Final Draft Water Resources Management Plan

Annex 14: Demand Management Strategy

May 2025

Contents

List of Tables

List of Figures

Glossary

Acronym	Term
AMP	Asset Management Period
CMA	Competitions and Markets Authority
CO2e	Carbon Dioxide Equivalent
DMA	District Metered Areas (these are areas of our network divided and measured to estimate leakage)
DYAA	Dry Year Annual Average
DYCP	Dry Year Critical Period
EIP	Environment Improvement Plan
LPA	Local Planning Authority
NAV	New Appointments and Variation
NRR	Natural Rate of Rise for leakage
NYAA	Normal Year Annual Average
PCC	average per capita consumption
PR24	The 2024 Price Review process
SNZ	Sussex North water resource zone
WRSE	Water Resources South East - regional water resource group

1 Overview

We published our draft Water Resources Management Plan 2024 (dWRMP24), covering the period from 2025-26 to 2074-75, for public consultation on 14 November 2022. The consultation closed on 20 February 2023. In view of the consultation feedback and revisions to the Water Resources Planning Guideline (WRPG)[1] post publication of dWRMP24, we updated our demand management strategy for the revised draft Water Resources Management Plan 2024 (rdWRMP24). We consulted on our rdWRMP24 from 11 September 2024 to 4 December 2024. This annex describes our demand management strategy for the final draft Water Resources Management Plan 2024 (fdWRMP24).

Consultation feedback on our rdWRMP24 showed broad support for our demand management strategy. There has been no change to our demand management strategy for fdWRMP24.

1.1 Our current position

The whole of the South East region is designated as being in serious water stress by the Environment Agency. Increasing demand for water means the South East faces greater pressures and challenges than other regions.

- Nearly 70% of the water we supply comes from groundwater stored in underground aquifers. These aquifers are normally recharged by winter rainfall. A change in rainfall patterns due to climate change may result in more frequent, and more severe, droughts in our supply area than has been the case in the past.
- We are committed to reducing the amount of water we take from groundwater and rivers going forward in order to protect and enhance the natural environment.
- Population forecast based on data from Local Planning Authorities (LPAs) suggests that household population in our supply area could increase by 23% from 2025 to 2075. Total population, including non-household population, is forecast to increase by 24% over this period.

Maintaining supplies to an increasing population, while reducing supply from existing groundwater and surface water sources, is a significant challenge.

Managing water demand in our region is central to our water resources strategy, to ensure that we maintain uninterrupted supplies of high-quality water to a growing population and contribute economic growth well into the future.

As part of our demand management strategy, we are looking to include all components of demand including household demand, non-household demand and leakage.

1.2 Government policy

The Government's Environment Improvement Plan 2023 (EIP)[2] requires water companies in England and Wales to:

[1] Environment Agency, Ofwat, Natural Resources Wales, 2023. Water resources planning guideline. Version 12, 14 April 2023.
[2] Environmental Improvement Plan (publishing.service.gov.uk)

- achieve an average per capita consumption (PCC) of 110 litres/head/day (l/h/d) by 2050 under dry year conditions, reduce non-household consumption by 9% by 2037-38 and by 15% by 2049-50 compared to 2019-20, and
- reduce leakage by 50% by 2050 compared to a 2017-18 baseline.

We, along with other companies in the Water Resources South East (WRSE) group, developed multiple demand management strategies to consider for the rdWRMP24. This included a blend of leakage and consumption reductions and the associated cost estimates under 'normal year annual average (NYAA)', 'dry year annual average (DYAA)' and 'dry year critical period (DYCP)' planning scenarios. There has been no change in the considered strategies for this

1.3 Our demand management strategy at a glance

We revised our demand management strategy in view of the EIP for rdWRMP24. Accordingly, our demand reduction targets are as follows.

- Reduce average PCC to 110l/h/d under dry year (DYAA) conditions by 2045. This is 5 years earlier than the 2050 date set out in EIP.
- Reduce non-household demand by 9% by 2037-38 compared to 2019-20.
- Reduce leakage by 53% by 2050. This is higher than the 50% leakage reduction target set out in the EIP.

These targets remain unchanged for fdWRMP24.

Table 1 shows the overall planned water savings to be achieved by 2050 through reduction in water used by households and non-households as well as leakage. As there is considerable uncertainty around the proportion of future growth that may be supplied as part of New Appointments and Variations (NAVs), the estimates assume that all growth will be served by Southern Water and excludes any impact of NAVs on demand management targets set out in the EIP. The data presented in Water Resources Planning (WRP) tables published alongside our fdWRMP24 account for growth that may end up as NAVs.

Table 1: Planned demand reductions by 2050.

	Western area	Central area	Eastern area	Total
Reduction in household consumption (Ml/d)	34.5	32.2	34.1	100.8
Reduction in non-household consumption (Ml/d)	4.6	3.6	3.4	11.6
Leakage reduction (Ml/d)	9.9	7.6	10.9	28.4
Total (Ml/d)	49.0	43.4	48.4	140.8

1.4 Alignment with Periodic Review 2024 (PR24)

During the development of our business plan for Price Review 2024 (PR24) we revised the individual components of both our demand management and leakage management plans. Whilst we are still planning to follow the profile of demand and leakage reductions, the mix of options to achieve these profiles has changed. For example, the contribution of 'find and fix' to total leakage reduction has now increased from the figure used in fdWRMP24. As the length of mains renewal feeds into a number of tables we have updated the profile of lengths which now match those presented in Table 22.

This annex presents our current view of the optimal mix of demand management and leakage management options to achieve our stated PCC and leakage targets.

However, with the exception of mains renewal lengths, we have taken the decision not to update the mix of options, and hence the costs, that feed into our investment modelling as these are continuing to evolve. As the costs have no material impact on our WRMP24 investment modelling, we saw no benefit in presenting a mix of options that may be out-of-date by the time we publish this plan. This means that the leakage and demand management costs presented in this annex align with the PR24 tables (October 2023) but not the WRP tables.

We have asked for our PR24 Business Plan to be referred to the Competitions Markets Authority (CMA). There may be further changes to demand management costs as a result.

2 Our ‘Target 100’ Strategy

2.1 Understanding the challenge

A behavioural shift is required to achieve the significant reductions in consumption required under the EIP. Technological innovations, such as water-efficient toilets, washing machines and dishwashers, can deliver savings on their own but the scale of reductions we are targeting cannot be achieved through water efficient appliances alone. ‘Target 100’ is our detailed blueprint for the individual, social and cultural behaviour changes needed to meet our commitments to the EIP.

As part of the ‘Target 100’ programme, we want to create a future where our community, households and non-households, are aware of their water environment, feel connected to it, and willingly play their part in protecting and preserving it. It is how we will support our mission statement of *Water for life*.

We have carried out a significant amount of work to gain insights on our customers’ perception of water scarcity in the South East and their willingness to reduce consumption. The surveys we have carried out since December 2022 show that only 15% of our customers in South East England consider water scarcity to be currently a problem and 27% consider it to become a problem in the future.

We commissioned longitudinal ethnographic studies to find out how people use water in their everyday routines and how those behaviours become habits. Our aim was to get vital intelligence for designing the right sort of water-saving options (such as physical settings, cutting-edge technology, and water-saving devices) to help make it easy for customers to use less water. The studies investigated how our customers typically use water when they shower, flush the toilet and garden. The objective was to identify what hinders and what helps our customers to use less water. The research was done with the two most receptive segments identified from our customer base: the ‘savvy and settled’ and ‘time-poor and receptive’.

Table 2 shows how the resulting insights work in practice to shape our plan of action at a more granular level. It is a summary of insights, our consequent nudge activity and the behavioural science principles that inform our choices.

Table 2: Summary of our insight work.

Customer insight	Nudge	Behavioural science principle
Shorter showers: 4 mins		
I’m doing enough already	Send customers genuine personalised ‘thank you’ messages	We like to feel our efforts are recognised and want to feel good about ourselves
Don’t know how much I use and it’s the same price regardless	Create a visual interface / graphics / dashboard	Make water use tangible e.g. a bath full can make information more persuasive
Energy bills go up if I take long showers	Partner with energy companies	The cost of energy is on customers’ minds
Water saving isn’t a priority	Smart shower heads	Our attention is drawn to what stands out and seems relevant
Flushing the loo		
Unaware I have a leaky loo	Proactively send out leaky loo strips etc.	We have an in-built desire to reciprocate
Calling a plumber costs more than the leak	Free chatbot or specialist hotline for leaky loos	Make it easy
Gardening activities		
Lack of knowledge of how much water a plant needs (potted as opposed to flowerbeds) and watering techniques	Partner with gardening expert to create gardening guide	Make it easy

Customer insight	Nudge	Behavioural science principle
No awareness of volume of water used	Comms and marketing campaign to raise awareness of how much a hosepipe uses	Show water use from a hosepipe in tangible terms. Use cost, ease, environment and fairness as motivators
Hosepipes/jet washers used to wash down gardens/cars for aesthetic reasons	Comms and marketing campaign to raise awareness of how much water a hosepipe uses	People need to know there's a problem before they can change their habits. Use cost, ease, environment and fairness as motivators
Hosepipes used to water garden instead of watering cans	Testbed: hose-flow monitor trial. Increase water-butt adoption/grey water use.	Cost-efficient installation. Use ease, environment and fairness as motivators.
Panic behaviours during drought and hosepipe bans	Pre-empt panic behaviours and target with gaming behaviours via comms and marketing campaign	Raise awareness of behaviour before can change it. Built-in desire to compete. Cost, ease, environment, fairness as motivators

We have developed an overall approach that we will apply to three customer groups (household customers, non-household customers and developers). For each customer group, we have created 'catalysts' to reduce consumption.

2.2 Overall approach

Our overall approach that applies to all customer groups consists of three key elements.

2.2.1 Innovation

Every water-saving enabler will go through the same creative process: idea creation, experimentation, evaluation, and implementation. Many of our interventions will also be informed by behavioural science.

As an example, our internal innovation team, Bluewave, feeds the resulting behavioural insights from our ethnographic studies to identify appropriate water-saving products, services, and technology ideas. Bluewave has partnered with local innovation hubs (Plus X) and university research bodies, to 'horizon-scan' for the future of water-efficient products and technologies.

2.2.2 Agile delivery

We are testing potential water efficiency enablers on a small scale, learning from the findings, adapting, and only scaling up when we have the evidence that an idea works. We have constructed our own innovation testbed, a mechanism for rapidly testing ideas put forward by Bluewave. We will learn, review and course correct as needed at small scale, find the very best opportunities and ramp those up to deliver best value for the customer and for the greatest effect. The approach is designed to avoid launching solutions that may not work. On a larger scale, this approach will feed into an annual review to help us to forecast, or re-forecast, our programme of action for the greatest impact and to give the customer the best value for money.

2.2.3 Partnership-working

We are working with stakeholders at a regional level to reap greater dividends on efficiency measures. The approach will also help us to identify and allocate funding for influential community-level players so we can establish a water-efficient culture from the bottom up. At national level, we will continue to support new government interventions to help increase awareness of water scarcity and pave the way for future initiatives.

2.3 Household customers

Residential householders use 58% of all the water that enters the supply network and they represent our traditional focus for efficiency efforts. We have had one of the lowest PCC figures among UK water companies for a number of years and as part of our WRMP 2019 (WRMP19), we had set ourselves a target to reduce average PCC in our supply area to 100l/h/d by 2040 under 'normal year' (NYAA) conditions (our 'Target 100' initiative).

