

Portsmouth Water



FINAL WATER RESOURCES MANAGEMENT PLAN 2024

APPENDIX 10B- WATER EFFICIENCY STRATEGY

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FORWARD NOTE

This document contains our Water Resources Management Plan 2024 (WRMP24) Water Efficiency Strategy and should be read in conjunction with the Leakage Strategy Appendix (10C). Together, these provide detail on our overall demand reduction strategy for WRMP24.

Since the dWRMP24 we have revised our water efficiency demand options to address the updated Environmental Improvement Plan targets, published by the Department for Environment, Food and Rural Affairs (Defra) in January 2023. These updated options for the WRMP24 are detailed in this appendix. For the demand options considered as part of the dWRMP24 please refer to Appendix 7A.

1 EXECUTIVE SUMMARY

1.1 Our Vision

Our vision, against the backdrop of climate change and population growth, is to provide an affordable, reliable, and sustainable supply of high-quality water for our customers. By being smart in our approach we will work with our local communities to meet our goals while protecting and enhancing the environment for generations to come.

The first priority we lay out in our Vision is to ensure we secure sustainable water supplies for our customers, whilst protecting and enhancing our environment in a changing world. This means we'll still provide the same industry-leading service to our customers as today - high-quality water when and where they expect it. However, to meet the challenges we've identified and to meet our customers' and stakeholders' priorities, we'll have to change how we achieve this.

100% of our water comes from chalk sources – 62% of our water comes from boreholes and wells, 27% from groundwater springs and 11% from the river Itchen. The water we take from the environment, our abstractions, influences a number of chalk streams and rivers including the Itchen, Meon, Ems and Lavant. In 2021/22 and 2022/23 our customers used an average of around 160 and 153 litres per head per day (l/h/d), respectively. This was 9% and 5% higher than the national average of 145 litres for 2021/22.

Working collaboratively with our customers to reduce the amount of water they use is a cornerstone in our ability to deliver our company vision.

The scale of the challenge is identified in our current Water Resource Management Plan 2019 (WRMP19) for 2020-2045 and further emphasised with the revised data and options available to the Region as we have prepared our WRMP 2024 (WRMP24) (for the years 2025-2075).

Our current WRMP, translated into our performance commitment, requires us to reduce per capita consumption (PCC) by 6.9% in Asset Management Period 7 (AMP7) (2020-2025). Additionally, our WRMP24 sets out how we will maintain our supply demand balance up to a 1 in 200-year dry weather scenario beyond 2025 including a transition to a 1 in 500-year level of resilience. Within the plan, a key component of improving our supply and demand balance for the future is our long-term target to reduce dry weather scenario PCC below 110l/h/d by 2050 for domestic households (HH), with an element being delivered by our interventions with customers and the assumption government intervention will deliver the rest. This is a 27% reduction on 2020 demand numbers. We also plan to reduce non-household (NHH) demand by at least 15% by 2050.

1.2 Smart Metering

Through a universal smart metering programme, we will connect customers more intimately with their water use.

We have modelled the outcomes we expect to achieve through these activities and are confident we will be able to deliver on our 2050s targets if assumed government interventions are also realised. We will also incorporate continuous learning into our plan as our data and understanding improves in the future. We will track our delivery performance along with our progress towards our desired outcomes and adapt our plan as necessary to achieve our goals.

1.3 Influencing Demand

Broadly speaking, there are three overall types of activity which can reduce customer demand throughout our network:

- **Physical** i) solutions that identify and rectify often unknown leakage or wastage of water at a premise. ii) solutions that optimise the volume of water used for a task at a household or plumbing / fitting level.
- **Behavioural solutions** that influence how customers consume water. We want customers to choose to reduce their overall usage driven by a personal, ethical, or financial outcome.
- **Replacement solutions** where an alternative source to mains water supply is used to meet the needs of the property. This can include water recycling or reuse.

During the development of our plan, we have carefully looked at all the opportunities in each of these areas and created an optimised balance of solutions that exploits the greatest gains in demand reduction currently available.

1.4 Summary

We have carefully considered all the options available to us to achieve the targets set out in WRMP24. We have embraced innovation, and firmly believe that our approach to smart metering with hyper-care in particular will set an industry benchmark. We have ensured that we are always delivering best value for our customers and the environment, seeking to find the best value point that delivers excellence for both.

We believe that our plan is innovative and that we have embraced the innovation that is available to us. We have carefully crafted a programme of work that is beneficial to our customers, the environment and the region we share with them whilst ensuring identifying the best value options to ensure fair bills and great outcomes. The preferred programme of options is provided below.

Overview of the preferred plan for water efficiency

Option Type	Description	Benefit
Physical	Plumbing losses – hyper-care leak fixing	Reduces the household losses that would be classified as demand
	Gadgets	Reduces the flow or consumption of water a plumbing fitting uses
	Household flow restrictors	Reduces pressure and therefore volume of wasted water in homes
	Leak Alarms (Leakbot)	Alerts customers to physical repairs required
	NHH Efficiency Checks / audits	Reduces the flow or consumption of water a plumbing fitting uses and fixing leaks
	Universal Smart Metering/metering	Proven to reduce water demand through consumption awareness
Behavioural	Home efficiency audits	Water efficiency messaging, but also “Physical” benefit through gadget installation
	Education	Sets up behaviours in future generations and the “nag” factor today
	Community Reward (Platform)	Individuals reduce consumption for community benefits
	General broadcast messages (multi-channel proactive comms)	Individuals reduce consumption through messaging that they relate to
	Community Campaign	Encourages participation in water saving lifestyle choices to gain rewards for the community they live in
	Innovative New Tariffs	Encourages reduced consumption driven by financial reward/penalty
Replacement	Vulnerability / Inclusion and Equality	Ensures that those in most need of support are provided with the tools and information that protects them.
	Leading by example	Demonstrating to customers that the journey is a shared one and that Portsmouth Water itself is doing everything it can to be water efficient.
	Subsidised water butts	Rainwater used instead of mains water for garden use.

2 OUR CURRENT STRATEGY AND EFFECTIVENESS: IMPACTS OF COVID-19

2.1 Introduction

In this section we will provide an overview of AMP7 so far, including the explanation of the impacts of the global Covid-19 pandemic on the behaviours of our customers and the resulting impact on PCC.

Demand Management is an essential part of providing resilient and sustainable water services to our customers. It represents a key delivery challenge and opportunity for innovative approaches through WRMP24/AMP8. At Portsmouth Water, the current AMP7 water efficiency programme includes a variety of interventions and initiatives to influence and support customers (household and non-household) to reduce their water use.

2.2 Impacts of Covid 19

Despite a comprehensive programme of interventions, like all UK water companies, we have struggled to achieve our PCC targets for AMP7. Years 1 -3 (2020/21 – 2022/23) have been particularly challenging due the impact of the global Covid-19 pandemic which caused significant changes to how customers use water (see Figure 1 and Figure 2). The UK also experienced multiple peak demand weather events during the same period, with extreme highs of temperature and widespread drought conditions.

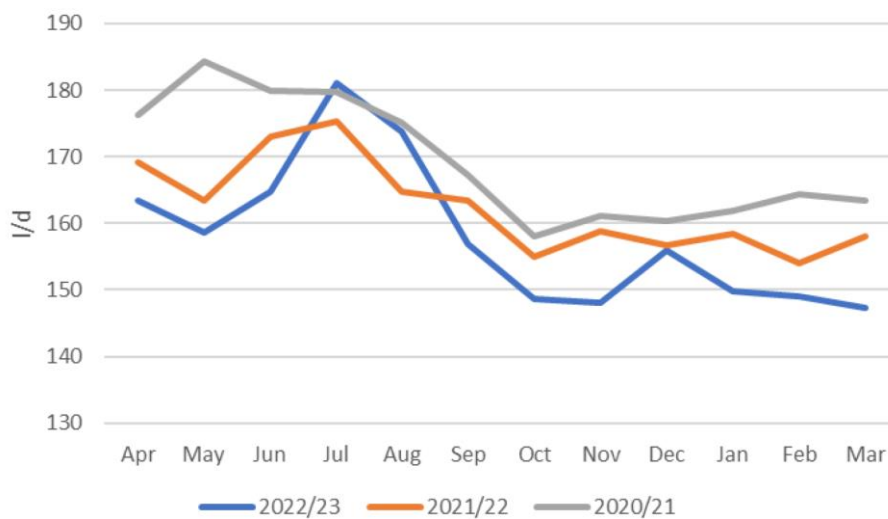
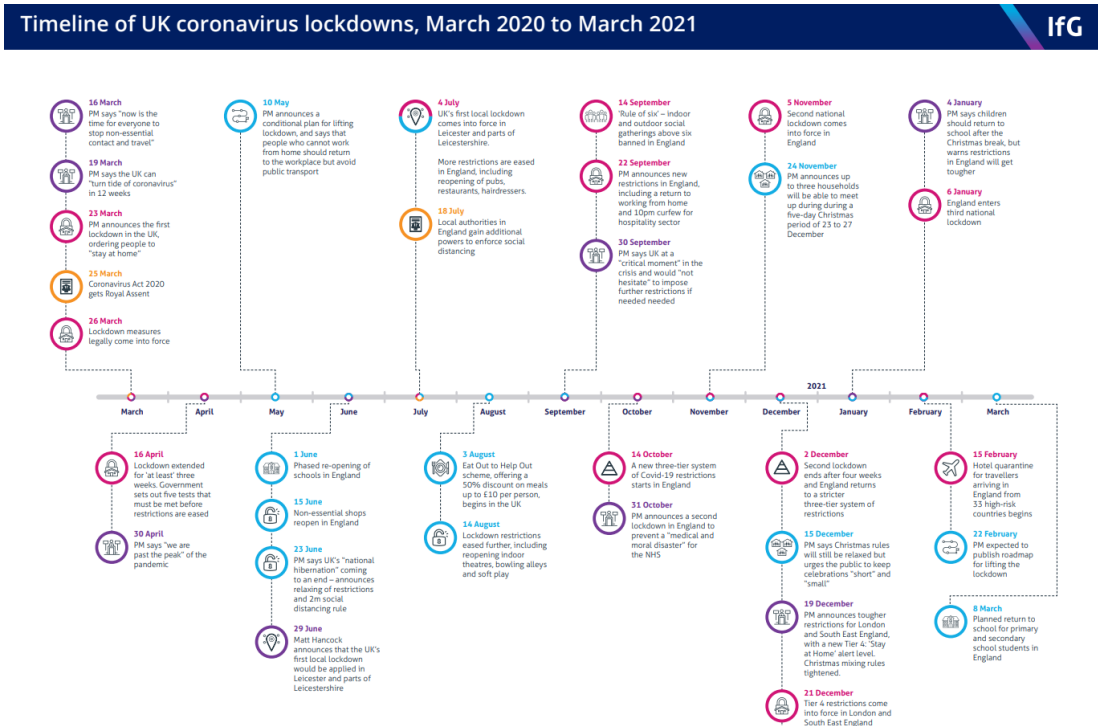


Figure 1 Average PCC (household and non-household) over the last 3 years



Source: Institute for Government – Timeline lockdown pdf (<https://www.instituteforgovernment.org.uk/publications/timeline-lockdown-social>)

Figure 2 Timeline of UK coronavirus lockdowns, March 2020 to March 2021

In 2020-21 (AMP7 Year 1) we observed immediate increases in customer household water use of around 12% (compared to average use), and reductions of 16% in non-household water use, leading to an overall 4% increase in distribution input¹. Our analysis shows that the impacts of Covid accounted for 10% of the 12% increase in customer household water use, with 2% reflecting the effects of weather.

In 2021-22 (Year 2 AMP7) our customer household water use remained high with an increase of around 8% compared to average use, and non-household water use was 13% lower than average. Our analysis shows that the impacts of Covid accounted for the entire 8% increase in household use, with benign weather conditions. This led to an overall 2% increase in distribution input².

The increased household water use, driven largely by new patterns of home working, has endured beyond the key pandemic years (2020-22). The Covid pandemic has therefore brought unprecedented challenges in accurately forecasting future household consumption.

During the summer of 2022 (Year 3 AMP7) we saw one of the driest summers on record for more than a century with temperatures of up to 40°C across the UK. Unlike our industry peers, we did not announce a Temporary Use Ban (TUB), but we did monitor the situation daily to ensure security of supply. There was a clear peak in household water use as the hot weather started in summer, although it did not reach the peak seen in the height of covid restrictions in Year 1 of AMP7 (see Figure 1). This could be attributed to the early implementation of our communications plan in May 2022, although other factors will have been in play, such as customer consciousness of water efficiency following the implementation of Southern Water’s TUB and increased mainstream media reporting of drought in England.

¹ Water Resources Management Plan annual review 2021, Portsmouth Water: <https://www.portsmouthwater.co.uk/wp-content/uploads/2021/07/Portsmouth-Water-WRMP-Annual-Review-June-2021.pdf>

² Water Resources Management Plan annual review 2022, Portsmouth Water: https://www.portsmouthwater.co.uk/wp-content/uploads/2023/01/Portsmouth-Water-WRMP-Annual-Review-June-2022_updated-Dec-2022.pdf

As a company, we are resilient to extreme weather events and changes in demand, however, our region is one of the driest. As the impact of climate change continues to result in further extreme weather events, we know we must play an evolving role in delivering a resilient water supply across the Southeast region.

We also need to fully understand the long-term impact of Covid-19 on our customers behaviours in order to be able to predict future demand.

2.2.1 Our understanding of the longer impacts of Covid-19

In this section we discuss the impact of the global Covid pandemic on our demand profile.

Whilst we have continued to see people spending more time in residential properties due to working from home arrangements, the impact of Covid-19 on the network is not yet fully understood in terms of long-term behavioural change. This movement away from mass daytime occupancy of office buildings and places of work to household occupancy saw overall demand and household demand rise. Generally speaking, places of work are usually metered and have been billed by accurate consumption levels for many years, meaning the majority have taken opportunities to make water efficiency savings to various degrees. This level of maturity is not matched in homes, where the economics can be less apparent, and awareness of consumption is lower.

This transition to home working and hybrid working has seen a dual impact on demand. Overall demand is higher due to the occupancy of less water efficient spaces in working hours, whilst household consumption has increased due to higher daytime occupancy, with our coastal areas seeing an increase in seasonal occupancy. We suspect this has been compounded by the cost of living crisis as families spend more time at home due to money worries and take more UK based day trips rather than longer holidays abroad.

This change has made our progress in reducing PCC over AMP7 challenging and we have seen a slight rise overall in the period, typical of the industry as a whole. Our end of AMP7 three year rolling average PCC target of around 140 l/h/d is highly challenging. While the end of Covid-19 lockdowns and our measures to combat higher PCC led to a significant reduction in household usage in 2021-22 (AMP7 year 2), our forecast AMP7 outturn position based on three year rolling averages of WRMP24 data is around 155 l/h/d, which we predict may leave us in a lower quartile position in the industry (see Figure 3).

