part of the Wessex Regional Rowing Council. IWRF raised comments regarding access to suitable water for the particular needs of the IW Rowing Clubs. It stated the River from Brading to St Helens embankment as a possibility and that the provision of a significant water catchment from the river would be of great benefit to both Southern Water and all the Island Rowing Clubs.

6.34.1 Summary of our response and how we have changed the WRMP in response

Our responses to IWRF's comments are contained in SOR Appendix 7.34. The comments relating to the provision of a rowing course on the Isle of Wight are noted, however this unfortunately lies outside the scope of the WRMP consultation on our draft WRMP. We do not have any feasible options on the Isle of Wight which could potentially provide such an area of open water. We welcome any future opportunities for dialogue with IWRF.

6.35 Arun District Council

Arun District Council (ADC) state that our approach to forecasting a range of potential futures is robust. We are encouraged to fully engage with the Government in responding to national policy consultations and on the risks that unplanned development may pose to business plans and long term management plans.

Concern was raised that a 'Resource hub' for recycling/reuse of water has the potential for environmental impacts and ADC would require these matters to be mitigated against. Early engagement with all stakeholders was encouraged and it was noted that this is especially relevant because the emerging Local Plan sets out strategic allocations which need to be factored into decision making.

The Council note the inclusion of a potential desalination plant on the tidal stretch of the River Arun and would appreciate confirmation of the time period within which this should be expected. ADC again highlight that early engagement with all stakeholders would be needed to ensure that an appropriate location is identified taking account of sensitive landscapes and features, possible impacts of climate change and planned development and infrastructure.

Should proposals emerge for Aquifer Storage and Recovery (ASR) facilities within the district and South Downs National Park Authority area, ADC state that we should consider closed landfill sites and their potential for impacting the groundwater in any confined aquifer.

6.35.1 Summary of our response and how we have changed the WRMP in response

Our responses to ADC's comments are contained in SOR Appendix 7.35. The comments are noted and welcomed, including the support for our approach to forecasting and planning to accommodate a range of potential futures. We work closely with the Government, water companies, planning authorities and other partners and stakeholders to take into account and influence emerging development proposals and policies.

The need for close working through the investigation and promotion of our proposals for water re-use are well stated and understood. We are aware of the Local Plan proposals for the location and will need to accommodate and reflect these in our own proposals, ensuring that we undertake necessary assessments of potential impact on residents, and incorporate mitigation measures into the detailed proposals.

The revised modelling for the revised draft WRMP is not now identifying the need for a desalination plant on the tidal stretch of the River Arun. We are however still promoting a desalination plant at Shoreham Harbour and as part of the detailed investigations we will need to consider potential alternatives, one of which would be on the tidal Arun. We will want to work closely with the Council as we progress this work.

The ASR proposal is not currently located within Arun District and detailed proposals for a pilot investigation are being prepared for a site within the SDNP near Sompting. We are liaising closely with the Environment Agency on the groundwater and other aspects of this scheme.

6.36 World Wildlife Fund

The World Wildlife Fund (WWF) made comments relating to demand management; supply development; addressing unsustainable abstraction; catchment approaches; compliance with environmental regulations and natural capital; and, regional water resources planning.

WWF would like to see a more ambitious target on PCC and to understand what water efficiency activities we plan to undertake to support Target 100. It would like to see us commit to continue working with all developers and to advocate for stronger building regulations in water stressed areas. WWF are pleased to see that we are aiming to reduce leakage by 15% during AMP7 and our metering proposals. It would be interested to understand more about the community incentive/reward

programme near the River Itchen SAC, and to know if and how seasonal tariffs and rising block tariffs are to be implemented.

WWF would like to see us commit to putting alternative sources in the Western area online as soon as possible. Our plans to convert wastewater treatments works into hubs to recycle water are welcomed. It wants us to commit that all supply side water resource schemes progressed in AMP7 will deliver a net gain in biodiversity and for the wider environment.

WWF are pleased that we are planning to reduce abstraction from existing sources. It wants to see a clear commitment to reduce abstraction from environmentally sensitive sources and an explicit pathway to achieving that. We are urged to ensure comprehensive monitoring of – and reporting on – freshwater ecological health and biodiversity of the Rivers Itchen and Test. WWF would like to understand what the barriers are to implementing AIM more widely.

Our increased emphasis on catchment approaches through the Catchment First scheme is welcomed, and we are urged to develop a catchment Outcome Delivery Incentive (ODI). WWF would like to see water companies giving material consideration to the value of natural capital and benefits of water left in the environment within water resource options appraisals. It states that environmental valuation is not strong in the draft WRMP and urges that an ODI is developed around natural capital.

Our efforts to engage in regional water resources planning through Water Resources in the South East are welcomed. WWF would like to see us commit to participating in and promoting national and regional-scale water resources planning which works with other major water-using sectors to assess future challenges and develop solutions.

6.36.1 Summary of our response and how we have changed the WRMP in response

Our responses to WWF's comments are contained in Appendix 7.36. The comments and support are welcomed.

Our Target 100 is considered to be ambitious in comparison to other water company targets. Our initial plans for Target 100 have four key strands: installation of smart metering technology, home audits, proactive customer support, and incentivising water efficiency behaviour. To achieve Target 100 we will also need to continue our work with developers and local planning authorities to actively promote water efficiency. We also agree that changes to Building Regulations will greatly assist in achieving Target 100. In regard to leakage, we are now proposing to go further than our draft WRMP proposals, and are committing to seek to achieve a 40% reduction by 2040 and a 50% reduction by 2050. We are evaluating the lessons from our community incentive/reward programme and will be happy to share these with WWF.

The s20 agreement signed during the Western area Inquiry means that sustainability reductions will be brought in with immediate effect once approved by the Secretary of State. Our supplies will remain at risk during the AMP7 period and into AMP8 until sufficient alternative supplies are delivered. The extent of the deficit is such that we need to deliver large new resources and these will take time to deliver. We will seek to deliver these in a timely manner and in consultation with key stakeholders. We have included in our revised draft WRMP our commitment to a number of design principles for its supply enhancement options which includes seeking an overall net biodiversity gain.

Where potential adverse effects on the environment have been identified, we have committed to implement mitigation (and in some case compensatory) measures to minimise the effects and seek overall net environmental gain from implementation of our WRMP. As part of the s20 agreement we committed to a significant package of environmental monitoring and mitigation measures associated

with potential drought permits and drought orders that might be required in the Western area over the next 10 years or so. We are undertaking a review of all our sources over the next 5 years, and have a large number of schemes in the WINEP programme. With the completion of those studies, we will know which may be appropriate as AIM schemes, or other forms of interventions.

As part of our commitment to achieving overall net environmental gain from implementation of our WRMP, we will actively work with Natural England and our catchment partners to maximise benefits for biodiversity and society as a whole from our catchment management investment. Whilst we do not have a specific catchment ODI, we have a series of ODIs that cover leakage, PCC, river water quality, AIM, and Target 100. We are not yet able to adopt a PC relating to our catchment first initiative as we want to plan and implement a number of catchment management solutions to identify the most appropriate performance measure.

We will actively work with Natural England and our catchment partners to maximise benefits for biodiversity and society, adopting ecosystem services and Natural Capital assessment approaches in line with the Government's approach and our intention to independently develop a wider "environmental net gain" concept and valuation for future water resource planning.

We are committed to working as part of the Water Resources South East group, delivering benefits of joint working on all aspects of water resources management and strategic planning for the South East region. We are also working across regions and nationally as part of our existing networks, and looking to share experience and techniques across the industry, with government and with other key sectors.

7. Analysis of customer research and stakeholder panel feedback

7.1 Introduction

In addition to publishing our draft WRMP online, and directly consulting with a wide range of organisations, we carried out customer focus groups in Sussex, Kent and Hampshire and a dedicated online survey with YouGov to ensure we heard the views of a wide range of representative customers during the consultation. We also held three stakeholder panels in each of our three areas.

Details of the research is set out below and feedback from the stakeholder panels, along with our responses to the issues raised.

7.2 Customer focus groups

We held three customer focus groups (Kent (Gravesend), Sussex (Brighton) and Hampshire (Southampton)) with eight bill-paying customers invited to each group, from a range of backgrounds and ages. The non-technical summary of the draft WRMP was used as the discussion material for each group, alongside the YouGov survey.

Objectives of the customer focus group included:

- Considering the clarity of understanding around various options available to secure future water supplies; and,
- To assess customer perceptions of our proposed activity around 'water resources'.

The focus groups utilised a 'slider' tool to gauge customers support for activities or water resource options, while providing information about bill impact and social and environmental implications.

Key feedback from these groups included:

- **Concept of Southern Water wanting to communicate its plans to customers is seen as a good one** – Evidence of Southern Water taking responsibility for the future seriously, having thought things through and having undertook consultation.
- **Challenge of perceived balance of responsibility** – Some concern about perceived imbalance in the non-technical summary. Southern Water seen to be 'pushing responsibility' onto the customer with emphasis on Target 100, with not enough evidence of what it is doing with its own infrastructure responsibilities. High level of concern about leaks.
- **Customer perspective on solutions is fairly simple:**
  - Desalination systems – In coastal areas, being surrounded by the sea means that people think about desalination at a spontaneous level; minimum focus on environmental impact; some concern about having these facilities as an eyesore near you; understood to be 'bullet proof'; local economy benefit (employment);
  - Grey water systems – Awareness from some that all our water is super clean and doesn't need to be; desire for infrastructure in new developments to use grey water more efficiently.
  - Fixing leaks – perception that a lot of water is lost by leaks is reinforced by information in the non-technical summary (80 litres per property per day); 15% reduction target seen to be feeble; Southern Water's responsibility to fix this considered key (backs up all other research findings).