COVID-19 led to an increase in household demand during 2020-21 and 2021-22 as customers worked from home and made changes to their hand washing and personal hygiene routines. Our high meter penetration levels and continued water efficiency activities meant that the increase in demand was among the lowest in the industry (7.4% compared to an industry average of 10.4%). PCC has come down since, as many people returned to the workplace after pandemic restrictions were lifted and the average PCC for 2022-23 reduced to 128.5l/h/d from the peak of 139.0l/h/d in 2020-21. However, as a significant proportion of the workforce continues to work from home for at least part of the week, our 2022-23 PCC is still higher than our 2019-20 PCC of 126.6l/h/d. We have therefore had to revise our AMP7 PCC forecasts.

Our revised forecast PCC for 2024-25 (127.5l/h/d) is higher than our target and higher than our starting position for the 2020-25 planning period. This has meant that despite our on-going programme of home visits and media campaigns, we are five years behind on our original 'Target 100' programme.

In their feedback on our dWRMP24, a number of consultees encouraged us to retain the original 'Target 100' as outlined in our WRMP19. However, taking account of the impact on COVD-19 on PCC, as well as the target set in the EIP, we reviewed our strategy for rdWRMP24.

We considered two different scenarios for reducing household demand (Figure 1).

1. Reducing PCC to 110 l/h/d by 2045 under DYAA conditions. In our case, a DYAA PCC of 110l/h/d equates to a 'NYAA PCC of 100l/h/d. This scenario is therefore consistent with our original WRMP19 'Target 100' plan of achieving a NYAA PCC of 100l/h/d but achieves it in 2045 rather than 2040. This is however still 5 years earlier than the 2050 date set in the EIP.
2. Reducing DYAA PCC to 98l/h/d by 2045 (88l/h/d under NYAA conditions).

After a careful review of the deliverability risks associated with the more ambitious PCC reduction scenario, we decided to exclude it from our preferred plan. However, we did carry out a sensitivity analysis by including this scenario in our plan. The results of the sensitivity analysis are included in Section 7 of our main fdWRMP24 Technical Report.

Our plan to reduce household consumption is based on seven key initiatives listed below.

1. Smart metering
2. Home audits
3. Tariffs
4. Communications and marketing
5. Education
6. Water efficient solutions
7. Government interventions

Some of these initiatives can deliver savings on their own while others are dependent on other initiatives. For example, before we can introduce differential tariffs, we would need to have data from smart meters to inform our communications and marketing campaign to explain the reasons behind introduction of differential tariffs. Even in the case of home audits, which can deliver savings on their own, the addition of smart metering data can significantly improve their effectiveness.

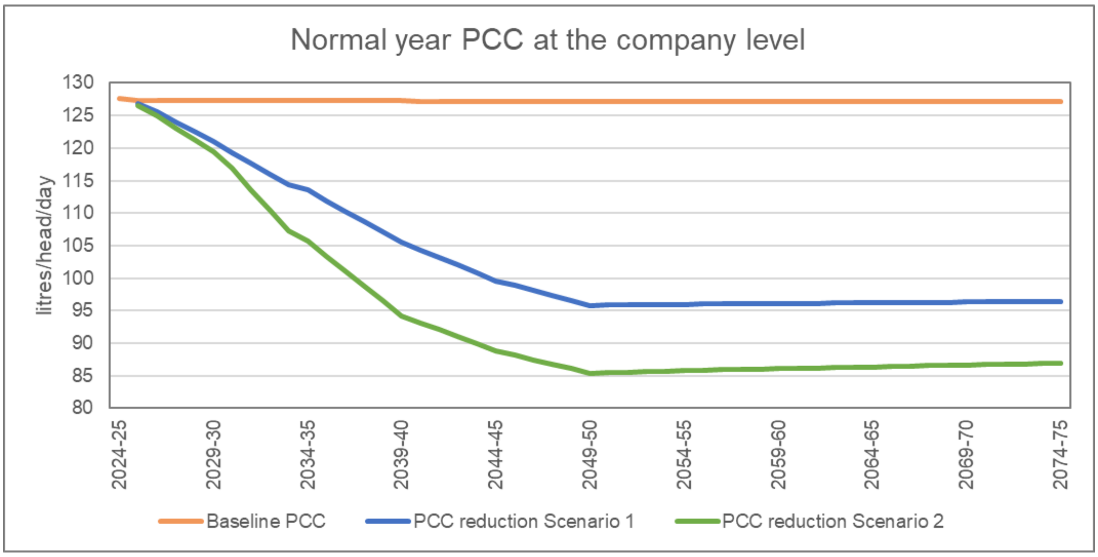

Figure 1: PCC reduction profiles considered for rdWRMP24.

Similarly, while we can directly assess the reductions associated with smart metering, home audits and tariffs, it is more difficult to assess the direct impacts of initiatives like communication, education and water saving solutions.

The seven initiatives are further discussed below. The sections below combine communications and marketing, education and water efficient solutions under 'water efficiency enablers'. Savings from these initiatives by 2050 are shown in Figure 2, excluding the impact of NAVs on demand management.

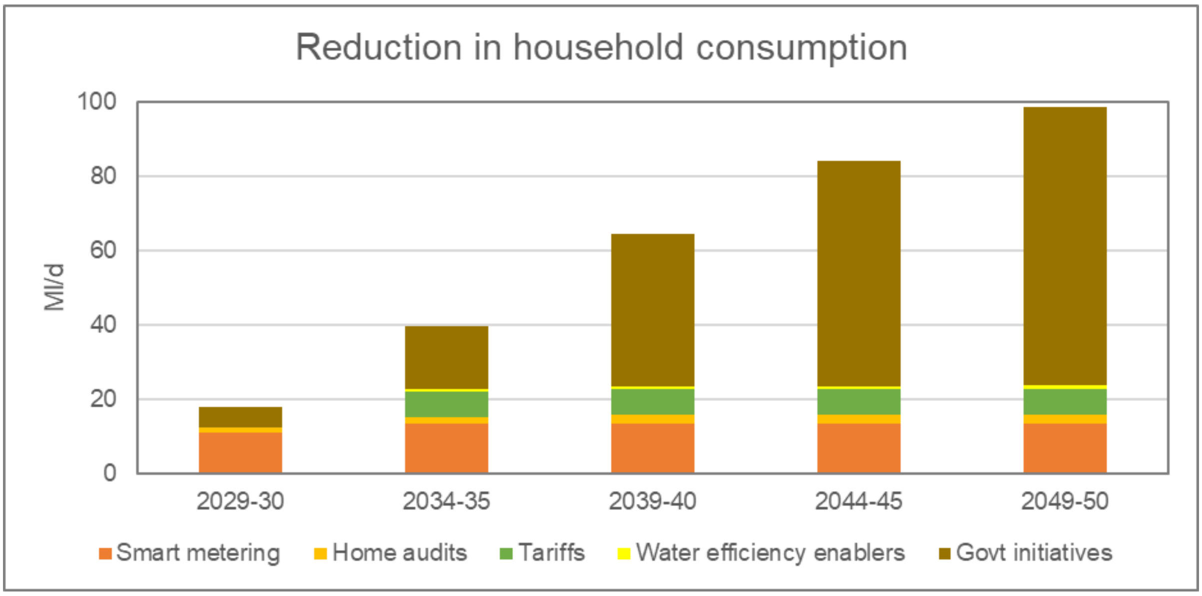

Figure 2: Reduction in household demand by initiative by 2050.

2.3.1 Smart metering

As part of our WRMP19 'Target 100' programme, we had proposed increasing household meter penetration to 92% in Hampshire (Western area) and Sussex (Central area) and carrying out smart metering trials.

Following a review of our metering strategy, we have reprogrammed the increase in household meter penetration to AMP8 (2025-30) and have expanded it to include the Eastern area as well.

In developing our profiles for meter replacement and increased meter penetration, we have prioritised Water Resources Zones (WRZs) where we are currently faced with greater supply-demand challenges i.e. Sussex North WRZ (SNZ), Sussex Brighton WRZ (SBZ), Hampshire Southampton East WRZ (HSE) and Hampshire Southampton Wes (HSW) (Table 3 and Table 4). The total numbers of meters installed may vary depending on actual growth vs planned growth.

Table 3: Meter replacement profile used to calculate demand savings associated with replacement of existing household meters with smart meters.

WRZ	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Hampshire Andover (HAZ)	0	0	0	6,286	22,288	28,574
Hampshire Kingsclere (HKZ)	0	0	0	1,050	3,726	4,777
Hampshire Winchester (HWZ)	0	0	12,028	14,700	0	26,727
Hampshire Rural (HRZ)	0	0	4,951	6,052	0	11,003
Hampshire Southampton East (HSE)	0	56,683	96,513	0	0	153,196
Hampshire Southampton West (HSW)	0	17,838	43,672	0	0	61,510
Isle of Wight (IOW)	0	0	24,354	41,470	0	65,824
Sussex North (SNZ)	67,643	30,391	0	0	0	98,034
Sussex Worthing (SWZ)	0	47,580	30,421	0	0	78,001
Sussex Brighton (SBZ)	77,644	49,641	0	0	0	127,285
Kent Medway East (KME)	0	0	0	72,052	46,066	118,117
Kent Medway West (KMW)	0	0	0	34,039	30,186	64,225
Kent Thanet (KTZ)	0	0	0	42,410	37,609	80,019
Sussex Hastings (SHZ)	0	0	0	21,149	18,754	39,903
Total	**145,286**	**202,134**	**211,939**	**239,207**	**158,629**	**957,195**

Table 4: The number of meter installs used in each WRZ to calculate demand savings associated with increased meter penetration.

WRZ	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Hampshire Andover (HAZ)	0	0	0	190	673	863
Hampshire Kingsclere (HKZ)	0	0	0	72	255	327
Hampshire Winchester (HWZ)	0	0	347	424	0	771
Hampshire Rural (HRZ)	0	0	138	169	0	307
Hampshire Southampton East (HSE)	0	1,879	3,200	0	0	5,079
Hampshire Southampton West (HSW)	0	236	577	0	0	813
Isle of Wight (IOW)	0	0	317	539	0	856
Sussex North (SNZ)	5,024	2,257	0	0	0	7,281
Sussex Worthing (SWZ)	0	1,167	746	0	0	1,913
Sussex Brighton (SBZ)	2,066	1,321	0	0	0	3,387
Kent Medway East (KME)	0	0	0	2,281	1,458	3,739
Kent Medway West (KMW)	0	0	0	1,138	1,010	2,148
Kent Thanet (KTZ)	0	0	0	1,933	1,714	3,647
Sussex Hastings (SHZ)	0	0	0	1,450	1,286	2,736
Total	**7,090**	**6,860**	**5,325**	**8,196**	**6,396**	**33,867**

We started our first smart metering data trial in the summer of 2022. It uses a clip-on smart data enabler that fits onto existing meters to provide flow data in near real time. The trial is designed to test the assumption that household water consumption can be reduced by 3-5% by giving customers information on their daily consumption. We installed the clip-on devices in 1,500 homes in Southampton, Andover, Midhurst and Brighton and have recently started sharing personalised usage data to the trial participants through an online platform (Advizzo). Another objective of this trial is to help us understand customers' engagement levels with different behavioural nudges, incentives and prompts that we communicate via Advizzo. Nearly two-thirds of the devices worked well and provided detailed, accurate and frequent reads at hourly intervals. Connectivity, though, was lower than we had expected. We concluded our trial in February 2024 and the insights gained will be used to inform our strategy for smart metering. Going forward, we plan to replace all of our existing household meters with smart meters by 2029-30 and have assumed 4% reduction in household consumption, on average, as a result. In cases where we install smart meters to previously unmetered premises, we have assumed 16% reduction in consumption.

