Draft Water Resources Management Plan 2024

Demand Management Options Screening

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Background and Introduction

Purpose of the report

The purpose of this report is to detail the Demand Management Options Screening Process that has been employed to derive the Water Resources Management Plan (WRMP24) Demand Management Feasible Options.

This report outlines the role and function of Demand Management in the context of the overall WRMP process (Section 2.0), details the Demand Management Options Screening process utilised in WRMP24 (Section 3.0) and presents the resulting Demand Management Feasible Options (Section 4.0). An overview of the Integrated Demand Management (IDM) model is also provided to outline the next steps whereby the Demand Management Feasible Options are optimised to produce Demand Reduction Programmes (Section 5.0).

Background

Thames Water has a legal duty to produce a Water Resource Management Plan every five years that sets out how we plan, develop and maintain an efficient and economical system of water supply over a 25 year period as a minimum.

We published our current Water Resources Management Plan in 2020 (WRMP19). This document detailed our plan to sustainably and economically provide water to customers over the 25 year period from 2020 to 2045.

We are due to publish its draft Water Resource Management Plan 2024 in 2022 for public consultation to cover the period from 2025 - 2100. As part of this planning process, we must assess how we plan to maintain the balance between supply and demand for water in our Water Resource Zones (WRZs) so as to be able to continue to deliver specific levels of service to our customers.

The Demand Management Options Screening Report presents our assessment of the potential demand management options that can contribute to the maintenance of the future balance between the water supply and demand for WRMP24. A separate report, 'Thames Water WRMP24, Resource Options' has been produced which presents our assessment of potential supply options for the same period.

Context

Thames Water Resource Zones

Our water supply area consists of six WRZs; London, Swindon and Oxfordshire (SWOX), Henley, Kennet Valley (KV), Slough/Wycombe/Aylesbury (SWA) and Guildford. We must plan for a balance between water supply and demand in each WRZ and the area of the WRZs as a whole for the period 2025 to 2050 and beyond; and present the plan in the Water Resource Management Plan 2024.

District Metered Areas (DMA)

To accurately measure the water delivered within each WRZ we divide the six WRZs into smaller discrete areas known as Flow Monitoring Zones (FMZ) and District Metered Areas (DMA). Flow Monitoring Zones are discrete areas which measure the volume of water being supplied to and from the zone from water treatment works, pumping stations and other zones. The volume of water into and out of the zone is measured by Zonal Meters.

Each Flow Monitoring Zone is comprised of multiple, smaller District Metered Areas. A District Metered Area (DMA) is a discrete area of the water distribution network that can be isolated by closing valves so that the quantities of water entering and leaving the area can be metered. The volume of water into and out of the DMA is measured by a District Meter. The purpose of a DMA is to divide each Flow Monitoring Zone into manageable sections to detect and determine the location of burst mains, calculate the level of leakage in each DMA and compare DMAs to target activities where it will have the greatest leakage reduction impact.

Components of Demand

Demand is the term used to describe the water that is supplied through our water supply network. It comprises water used in households (measured and unmeasured), water used by non-households (e.g. industry, businesses, hospitals and schools), water used in maintaining the water network and leakage (water lost through treatment and distribution systems).

The majority of demand is attributable to household usage and leakage and also non-household consumption. It follows that, water Demand Management programmes in our Water WRZs are best focussed on actions that can reduce household consumption and leakage and non-household consumption.

Demand Management within the Water Resources Management Plan Process

When a water supply-demand deficit has been identified, either the volume of supply must be increased or the volume of demand reduced, or a combination of both options must be employed to remove or minimise the risk of, the deficit. Our supply-demand balance position is described in Section 6 Allowing for Risk & Uncertainty and Baseline Supply-Demand Balance of the draft Water Resources Management Plan 2024.

The purpose of the Water Resources Management Plan 2024 is to set out how we will provide a secure supply of water to our customers. This means that we must identify potential water supply and/or demand management options to meet forecast supply/demand deficits' and to undertake a programme appraisal process to establish a preferred or 'best value' supply/demand programme for the planning period.

