



Futureproofing our water supplies

SUMMARY OF OUR
REVISED DRAFT PLAN
FOR SOUTH EAST
ENGLAND

AUGUST 2023





Welcome to our revised draft regional plan for South East England

The publication of our revised draft plan, that sets out the actions and investment needed to secure an additional 2.7 billion litres of water per day by 2075, is a critical step in securing resilient and sustainable water supplies for South East England – an area that is already water stressed, facing rising demand for water and feeling the impact of climate change.

The revisions made reflect our comprehensive customer consultation, new government policy and changes to some schemes, all of which have been considered and incorporated into our modelling process. By far the most significant change within the plan is a greater emphasis on demand management over the next 10 years, enabling us to meet the requirements of the Government's Environmental Improvement Plan (EIP). Published in January 2023, this set additional requirements and interim targets for water companies to meet for per capita consumption, leakage, and non-household water use.

Together with the WRSE water companies, we have doubled the total number of demand management schemes from 2,000 to 4,000 across the region so a further 600 million litres of water will be made available by tackling leakage and reducing demand. Achieving this is not certain and will require significant water company investment and a transformation in how companies work with customers to help them reduce their water use. Moreover, it also relies on government introducing new water-efficient policies earlier than we originally proposed, with our analysis showing that government interventions could provide an extra 300 million litres of water per day. Failure to deliver these new water efficient policies could add around £2 billion to the total cost of the plan and will threaten the resilience of our water supplies.

Our revised plan also presents some changes to the schemes that are needed to provide new water supplies but reinforces the role that some key strategic resources play in providing water to customers of multiple companies through an enhanced transfer network. Research carried out with water customers from across the region shows support for this approach with recognition of the greater level of resilience it brings.

We recognise the cost of living crisis brings with it a temptation to defer measures to reduce bill impacts, but our modelling shows the cost of inaction is far greater than delivering this plan. We look forward to the plan being finalised and approved by government and regulators in the months ahead. The challenge then is to turn this plan into reality as we must not let an already serious challenge become greater as we seek to ensure we all have access to safe and secure water supplies both now and for generations to come.

Chris Murray MBE

Independent Chair
Water Resources South East

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Introduction

Water Resources South East (WRSE) is an alliance of the six water companies that supply drinking water across South East England.

We are working collaboratively with government, regulators, and stakeholders to develop a regional plan that addresses the climate and environmental emergency facing our water environment and to secure the region's future water supplies.

WRSE is made up of the following 6 water companies in South East England.

AffinityWater



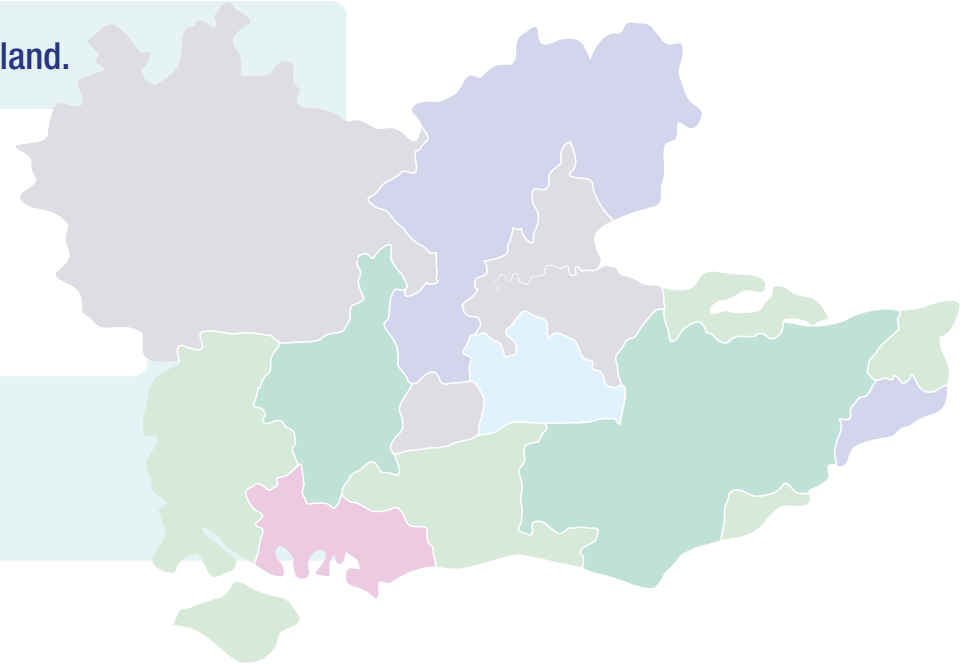
south east water



Together we supply **6 billion litres** of water each day.

We're planning **50 years** ahead to provide enough water for the future through a regional plan.

We're also planning for the needs of other sectors such as agriculture, industry and power.



This document

This document summarises:

- the responses we received during our consultation on our **draft best value regional plan (referred to as “the/our plan” throughout the rest of this document)**
- The revisions we have made to the plan before it is submitted to regulators and government (as a revised draft plan) in August 2023. These changes are driven by a number of factors, including:
 - Consultation comments and feedback from customers, stakeholders, and regulators
 - New government policies set out in the Environmental Improvement Plan published in January 2023 that set out national targets for reducing leakage and household and business water consumption
 - Changes made to the way future water supplies are planned (the Water Resources Planning Guideline published by the Environment Agency, Natural Resources Wales and Ofwat)
- Updated data on how much it will cost to implement the solutions in our plan and when they can be delivered
- Latest information and decisions from the regulator-led investigations into Strategic Resource Options (SROs).

On the following pages we summarise each of these factors before later explaining how they have changed our plan, which we have submitted to government and our regulators.

Engagement and consultation

In preparing our plan, we wanted to make sure that it was developed collaboratively with customers, stakeholders, and regulators.

We took a two-pronged approach to make sure this happened:

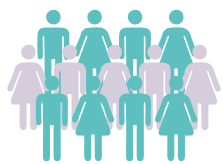
- 1 We designed a broad and wide-reaching engagement and consultation programme that provided a range of opportunities for everyone with a vested interest in the region's water supplies to shape the plan. This included:
 - specific consultation webinars on the technical methods we would use to prepare the plan, growth forecasts, environmental ambition and the range of supply and demand options included in our plan
 - widespread consultation on the emerging plan to ensure that customers, stakeholders and regulators could comment on it at an early stage.

- 2 We carried out extensive research with customers and businesses across two phases:
 - first via focus groups and an online survey to understand customers' priorities and their preferences for how best to secure water supplies; and
 - secondly, to test their views on the plan against some feasible alternatives – and crucially the bill impact of the plan and any alternatives.

Draft regional plan consultation

The formal consultation on our draft regional plan ran from 14 November 2022 to 20 February 2023. Below is a summary of the consultation activity we carried out and the responses we received.