In addition to delivering demand reductions on its own, we consider smart metering to be a key enabler for other water efficiency measures. It will allow us to better target customers for home visits, awareness campaigns and any other behavioural nudges. It will give us early warnings of any leaks on customers' supply-pipes and/or within the customers' premises enabling early detection and repair.

We are forecasting to reduce household demand by 14.6Ml/d by 2035 under normal year conditions, as a result of smart metering (Table 5 and Figure 2).

Table 5: Cumulative savings (in Ml/d) from smart metering up to 2050. Full savings will be realised by 2035.

WRZ	2029-30	2034-35	2039-40	2044-45	2045-50
Hampshire Andover (HAZ)	0.09	0.41	0.41	0.41	0.41
Hampshire Kingsclere (HKZ)	0.02	0.10	0.10	0.10	0.10
Hampshire Winchester (HWZ)	0.41	0.41	0.41	0.41	0.41
Hampshire Rural (HRZ)	0.16	0.16	0.16	0.16	0.16
Hampshire Southampton East (HSE)	2.35	2.35	2.35	2.35	2.35
Hampshire Southampton West (HSW)	0.85	0.85	0.85	0.85	0.85
Isle of Wight (IOW)	0.76	0.76	0.76	0.76	0.76
Sussex North (SNZ)	1.78	1.78	1.78	1.78	1.78
Sussex Worthing (SWZ)	1.09	1.09	1.09	1.09	1.09
Sussex Brighton (SBZ)	1.95	1.95	1.95	1.95	1.95
Kent Medway East (KME)	1.13	1.85	1.85	1.85	1.85
Kent Medway West (KMW)	0.56	1.06	1.06	1.06	1.06
Kent Thanet (KTZ)	0.63	1.19	1.19	1.19	1.19
Sussex Hastings (SHZ)	0.34	0.63	0.63	0.63	0.63
Total	**12.12**	**14.60**	**14.60**	**14.60**	**14.60**

2.3.2 Home audits

Home audits carried out during AMP7 have had some impact in reducing household consumption. We completed 8,787 home visits in 2021-22 and 8,130 home visits in 2022-23, giving advice to householders living in water-stressed areas on how to use less water. As part of home visits, we inspect for leaks and fit water-saving devices and outdoor water butts and tap jackets. The most up-to-date figures are showing an average saving in water use of 27.5 litres per property per day (l/prop/d) since we began the visits in 2015. We carried out 11,512 home visits in 2023-24 and 4,994 in 2024-25. In total, we have carried out 37,936 homes visits during the 5-year planning cycle ending in 2024-25. We have started using behavioural science insights to improve uptake of home visits.

We plan to continue with home audits going forward. We expect their effectiveness to improve as we implement smart metering. Based on AMP7 outcomes, we are investigating opportunities to increase the effectiveness of visits with behaviour science insights and with a review of our current process and partner contracts.

As part of our home audits strategy, we aim to target 10% of our customers by 2040. We have assumed 14l/h/d reduction in PCC on average, but with a decay rate of 5% per annum, in recognition of the fact that savings decline over time as other water efficiency initiatives are implemented.

We are forecasting 2.57Ml/d reduction in household demand by 2050 from home audits under normal year conditions (Table 6 and Figure 2).

Table 6: Cumulative savings (in Ml/d) from home audits up to 2050. Full savings will be realised by 2040.

WRZ	2029-30	2034-35	2039-40	2044-45	2045-50
Hampshire Andover (HAZ)	0.03	0.06	0.07	0.07	0.07
Hampshire Kingsclere (HKZ)	0.01	0.01	0.02	0.02	0.02
Hampshire Winchester (HWZ)	0.03	0.06	0.08	0.08	0.08
Hampshire Rural (HRZ)	0.01	0.02	0.03	0.03	0.03
Hampshire Southampton East (HSE)	0.19	0.33	0.42	0.42	0.42
Hampshire Southampton West (HSW)	0.07	0.12	0.15	0.15	0.15
Isle of Wight (IOW)	0.06	0.11	0.13	0.13	0.13
Sussex North (SNZ)	0.12	0.21	0.27	0.27	0.27
Sussex Worthing (SWZ)	0.08	0.15	0.18	0.18	0.18
Sussex Brighton (SBZ)	0.17	0.29	0.37	0.37	0.37
Kent Medway East (KME)	0.15	0.27	0.34	0.34	0.34
Kent Medway West (KMW)	0.09	0.16	0.20	0.20	0.20
Kent Thanet (KTZ)	0.10	0.17	0.21	0.21	0.21
Sussex Hastings (SHZ)	0.05	0.08	0.10	0.10	0.10
Total	**1.18**	**2.04**	**2.57**	**2.57**	**2.57**

We will continually assess the effectiveness of our home visits programme and makes adjustments as necessary in order the maximise savings from the programme.

2.3.3 Tariffs

Implementation of new tariff types such as rising block tariffs or seasonal tariffs can promote more efficient water use or changes to the timing of water use to reduce both the demand for water and reduce water stress at peak demand periods. We intend to carry out further work to develop our specific approach for differential tariffs beyond AMP8. Smart metering is a key enabler required for differential tariffs.

Differential tariffs must be applied with care to protect vulnerable customers and customers with special needs. Tariff trials and studies throughout AMP8 will be important so we can define our approach over the longer-term. Accordingly, our approach to introducing differential tariffs is planned across three phases: building awareness and readiness, smart meter roll-out alongside tariff pilots, and an evidence-based introduction to tariffs over time.

We plan to implement smart metering over AMP8 and formally introduce differential tariffs in AMP9 over a 3-year period from 2031-32 to 2033-34. We have assumed that this will reduce PCC by 3l/h/d on average with a decay rate of 1% per annum. The differential tariffs will first be piloted in the period 2025-2030, allowing us to assess their effectiveness and listen to feedback from our customers.

We are forecasting 7.5Ml/d reduction in household demand by 2035 from implementation of differential tariffs under normal year conditions (Table 7 and Figure 2).

Table 7: Cumulative savings (in Ml/d) from differential tariffs up to 2050. Full savings will be realised by 2035.

WRZ	2029-30	2034-35	2039-40	2044-45	2045-50
Hampshire Andover (HAZ)	0.00	0.21	0.21	0.21	0.21
Hampshire Kingsclere (HKZ)	0.00	0.04	0.04	0.04	0.04
Hampshire Winchester (HWZ)	0.00	0.22	0.22	0.22	0.22
Hampshire Rural (HRZ)	0.00	0.08	0.08	0.08	0.08
Hampshire Southampton East (HSE)	0.00	1.24	1.24	1.24	1.24
Hampshire Southampton West (HSW)	0.00	0.47	0.47	0.47	0.47
Isle of Wight (IOW)	0.00	0.41	0.41	0.41	0.41
Sussex North (SNZ)	0.00	0.80	0.80	0.80	0.80
Sussex Worthing (SWZ)	0.00	0.55	0.55	0.55	0.55
Sussex Brighton (SBZ)	0.00	1.02	1.02	1.02	1.02
Kent Medway East (KME)	0.00	1.00	1.00	1.00	1.00
Kent Medway West (KMW)	0.00	0.60	0.60	0.60	0.60
Kent Thanet (KTZ)	0.00	0.63	0.63	0.63	0.63
Sussex Hastings (SHZ)	0.00	0.28	0.28	0.28	0.28
Total	**0.00**	**7.54**	**7.54**	**7.54**	**7.54**

2.3.4 Water efficiency enablers

These include the following three initiatives.

1. Communications and marketing

As part of our proactive customer contact activities, we have focused our efforts on a multi-channel communication campaign with our customers. During 2021-22, we delivered more than 64 million impressions (the number of times content was seen) and 1.6 million direct communications in the form of emails and door drops. This estimated campaign awareness levels in our three supply areas (Western area 56%; Central area 39%; Eastern area 47%), amounts to more than 858,000 customers and around 338,000 households who have taken active steps to reduce consumption as a result. We continued this programme in 2022-23 with over 3 million impressions and 1.4 million direct communications. We are also continuing to increase our water efficiency education programme through our ‘City to Sea’ partnership and are working with stakeholders to promote water neutrality in SNZ.

We also promote home visits and water saving through our projects with local councils, including Kent County Council and Southampton City Council. We partner with third parties to run promotional stalls for us at general non-water-specific events across the region.

Our future strategy divides the customer journey into three stages:

1. **Build awareness of water scarcity and the need to use water wisely.** This is when we lay the foundations to ensure customers start to view water as a precious resource and think about the amount they are using.
2. **Make less water use socially acceptable.** Once awareness of water scarcity is high, our activity will focus on getting people talking about water-saving activities and accepting it as an everyday practice.
3. **Celebrate and encourage behaviour change.** In this phase, we shift the focus to personal use, spotlighting best practice and case studies as well as issuing regular reminders to use water wisely.

'Save a little water, make a lot of difference' is our refreshed, multi-platform, overarching awareness campaign (launched May 2023) that will form the backbone of the customer journey all the way to 2040. It will run for full 12-month periods, with its messages and content adjusted every year. It is designed to raise awareness of water scarcity, encourage people to use less water and, importantly, provide useful tips on how to do it. The campaign aims to take our customers on a journey, from being unaware of water scarcity, to becoming engaged stewards of water as a precious resource. It focuses on the simple things people can do around the home and has been informed by behavioural science insights gathered from our ethnographic studies, begun in the summer of 2022.

Campaign visuals have been given eye-catching creative treatments so their frequency will build strong message association and recall. They aim to show and not tell, in order to normalise behaviours that will reduce water consumption. The campaign will target all adults across our operating area, with some channels focussing on the two most receptive segments in our customer base. It will run on outside sites (billboards, bus stop ads), digital displays, social media, TV and radio, press and PR, influencer activity, and direct customer comms (emails).

We will also run specific hot weather campaigns, or around any trigger that increases water use, and will align our campaigns with any national campaigns running at the same time for consistency and greater impact. We will continue to run our proactive customer contact activities from the original 'Target 100' programme. We are also planning a new 'Target 100' hub on our website to draw together and highlight the vital importance of saving water. It will include a water-saving calculator, useful tips and advice for household and non-household customers and set out what we – Southern Water – are also doing to save water.

We have assumed that communications and marketing campaigns will lead to 5% of our customers each year to reducing their consumption by 5l/h/d on average with a decay rate of 2% per annum.

2. Education

We have launched two new 'Target 100' educational modules - Water Protectors and Water Detectives - as part of our 'New Wave' educational programme. They are a set of classroom modules designed by curriculum specialists to help children learn simple ways of saving water and protecting our local environment. These teaching resources are linked to the curriculum and consist of games and multi-media tools to cater for a range of ages, learning styles and additional needs, making sessions as accessible and engaging as possible. Pupils are challenged to solve local water problems, such as how restaurants on the Isle of Wight can use less water. We ask them to tell us three things that chefs and their diners could do to use less water. Pupils are also encouraged to make water-saving pledges. So far, 49 schools have downloaded the free resources.