The WRMP planning process is undertaken in six broad stages:

1. Problem Definition: Collate and review planning information and supply/demand balances to establish the nature and degree of the water supply/demand deficit.
2. Options Identification: Identify new potential options, which are not included in the baseline and which could form part of the supply/demand deficit solutions.
3. Options Screening: Screen potential water supply/and demand options to establish a preferred or constrained list of supply/demand deficit solutions.
4. Modelling: Evaluate the constrained list of supply/ demand solutions and establish a least cost programme.
5. Programme Appraisal: evaluate the least cost programme against environmental and social criteria to develop the best value water supply/demand deficit solution
6. Reporting: present the justified water supply/demand Preferred Programme (best value solution) in the published Water Resources Management Plan.

The screening processes for water supply and demand options have been undertaken concurrently but the methodology of each process has differed slightly. Figure 1 illustrates the integration of the Supply and Demand Screening processes into the overall WRMP24 process.

This report comes under Stage 2 and Stage 3 of the WRMP Process: Options Identification and Screening. It comprises a detailed water demand options screening process to determine the Feasible Demand Management Options, and should be read in conjunction with other WRMP24 reports as detailed in Figure 2.

Figure 1: Water Resources Management Plan Option Screening Process Overview

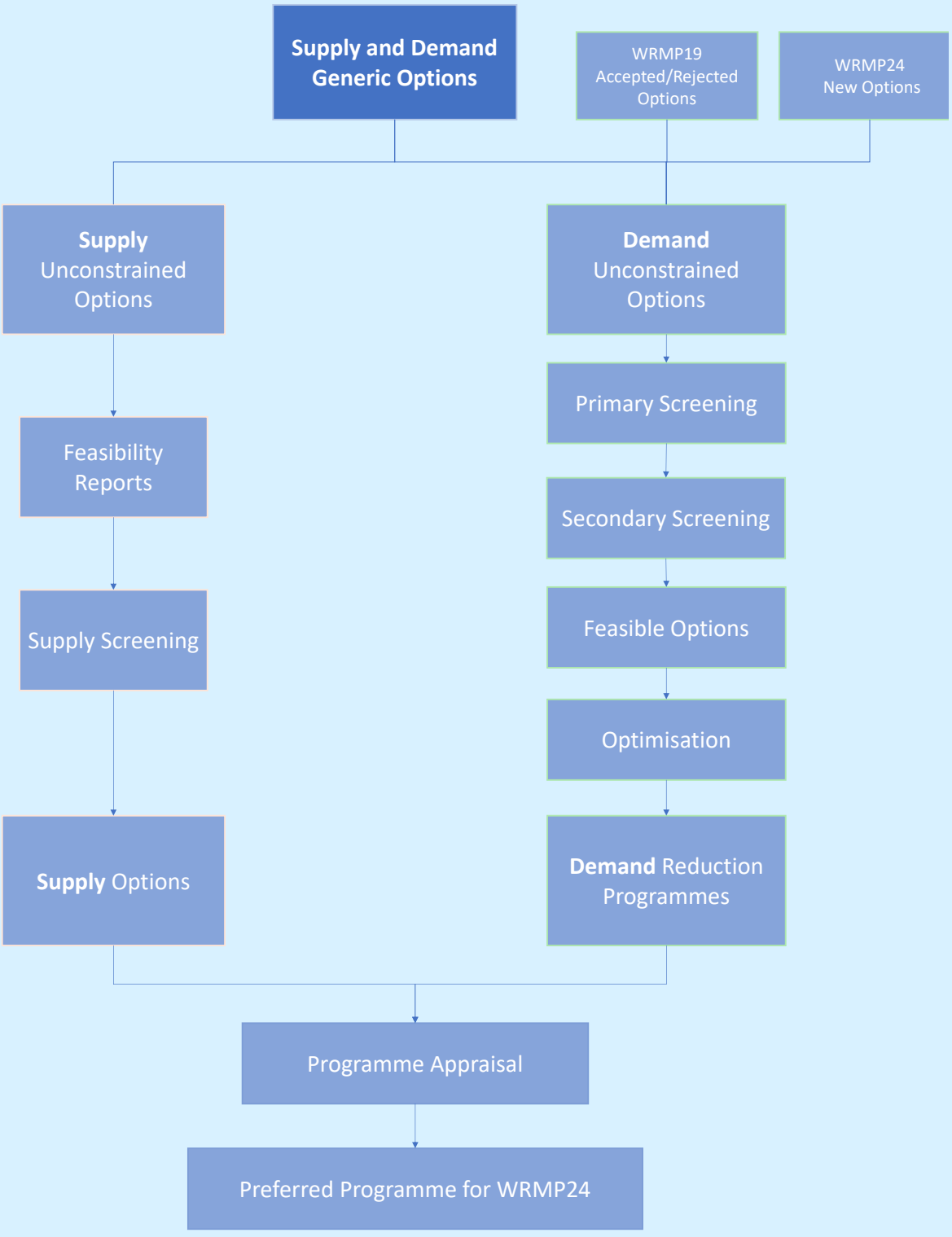
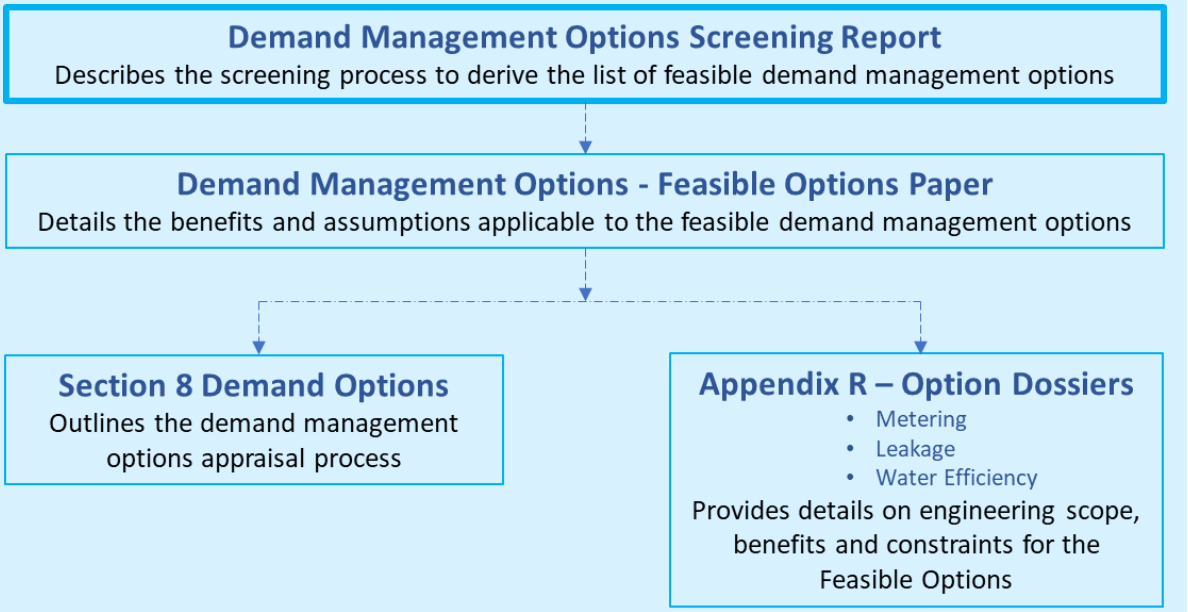


