Draft Water Resources Management Plan 2024

Technical Appendix O - Water Efficiency

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Background and Introduction

O.1 Through AMP6 and AMP7 we have been delivering the UK's largest water efficiency programme, focusing on physical and engagement activities that deliver measurable reductions to customer usage and wastage (internal continuous flows on water fittings). A number of our initiatives were recognised with national sustainability and customer engagement awards, including the 'Overall Winner of the Year – Water Industry Awards 2021' for our combined 'Smarter Water Efficiency' approach within AMP7.

O.2 We are committed to encourage our customers to 'Be water smart' and that 'Every Drop Counts'; providing customers with the advice, tools and on-ground delivery solutions to save water, as well as promote what we are doing as a business to help ensure a more sustainable demand for water.

O.3 Our AMP7 programme is constantly evolving to enable adaptive approaches that suit our variable customer base and large demand reduction targets. Our AMP7 water efficiency activity builds upon the successful AMP6 initiatives and takes on board recommendations and results obtained from regulators, non-government organisations (NGOs) and customers to help shape our programme. We are aiming to enhance our best practice approach with our AMP8 plan through the following attributes:

- Using smart meter data to target water efficiency delivery and engagement
- Targeted delivery of smarter home visits (SHVs) for customers with high usage and continuous flows (e.g. internal wastage)
- Large-scale delivery of smarter business visits (SBVs) to reduce NHH usage and continuous flow
- Large-scale wastage fixes (leaky-loos)
- Large-scale regular digital engagement to smart metered, basic metered and unmeasured households
- Innovative approaches to customer engagement and behaviour change awareness and marketing
- Large-scale use of non-financial incentives to reward water efficient practices
- Financial incentives for non-household (NHH) retailers and housing developers to encourage enhanced water use performance in businesses and new developments
- Data sharing with NHH retail market and regulators to enhance demand reduction opportunities on NHH properties
- Proactive lobbying and influencing of government policy, regulation, codes and levers that drive greater delivery of measurable demand reductions

O.4 This section provides an overview of our water efficiency delivery programme in AMP6 and AMP7. This information has been used to create our future programme as detailed in Section 8 – Appraisal of Demand Options.

AMP6 and AMP7 Water Efficiency Performance

O.5 We are delivering the largest and most diverse water efficiency programme in the sector. We achieved a water efficiency saving of 63.07 Ml/d against our AMP6 target of 34.1 Ml/d (2015-2020). Our AMP6 programme was developed using AMP5 water efficiency projects and campaigns, internal and external research initiatives, and feedback from stakeholders and customers.

O.6 Water Efficiency has an AMP7 demand reduction target of 36.21 Ml/d. By the end of 2021-22 we had achieved usage savings of 24.72 Ml/d. Our field-based activities were suspended for several months by Covid-19 and were impacted throughout 2021-22 due to government lockdowns and restrictions. We re-profiled our water efficiency programme and have been able to recover demand reductions through targeted SHV and SBV activity.

Water Efficiency Activities

Smarter Home Visits

O.7 We have been leading the way in water efficiency home visit programmes by offering customers tailored water and energy saving advice, in parallel with the installation of water saving devices and wastage fixes (leaky loos and taps). Our award winning SHV programme has been the single largest water efficiency initiative in the UK. Since its commencement in 2015, we have carried out over 329,000 free SHVs and installed over 1m water savings devices, delivering a customer satisfaction of 4.75 out of 5, one of the highest in the business

O.8 During 2021-22 3,667 virtual SHVs were carried out and 20,993 face-to-face SHVs were carried out, resulting in measured savings of 1.56 Ml/d. Following the easing of government restrictions, we were able to enter customer homes again to repair internal leaks, and we repaired 2,328 internal leaks ('wastage') following an SHV, saving an additional 1.16 Ml/d.