We are also working with the South-East and Wessex Rivers Trust on a joint school education trial called 'Our River, Our Water', aimed at primary schools. It is made up of indoor and outdoor sessions on the River Dour, River Dun and Gatwick Stream where children take part in a range of outdoor activities, all linked to the national curriculum, including follow-up class resources and a leaflet to take home. The project aims to help educate the next generation on the need to save water. Pupils learn how the South East of England, where they live, is water-stressed, why that is the case and why it is vital we protect our natural resources. We are also doing all-year 'Water Wise' talks in schools, educating pupils about the water cycle and saving it (for Key Stage 1 and 2 levels, with a more scientific version for Key Stage 4 and 5 pupils).

We carried out nearly 2,000 engagements with schools/uniformed groups and reached nearly 210,000 young people over AMP7. As part of this initiative we visited as 412 schools out of a total of 1,823 in our supply area. We plan to continue this engagement over AMP8.

We have assumed that as a result of our education campaigns up to 2040, 1% of our population will reduce their consumption each year by 1.5l/h/d.

3. Water-efficiency solutions

These are the 'tools' we will give our customers to ease their journey towards using less water. They are the 'How can I save water?' part of the customers' journey and come after they have understood the 'why I need to change' part of the programme. It may also include solutions that nudge customers to make the required change even if the 'why' is not fully understood. These tools will be either water-saving products or an enabler, such as creating the sort of conditions that will encourage new habits. These tools can be motivational (helping the customer to use less water through choice), such as switching off the tap while brushing teeth, or devices designed to encourage less water use, such as a water-efficient showerhead.

As an example, to reduce wastage through leaking toilets, we will use the data from smart meters to find households that have a continuous flow. We will intervene with simple measures such as leak strips or with food dye, so the customer can work out if it is their toilet that is leaking.

The combined savings from education, communications and awareness campaigns and water efficiency solutions is estimated to be 1.22Ml/d by 2049-50 under normal year conditions (Table 8).

Table 8: Cumulative savings (in Ml/d) from water efficiency enablers up to 2050.

WRZ	2029-30	2034-35	2039-40	2044-45	2045-50
Hampshire Andover (HAZ)	0.00	0.01	0.02	0.03	0.03
Hampshire Kingsclere (HKZ)	0.00	0.00	0.00	0.01	0.01
Hampshire Winchester (HWZ)	0.00	0.01	0.02	0.03	0.04
Hampshire Rural (HRZ)	0.00	0.00	0.01	0.01	0.01
Hampshire Southampton East (HSE)	0.02	0.07	0.11	0.16	0.20
Hampshire Southampton West (HSW)	0.01	0.02	0.04	0.06	0.07
Isle of Wight (IOW)	0.01	0.02	0.04	0.05	0.06
Sussex North (SNZ)	0.01	0.04	0.07	0.10	0.13
Sussex Worthing (SWZ)	0.01	0.03	0.05	0.07	0.09
Sussex Brighton (SBZ)	0.02	0.06	0.10	0.14	0.17
Kent Medway East (KME)	0.01	0.05	0.09	0.13	0.16
Kent Medway West (KMW)	0.01	0.03	0.06	0.08	0.10
Kent Thanet (KTZ)	0.01	0.03	0.06	0.08	0.10
Sussex Hastings (SHZ)	0.00	0.02	0.03	0.04	0.05
Total	**0.10**	**0.41**	**0.70**	**0.97**	**1.22**

2.3.5 Government interventions

We strongly believe that the level of reduction that we are aiming to achieve cannot be achieved without help from the Government. Following feedback from the Environment Agency on our dWRMP24, we have included savings from Government-led initiatives in our 'Target 100' strategy. Government-led initiatives include water labelling and building standards for new homes. WRSE has developed a number of PCC reduction profiles based on the Water UK study carried out in 2019[3] (Table 9 and Figure 3).

[3] Artesia and Eftec, 2019. Pathways to long-term PCC reduction. Report no. 2346.

Table 9: Government-led intervention scenarios developed by WRSE.

Scenario	Scenario description
A	Low until 2040 and medium from 2060 (interim between 2040 to 2060), full cumulative benefits by 2075
B	Low until 2040 and medium from 2060 and high from 2080 (interim between 2040 to 2060 to 2080), full cumulative benefits by 2095
C	Low until 2040 and medium from 2050 and high from 2060 (interim between 2040 to 2050 to 2060), full cumulative benefits by 2075
D	Low from 2025; medium by 2040; high by 2075), full cumulative benefits by 2090
E	Low from 2025; medium by 2035; high by 2050), full cumulative benefits by 2065
F	Low government savings by 2030 and medium by 2040, full cumulative benefits by 2055
G	Low government savings by 2030 and high by 2040, full cumulative benefits by 2055
H	Low government savings by 2030, full cumulative benefits by 2040
C+	Low government savings from 2025; medium from 2030 and high from 2035 (15-year implementation policy), full cumulative benefits by 2050
C++	Low government savings from 2025; medium from 2030 and high from 2035 (10-year implementation policy), full cumulative benefits by 2045

The C+ scenario has been adopted by WRSE as the default PCC savings profile. It reduces PCC by 24l/h/d by 2050. We have also adopted this scenario for our WRMP24, but have tested alternative Government-led PCC reduction scenarios as part of our programme development. The non-delivery of the C+ scenario is the most significant risk to achieving our ‘Target 100’ ambition.

Government interventions are forecast to deliver 74.8Ml/d in savings by 2049-50 (Table 10 and Figure 2). Household demand reduction profiles in each of the 14 Water Resources Zones (WRZs) assume the same level of savings from each initiative.

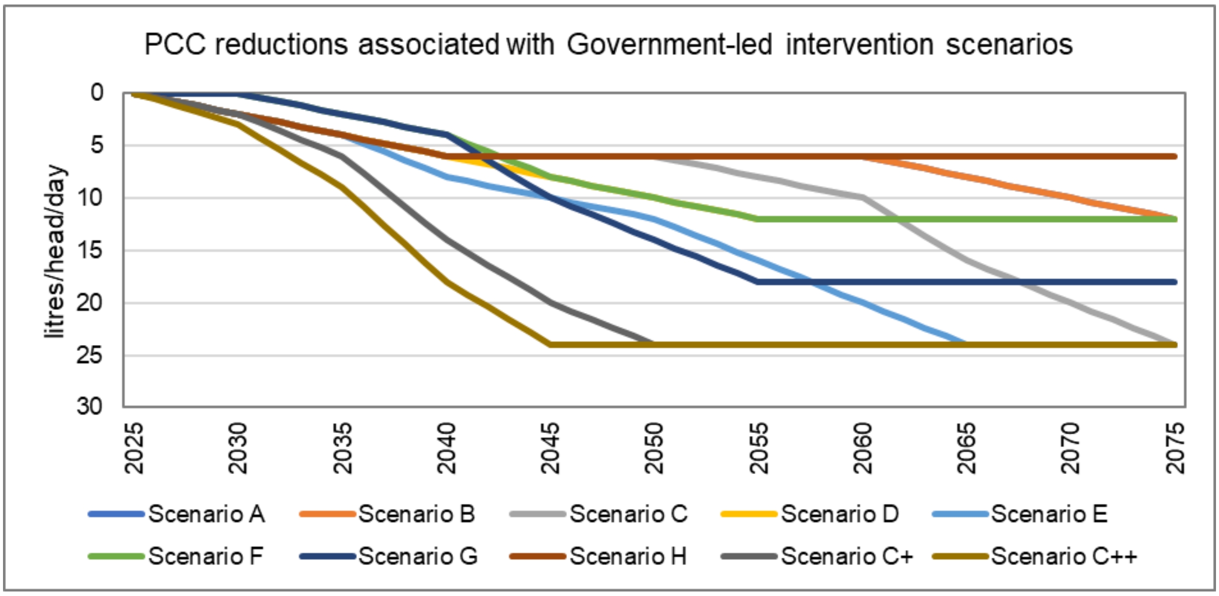

Figure 3: Profiles of PCC reduction associated with Government led intervention scenarios.

Table 10: Cumulative savings (in Ml/d) from government led initiatives up to 2050.

WRZ	2029-30	2034-35	2039-40	2044-45	2045-50
Hampshire Andover (HAZ)	0.15	0.47	1.12	1.64	2.02
Hampshire Kingsclere (HKZ)	0.03	0.11	0.26	0.38	0.47
Hampshire Winchester (HWZ)	0.16	0.50	1.19	1.73	2.12
Hampshire Rural (HRZ)	0.06	0.17	0.41	0.60	0.74
Hampshire Southampton East (HSE)	0.91	2.79	6.65	9.73	11.96
Hampshire Southampton West (HSW)	0.33	1.03	2.44	3.57	4.40
Isle of Wight (IOW)	0.29	0.88	2.10	3.07	3.77
Sussex North (SNZ)	0.58	1.79	4.28	6.30	7.79
Sussex Worthing (SWZ)	0.40	1.22	2.93	4.34	5.41
Sussex Brighton (SBZ)	0.80	2.45	5.83	8.54	10.57
Kent Medway East (KME)	0.73	2.24	5.43	8.04	9.99
Kent Medway West (KMW)	0.43	1.37	3.32	4.92	6.11
Kent Thanet (KTZ)	0.46	1.44	3.50	5.19	6.45
Sussex Hastings (SHZ)	0.23	0.69	1.66	2.44	3.02
Total	**5.56**	**17.15**	**41.12**	**60.50**	**74.82**

2.4 Non-household customers and retailers

Our ‘Target 100’ programme now includes a reduction in non-household demand. Following the introduction of the non-household market in 2017, non-households are no longer our direct customers. We will partner with the retailers in order to reduce non-household demand.

The focus of our non-household strategy is to provide differing solutions for each business. Our core strategy will be to help identify opportunities for them to connect to non-potable supplies, either through an alternative source such as rainwater or grey-water harvesting, or by reducing their consumption through fitting water-efficient devices and reducing leaks (via a water audit). All our work in this sector, to date, has been on a trial basis, so we can learn more about the sector, the type of business and the effectiveness of the intervention in relation to it. We are working on the principle that when we fit water-saving devices to businesses whose water use is confined to toilets and sinks (where water is not a part of their product or service), that they will perceive little to no difference.

Our options analysis has identified the following six initiatives for a consciously water-efficient workplace culture by 2038.

2.4.1 Smart meters

In line with our smart metering strategy for household customers, we are aiming to replace our existing non-household meters with smart meters. The smart metering profile used in our WRMP24 assumes that all customers using up to 50,000 litres/day will have a smart meter fitted by 2030. These represent over 99% of the non-households. The remaining customers will have their meters replaced by 2035. Our PR24 Business Plan aims to replace all non-household meters with smart meters by 2030. We have not updated our WRMP24 estimates as they were locked in as part of the WRSE Regional Plan prior to our PR24 Business Plan strategy being finalised. Given that WRMP24 assumes only 1% non-households to be metered between 2030 and 2035, we do not consider this slight adjustment to material. It should result in slightly higher non-household demand savings compared to the savings estimate for WRMP24.

Smart metering is projected to reduce consumption by 3.77Ml/d by 2035 (Table 11 and Figure 4).

Table 11: Cumulative savings (in Ml/d) in non-household demand from smart metering up to 2050. The savings will be fully realised by 2035.