Figure 2: Overview of draft WRMP24 demand management options reports



Demand Options Identification

Generic Option Types

1. The generic list of option types is outlined by UKWIR in its Water Resources Planning Tools 2012 Report.[1] All water companies are encouraged to use this generic list as the starting point in identifying potential water supply and demand options.

Unconstrained Demand Options List

2. The Unconstrained Options list is developed from the Generic List and includes all possible options, resulting in a comprehensive list of solutions which are considered to be technically feasible, albeit they may not be completely free restrictions, such as environmental or planning issues.

3. The generic water demand options listed by UKWIR, are grouped into five categories; Leakage, Metering, Water Efficiency, Tariffs and Non-Potable (termed 'Water Recycling' in the UKWIR document). Using these five categories as a base, we developed each generic option to include multiple potential sub-options and specific options. For example, the generic option, Leakage, has been further divided into three sub-options, Advice and Guidance, Active Leakage Control, Pressure Management, Smart Networks, Mains Rehabilitation, Leakage Innovation, and Regulation. These sub-options have then been classified further as specific options that can be assessed in the screening process.

4. In drawing-up the list of sub-options and specific options, we utilised multiple sources of Demand Management Options and removed baseline and duplicate activities (i.e. options that are not materially different to baseline activities and options that are fundamentally the same as another within the unconstrained list).