O.9 SHVs have been offered to all customers who had a smart meter fitted and are observed to use more than 500 litres per day per household. During each visit, we identify leaking toilets, taps or showers, and arrange for a plumber to fix them for free. We also follow up every single visit with a personalised water savings report.

O.10 All of our SHVs and wastage fixes are monitored and managed through new PowerBI dashboards (Figure O - 1). These enable live monitoring of performance and assist in improving customer and demand reduction benefits.

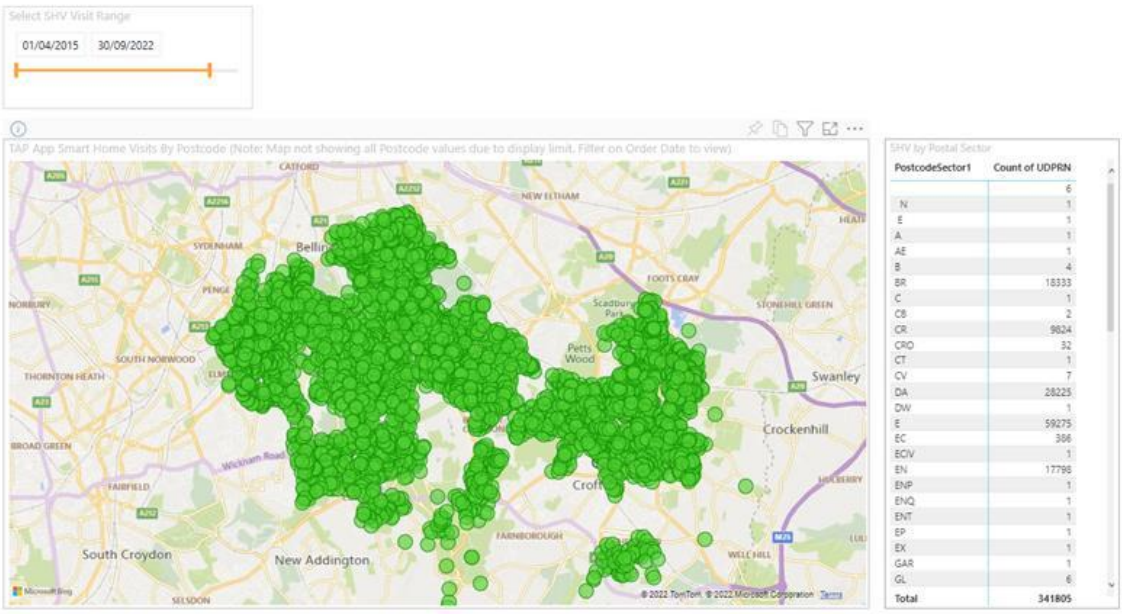

Figure O - 1: New PowerBI dashboard to monitor and manage SHVs and wastage fixes.

O.11 In addition to this, we offer help to customers in vulnerable circumstances and added 3,682 SHV customers to our Priority Services Register, which gives them extra support in an emergency. Our in-house advisers also assist customers on whether they may be eligible for special bill tariffs and refer financially vulnerable customers to our specialist support partners. Customers can save an average of £2,700 per year in unclaimed benefits due back to them because of this service.

O.12 Housing Association visits have been delivered through a collaborative approach to include water efficiency retrofits and behaviour change advice into an existing energy efficiency or vulnerable customer initiative. However, since the optimisation of our SHV delivery to high use customers, this partnership has been halted, any future visits to Housing Association or Local Authority housing will be through the SHV programme.

O.13 During 2019-20 we analysed our AMP6 SHVs and found the measured water savings were significantly higher when delivered to household using above 500 litres per day. We used this analysis to shape our delivery for AMP7, targeting both our virtual and face to face SHVs to high users. This change doubled our average water saving per visit from around 35 litres to over 70 litres per day per household. This method of delivery was continued in 2021-22, and our analysis has showed these savings levels have been sustained. Our SHVs continue to be available to all customers seeking assistance high bills.