About our consultation



We received over **900** responses



We responded to over **100** questions throughout the consultation



Our films were watched over **520** times



Our documents were downloaded more than **3,300** times



236 people joined our webinars



Our consultation webpage was visited more than **5,200** times

Who else responded



28 local government organisations



9 businesses or trade associations



10 community and campaign groups



18 environmental organisations



4 governing bodies / regulators



7 parish councils

How stakeholders responded

Other written responses **608**



Online or questionnaire responses **293**



The majority of the consultation responses we received focussed on four key areas:



1 New water resource options



2 Leakage and water efficiency



3 Population/household and climate change forecasts



4 Reducing abstractions from the environment



New water resource options

There was both support or opposition for some of the new water resource options proposed in the draft plan, including:

- South East Strategic Reservoir Option (SESRO) – this new reservoir would store water from the River Thames in Oxfordshire and be able to supply customers, either directly or indirectly, of Thames Water, Affinity Water, Southern Water, Portsmouth Water and South East Water through new transfers
- Hampshire water transfer and water recycling – this scheme would see highly treated wastewater stored in the under-construction Havant Thicket Reservoir, along with the chalk spring water, and transferred via a new pipeline to South Hampshire
- Severn Thames Transfer (STT) – this scheme could support transfers to South East England from the Midlands and the North West via the River Severn and the River Thames. Initially it would transfer water available in the River Severn but would be supplemented with additional sources including water recycling
- Desalination plants – desalination plants in West Sussex, Kent and on the Thames estuary are needed from 2040 onwards
- A new reservoir at Broad Oak in Kent and the use of the Grand Union Canal to transfer water from the Midlands to the South East
- We are aware of stakeholder concerns about the Teddington direct river abstraction scheme but did not receive any direct responses on this.



Leakage and water efficiency

There was support for ambitious leakage reduction but requests to go further and faster, and a desire to see more water efficiency options in the plan too – but with some recognition of the delivery risks associated with these demand management options due to factors beyond the control of water companies such as weather patterns, customer behaviour and government-led demand reduction and policy changes.



Population/household demand and climate change forecasts

These are among the critical inputs that drive the need for additional water but are outside of the control of WRSE and water companies. There were challenges from some stakeholders on how these forecasts have been used to develop our plan.

We accept there are considerable uncertainties when planning water supplies so far ahead, particularly the further into the future these forecasts look. We also recognise the sensitivities that a change in either of these future forecasts can make to our plan – which is why we have used an adaptive planning approach. Our approach uses a broad range of different futures, that reflect the complexity and scale of the future challenges facing the region.

We know there are some stakeholders who fundamentally disagree with the basis for the forecasts we have developed for our plan, believing that some of the worst-case scenarios for population and housing growth specifically “inflate” the requirement for additional water resources.

We disagree that our plan has a disproportionate focus on worst case scenarios. It has considered a wide range of possible scenarios and we remain confident in the robustness of the technical work undertaken and the wide range of forecasts on which our plan is based.

That being said, we have updated the plan with the latest information and we will continue to review forecasts as new information emerges so that stakeholders can have confidence our plan is dealing with the latest, officially produced and recognised data.



Reducing abstractions from the environment

Leaving more water in some water sources by reducing how much is taken by water companies – known as abstraction – is necessary to protect the natural environment but the scale and rate at which this needs to be achieved attracted opposing views. Some respondents expressed a desire to see faster progress in this area, while others challenged the magnitude of potential reductions in some areas of the South East. Our adaptive planning approach considered a range of future abstraction reduction scenarios, and we are working with our regulators and environmental stakeholders to prioritise abstraction reductions across the region. Water company investigations over the coming years will also inform decisions about where, when and by how much abstraction will be reduced by.

Customer research

Alongside our consultation and engagement, we carried out specific customer research on our plan in Spring 2023.

Some 1,300 household and 400 business customers took part in our interactive online survey to help us refine our plan, specifically to understand:

- Customer preferences – by presenting our plan against four feasible alternatives that differ in the mix of new supply schemes and intensity of demand management measures to determine what is their preferred plan; and
- Customer sensitivity to future bill impacts – by understanding at what “price point” customers switch away from their preferred plan(s) to something else.

Figure 1 shows the geographical spread of households and businesses involved in this latest research.

Customer preferences

Overall – without any bill impact factored in – customers told us their most preferred plan is **for a balanced regional plan** i.e., those that feature a mix of strategic resource schemes (such as SESRO) and higher levels of demand management ambition. Both the best value plan and the least cost plan received a high level of support.

Customers also valued the higher level of resilience to unexpected events offered by our plan, as this represented better value for money when compared to less resilient, but more costly, alternatives.

Likewise, all customers recognised the need to reduce demand and see this as an integral part of any plan – but it should not be at any cost. Value for money is important and customers expect their future bills to contribute to enhanced resilience i.e., they accept they are paying for added “insurance” via new strategic resource schemes that secure future water supplies.

Customer sensitivity to bill impacts

Unsurprisingly, customers were sensitive to the level of bill impact when it came to selecting their preferred plan(s). When bills were lower, customers showed greater support for the least cost plan, but as bills increased their preference switched to the best value plan. That’s because the more costly a plan, with more uncertainty about what it would deliver, the less support it achieved. This was particularly the case for the alternative plans that excluded SESRO and which had the lowest level of demand management built in.