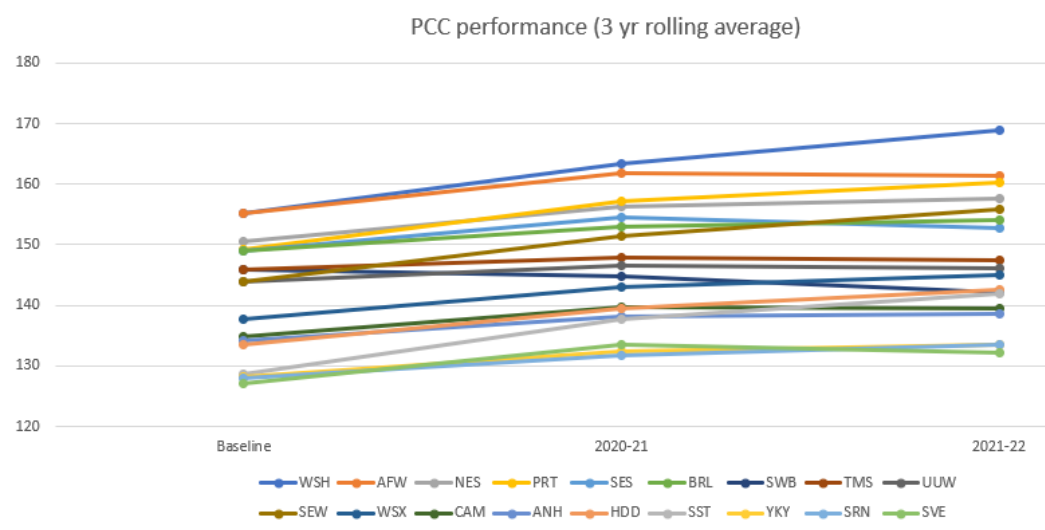


Figure 3 Per capita consumption performance of water companies in the UK as a 3-year rolling average (litres per head per day)

In response to the pandemic and a series of extreme weather patterns in the UK (particularly the heatwaves of 2020 and 2022), we have adapted our water efficiency programme to include additional initiatives to address the performance gap. We have modified or established a series of proactive activities which engage customers in a targeted manner with communications, advice and practical devices best tailored to customers' needs and circumstances.

2.3 The current water efficiency programme

2.3.1 Overview of current programme

In this section we describe the breadth of our current water efficiency programme. Tracking our performance through the AMP led us to strengthen our focus on demand management activities as the period progressed. Our approach overall aligned to the UK Water Efficiency Strategy to 2030, which Portsmouth Water supported the development of. Our AMP 7 water efficiency programme has consisted of:

1. Physical solutions

- a. Our metering programme
- b. Home Water efficiency checks
- c. Use of innovative "Leakbot" technology
- d. Provision of free water efficiency gadgets for households

2. Behavioural solutions

- a. Water efficiency platforms with personal and community incentivisation
- b. Communications – including general broadcast messages and tailored high consumption alerts
- c. Smart metering trials – such as 'Club50' which is retrofitting 'Jellyfish' smart devices onto standard HH meters
- d. Trialling new and interactive ways to talk to customers about their water consumption with Advizzo.

3. Replacement solutions

- a. Provision of subsidised water butts

Throughout AMP7 we have continuously reviewed the opportunities in each of these areas. We have adapted and evolved our water efficiency programme to include additional initiatives to address the performance gap whilst improving service for our customers.

Further information on these solutions is provided in the sections below.

2.3.2 Physical solutions

2.3.2.1 Metering programme

Analysing our performance and looking across the industry to experiences in other companies we believe that metering is the key lever in demand management. It provides the visibility of consumption that allows both customers and suppliers to understand trends in usage at a household, District Metered Area (DMA) and regional level. This visibility and understanding of personal consumption and the impact on billing, the environment, and alerting customers to issues within the home helps households make informed demand / usage choices and allows them to fix issues as they arise.

At a macro level metering allows water companies to understand where campaigns and incentives for reduced consumption usage will be most effective and which customers may benefit most from water saving visits or advice.

At the beginning of AMP7 less than 33% of Portsmouth Water household properties were metered ('dumb' meters, not 'smart' meters). Our AMP7 metering programme is expected to achieve a metering penetration of around 39% by March 2025 (dumb meters).

The additional insight gained from data on customer usage, through meters, allows us to better offer tailored solutions to fit our customers' needs. We have delivered meters through the following mechanisms:

- Optants: Customers choosing to have a meter installed.
- Change of Occupier metering: Installing a meter at the time a dwelling changes ownership.
- Not for revenue metering. Company installed meters to our network to improve our operational data.

In our Final WRMP19 we envisaged the installation of 24,270 new meters in total across AMP7. In our re-forecasted Revised WRMP19 we targeted 36,700 new meters in total across AMP7 with the aim of recovering our Covid impacted PCC position. In our most recent re-forecast for the WRMP24 we are targeting 36,059 meter installs, including over 20,000 initially 'not for revenue' meters to mitigate the decline in Change of Occupier metering opportunities. There has been a clear decline in house moves compared to 2021-22, driven by both the cost-of-living crisis and less favourable stamp duty policies. In addition to this, we have already converted most customers who are readily willing to convert to a meter (Optants).

Where we have fitted a 'not for revenue' meter to a customer's premise, we will work with that customer to see if they are better off to change to a metered bill and agree to being switched to such an arrangement straight away. Notwithstanding this work, we will also prepare with the customer for the transition to a metered bill in early AMP8, now that our WRMP24 has been approved by the Secretary of State, meaning we are legally able to do so. We estimate this will increase our meter penetration to around 45% (including voids) and closer to the Revised WRMP19 target of 47%. Throughout this journey we will take into account the vulnerabilities of individuals and support everyone through this process to the best of our ability. We are currently designing the process and customer journey we will follow to convert these meters, supported by the extra functionality we get from our new Customer Relationship Management (CRM) platform, Kraken.

Actual and forecast meter installs within our WRMP24 are provided in Table 1 and Figure 4 to Figure 7.

Table 1 Projected new meter totals for AMP 7

Year	Optants	Not for revenue	Change of occupier	Voids	Total meter installations	Meter penetration (incl. voids)
2020-21 actual	1,343	0	0	0	1,343	32.5
2021-22 actual	1,493	0	746	0	2,239	33.2
2022-23 actual	1,625	8,138	2,490	75	12,328	35.0
2023-24 forecast	1,494	12,557	2,302	0	16,353	36.9
2024-25 forecast	1,494	0	2,302	0	3,796	38.9
AMP7 total	7,449	20,695	7,840	75	36,059	-

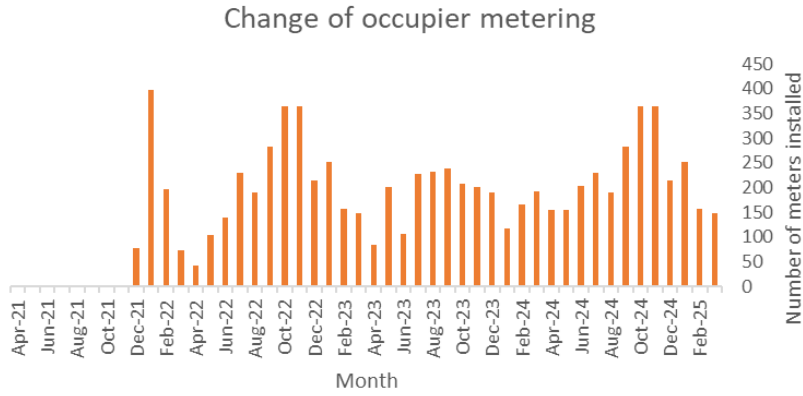


Figure 4 Change of occupier meter installations (actual and forecast from spring 2023)

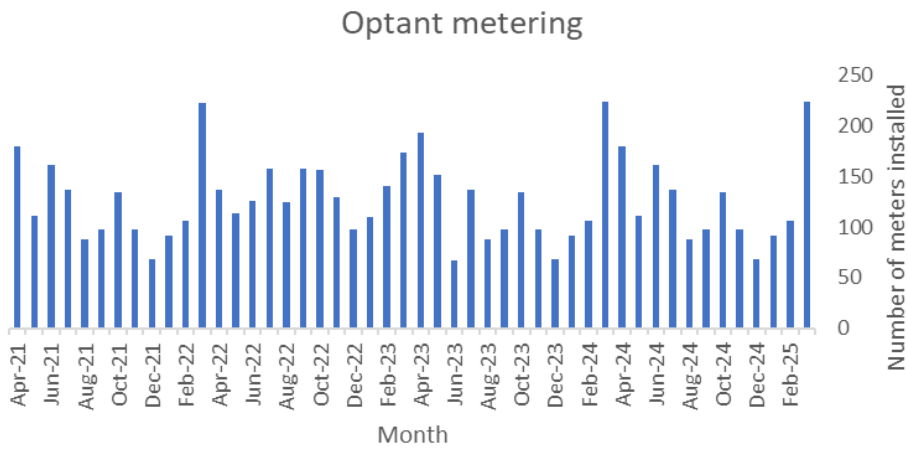


Figure 5 Optant meter installations (actual and forecast from spring 2023)

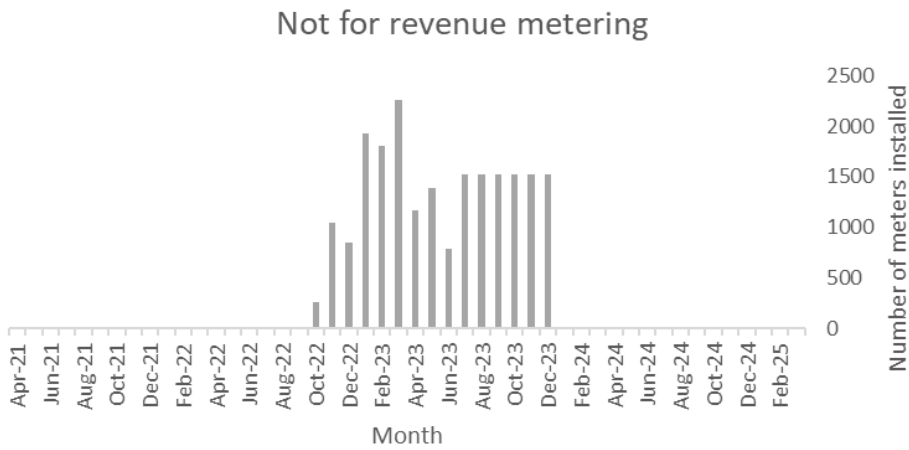


Figure 6 Not for revenue 'screw in' meter installations (actual and forecast from spring 2023)

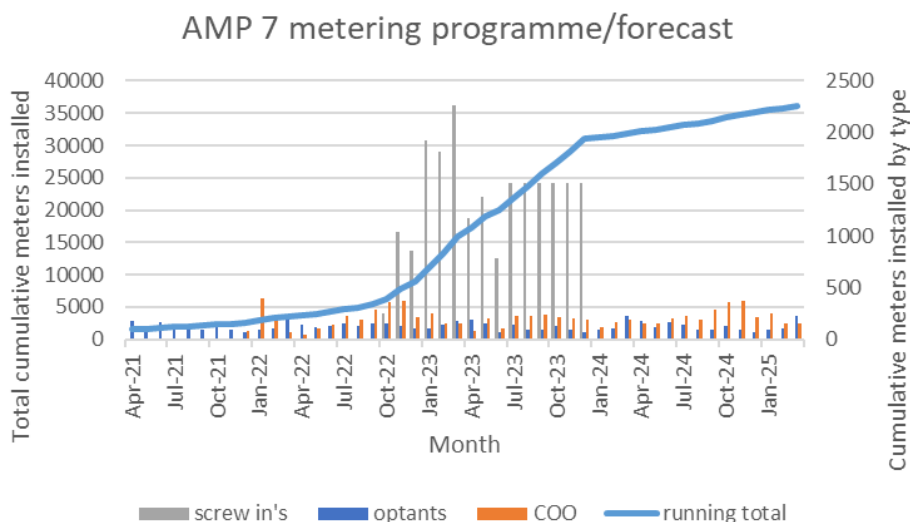


Figure 7 Metering programme for AMP7 (actual and forecast from spring 2023)

2.3.2.2 Home water efficiency checks

Starting in early 2025, we will begin to carry out household home water efficiency visits to support our customers in using less water in their homes.

As well as having a direct impact on PCC today, we are also using the programme to test our approach to a critical activity in our Smart Meter programme – the customer hyper-care package. See more about that in section 4.5.2.7 of this report.

We aim to ramp up activity so that we can carry out 1,000 visits per year for the first two years of AMP8/WRMP24, before replacing these efforts with the hyper-care element of our smart metering programme, in which every homeowner will be offered the opportunity for a visit following the installation of their smart meter.

Our home water efficiency checks include a holistic service-offering to customers, providing:

- Customised support and advice with understanding their bill and water usage,
- Installation of new water efficient devices, and
- Additional assistance to show customers how to read meters and find leaks.

2.3.2.3 Use of Smart and ‘Leakbot’ technology

In 2021-22 we trialled the use of smart meter devices in a small-scale trial, designed to begin to understand the level of leakage detectable in household properties and the types of data and messaging customers would welcome from such devices.

This initial trial led to a more expansive trial using additional available technology. In 2023 we gave away over 1,000 Leakbot³ household leakage detectors to our customers, which could be self-installed and linked to a customer’s home Wi-fi.

³ <https://leakbot.io/>

This second trial provided us firstly with a gain in terms of the identification and repair of domestic leaks such as leaky loos and dripping taps, leading to reduced consumption from those properties. And secondly, the devices provided insight into how our customers will respond to data driven alerts through our smart metering app.

Early findings show 24% of properties had a leak of some degree, averaging 41 l/h/d saving where a leak has been identified and a 9 l/h/d reduction in demand where high usage alerts were sent.

Case Study:

The hourly data provided from the smart meter devices allowed us to identify two properties who had a continuous flow overnight.

Our technicians went out to investigate and discovered that there was a small leak on the outlet gripper, this was tightened and stopped the leak. Looking at the data this customer used 6,924 litres between 18/05/22 – 10/06/22 (23 days) this works out to be an average of 301 litres per day. After the leak was repaired you can see that the usage drops dramatically. Between 14/06/22 – 26/06/22 this customer used 229 litres over the 12 days, this is an average daily consumption of just 19 litres per day, saving 282 litres per day due to leakage.

We also had a customer who had a leaking bull valve on his toilet. The customer was very prompt in getting the leak repaired. Before the repair, the customer was using an average of 417 litres a day, after the leak repair their usage went down to 88 litres per day saving 329 litres per day. Based on these 2 leaks combined, we made a saving of 611 litres per day.

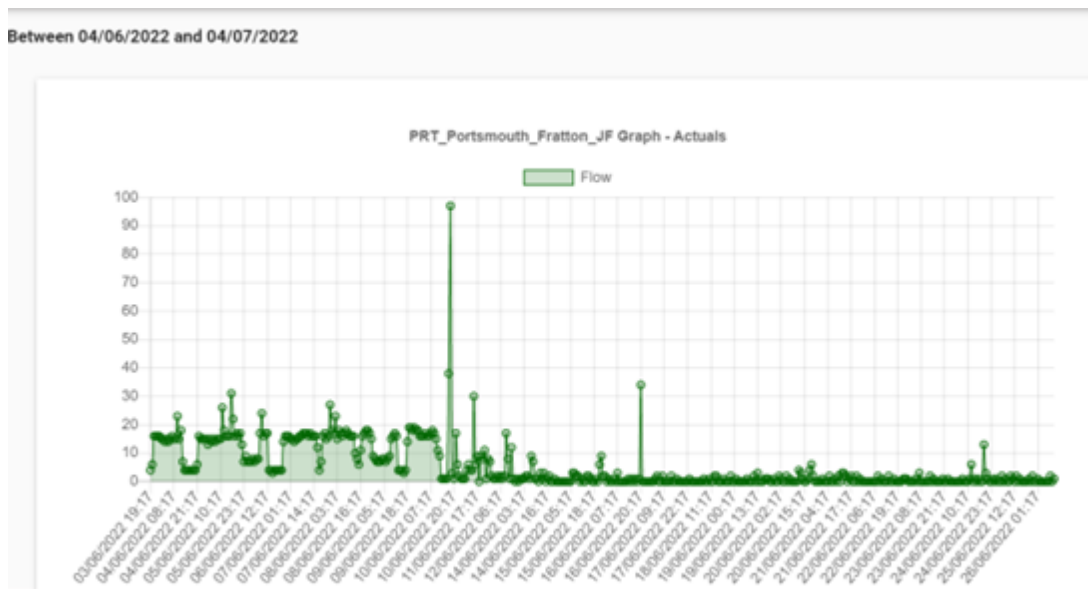


Figure 8: Graph showing jellyfish data which was picking up constant flow

These interventions have given us the chance to observe behavioural changes and to begin sharing real stories of water saving benefits associated with smart metering from Portsmouth Water customers.