WRZ	2029-30	2034-35	2039-40	2044-45	2045-50
Hampshire Andover (HAZ)	0.09	0.11	0.11	0.11	0.11
Hampshire Kingsclere (HKZ)	0.02	0.02	0.02	0.02	0.02
Hampshire Winchester (HWZ)	0.11	0.17	0.17	0.17	0.17
Hampshire Rural (HRZ)	0.04	0.04	0.04	0.04	0.04
Hampshire Southampton East (HSE)	0.41	0.63	0.63	0.63	0.63
Hampshire Southampton West (HSW)	0.15	0.24	0.24	0.24	0.24
Isle of Wight (IOW)	0.20	0.26	0.26	0.26	0.26
Sussex North (SNZ)	0.30	0.39	0.39	0.39	0.39
Sussex Worthing (SWZ)	0.17	0.20	0.20	0.20	0.20
Sussex Brighton (SBZ)	0.37	0.53	0.53	0.53	0.53
Kent Medway East (KME)	0.24	0.36	0.36	0.36	0.36
Kent Medway West (KMW)	0.17	0.37	0.37	0.37	0.37
Kent Thanet (KTZ)	0.21	0.29	0.29	0.29	0.29
Sussex Hastings (SHZ)	0.10	0.15	0.15	0.15	0.15
Total	**2.58**	**3.77**	**3.77**	**3.77**	**3.77**

2.4.2 Water audits

Evidence from other water companies in the South East suggests that water audits can deliver significant savings in the non-household sector. We will therefore be extending our water audits programme to non-households from AMP8. We will audit, advise, retrofit, set up recycling systems and transfer these customers to alternate supplies where applicable. We will do this by groupings of non-household types and consumption levels. We intend to prioritise public sector buildings, targeting older, inefficient properties for greater water savings.

We have already extended our water audits to schools. We piloted the scheme in 2022 at a high water-consuming junior school in Hampshire, collaborating with our water retail partner Business Stream and a service provider. We audited the school's water use with meter loggers and then used that information to fit a total of 82 flow-restricting devices: one in each classroom, in staff and children's toilets, the kitchen, and in an after-school area. We then installed a smart meter and analysed the water use with the more granular data. As a result of our work, the school was saving 1,600 litres of water per day, adding up to a saving of three million litres of water every year and the school's annual water and wastewater bill has halved from £3,834 to £1,825.

We are now scaling this up and arranging to do similar water audits and retrofits in another eight schools in Hampshire (part of a wider Hampshire County Council non-household project to save water). We will follow the same approach as in the pilot school, fitting devices, and water loggers, and we will monitor use over three years. We will also apply what we have learned to organisations and businesses who are high users too.

We are forecasting a saving of 5.34Ml/d by 2040 through non-household water audits (Table 12 and Figure 4).

Table 12: Cumulative savings (in Ml/d) in non-household demand from water audits up to 2050. The savings will be fully realised by 2040.

WRZ	2029-30	2034-35	2039-40	2044-45	2045-50
Hampshire Andover (HAZ)	0.05	0.13	0.20	0.20	0.20
Hampshire Kingsclere (HKZ)	0.01	0.03	0.05	0.05	0.05

WRZ	2029-30	2034-35	2039-40	2044-45	2045-50
Hampshire Winchester (HWZ)	0.06	0.15	0.23	0.23	0.23
Hampshire Rural (HRZ)	0.02	0.05	0.09	0.09	0.09
Hampshire Southampton East (HSE)	0.23	0.59	0.91	0.91	0.91
Hampshire Southampton West (HSW)	0.09	0.21	0.32	0.32	0.32
Isle of Wight (IOW)	0.08	0.24	0.39	0.39	0.39
Sussex North (SNZ)	0.12	0.39	0.63	0.63	0.63
Sussex Worthing (SWZ)	0.06	0.21	0.35	0.35	0.35
Sussex Brighton (SBZ)	0.14	0.47	0.76	0.76	0.76
Kent Medway East (KME)	0.12	0.30	0.46	0.46	0.46
Kent Medway West (KMW)	0.08	0.20	0.31	0.31	0.31
Kent Thanet (KTZ)	0.09	0.27	0.42	0.42	0.42
Sussex Hastings (SHZ)	0.03	0.14	0.23	0.23	0.23
Total	**1.18**	**3.38**	**5.34**	**5.34**	**5.34**

2.4.3 Tariffs

We intend to use tariff mechanisms in a smarter way to incentivise organisations to use less potable water. We will trial the best mechanisms to reduce consumption and, in the meantime, have identified the following changes and innovations:

- Adopting site, area-based, charging for surface water drainage
- Removing the discount for large users
- Changing to a volumetric measure for highway drainage charges linked to customer usage
- Trialling extensively around new tariffs, including seasonal and rising block tariffs.

We plan to introduce alternative tariffs for non-households from 2035-36 and expect to reduce non-household demand by 2.12Ml/d by 2039-40 (Table 13 and Figure 4).

Table 13: Cumulative savings (in Ml/d) in non-household demand from innovative tariffs up to 2050. The savings will be fully realised by 2040.

WRZ	2029-30	2034-35	2039-40	2044-45	2045-50
Hampshire Andover (HAZ)	0.00	0.00	0.06	0.06	0.06
Hampshire Kingsclere (HKZ)	0.00	0.00	0.01	0.01	0.01
Hampshire Winchester (HWZ)	0.00	0.00	0.09	0.09	0.09
Hampshire Rural (HRZ)	0.00	0.00	0.02	0.02	0.02
Hampshire Southampton East (HSE)	0.00	0.00	0.37	0.37	0.37
Hampshire Southampton West (HSW)	0.00	0.00	0.14	0.14	0.14
Isle of Wight (IOW)	0.00	0.00	0.14	0.14	0.14
Sussex North (SNZ)	0.00	0.00	0.21	0.21	0.21
Sussex Worthing (SWZ)	0.00	0.00	0.12	0.12	0.12
Sussex Brighton (SBZ)	0.00	0.00	0.29	0.29	0.29
Kent Medway East (KME)	0.00	0.00	0.22	0.22	0.22
Kent Medway West (KMW)	0.00	0.00	0.18	0.18	0.18
Kent Thanet (KTZ)	0.00	0.00	0.17	0.17	0.17
Sussex Hastings (SHZ)	0.00	0.00	0.09	0.09	0.09
Total	**0.00**	**0.00**	**2.12**	**2.12**	**2.12**

2.4.4 Partnership funds

As part of this measure, we will be offering funding to customers either collaboratively with retailers for projects that demonstrate potable water savings or switch to non-potable water or directly to community groups, schools, and businesses. This option was chosen as it overcomes market barriers as follows:

- the low margins for retailers meaning large upfront payments can create cash flow restrictions.
- the lack of access to capital for the customer to invest in solutions to make the savings in water use.
- the low marginal cost of water that makes the pay back for water efficiency often too long – especially for small businesses.

The money will fund projects that switch organisations from potable water supplies to non-potable supplies, or that reduce consumption with water-efficient fittings, or that target continuous flows. Applications that can demonstrate benefits to the community will also be prioritised.

The funding criteria will assess the best value schemes as well as our confidence in their delivery. Projects of various sizes will be funded and we expect to include rainwater harvesting for toilets, drought-tolerant gardens, water butts for community allotments, greywater recycling, or trials that can harness new technology to educate people about water use.

We are leading the way on incentivising non-household customers to reduce consumption and sustain behaviour change. In 2022, we launched the first incentive scheme of its kind in the water industry, designed to reduce water use and protect river levels on the rivers Test and Itchen, where water levels were dropping during one of the UK’s driest and hottest years on record. The scheme, called ‘You Save. We will Pay’, was aimed at businesses in Hampshire and the Isle of Wight. We gave businesses a discount of 10, 20 or 25% of their wholesale water charges when they saved the equivalent amount of water across three months. Nearly 4,000 water customers demonstrated a saving of 680 million litres of water during this period.

Customers who took part in the scheme were overwhelmingly positive with the majority saying they would participate again, citing how clearly it was communicated, how easy it was to participate and how much it benefitted them. However, our findings suggested we potentially need a different communications strategy in future, for larger organisations, to get the appropriate decision-makers’ attention.

We are looking at how we can help high water-use businesses who use mains water for irrigation purposes during the summer and early autumn, such as livestock farms, plant nurseries, estates and recreational facilities. We have already funded the planning process for Littlehampton Golf Course to install a reservoir on site, in order to reduce their mains water use. We are now scoping out a further project to invest in rainwater harvesting equipment in areas under stress during prolonged dry weather. We will work collaboratively with the retailer and business to identify a range of options to make water savings and to reduce the demand by funding the installation of rainwater harvesting equipment.

We will also invite funding bids made by retailers willing to replace potable water with treated effluent - where it is safe to do so - such as for watering the grass on golf courses; for washing commercial vehicles, such as buses; or, for road cleaning.

Through partnership funding, we aim to reduce non-household demand by 0.2Ml/d by 2040 (Table 14 and Figure 4).

Table 14: Cumulative savings (in Ml/d) in non-household demand from partnership funds up to 2050. The savings will be fully realised by 2040.

WRZ	2030	2035	2040	2045	2050
Hampshire Andover (HAZ)	0.00	0.00	0.01	0.01	0.01
Hampshire Kingsclere (HKZ)	0.00	0.00	0.00	0.00	0.00
Hampshire Winchester (HWZ)	0.00	0.00	0.01	0.01	0.01
Hampshire Rural (HRZ)	0.00	0.00	0.00	0.00	0.00

WRZ	2030	2035	2040	2045	2050
Hampshire Southampton East (HSE)	0.00	0.02	0.03	0.03	0.03
Hampshire Southampton West (HSW)	0.00	0.01	0.01	0.01	0.01
Isle of Wight (IOW)	0.00	0.01	0.01	0.01	0.01
Sussex North (SNZ)	0.00	0.01	0.02	0.02	0.02
Sussex Worthing (SWZ)	0.00	0.01	0.01	0.01	0.01
Sussex Brighton (SBZ)	0.00	0.01	0.03	0.03	0.03
Kent Medway East (KME)	0.00	0.01	0.02	0.02	0.02
Kent Medway West (KMW)	0.00	0.01	0.02	0.02	0.02
Kent Thanet (KTZ)	0.00	0.01	0.02	0.02	0.02
Sussex Hastings (SHZ)	0.00	0.00	0.01	0.01	0.01
Total	**0.00**	**0.10**	**0.20**	**0.20**	**0.20**

2.4.5 Communications

In addition to increasing and communication and awareness for household customers, we will target messages at specific segments of the non-household sector as well. We anticipate these working particularly well with those very small businesses who are effectively no different - as water users - to households.

We are forecasting a savings of 0.11Ml/d by 2040 through communication and awareness (Table 15).

Table 15: Cumulative savings (in Ml/d) in non-household demand from communications up to 2050. The savings will be fully realised by 2040.