Figure 1: Draft plan customer research sample

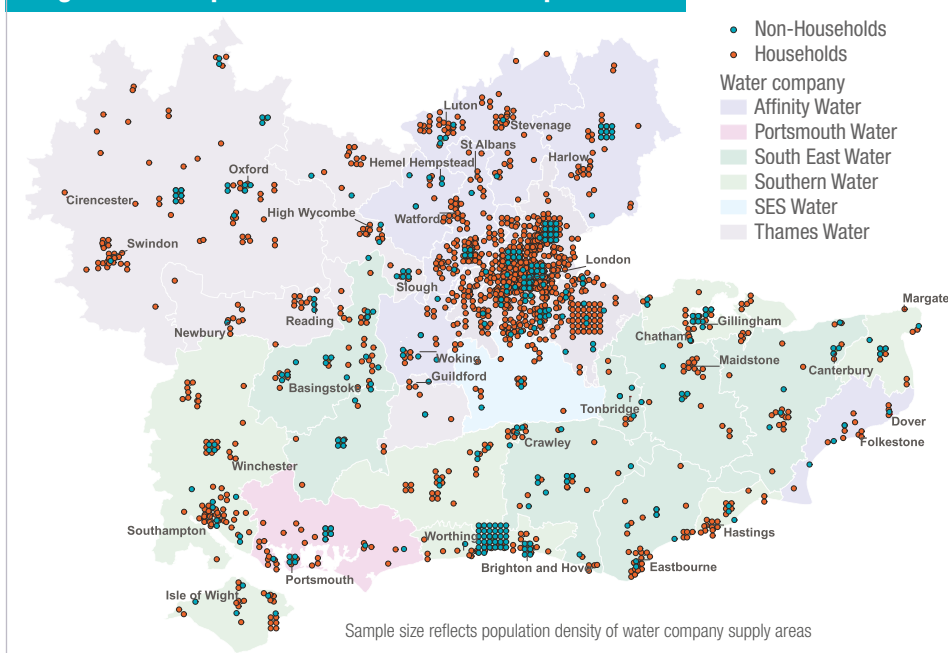


Figure 2: Household customer support versus bill impact

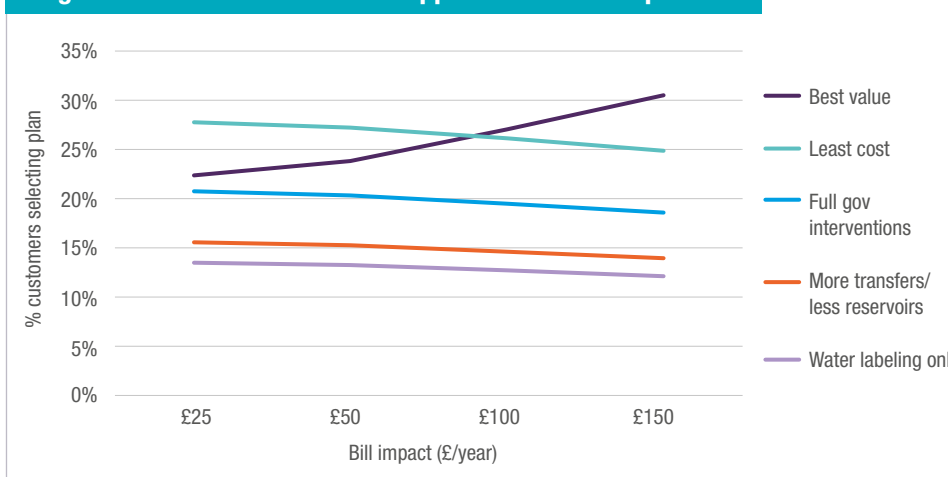


Figure 2 shows the support for the plans at varying bill impacts and reveals that our plan (best value) is still preferred by household customers, even as the potential bill impact increases.

Changes to government policy and regulatory requirements

The Government's Environmental Improvement Plan (EIP) was published in January 2023 and set out additional requirements and interim targets for water companies in three key areas – per capita consumption, leakage, and non-household water use.

Changes have also been made to the Water Resources Planning Guideline, which set out the Government's expectations on how water companies should develop their individual Water Resources Management Plans. These guidelines are published by the Environment Agency, Natural Resources Wales and Ofwat and were originally produced in July 2022 to allow water companies – and regional groups like WRSE – to begin preparing their plans. They were then updated in March 2023.

Per capita consumption

The EIP includes a water use target of 110 litres per person, per day, by 2050. This is supported by a number of interim targets between 2025 and 2050.

Our draft plan had assumed the 110 litres per person per day to be a national target, towards which the WRSE companies would contribute. However, the updated Water Resources Planning Guideline specified this to be a target to be met by each water company. It also required that the target must be achieved under dry year annual average (DYAA) conditions.

Achieving household consumption reductions in a dry year is significantly more challenging than in a normal year as customers typically use more water in hot, dry weather.

Also, the target does not recognise any social, economic or climate differences across the country, presenting a challenge for water companies and all regional groups, including those in the South East where it is typically warmer and drier.

Our plan was reliant on significant water company investment and customers changing their water-using behaviour but, crucially, also required government intervention with new policies to promote the efficient use of water including water labelling, minimum standards for all water using products and water efficient new homes.

In order to achieve the EIP targets, we will rely on government introducing new water efficient policies earlier than we originally proposed. Our analysis shows that introducing minimum standards for all water-using products by 2030, and new building regulations by 2040, theoretically could provide an extra 300 million litres of water per day.

However, not all these current government interventions have been funded or committed to and so there are greater risks attached to a plan which relies on other bodies delivering on their promises – with the consequence of that risk being realised borne by customers (water use restrictions) and the environment (drought permits and orders). Failure to deliver these new water efficient policies could add around £2 billion to the overall cost of the plan.

Leakage

The Government's EIP reaffirmed the long-term target of reducing water company leakage by 50% by 2050, at the latest, which our plan delivered. However, the EIP went further by introducing interim targets for water company leakage – with a requirement to achieve a 20% reduction by March 2027 and a 30% reduction by March 2032.

Customers and stakeholders see leakage as unacceptable and want further and faster action. Some see it as a pre-requisite before new resources are developed.

WRSE and its member water companies are committed to significantly reducing leakage but, as with household consumption, there are delivery risks to this activity – it comes at significant cost, with lengthy and disruptive work required to find the ever-smaller weeps and seeps on such a vast, underground network.

That being said, our plan has now been revised to incorporate these interim targets for leakage.

Non-household water use

The Government's long-term strategy to reduce the use of public water supplies also includes non-household customers i.e., businesses, industry, and agriculture, with an expected 15% reduction in demand for water by 2050.

However, the EIP went further by introducing an interim target for a reduction in non-household water use, with a requirement to achieve a 9% reduction by 2038. Our plan has now been revised to incorporate this interim target but again, we will need to ensure these targets can be achieved with the active support of non-household customers.

Changes to option information

Each of the region's water companies were given the opportunity to provide us with the latest information on the options considered within the plan. This included any changes to costs, delivery dates and environmental assessments.

This enabled us to carry out further modelling, based on the most up-to-date information, to ensure our plan used the best available evidence.

Key changes to options included:

- A change in the likely delivery date of Southern Water's water recycling scheme at Littlehampton
- A change in the likely delivery date of Southern Water's Hampshire water transfer and water recycling project
- The removal of Southern Water's Sussex coast desalination scheme.



Latest information on Strategic Resource Options

Within the plan are 15 Strategic Resource Options (SROs) that are being investigated in more detail.

This process is being overseen by the Regulators' Alliance for Progressing Infrastructure Development (RAPID) which is made up of the three water regulators – Ofwat, the Environment Agency and Drinking Water Inspectorate. Its role is to help accelerate the development of new water infrastructure that is in the best interests of water users and the environment.

Work has continued, via RAPID and with the water companies directly responsible for progressing the SROs in their supply areas, on their cost and deliverability.

As new data has emerged and regulatory decisions have been made, we have updated our plan so that it reflects the progress being made to define and deliver nationally important water infrastructure that will help support the South East region. All the schemes being investigated through the RAPID process have progressed through the Gate 2 assessment and remain as feasible options in the plan.

To find out more about the RAPID process visit

<https://www.ofwat.gov.uk/regulated-companies/rapid>



Summary of changes made to our plan

Taking together the consultation feedback and comments, along with the latest customer research, we have produced a consultation response document that can be found at www.wrse.org.uk/library. It provides a summary of the consultation responses, highlighting themes and issues raised in the responses received and providing our position in response to them. Table 1 summarises the main points raised and how we have responded in our plan, and captures the policy and regulatory changes that have also needed to be made.