5. Specifically, we compiled the list using the following sources:

   - WRMP19 Accepted Options (Table 1): these options passed the screening process in WRMP19 to make the Feasible Options list
   - WRMP19 Rejected Options (Table 2): these options did not pass the screening process in WRMP14 and were recorded on the Rejection Register
   - WRMP24 New Options (Table 3): these options were not considered in WRMP19 and include options which have been identified since, for example through regional planning or by looking at examples of current good practice from the UK, as well as examining innovative new approaches

6. The sub-options and specific options identified under each Generic Option category forms the Unconstrained Options List. The full Unconstrained Options List for WRMP24 is the combination of Table 2 and Table 3.

7. All Demand Options listed in the Unconstrained Options List (

8. Table 2 and Table 3) will undergo full screening in WRMP24. This is to ensure that any option from WRMP19 is screened again using current knowledge and consistently with the screening of new options.

1 UKWIR (2012), Water Resources Planning Tools 2012, Economics of Balancing Supply and Demand Report

9. In total, there are 216 Water Demand Management Options for screening in WRMP24; 46 of these have been sourced from WRMP19 Feasible Options, 70 from the WRMP19 Rejected Options and 100 are new options for WRMP24.

Table 1: Unconstrained Demand Management Options sourced from WRMP19 Feasible Options

Generic option	Sub-Option	Specific Option	Overall Category
Leakage	Pressure Management	Pressure Management - install new pressure management schemes within individual DMAs at sub-DMA level.	Feasible Option WRMP19
	Mains Rehabilitation	Full DMA Mains Replacement of at least 90% of DMA - includes mains replacement, comm pipe replacement and boundary box install (does not include CSL repair)	Feasible Option WRMP19
		Partial DMA Mains Replacement - targets worst performing assets and includes mains replacement, comm pipe replacement and boundary box install (does not include CSL repair)	Feasible Option WRMP19
Metering	Progressive Metering Programme (PMP) (previously Houses Only)	Meter all houses (AMI technology) and repair CSLs found	Feasible Option WRMP19
		Meter all houses (AMR technology) and repair CSLs found	Feasible Option WRMP19
	Bulk Metered Area (previously Blocks of Flats (Bulks) Only)	Bulk metering flats (AMI technology) and repair CSLs found	Feasible Option WRMP19
		Bulk metering flats (AMR technology) repair CSLs found	Feasible Option WRMP19
	Houses and Bulks	Meter all houses and bulk meter (external) blocks of flats (AMI technology) and repair CSLs found	Feasible Option WRMP19
		Meter all houses and bulk meter (external) blocks of flats (AMR technology) and repair CSLs found	Feasible Option WRMP19
	Houses, bulks and individual flats	Meter all houses (including CSL repair), individual flats (internal, no CSL repair) and bulk meter (including CSL repair) blocks of flats (AMI technology)	Feasible Option WRMP19
		Meter all houses (including CSL repair), individual flats (internal, no CSL repair) and bulk meter (including CSL repair) blocks of flats (AMR technology)	Feasible Option WRMP19

Generic option	Sub-Option	Specific Option	Overall Category
		Meter all houses (including CSL repair) and individual flats (internal, no CSL repair) with Basic technology and bulk metering (including CSL repair) blocks of flats with AMR technology	Feasible Option WRMP19
	Mini Bulk Metered Area	Install small bulk meters on properties with multiple supplies (previously called Small Blocks Flats Bulks)	Feasible Option WRMP19
	Progressive Smart Upgrade Programme - Household (PSUP) (previously Household meter upgrades)	Proactive replacement of basic meters with smart meters on household properties	Feasible Option WRMP19
Water Efficiency	Advice and Guidance	Intensive area based promotional campaigns	Feasible Option WRMP19
	Direct Efficient Goods Plumber Installation	Smarter Home Visits to newly metered Household Properties as part of the Progressive Metering Programme - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	Feasible Option WRMP19
		Smarter Home Visits to newly metered optant Household Properties - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	Feasible Option WRMP19
		Smarter Home Visits to newly metered Household Properties as part of the Progressive Smart Upgrade Programme - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	Feasible Option WRMP19
		Smarter Home Visits to current unmeasured Household Properties - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	Feasible Option WRMP19
		Housing Association fixes problems found at Household properties (LAHAs only)	Feasible Option WRMP19
		Wastage Fixes - Free leak fixes for all customers with internal leakage (i.e. leaky-loos and leaking taps)	Feasible Option WRMP19
		Household Innovation and Tariffs	Feasible Option WRMP19