- **Kent focus group prepared for the largest bill increase** – group favoured desalination, as it supplies the most amount of water and is the most resilient; prepared to pay environmental price for this guarantee; in comparison all other elements seen as 'tweaks'; prepared to invest in reducing leaks as this was identified spontaneously as a key area – considered that Southern Water should be doing this anyway and investing their profits in this; underground water stores seen as 'no brainer; highly cynical around trading water.
- **Hampshire focus group place a high level of importance on the environment and simple solutions that are easy to get their head around** - reluctant to invest in desalination or water reuse due to environmental impact; reluctant to move from the status quo: looking to Southern Water to decide the best steps ahead; environment is highly important but often judged according to perception; preference for highest level of investment in reservoirs – not seen as being bad for the environment (local asset, scenic, environment for birds, limited consideration of carbon footprint); reducing leaks is also important (spontaneously raised issue); tariffs seen as an extension of water-metering in encouraging you to use water more efficiently.
- **Sussex focus group place greatest level of focus on new reservoirs and reducing leaks, with costs offset by lower investment levels in other options giving lowest bill increase level** – environment is highly important but often judged according to perception; preference for highest level of investment in reservoirs; reducing leaks is also important (spontaneously raised issue; underground stores are an obvious choice; environmentally negative activities such as desalination and water re-use disinvested in, cutting bill levels.
- **Desalination seen as an obvious solution in coastal areas but some negative perceptions** – desalination is proven technology, understood to be widely used elsewhere in the world; some awareness of high running costs (offset by solar elsewhere globally); negative impact on the environment is highly off-putting (cost of building, eyesore where it is built more so than carbon footprint from running); Kent group invested most heavily in this due to certainty and simplicity as a solution and had low levels of environmental concern.
- **Reducing leaks generates a desire for maximum investment in all areas** – although not the most cost effective solution it is seen as a key priority for Southern Water to reduce its leakage level; leakage spontaneously raised as a key issue in all groups; the contrast of 80 litres lost per day, and intended 15% reduction in this versus Southern Water's desire for people to reduce their usage to 100 litres per day via Target 100 stings; no understanding of the complexity of leakage e.g. 'economically unviable' cut off point; conceptually feels very straightforward for the groups.
- **Willingness of Hampshire and Sussex groups to invest in new reservoirs but Kent group has preference for desalination** – new reservoirs are seen to generate really nice environments for people and social assets e.g. fishing, dog walking, sailing etc..; this imprint is so strong that it undermines negative environmental feedback; tension between view that it always rains so new reservoirs capture this versus more detailed analytical perspectives.
- **Catchment management has no bill impact and a positive environmental/resilience benefit** – some difficulty experienced across the groups to understand what this is; preference for clarity of what this option involves; understood as preventing people from polluting water resources; considered to be sensible if it will help maintain water supply and will not have an impact on bill payers; used as a tool by Sussex group to reduce bills.
- **Underground stores are a popular choice** – easy to understand solution, which makes sense to people; does not require significant environmental cost in set up, as store is naturally occurring.
- **Helping customers use water more wisely is minimal investment for something that will have a positive impact and be good for the environment** – education widely recognised as important in encouraging appropriate usage; seen as a particular issue for young people; requirement for this to be included in school curriculum.

- **Tariffs seen as being overcomplex over-kill which would be responded to negatively by billpayers** – Tariffs were unpopular for the both the Kent and Sussex groups; seen as over-complex and hard to administer; on a practical level considered to overcomplicate the water bill, and anticipated to be unlikely to impact on behaviour as well as being potentially discriminatory, punishing large families and low income families; putting everyone on meters seen as a better solution; a favoured solution for the Hampshire group where it was felt to be 'punishing misuse' with no negative environmental impact.
- **Trading water not seen as a long term viable solution** – ambivalent response to trading water; groups considered this to be a vulnerable option and open to manipulation; concern by Sussex group about transport impact for water (carbon footprint); not a solution during severe drought as everyone will want water, costs will be sky high and there will be risks.
- **Water reuse performs less well than it has done elsewhere in other qualitative exploration** - takes significant investment to be environmentally neutral with consistent resilience levels irrespective of investment level; spending less on water re-use has a marginal positive impact on the environment; environment is key variable so at best this route will be neutral, there is reluctance to invest; concerns in Hampshire group about whether it is safe, raising issues such as levels of hormone/drugs in the water.
- **Water saving devices are seen to be incredibly expensive** – none of the groups chose to invest in this area as costs are seen to outweigh the benefits; offers poor value for money; considered that if people are concerned about their level of usage, they can buy these things themselves, with the incentive of bill reduction.
- **Drought Orders are spontaneously considered environmentally unsound with either minimum or no investment offered by the groups** – high level of concern from the more environmentally engaged that this will have a negative impact upon wildlife, and eventually the whole ecosystem.

The customer focus groups also responded to the questions set out within the non-technical summary as follows:

- **Hosepipe Bans** – There was no specific problem with hosepipe ban frequency at around one in ten years. In case where bans might occur every three years this was viewed as a mild inconvenience that was relatively short lived. If very important to people measures could be taken to minimise the impact (increased use of water butts and grey water reuse)
- **Wastewater recycling** - There is a dual perspective on this. People are enthusiastic about greywater systems being used in new houses to enable less clean water to be used without significant treatment. There were not significant conceptual problems with wastewater recycling for the majority however, wastewater recycling is less well received when looked at in the context of its environmental impact
- **Desalination** – The idea of desalination is spontaneously responded to very positively, however the evidence of the negative environmental impact that this will have is extremely off-putting for those who have any degree of environmental priority, and was rejected in Hampshire and Sussex. For a minority with less strong environmental concerns the surety of water supply that desalination offers outweighs any environmental concerns.
- **Relative preference** – Water recycling is preferable to desalination for many because of the less significant impact on the environment
- **Target 100** – The principle of encouraging people to personally reduce their water usage is seen to be sensible, as it will also have a personal positive impact on bills. However, people aren't fully aware of what they are using now, and the number can seem somewhat random. A bigger issue is one of mutual responsibility. Target 100 has to be seen to go hand in hand with Southern Water taking responsibility for reducing water loss via leakage. Distinct practical support is also

required from Southern Water to enable Target 100 to be effective: what do I need to do to achieve this target?

- **Reducing leaks** – This is a key priority for the majority. The proposed target of 15% reduction is seen to be low. Evidence of cost in the slider review exercise did not deter people from supporting this initiative
- **Trading Water** – This has negative connotations for many as the name is redolent of a stock market exercise versus something that will make a real difference. It is anticipated to be a vulnerable solution to water shortage, as it is anticipated that if Southern Water is experiencing drought, other areas will be too. People are not however opposed to an element of this, if it is cost effective, but it is not a long term solution to water shortage issues
- **Catchment Management** – This is a difficult area for people to fully understand. The broad interpretation is that it involves impacting the behaviour of people who may otherwise pollute, and as such is positive. In detailed evaluation it has no bill impact and a positive environmental/resilience benefit, therefore it seems like a sensible thing to do, and should be a route used before water re-use or desalination for the more environmentally minded (majority)
- **Regional Solutions** – There were no significant problems with planned action across any of the regions. Understanding the specific challenges and needs of one's area, as explained in the WRMP helped provide a context for considering response
- **Renewable energy** – This is seen to have long term benefits for the environment and for cost savings, however it is a much less significant issue for people than the immediate impact of action on the local environment (ecosystems) and guaranteeing surety of supply
- **Future Involvement** – This is a highly individualised issue, with greater levels of desire for activism in Sussex compared to other areas. However, if something is going to happen that is environmentally significant e.g. a new desalination plant in my community, a high desire to get involved is elicited.

7.3 YouGov research

Research was carried out with nearly 3,500 of our customers in an online survey carried out by YouGov. This was based on using a 'slider' tool to gauge customer support for activities or water resource options, while providing information about bill impact and social and environmental implications. The following groups were surveyed:

- 3,100 online domestic customers
- 260 business customers
- 100 face-to-face interviews with 'vulnerable' customers

This was a combined exercise for the draft WRMP and Drought Plan consultations. For 11 categories of water production/saving options, customers were asked to select a desired level of provision using the slider tool. As the main slider was moved, the bill impact based on the customer's own bill figure was fed back to them in real time. The effect of their choice on a) the environment and b) our ability to maintain an uninterrupted water supply in the event of severe drought was also shown via a secondary slider. The outcomes of the research are summarised below.

7.3.1 Household Customers - Bill Impacts

Out of the 11 categories, 6 had a bill increase and 5 showed a bill decrease as set out in Table 7.1 below.