Table 1: Summary of changes made to our plan

Area	You said	We did	Impact on plan
Population and household demand forecast	Some concern that expected levels of future growth are under or overstated. WRSE should use the latest population figures from the ONS 2021 Census	Commissioned Edge Analytics to update forecasts using the most recent ONS census population and household data and local planning authority data. Water companies have also updated their demand forecasts to reflect a new starting point for water resource planning as a result of updated government guidelines	Minor: Latest data applied to the five forecasts used as the basis of the plan
Climate change forecasts	Challenges around how the supply forecast has taken account of potentially wetter winters, and what effect this could have on available supplies	Plan considered 28 different climate change scenarios, based on Met Office data, and range of percentiles used to forecast future climate change impacts Sensitivity tests undertaken to review impact of moving the 2040 resilience forwards and backwards – SESRO still selected.	No change: Future cycles of regional plans and WRMPs will consider updated UKCP data
Drought resilience	Support for achieving 1-in-500-year resilience by 2040, although some would prefer this being achieved earlier Concern at over-reliance on SESRO to achieve resilience standard when already in a water stressed area	Plan achieves 1-in-500-year drought resilience at 2039/40 which is timeframe set by government policy	No change: 1-in-500-year drought resilience standard fixed in the plan at 2039/40
Environmental forecast and abstraction reduction	In-principle support for plan's ambition to reduce abstraction (particularly for chalk streams) but challenges over scale, pace and location and the potential impact this has on the selection of alternative options	Further work done to develop the environmental ambition forecasts, including prioritisation of catchments and sites and different 'glidepaths' towards achieving abstraction reductions	Minor change: Plan looks to deliver reductions quicker, and further work on phasing and prioritisation with stakeholders and regulators will continue
Meeting the needs of other sectors	Respondents supportive of WRSE's work with other sectors to give a more comprehensive picture of water resources need and demand forecasts Government/regulatory input required on whether customers' bills solely fund new water resources that directly/indirectly benefit other sectors	WRSE to further develop water availability and forecasting for other sectors through its established multi-sector advisory group	No change
Long term adaptive planning	Strong in-principle support for approach but those opposed to SESRO say the plan is not truly adaptive as it is reliant on large strategic options selected early in the planning period, which then "fixes" those supply options into the plan	WRSE has identified the least regret options that are needed in all future scenarios that cover a wide range of population growth, climate change and abstraction reduction scenarios	No change: But updated explanation of the wide range of futures that are covered by the adaptive plan pathways

Area	You said	We did	Impact on plan
Best value planning and decision making	Re-evaluate best value criteria to better consider the environmental impact and carbon emissions associated with the projects in the plan and/or to promote a least risk and least environmentally damaging plan	Best value planning approach meets regulatory requirements but clearer explanation of the approach used in plan	No change: But clearer explanation in our plan
Balance between demand management and new supplies	Mixed views – some say ambitious while those opposed to SESRO considered that the plan does not strike the right balance and the plan should prioritise other options	WRSE and water companies have put more water efficiency schemes into the early years of the plan and included new EIP targets to reduce water use - increasing the total number of options available from 2,000 to 4,000	Significant change: A further 600 million litres of demand reduction options included and a corresponding reduction in supply options
Leakage	Urgent action required with WRSE and water companies urged to do more than they were currently planning. Some considered this to be a pre-condition before delivering major new resource schemes while some respondents supported the plan's ambitions to ensure it remained deliverable	WRSE and water companies have undertaken additional work on the leakage reduction options and proposals in the plan to ensure that the updated policy requirements and regulatory guidance can be met	Moderate change: Still meeting 50% leakage reduction by 2050, at the latest, but with interim targets (20% by 2027 and 30% by 2032) also included
Water efficiency	Respondents supported greater water efficiency but urged WRSE and water companies to go further than their current plans. If per capita consumption figures were lower and introduced sooner, this would reduce the need for new strategic solutions to meet demand	WRSE and water companies have remodelled the demand management savings to meet new EIP targets, including the impact of government policy interventions, on both household and non-household customers	Significant change: Plan now meets target of 110 litres per day by 2050 for household customers and new interim targets and includes more savings from government-led interventions For non-household customers, plan meets demand reductions earlier due to EIP targets now included, with 15% reduction by 2050
Reliance on drought options	Some support for the use of temporary restrictions on water use as tools to reduce discretionary water use during hot, dry weather periods. Others expressed concern at the use of environmental drought options due to their detrimental impacts on chalk streams	Plan has significantly reduced the number of environmental drought orders that are included as options – as the region becomes more resilient to 1-in-500 year droughts then frequency of regulator-approved restrictions should lessen	Long term – minor change Short term – significant change to plan: Proposal being considered to extend reliance on drought permits and orders in Rivers Test and Itchen to 2030

Area	You said	We did	Impact on plan
New water resource options – South East Strategic Reservoir Option (SESRO)	<p>Significant local opposition due to the impact it could have on the environment and local communities suggest that better alternatives are available</p> <p>Regulators and some stakeholders recognised SESRO was needed in all future adaptive pathways</p> <p>Customer research showed this option was also supported as a means to secure the region's water supplies</p>	We have considered a range of options in the development of the plan. Further modelling and sensitivity runs have been carried out to assess how the plan performs with and without SESRO to understand the consequences of its omission. This has resulted in evidence-based decision making on the production of a robust, best value plan for South East England	Moderate change: Size of reservoir has been confirmed at 150 million cubic metres following further modelling and testing
New water resource options – Hampshire water transfer and water recycling	<p>Some local opposition to the use of recycled water to supplement supplies in Havant Thicket reservoir due to environmental risks and impacts associated with the scheme</p> <p>Regulators and some stakeholders recognised the water transfer and water recycling was needed in all future adaptive pathways</p>	We have considered a range of options in the development of the plan. We have received updated technical data on this option which has been reflected in our modelling. Further modelling and sensitivity runs have been completed to assess the need for this option in the future while Southern Water and Portsmouth Water have continued to work with local stakeholders and regulators to build confidence in the option. This has resulted in evidence-based decision making on the production of a robust, best value plan for South East England	Minor change: The revised scheme delivery date is now likely to be 2035 subject to obtaining planning permission and other construction challenges
New water resource options – Severn Thames Transfer (STT)	Support for this option, particularly from those opposed to SESRO, with use of the restored Cotswold Canal as part of the transfer solution (rather than a new pipeline as concern the cost and benefits had not been accurately assessed)	We have considered a range of options in the development of the plan. Further modelling and sensitivity runs have been completed to assess the need for this option in the future. This has resulted in evidence-based decision making on the production of a robust, best value plan for South East England	Moderate change: STT has not been selected in the revised plan but may be needed if other options cannot be progressed or if the anticipated demand management savings are not achieved in full
New water resource options – other transfers	Regulators and stakeholders supported more water transfers to improve resilience in the region – sharing water was seen as sensible and appropriate	We have considered a range of options in the development of the plan. Further modelling and sensitivity runs have been completed to assess the need for all options in the future. This has resulted in evidence-based decision making on the production of a robust, best value plan for South East England	Minor change: Some changes to options and delivery dates
New water resource options – other supply schemes	Some support for water recycling and desalination proposals but also concern about the environmental impacts of both option types	We have considered a range of options in the development of the plan. Further modelling and sensitivity runs have been completed to assess the need for all options in the future. This has resulted in evidence-based decision making on the production of a robust, best value plan for South East England	Minor change: Number of schemes reduced and pushed back to later years due to more ambitious demand management activities and EIP targets now in plan