Generic option	Sub-Option	Specific Option	Overall Category
	Non-Domestic Advice and Assistance	Smarter Business Visits to Non Household Properties - company funded. Includes wastage repair offer for non-household customers with continuous flow	Feasible Option WRMP19
Incentive Schemes	Green Redeem (previously Targeted Incentive Scheme)	Customers are incentivised through non-financial offers (vouchers, prize draws, community rewards) to be more efficient with their water consumption.	Feasible Option WRMP19
	Innovative Tariffs	Financial Tariff implementation - only feasible post smart metering.	Feasible Option WRMP19
Non-potable	Rainwater Harvesting	Individual Buildings within a Development (Typology 2) - Commercial Only. A non-potable treatment system is delivered to individual commercial buildings on a new development.	Feasible Option WRMP19
		Individual Buildings within a Development (Typology 2) - Residential Only. A non-potable treatment system is delivered to individual residential buildings on a new development.	Feasible Option WRMP19
		Individual Buildings within a Development (Typology 2) - Commercial and Residential. A non-potable treatment system is delivered to individual commercial and/or residential buildings on a new development.	Feasible Option WRMP19
		Multiple Buildings within a Development (Typology 3) - Commercial only. A non-potable treatment system and network is delivered that serves multiple commercial buildings on new developments. i.e. multiple non-potable system can be delivered on the one development.	Feasible Option WRMP19
		Multiple Buildings within a Development (Typology 3) - Residential only. A non-potable treatment system and network is delivered that serves multiple residential buildings on new developments. i.e. multiple non-potable system can be delivered on the one development.	Feasible Option WRMP19
		Multiple Buildings within a Development (Typology 3) - Commercial and Residential. A non-potable treatment system and network is delivered that serves multiple commercial buildings on new developments. i.e. there could be a number of these non-potable systems delivered on the one development.	Feasible Option WRMP19

Generic option	Sub-Option	Specific Option	Overall Category
		All Buildings within a Development (Typology 4) - Commercial and Residential. A non-potable central system and network is delivered that serves all buildings on a new development.	Feasible Option WRMP19
	Stormwater Harvesting	Individual Buildings within a Development (Typology 2) - Commercial Only. A non-potable treatment system is delivered to individual commercial buildings on a new development.	Feasible Option WRMP19
		Individual Buildings within a Development (Typology 2) - Residential Only. A non-potable treatment system is delivered to individual residential buildings on a new development.	Feasible Option WRMP19
		Individual Buildings within a Development (Typology 2) - Commercial and Residential. A non-potable treatment system is delivered to individual commercial and/or residential buildings on a new development.	Feasible Option WRMP19
		Multiple Buildings within a Development (Typology 3) - Commercial only. A non-potable treatment system and network is delivered that serves multiple commercial buildings on new developments. i.e. multiple non-potable system can be delivered on the one development.	Feasible Option WRMP19
		Multiple Buildings within a Development (Typology 3) - Residential only. A non-potable treatment system and network is delivered that serves multiple residential buildings on new developments. i.e. multiple non-potable system can be delivered on the one development.	Feasible Option WRMP19
		Multiple Buildings within a Development (Typology 3) - Commercial and Residential. A non-potable treatment system and network is delivered that serves multiple commercial buildings on new developments. i.e. there could be a number of these non-potable systems delivered on the one development.	Feasible Option WRMP19
		All Buildings within a Development (Typology 4) - Commercial and Residential. A non-potable central system and network is delivered that serves all buildings on a new development.	Feasible Option WRMP19