We have taken this insight and enhanced understanding to inform the assumptions and planning of our Smart Metering programme.

2.3.2.4 Supply of water efficiency gadgets

We advertise and supply free water efficiency gadgets through our website and water efficiency communications. Customers access this service through our GetWaterFit platform that seeks to influence customers behaviours as well as allowing them to order gadgets suitable for their homes.

We have been supplying and will continue to supply our customers with the following types of water efficiency gadgets:

Cistern displacement bag – The Buffalo cistern bag is a cistern displacement bag which is inserted into the toilet cistern and saves between 1 – 2 litres of water for every flush.

Regulated shower head – The shower head is fitted with a regulator which reduces the flow rate to 7 litres per minute.

Regulated tap insert – A device which fits inside the original housing of the tap to keep its design, the regulator reduces the flow rate to 5 litres per minute instead of the standard 10 litres per minute.

Shower regulator – The shower regulator adapts a standard shower into a water efficient one by reducing the flow to 8 litres per minute.

Leaky Loo strip – This is a biodegradable water-soluble paper strip which is placed at the back of the toilet pan and left for a period of time. If the strip has been disturbed it would indicate that there is a leak.

Plant water saving gel – Swell gel is a gel which expands and holds water which provides a supply for plant roots to extract, reducing the need for watering by up to 75%.

Outside tap jacket – This gadget is promoted and supplied to customers during the winter months, providing insulation to external taps reducing the risk of leaking.

Pipe lagging – like the tap jacket, this device is given out in the winter and protects external and internal pipework from freezing and causing damage and leaks.

Bath displacement toy – An inflatable toy with suckers which adheres to the bottom of the bath displacing the water which reduces the amount of water required to fill the bath.

Actual and forecast gadgets are shown in Figure 9.

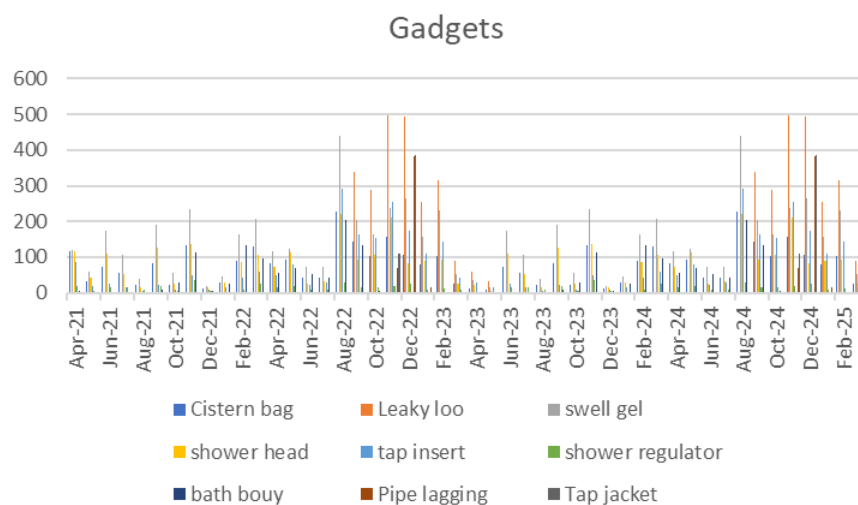


Figure 9 Actual and forecast (from Spring 2023) gadgets for our customers

We assume that these gadgets will save an average of 8 litres per household per day. With 25,000 customers signed up to the Get Water Fit platform by the end of AMP 7, this would be a total assumed saving of 0.2 Ml/d through the use of these gadgets.

2.3.3 Behavioural solutions

2.3.3.1 Water efficiency platforms

Our primary source of water efficiency support to customers is our tailored GetWaterFit⁴ platform. This is a mobile-friendly branded platform run by Save Water Save Money where customers can complete a survey on their household usage, order free water saving devices and complete daily challenges to reduce consumption. The platform provides:

- Free access to water saving devices, tailored to customer needs.
- Gamification of personal and household water efficiency challenges.
- Incentivisation through community support initiatives.

GetWaterFit has been the flagship platform and a key route to customer behavioural change in AMP7. We have promoted this to our customers through all channels available, including social posts, community engagement events and local publications, taking every opportunity to promote the platform and the opportunity it presents for all. GetWaterFit has been consistently presented to our customers throughout AMP7. We have progressed from an initial trial through to a concerted campaign that was amplified during the drought of 2022 where our efforts and connection with customers was at its highest level. This allowed us to link the situation in the present with the long-term challenges of water efficiency and conservation.

Our early roll out saw 3,727 new customers sign up for the GetWaterFit scheme. Of these 3,727 customers, 657 (17%) took part in water efficiency challenges.

Given the significant benefits of the early programme, we extended our ambition and drive in this scheme and achieved 9,319 total customer sign ups by March 2023, representing almost 3% of our customer households (see Figure 10).

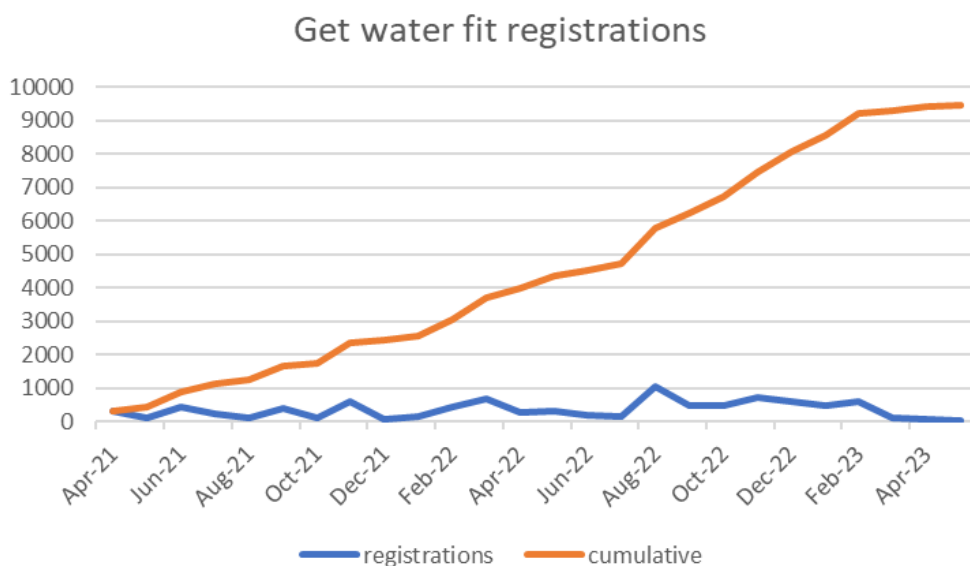


Figure 10 Portsmouth Water customer GetWaterFit registrations

⁴ www.getwaterfit.co.uk/#/

The GetWaterFit platform incentivises customers to take part in water saving challenges in exchange for rewards that would help good causes in their communities (through virtual gold coins). Customers can choose to donate to one of three charities on the site and over a 6-month period they attain coins and are compared on a leader board. At the end of the period, we award the charities with cash donations proportionate to their final position on the leader board. The charities help us promote GetWaterFit on their social media pages and newsletters to their supporters with the aim to boost their overall coins.



So far, we have donated to 12 charities which include: the RSCPA, Portsmouth Hospitals, Step by Step, Second Chance Childrens Charity, Chichester Rotary Club, Hounds for Heroes, Cat & Rabbit Rescue, Chichester Ship & Canal Trust, Portsmouth Pride, Rowans Hospice, Hampshire IOW Air Ambulance, Beacons Church Food Bank.

2.3.3.2 Communications

Improved, and more frequent customer communications will result in additional water efficiency savings and a reduction in overall PCC. At Portsmouth Water, we use push and pull communications via several channels, including:

- **General broadcast messages:** We are looking to engage with more of our customers about water efficiency through redesigning and increasing customer engagement activity, both seasonally and in line with national campaigns.
- **Tailored communications:** Through the use of high consumption alerts we are engaging directly with customers who have increased their water use between billing cycles. We are proactively contacting any currently metered customers who have exhibited a rise in historical consumption of over 20% to support them to understand and reduce their water consumption through water efficiency best practice and gadgets.

Examples of our broadcast communications can be found in Annex 2.

In addition to our planned communications, we have offered focussed trials to support segments of our customers in the pre-smart meter era whilst we build up our own understanding of how to maximise the benefits of smart meters when they are rolled out.

2.3.3.3 Smart metering trials

Our 'Club50' smart metering project retrofitted "Jellyfish" smart devices onto standard household meters making them capable of sharing readings. Customers signed up to the challenge through the GetWaterFit website and take advantage of the services such as daily water efficiency challenges, order free water efficiency devices and receive advice and support from a water saving expert.

We had 22 customers sign up for the trial with 12 devices returning regular hourly data.

Participants received monthly updates from us which tell them how much they have used month on month as well as any potential additional savings. We include water saving tips and important motivational messages focusing on benefits to water efficiency that relate to environment, financial savings and social responsibility.

We have been working with our customers on the trial to learn which messages are most impactful and drive the most change. Each customer takes part in 6 monthly surveys which helps us to review the success of the trial.

The final surveys revealed that the trial participants most compelling reason to reduce water was financial and to reduce the impact they have on the environment, for example, through carbon emissions.

These customers also felt that rather than receiving monthly emails, they would rather have access to their data in almost real time via a portal which they could view at their convenience.

The hourly data highlighted the two properties with continuous use overnight which indicated a leak as previously described.

Although the connectivity was quite low, and the trial was limited, it proved that consumption can be influenced through leakage detection and through regular usage data and messaging.

2.3.3.4 Interactive consumption conversations

We are working with a specialist consultancy, Advizzo, who design customer engagement solutions for water and energy companies. We have launched a scheme that targeted our customers who were open to marketing emails and who live in metered properties. This involves the development of an accessible platform which gives customers insights into their water consumption as well as sharing advice as to where they can change behaviours to reduce usage.

Our aim is to have all of our metered customers using the platform, excluding those who opted out of marketing or require water for medical purposes.

The trial is ongoing, and the results will be used to inform the design of our Smart Metering offer to customers. By spring 2023 Advizzo had issued 58,543 emails which make up the welcome email and a summer campaign providing water saving tips and promoting the water efficiency website. This initiative has been very well received by our customers with an open rate of 74.5% and click through of 30%. By spring 2023, 1932 customers had registered for an online account and 1278 had completed the water use survey.

2.3.4 Replacement solutions

2.3.4.1 Provision of subsidised water efficiency butts

We have encouraged customers to think about using alternative sources to mains water supply by providing subsidised water butts. These are made available through our GetWaterFit website with advice for our customers on what would work best for them.

A hose uses over 16 litres a minute or 170 litres of water every 10 minutes and according to the consumer council for water the average household collects enough water to fill 450 water butts per year. Switching from a hose to a watering can could save around 4,050 litres of water per year.

3 THE CHALLENGE AHEAD

In this section we outline the risks we face in supplying water to our customers in the future and the role that water efficiency / demand management plays in mitigating them.

3.1 The challenge

Our water resource planning aims to secure sustainable water resources for current and future customers. Our Water Resources Management Plan 2024 and our regional Water Resource South East (WRSE) plan outlines our understanding of the challenge within our region.

Our region is one of the driest in the country. In July 2021 Portsmouth Water was reclassified by the government as an area severely water stressed aligning it with the rest of the Southeast. With the pressures of a growing population and climate change, we are aware that if we do nothing, we may not have enough water to supply customers in the event of a drought. We have identified the amount of extra water required (see Figure 11).

As a company, we are resilient to extreme weather events and changes in demand (as demonstrated in 2022 by a prolonged dry period classified in August 2022 as a drought by the Environment Agency). At Portsmouth Water we did not need to introduce temporary usage bans but, we know we have some challenges to overcome around our regional resilience in extreme dry weather events in the future. We also recognise the importance of delivering our remaining AMP7 reduction commitments to ensure a strong starting position for AMP8.

The national and local commitment to reducing per capita consumption (PCC) in a dry year to 110 l/h/d by 2050 is a crucial strategic step and a responsible headline approach to manage this risk. Further detail on the Defra targets is provided in the next section.

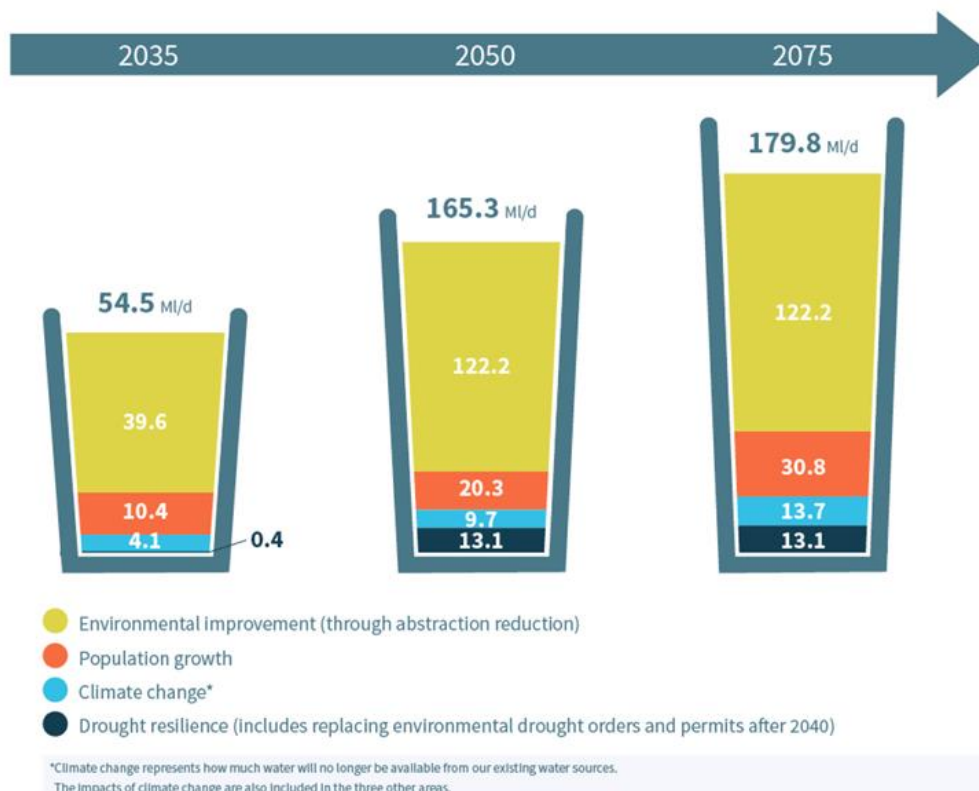


Figure 11 Extra water required in the Portsmouth Water supply area

3.2 The WRMP24 proposed water efficiency programme and Defra targets

3.2.1 Performance against new Defra EIP household PCC targets



In our original dWRMP24 we forecast that we would be able to achieve the 2050 110 l/h/d PCC target in a 'normal year' i.e., typical/normal conditions. Since this time Defra have released their Environmental Improvement Plan 2023, which outlined a further three interim targets. It has also been clarified that we should be achieving the 2050 110 l/h/d target in a 'dry year' i.e., conditions that are experienced immediately prior to the implementation of Temporary Use Bans (TUBs) (a 1:20 year drought for Portsmouth Water).