Area	You said	We did	Impact on plan
Catchment management options	Environmental organisations disappointed the plan did not contain more catchment and nature-based solutions	Will continue to work with environmental regulators and catchment partners to investigate and assess catchment options to enable their deployable outputs to be better understood Please see further information below on catchment management options	Moderate change: We have re-selected catchment management options as cost effective way to improve best value performance of plan and deliver wider social and environmental benefits beyond deployable output
Environmental assessment	Some concerns about the adequacy of environmental assessments and how this has influenced the decision-making, while more detailed work is required to fully establish impacts of future options on designated sites	Continued assessing all the options in the plan to take account of updated information submitted on Strategic Resource Options (SROs) including updated environmental, carbon and biodiversity net gain assessments	Minor change: Assessments updated and potential mitigation reviewed, further investigations identified

Catchment management

When we first started working on our plan, we identified more than 200 potential catchment and nature-based schemes across 20 catchments and originally included these in our emerging regional plan (January 2022).

However, the updated Water Resources Planning Guideline required that we only include schemes that resulted in water available for abstraction i.e., we could quantify a definitive deployable output.

This change in regulatory guidance resulted in just one scheme being included in our earlier plan – integrated catchment activity on the River Itchen and River Test in Hampshire as a specific deployable output benefit could be assigned to it.

That being said, we have always recognised the value that catchment management and nature-based solutions can offer. They:

- allow rainwater to stay on the land longer and replenish groundwater sources which, in turn, support river flows;
- deliver considerable biodiversity and social benefits;
- boost environmental resilience; and
- ensure our plan is delivering against its best value metrics.

Further changes to the guideline enabled us to reintroduce more catchment schemes into the revised draft plan. We have 73 catchment management schemes, across 24 catchments, and in some instances these would be delivered by more than one water company. These schemes should be investigated further to establish if they will provide benefits for the next regional plan.

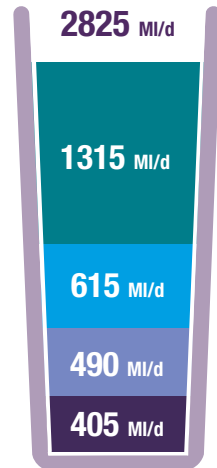


Our revised draft plan



Our revised plan on a page

Our plan shows that if we do nothing we could face a shortfall of over 2.8 billion litres of water per day by 2075. Full details of our revised draft plan can be found in our technical document at www.wrse.org.uk/library



More water is needed to:

- Improve the environment by leaving more water in rivers, streams and underground sources i.e., aquifers
- Supply a growing population
- Counter the future impacts of climate change
- Make our water supplies more resilient to drought

To help meet this shortfall, here's what we will need to do.



Save more of the water we already have. We will reduce leakage by **20% by 2027**; by **30% by 2032**; and by **50% by 2050**.



Every customer will also need to lower their water use to help meet national targets of **9% by 2027**; by **14% by 2032**; and by **20% by 2038** – so that eventually we all use only **110 litres of water per person, per day**.



Between 2025 and 2035 we will need to:



Complete the construction of **1** new reservoir in Hampshire and start building two more in Kent and Oxfordshire



Develop an inter-regional water transfer scheme using the Grand Union Canal to transfer water from the Midlands to the South East



Develop **6** water recycling schemes in London, Kent, West Sussex, Hampshire and the Isle of Wight



Develop **5** groundwater schemes so we can store extra water in these vital sources

Between 2035 and 2075 we could need to:



Complete the construction of **4** reservoirs in Kent, Oxfordshire, West Sussex and East Sussex



Build **6** desalination plants in Kent and West Sussex



Develop **11** more groundwater schemes so we can store extra water in these vital sources



Develop **3** more water recycling schemes in Kent, West Sussex and East Sussex



Develop **new** transfers from new strategic sources of water (such as reservoirs) to move more water around the South East

This plan could cost **£19.3 billion** to deliver by 2075.

Reducing leakage and consumption

Saving more of the water that is already available is critical to help improve the environment and make our water supplies more resilient, particularly as the climate changes and the population grows.

There are two ways of doing this – reducing water use and tackling leakage. These activities are required in all future scenarios that we have looked at when planning the region's water supplies.

Reducing water use

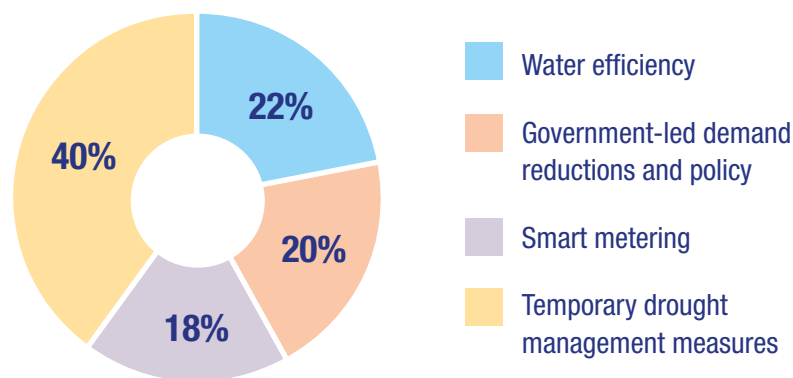
Reducing and maintaining a lower level of customer water use and wastage caused by plumbing losses within the home requires some external levers to materialise and deliver water savings. These are:

- Smart metering of all homes and businesses
- Water efficiency measures and positive customer behaviour
- Water-efficient government policies such as water labelling and strengthening building regulations
- Temporary drought management measures e.g., Temporary Use Bans and Non-Essential Use Bans.

We've listened to the feedback on our draft plan and also taken into account the new government targets set for household and non-household water use.

As a result, our plan has a renewed focus on reducing water use in the first 10 years, and before other sources of water are developed, as Figure 3 shows:

Figure 3: Percentage contribution of schemes to reduce demand between 2025 and 2035



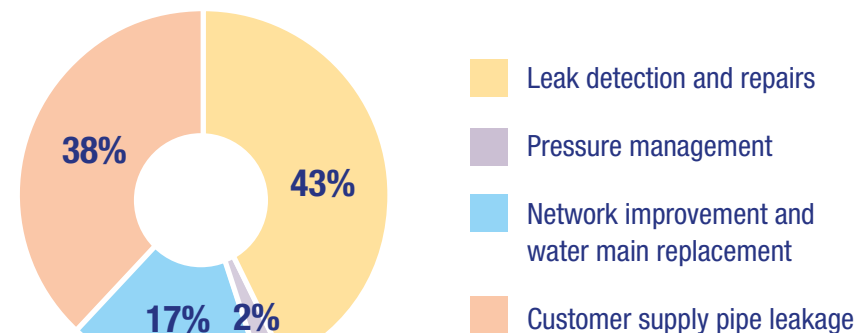
Beyond 2035, and as the region's water supplies becomes more resilient due to other schemes coming to fruition, we expect temporary drought management measures to be needed less frequently in future.