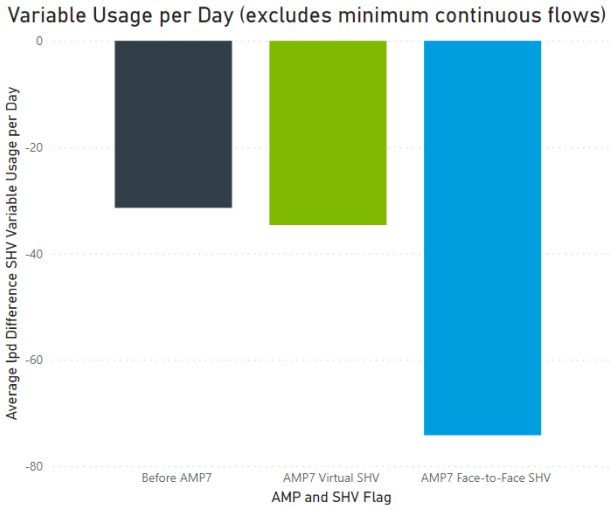

Figure O - 2: Water efficiency - live dashboard showing SHV measured savings

O.14 To continue delivering household water savings safely during the Covid-19 pandemic we implemented the industry's first virtual home water efficiency visit in June 2020. Visits are delivered over the phone or by video call and are followed with a bespoke water saving report, water-efficient devices identified as suitable for the household and a follow up call to help the customer with device installation. We continued to offer virtual visits in 2021-22 and, as with our face-to-face visits, the virtual visits have been targeted at high-using households. We have monitored the savings delivered by these visits using our smart meters and live dashboards (as above). We think the difference in savings between virtual and face to face targeted visits is due to not being unable to convert toilets from single to dual flush virtually and propensity of customers not to self-install devices in comparison to installation by advisors.

O.15 In September 2020 we rolled out a new mobile application Figure O - 3 for use during out SHVs which incorporates our water and energy calculator and embedded sign up to our priority services register, affordability assistance and to our household incentive scheme. In its second year of use we have found it continues to deliver a significantly enhanced service and user experience, and it will continue to be the basis of our in-home delivery throughout AMP7.

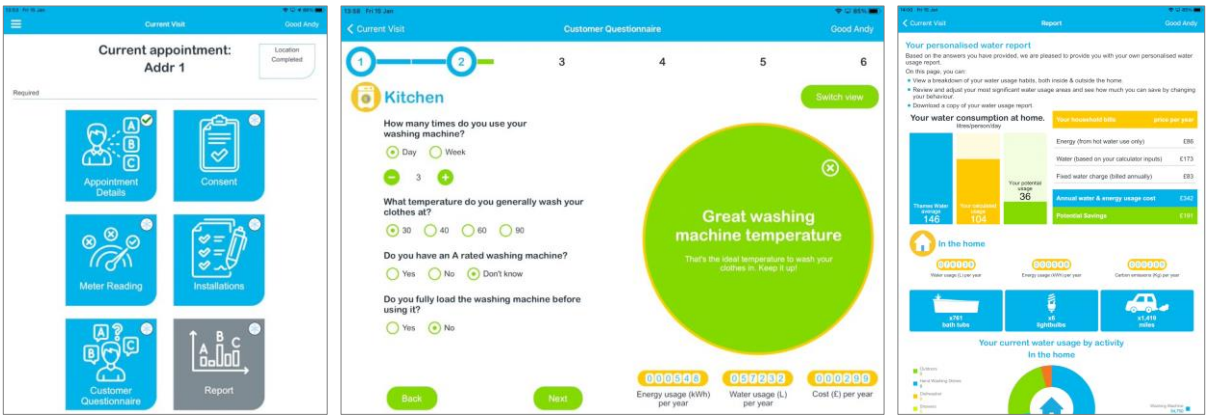

Figure O - 3: New 'WEE App' (Water Efficiency Engagement) used in SHVs to facilitate water use behaviour change advice, record water devices and practices, and quantify potential water, money, and energy savings.