Our dWRMP24 feasible options were developed before the Portsmouth Water region was reclassified as being severely water stressed in July 2021 by our regulators. This reclassification allowed us to add universal metering as a feasible option at a later stage, but in time for inclusion within our published dWRMP24. We have now had time to develop our universal smart metering proposals further, and with associated hyper-care, we are now pleased to be able to hit the 2050 target in both normal and dry (1:20 year drought) conditions with the support of Government led water efficiency interventions (see Figure 12 to Figure 15).

The additional EIP interim targets for PCC are: Reduce the use of public water supply in England per head of population by 20% from the 2019/20 baseline reporting figures, by 31 March 2038, with interim targets of 9% by 31 March 2027 and 14% by 31 March 2032⁵.

We will implement universal smart metering at the earliest opportunity, facilitated by Ofwat's decision to accelerate smart metering schemes submitted by Anglian Water, Severn Trent Water, South West Water, Affinity Water, Portsmouth Water and South Staffs Water⁶. However, because universal metering was not a feasible option for us in previous AMPs, we have lower levels of meter penetration than many others in the industry. Consequently, we have a higher PCC starting position reflecting the 'new normal' of home working following the Covid-19 pandemic. As such we cannot practically implement universal smart metering fast enough to meet the 21 March 2027 target. However, for normal year conditions we do achieve the second and third interim targets (31 March 2032 and 31 March 2038) in addition to the 2050 110 l/h/d target.

⁵ <https://www.gov.uk/government/publications/environmental-improvement-plan>

⁶ <https://www.ofwat.gov.uk/wp-content/uploads/2023/04/A0-accelerated-process-final-decisions.pdf>

For the same reasons as above, we will not be able to achieve the first or second interim targets (31 March 2027 or 31 March 2032) in a dry year scenario. However, we are forecasting to meet the third interim target (31 March 2038) in addition to the 2050 110 l/h/d target.

A requirement for meeting the interim and 2050 targets is that Government led interventions such as water efficiency labelling of white goods are delivered according to the WRSE 'C+' profile (see Figure 12 to Figure 15).

We are committed to achieving the EIP targets where feasible and during AMP8 we will explore more innovative options in case these are needed, such as the replacement of white goods or changes to our levels of service to bring Portsmouth Water into alignment with other companies in the South East. These options will require customer consultation and support and therefore they would need to be considered for WRMP29.

The assessment of other innovative demand reduction options for our WRMP29 would provide some resilience if the proposed WRMP24 demand reductions do not all arise (i.e., Government led water efficiency interventions do not meet the required level of demand reductions). The WRMP24 Main Plan has been updated to include a look ahead to PR29 and the various work streams proposed.

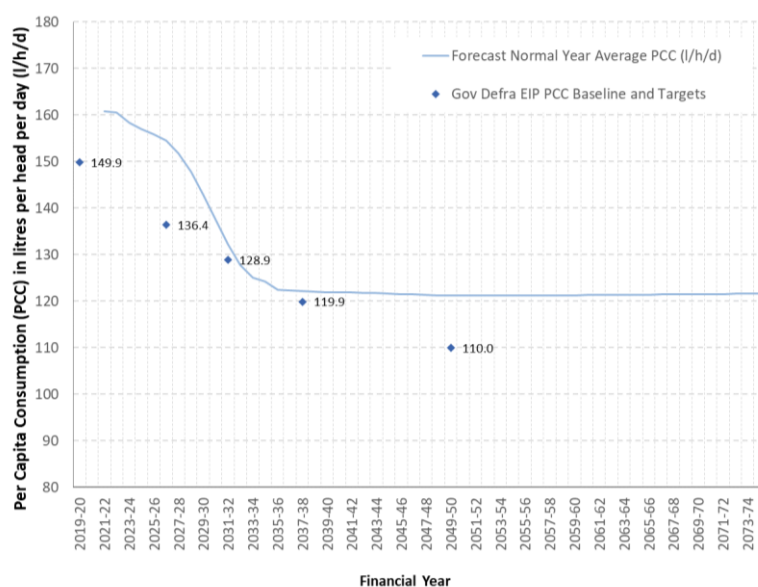


Figure 12 Normal year PCC forecast and Defra EIP baseline and targets – Portsmouth Water interventions only - no Government led water efficiency interventions

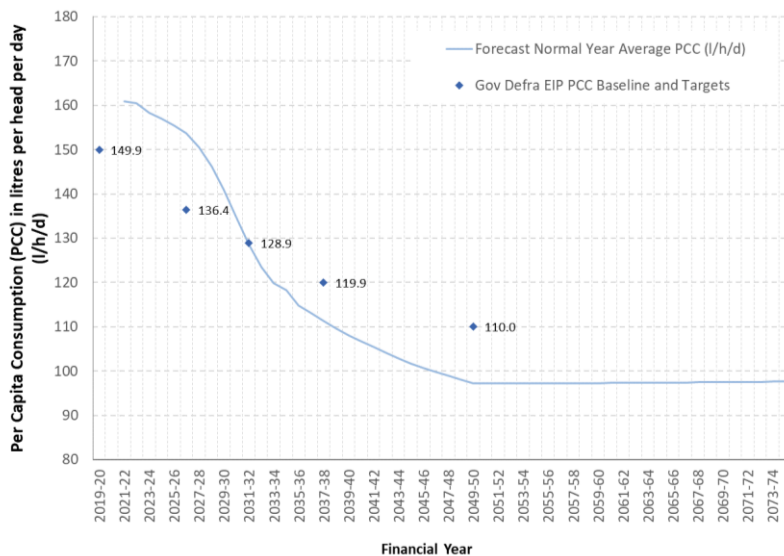


Figure 13 Normal year PCC forecast and Defra EIP baseline and targets – Portsmouth Water and Government led water efficiency interventions combined

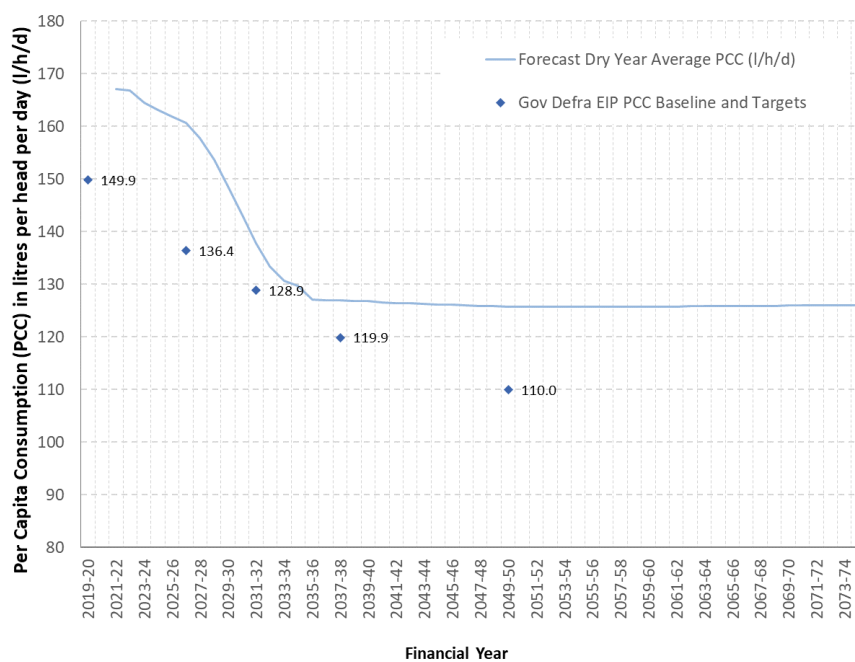


Figure 14 Dry year PCC forecast and Defra EIP baseline and targets– Portsmouth Water interventions only - no Government led water efficiency interventions

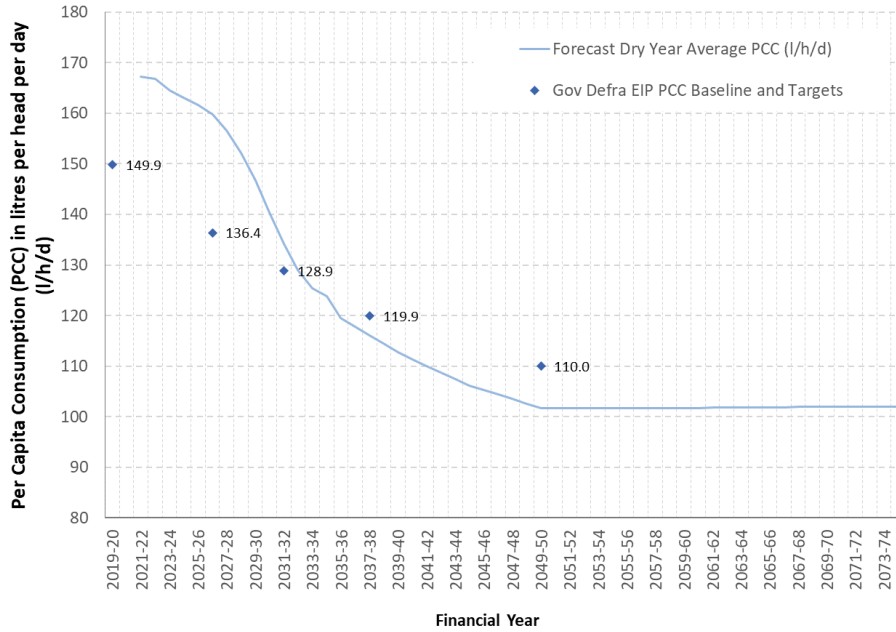


Figure 15 Dry year PCC forecast and Defra EIP baseline and targets – Portsmouth Water and Government led water efficiency interventions combined

3.2.2 Performance against new Defra EIP non-household targets

The EIP also include targets for Non-Household (NHH) customers i.e. the retail market. NHH demand makes up around 16% of total distribution input according to our 2021/22 water balance. The EIP targets are for a 9% reduction by 2037/38 and a 15% reduction by 2050 from a 2019/20 demand baseline (see Figure 16). These demand reductions would be achieved via smart metering of NHH’s and dedicated water efficiency support to retailers and NHH customers (further detail is provided in Section 4).

Whilst we meet these EIP targets, NHH demand is still expected to grow over time which results from growth in agricultural demand (please refer to WRMP24 Appendix 4B for further information on the NHH demand forecast). Section 4.5.2.10 provides further information on how we plan to support agricultural NHH’s reduce their demand for water.

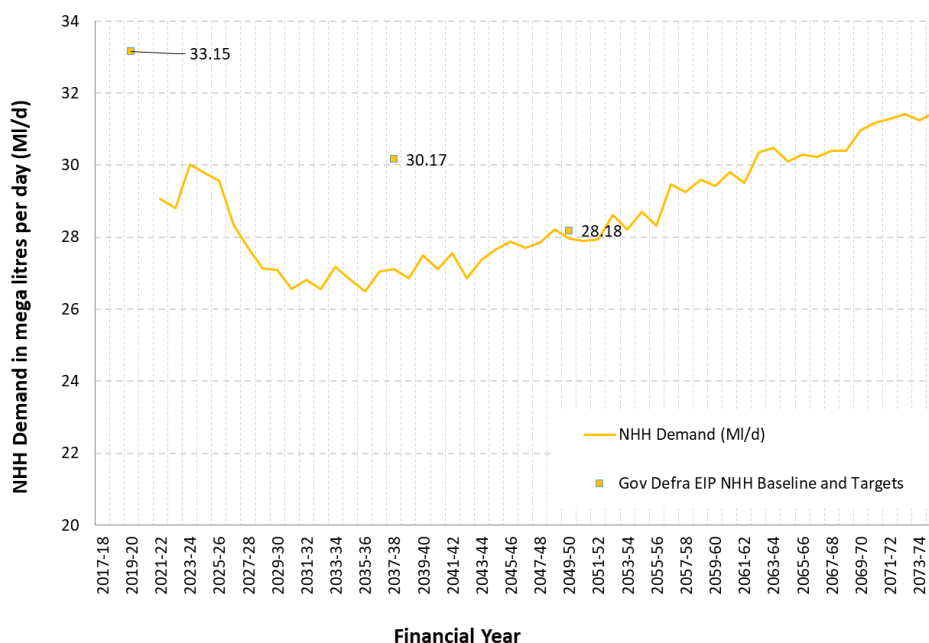


Figure 16: NHH demand forecast against the EIP targets

3.2.3 WRMP performance forecasts and PR24 business plan Performance Commitment Level submissions

The WRMP24 performance trends for PCC and business demand presented on an annual basis within our WRMP24 tables form the starting point for our PR24 business plan Performance Commitment Level (PCL). However, there were further considerations for the business plan including the impact of Covid-19 and the influence of assumed Government led water efficiency interventions on PCC.

4 DEVELOPING OUR WATER EFFICIENCY PROGRAMME

4.1 High level process

In this section we describe the high-level process we followed to ensure we have a robust delivery programme that presents good value to customers. The process is summarised in Figure 17.

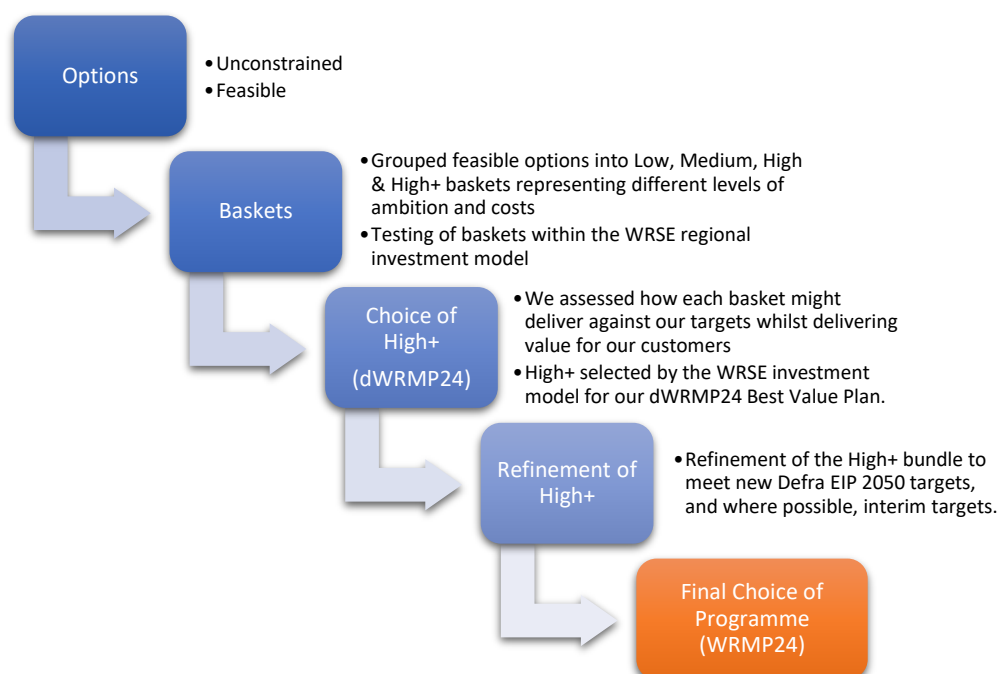


Figure 17: Pathway to developing our preferred water efficiency programme

A multi-stage approach took us to the development of the Best Value Plan for dWRMP24, building from an expansive and industry scanning and innovation embracing list of unconstrained options developed in partnership with internal SME's, our supply chain and partners, through to a refined list of feasible options and then a preferred basket of options.