Tackling leakage

Leakage reduction is a critical activity to help the water we already have go much further. The long term leakage targets set by government are ambitious and will rely on new approaches and technologies, some of which are yet to be tried and tested.

However, for the first ten years of our plan we have more certainty about what leakage reductions can be achieved and have committed to delivering the following as Figure 4 shows:

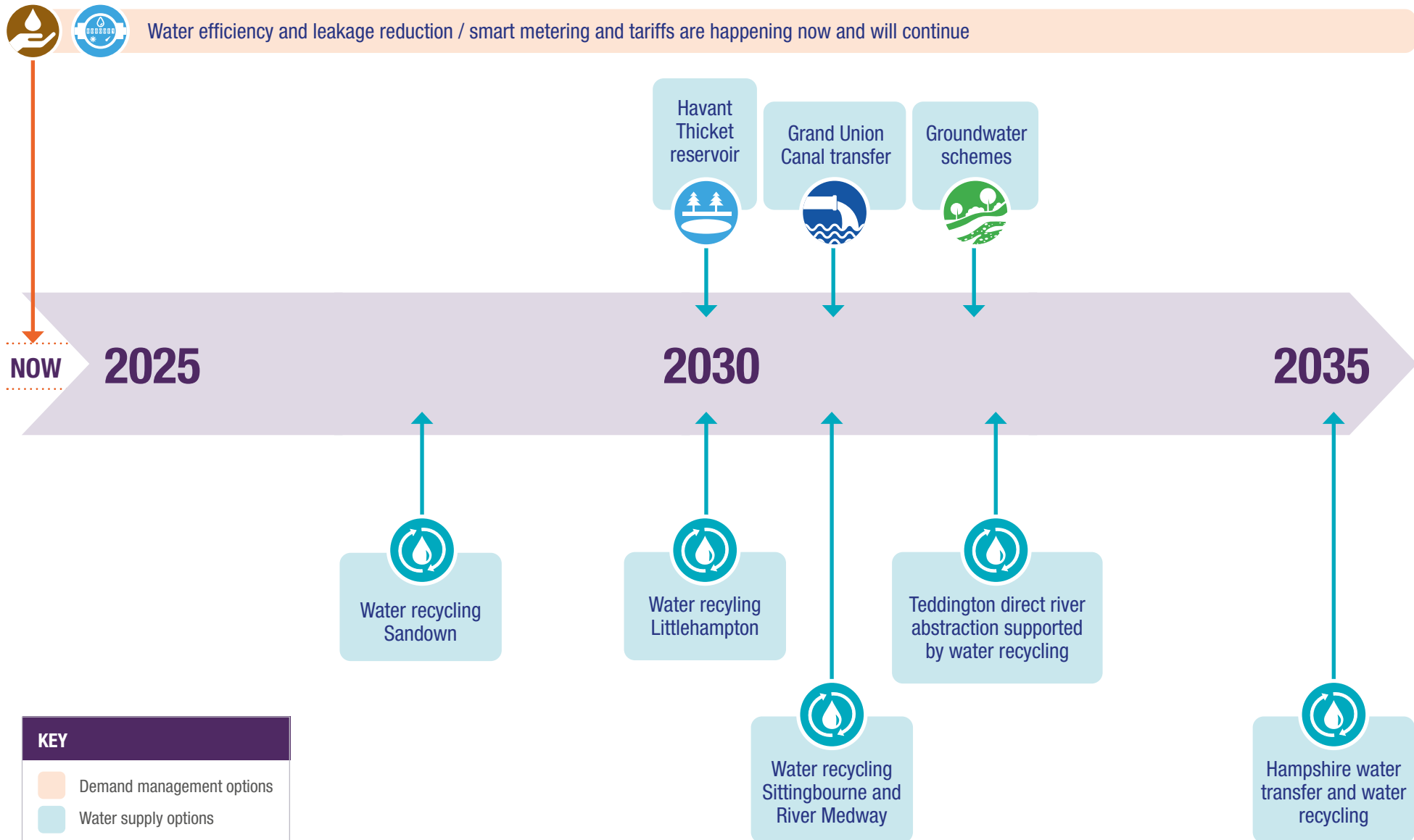
Figure 4: Percentage contribution of leakage schemes between 2025 and 2035



Combined, these demand management activities – reducing water use and tackling leakage – could save almost **860 million litres per day by 2035**. That's two thirds of the shortfall in water our plan has identified the region will face over the first 10 years of the plan.

Summary of schemes in our revised plan (2025 to 2035)

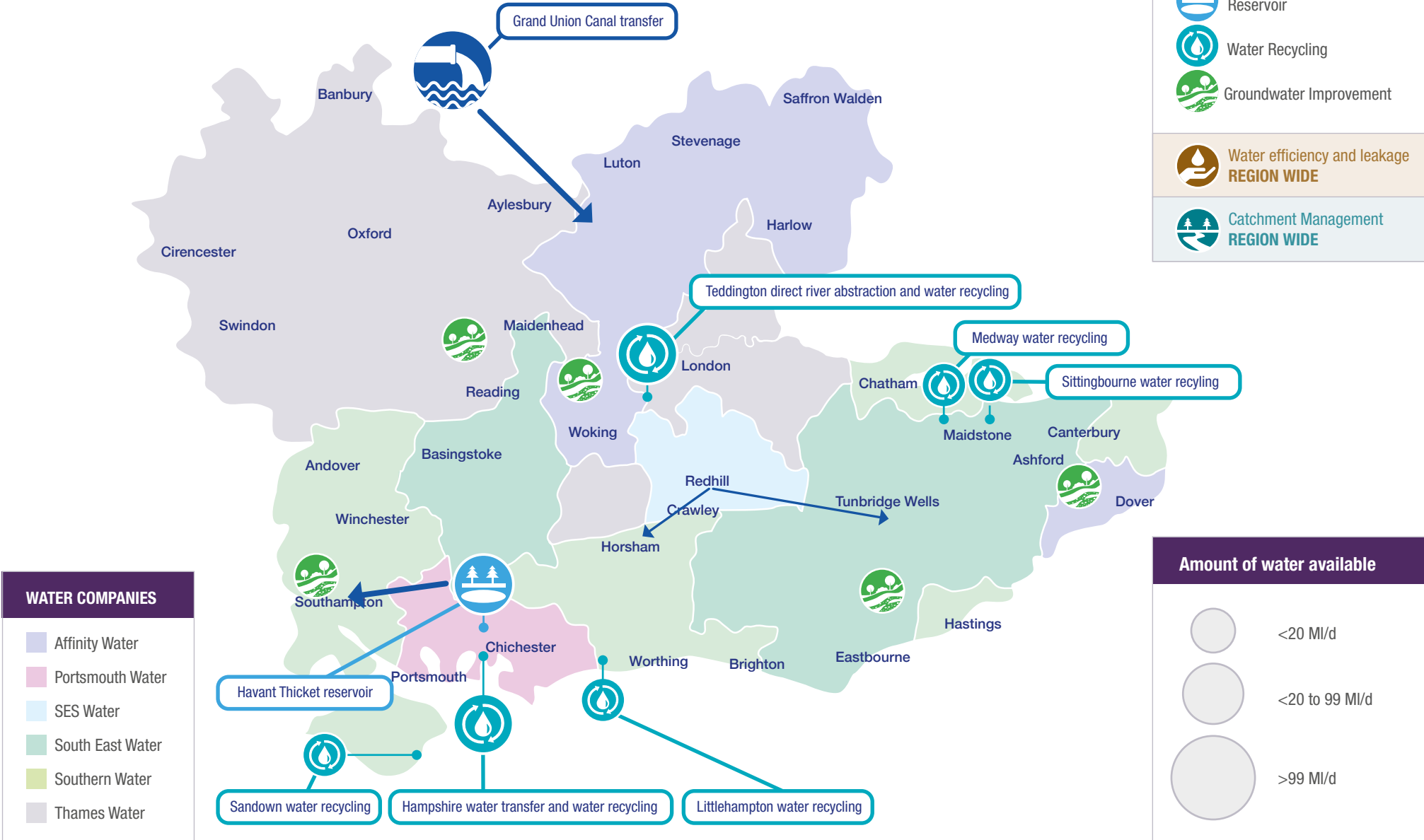
Timeline shows the date the schemes are first used to provide water.