Out of those 6 where customers would be willing to accept a bill increase for extra provision through these means, by far the largest bill rise can be seen for water saving devices. Using the average across all bill groups (£11.66), this would roughly equate to between 1.2% to 1.5% of water provided by water saving devices compared to the planned level of 0% to 0.3%

Table 7.1: Bill Impact Summary

Category	Average bill change	Average slider increase
Water saving devices	£11.66	+4.14
New reservoirs	£2.40	+3.12
Water re-use	£2.10	+0.44
Tariffs	£1.88	+4.27
Reducing leaks	£1.74	+0.38
Drought orders	£0.42	+1.97
Underground water stores	£-0.05	-1.09
Helping customers use water more wisely	£-0.06	+0.23
Trading water	£-0.42	-0.79
Using sea water	£-2.22	-0.27
Catchment management	£-3.49	-1.67

Second to water saving devices in terms of bill increase are new reservoirs and water re-use. Customers would be willing to accept a bill rise of over £2.00 for both these methods. For new reservoirs, the average increase would result in approximately 3.4% to 5.1% of their water provided via this method compared to a planned level of 0% to 1.7%. For water re-use, the increase of £2.10 equates to roughly 24% to 31% of water being provided by re-using water compared to 16% to 23% which is currently planned. It can be noted that water re-use has a higher associated cost with increased water provision compared to new reservoirs, therefore the relatively small rise results in a comparatively significant bill increase. It is also worth noting that water reuse is the first of the top three categories (by bill increase) in which our planned level of provision is higher than the minimum. This means that there is a desire to further increase production even though there is a commitment to a certain degree by us already in place.

Tariffs and reducing leaks also show a relatively noticeable bill increase resulting from the desired level of production using these methods.

For tariffs, the associated cost for this category is relatively low therefore the fairly large desired increase only results in a bill rise of £1.88. This can be compared with water saving devices where a slightly lower increase results in a much larger bill rise. The desired increase in water production for this category roughly translates into 1.5% to 2% of customers' water being provided by tariffs compared to the planned level of 0 to 0.5%.

Reducing leaks has a similar average bill increase to tariffs. However it should be noted that while the planned level of water production via tariffs is at the minimum level, our planned level of production via reducing leaks is much above the minimum level for this category; 3.6% to 4.2% of water is generated by doing more to tackle leaks. Therefore it can be seen that even with this relatively high level of planned commitment to this category, there is a desire from household customers that this should be even higher. This is especially noteworthy given the relatively high associated cost with any increase in this category. The average increase for reducing leaks is not enough to move it up significantly. However, it can be considered that in a range of between 3.6% and 4.2% it would be towards the higher end of the scale than would initially be planned.

Out of the categories which customers would prefer to take a bill reduction by decreasing water generation, catchment management is the one where the bill decrease is the largest. On average customers would prefer to decrease the water production by an amount which results in a saving of £3.49 on their yearly bill. It can be noted that SW's planned level of production using catchment management is relatively high. Therefore customers are willing to dial this down a little in return for the bill saving. However it must be noted that this desired reduction still does not take it anywhere near the minimum available. The planned level of water production via this method is 53% to 47%. The desired reduction only roughly equates to 46% to 44%.

Using sea water (desalination) is another category in which customers are willing to accept a lesser amount of water produced via this method in return for a monetary saving in the form of money off their bill. On average the desired level of production results in an average bill reduction of £2.22. As this category has a relatively high associated cost with any change, this bill change does not necessarily equate to a significant reduction in the actual level of production However, considering the planned level of production is 30% to 39% of customers' water provided by using sea water, the desired change would reduce this towards the lower end of this scale.

7.3.2 Feedback on draft Drought Plan

The survey also sought to gain customer feedback on the specific parts of the draft Drought Plan. Of relevance to the draft WRMP, when looking at emergency restrictions, reducing leaks further than is currently planned (incurring a higher bill as a result) as well as a Target 100 campaign to reduce personal consumption to 100 litres a day were the two options which gathered the most support. In comparison, options that focused on restricting household water were far less strongly supported.

Overall, the majority of respondents (56%) would prefer to see recycling and reuse prioritised over desalination (28%).

7.3.3 Business customers

The research identified that the preferred prioritisation of water generation options among business customers is extremely similar to that shown by household customers.

Tariffs are chosen as the method for which both household and business customers indicate the highest increase over the planned level of production. This is followed by water saving devices and new reservoirs.

As with domestic customers, when looking at emergency restrictions, reducing leaks (77%) and a Target 100 campaign (75%) were also by far the two most favoured restrictions amongst business customers.

In terms of recycling and re-use versus desalination, there is even stronger support for recycling and re-use among business customers (64%) compared to household customers. The level of support for desalination is roughly similar with 27% of business customers preferring this to be prioritised.

Table 7.2: Business v household customers rankings

Category	Desired increase in service level*		Average bill change
	Rank: Household	Rank: Business customers	Business customers
Tariffs	1	1	£5.00
Water saving devices	2	2	£27.96
New reservoirs	3	3	£6.83
Drought orders	4	4	£1.06
Water re-use	5	5	£7.24
Reducing leaks	6	6	£1.62
Helping customers use water more wisely	7	8	-£0.03
Using sea water	8	7	£1.86
Trading water	9	10	-£0.98
Underground water stores	10	9	-£0.09
Catchment management	11	11	-£7.77

** Rank is determined by the average slider increase recorded for each category*

7.3.4 Vulnerable customers

Where there is very close overlap in the preferred prioritisation of water generation among business and household customers, there is slightly less alignment between household and vulnerable customers.

While tariffs was the category which householders wanted to see the biggest change (more water generated via this method), vulnerable customers chose new reservoirs as the method by which they would like to see more water produced compared to the level planned. Vulnerable customers also prioritised sea water higher than household customers.

When looking at emergency restrictions, vulnerable customers favour a target 100 campaign most (75%) closely followed by reducing leaks (70%).

In terms of recycling versus desalination, the preference of vulnerable customers closely mirrors that of household customers, with 56% stating that they would prefer to see recycling and re-use while 28% said they would choose desalination.

Table 7.3: Vulnerable customers versus household summary

Category	Desired increase in service level*		Average bill change
	Rank: Household	Rank: vulnerable customers	Vulnerable customers
Tariffs	1	3	£2.66
Water saving devices	2	2	£20.29
New reservoirs	3	1	£6.32
Drought orders	4	4	£1.75
Water re-use	5	5	£15.47
Reducing leaks	6	7	£7.17
Helping customers use water more wisely	7	9	-£0.06
Using sea water	8	6	£13.97
Trading water	9	8	£0.39
Underground water stores	10	10	-£0.01
Catchment management	11	11	-£4.42

** Rank is determined by the average slider increase recorded for each category*

7.4 Stakeholder panel feedback

7.4.1 Overview

The draft WRMP was discussed during the regular meetings of stakeholder panels, which we formed to help inform our operational and strategic work on an ongoing basis. These were held in Sussex, Kent and Hampshire during the draft WRMP consultation. Key issues arising from those meetings are set out below. The results are included in the revised draft WRMP Annexes 1 and 8.

7.4.2 Sussex Stakeholder Panel

An overview of the draft WRMP was provided to panel members. Feedback included:

- Support for water reuse, although concern expressed about the Peacehaven water re-use scheme releasing to the River Ouse;
- Flexibility of the plan welcomed and ability to adapt to changing circumstances;
- A call for greater focus on natural capital;
- Greater pressure on consumers to reduce demand;
- Concern about ability to deliver plan in timely manner given long-lead in time of schemes;
- Discussion around desalination and water re-use options;
- Importance of water efficiency in new builds;

- Engagement with local planning authorities key.

Attendees took part in a poll, using online voting software, to capture how supportive they were of our plans for providing water to customers in Sussex in the future. There was a good level of support for the company's proposed approach.

7.4.3 Hampshire Stakeholder Panel

An overview of the draft WRMP, with particular focus on Hampshire, prompted the following feedback from panel members:

- Discussion around the 50 year timeline;
- Support for long-term horizon;
- Call for more collaborative working;
- Support for working with other companies;
- Concern around desalination and its environmental impact, particularly on coastlines.

7.4.4 Kent Stakeholder Panel

An overview of the draft WRMP, with particular focus on Kent, prompted the following feedback from panel members:

- National picture in respect of sustainability;
- Chalk streams and catchment partnerships to work more closely with local communities;
- Consideration of lower population scenarios;
- General support for draft plan.

7.5 Our response to customer research and stakeholder panel feedback

The results from the qualitative research showed the following key points, some of which conflicted with the quantitative research results:

- Reducing leaks generates a desire for maximum investment in all areas and it is seen as a key priority for Southern Water to reduce its leakage level
- Desalination is a proven technology, which is understood to be widely used elsewhere in the world. Some groups are aware of high running costs
- New reservoirs are seen to generate really nice environments for people and social assets e.g. fishing, dog walking, sailing etc.
- Catchment management has a positive environmental/resilience benefit, seems like a sensible thing to do.
- Underground stores are a popular choice
- Low cost of helping customers use water more wisely generates maximum investment available in Southampton and Brighton in particular
- Tariffs seen as being over complex over-kill which would be responded to negatively by bill payers
- Trading water not seen as a long term viable solution

- Water saving devices are seen to be incredibly expensive

The following table shows how the company responded to any conflicts between the quantitative and qualitative surveys. It also demonstrates where there was a conflict between customer perceptions and Government (and regulators) policies or directions.

