



WRMP14 Executive Summary



1. This Water Resources Management Plan (WRMP14) sets out how we plan to secure water supplies for today's and tomorrow's customers, from 2015 to 2040.

2. Our WRMP14 sets out our estimate of the amount of water we will need, and what we will need to do – where and by when - to meet those future water needs.

3. It takes account of the challenges and opportunities we face in the next 25 years;

- Future population and housing growth;
- Operating in an area of serious water stress and high environmental sensitivity;
- Optimising water sharing with neighbouring companies in the South East of England;
- High reliance on groundwater resources;
- Uncertainty of climate change impacts; and
- Delivering a plan that is affordable to customers.

4. The WRMP14 has been developed according to the guidelines set out by our environmental and economic regulators. These guidelines require us to forecast the available supply of water, and likely demand for it, across our supply area for the period 2015 to 2040. The forecast shows there is insufficient water to meet that demand, and therefore a risk of us not meeting our planned levels of service for customers. We set out in this document the range of demand management and new water supply options that could meet that shortfall.

5. Our WRMP14 has been developed in collaboration with all participating members of the Water Resources in the South East (WRSE) Group. We have actively participated in the Group to work for the collective good of the wider South East region. This work has helped identify the optimum solutions that could meet future water needs, provide greater resilience to companies, while taking an appropriate view on risk.

6. As such, this document outlines what we consider to be the best value plan – for our customers and the wider environment - and how we have developed the plan, taking into account:

- The environmental impact of individual options, and the collective impact of the plan as a whole, through a comprehensive Strategic Environmental Assessment;
- Customers' preferences on approaches to meeting the shortfall in water, and their willingness to pay;
- A risk assessment of options, and the plan as a whole, including risks associated with water availability and sustainability; environment and delivery; third parties; resilience; interdependence; and our mix of resources.

7. In preparing the WRMPI4 we have engaged with a wide range of customers, stakeholders and regulators. A particular objective of our engagement activities has been to involve key stakeholders in each step of the WRMPI4 preparation process, from the very beginning, and to take on board their views and opinions wherever possible. With this in mind we established an Environment Focus Group, a group of key stakeholders that has advised and challenged us throughout the preparation of the plan. This group includes representatives from our regulators, local and national interest groups and local planning authorities.

8. A baseline forecast of what water is available for use is an important part of our planning process. The forecast considers how this may change over the next 25 years. We have carried out a thorough review of our current resources to determine a robust assessment of how much water they can actually produce, and factored in adjustments for the impacts of climate change, reductions required to protect the environment (referred to as sustainability reductions), outages and process losses.

9. The combination of this review and those adjustments means the amount of water currently available reduces even further, as shown in Table 1.

10. The amount of water available is forecast to be lower than the previous plan (WRMP09), however we believe the WRMPI4 figure is much more robust and resilient, not least as it has been improved and adjusted following analysis of how our sources performed in the recent drought.

11. One of the key objectives of the WRMPI4 is to evaluate and improve ways of managing customers' demand for water. We remain committed to delivering a range of programmes and activities that promote and support our wider water efficiency strategy. Within the WRMPI4 we have taken an ambitious approach in our forecast of what the future demand for water will be from our customers. Use of innovative water efficiency and demand management measures, primarily through our customer metering programme and water efficiency education and awareness activities, are expected to achieve much lower customer demand for water than we see today. The challenge we have set ourselves, and our customers, is to reduce household consumption by almost 10%, as shown in Table 2.

12. Although this is a significant and welcome reduction in water use, there are considerable increases in population and non-household demands for water which still have an impact on the overall demand forecast. The population in our

Table 1: Baseline Water Available for Use

Planning Scenario	Water available 2015 MI/d	Water available 2040 MI/d	Reduction in water available MI/d
Dry Year Average	639.3	614.4	24.9 (3.9%)
Critical Period (Summer peak)	735.5	714.2	21.3 (2.9%)

Table 2 : Household Per Capita Consumption

	2015	2020	2025	2030	2035	2040
l/h/day	165.0	158.2	152.8	150.8	149.3	148.3

supply area is forecast to increase by 19% from a starting position of 2.1 million in 2012, to 2.5 million people in 2040. Business customer demand is forecast to increase by around 11% over the period 2015 to 2040, largely driven by the increased water needs from agricultural and horticultural sectors. Table 3 outlines the overall impact on the demand forecast.