The feasible options were grouped into 'baskets' of investment packages ranging from 'Low' to 'High+', providing options that scaled up with level of investment and outcomes against our goals and targets. The WRSE investment model helped us to identify that, given the size of the challenge in balancing supply and demand, and the 2050 110l/h/d PCC target, the High+ basket was the appropriate option for our Best Value Plan at the dWRMP24 stage.

Changes over time in guidance (Defra EIP targets) as well as feedback from the dWRMP24 consultation led us to review and refine the High+ basket options, bringing in industry experts to ensure that we could deliver an ambitious, innovative and value delivering final choice programme of work that would deliver against our 2050 targets.

4.2 Unconstrained options

In this section we outline all the possible water efficiency options that were considered as part of our demand reduction baskets and whether they were included in our final choice of programme.

4.2.1 Approach

In order for us to be able to review all the possible options for demand management, we undertook a rigorous assessment that included:

- Current Portsmouth Water strategy and initiative review
 - All current demand management activities were reviewed for their effectiveness, value and scalability
 - All current trial and innovation pathfinders were assessed for their current effectiveness and readiness for affordable and practical deployment at scale
 - Supply chain capacity
- Best practice industry scan
 - Proven technologies, approaches and innovations that have been delivered through AMP7
 - Partnering with industry experts for internal / external strategy review
 - Government / regulatory led initiatives and standards
- Portsmouth Water strategic plans
 - Initiatives where demand benefits or impacts could be harnessed, such as smart metering

4.2.2 Outputs

A summary of the outputs of the unconstrained options is provided in Table 2. The potential benefit area is highlighted as being households (HH demand) and/or non-households (NHH demand).

Table 2 Unconstrained options and selection for final choice of programme

Intervention	Potential Benefit Area	Application to Portsmouth Water	Adopted in Plan
Home water efficiency visits	HH demand	New offering for Portsmouth Water, but harnessing a maturing supply chain and evidence of success in the UK Water Industry. We believe that a programme of home efficiency visits ahead of the smart metering programme rolling into the region will gain cost effective and sustained reductions in demand for homes visited. The home water efficiency visits will be phased to get the most value ahead of smart metering and target the highest using homes. The visits will combine the installation of water saving devices with best practice water efficiency education and behavioural change prompts, citing the financial and environmental benefits for customers.	Yes
HH water efficiency devices	HH demand	This is a mature supply chain and a mature area of demand management within Portsmouth Water. We will continue to offer tap aerators, water efficient shower heads and system displacement devices, but have removed items that industry research have shown to be gimmicks rather than value adding (for example shower timers, as per Southampton University Study).	Yes
Delivering devices through an educational website/experience	HH demand	At Portsmouth Water we have already enrolled 10,000 customers onto our experience website "GetWaterFit", this already delivers measurable demand benefits, and we intend to increase the subscribership in AMP8 to 25,000 customers and continue to hone the model for best value.	Yes

Intervention	Potential Benefit Area	Application to Portsmouth Water	Adopted in Plan
Education	HH demand	We recognise the opportunity to influence the behaviours and understanding of the need for water efficient living in this generation and the next through school visits and the provision of materials and programmes that schools can use to self-serve from. We intend to work with local authorities and academies to produce the right level of information for each of the key stages of education as well as setting up a capability to both provide educational overviews to pupils (via demand communications resource) and provide real water saving advice to the school itself (through our NHH efficiency check capability).	Yes
Water saving calculator	HH demand	Provides insight for customers into their personal usage, how they may benefit from metered billing as well as providing water saving tips and advice. This has largely been superseded by continuous engagement options such as GetWaterFit that provide the same information, but also incentives, devices and campaigns. The calculator integrates into the GetWaterFit site.	Yes – but part of platform
Behavioural change campaign	HH demand NHH demand	GetWaterFit gamification and the support of charities.	Yes
Comms (general Broadcast messages)	HH demand NHH demand	Portsmouth Water have engaged successfully with their customers on an increasing range of platforms and initiatives over AMP7. We recognise that the messaging needs to be targeted and programmed to be continuous and purposeful, to keep the messaging alive and relevant in the minds of our customers as behavioural change is challenging, even for the well-intended. We recognised that a dedicated communications resource in the demand area will capitalise on this opportunity and plan to increase resourcing from the start of AMP8. The additional focus on social media channels and local events will increase the strength and breadth of quality messaging. The resource will transition over to the smart metering and hyper-care teams as campaigns will increasingly be delivered by and through smart meter data and the app. Our campaigns will link to national and local events to maximise the reach, impact and relevance of the messaging.	Yes
Comms (targeted local messages)	HH demand NHH demand	Link water use to a specific issue or location with a visible connection to water consumption – flow in a river, height of a pond, wetlands. To tap into local pride and environmental awareness, targeting specific groups either in a locality or at regional events such as Wickham festival. Affinity Water saw huge benefits through their S.O.S (Save our Streams) programme that linked local chalk stream health to the consumption in the region for example.	Yes

Intervention	Potential Benefit Area	Application to Portsmouth Water	Adopted in Plan
Plumbing losses (plumbers repairing leaks)	HH demand	Portsmouth Water have committed to a post smart metering installation 'hyper-care' service. The exact shape of this service is still under design but will provide tailored practical advice and access to solutions to plumbing issues in order to significantly reduce customer side leakage and unnecessary high usage plumbing.	Part of smart metering hyper-care
HH Flow regulators	HH demand	Portsmouth Water customers are by and large not receiving the extra high pressure that has made household level flow and pressure reducers worthwhile elsewhere in the UK. We plan to extend our large area and local PRV control through "project calm", balancing pressure further still. We recognise that for some properties there will be both a demand and financial benefit from such devices, nonetheless. We will use our digital twin model to identify those who will benefit most. Due to the possible impacts on internal plumbing (where there may be unknown restrictions) we do not believe that these devices should be installed without customer pull.	Yes
Metering Traditional / Dumb Smart Universal smart	HH demand NHH demand	<p>With smart meters coming to Portsmouth from late 2025 and the national demand for smart meter install resources on the supply chain, a campaign for dumb meters would be impractical and inefficient. The benefits of smart metering over "dumb" meters make the active push of existing dumb meter technology a poor value decision for our customers in terms of water demand. We will continue to allow customers to opt for metering and with our change of occupant policy. At the appropriate time we will switch this offering over to smart meters, this will be driven by the technology choice with our partners.</p> <p>Smart metering provides great value for customers, water companies and the environment. It aligns with a digital Britain supported by central government and the National Infrastructure Commission (NIC). Smart metering will be at the core of Portsmouth Water demand management. Technology choices vary, but by and large, smart metering is most beneficial when entire geographic regions are converted as a whole.</p> <p>Universal smart metering will have the greatest benefit on our region, with both customers and the environment benefiting through access to lower bills and reduced demand. With smart meters on average returning £1.36 for every £1 spent, they also reflect best value for water companies⁷. We aim to deliver universal metering by 2035. This will include NHH properties, who will have the same smart meter where appropriate or meter review for larger</p>	Yes

⁷ Cost benefit analysis of water smart metering Produced by Frontier Economics and Artesia, supported by Arqiva November 2021

Intervention	Potential Benefit Area	Application to Portsmouth Water	Adopted in Plan
		installations. For two thirds of our HH population they will have the double lift benefit of first-time metering and smart metering capability.	
HH Incentives	HH demand	Portsmouth Water plan to introduce innovative new tariffs from the point when it is practical and equitable to do so. We plan to have a level of universal metering sufficient to make this feasible and fair from 2035. Tariffs that incentivise water efficient usage will see benefits under all conditions and help ensure fair management of our water resources. Innovative seasonal or high stress tariffs remain a consideration, but Portsmouth Water will use the time leading to 2035 to engage fully with our customers to ensure the right balance and fit for our region as a whole. Innovative tariffs are not practical or feasible without metering and our current levels of meter penetration mean that innovative tariffs would be inequitable and ineffective in the current period.	Yes
NHH Efficiency checks	NHH demand	We have seen benefits in overall demand management through efficiency support for non-household (NHH) customers. We intend to produce a programme of support that will offer genuine benefits for NHH customers whilst reducing and optimising demand in the round. Our programme will be in collaboration with retailers. We will establish a new capability to visit and audit sites and provide expert advice on water efficiency.	Yes
NHH incentives	NHH demand	Pricing incentives are the responsibility of retailers, although we will seek to support more efficient operations of NHH premises through our efficiency checks. We will work with retailers and regulators to advocate the change of the model that rewards high usage with lower unit costs through bulk tariffs. This will require widespread consultation, where Portsmouth Water will be a contributor.	No
NHH retrofitting	NHH demand	There is a maturing market for commercial water saving/water re-use/harvesting in the UK for both new and existing properties as a retrofit service. This is a complex and niche service and whilst we encourage the market, we do not regard this as a practical, scalable option at this time.	No
NHH flow regulators	NHH demand	NHH flow regulation may be a retailer offering to support a company reduce their demand, but we feel that as the wholesale provider we cannot take actions that may impact the perceived service a NHH property receives other than by request, with the benefits to Portsmouth Water customers considered on a case-by-case basis to ensure overall value is balanced.	No
Developer incentives	HH demand NHH demand	We have a current scheme with developers whereby they can claim back costs/receive discounts through evidencing water efficient homes. This has only been taken up on two small developments, with feedback	No

Intervention	Potential Benefit Area	Application to Portsmouth Water	Adopted in Plan
		<p>from the market pointing the need for legislation rather than incentivisation required to change the paradigm as the evidencing and installation effort required are not met with consumer demand. We will continue to offer existing terms, but do not believe there is a benefit from doing more in this space without government policy change.</p>	
<p>Subsidised Retro fit water recycling / Grey water</p>	<p>HH Demand NHH Demand</p>	<p>We will continue to subsidise water butts for our customers, these provide household level rainwater harvesting opportunities for garden use. We explored the deployment of smart water butts, but the cost benefit was not right for Portsmouth customers as the level of maturity in these products is still in proof of value stage and not affordably scalable for deployment and they have principally been tested for SUDs (Sustainable Urban Drainage) benefits rather than demand management.</p> <p>Retro installation rainwater harvesting that integrates into home plumbing is a specialist undertaking and the devices and storage required do not represent value for Portsmouth Water customers as a subsidised offering that ultimately all will pay for, but typically only the wealthy few could take advantage of.</p>	<p>No</p>
<p>Rainwater harvesting (industrial)</p>	<p>NHH Demand</p>	<p>This is beyond the remit of the wholesaler, but whilst working with NHH customers with the retailer this will form part of the conversation around water efficiency. The application will be very user specific and is better exploited via the market where an increasingly mature supply chain is growing.</p>	<p>No</p>
<p>Rainwater harvesting (domestic)</p>	<p>HH Demand</p>	<p>Retro: This is recognised as a technique for individual properties but customer appetite for large-scale retrofitting (sufficient to deliver a WRMP benefit) is likely to be low. Also, there is uncertainty regarding technology available to retrofit enough households to generate a high enough demand reduction.</p> <p>New Build: Challenging implementation and uncertainty regarding uptake among developers. Even though the disruption and spatial footprint issues are addressed at the build stage, concern over performance and maintenance remain. Opportunities for such schemes may arise on a trial/pilot study basis for developments seeking to achieve exemplar status, especially as technologies and research into costs and benefits develop. As this option is aimed at new developments this gives opportunity to target multiple new households. However, all schemes would need to be appraised on a bespoke basis considering the relationship between potential 'demand centre' and opportunities available from which to harvest water (e.g., from collections of terraced properties, detached properties etc.) with</p>	<p>No</p>

Intervention	Potential Benefit Area	Application to Portsmouth Water	Adopted in Plan
		suitability potentially varying hugely across the region between different developments.	
Interruptible Industrial Supply	NHH Demand	Industry / commercial customers are likely to only accept this during times when they do not use water anyway due to business pressures. As such this may not generate any genuine reductions. This is more of an operational diurnal water management arrangement. On the basis of no/very limited water savings achieved.	No
Appliance Labelling	HH Demand NHH Demand	This option is beyond the scope of WRMP, such measures will form part of government/regulator-led schemes being developed by WRSE to inform demand reduction strategies.	No
Composting toilets	HH Demand NHH Demand	This model of WC generates significant savings. Although, there are no specific issues regarding helping customers save water (and money) there would likely be major concerns over potential risks to customer health (perceived or real risks). The number of customers able and willing to take up this option is likely to be very low and the infrastructure to deliver this at scale is limited. There would be various concerns over ongoing management of a composter, odour etc.	No
Retrofit water efficient devices on change of occupancy	HH Demand	High likelihood of generating waste in households that have been re-fitted with owner-selected devices and fittings prior to sale. Wide applicability and desirability (affecting customer retention) of fittings may be an issue without direct engagement with new owner, raising technical difficulties. Not value for money for the wholesaler to carry out on behalf of customers.	No
Narrow pipes for toilets	HH Demand NHH Demand	This option is beyond the ability of Portsmouth Water as a water wholesaler to implement.	
Coastal non-potable	HH Demand NHH Demand	Water quality and treatment uncertainty. There is also uncertainty surrounding Drinking Water Inspectorate (DWI) guidance/ buy-in. This would involve significant retrofit infrastructure which would be very costly. Significant practical challenges presented by replacement of freshwater with saline, depending on the user. Uptake may be low considering needs and business models of potential users of non-potable water	No

Intervention	Potential Benefit Area	Application to Portsmouth Water	Adopted in Plan
Water Neutrality	HH Demand NHH Demand	We are supportive of the aims of Water Neutrality to improve building standards and reduce our demand for water. However, we acknowledge Water Neutrality cannot solely be delivered by the water companies and they cannot be seen as the “default” funders of the measures required for water neutrality. The delivery of water neutrality must be on the basis of concerted action in partnership with the local community, and involving the local authority, local water companies, the Environment Agency and developers. Due to the above statement, demand savings from Water Neutrality have not been included in the WRMP24, however we will continue to liaise with the relevant authorities to support its implementation.	No

4.3 Optimising / prioritising options

In this section we outline how we took the list of unconstrained options through a feasibility and prioritisation process to build our final programme of work

4.3.1 The approach

All feasible options have been rigorously tested to ensure that benefits are reliable and can be validated by data that is comparable to Portsmouth Water as a region. Wherever possible we have used our own AMP7 trials to calibrate and assess the impact of future offerings such as smart meters, and to model and extrapolate extensions to or growth in existing features of demand management within the Portsmouth region.

We have brought in industry expertise to test and challenge our planning assumptions and to stretch the breadth of our thinking and exposure to approaches and technologies. Horizon scanning with partners and experts in demand, we believe that we have a comprehensive suite of options that represent the most likely current near future options.

We have ensured that this approach is supplemented and supported by the industry best practice papers and academic research as well as exploring industry innovations in product and approach. This has not only given us confidence in the options we have taken forwards, but also those we have discounted.

We have utilised a cost benefit approach and applied principles of fair cost for Portsmouth Water customers throughout, to ensure that not only can we achieve our demand goals, but through approaches that we can demonstrate deliver value for money to them.

Following a cost benefit review of the effectiveness of several interventions we have selected a suite of activity we feel represents our most influential mix of activity, whilst also providing value for our customers. Using our investment model and expert opinion we have worked hard to ensure that we balance all the drivers for investment, the cost, the commitments we have made to our customers or as an industry and those targets mandated by government.