Generic option	Quantitative	Qualitative	Response
Tariffs	Would like to see more of these in a future strategy	Do not like the idea of penalty type options	Continue to trial incentive based tariffs and undertake further work in this area
Catchment management	Reduced the overall level of catchment management schemes in the plan	Think these are a good idea	We have continued to maintain the level of catchment schemes in the plan as they form a cost effective solution for customers. They also align with regulatory expectations.
Trading water	Reduction in the volume of water to be relied on for future solutions	Trading water not seen as a long term viable solution	Both of these opinions are counter to government policy. We will continue to develop a network to promote a resilient South East utility of water
Water saving devices	Would like to see more devices in the plan	Water saving devices are seen to be incredibly expensive	T100 sets out a broad strategy in which a range of options can be offered to customers

8. Summary of how we have changed the WRMP in response

As a result of the representations received on the draft WRMP during the statutory consultation period, and new information and technical updates, the draft WRMP has been amended and the company's preferred strategy has changed.

The key changes to the draft WRMP and the preferred plan are set out below.

8.1 Overview of main changes

As set out in section 3 of this SOR document, we have updated our WRMP to reflect the significant commitments we have made through the s20 agreement signed at the Western Inquiry in March 2018, our increased leakage reduction commitment, and the additional explanation of our Target 100 initiative.

We have updated the preferred strategies for each of our three supply areas, as summarised in sections 8.2 to 8.4 below, and set out in detail in revised draft WRMP Annexes 9 to 11.

We have also amended and updated extensive sections of the other WRMP Annexes, as summarised in section 8.5 below.

8.2 Changes to our preferred strategy for the Western area

8.2.1 Context

Our draft WRMP Strategy for the Western area included significant proposals for new water resources infrastructure, responding to proposed sustainability reductions to a number of abstraction licences related to the Lower Itchen, Test and Candover. These changes, and the uncertainty over other potential additional sustainability reductions led to the draft plan including large scale desalination, non-direct potable water re-use, pipeline transfer, demand management, leakage reduction and catchment management measures, with many aiming to be implemented by 2027.

As noted in section 3 of this document, at the Western area Inquiry in March 2018 we entered into a s20 agreement with the Environment Agency. The s20 agreement included various commitments from both parties relating to the Lower Itchen, Test and Candover abstraction licences. We accepted the licence changes as proposed by the Environment Agency, and the Environment Agency acknowledged the significant impact this had on our statutory duties relating to supply. An interim abstraction scheme was agreed in recognition of the potential need to rely more frequently on Drought Permits and Drought Orders until new water resources can be developed. Monitoring, mitigation and compensatory measures for the potential impact of those drought actions were also agreed with many of those measures being put in place irrespective of whether the Drought Permits and Drought Orders are applied for (thereby also being in place in advance of any application if/when needed). Importantly, we committed to use "all best endeavours" to implement a long term water resources scheme, (based on "Strategy A" in the draft WRMP but acknowledging that this would be subject to amendment between the draft WRMP and the Final WRMP) and which will provide the necessary new water resources infrastructure to respond to the impact on supply as a result of the licence changes.

We have incorporated the content of the s20 agreement into the revised draft WRMP, and have undertaken additional technical work and updated our modelling to reflect this. We have taken into account updated information from our neighbouring water companies on their future needs, and the potential for the transfer of water between companies. As a result of all of this work, there have been a number of amendments to the strategy for the Western area in the revised draft WRMP including the need to have a series of alternative strategies as a back-up.

All of the schemes in both the preferred strategy and the alternative strategy derive from the feasible options in the draft WRMP.

The need for alternative strategies is simple. The interim abstraction scheme can only be utilised for the term of the s20 agreement (until 2030), ideally with long term schemes to reduce and remove the need to use the interim abstraction scheme in place by 2027. In order to demonstrate confidence in delivering a long term scheme within this time frame, given the inherent uncertainties and potential delays that are possible in securing and implementing any complex infrastructure project, we will in the short term concurrently develop alternatives strategies. We consider the progression of alternative strategies to be the most responsible course of action, both in terms of mitigating what could otherwise be a significant threat to supply and in giving public reassurance that sufficient action will be taken.

8.2.2 What are the key drivers for our strategy for the Western area?

The implementation of the sustainability reductions on the Itchen and Test result in significant deficits in the supplies available to meet demand for water – affecting the Hampshire Southampton East and Hampshire Southampton West WRZs respectively. This means that Drought Permits and Orders may need to be relied on prior to new resources being available.

The interim abstraction scheme agreed under the s20 agreement is an acceptance of this position by the Environment Agency.

The deficits faced in the other Hampshire WRZs (Hampshire Rural, Hampshire Winchester, Hampshire Andover and Hampshire Kingsclere) tend to be smaller initially (or are in surplus). However under some of the sustainability reduction scenarios in the different 'futures' approach, the deficit can become more significant from 2027.

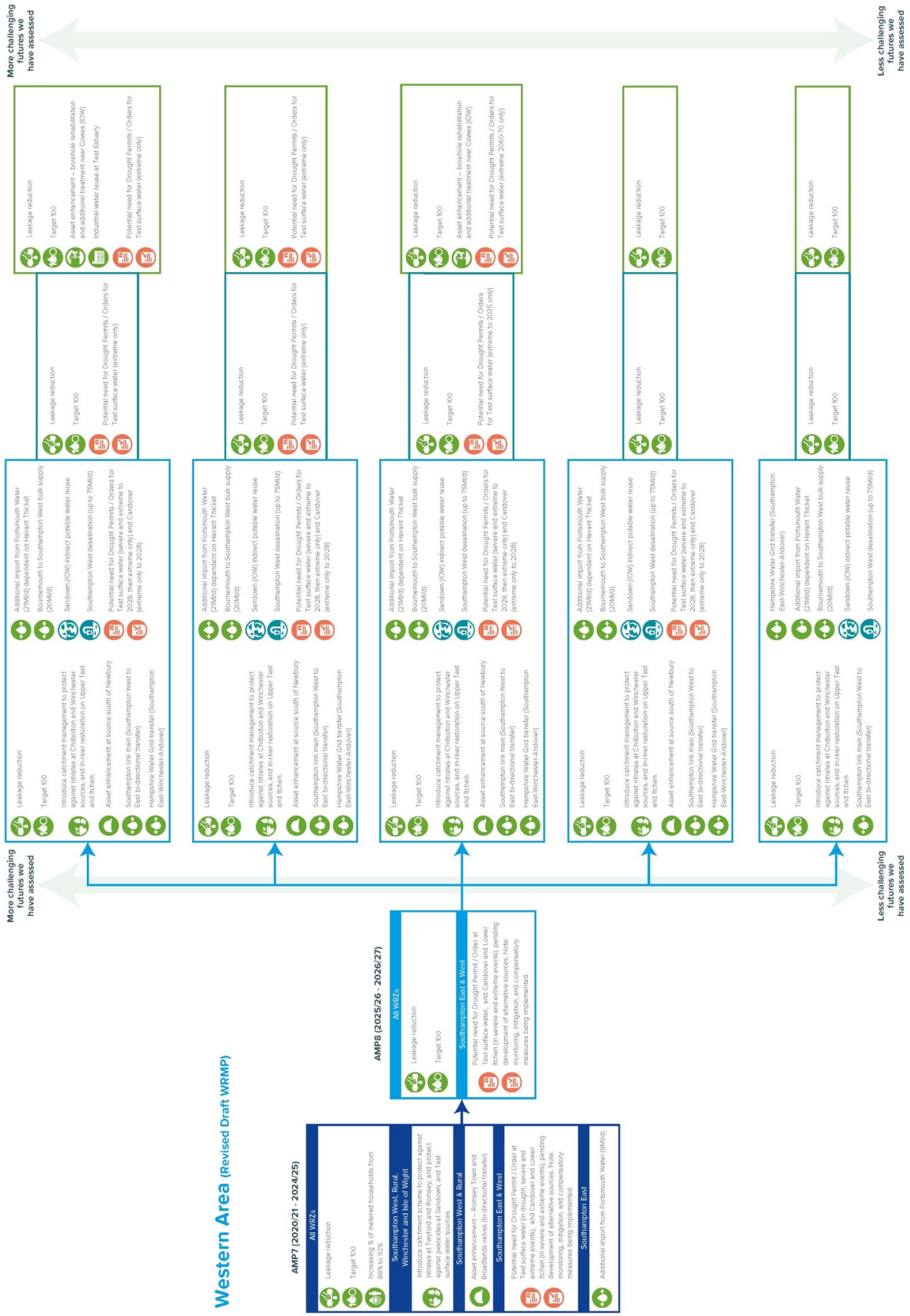
The Isle of Wight WRZ is in deficit but is supported by the Hampshire Southampton West WRZ through the existing cross-Solent main. As a result of the sustainable reductions to the licence at the Test (and Itchen), the support to the Isle of Wight WRZ therefore becomes stressed.

8.2.3 Our strategy for the Western area

The strategy for the Western area is summarised below and represented in Figure 8.1 overleaf, with detailed information set out in Annex 9. As has been noted throughout this document, the Western area represents the most significant challenge we face in preparing this WRMP. As a result, our potential investment in water supplies in our Western area over the next 50 years is around £1,000m, expressed in current values.

In our Western area **during AMP7 (2020-2025),** we propose to start implementing additional **leakage reduction** within all WRZs. Alongside this, we plan to **increase the percentage of metered households** in the Western area, as part of our overall aim to increase metering from the current figure of 88% up to 92%. We will **increase the frequency of meter readings** for all households, and implement our media and education campaign as the first part of our **Target 10**0 initiative, to decrease the demand for water in the Western area. Although important, the overall contribution that

Figure 8.1: Diagrammatic representation of Western area strategy



this will make is limited in the context of the deficit presented by the licence changes, and we will need to undertake significant investment in new infrastructure as well.