13. Our calculations show that with less water being available for use, combined with an increasing overall demand for water, we will have insufficient supplies to meet demand, and to maintain expected levels of service to customers.

14. To meet that shortfall we have carried out a rigorous and transparent appraisal of all the options available. That assessment has been in line with the principles set out in the Water Resources Planning Guidelines. We have considered options that both manage demand and increase the available supply of water.

15. From the outset, the Environment Focus Group has been fully engaged in our options appraisal process. The group has been taken on the journey which started with an extensive and diverse list of 912 unconstrained options, through a succession of screening processes, to a final list of 320 feasible options.

16. The process we have followed to develop a best value preferred plan that can meet that shortfall, starts with an economic assessment of the “least cost” set of options. While the guidelines make it clear that the optimum solution may not necessarily be the least cost, the preferred plan must be robust and flexible to a range of risks and uncertainties, and make a positive contribution to sustainable development. We concur with that approach – least cost does not necessarily equate to best value, whether that’s for customers, the environment, or our business. As such, following development of a least cost set of options, we have carried out further refinement that took account of three important principles - our customers’ preferences, the overall risk, and the environmental impact of our plan.

17. In preparing this plan, we have carried out extensive customer research and surveys to find out our customers’ priorities for their water supply, and tested with them the range of options being considered to meet the predicted shortfall in water. Our customers have told us their order of preference for particular options, and their willingness to pay for those options. The number one preference for our customers is metering, and so we have assumed the continuation of our customer metering programme for this plan. This is closely followed by further demand management measures such as reducing leakage and free water efficiency devices. Those options are followed by

Table 3: Demand Forecast

Planning Scenario	Total Demand 2015 MI/d	Total Demand 2040 MI/d	Increase in Demand MI/d
Dry Year Average	574.4	604.1	29.7 (5.0%)
Critical Period (Summer peak)	697.5	775.8	78.3 (11.0%)

support for new supply options that deliver extra water, including water transfers and expanding existing reservoirs.

18. Assessing the risk of our preferred plan has been a key factor in determining the optimum approach we should take, and so the WRMP14 sets out clearly how we have assessed the risk of each option and the overall risk of the plan as a whole to customers, the environment, stakeholders and shareholders.

19. We believe that has led to a plan that truly reflects a twin track approach – one that contains both ambitious and proactive measures to manage customer demand for water, whilst also delivering the new water resources that will still be needed to meet the predicted shortfall in water.

20. Our preferred plan includes a mix of both existing initiatives to manage demand – not least our customer metering programme which will mean at least 90% of our customers are on a meter by 2020, which saves an extra 25 MI/d in the process - but also additional demand management initiatives. These include further leakage control and water efficiency measures that deliver an extra 6 MI/d, above and beyond what we are already achieving.

21. However, these measures alone will simply not be enough to meet the shortfall in water and so

the following new water resource options have been selected (volumes quoted are for Summer Peak Period):

- River Medway Scheme Licence change in 2016 (1.6 MI/d)
- Developing five groundwater sources at: Forest Row, Coggins Mill and Cowbeech in East Sussex, Maytham Farm in Kent and Boxall's Lane (Aldershot) in Hampshire during 2015 to 2020 (11.5 MI/d)
- Developing six water transfer schemes to share water with Thames Water, Southern Water, Sutton and East Surrey Water, Portsmouth Water and Affinity Water between 2020 to 2040 (33 MI/d);
- Developing and improving two existing water treatment works in WRZ 2 (East Sussex) and WRZ 4 (Berkshire) by 2020 (31 MI/d);
- Developing two water re-use schemes at Aylesford in Kent, and Peacehaven, East Sussex between 2025 and 2030 (37.5 MI/d);
- Building a new reservoir at Broad Oak, Kent, by 2030 to 2035 (13.5 MI/d); and
- Increasing the capacity of our existing Arlington Reservoir, East Sussex, by 2035 to 2040 (22 MI/d).

22. We will continue working on a strategic review of new water resource options in East Kent with Southern Water and Affinity Water, as we believe there is merit in working collaboratively on

investigating options that could offer a much wider regional solution to more than one company.