Generic option	Sub-Option	Specific Option	Overall Category
	Greywater Recycling	Individual Buildings within a Development (Typology 2) - Commercial Only. A non-potable treatment system is delivered to individual commercial buildings on a new development.	Feasible Option WRMP19
		Individual Buildings within a Development (Typology 2) - Residential Only. A non-potable treatment system is delivered to individual residential buildings on a new development.	Feasible Option WRMP19
		Individual Buildings within a Development (Typology 2) - Commercial and Residential. A non-potable treatment system is delivered to individual commercial and/or residential buildings on a new development.	Feasible Option WRMP19
		Multiple Buildings within a Development (Typology 3) - Commercial only. A non-potable treatment system and network is delivered that serves multiple commercial buildings on new developments. i.e. multiple non-potable system can be delivered on the one development.	Feasible Option WRMP19
		Multiple Buildings within a Development (Typology 3) - Residential only. A non-potable treatment system and network is delivered that serves multiple residential buildings on new developments. i.e. multiple non-potable system can be delivered on the one development.	Feasible Option WRMP19
		Multiple Buildings within a Development (Typology 3) - Commercial and Residential. A non-potable treatment system and network is delivered that serves multiple commercial buildings on new developments. i.e. there could be a number of these non-potable systems delivered on the one development.	Feasible Option WRMP19
		All Buildings within a Development (Typology 4) - Commercial and Residential. A non-potable central system and network is delivered that serves all buildings on a new development.	Feasible Option WRMP19

Table 2: Unconstrained Demand Management Options sourced from WRMP19 Rejected Options

Generic option	Sub-Option	Specific Option	Overall Category
Leakage	Active Leakage Control	ALC + 10% - Enhanced levels of 'Find and Fix' over and on top of that already being undertaken to maintain current levels of leakage to achieve a further 10% reduction in leakage.	Rejected WRMP19
		ALC + 20% - Enhanced levels of 'Find and Fix' over and on top of that already being undertaken to maintain current levels of leakage to achieve a further 20% reduction in leakage.	Rejected WRMP19
	Pressure Management	Pressure Management 4 - further reduction of pressure on existing schemes that are made up of multiple DMAs. Requires the installation of additional tall building boosters.	Rejected WRMP19
	Mains Rehabilitation	Asset Replacement - replace individual pipes that have high burst rates	Rejected WRMP19
		Asset Replacement 100m - replace individual pipes that have high burst rates and must be above 100m in length	Rejected WRMP19
		Comms Only - replace communication pipes only	Rejected WRMP19
Metering	Progressive Metering Programme (PMP) (previously Houses Only)	Meter all houses (Basic technology) and repair CSLs found	Rejected WRMP19
	Houses and Bulks	Meter all houses and bulk meter (external) blocks of flats (Basic technology) and repair CSLs found	Rejected WRMP19
	Houses, bulks and individual flats	Meter all houses (including CSL repair), individual flats (internal, no CSL repair) and bulk meter (including CSL repair) blocks of flats (Basic technology)	Rejected WRMP19
Water Efficiency	Advice and Guidance	Benchmark to help drive water efficient behaviours (domestic)	Rejected WRMP19
		Call Centre contact to customers giving water efficiency advice	Rejected WRMP19
		Develop an AMR interface tool to help drive water efficiency behaviours	Rejected WRMP19
		Develop water certificates for customer properties	Rejected WRMP19
		Development and promotion of an online water use calculator	Rejected WRMP19
		Development of Smart Phone Applications	Rejected WRMP19

Generic option	Sub-Option	Specific Option	Overall Category
		Distribution of advice and guidance via Water Regs visits	Rejected WRMP19
		Distribution of self-audit packs	Rejected WRMP19
		Distribution of water saving information in customers' bills	Rejected WRMP19
		Distribution of water saving information via leaflet distribution	Rejected WRMP19
		Education in schools and provision of educational material	Rejected WRMP19
		Events and road shows	Rejected WRMP19
		Free water efficiency goods and advice to all newly metered customers	Rejected WRMP19
		Offer free water efficiency goods online	Rejected WRMP19
		Promotions via newspapers	Rejected WRMP19
		Water efficiency advice via an internet promotion	Rejected WRMP19
	Self-Install	Distribution of aerated shower head	Rejected WRMP19
		Distribution of cistern displacement devices	Rejected WRMP19
		Distribution of hose guns for self-installation	Rejected WRMP19
		Distribution of Shower Timers	Rejected WRMP19
		Distribution of tap inserts for self-installation	Rejected WRMP19
		Distribution of water gels to gardeners for self-installation	Rejected WRMP19
		Distribution of water saving devices to businesses via Water Regs visits	Rejected WRMP19
		Subsidy for water efficient white goods	Rejected WRMP19
	Direct Efficient Goods Plumber Installation	Installation of water butt	Rejected WRMP19
		Plumber assisted installation of tap inserts	Rejected WRMP19
		Replacement - installation of a dual flush toilet	Rejected WRMP19
		Replacement - installation of a low flush toilet	Rejected WRMP19
		Retrofit - installation of a dual flush toilet device	Rejected WRMP19
	Partner Efficiency Goods and Installation	Partner controlled domestic plumbing installs	Rejected WRMP19
		Partnership projects with national organisations	Rejected WRMP19
		Partnership projects with public and third sector organisations	Rejected WRMP19
		Partnership projects with utility companies	Rejected WRMP19
		Partnership working benefits	Rejected WRMP19
	Non-Domestic Advice and Assistance	Benchmark to help drive water efficient behaviours (non-domestic)	Rejected WRMP19
		Exploit retail and loan funding opportunities for non-domestic water saving	Rejected WRMP19
		Free water efficiency goods and advice to all newly metered businesses	Rejected WRMP19