The next 10 years (2025 to 2035)

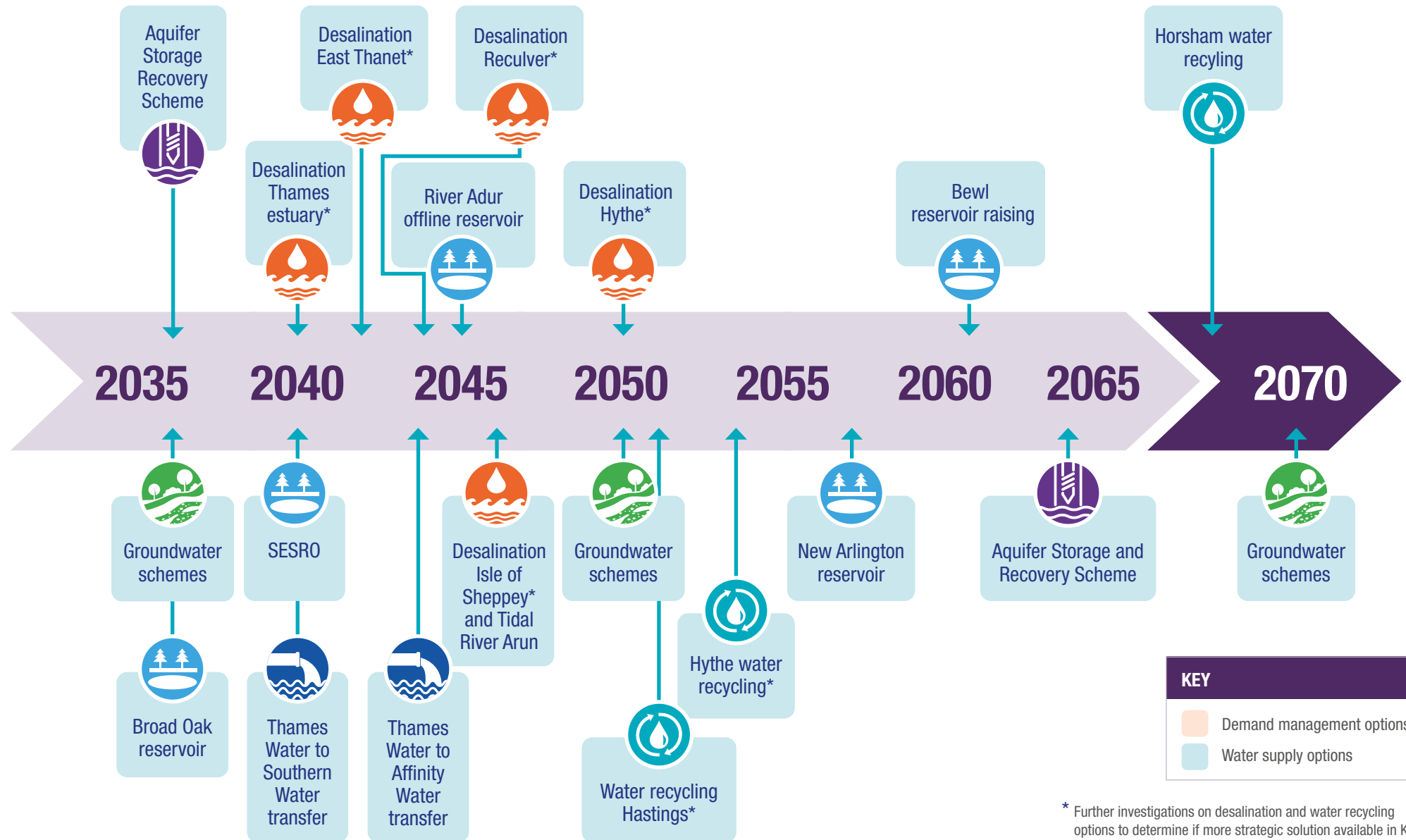
This shows the location of the main schemes needed in our plan.



Summary of additional water supply schemes in our plan (2035 to 2075)