Water Efficiency Incentives

O.16 Household Incentives scheme - In partnership with GreenRedeem, we've continued to develop a pioneering and innovative online incentive scheme to reward customers when they save water (Figure O - 4). This scheme establishes baseline water use for participating households by using previous meter readings over a period of three months. If the household's ongoing water use is lower than their baseline, they're given online points each week, which they can spend on rewards like shopping vouchers and free coffees. They can also use these points to enter a monthly prize draw or donate money to charity.

O.17 In 2021-22 we embedded the option to sign-up to the scheme in our in-home engagement app. This dramatically increased our membership base and therefore the size of audience we could engage on a weekly basis. In 2021-22 our incentive scheme membership over doubled in size from approx. 8,000 to over 17,000 customers. The households involved continue to achieve water savings of approximately 1% to 5% against their baseline depending on household size.

Figure O - 4: Water efficiency: Incentive scheme digital engagement

Wastage Fixes

O.18 Following a collaborative UK water sector research project, and a parallel Thames Water initiative, our focus on internal leakage (wastage) has increased. Our smart meter data and field-based delivery activities are showing that around 5% of households have a constantly leaking toilet. Smart meter data is showing that 8-10% of all homes have a continuous flow of water. Leaky loos are one of the most common causes of high water use, but often go unnoticed or are just left leaking. Our smart meter data and research shows that leaky loos can lose between 100 and 2,500 litres per day, often more than doubling a metered water bill. Our increasing use of smart meter data is enabling greater focus on wastage identification and customer engagement to drive self-fixes.

Smarter Business Visits

O.19 Since NHH market competition opened in April 2017 we are no longer a retailer to business customers. However, as a wholesaler, we still supply these businesses in our supply area with water, and they make up a significant proportion of our demand. To ensure the security of our supply, it is crucial we still carry out water saving activities with both household and NHH customers.

O.20 After a small pilot, we are increasing our water efficiency efforts with small to medium-sized businesses. As part of our SBVs we are fixing internal leaks (wastage), converting toilets to dual-

flush and installing urinal controls (Figure). In 2017-18 we carried out over 520 SBVs and are increasing this to over 4,000 SBVs per year for 2018-19.

O.21 Our SBV initiative is now a mature and industry-leading programme that has helped a further 3,688 businesses across the region save water in 2021-22. Our qualified plumbers improve the performance of everyday fittings by converting older single-flush toilets to dual-flush and installing urinal sensors for free. They also find and fix visible internal leaks like leaky loos or taps. This has saved 12.11 Ml/d (based on calculated savings from installed products and fixes).

Figure O - 5: Smarter Business Visit leaflet for NHH retailers and businesses

O.22 Evidence on NHH water savings and wastage (e.g. leaky-loos and uncontrolled urinals) has been shared with government, regulators and industry groups. The insight gained from SBVs has influenced government consultations on national water targets and WC fittings performance, as well as PR24 methodologies, via the Retailer Wholesaler Group's water efficiency sub-group recommendations.

Non-Household Retailer Incentives

O.23 We have worked closely with the NHH retail water sector to pilot a water efficiency incentive scheme, aimed to reward retailers for providing evidence of water efficiency interventions on business sites, using before and after meter readings, plus photographic evidence of the work. The results of this initiative will inform the newly form water efficiency sub-group (part of the Retailer-Wholesale Group) in response to a letter from Ofwat and the Environment Agency to the water sector, seeking improvements to water efficiency delivery within the NHH retail market. Data and insight from both our SBV and incentive activities will be the most comprehensive in the sector to date.

Online Business Water Calculator

O.24 We have worked closely with a leading external partner to develop the sector's first online water calculator tool for NHH Retailers and businesses. The calculator enables NHH users UK-wide to undertake an online water audit of their site / operation and quantify the potential water, energy and cost savings from basic improvements to water devices and practices. Available for NHH sectors such as retail, hospitality, hotels, offices, schools and university halls. Each NHH user can download their tailored water saving report (Figure O - 6).