WRZ	2029-30	2034-35	2039-40	2044-45	2045-50
Hampshire Andover (HAZ)	0.00	0.00	0.00	0.00	0.00
Hampshire Kingsclere (HKZ)	0.00	0.00	0.00	0.00	0.00
Hampshire Winchester (HWZ)	0.00	0.00	0.00	0.00	0.00
Hampshire Rural (HRZ)	0.00	0.00	0.00	0.00	0.00
Hampshire Southampton East (HSE)	0.01	0.01	0.02	0.02	0.02
Hampshire Southampton West (HSW)	0.00	0.01	0.01	0.01	0.01
Isle of Wight (IOW)	0.00	0.00	0.01	0.01	0.01
Sussex North (SNZ)	0.00	0.01	0.01	0.01	0.01
Sussex Worthing (SWZ)	0.00	0.00	0.01	0.01	0.01
Sussex Brighton (SBZ)	0.01	0.01	0.01	0.02	0.02
Kent Medway East (KME)	0.00	0.01	0.01	0.01	0.01
Kent Medway West (KMW)	0.00	0.01	0.01	0.01	0.01
Kent Thanet (KTZ)	0.00	0.01	0.01	0.01	0.01
Sussex Hastings (SHZ)	0.00	0.00	0.00	0.00	0.00
Total	**0.04**	**0.08**	**0.10**	**0.11**	**0.11**

2.4.6 Trials and innovations

All ideas and initiatives for non-household demand reduction go through our ‘testbed’ to thoroughly evaluate that they do save water, can be measured and the results are lasting. For example, we will use the testbed to investigate whether alternative supplies of water (such as rainwater harvesting) can be used in businesses that need to irrigate (such as golf courses or plant nurseries). We are currently doing trials with farmers in Hampshire and the Isle of Wight to test whether harvested rainwater can be an alternative to potable water, and whether rainwater can be stored over the winter. We have also started a trial with Hampshire County Council to audit and retrofit council properties. Apart from technological solutions, we are testing partnership models by offering funding to business users, communities and retailers to put in place the right water efficiency solutions locally. We are learning from successful water-saving initiatives implemented by other water companies in England and Wales.

We aim to reduce non-household demand by 0.1Ml/d by 2040 (Table 16 and Figure 4).

Table 16: Cumulative savings (in Ml/d) in non-household demand from trials and innovation up to 2050. The savings will be fully realised by 2040.

WRZ	2029-30	2034-35	2039-40	2044-45	2045-50
Hampshire Andover (HAZ)	0.00	0.00	0.00	0.00	0.00
Hampshire Kingsclere (HKZ)	0.00	0.00	0.00	0.00	0.00
Hampshire Winchester (HWZ)	0.00	0.00	0.00	0.00	0.00
Hampshire Rural (HRZ)	0.00	0.00	0.00	0.00	0.00
Hampshire Southampton East (HSE)	0.00	0.01	0.02	0.02	0.02
Hampshire Southampton West (HSW)	0.00	0.00	0.01	0.01	0.01
Isle of Wight (IOW)	0.00	0.00	0.01	0.01	0.01
Sussex North (SNZ)	0.00	0.01	0.01	0.01	0.01
Sussex Worthing (SWZ)	0.00	0.00	0.01	0.01	0.01
Sussex Brighton (SBZ)	0.00	0.01	0.01	0.01	0.01
Kent Medway East (KME)	0.00	0.01	0.01	0.01	0.01
Kent Medway West (KMW)	0.00	0.00	0.01	0.01	0.01
Kent Thanet (KTZ)	0.00	0.00	0.01	0.01	0.01
Sussex Hastings (SHZ)	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.05**	**0.10**	**0.10**	**0.10**

Savings from communication and trials and innovation have been combined into ‘enabling activities’ in the WRP tables accompanying our fdWRMP24 submission.

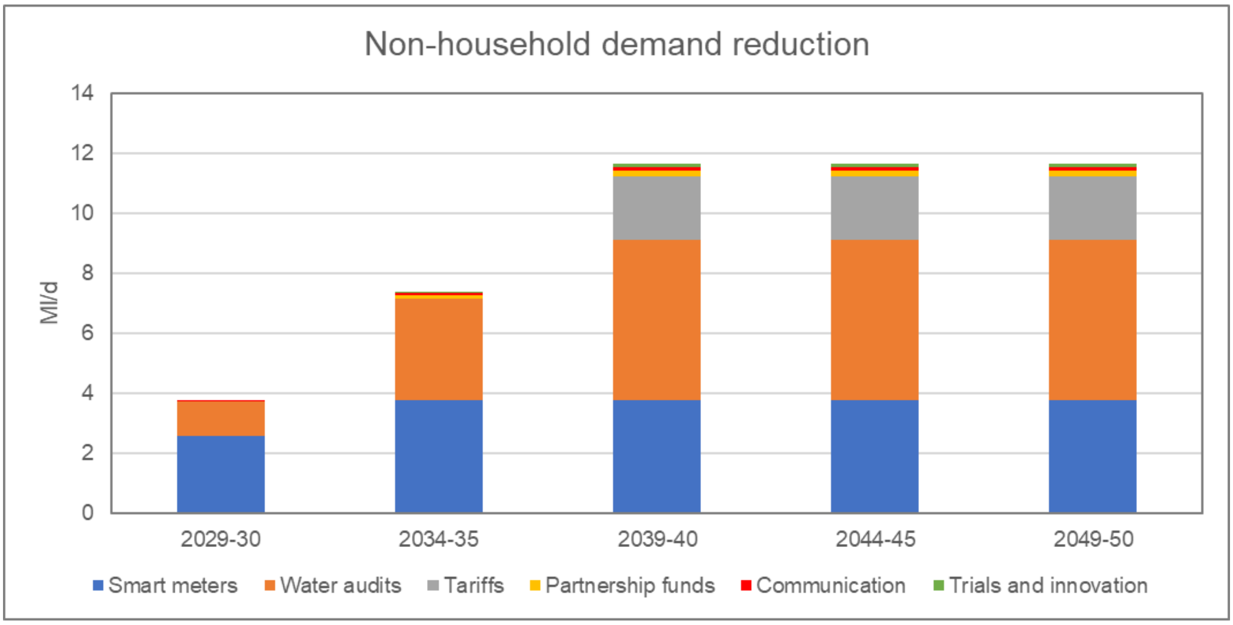

Figure 4: Reduction in non-household demand through various initiatives.

Figure 5 shows a comparison of the baseline non-household demand forecast with the final demand forecast. The reported non-household demand for 2019-20 is also shown for both the reporting method used in AMP7 and the reporting method that is to be used from AMP8 onward. Our final non-household demand forecast shows as 11% reduction compared to 2019-20 reported figure and 9% reduction compared to 2019-20 figure based on AMP8 methodology.

The longer-term target for the non-household sector is to have reduced consumption by 15% by 2050. Our non-household demand is focused on the medium term 2038 target. Beyond 2040 the profile shows an increase in demand in response to growth in economic activity that we forecast in our region. As with household demand reduction, we will require Government interventions to achieve the long-term reduction targets in non-household demand to negate the impact of growth i.e. beyond the baseline forecast. Currently, we cannot achieve this on our own with the initiatives we have considered. This will require new innovations and wider policy decisions and interventions that cannot yet be reasonably forecast with any level of certainty. As such we have not included any non-household demand reductions beyond 2040 within this plan. Future activities will be explored during AMP8 to seek reductions beyond the forecasts we have currently included.

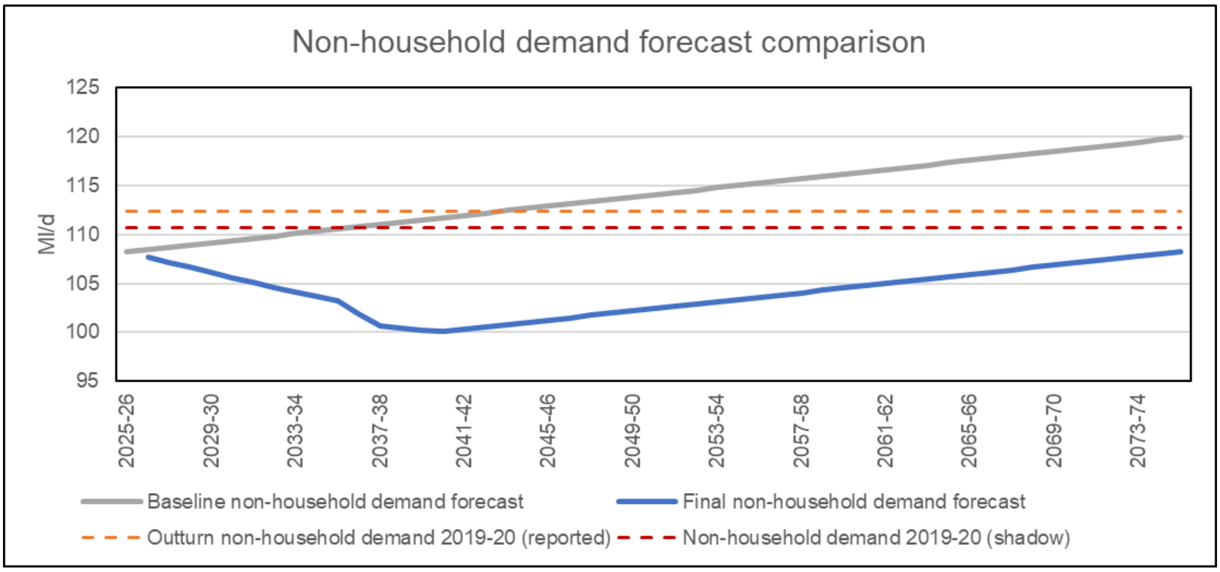

Figure 5: Non-household demand forecast.

2.5 Developers

We are working closely with LPAs and developers in SNZ to support the development of their response to the requirements of the Position Statement issued by Natural England in September 2021. All new developments in that area are required to demonstrate that they are not adding to the abstraction in the area. The approach uses the three-tier Water Neutrality model published by Waterwise (Figure 6).

The first stage focuses on reducing the demand as far as possible, through use of water efficient devices, understanding consumption with smart metering and developing a water saving culture.

The second stage includes reuse of water through rainwater harvesting or grey water recycling.

The final stage requires any remaining balance to be offset by investing in reduction and reuse in nearby properties.

We have already achieved the following in SNZ:

a. engaged with developers on potential strategic solutions using a triage process,

b. appointed a dedicated resource, and

c. established better communications including a quarterly webinar, monthly newsletter, dedicated water neutrality email waterneutrality@southernwater.co.uk and a water neutrality webpage.

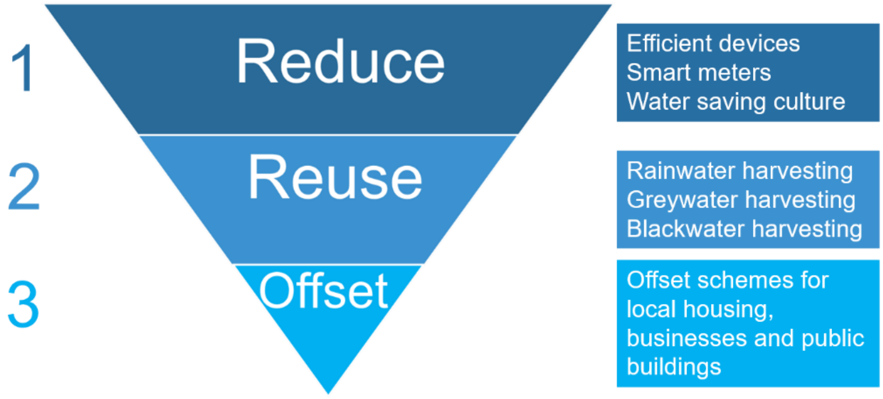

Figure 6: The three-tier Water Neutrality model published by Waterwise.