We plan to introduce **catchment management and infrastructure solutions** to remove nitrates from our Twyford and Romsey sources, and to protect against pesticides at Sandown and the Test surface water source. This should increase their reliability and resilience and safeguard supplies to customers. We also plan to secure the **transfer of an additional 9Ml/d of water from Portsmouth Water company**, through the recently constructed new transfer pipeline into Southampton East WRZ. This pipeline was specifically sized so that it could accommodate more water for circumstances such as this. We also plan to improve our existing transfer pipelines between Southampton West and Rural WRZs by replacing valves and making the transfer bi-directional.

Even with the above measures in place, our supplies to customers will remain threatened during the AMP7 period, and into AMP8 until sufficient alternative long term supplies are delivered. On the basis of the environmental conditions we expect to encounter before 2027, we have forecast a need to implement temporary use bans in Hampshire, and to apply for **Drought Permits and Orders** under the Interim abstraction scheme from the s20 agreement. In all but our least challenging future, we forecast that we may need to apply for Drought Permit / Order at the Test surface water abstraction (in drought, severe drought and extreme droughts), in relation to a groundwater source in the Candover valley (in severe and extreme droughts), and Lower Itchen groundwater and surface water abstractions (in severe and extreme droughts) in order to protect supplies to customers. Under the terms of our s20 agreement with the Environment Agency, monitoring, mitigation and compensatory measures are being implemented to address the potential impact from reliance on these Drought Permits and Drought Orders with many measures being implemented irrespective of any actual applications for the Drought Permits and Drought Orders. More detail on the interim abstraction scheme can be found in revised draft WRMP Annex 3 and our revised draft Drought Plan.

During the early part of **AMP8 (2025-2030)** we plan to continue to implement our **leakage reduction** and **Target 100** measures to reduce demand. In this period we forecast we may continue to need to apply for **Drought Permits and Orders** under the interim abstraction scheme. We forecast that we may need to apply for a Drought Permit / Order at the Test surface water abstraction, in relation to a groundwater source in the Candover valley, and Lower Itchen groundwater and surface water abstractions (all in severe and extreme droughts) in order to protect supplies to customers.

By the **latter part of AMP8** we will need to have delivered significant additional measures to maintain our supply demand balance, and to minimise the threat to supplies in the face of both the licence changes to the Lower Itchen, Test and Candover already agreed, and as a result of the potential additional sustainability reductions that may be implemented by this AMP period. The significance of 2027 is in respect of statutory deadlines for measures required by the Water Framework Directive to be implemented.

We will continue to implement our **leakage reduction** and **Target 100** measures to reduce demand. We plan to also introduce **catchment management and infrastructure solutions** to remove nitrates at our Chilbolton and Winchester sources, to increase their reliability and resilience and to safeguard supplies to customers. We will also have delivered ‘in river’ restoration measures to increase environmental resilience in the Upper Test and Itchen.

We will have planned and developed large scale new pipeline transfers within our own supply areas in AMP8, to increase the connectivity between our WRZs so that we can more easily move water from an area potentially in surplus (or where a large scale new resource is planned) to other WRZs. Our plans include developing the **Southampton Link main scheme** (from Southampton West to Southampton East), as a bi-directional transfer. We will also have delivered our planned **water**

transfer grid between the Southampton East, Winchester, and Andover WRZs, again as a bi-directional transfer. These schemes will provide better connectivity between our existing supplies, enabling us to transfer water in both directions. We will also deliver **an asset enhancement scheme at a source south of Newbury** which will increase the resilience of the Hampshire Kingsclere WRZ.

The larger resource schemes that we will plan, develop and deliver over this period include an **indirect potable water re-use scheme on the Isle of Wight, at Sandown** (8.5Ml/d) to provide more secure supplies to customers. We will also need to secure an **additional large scale transfer of water from Portsmouth Water company** (21Ml/d), in excess of that which can be transferred through existing pipelines. This scale of supply means that Portsmouth Water would need to develop its Havant Thicket Reservoir, to ensure its customers' own supplies are protected. We may be unlikely to be able to secure any significant transfer from Portsmouth Water until the new reservoir is at least partly operational, although we will work closely with Portsmouth Water to develop the additional resources it needs. This places some risks and uncertainty around the timing of the water becoming available for our use, as Portsmouth Water is indicating its Havant Thicket scheme may not be fully operational until 2029. In the event that any significant transfer cannot take place until 2029 we may have to continue to rely on the interim abstraction scheme until then. This is permitted under the s20 agreement but it is still our intention to reduce reliance on the interim abstraction scheme by 2027 and our continued support to Portsmouth Water on this project will still aim to secure that if possible. Although we have had to plan for this eventuality in this WRMP, the need to rely on drought permits and drought orders past 2027 will be commensurate with what schemes are operational (and to what degree) at that time.

We will also have delivered a **new pipeline transfer of water from Bournemouth to Southampton West**, of up to 20Ml/d. Our current plans are that this would be through a new pipeline routed around the New Forest, although there may be potential for existing transfer pipelines to be used (see 'delivering our strategy' below) in combination with other sources.

The final, and largest element of our preferred strategy is a **large desalination plant on the Solent**, designed to utilise the existing outfall infrastructure that was associated with a former power station. We anticipate that this could be required to be up to 75 Ml/d in scale when in full operation, although modular construction could be utilised for this scheme and this has been considered within the real options and futures approach. At other times, the desalination plant would need to operate continuously at a lower level, which would provide approximately 25 Ml/d to provide supply to the local area. Large new pipelines would be required with the desalination plant. There is the potential that the scale of the desalination plant could be reduced if we were to develop a water re-use scheme to transfer highly treated wastewater to increase flows in the Lower Itchen.

With all of the above measures in place, **Drought Permits / Orders** may still be required for the Test surface water source but in an extreme drought event only.

This is a significant amount of new infrastructure required in AMP8 (2025-2030), and we will need to thoroughly investigate and prepare applications for planning and other consents for these schemes over the next few years in AMP7. We have set out in sections below our delivery actions to achieve this.

Looking further ahead to the medium term **(AMP9-11, or 2030-2045)**, the degree of uncertainty in our forecasts increases and we will review these uncertainties in our next WRMP planned for 2023, and re-assess the need for further water resources and demand management measures to be implemented at that time. Our medium range forecasts at the current time for the Western area identify that only limited additional measures are likely to be required, following the significant infrastructure investment and delivery in earlier AMPs. We plan to continue to implement our **leakage reduction** and **Target 100** measures to reduce demand in the 2030-2045 period. The risk

of us needing to rely on Drought Permits or Orders for the Test surface water source is then limited to the more challenging futures, and then only in extreme events. No other measures are currently identified as being necessary.

Our longer term forecasts at the current time identify that in the **AMP12-16 or 2045-2070** period we would be likely to need limited further schemes to meet the supply demand balance. At the current time, these are indicatively identified as continuing to implement our **leakage reduction** and **Target 100** measures to reduce demand, and under the most challenging future we would also need to **rehabilitate a borehole near Cowes** on the Isle of Wight, and to implement an **industrial water reuse scheme** on the Test Estuary. Our re-assessment of the medium and longer term options in the next WRMP will include considering whether other potential schemes may be preferable in environmental, social or economic terms (and we are already actively developing a Natural Capital type approach and concept of "Environmental net gain" to address the specific challenges and identify benefits for future water resources planning). Other options include long distance pipeline transfers, desalination plants, and more intensive (and more expensive) water efficiency or leakage reduction measures.

8.2.4 How our revised draft WRMP Strategy for the Western area differs from the draft WRMP Strategy

This revised plan differs from the draft strategy in the following ways:

- We have committed to a significant additional leakage reduction
- We have provided further explanation of our Target 100 initiative
- The 20Ml/d bulk supply from Bournemouth is implemented earlier in 2027.
- There are minor date changes for the two additional imports from Portsmouth Water. The critical change is related to a potential delay until 2029 (from previously assumed 2027 availability) for the 21Ml/d import based on current timescales for Havant Thicket reservoir to be fully operational.
- The scale of the Fawley desalination scheme is smaller at 75Ml/d in the revised plan (rather than 100Ml/d). This is driven, in part by the acceptance of the Test drought permit in 2027 and 2028, to reduce the size of the scheme before Havant Thicket reservoir comes on line.
- The Western Yar desalination scheme is not required (it was only selected in 2045-49 in one branch previously).
- A reversible link between Hampshire Southampton West and Hampshire Rural WRZs is selected in 2024. This further improves on the strategy of a Hampshire grid that was introduced in the draft plan and is maintained in this revised plan. In addition, the Southampton link main (between Hampshire Southampton West and Hampshire Southampton East WRZs) has been made reversible to improve connectivity and resilience, adding further to the Hampshire grid concept.
- The Newbury WSW asset enhancement scheme is required earlier in 2027.
- There are new options for in-stream catchment management of the Test and Itchen, and pesticide schemes for the Test and Sandown.
- The Test Estuary WTW industrial water reuse scheme is not required in AMP7 now – it is only selected at the end of the planning period.
- The Lower Test valley reservoir scheme is not required in the revised plan (but will be explored as a potential alternative)

8.3 Changes to our preferred strategy for the Central area

8.3.1 Context

Our draft WRMP strategy for the Central area included proposals for leakage reduction and demand management measures, the development of a shared new non direct potable water reuse resource with South East Water, together with up to two desalination plants, a storage reservoir, and other measures. Since the draft WRMP was prepared, we have undertaken additional technical work and updated our modelling to reflect this. This has also taken into account updated information from our neighbouring water companies on their future needs. As a result of this, South East Water has indicated that it no longer needs some of the supplies that we had anticipated providing to it in the future, and so the number and nature of the schemes in our preferred strategy has changed in the revised draft WRMP.