AMP7 has been a challenging period for PCC across the industry given the impacts of Covid-19. We are still living with the impacts of the pandemic and expect to be still recovering from it well through the WRMP24 lifecycle. Whilst we have been maximising our efforts in AMP7 to reduce PCC to levels

that will set us up for success across WRMP24, the position is still difficult and therefore only the High+ basket of options, essentially all feasible options available to us, could be selected to meet the 2050 PCC dry year target (with support from Government Led water efficiency interventions).

4.4 WRMP24 programme benefits

Delivered in combination with reduced leakage, the water efficiency programme has improved and protected the long-term water resources supply/demand balance. The benefits of the water efficiency programme are:

- Delivery of regulatory commitments – PCC is a common performance commitment under the PR24 framework
- Drive efficiencies – by delivering activities in parallel working alongside our metering and water resources programmes we can demonstrate cost and delivery efficiencies.
- Increased customer awareness, value for money and brand recognition / reputation – possible benefits for the customer measure of experience (C-MeX)
- Provides opportunities to trial alternative solutions including new technologies and innovations for additional operational efficiencies.
- To support our environmental protection targets through reduced abstraction from our groundwater and river sources.
- Demonstrates clear links to our corporate purpose and external commitments.
- Avoided PCC penalty – the performance commitment has an applicable Outcome Delivery Incentive (ODI) rate.

We see smart metering as a key enabler for understanding our customers' water use behaviours. We have delivered smaller scale trials in AMP7 to better target PCC reductions and to bridge the gap until the impact of smart meters is felt.

4.5 Choice of preferred plan

In this section we summarise and explain the elements of our plan and how they will deliver value for Portsmouth Water customers in a tangible, measurable way.

4.5.1 Overview of preferred plan

An overview of the preferred plan is provided in Table 3 and further information on individual interventions is set out in subsequent sections.

Table 3 Overview of the preferred plan for water efficiency

Option Type	Description	Benefit
Physical	Universal Smart Metering/metering	Proven to reduce water demand through consumption awareness and psychology of paying for actual use.
	Plumbing losses – hyper-care leak fixing	Reduces the household losses that would be classified as demand
	Gadgets	Reduces the flow or consumption of water a plumbing fitting uses
	Household flow restrictors	Reduces pressure and therefore volume of wasted water in homes
	Leak Alarms (Leakbot)	Alerts customers to physical repairs required
	NHH Efficiency Checks / audits	Reduces the flow or consumption of water a plumbing fitting uses and fixing leaks
	Behavioural	Home efficiency audits
Education		Sets up behaviours in future generations and the “nag” factor today
Community Reward (Platform)		Individuals reduce consumption for community benefits
General broadcast messages (multi-channel proactive comms)		Individuals reduce consumption through messaging that they relate to
Community Campaign		Encourages participation in water saving lifestyle choices to gain rewards for the community they live in
Innovative New Tariffs		Encourages reduced consumption driven by financial reward/penalty
Vulnerability / Inclusion and Equality		Ensures that those in most need of support are provided with the tools and information that protects them.
	Leading by example	Demonstrating to customers that the journey is a shared one and that Portsmouth Water itself is doing everything it can to be water efficient.
Replacement	Subsidised water butts	Rainwater used instead of mains water for garden use.

4.5.2 Description of activities and benefits

4.5.2.1 Home water efficiency audits outside of the smart metering programme

Industry experience shows that home water efficiency audits have been most efficient when targeted at the highest user homes, with companies reporting a range of benefits from 50-70 litres per day (l/d) per property (Thames Water and United Utilities), whereas untargeted audits at other water companies see ranges from 17-31 l/d per property, typically close to 30 l/d per property.

As Portsmouth Water only have approximately one third of customers metered for consumption, our focus will be on “dumb” metered properties until the universal smart metering programme begins to highlight new customers to work with. We have set out an ambitious programme of 1,000 home efficiency visits per year for the first 3 years of AMP8. This corresponds with the rate of home efficiency visits planned for the final two years of AMP7 and we believe this is both sustainable through the supply chain and achievable in partnership with our customers.

By targeting the high users for home audits, our forecast savings will be 60 l/d per property for overall behavioural and usage benefits and believe that we will have sufficient properties in scope to achieve this saving. Whilst our partners have suggested we should expect to see 75 l/d savings, we have opted to show benefits at the mid-point in the industry for high user focussed home audits given the lack of Portsmouth Water specific data to validate against. In 2028 we plan to reduce the number of visits to 900, then continue to reduce at 100 a year until 2035. The reduction in household visits by 100 per

year after 2028 reflects the diminishing list of properties we would anticipate remaining as high users, as whilst the universal smart metering programme will bring new customers into sight, the impact of smart metering will reduce some of the volume of high users as previously unmetered users see the consequence of their consumption through cost.

The device and behavioural benefits at 60 l/d per property do not include the additional benefits of internal leaks fixed that our partners expect to locate at 1:10 properties, where an additional 250 litres on average (but up to 600 litres) can be expected to be saved. This achieves an average overall benefit of **85 l/d per property** for homes visited in the programme. By targeting high use properties, we are confident we will get greatest value for money for our customers whilst ensuring we tap into this opportunity to help households reduce their billed consumption whilst reducing overall demand.

Our home water efficiency checks will include a holistic service offering to customers, providing:

- customised support and advice with understanding their bill and usage,
- installation of new water efficient devices, and
- additional assistance to show customers how to read meters/use smart meter app and find leaks.

We will offer the service to the households that fall into the highest 10% of consumption, with a single visit to a household that has the same occupier in the 12 years the programme is set to run (inclusive of 2023/24 and 2024/25).

The benefits of home water efficiency audits in the WRMP24 are shown in Table 4.

Table 4 Cumulative benefits associated with home water efficiency audits in the WRMP24

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
MI/d	0.09	0.17	0.26	0.33	0.40	0.46	0.51	0.55	0.59	0.59	0.59

4.5.2.2 Education

We do not have a specific water efficiency in-schools presence currently but do visit schools and other education centres for other purposes. We recognise the benefits seen in other water companies through engagement with children through formal education to benefit present and future consumption habits. Our website hosts a wide range of water saving advice and tips as well as activities that would be relevant to school children of all ages. We will work with local education authorities and academies to build age targeted programmes of activities that can be deployed into schools, self-delivered and accessed via our website. This way children can take the messages home and share the same learning and information that they have been provided in school. We will ensure that our visits to schools and education centres are multi-faceted, and that water efficiency messaging is delivered at every opportunity.

As part of our universal smart metering programme, we will begin to take messaging directly into schools in addition to the provision of the material as we believe this to be the point of maximum impact for this resource intensive approach. This will allow us to combine the core messages of water efficiency and the value and scarcity of water, but also to land some key smart metering messages. Children are often the most tech-savvy in homes, so we will ensure that they understand the app, what it can tell them (and their parents/guardians) and also to explain why smart meters help the community and the environment as well as providing key dates relevant to their own smart meters (at a community level).

This dual approach will provide sustainable educational focus for the region, throughout WRMP24 and a reach cumulatively growing at a rate of 0.011 MI/d per annum.

During the WRMP24 period we will also carry out 20 visits to schools per annum for efficiency audits with an anticipated 567 l/d for each school. The savings for this are accumulated in the non-household efficiency audits section. The benefits of education related activities in the WRMP24 are shown in Table 5.

Table 5 Cumulative benefits of education related activities in the WRMP24

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2045	2048+
MI/d	0.01	0.02	0.03	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.23	0.28

4.5.2.3 Community Reward Platform

Over the course of AMP7 we have seen significant benefits from working with our customers to reduce their water consumption through platform-based interactions. Our GetWaterFit platform is influencing and supporting over 10,000 customers. In a trial to explore effective customer messaging, we also recruited 5,000 'dumb' metered customers to an Advizzo service that provided consumption insight and behavioural change nudges to our customers. We are learning that engaging intensively with a collective group can continue to drive above average savings to their water use, but the levels of intensity are challenging to maintain.

Such platforms provide sustained savings through targeted water saving device distribution, advice, gamification of personal and household usage data, challenges to meet as well as rewards for the community for achieving the goals.

Given our research shows that up to 30,000 customers are prepared to engage in this way even before the majority can see the personal benefits through metering, we are confident that the rate of growth for households signing up to equivalent platforms remains high. With the roll out of universal metering over the first 10 years of WRMP24 (AMP8 and AMP9) we are confident that the current sign-up rate of 5,000 p/a seen over AMP7 will be sustained as our customers become more consumption aware and we speak to them directly about the opportunity to subscribe through our hyper-care service. We believe that there will be potential to grow beyond 2035 and will review the position again in PR29/WRMP29 and PR34/WRMP34.

We are considering the best options for the platforming over the transition period to smart metering and how that will integrate with the added layers of consumption data that provides, as well as how to take up the opportunity to integrate the programme into the smart water app. We are committed to ensuring that the run rate of 5,000 p/a does not drop and that costs are kept within forecast levels but recognise this may mean operating two versions of the platform for 'dumb' metered and 'smart' metered customers.

We have assumed savings of **15.1 l/d** per household for each year of the sign-on based on the evidence of our GetWaterFit programme and industry common practice. The behavioural change and device benefits cumulatively build in benefit until 2035 at which point, we will continue to campaign but will have reached a ceiling of penetration and benefit through this approach.

The benefits of a community reward platform in the WRMP24 are shown in Table 6.

Table 6 Cumulative benefits of a community reward platform in the WRMP24

	2026	2027	2028	2029	2030	2031	2036	2041	2046	2056	2066
MI/d	0.04	0.09	0.13	0.18	0.22	0.26	0.48	0.70	0.92	1.10	1.10

4.5.2.4 General broadcast messages (multi-channel proactive comms)

We are looking to engage with more of our customers about water efficiency through redesigning and increasing customer engagement activity, both seasonally and in line with national campaigns. We will widen the number of channels previously used including:

- Attendance and promotion of water efficiency at community events.
- Scheduled posts on our social media pages.
- Advertorials in local publications.
- Increased use of video / dynamic content online.

We will bring in new specialist resource to ensure that we are able to tap into all forms of media and ensure that the messaging is tailored to our customers and that we are continually improving via metric and feedback through the channels we use. By having focussed demand communications resources, we are confident that we can sustain a higher reach and quality of interaction with our customers. The resource will also support the wider demand communications messaging through our community reward programme, education programme and link into the smart meter programme communications for a linked up and consistent message.

Our overall communications broadcasts will target customers with fresh and engaging content on water saving, sharing our campaigns and initiatives, and linking into national campaigns and government led information in the demand space. We will target physical advertising spaces within the Portsmouth region, through social media platforms as well as local broadcasters.

Our savings are profiled to reflect a cumulative build-up of awareness and messaging to the point where the savings through this channel peak. We will continue to put the same level of effort into the programme until the end of the WRMP24 period to maintain that peak level of penetration at its high level. We have based our assumptions on savings generated in larger UK water companies who have full time demand communications specialists as this is a new capability for Portsmouth Water.

The benefits of multi-channel proactive comms in the WRMP24 are shown in Table 7.

Table 7 Cumulative benefits of multi-channel proactive comms in the WRMP24

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036+
MI/d	0.06	0.12	0.18	0.24	0.30	0.36	0.42	0.48	0.54	0.60	0.67

4.5.2.5 Community campaign

We know from our dWRMP24 consultation feedback from communities and from our regular interactions with Portsmouth Water customers that they are highly connected to the local environment and want to work with us to manage and protect our internationally important resources.

Our chalk streams are of particular value, with 85% of the worlds chalk streams found in the UK, making them of international importance and local pride. Across the County during AMP7 we saw the effectiveness of linking the protection of chalk streams with the local community and connecting the consequence of their own water consumption to the health of these habitats.

For instance, Affinity Water launched a high impact campaign named S.O.S. (Save Our Streams) that utilised persuasive behavioural change messages that tapped into the specific demographics of the area and consumption data to target campaign audiences and change behaviours.

Given that all of Portsmouth Water’s supplies are abstracted from chalk stream catchments, we believe we have the mandate and the compelling case to run a sustained campaign over WRMP24. By linking with experts in behavioural psychology and customer engagement to our increasing consumption information through metering we believe we have the capability to create an effective and sustainable campaign that targets customers with engaging and bespoke communications that drive measurable change.

Portsmouth Water have a very close link with their customers, in a recognised geography and with a CSAT/C-MeX profile that reflects the trust and identity the population shares with our company. When looking into the case study of Affinity Water, who reported that a saving of 14.44 p/h/d was recorded for the target households for their S.O.S campaign we recognise that we have the benefit of a shared local identity, and a reduced scale of campaign compared with the population that they were seeking to influence. We intend to maximise and leverage our local identity and position in the community to drive a successful campaign of our own that resonates with our communities at a scale that is beneficial and value driving for them.

We plan to target 1:3 households over the course of the campaign and believe that we can engage 20,000 households per annum with such campaigns until 2035. After 2035 we believe that the message will have been seeded sufficiently within the community to scale the proactive approach and keep the messaging alive through our general broadcast comms and community events such as Wickham Festival where we conservatively believe that 2,000 positive contacts with customers can be achieved per year for the remainder of WRMP24.

The benefits of community campaigns in the WRMP24 are shown in Table 8.

Table 8 Cumulative benefits of community campaign in the WRMP24

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
MI/d	0.29	0.58	0.87	1.16	1.44	1.73	2.02	2.31	2.60	2.89

4.5.2.6 Leak Alarms (e.g., Leakbot)

During AMP7 we have experimented with home leak alarm devices, beginning with a small-scale deployment of “Jellyfish” devices and then scaling up to 1,000 devices through “Leakbot”. The trials for Leakbot demonstrated an overall average saving of **30 l/h/d** through a combination of leak detection (found at 24% of homes) and 9 l/h/d where a high usage alert had been sent. These leaks are internal plumbing losses, not supply pipe leaks.

We are now confident that such devices add value to the customers of Portsmouth Water, as bulk buying provides a discount rate. Recognising that smart water meters will eventually provide universal leak and high usage alerts we will contain the deployment of these devices to the first 5 years of WRMP24 (AMP8) and offer the devices out to customers at a rate of 500 per year, meaning a total deployment of 2,500 in the period, a 150% increase on AMP7.

Our profiling of benefits reflects the outcomes that we have seen from the trials to date in that benefits overall are observed in the first few months of deployment, when households discover existing leaks or habits that can be corrected. We do not have evidence to show the enduring benefit that may be present through the detection of new leaks, so given the imminent roll out of universal metering we have only accounted for year one benefits of the device.

Our deployment will be targeted at homes that will not receive a smart meter in the first 5 years of WRMP24 (AMP7) to ensure no double counting of benefits.

The benefits of leak alarms in the WRMP24 are shown in Table 9.

Table 9 Cumulative benefits of leak alarms in the WRMP24

	2026	2027	2028	2029	2030	2036	2046	2056	2066
MI/d	0.02	0.03	0.05	0.06	0.08	0.08	0.08	0.08	0.08

4.5.2.7 Universal smart metering

Industry reports cite smart metering as the best value option for water companies to manage and reduce demand with their customers. Our focus will be on ensuring that we have the skills and tools in place to exploit the opportunities arising from our universal smart metering programme whilst ensuring that we deliver tangible behavioural and usage reductions with other supporting measures before, during and after the roll out. Research undertaken for the WRMP24 and from the consultation showed customers were supportive of smart metering.

Portsmouth Water has historically had lower customer metering penetration compared with peers in the WRSE region and against the national average. Just over 34.5% of customers are metered with traditional manual read “dumb” meters, comprising of new build properties, optants (customers who have requested a metered service) and properties that have changed occupancy since December 2021. Other water companies within WRSE have already surpassed 90% metering penetration by comparison.