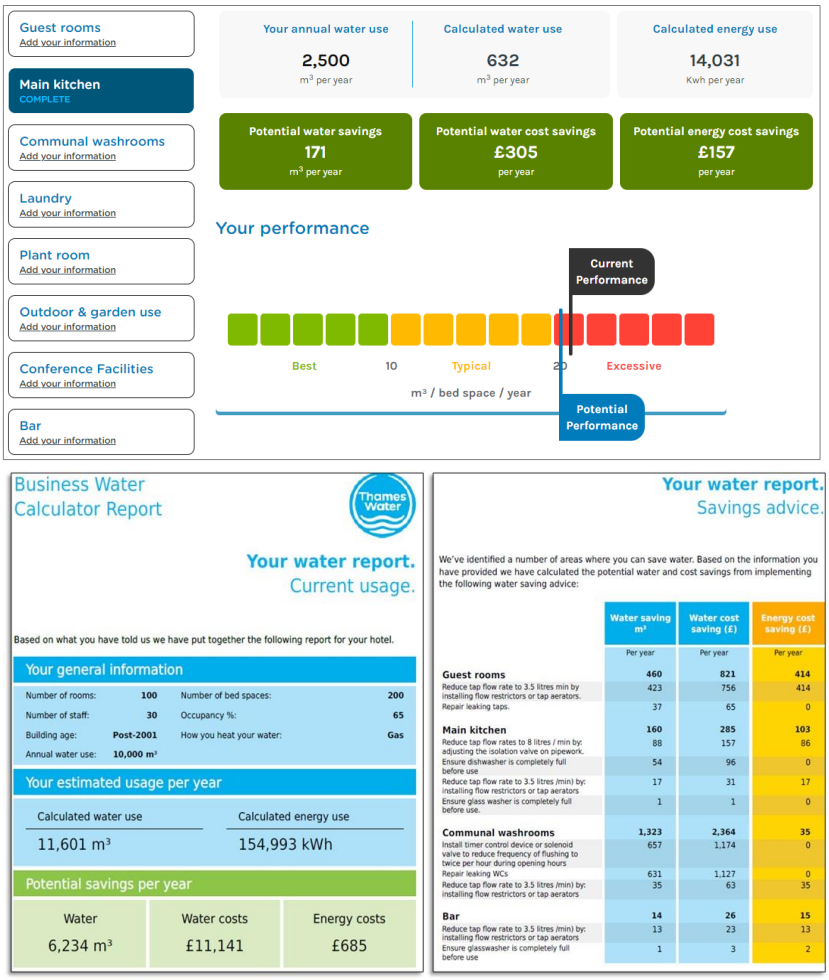

Figure O - 6: Screenshots and downloadable report from Thames Water's online Business Water Calculator

Non-household Smart Meter Data Innovation and Continuous Flow

O.25 Making our NHH meters smart is key to help the Retail-Wholesale Market deliver water efficiency and demand reduction in businesses. This is supported by MOSL and Artesia's strategy report on enhancing metering technology through identifying continuous flow and providing smart meter data to enable water efficiency activities to be carried out. As our smart meter penetration on NHH properties increases, we will continue to look for new innovative ways to reduce demand and get additional benefits from our metering to increase water efficiency on businesses.

O.26 We have increased our utilisation of smart meter data to focus on continuous flow water loss. Continuous flow is classified as a minimum of one litre per hour registered on the meter every hour for 14 consecutive days, indicating that if there may be a leak or wastage event on the premises. Twenty-five per cent of all water used by businesses is classed as continuous flow, and MOSL's report estimates that 10% of this would be reduced through self-fixes if the information was shared with businesses. We have been working closely with the NHH retail water sector to alert and communicate to businesses where they have a continuous flow through a smart meter installed on their site. Communications with details surrounding the continuous flow(s) are being sent to businesses directly from Thames Water and via their retailer, asking them to investigate this where they believe it may not be genuine usage. We are working collaboratively with the retailers on this exercise to ensure that as it becomes core business, with more smart meters

being installed, the communication content and frequency are tailored to have the maximum impact on driving reductions in unnecessary business water consumption. This project is currently in its infancy and we will be looking at the measured benefits of demand reduction once we have analysed the data and evidence on a large scale.