We are also working with key strategic stakeholders, such as land promoters and developers all over our operating area, to create fundamental shifts in how housing developments are planned and designed, to understand what our built environment looks like and to improve the future resilience of our network. We are working with developers to influence their strategic approach to design homes for water-efficient lifestyles. We work closely with local policy makers to develop planning policy to help bring about the changes we need to our networks, working closely with the LPAs to encourage them to align with our responses where possible and enable them to promote water neutral and sustainable developments. This includes effective contributions to local plans and giving clear guidance on planning conditions to enable a resilient water future.

We have introduced a financial incentive scheme that starts at the point a developer applies for a water connection. It is a three-tier incentive scheme that refunds or credits money to the developer per connection based on the extent of water their developments will save. Tier 1 encourages water efficiency and offers credits of £250 to any developer who can prove they have installed water-efficient devices that will mean the household will use an average of 100l/h/d. Tier 2 encourages water recycling and credits the developer with £800 if they can prove their homes are using grey water harvesting and/or recycling technology that captures at least 50 litres of water per property per day. Tier 3 encourages water neutrality outside of the SNZ. It offers any developer, who has already met the criteria for Tiers 1 and 2 but can cut water use further to 85l/h/d, the chance to off-set the remainder per property by contributing towards the cost of a water-efficiency home audit and retrofit of water-saving devices to existing homes.

Further details on water neutrality are given in Annex 22.

3 Carbon Costs of 'Target 100'

3.1 Household demand reduction

Net carbon impact was evaluated using the following three metrics:

1. Embodied Carbon – carbon emissions embedded in the delivery of an asset
2. Operational Carbon (delivery) – carbon emissions operational activity to deliver the option
3. Operational Carbon (Water Saving) – carbon emissions from the reduced volume of water produced

The total carbon was calculated as the sum of each component as follows:

Total carbon = [embodied carbon] + [operational carbon for the years of install] + [operational carbon water saving for cumulative water saved]

The carbon data used is set in Table 17.

Table 17: Carbon cost estimates.

Reference	Description	Value	Unit	Source
A	Travel	0.19469	kgCO2/km	(1)
B	Composite meter or water saving devices	1.60875	kgCO2e/property	(1)
C	Hot	8100	kgCO2e/Ml	(1)
D	Mileage for installation (0.27 x Properties)	24	miles/property	(1)
E	Km for Installation (0.27 x properties)	38.616	km/property	(1)
F	Carbon per Ml/d water produced	129.56	kgCO2e/Ml/d	(2)
G	Local Comms campaign	778.8	KgCO2/300k property	(3)

(1) Artesia (2021) 'Options identification and analysis for T100 and NF110 pathways'
(2) Southern Water (2022), APR 2021/22, Table 11a
(3) Assume 4,000km pa. per 300k properties @ 0.19469

The carbon impact of the household programme to 2050 generates a net saving of 52,000 million kg CO2e in the 'Target 100' water efficiency plan for the fdWRMP24 scenario (see Table 18).

Table 18: Carbon impacts of the 'Target 100' household demand reduction plan.

Catalyst	Water Saved (Ml/d by 2050)	Properties [total]	Embodied Carbon (kgCO2e)	Operational (delivery) (kgCO2e)	Operational (water saved) (kgCO2e)	Total (kgCO2e)
	(1)	(2)	=Bx(2)			
Smart Metering	13.39	991,064	1,594	7,451	-13,910	-4,865
Water audit home visits	2.36	117,024	188	880	-2,163	-1,095
Innovative tariffs	6.92	-	-	-	-5,890	-5,890
Water efficiency enablers	1.12	c.45,000	-	462	-635	-172
Government initiatives	74.82	-	-	-	-39,933	-39,933
Total	**98.60**		**1,783**	**8,793**	**-62,531**	**-51,956**

3.2 Non-household demand reduction

The non-household programme carbon costs have been calculated using a prorated approach against the comparable initiative in the household programme. The non-household programme comprises of many bands of businesses which gives a considerable amount of uncertainty around the actual savings. We have therefore applied an aggregated assumption on the carbon emissions for the non-household programme based on the Ml/d savings (Table 1919).

Table 19: Carbon impacts of non-household demand reduction programme.

Catalyst	Water Saved (Ml/d by 2050)	Embodied Carbon (tonnes CO2e)	Operational (delivery) (tonnes CO2e)	Operational (water saved) (tonnes CO2e)	Total (tonnes CO2e)
	(1)				
Smart Metering	3.77	449	2,098	-3,819	-1,273
Water audits	5.34	427	1,996	-4,376	-1,954
Tariffs	2.12	-	-	-1,452	-1,452
Partnership funds	0.20	-		-147	-147
Comms	0.11	-	46	-93	-47
Trials and innovation	0.10		40	-72	-32
Total	**11.54**	**876**	**4,094**	**-9,888**	**-4,904**

The carbon impact of the non-household programme to 2050 generates a net saving of 4,904 tonnes CO2e.

4 Leakage Reduction Strategy

Reducing levels of leakage is desirable as it defers the need to invest in new resources which would otherwise be needed to meet increases in demand over time. It also demonstrates to our customers that, while we are asking them to use water more efficiently as part of our initiatives to reduce household and non-household consumption, we are also making efforts at our end to reduce losses by as much as we can.

We are aiming to reduce leakage by 53% by 2049-50 compared to 2017-18 leakage, in line with the EIP. However, as described below, we have also considered additional scenarios that reduce leakage by over 60%.

We reported 2017-18 leakage using two methods:

1. The method we had used in AMP6 provided an out-turn figure of 88.45Ml/d.
2. The unified methodology to be used for reporting leakage consistently across the industry (shadow reporting) provided an out-turn figure of 102.60Ml/d.

Our leakage reduction target is based on the shadow reporting method as this is figure we will be assessed against. We are targeting an outturn leakage figure of 48.08Ml/d in 2049-50. This represents a 53% reduction from 2017-18 levels.

The 3-year average leakage figure from 2017-18 to 2019-20 is 99.90Ml/d (shadow reporting). Our forecast 3-year average leakage by 2049-50 is 49.52Ml/d; which is a 50% reduction from the baseline 3-year average.

4.1 Our AMP7 leakage performance

In our WRMP19, we set ourselves a target of reducing leakage by 15% during AMP7 (2020-25) and by 50% by 2050.

The COVID-19 pandemic at the start of AMP7 led to an increase in water demand and consequently higher network pressures which led to higher leakage. We launched an ambitious turnaround programme to reduce leakage. As part of our action plan, we increased the level of field detection resources.

Leakage reduction in AMP7, has primarily relied on the following interventions:

- Repairing leaks that have been reported to us by our customers. These leaks tend to be short-term in duration and do not make a significant contribution to total leakage.
- Proactively detecting and repairing leaks on our network. These are typically longer running leaks and are the largest contributor to our reported leakage.
- Detecting and facilitating the repair of leaks in the underground pipes on our customers' premises. Customer-side leaks make up about 18% of the total leakage.
- Optimising pressures within our network, minimising fluctuations and excessive pressure. This allows us to provide a more stable pressure to our customers and reduce the number of bursts.
- Replacing the oldest mains within our network, which tend to be those that burst and leak the most. This reduces both leakage and supply interruptions for our customers.

4.2 Developing our WRMP24 leakage reduction strategy

We have used learnings from our AMP7 programme to develop our WRMP24 leakage reduction programme. We are also developing our understanding of the key uncertainties and risks within the programme so that we are better able to manage these going into AMP8.

4.2.1 Leakage reduction scenarios

We have considered the following reduction scenarios for WRMP24 (see Figure 7).

- Baseline leakage scenario: No further reduction from the 2024-25 target level.
- Low leakage reduction scenario: Under this scenario, outturn leakage in 2049-50 is forecast to be 48.1Ml/d. This represents a 53.1% reduction in the 102.6Ml/d leakage reported in 2017-18.
- Medium leakage reduction scenario: Under this scenario, the outturn leakage in 2049-50 is forecast to be 41.5Ml/d, representing 59.6% reduction compared to the 2017-18 outturn figure.
- High leakage reduction scenario: Under this scenario, the outturn leakage in 2049-50 is forecast to be 37.3Ml/d, representing 63.6% reduction compared to the 2017-18 outturn figure.

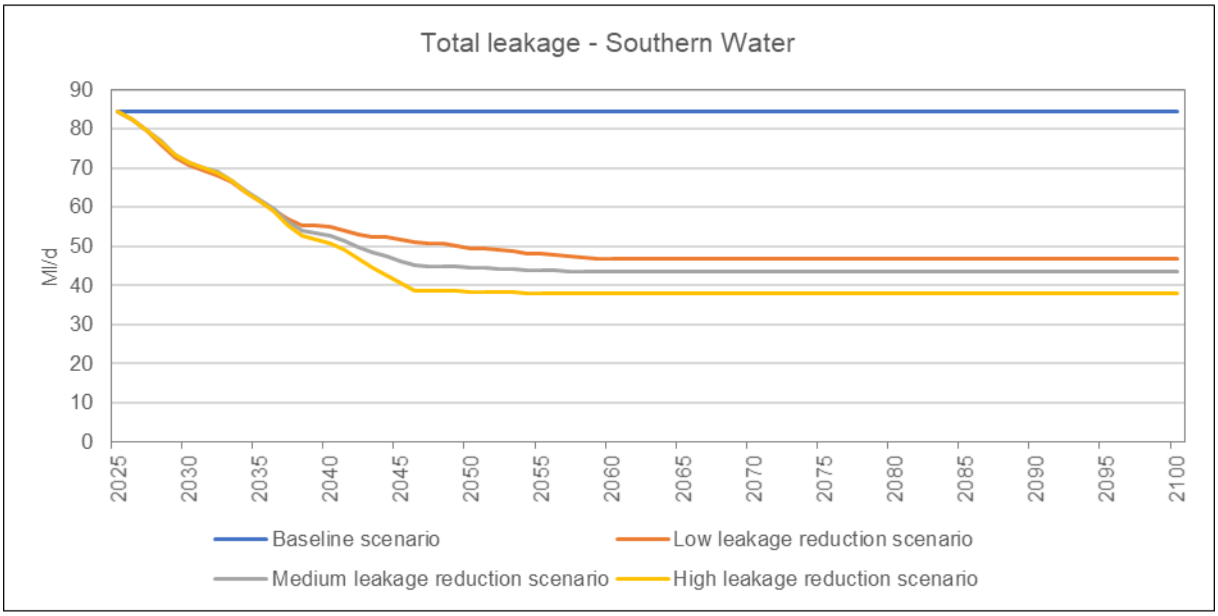

Figure 7: Total leakage reduction scenarios.

We had locked down our leakage profile in April 2023 as part of the WRSE Regional Plan development. Following the completion of AMP7, we have revised our leakage reduction profile over AMP8 in view of our 2024-25 outturn position. There is no change to our target leakage for 2029-30 but the glidepath to the target has been adjusted. Table 20 shows a comparison of the target leakage position at the company level in each year of AMP8, as given in the WRP tables accompanying this plan, and the revised position in view of 2024-25 outturn position. As can be seen from the table, our revised leakage position is higher in 2025-26 but reduces more sharply over 2026-27 than originally planned. It is thereafter maintained constant before a further reduction in 2029-30.

Table 20: Target leakage position (in Ml/d) for each year over AMP8.