Customers who are metered with conventional “dumb” meters are already more likely to moderate their usage; in Portsmouth Water the PCC for unmeasured customers has ranged between 25-35% higher than our measured customers. This is partially because optants are typically more engaged about water savings either on ethical or financial grounds (which may also be true for change of ownership metered properties), but also because they have been able to identify leakage and losses in the home.

The benefits to demand reduction through smart metering have been proven to be higher still, as the near real time view of consumption and the impact on billing can be seen by the customer, allowing them to access high usage alerts and leakage warnings as well as comparisons, hints and tips for water saving. On this basis, smart metering is the most crucial element of the WRMP24 plan for reducing PCC. Based on existing evidence and our knowledge of our supply area we propose to deliver universal smart metering over 8 years starting in 2025–26 until around 94 per cent of the homes in our area are metered in 2033–34.

Smart metering provides near time visibility of issues and ready access to alerts and information that could help customers address problems earlier than ever before. Early adopters such as Anglian Water have observed that 80% of customers alerted to leakage within their properties fix them within 6 months.

In order to overdrive the opportunities of smart metering within the region, Portsmouth have committed to follow up the installation of smart meters with a campaign of advice and support to help customers understand and manage their consumption and to identify (and fix where appropriate) any plumbing issues that may be impacting their consumption levels and future billing profile. We are internally labelling this element of our plan ‘hyper-care’.

As part of our smart metering programme, we will ensure that all Non-Household (NHH) premises are smart metered or smart enabled. All premises with a 40mm or below connection will have a standard smart meter, and those of greater size will be assessed for the most optimal solution to connect to the smart network adapting existing or installing new meters.

As part of the roll out of smart metering we will introduce an ambitious package of hyper-care support for our customers (see Table 10).

Table 10 Anticipated elements of Hyper-care support for smart metered customers

Health Report	Doorstep Support	Leakage repair
Nightline report: <ul style="list-style-type: none"> Leaky loos Supply pipe leak Internal plumbing losses 	Handy hints and tips Water saving devices Leaky loo test kits	Small scale (e.g., dripping tap) self help and advice Significant leaks – find and fix response:
Relative consumption view <ul style="list-style-type: none"> Compare with similar homes Water efficiency advice tailored to usage 	App navigation Sign up to alerts Sign up to campaigns	<ul style="list-style-type: none"> Home investigation (internal plumbing) Customer supply pipe leak test (external) Fixing service for economically viable issues located based on a fair cost principle - still to be fully defined*

We aim to have the majority of our customers as confident users of the smart meter app following the hyper-care doorstep visit. We anticipate that many will use the app mainly to understand their billing but will look to engage with those who are willing on a more regular basis, either via self-checking of consumption and issues or through campaigns. We have trialled the use of home consumption apps with Advizzo with a sub-set of our existing metered customers in AMP7. The trial is still building up to full numbers, but even without a concerted campaign and one to one support with the tools, early numbers show 25% of the trial customers became regular app users.

Our data indicates that the total losses on customer side leakage within the property are >34 l/d and would be included in our demand/per capita consumption (PCC) reported figures. Through our smart metering programme and hyper-care support we believe that 60% of customer side leakage will be removed through the identification and repair of leakage with or by customers. Many of these savings will be in homes with significant leaks which we estimate we will find in 1 in 5 of our households but expect also to benefit from the cumulative effect of many small leaks being fixed. We have confidence in these outcomes based on our own Leakbot pilot results as well as reported findings elsewhere in the industry during AMP7 smart metering programmes at Anglian and Thames Water.

Using best practice and UK water industry smart metering roll out assessments, we can forecast behavioural change benefits from smart metering in demand and consumption to the order of 60 l/p/d for customers who will transition directly from unmetered to smart metering, whilst a more moderate saving of 25 l/p/d for those transitioning from dumb meters.

Annex 3 provides supporting information on the planned smart metering roll out. The benefits of smart metering in the WRMP24 are outlined in Table 11 to Table 15 below.

Table 11 Cumulative benefits of smart metering in the WRMP24 (existing dumb metered households)

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036+
MI/d	0.00	0.02	0.19	0.48	0.88	1.35	1.79	2.27	3.26	3.40	3.40

Table 12 Cumulative benefits of smart metering in the WRMP24 (existing dumb metered non-households)

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036+
MI/d	0.37	1.50	2.51	2.97	3.42	3.49	3.56	3.63	3.68	3.68	3.68

Table 13 Cumulative benefits of smart metering in the WRMP24 (compulsory metering of unmeasured properties)

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036+
MI/d	0.10	0.89	2.22	4.09	6.27	8.36	9.99	9.99	9.99	9.99	9.99

Table 14 Cumulative benefits of hyper-care in repairing and reducing customer side leakage and losses (reduced demand)

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036+
MI/d	0.00	0.05	0.45	1.12	2.06	3.16	4.22	5.14	5.93	6.05	6.05

Table 15 Cumulative benefits of hyper-care in repairing and reducing customer side leakage and losses (reduced leakage)

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036+
MI/d*	0.00	0.04	0.30	0.75	1.38	2.11	2.81	3.43	3.96	4.03	4.03

* Unlike other smart meter related savings, these do not impact PCC. They contribute towards leakage reduction.

Other metering

We will continue to offer optants the opportunity to switch to a meter. The benefits of optant metering in the WRMP24 are outlined in

Table 16.

Table 16 Cumulative benefits of optant metering (dumb metering of unmeasured households)

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036+
MI/d	0.03	0.06	0.08	0.09	0.11	0.12	0.12	0.12	0.12	0.12	0.12

4.5.2.8 Household flow reduction (pressure control)

We will use our hydraulic models and digital twin to identify properties that receive much higher-than-average pressure than the mean zonal pressure in an area. After smart meters are installed into areas, we will offer homes with high pressure the opportunity to have a pressure reducing device fitted at the home. Trials show that this can cut consumption by 10% for the property. We have been very conscious of the need to keep the smart meter experience as positive as possible for our customers and for the change to be as seamless as possible for our customers. Changes in pressure can be emotive and can impact internal plumbing operation if unexpected restrictions exist within the

property. For this reason, we will be asking customers to opt into this service for the money and water saving benefits rather than installing on potential alone.

We will use AMP8 as a test period for this approach and consult our customers further to establish whether they support the opt in model or would advocate an approach where very high-pressure homes are restricted by default. We will be able to demonstrate the uptake of opt in restriction by WRMP29 to inform the debate.

The benefits of household flow reduction in the WRMP24 are outlined in Table 17.

Table 17 Cumulative benefits of household flow reduction (pressure control)

	2026	2027	2028	2029	2030	2031	2036	2046	2056	2066
MI/d	0.00	0.00	0.01	0.01	0.01	0.03	0.15	0.34	0.34	0.34

4.5.2.9 Household Incentives: Innovative tariffs

Enabled by our smart meters, we will introduce innovative tariffs to encourage water efficiency for household customers. We will continue to observe best practices in the industry as we understand a number of companies are proposing trials of a similar nature prior to our planned need.

Our current thinking on our approach would be to set innovative tariffs that escalate with consumption and season but taking account of customer vulnerability. Due to the impact that high consumption has on the local and regional environment, we believe our customers would approve of a profiling that dissuades high consumption as long as this does cause overall billed revenue to rise notably. We will also explore with our customers what might be the appropriate tariff model in times of drought and high demand to protect our water resources.

We will use AMP8 and AMP9 as the opportunity to engage with our customers to identify the most effective acceptable options. We forecast a saving of 4 l/h/d in a normal year and 6 l/h/d in dry years through this option.

We also plan to launch a community reward programme to engage newly metered customers and all existing metered customers.

The benefits of innovative tariffs in the WRMP24 are outlined in Table 18.

Table 18 Cumulative benefits of innovative tariffs in the WRMP24

	2026-35	2036	2040	2045	2050	2055	2060	2065	2070	2075
MI/d	0.00	2.01	2.08	2.15	2.22	2.26	2.29	2.33	2.36	2.39

4.5.2.10 Non-Household efficiency checks / audits

During WRMP24, working with retailers we will seek to engage our NHH communities with water efficiency messaging and awareness. Through their own due diligence and environmental auditing work we are seeing a rise in resource awareness from many NHH customers and believe large numbers will become more water efficient through their own efforts and through direct marketing of resource management companies. In particular, high-energy prices have focused magnified cost savings that can be achieved through water efficiency.

We have c.16,000 NHH connections on our network using approximately 30MI/d. Of those, 1500 (c10%) use 80% of the water. Working with their retailers, we will also be proactive and carry out audits and support visits to non-household (NHH) premises at a rate of 20 per year, targeting the top 10% of highest users from across the consumption threshold, ranging from garden centres and golf courses, to hairdressers and shops targeting relatively high users in their domain. The audits will support with general advice and guidance as well as on-site support, helping with finding and fixing leaks and installing water saving gadgets and urinal controls. Advice and support would be tailored to industry types, and we would also seek to use MOSL benchmarking data to support this approach.

We are aware that many of the smaller NHH customers may have water use requirements which are similar to households. We would ensure any advice and support is tailored to their requirements which may include having access to the same advice and support as household customers. The use of smart metering would allow us greater insight to tailor advice and support. The use of tailored advice will be followed for medium to high water users within the NHH market.

Prior to detailed discussions with water retailers, we anticipate wanting to make an online engagement platform (akin to GetWaterFit) available to all businesses and offering site leak detection advice to the highest 10% of non-household water users (assessed by volume).

The benefits of non-household audits in the WRMP24 are outlined in Table 19.

Table 19 Cumulative benefits of Non-household audits in the WRMP24

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
MI/d	0.00	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.03

With the delivery of our NHH water efficiency plans we would work collaboratively with retailers. We will share the outcome of our future trials with regulators, such as MOSL.

Working with the agricultural industry

In addition to the dedicated NHH water efficiency support, we also plan to work with the agricultural industry to reduce their demand for water. We already work closely with Catchment Sensitive Farming (CSF) who with our support, can provide grants for water saving, rainwater goods, water resource advice and natural flood management on farms. This programme is part of CSF's wider Countryside Stewardship programme, and our support can target the most sensitive areas that would benefit from these grants and services.

This programme is likely to continue into AMP8, particularly with the new Sustainable Farming Incentive (SFI) grants that are part of the wider Environmental Land Management programme (ELMs). The Catchment Team within Portsmouth Water are looking at widening this to look at the benefits of over winter storage on farms and horticultural premises and identify throughout our catchment where business and Portsmouth Water would benefit from having these installed. This programme is likely to start from 2025 onwards.

No specific funding has been guaranteed to support this initiative, but Countryside Stewardship may be able to support this with grants and we would work with other stakeholders to identify funding streams to help support this programme. This work was not considered as a WRMP24 option due to uncertainty in yield these schemes may deliver but we would seek to develop trial and examples in AMP8 to support future initiatives to support WRMP29. As part of these schemes, we would consider wider catchment and nature-based elements to ensure they bring wider environmental and social benefits were possible.

4.5.2.11 Vulnerability / Inclusion and Equality

Providing water for all is at the heart of our purpose, we are committed to ensuring that all have equal access to water. We already have the lowest water prices in the UK and offer additional support for those most in need. In 2016, we introduced our 'Helping Hand Tariff', which is specifically designed to help households with an overall income lower than Government's low-income threshold (currently £16,385). This caps the water bill at our minimum charge (from 1st July this will be £77.76). So far, more than 9,000 customers have taken advantage of this tariff.

We are working in collaboration with the Citizens Advice Bureau and other charities that support people with affordability and cost of living challenges. We provide access to water saving devices, advice and support for those most in need.

Through the introduction of universal metering, we need to support our customers who are vulnerable or find themselves in financial difficulties. Data available through metering will help us to identify customers who require our help by offering advice and tariffs which make bills more manageable while minimising waste. These could be customers who have a low household income or are high water users due to a medical condition, large families, or religion. We will ensure that our campaigns and messages do not have a negative impact on their health, wellbeing, or finances that could cause these customers to live in water poverty. Instead, we will develop our messages and practices to be inclusive and support our vulnerable customers to make sure they have the water they need at an affordable price.

The benefits of inclusion and equality measures in the WRMP24 are outlined in Table 20.

Table 20 Cumulative benefits associated with vulnerability / inclusion and equality measures in the WRMP24

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
MI/d	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

4.5.2.12 Leading by example

Portsmouth Water recognise that the message for water saving is a challenge with some customers who point to the industry leakage issues and demand action from providers before they consider lifestyle changes of their own. We have already committed to record low levels of leakage and to hit the industry target of 50% reduction from 2017/18 levels of leakage 10 years ahead of the PIC commitment, seeing that figure hit by 2040, not 2050.

Leakage is only one source of water loss through the abstraction to tap cycle. We have made great strides in reducing and mitigating water losses across our processes for many years. To make our efforts visible to customers and to push ourselves to tackle even greater challenges we are exploring how to create an industry leading measure of our water efficiency from source to tap for our customers. Our idea is we will calculate the volume of water (in 500ml glasses) to produce a (500ml) glass of water at the tap. This will be used at DMA level to share with customers, but also for our own operational managers at our water treatment sites and networks. We will reveal how those losses are built up and commit to drive them down, sharing the journey with customers as they embark on their own water saving changes.

We believe that sharing this journey will earn the credibility required from our customers for them to make their own changes, and by regularly sharing our own successes and the successes of our customers we can keep the discussion alive in the community and the focus on water efficiency in Portsmouth Water for the good of all.

We are using our relationship with Portsmouth University to run two initiatives with their students. We are working with a PHD student to conduct a study to determine to what extent area-based geodemographic information can be used to understand and predict attitudes and behaviours towards water conservation and provide effective communication strategies. We are also collaborating with our own Future Innovators Board to commission a competition for a group of students to design a water efficiency campaign, with a pitch style presentation and a financial reward for the winning team. Both projects will prove to be invaluable in gathering insight to help us understand water efficiency through the eyes of the future generations, including their behaviours towards saving water and the key messages which appeal to them.

4.5.2.13 Government interventions

In addition to our own feasible options, the impact of government led demand interventions have been included in our WRMP24. This option assumes that the government introduces measures to save water through water labelling and water regulations. The assumed start date is modelled as 2025/26 with a maximum saving over the life of the WRMP24 of around 22 MI/d. Further detail on Government interventions can be found in Annex 4. We have not included a cost allocation of these demand savings as it is assumed the Government would fund the cost of developing, promoting, and implementing the schemes. However, we anticipate undertaking the promotion of the schemes via our existing marketing budgets.

The benefits of Government led water efficiency interventions in the WRMP24 are outlined in Table 13.

Table 21 Cumulative benefits of assumed Government led water efficiency interventions

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2045	2055
MI/d	0.30	0.62	0.93	1.26	1.60	2.26	2.93	3.62	4.31	5.05	17.59	21.77

5 SUMMARY OF BENEFITS AND COSTS

We have an active water efficiency programme in AMP7. In our WRMP19 we committed to reduce domestic demand, measured in per capita consumption, by 5 per cent in the current five-year period to 2024/25, but domestic demand for water has been higher than planned. This has, in part, been due to the impact Covid has had on consumption patterns but is also a result of the impact of covid isolating restrictions on our planned initiatives. Our water efficiency activities have been enlarged over the last few years as part of a 'PCC recovery strategy'. Following a review of the effectiveness of a number on interventions we selected a suite of activity we felt represents our most influential mix of activity, whilst also providing value for our customers.