We have also included the need for alternatives strategies. In order to demonstrate confidence in delivering a long term scheme, given the inherent uncertainties and potential delays that are possible in securing and implementing any complex infrastructure project, we will in the short term concurrently develop alternatives strategies as required. We consider the progression of alternative strategies to be the most responsible course of action, both in terms of mitigating what could otherwise result in a threat to supply if sustainability reductions take place in this area and in giving public reassurance that action must and will be taken.

All of the schemes in both the preferred strategy and the alternative strategy derive from the feasible options in the draft WRMP.

8.3.2 What are the key drivers for our strategy for the Central area?

At the start of the planning period, there are large initial deficits in the Sussex North WRZ in severe and extreme drought conditions. The Sussex Brighton WRZ has a small initial deficit in extreme drought conditions and in the MDO state for the severe drought condition. Conversely, the Sussex Worthing WRZ has an initial surplus and whilst it is able to support both Sussex North and Sussex Brighton through existing transfers, there is insufficient surplus to allow it to remove the deficits in these WRZs.

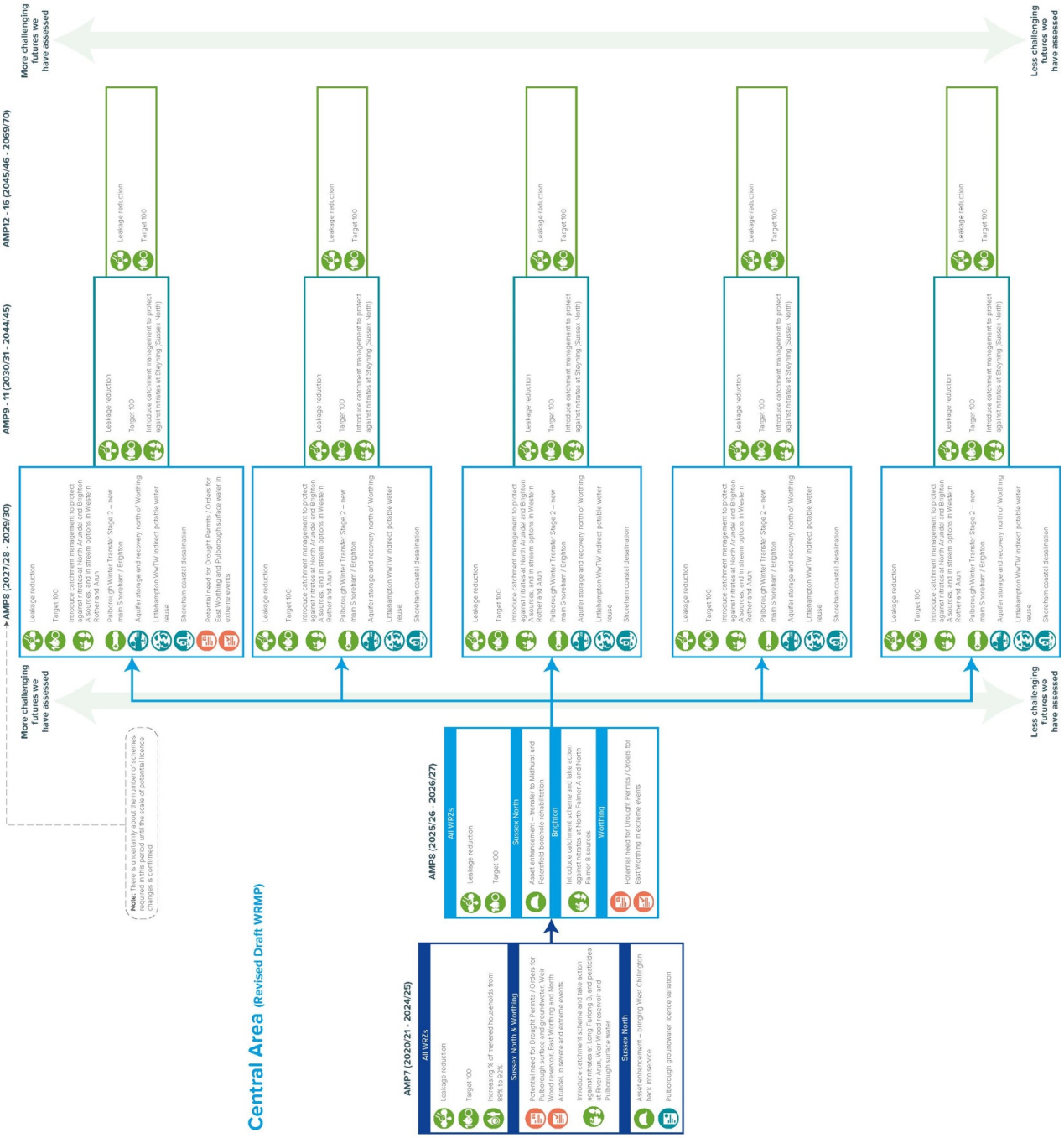
The key factor driving the strategy for the Central area is the potential for significant, but as yet unconfirmed sustainability reductions (licence changes). These sustainability reductions will be confirmed by the Environment Agency following the conclusion of the investigations we are proposing to undertake early in the AMP7 period (by 2022/23). If licence changes are confirmed, then significant new infrastructure will be required to provide new water resources to offset the water that is effectively “lost”.

8.3.3 Our Strategy for the Central area

The strategy for the Central area is summarised in Figure 8.2 overleaf, with detailed information set out in Annex 10. Our potential investment in water supplies in our Central area over the next 50 years is around £500m, expressed in current values.

As noted above, there is the potential for a number of sustainability reductions to lead to licence changes at our existing sources within the AMP8 period (2025-2030), notably in 2027 and influenced by the next statutory deadlines under the Water Framework Directive. The strategy for the Central supply area is dominated by the likelihood of future sustainability reductions, the full extent of which remains uncertain at this time. We will need to investigate the extent of any sustainability reductions,

Figure 8.2: Diagrammatic representation of Central area strategy



and the feasibility / design of the potential solutions to resolve any deficits caused by those reductions, at the same time.

As with the Western area, it will be necessary for detailed engineering and environmental assessments to be undertaken and for planning and other consents to be secured and for the schemes to be constructed and commissioned. The timings within the WRMP are our best estimates for delivery at this point in time, but may be updated to reflect further investigations and the outcomes of public consultation in the final WRMP.

Our detailed plans include the following schemes that potentially need to be developed depending on the future sustainability reductions.

In our Central area during **AMP7 (2020-2025)** we propose to start implementing additional **leakage reduction** within all WRZs. Alongside this, we plan to **increase the percentage of metered households** in the Central area, as part of our overall aim to increase metering from the current figure of 88% up to 92%. We will increase the frequency of meter readings for all households in the Central area, and implement our media and education campaign as the first part of our **Target 100** vision, to decrease the demand for water in the Central area.

We plan to introduce **catchment management and infrastructure solutions** to address rising nitrates and increase resilience at our Long Furlong B source, and for pesticides at our River Arun, Weir Wood reservoir, and Pulborough surface water sources. These will increase the reliability and resilience of these sources, to safeguard supplies to customers. We also plan to improve our existing infrastructure to **bring the West Chiltington source back into service**. And to apply for a **licence variation at our Pulborough groundwater source**. Despite these measures, there remains a risk that we might need to apply for **Drought Permits or Orders** in severe or extreme droughts for our Pulborough surface and groundwater sources, Weir Wood reservoir, East Worthing and North Arundel sources in AMP7. Further detail can be found in our draft Drought Plan.

During the early part of AMP8 (2025-2030) we plan to continue to implement our **leakage reduction** and **Target 100 measures** to reduce demand. We will **improve treatment and/or rehabilitate a borehole at Petersfield**, and implement **catchment management and infrastructure solutions** against nitrates at the North Falmer A and B sources. There remains a potential need for a **Drought Permit / Order** in extreme droughts for our East Worthing source during this period.

Beyond this, our proposals are directly linked to the scale of potential sustainability reductions, anticipated **in 2027**. The modelling undertaken for the draft WRMP indicates that then, under any of the potential futures, we need to investigate in AMP7 and then build in AMP8, a number of major schemes to balance supply and demand in response to the potential deficit created by sustainability reductions. This is despite our continued investments in **leakage reduction** and **Target 100**, and **catchment management and infrastructure solutions** against nitrates at our North Arundel and Brighton A sources and **in-stream options in the Western Rother and Arun**.

The anticipated larger scale schemes that may be required to be delivered in 2027 include both an **indirect potable water re-use schemes from Littlehampton WwTW**, and an **aquifer storage and recovery scheme north of Worthing**. The strategies also include a potential **desalination plant at Shoreham**. There would be long distance below ground pipelines associated with a number of these options, including pipelines in the South Downs National Park, and we would also undertake **improvements to our existing mains between Shoreham and Brighton**. With these schemes in place we forecast that we would only need to rely on a **Drought Permit / Order** for our East Worthing and Pulborough surface water sources in an extreme event.