O.27 By the end of 2021-22 we had approximately 33,000 smart (AMI) meters out of 190,000 total NHH meters and in AMP7 a total of 55,000 meters will be replaced for smart meters. As part of our service offering to our Retailers and their customers, we provide a digital data service to provide either hourly or 15min data from our smart meters. This data enables businesses to understand their consumption and reduce demand through water efficiency activities. It is difficult to quantify the water savings of this activity on business, and as the service and customers grows the savings will be analysed and quantified. However, this data will enable more scope for retailers to offer value added services including water efficiency in future.

Environmental Incentives for Developers

O.28 In 2022 we launched new connection services charges for developers. Included is a new Environmental Incentive offering, which is essentially an Income Offset against Infrastructure Charges for new developments. Our new Environmental Incentive is aimed to encourage all new housing within the Thames supply area to reduce their future water demand and achieve a 'water neutrality' status.

O.29 The new Water Efficiency Incentive offers a 3-tier system to drive alternative water technologies and provide a pathway for offsetting new water demand through water efficiency/wastage fixes in surrounding existing homes. Each tier offers an incentive payment to the developer to achieve either water efficiency or water neutrality status (Figure O - 7).

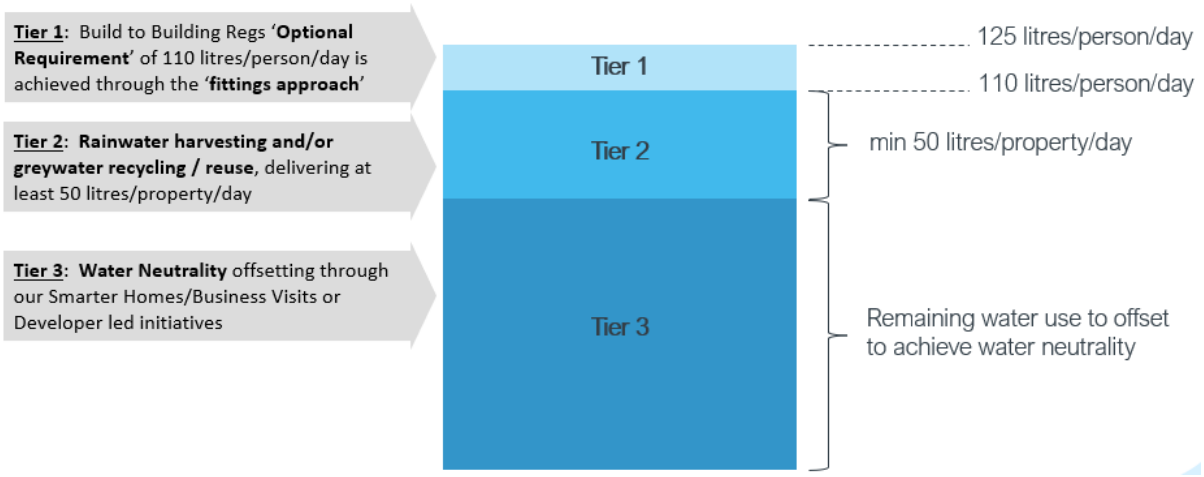

Figure O - 7: Illustration of the three tiers within Thames Water's water efficiency incentive for housing developers.

Communications and Long-term behaviour change

O.30 Since the start of the Covid-19 pandemic in 2020 we have observed an increase in household consumption due to a combination of warm weather, Covid-19 lockdown and an increase in home working. Our household and NHH consumption data has contributed to the Artesia "Impact of Covid-19 on water consumption" report (February 2021). While there was some decrease in consumption as more people returned to work, consumption remained higher than pre-pandemic levels. We will review the scale of our water efficiency ambition in response to this increase in

household consumption and will be contributing to the upcoming Ofwat consultation on Per Capita Consumption (PCC).