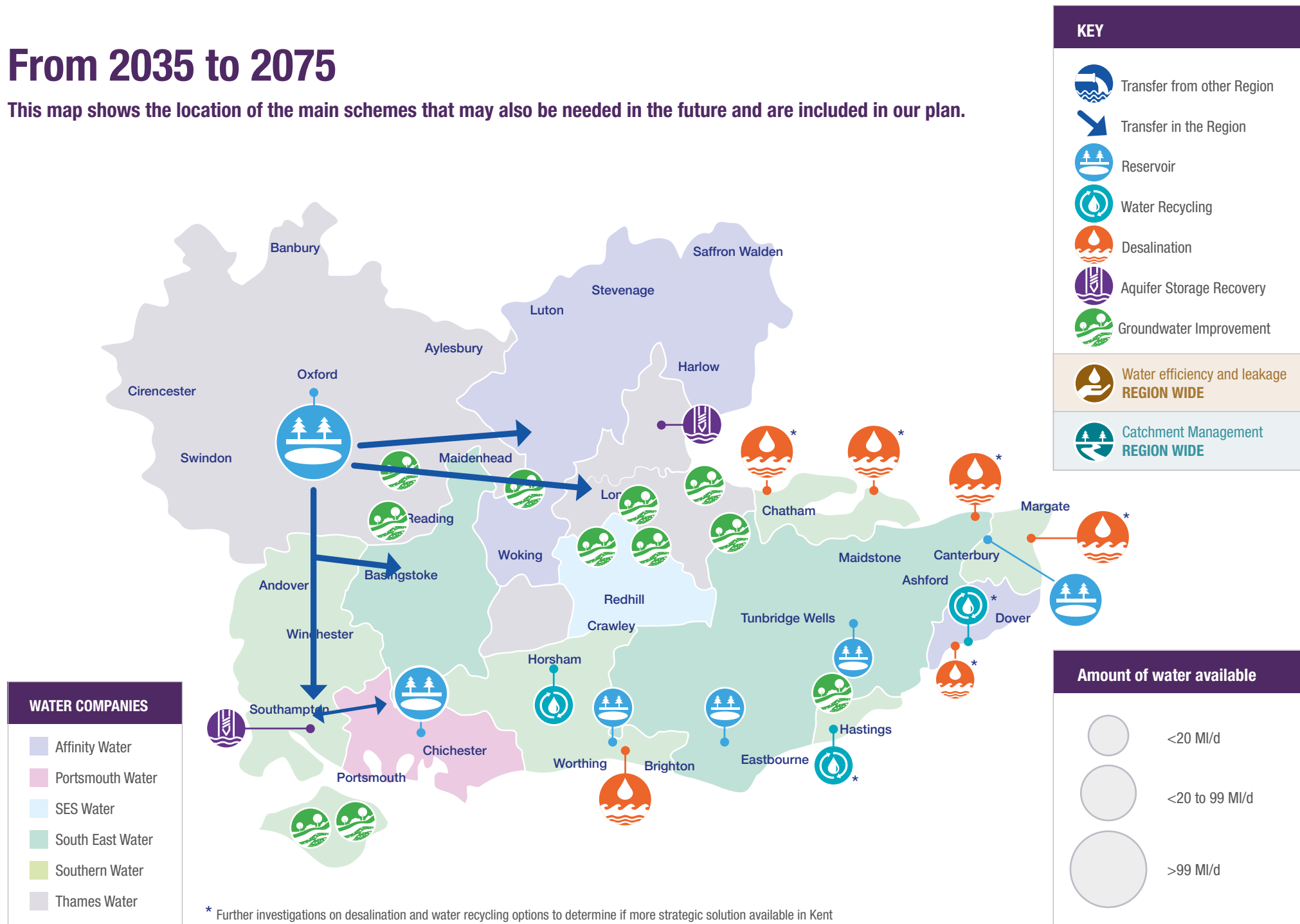
Water efficiency and leakage reduction / smart metering and tariffs are happening now and will continue



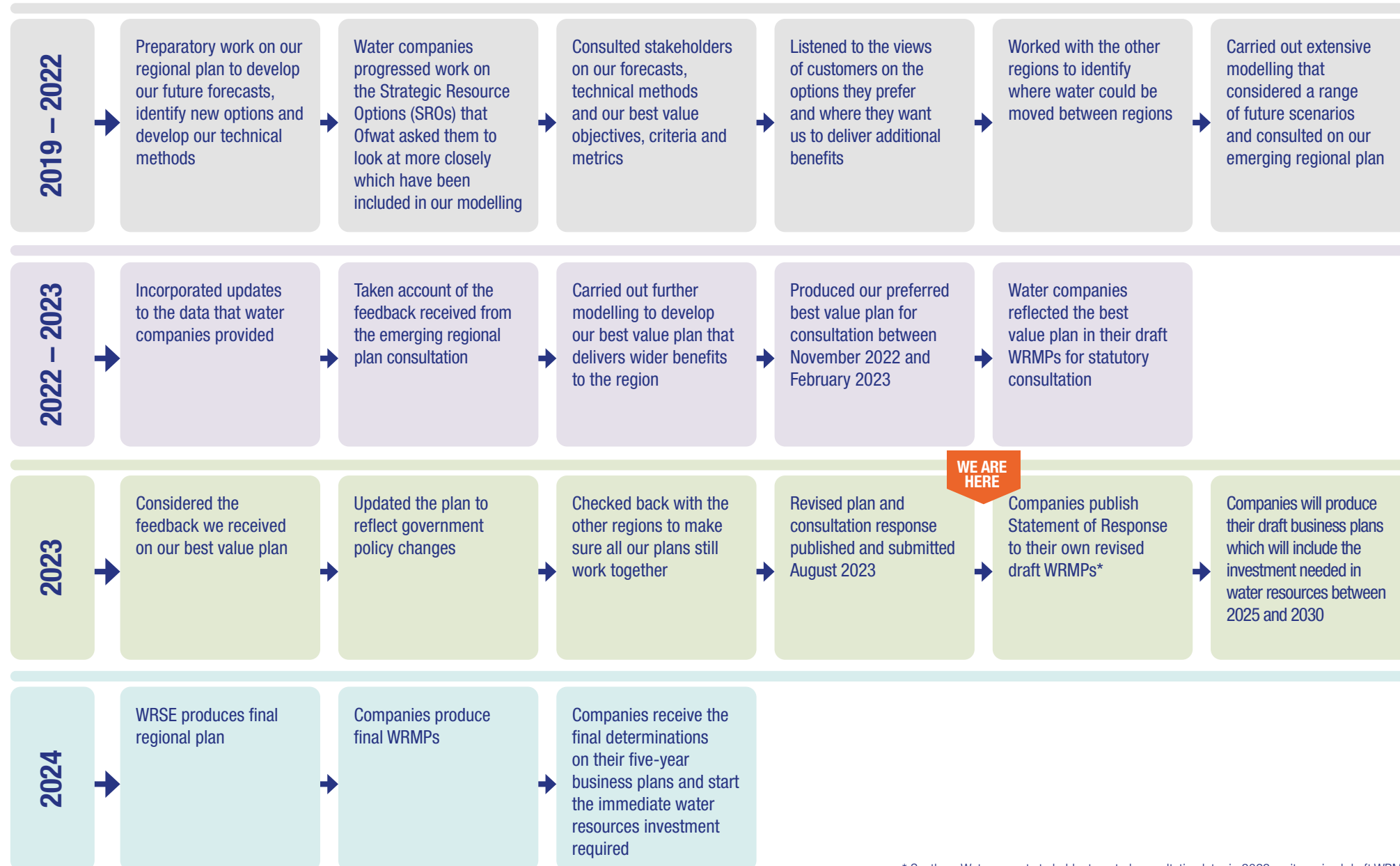
* Further investigations on desalination and water recycling options to determine if more strategic solution available in Kent

From 2035 to 2075

This map shows the location of the main schemes that may also be needed in the future and are included in our plan.



What's happened so far and what happens next in this process?



* Southern Water expects to hold a targeted consultation later in 2023 on its revised draft WRMP.



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