This is a significant amount of new infrastructure potentially required in AMP8 (2025-2030), and we will need to thoroughly investigate and prepare applications for planning and other consents for these schemes over the next few years. This includes having regard to environmental considerations. We will time that work, such that as soon as the extent of sustainability reductions become clearer post 2020, we are already in a good position to proceed to build those schemes that are necessary as a result.

Looking further ahead to the medium term (**AMP9-11, or 2030-2045**), the degree of uncertainty in our forecasts increases and we will review these uncertainties in our next WRMP planned for 2023, and re-assess the need for further water resources and demand management measures to be implemented at that time. Our medium range forecasts at the current time, however, are identifying that in the 2030-2045 period we would be likely to need only limited further schemes to meet the supply demand balance. We would continue to implement our **leakage reduction** and **Target 100** measures to reduce demand. The only additional scheme currently anticipated would be to implement **catchment management and infrastructure solutions** against nitrates at our Steyning source.

Our longer term forecasts at the current time identify that in the **AMP12-16 or 2045-2070 period** we would again only be likely to need limited further schemes to meet the supply demand balance. At the current time, this includes leakage reduction and our Target 100 measures.

Our re-assessment of the medium and longer term options in the next WRMP will include considering whether other potential schemes may be preferable in environmental, social or economic terms, (and we are already actively developing a natural capital type approach to address the specific challenges and identify benefits for future water resources planning). Other options including long distance pipeline transfers, desalination plants, and more intensive (and more expensive) water efficiency or leakage reduction measures.

8.3.4 How our revised draft WRMP strategy for the Central area differs from the draft WRMP Strategy

This revised plan differs from the draft strategy in the following ways:

- We have committed to a significant additional leakage reduction
- We have included additional commitments as part of our Target 100 policy
- There is no selection of metering to 100% in the Sussex North WRZ in the revised plan, but increasing metering to 92% of properties remains in the plan.
- In the draft plan the 10Ml/d Tidal River Arun desalination scheme was selected in addition to 10Ml/d Shoreham desalination scheme; whereas for this revised plan, only one of these is required. The preference is for that desalination to be at Shoreham rather than on the River Arun.
- The Brighton WTW water reuse scheme (jointly developed with South East Water) was not needed by either company for the revised plan.
- There is a new option for a licence variation at Pulborough groundwater, that was not available for the draft plan.
- Minor changes to the start year of the asset enhancement schemes
- There are fewer nitrate catchment management schemes than in the draft plan, and there is a new option for an in-stream solution on the Arun / Western Rother that was not available for the draft plan.

8.4 Changes to our preferred strategy for the Eastern area

8.4.1 Context

Our draft WRMP strategy for the Eastern area included proposals for leakage reduction and demand management measures, the development of a shared new water resource with South East Water, and increasing the water level in Bewl reservoir, amongst other measures.

Since the draft WRMP was prepared, we have undertaken additional technical work and updated our modelling to reflect this. This has also taken into account updated information from our neighbouring water companies on their future needs. As a result of this, South East Water has indicated that it no longer needs some of the supplies that we had anticipated providing to it in the future, and so the number and nature of the schemes in our preferred strategy has changed in the revised draft WRMP.

All of the schemes in both the preferred strategy and the alternative strategy derive from the feasible options in the draft WRMP.

8.4.2 What are the key drivers for our Strategy for the Eastern area?

At the start of our planning period in the DYAA scenario there are deficits in a number of our WRZs in the severe and extreme drought conditions, and small deficits or surpluses in the critical period. We are a net supplier of water to our neighbours in the Eastern area, which creates further potential deficits or reduces the surpluses available. A large number of sources, particularly in the Kent Thanet WRZ, are identified as facing risks from nitrates, which will reduce the water available from the start of AMP8 (2025), and there is also the risk that some of our licences may need to be changed to provide further protection of the environment by way of sustainability reductions.

8.4.3 Our Strategy for the Eastern area

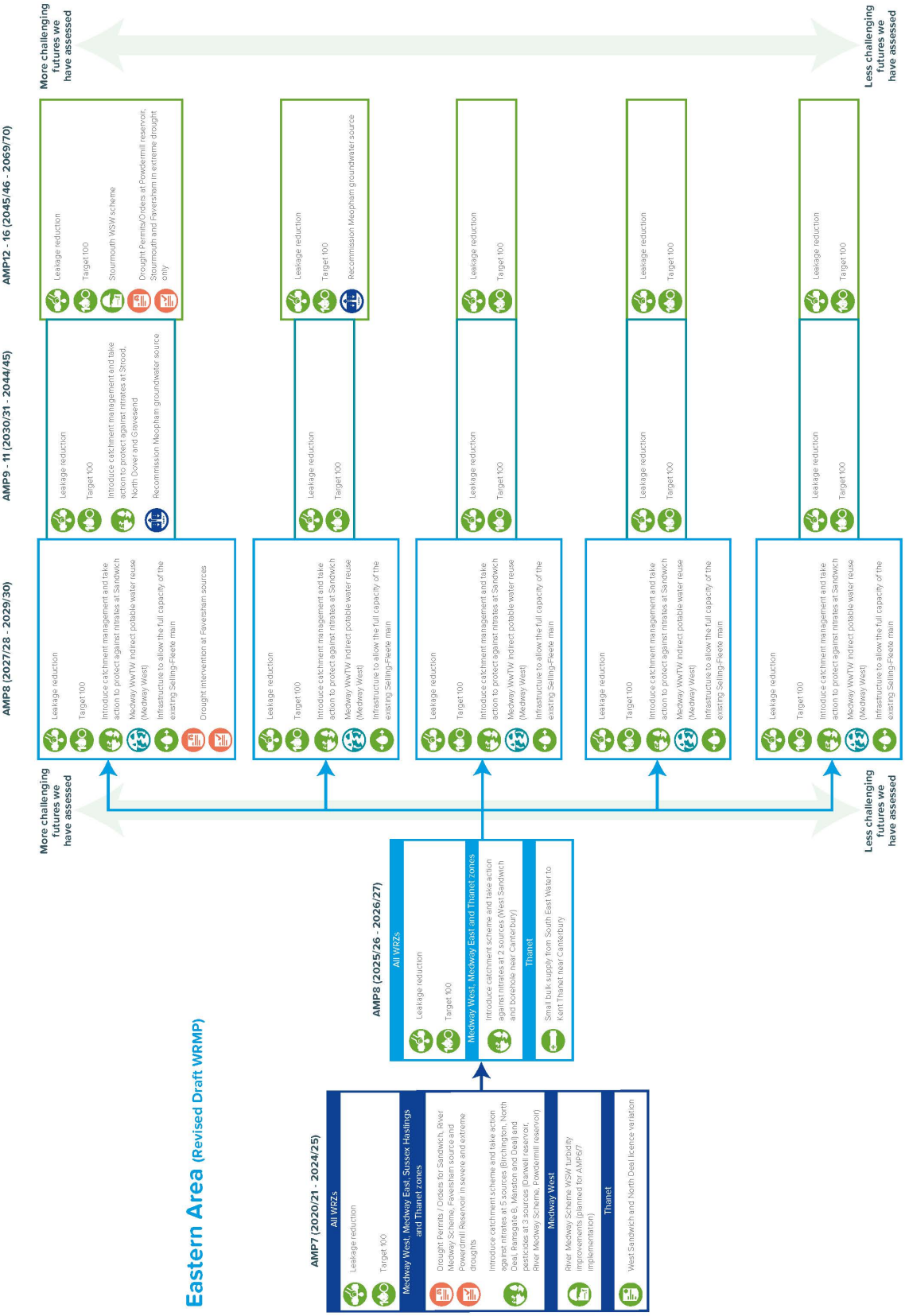
The strategy for the Eastern area is set out in Figure 8.3 overleaf, with detailed information set out in Annex 11 of the revised draft WRMP. Our potential investment in water supplies in our Eastern area over the next 50 years is around £285m, expressed in current values.

Our proposed strategy is to implement a series of demand management and leakage reduction measures in the short term whilst we undertake detailed engineering and environmental assessments to enable us to secure consents for our resource options. Those assessments will be undertaken alongside work with the Environment Agency to explore the extent of potential sustainability reductions in more detail. Post 2020 we will be more certain on the scale of future licence changes we will face, and be in a position to apply for planning and other consents to be secured and for necessary schemes to be constructed and commissioned. The timings within the revised draft WRMP are our best estimates for delivery at this point in time, but may be updated to reflect further investigations and the outcomes of public consultation in the final WRMP.

In our Eastern area **during AMP7 (2020-2025)** we propose to start implementing additional **leakage reduction** within all our WRZs. Alongside this, we plan to implement our media and education campaign as the first part of our **Target 100** vision, to work with our customers to increase water efficiency and to reduce domestic demand. The combination of reduced demand and leakage reduction will accommodate planned growth within the Eastern area.

We have a number of sources within the Eastern area that are more prone to experience water quality issues which can risk their reliability and resilience. We plan to implement **catchment management and infrastructure solutions** to address rising nitrates and improve resilience at five

Figure 8.3: Diagrammatic representation of Eastern area strategy



of these sources within AMP7 (Birchington, Deal, Manston, North Deal, and Ramsgate B) and to tackle pesticides and improve resilience at a further 3 sources (Darwell reservoir, River Medway Scheme, and Powdermill reservoir), to safeguard supplies to customers. We plan to apply to **vary two existing abstraction licences** to improve the reliability of the supplies from the sources at West Sandwich and North Deal. We will also make **asset enhancements** at the River Medway Scheme Water Supply Works (WSW) to safeguard against water quality issues (this scheme may be capable of delivery earlier than planned).