O.31 Our water efficiency communications programme is all about what we can do to save water together and aims to improve water resources / efficiency awareness levels and change customer behaviours for good.

O.32 During summer 2021 we undertook a series of customer engagement email campaigns in key water resource zone areas as a mitigation response to peak demand patterns. These initiatives both raised awareness of current local water resource issues and advocated water efficiency behaviours to reduce short-term household water demand. We will undertake similar customer engagement activities in 2022 and quantify the consumption savings through smart meter analytics.

O.33 Our free online calculator has continued to help thousands of households work out how much water they're using (Figure O - 8). This interactive tool also links this to water and energy costs, displaying the most appropriate water-saving devices and pop-up tips that customers can use to save water, energy and money. Customers can even play around with the settings for the top five actions (like showering or washing the dishes) to see how much water and energy they could save in the future. This is also the first calculator of its kind to identify how much water a customer typically uses outside of their home, such as when they're showering at the gym. This means our customers can see exactly what impact they're having on water demand, and for the first time see their water use presented in PCC metrics.

O.34 For 2021-22 we optimised our free device offering by incorporating our water and energy calculator into the order process so that customers receive bespoke behaviour change advice to help them save water, and to help them select the most appropriate devices for their home. This resulted in 19,415 completions of the calculator journey, and 17,950 products being ordered.

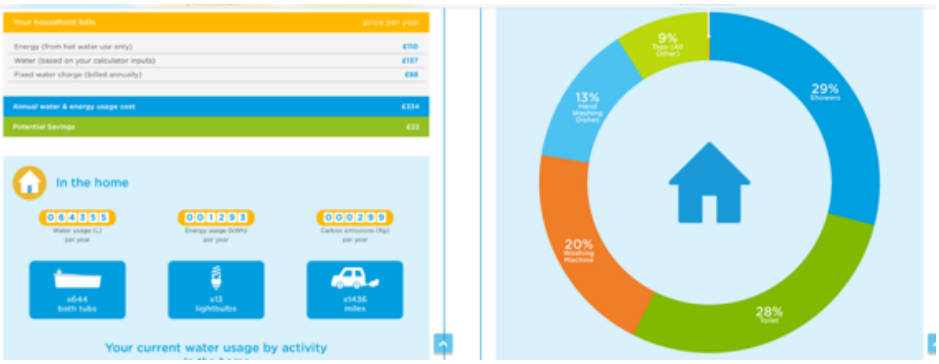

Figure O - 8: Water and Energy Calculator

O.35 We have updated and improved the information on our website, making it easier to find advice on how to 'Every Drop Counts' campaign. A series of new water efficiency awareness videos and infographics have been published on the website and used in year-round social media posts using Facebook, Instagram, Twitter, and LinkedIn (Figure O - 9).