23. The development of six additional water transfers from neighbouring companies into our supply area, means the amount of water we import - as a percentage of all the water available to us - will rise to 10% (+2%). That continues to make our water supply business the highest importer of treated water in England and Wales, and demonstrates our clear commitment to a number of regulatory principles that actively promote water sharing.

24. We will also develop additional water transfers within our own supply area, moving water from areas where there is a surplus, to areas where there is a shortfall. Our preferred plan includes three additional internal transfers.

25. In line with the guidelines we have made an estimate of the cost attached to our preferred plan. Over the 25 year planning period we estimate that the current cost of our plan will be £205m and will increase the supply of water by up to 156 MI/d.

26. In December 2013 we submitted our Business Plan for the period 2015 to 2020 to Ofwat. It took account of the expenditure required to deliver the WRMP14 during that period, as well as investment requirements in other areas e.g. to maintain existing sources, existing operating costs etc.

27. The level of investment to deliver WRMP14 during 2015 to 2020 is similar to the level of investment that was required and is being implemented during the period 2010 to 2015. The Business Plan confirmed that in the round, the total investment package required for 2015 to 2020 is not likely to require increases in bills, net of inflation.

28. The cost of delivering the WRMP14 during the period 2015 to 2020 adds £10 to the average household bill by 2020. However, we expect this increase to be at least offset by efficiencies, reduced cost of borrowing and lower returns to shareholders so that average bills remain broadly flat across the 2015 to 2020 period. The service and the cost of the WRMP14 has been tested with customers, this showed a high level of support with over 80% of households declaring the plan to be acceptable.

29. We believe that the overall process and decisions we have taken in preparing the WRMP14 are transparent and understandable to stakeholders and our customers. Our preferred plan also takes account of the WRSE Group's modelling work, and provides clear explanation for the decisions we have ultimately taken, and on which we will consult with our customers, our stakeholders and our regulators.

30. A key principle in reaching the decisions we have made in WRMP14, has been to take account

of the outcomes we have separately developed for the wider business' Long Term Strategy 2015 – 2040 document, which was published for consultation in Spring 2013. Among those outcomes are two that are particularly relevant to this plan, and are based on what customers have already told us is important to them; that is, they consider both the level of leakage and the frequency of water restrictions are unacceptable. We have addressed both specifically within the WRMP14.

31. Firstly, in terms of leakage, our current and planned activities around the customer metering programme and leak detection work means we will reduce leakage on company water mains to 10%. This is a figure that is underpinned by extensive customer research as being acceptable.

32. Secondly, a key decision we have made for the WRMP14 has been to limit future development of new groundwater, on the basis of high uncertainty of how much water such sources can actually produce, and following the experiences of the 2010 to 2012 drought. That concern has also been expressed by our regulators and stakeholders, and stems from doubts over the longer term sustainability and resilience of new groundwater development to more severe drought and climate change scenarios.

33. Our WRMP14 therefore proposes a better mix of sources, including new innovations such as water re-use, that ultimately lessen our reliance on groundwater. That approach increases resilience and means we can still meet customers' demand for water, and the outcome concerning the frequency of water use restrictions. The current level of service set out in the WRMP14 is underpinned by extensive customer research as being acceptable.

34. However, many of the longer term water resource solutions that feature towards the end of this 25 year plan, have long lead in times and are potentially complex operations that carry with them a degree of planning and deliverability risk.

35. We consider the 2015 to 2020 period will be critical for us to: undertake investigations on these longer term options, to ensure they can be delivered in time to meet customers' demand for water; and, to complete a series of other investigations that will inform our next WRMP in 2019 (See Section 9).

36. In conclusion, we believe our plan clearly sets out the critical stage we have reached in trying to secure future water supplies for today's and tomorrow's customers. It includes proposals for making what we already have go much further – such as metering all our customers, reducing leakage and increasing water efficiency initiatives. It

also demonstrates new and innovative ways we can deliver more water, by sharing it through longer, larger, pipelines with our neighbours; recycling treated wastewater for later use as drinking water; and capturing more water in key reservoirs.

37. Combined, we consider the proposals set out in our WRMP14 are founded on robust data and are resilient in the long term, so that we can continue to provide water to where it matters most – to our customers and for the benefit of the wider environment.