With these measures in place during AMP7, we believe that our supplies will be resilient to all but severe or extreme droughts, and so we would only very rarely need to apply for Drought Permits or Orders at our Sandwich, Faversham, River Medway Scheme and Powerdmill reservoir sources. Further detail can be found in our revised draft Drought Plan.

During the early part of **AMP8 (2025-2030)** we will continue to implement our **leakage reduction** and **Target 100 water efficiency and demand management measures**. Other schemes that we plan to implement early in AMP8 are to deliver a new pipeline import of water from South East Water near Canterbury, and to implement **catchment management and infrastructure solutions** to address rising nitrates and improve resilience at two sources to safeguard supplies to customers. With these schemes in place we do not expect to need to apply for Drought Permits or Orders.

Later in AMP8, our forecasts show that there is the potential for a number of sustainability reductions (licence changes) at our existing sources, notably in 2027 as influenced by the next statutory deadline under the Water Framework Directive. Although we will continue with our **leakage reduction** and **Target 100** measures, we will need to implement other schemes in order to safeguard supplies to customers and protect the environment. A further **catchment management and infrastructure** solution to protect against nitrates at Sandwich will be required. We also plan to investigate and then build new below ground infrastructure to enable us to make better use of the existing **Selling-Fleete transfer** between our WRZs. The largest of our schemes in this period will be the **indirect potable water re-use scheme** on the River Medway. We will need to undertake investigations of both the Selling-Fleete transfer and the Medway indirect potable water re-use scheme within AMP7, including applying for planning and other consents, so that they can be constructed in AMP8. With these schemes in place we only expect to need to apply for Drought Permits or Orders at Faversham in extreme droughts in our most challenging future.

Looking further ahead to the medium term (**AMP9-11, or 2030-2045**), the degree of uncertainty in our forecasts. We will review these uncertainties in our next WRMP planned for 2023, and re-assess the need for further water resources and demand management measures to be implemented at that time. We are committed to continuing with our **leakage reduction and Target 100** initiatives during the AMP9-11 period, to deliver further reductions in demand. Beyond this, our current medium range forecasts identify that we would only be likely to need to implement further schemes to balance supply and demand under the most challenging futures. These are currently identified as being additional **catchment management and infrastructure solutions** to protect against nitrates at up to three sources (Strood, North Dover and Gravesend), and works to **recommission the Meopham groundwater source**.

Our longer term forecasts at the current time identify that in the **AMP12-16, or 2045-2070 period** we would be likely to need further schemes to meet the supply demand balance, albeit of limited scale. These longer term forecasts will be reworked for future WRMPs, but at the current time, these indicate that we would continue with **leakage reduction** and **Target 100 initiatives** to fully implement our commitments. Beyond this, only under the more challenging futures would we need additional schemes, including the **Stourmouth WSW scheme** and recommissioning the **Meopham groundwater source** (if not implemented earlier). Under the most challenging future we may need

to rely on Drought Permits/Orders at Powdermill reservoir, Stourmouth, and Faversham, in extreme drought events. Further detail is available in our revised draft Drought Plan.

Our re-assessment of the medium and longer term options in the next WRMP will include considering whether other potential schemes may be preferable in environmental, social or economic terms (and we are already actively developing a natural capital type approach to address the specific challenges and identify benefits for future water resources planning). Other options including long distance pipeline transfers from other water companies, desalination plants, non-direct potable water re-use, and more intensive (and more expensive) water efficiency or leakage reduction measures.

8.4.4 How our revised draft WRMP Strategy for the Eastern area differs from the draft WRMP Strategy

This revised plan differs from the draft strategy in the following ways:

- We have committed to a significant additional leakage reduction
- We have included additional commitments as part of our Target 100 policy
- An increased export from Bewl to South East Water has been included until 2022/23. This was not requested at the time of publication of the draft WRMP.
- A West Sandwich & Sandwich WSW licence variation is now proposed from 2021 in the revised draft WRMP, whereas in the draft WRMP it was not needed until 2028, and then only in more challenging futures;
- The scheme to recommission Meopham Greensand groundwater source is not needed until later than was indicated in the draft WRMP, and only in more challenging futures;
- The pesticide catchment management schemes are all implemented in 2024 in the revised plan, and the nitrate schemes have been revised in this plan;
- Raising Bewl Reservoir by 0.4m was selected in the draft plan in 2029, but is no longer required in this revised plan;
- Medway desalination was selected in one branch in the draft strategy but is no longer required in this revised plan;
- Sandwich WTW water reuse scheme had been needed in more challenging futures in the draft plan, but is no longer required in the revised plan;
- Sittingbourne Industrial Water Reuse was selected in the draft plan in 2045-49, but it is no longer required in the revised preferred plan (it will however be assessed as a potential alternative scheme).

8.5 Changes to our WRMP Annexes

We have made a number of changes to our detailed WRMP Annexes in response to the comments we have received, and new and updated information and technical work undertaken. This includes the incorporation of our commitments (set out in Section 3 of this document).

The following sections provide a brief summary of the changes. Further information is provided in SOR Appendix 8, and is set out in each of the revised draft WRMP Annexes.

8.5.1 Revised draft WRMP Annex 1 – Pre-consultation and problem characterisation

We have included additional information on customer and stakeholder preferences for levels of service; better signposting throughout the Annex; and included additional information and justification in response to comments from our Regulators. We have also ensured that the levels of service are consistent with the commitments given in the s20 agreement relating to the Western area.

8.5.2 Revised draft WRMP Annex 2 – Demand Forecast

The base year for our demand forecasts has been updated to 2017-18, with corresponding changes throughout the Annex. We have included significant additional explanation and information in response to comments from the Environment Agency, and Ofwat, including in relation to our water efficiency and demand management measures, and provided more detailed breakdowns between measured and unmeasured households. We have also updated our forecasts to reflect leakage reduction proposals and greater details of our Target 100 initiative.

8.5.3 Revised draft WRMP Annex 3 – Supply Forecast

As with our demand forecast, we have included significant additional explanation and information in response to comments from the Environment Agency, and Ofwat. We have also updated the supply forecast to reflect the known and forecast sustainability reductions / licence changes that we expect to face, and to incorporate the details of environmental investigations we will be undertaking during the early part of AMP7 (2020-2025).

8.5.4 Revised draft WRMP Annex 4 – Environmental Forecast

We have included cross references to new and updated information in other related Annexes, and to refer to new population forecast data.

8.5.5 Revised draft WRMP Annex 5 – Baseline Supply Demand balance

This Annex has been updated to reflect the changes to Annexes 2 and 3, and the resultant updates to the supply demand balance. We have also included additional information and explanation of our approaches in response to comments from the Environment Agency.

8.5.6 Revised draft WRMP Annex 6 – Options Appraisal

We have updated Annex 6 to reflect new information and assessments of our feasible options since the draft WRMP publication, and to incorporate and respond to detailed comments on our options from the Environment Agency, Natural England and other respondents. The Annex has also been updated to reflect new information from other water companies on the potential for shared resources.

8.5.7 Revised draft WRMP Annex 7 – Summary of rejected options

Annex 7 has been updated to provide more explanation of the reasons why options were rejected through the process of our options appraisal. We have also expanded the list of rejected options to reflect comments on the draft WRMP, where previously feasible options are no longer considered to be feasible and so have been rejected.

8.5.8 Revised draft WRMP Annex 8 – WRMP Strategy preparation

We have updated Annex 8 to provide a clearer explanation of the WRMP process, and the modelling and other techniques we have used to develop our preferred strategies.

8.5.9 Revised draft WRMP Annexes 9 to 11 – Preferred Strategies

The changes to Annexes 9 to 11 (our preferred strategies for the Western, Central and Eastern areas) have been described in sections 8.2, 8.3 and 8.4 above respectively. Appendix 8 to this SOR sets out a summary table of the sections of Annexes 9 to 11 that have been changed for the revised draft WRMP.

8.5.10 Revised draft WRMP Annex 13 – EA Checklist

The EA checklist has been updated to reflect the additional and new information included within the revised draft WRMP.

8.5.11 Revised draft WRMP Annex 14 (SEA), Annex 15 (HRA) and Annex 16 (WFD)

We have made significant updates to each of these annexes to respond to the comments on our draft WRMP from the Environment Agency, Natural England and other stakeholders. We have reviewed and updated our assessments to reflect advice received, and to incorporate new and updated information. The outcomes of our updated assessments have been set out within the Annexes.

9. Next steps

This Statement of Response has been prepared in accordance with Regulation 4 of the Water Resources Management Plan Regulations 2007 (as amended). The document provides sufficient information to enable the reader to determine the nature of the changes made to the draft WRMP, as a result of the representations received. It is important that reference is made to the revised draft WRMP that has been submitted to Defra alongside the SOR document. The revised draft WRMP identifies the changes that we have made to the WRMP in full.

The final WRMP will only be published following Defra's consideration of this Statement of Response, following any Hearing or Inquiry that Defra might consider needs to be held into the draft WRMP, and following any Direction(s) that Defra may make on changes required to be made to the WRMP.

Once published, the WRMP will direct all of our water resource planning until it is updated again in five years.