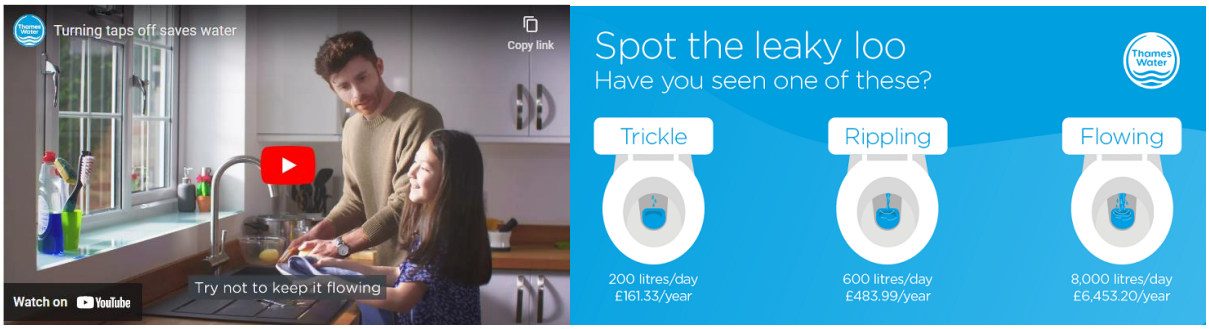

Figure O - 9: Water Efficiency and Leaky Loos Campaign Material

Water Efficiency and Affordability

O.36 Following on from CCW's affordability review, we agreed to write a study that would seek to forge a stronger link between water efficiency and affordability strategies. We launched the sector-first 'Smarter ways out of water poverty' report in 2021, identifying ways of providing enhanced interventions and rolling out emerging technologies. Our study looks at the opportunity to utilise water efficiency enablers to deliver affordability outcomes. Using data from our smart meter network and water efficiency audits, known as SHVs, and our key water efficiency activity - we can measure the impact on household bills.

Figure O - 10: Water Efficiency and Affordability

Partnerships and External Groups

O.37 We continued to engage with several industry groups that influence water policy, regulations and national projects. As a lead supporter of Waterwise, we are a long-term active member of the UK Water Efficiency Strategy Steering Group and Water Efficiency Network steering group. We have played key roles in the working groups on water neutrality and water reuse, resulting in guidance publications to advance both agendas.

O.38 We are also an active member of the Retailer-Wholesaler Water Efficiency sub-group which has developed the action plan in response to the Ofwat-Environment Agency letter seeking insight and action to increase the levels of demand reduction within the NHH market.

O.39 We've also collaborated with key stakeholders and neighbouring water companies to set ambitious water-saving targets for the next business plan period. We have also presented results from our smart metering data analytics and water efficiency initiatives at national conference events.

O.40 We work with a wide range of organisations and groups to deliver successful water efficiency partnerships. These include, but not limited to:

- SWSE – a group of the six south east water companies, the Environment Agency and Waterwise
- Local authorities and housing associations
- Environmental groups and charities (such as ARK, Groundwork, London Sustainability Exchange, Thames21, Rivers Trusts)
- Senior Demand Reduction Group
- Retail-Wholesale Group – Water Efficiency Sub-Group
- WaterUK Water Efficiency Network
- Waterwise: Water Neutrality, Water-Energy, Water Labelling, annual conference
- National Water Efficiency Strategy Steering Group

Our Awards

O.41 Our efforts to improve the quality and increase the quantity of our water efficiency delivery were rewarded with five national awards. Our SHV programme won:

- The Water Industry Awards for Overall Winner
- The Water Industry Awards for Water Efficiency Project of the Year
- The UK Water Efficiency Award for Built Environment
- The UK Customer Experience Award for Utilities and Team Customer at the Heart categories.
- Green Apple Environment Awards

O.42 In addition:

- We were shortlisted in the Sustainability Leaders Awards and the Utility Week Awards

- Our bathroom refurbishment research and large-scale rollout in our company office buildings won the Institution of Civil Engineers – Sustainable Water Management Award.

Water Efficiency Baseline Options

O.43 The Water Efficiency Baseline Programme refers to the established programme of activity that we undertake to promote the efficient use of water and ensure we deliver our statutory duty to promote water efficiency and develop and maintain an efficient and economical system of water supply. The Baseline Programme is a forecast of what would happen if we did not take any new supply or demand actions and did not implement any changes to company policy or existing operations. The initiatives in our baseline programme also positively impact our customers and brand and can be used as a platform to promote water efficiency and maximise water savings (See Section 3 – Demand Forecast)

Water Efficiency Demand Reduction Options

O.44 Our Water Efficiency Demand Reduction Options are options we will undertake to reduce customer consumption. These demand reduction options, their costs and benefits are detailed in Section 8: Appraisal of Demand Options.


Thames
Water