Our High+ basket of measures for the WRMP24 incorporates the universal compulsory smart metering of our customers in a programme starting in the first year of AMP8 (2025) and being delivered over an 8-year period. Other companies in the southeast have previously implemented universal metering and so this measure increases alignment across the water providers in the southeast. The metering effort will be supported by the full range of supplementary activities to deliver the maximum reduction in demand, such as water use audits, the supply of water efficient devices, a leak repair policy and tailored messages to customers based on individual household usage. Smart metering will be critical for ensuring we remain resilient to drought in the future it provides the significant contribution towards meeting Defra Environmental Improvement Plan interim targets and the 2050 target of 110l/h/d PCC in a dry year.

A summary of benefits associated with our programme and assumed Government led interventions is provided in Table 22.

The capital cost and operation cost profiles associated with the WRMP24 options are shown in Figure 18. The fluctuating capital costs largely reflect meter replacements as they reach the end of their life span, and the majority of operational costs are associated with smart metering and the associated infrastructure data costs.

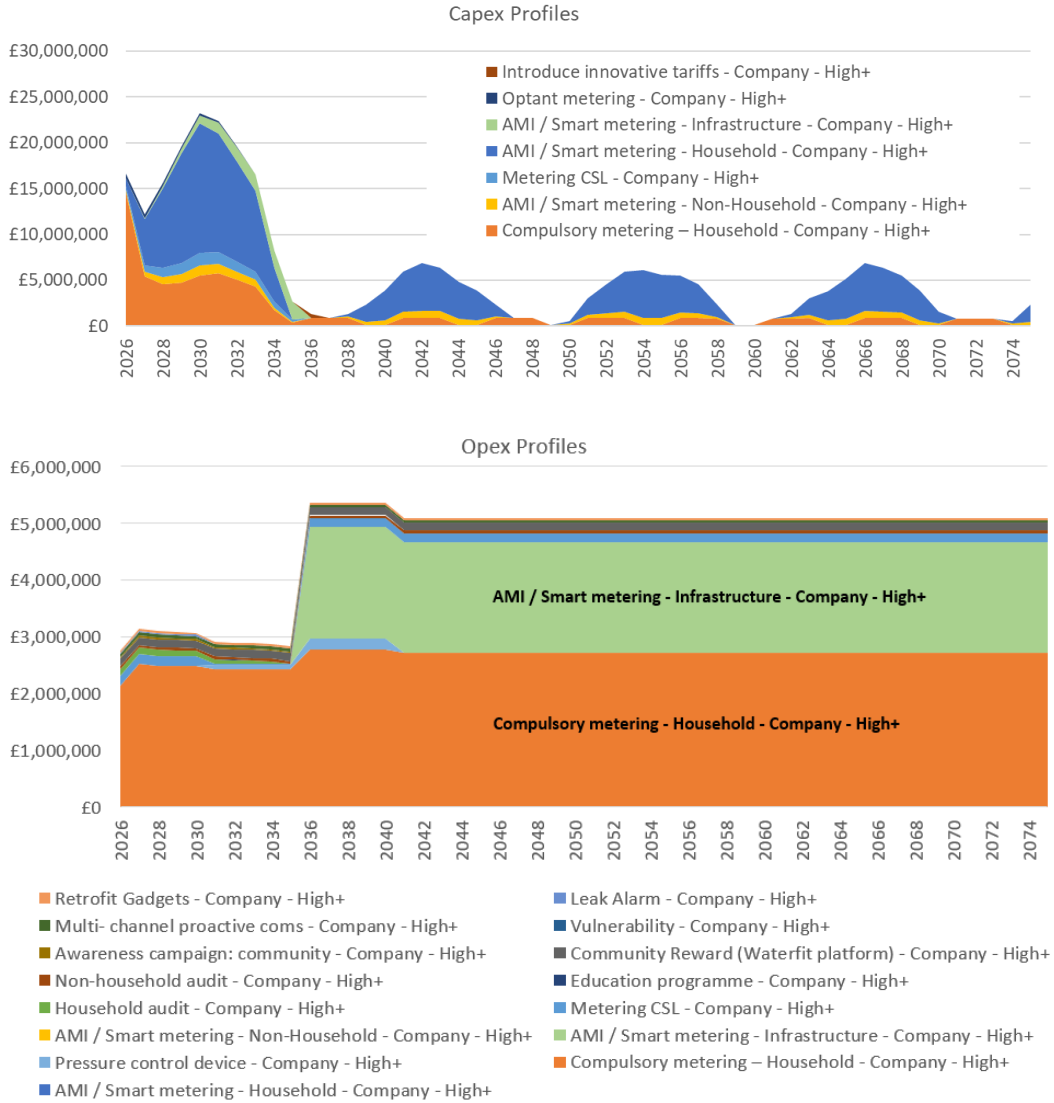


Figure 18 Opex and Capex for WRMP24 options that reduce the amount of consumption/demand

Table 22 Cumulative benefits of our programme and assumed Government led water efficiency interventions

rdWRMP24 option	2026	2027	2028	2029	2030	2035	2040	2075
AMI / Smart metering - Household - Company - High+ (Dumb to smart metering)	0	0.02	0.19	0.48	0.88	3.40	3.40	3.40
AMI / Smart metering - Non-Household - Company - High+ (Dumb to smart metering)	0.37	1.50	2.51	2.97	3.42	3.68	3.68	3.68
Compulsory metering – Household - Company - High+ (Unmeasured to smart metering)	0	0.10	0.89	2.22	4.09	9.99	9.99	9.99
Pressure control device - Company - High+	0.00	0.00	0.00	0.01	0.01	0.10	0.15	0.34
Optant metering - Company - High+ (Dumb metering)	0.03	0.06	0.08	0.09	0.11	0.12	0.12	0.12
Government-led Demand Reduction - Profile C+ (for Portsmouth Water)	0.30	0.62	0.93	1.26	1.60	5.05	12.08	21.93
Household audit - Company - High+	0.09	0.17	0.26	0.33	0.40	0.59	0.60	0.66
Non-household audit - Company - High+	0.00	0.01	0.01	0.01	0.01	0.03	0.03	0.03
Awareness campaign: community - Company - High+	0.29	0.58	0.87	1.16	1.44	2.89	2.96	3.47
Multi- channel proactive coms - Company - High+	0.06	0.12	0.18	0.24	0.30	0.60	0.73	0.73
Education programme - Company - High+	0.01	0.02	0.03	0.05	0.06	0.11	0.17	0.28
Retrofit Gadgets - Company - High+	0.00	0.01	0.01	0.01	0.01	0.03	0.04	0.12
Introduce innovative tariffs - Company - High+	0	0	0	0	0	0	2.08	2.39
Leak Alarm - Company - High+	0.02	0.03	0.05	0.06	0.08	0.08	0.08	0.08
Metering CSL - Company - High+ (water efficiency and leakage reduction benefits combined)	0	0.09	0.75	1.87	3.44	10.08	10.08	10.08
Community Reward (Waterfit platform) - Company - High+	0.04	0.09	0.13	0.18	0.22	0.44	0.66	1.10
Vulnerability - Company - High+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1.21	3.42	6.89	10.94	16.07	37.19	46.85	58.4

6 TRACKING AND SENSITIVITY

In this section we describe how we will ensure that the key elements of our programme delivers the benefits described and how we will measure and manage performance and how we may adapt if our aspects of our plan cannot deliver against expectations. Our approach is shown in Table 23 below.

Table 23 Measuring and managing performance and adapting to challenges

Approach	Lead Measure(s)	Lag Measure(s)	Trigger point(s)	Countermeasure(s) -escalating
Universal Smart metering	Meter installs vs plan % installed meters functioning Data quality and quantity from smart meters Home visits completed vs plan	Quarterly water balance: <ul style="list-style-type: none"> • HH unmetered consumption • HH Dumb metered consumption • HH Smart metered consumption • NHH Dumb metered consumption • NHH Smart metered consumption 	Meter installs is 10% behind plan <95% of installed meters functioning as required <95% of data received of quality or quantity required Home visits 10% behind schedule	Work with partners to understand and resolve productivity/delivery issues Route cause for under-delivery, target priority resolutions Increase resources for programme Maintain higher levels of home efficiency visits Increase investment in general broadcast comms Increase investment in community campaign
Community Campaign	No of customers exposed to campaign vs plan Campaign specific plan vs delivery	Quarterly water balance in target areas: <ul style="list-style-type: none"> • HH unmetered consumption • HH Dumb metered consumption • HH Smart metered consumption • NHH Dumb metered consumption • NHH Smart metered consumption 	Target customer numbers <85% vs forecast. Campaign specific outcomes not being realised.	Route cause for lower customer interaction, target priority resolutions including marketing approach and campaign resources. Increase investment in general broadcast comms, including marketing of community campaign.
Community Reward App	Number of customers signed up vs plan Number of active users	Number of customers joining campaigns Quarterly water balance: <ul style="list-style-type: none"> • HH Dumb metered consumption • HH Smart metered consumption • NHH Dumb metered consumption • NHH Smart metered consumption 	Sign up rate falls below forecast for 3 consecutive months Sign up rate <85% to forecast	Route cause for lower customer uptake, target priority resolutions including marketing approach and community rewards. Increase investment in general broadcast comms, including marketing of community reward app.

<p>Proactive/General Broadcast Comms</p>	<p>Frequency of messaging vs plan</p> <p>Diversity of channels used vs plan</p>	<p>Quarterly water balance:</p> <ul style="list-style-type: none"> • HH Dumb metered consumption • HH Smart metered consumption • NHH Dumb metered consumption • NHH Smart metered consumption <p>Number of customers joining campaigns</p>	<p><90% satisfaction score for comms</p> <p>Social/Channel engagement 15% below target</p>	<p>Route cause for lower customer satisfaction, target priority resolutions including tone of voice and subject coverage.</p> <p>Review channels in use and effectiveness. Optimise channel use or create campaigns in target channels.</p> <p>Divert funding to community reward app targeted channel.</p>
<p>Gadgets</p>	<p>No of gadgets deployed vs plan</p>	<p>Quarterly water balance:</p> <ul style="list-style-type: none"> • HH unmetered consumption • HH Dumb metered consumption • HH Smart metered consumption • NHH Dumb metered consumption • NHH Smart metered consumption 	<p>Distribution figures below target for 3 consecutive months</p> <p>Gadget installation audits show <75% use</p>	<p>Work with partners to understand and resolve productivity/delivery issues</p> <p>Route cause for under-delivery, target priority resolutions</p> <p>Increase resources for programme</p> <p>Maintain higher levels of home efficiency visits with installation service</p>

ANNEX 1: DATA TABLES

Please see WRMP24 Planning Tables.

ANNEX 2: EXAMPLES OF AMP7 BROADCAST COMMS

Leaky Loo?

The average leaking toilet wastes 200-400 litres of water a day.

Put a **LeakyLoop** strip on the back of the toilet bowl overnight – if it's wet in the morning, it's likely you have a leak.

Order your **FREE LeakyLoop** at getwaterfit.co.uk

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WATER SAVING TIPS

Portsmouth Water

There's always a keen helper!

...or make sure the dishwasher is fully loaded

Portsmouth Water

Fill a jug with water and keep in the fridge for cold drinking water.

Rather than running the tap until the water gets cooler.

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WATER SAVING TIPS

Portsmouth Water

Shower fully clothed!

or you could just...

... wait until you have a full load before you put a wash on

Portsmouth Water

Watering your garden in summer?

First thing in the morning is the best time to water your garden as it's cooler and reduces the amount of water evaporated.

For more advice on watering please visit www.rhs.org.uk

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Portsmouth Water

Use a watering can filled with rain water from a water butt rather than a hose.

A running hose or sprinkler uses between 500 to 1000 litres of water an hour. Rainwater is filled with nutrients which are great for your plants.

For more advice on watering please visit www.rhs.org.uk

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Portsmouth Water

If you find yourself showering more in the warmer weather, try to keep shower times below 5 minutes.

Turn off the water when shampooing, conditioning and washing. This will help you save water and energy as you are reducing the amount of water required for heating.

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WATER SAVING TIPS

Portsmouth Water

Share your bath!

...or just try a shorter shower

ANNEX 3: SMART METERING- FURTHER INFORMATION

Portsmouth Water plan to install smart meters to all domestic and non-household connections wherever possible by 2035. Since the dWRMP24 we have increased the speed of roll out and committed to installing smart meters for NHH customers. Portsmouth Water intend to have delivery partners in place to deliver smart metering ahead of AMP8 and will be undertaking a regulated procurement process to select our partners to ensure we are ready to install smart meters from AMP8 onwards. We cannot share details of the exact procurement timelines and process as we are currently pre-procurement and cannot compromise this regulated process.

Portsmouth Water have selected to deploy smart metering over two AMPs (AMP8 and AMP9) to support our ambition of becoming a fully smart water company by 2035. This rollout profile also ensures we are able to maintain our excellent service levels through comprehensive engagement and communication campaigns with customers, retailers, charities, community groups, councils, and all other interested parties. This will ensure we both seek voices to inform our decisions and provide ways to receive feedback and listen to our customers and community throughout the smart delivery programme. We intend to work with industry experts in the development of our communication and policies regarding smart metering (and water efficiency support) to ensure customers are informed and vulnerable customers supported during the smart metering roll out.

Our current strategy for smart meter roll out would be by Demand Management Areas (DMA) but we will look to optimise our rollout plan and strategy as we go through our procurement process. We will develop clear deployment principles that support our customers, contribute to our WRMP demand reduction targets, and help us to decrease leakage. Our rdWRMP24 commitments rely on the delivery of smart metering as this will enhance our understanding of our customers, help us provide an enhanced service, identify leakage, and provide customers with insights into the consumption that have not previously been possible. We intend to select partners who have experience in delivering large-scale smart meter rollouts and will seek out proven technology that provides us confidence to roll out smart metering at pace. We will undertake a thorough and robust review process when selecting the smart meter and network provider(s) through the regulated procurement process.

The data collected from smart metering will primarily be consumption data and data relating to the performance of the meter and other notifications relating to any potential detected leaks or issues. Our purpose for collecting data will be primarily to support billing and services customers' accounts, including supporting customers with any usage, leakage, or billing queries. We believe smart data will revolutionise the way we can support customers and provide an enhanced service to them through empowering them through data and insights. We will adhere to best industry practice and compliance requirements to help ensure the quality of our data, robust processes, and systems. All appropriate protocols will be in place to comply with all relevant legislation, including General Data Protection Regulation (GDPR).

We intend to provide customers sight of the data we use and will always ensure customers know what data we are processing, storing and, where appropriate seek customer consent. Data will be shared with relevant third parties as required to fulfil our duties (CMOS, MOSL, OFWAT etc.) and we will always adhere to GDPR.

We intend to undertake a comprehensive and extensive customer engagement campaign ahead of smart metering being rolled out to our customers. This will include conducting customer research, engaging with authorities, community groups, charities and seeking views and opinions from our customers. We intend to enhance our already trusted relationships with our customers and enlist the support of experienced partners to design and deliver a compelling customer journey and will work hard to ensure customers are fully informed and empowered on their smart journey.

We believe the proposed pace of the smart meter rollout allows us the best opportunity to engage customers in a structured and well managed way, whilst ensuring our internal teams are ready to support customers. Our rollout plan has been designed to enable Portsmouth Water to provide engagement and support to customers throughout their smart journey. We will ensure engagement is well managed and robust policies and procedures are in place to facilitate a smooth experience for our customers. Our ambition is for Portsmouth Water to become the first fully smart water provider in England.

ANNEX 4: WRSE GOVERNMENT LED WATER EFFICIENCY PROFILES

Please refer to WRMP24 Appendix 7C.