Profile	2025-26	2026-27	2027-28	2028-29	2029-30
WRMP24 profile	75.1	73.8	70.1	67.7	66.3
Revised profile	80.4	69.0	69.0	69.0	66.3

As discussed in Section 4, we have tested our plan by using 85Ml/d as the 2024-25 leakage position and reducing it linearly to our 2029-30 target. That sensitivity run did not result in any unresolved supply-demand balance deficits in any WRZ under any planning scenario. We are therefore confident that higher leakage in 2025-26 will not lead to a supply-demand balance issue under any planning scenario. Leakage savings by 2029-30 shown in Table 20 are based on the original WRMP24 profile.

4.3 Options for reducing leakage

We are following four approaches to both reduce and maintain leakage at the District Metered Area (DMA) level:

1. Prevent - reducing leakage occurrence through better network management.
2. Aware - identifying leakage within our network to target mains replacement.
3. Locate - locating where specific leaks are on the network.
4. Mend - repairing leaks when they are found by repairing mains.

In addition to traditional methods of leakage reduction such as active leakage control and mains replacement programmes, we are planning on making use of emerging technologies to achieve significant reductions in leakage over time, in particular realising the benefits from the data we will obtain from our smart metering programme, which is due to commence in AMP8. Smart metering is a key enabler for us to achieve our leakage reduction ambition.

The leakage reduction options we initially considered are summarised in Table 21. The selected options are described below.

Table 21: Options considered for inclusion in the planning scenarios.

Intervention	Phase	Description	Included in plan
Enhanced Find and Fix	Locate	Enhanced leakage detection involving a more data driven approach to area prioritisation. Can reduce leakage within a DMA to less than 10% of total flow. Increased use of this approach, linked to an increasing availability of network data will enable more DMAs to be targeted and maintained.	Yes
Satellite/Drone Surveying	Locate	This technology is being trialled as part of the AMP7 leakage programme and is primarily focused on detecting leaks on rural networks, especially trunk mains. Trunk mains leakage is a small component of overall leakage and therefore benefit for leakage reduction is considered minimal.	No
Pressure Management	Prevent	Over 55% of DMAs are fed from a pressure managed system. Almost 80% of these have been optimised during the first half of AMP7. Opportunities for pressure management still exist, especially the intelligent control of network booster pumps although opportunities and benefits will diminish over time.	Yes
Improved Repair Techniques	Mend	Repair data does not suggest that there is an issue with repair quality, with a low number of repeat visits.	No
Smart Metering	Aware	Smart metering is a key demand reduction enabler in AMP8 and beyond and will increase visibility of customer-side leakage as well as improve leakage targeting through better disaggregation of demand data at DMA level.	Yes
Smart networks / digital twin	Aware and locate	Introduction of a digital twin model in AMP7 and an extension of the number of sensors across the network will significantly improve the visibility of network behaviour and improve the targeting of leakage detection activity. This includes the trialling of fibre optic technology to provide enhanced data, thereby improving leakage detection response.	Yes
Situational Awareness	Aware	This tool has been developed during AMP7 to increase awareness and reduce response times to network events. Additional benefits are forecast by linking this capability with smart networks/digital twins by enabling a proactive rather than reactive response to issues.	Yes
Asset Renewal (mains replacement)	Prevent	Our network will deteriorate over time without further investment and is estimated to contribute to 2.2Ml/d increase in leakage per year.	Yes

Intervention	Phase	Description	Included in plan
		Mains replacement would prevent deterioration and reduce the need to continually increase the amount of activity required to hold leakage levels constant.	
Asset Renewal (communication pipe replacement)	Prevent	Around 7,500 communication pipe repair visits are undertaken each year as part of the leakage programme. Over 87% of these require repairs. Moving to a relay only policy would result in a longer life repair and a reduction in the rate of failure in the future as assets are renewed.	Yes
Supply pipe adoption	Mend	The adoption of customer supply pipes would introduce a significant uplift in asset liability for Southern Water and is not likely to provide a significant benefit over and above those presented through the smart metering rollout.	No

4.3.1 Enhanced find & fix

Conventional ‘find and fix’ methods (such as sounding, leak noise correlating and acoustic noise logging) is considered to be the primary measure for offsetting the Natural Rate of Rise (NRR) in leakage. The current NRR - the increase in leakage if no interventions are undertaken – is estimated to lead to 2.2Ml/d increase in leakage every year. There is an underlying assumption in the WRMP24 plan that this activity will continue to offset NRR in future years.

Enhanced find and fix processes can reduce leakage to less than 10% of the water supplied in a DMA. We plan to expand our capability in this area and leverage new opportunities that are anticipated from innovations in digital tools. As a result, we expect to be able to reduce leakage in more DMAs to 10% or lower, and to be able to hold them at this.

Digital tools and the availability of more granular demand data will significantly improve leakage targeting and the understanding of the quantum of leakage that exists within a DMA. Increases in demand, especially during the summer months, that may be erroneously reported as leakage currently, will be correctly captured.

4.3.2 Advanced pressure management

Our water network is increasingly covered by pressure management and a significant amount of optimisation has been undertaken to minimise pressure variances. However, there is scope to expand this technology and approach to pumping assets. By changing the operating method of a pump to a controlled, rather than fixed output, pressures can be better managed within the network giving rise to similar benefits as the more conventional pressure management techniques. Stabilising network pressures leads to a reduction in network fatigue, extending the life of network assets and reducing the number of burst events.

Pressure management can create difficulties with leakage detection techniques that rely on acoustics to locate leaks, as pressure management valves can introduce noise into the network masking leak noise. The implementation of digital modelling techniques gives opportunity to overcome some of these issues.

This has been a successful lever for leakage reduction during AMP7. Given the current coverage of pressure management, there will be fewer opportunities to deliver future incremental benefits. We have therefore taken a cautious approach to estimating the level of benefit that may be achieved through pressure management.

4.3.3 Smart metering

The roll-out of smart (AMI) meters is planned for AMP8. These meters will replace our existing meters. Smart meters can provide near real-time information about consumption patterns which in turn allows the leakage calculation to be more accurate and at a more granular level. This information will result in an improvement in the way enhanced ‘find and fix’ activity is targeted, enabling more DMAs to be maintained at a lower leakage level.

Additionally, smart meters monitor customer-side leaks and generate alarms once a leak is detected. This will enable more customer-side leaks to be detected and reduce the run time of a leak in customers’ supply pipes.

We have assumed that smart metering will reduce customer-side leak for metered household and non-household customers by up to 50%. The benefits are expected to be realised soon after the rollout as customers are made aware of leakage downstream of the smart meter. There will be an additional benefit of customers becoming aware of their consumption in near real-time. This benefit is captured within the Digital Networks initiative.

The costs for the smart metering programme have not been included in the leakage costs as they are captured separately.

4.3.4 Digital networks

Digital networks have the potential to change the way we target and detect leaks. Using near real-time data modelling techniques and incorporating an increased number of network sensors (such as pressure and acoustic loggers, smart meters and water quality sensors) can result in earlier identification of leakage outbreaks and narrow the area of interest significantly. This reduces leak detection times. The advantage of these digital models is that as well as providing a leakage reduction mechanism, they also provide an opportunity for increased efficiency as survey times are reduced through improved targeting. This is achieved through accurate measurement, preventative maintenance, raised confidence in intervention identification and prioritisation of actions. This option contains a number of component parts that contribute to the overall benefit. These are described below.

Digital twin modelling

Modelling network behaviour in near real-time enables leakage management to move to a more data-centric approach, improving leak detection efficiency, reducing leak run times and improving the understanding of outcomes against actions. We aim to develop this technological approach during AMP8 as we roll out our smart metering programme. In addition, it is estimated that by deploying, on average, six pressure sensors per DMA, leakage detection targeting and burst event response could be significantly improved from current levels, generating both leakage savings and efficiencies.

Situational awareness tool

This is a tool that is being developed in AMP7 to increase awareness and response rates to network events, such as bursts, water quality and pump failures. There is an opportunity to further develop this capability by linking with the digital twin modelling to enable proactive maintenance and response to situations before they become events.

Fibre optic networks

This is a pioneering technology that uses either new or unused capacity within the existing fibre optic network to detect leakage. This technology is not yet proven but we plan to explore it over AMP8 and AMP9 to both prove the viability and cost effectiveness of the technology and quantify the additional benefits that may be generated over and above those included in the digital twin/situational awareness capability.

Trials are likely to include laying new fibre optic networks near the existing water network as well as investigating the use of existing fibre optic networks.

No direct in-period leakage benefit has been included in AMP8 or AMP9 in order to avoid overstating benefits before they have been verified. But we have included a small benefit from AMP10 onward. This is a low-risk approach as the assumed level of benefit could be covered by the other options should the benefit not materialise. This benefit will reduce over time.

4.3.5 Asset renewal

Offsetting asset deterioration requires asset replacement. For the purposes of the leakage reduction plan, this has been considered in two parts – mains replacement and communication pipe replacement.

Mains replacement

We have used outputs from our Pioneer asset deterioration model to develop a cost-effective main replacement programme that takes into account the leakage and burst rates of individual pipes (grouped according to contiguous lengths). Further optimisation of the Pioneer outputs has led to the development of a mains replacement programme that gradually increases the length of mains to be replaced to an annual replacement rate of 200km over AMP8 and AMP9 with significant increase from AMP10 onward (Table 22). This does not change the overall leakage reduction profile but reallocates the reductions between various initiatives in the first 10 years of the planning period.

Table 22: The planned length of mains to be replaced over time.

Length (km)	AMP8					AMP9					AMP10	AMP11	AMP12	AMP13	AMP14
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035					
	20	40	60	80	100	120	140	160	180	200	1000	1000	1000	1000	1000

By the end of AMP14, it is anticipated that 45% of mains will have been replaced, bringing average asset life expectancy to an estimate of 78 years (improved from 675 years based on the previous 10 years' replacement rate).

It is assumed that there will be continual reassessment of the plan based on the measured benefits of the programme within each AMP. Measured benefits and sampling should better inform the Pioneer model which should improve the outputs further.

Communication pipe replacement

The communication pipe is the section of the network that delivers water from a water main to the boundary of a property. We fix around 7,500 communication pipe leaks a year. The majority of these are repairs rather than relays (full replacement of the asset). The NRR analysis does not define the contribution individual repair types have to the overall deterioration rate. Therefore, for the purposes of scenario modelling, we have assumed that replacing rather than repairing these assets will reduce the deterioration rate by between 18%, for the low scenario, and 36% for the high scenario.

We have also assumed that the current rate of detection of leaks on communication pipes remains at the current level and that benefit will reduce over time. This is because of an increased asset replacement rate.

We have assumed that the reduction in the two components of total leakage i.e. distribution losses and supply-pipe losses will proportionately be the same as overall leakage.

4.4 Finalising our WRMP24 leakage strategy

Our WRMP24 is being developed as part of WRSE Regional Plan. Along with other WRSE companies (Affinity Water, Portsmouth Water, SES Water, South East Water and Thames Water), we provided our estimates of demand savings and associated costs for each of the initiatives described in Section 4.3 for the three leakage reduction scenarios in Section 4.2.1.

The WRSE investment model used for selecting the supply and demand side options to maintain future supply-demand balance initially selected the high leakage reduction strategy. Upon reviewing the uncertainty associated with assumed savings under the high leakage reduction strategy and the deliverability risks, we decided to adopt the low leakage reduction strategy for our WRMP24, which still exceeds the EIP target. We will review our leakage progress over AMP8 once our smart metering profile is rolled out and we have greater understanding of the costs and benefits of various initiatives. If shown to be feasible and deliverable, we will consider increasing our leakage reduction target for our Water Resources Management Plan 2029 (WRMP29).