Generic option	Sub-Option	Specific Option	Overall Category
		Introduce training for non-domestic customers about wise water use	Rejected WRMP19
		Non-Domestic water saving advice and assistance	Rejected WRMP19
		Optimising water using processes	Rejected WRMP19
	Research	Continue to support ongoing research projects	Rejected WRMP19
		Ofwat water efficiency research fund	Rejected WRMP19
		Save Water Swindon and other flagship research projects	Rejected WRMP19
		Support the leak toilet valves project phase 2	Rejected WRMP19
		Support the research undertaken by UKWIR	Rejected WRMP19
		Support the Waterwise evidence base	Rejected WRMP19
	Regulation	Enforce use of water efficient fittings in new buildings	Rejected WRMP19
		Flow restrictor charging	Rejected WRMP19
		Ban high water use devices	Rejected WRMP19
		Preventing new development	Rejected WRMP19
		Legislate on water use	Rejected WRMP19
Non-potable	Rainwater Harvesting	Individual Buildings (Typology 1) - Commercial Only. Individual commercial Buildings throughout our supply area that are being redeveloped contain a non-potable treatment system.	Rejected WRMP19
		Individual Buildings (Typology 1) - Residential Only. Individual residential buildings throughout our supply area that are being redeveloped contain a non-potable treatment system.	Rejected WRMP19
		Individual Buildings (Typology 1) - Commercial and Residential. Individual commercial and residential buildings throughout our supply area that are being redeveloped contain a non-potable treatment system.	Rejected WRMP19
	Stormwater Harvesting	Individual Buildings (Typology 1) - Commercial Only. Individual commercial Buildings throughout our supply area that are being redeveloped contain a non-potable treatment system.	Rejected WRMP19
		Individual Buildings (Typology 1) - Residential Only. Individual residential buildings throughout our supply area that are being redeveloped contain a non-potable treatment system.	Rejected WRMP19

Generic option	Sub-Option	Specific Option	Overall Category
		Individual Buildings (Typology 1) - Commercial and Residential. Individual commercial and residential buildings throughout our supply area that are being redeveloped contain a non-potable treatment system.	Rejected WRMP19
	Greywater Recycling	Individual Buildings (Typology 1) - Commercial Only. Individual commercial Buildings throughout our supply area that are being redeveloped contain a non-potable treatment system.	Rejected WRMP19
		Individual Buildings (Typology 1) - Residential Only. Individual residential buildings throughout our supply area that are being redeveloped contain a non-potable treatment system.	Rejected WRMP19
		Individual Buildings (Typology 1) - Commercial and Residential. Individual commercial and residential buildings throughout our supply area that are being redeveloped contain a non-potable treatment system.	Rejected WRMP19
	Wastewater (Blackwater) Recycling	Blackwater recycling at new developments	Rejected WRMP19

Table 3: Unconstrained Demand Management Options sourced from WRMP24 New Options

Generic option	Sub-Option	Specific Option	Overall Category
Leakage	Advice and Guidance	Advice and information on leakage detection and fixing techniques (Agriculture)	New WRMP24 Option
		Advice and information on leakage detection and fixing techniques (Industrial and Commercial Customers)	New WRMP24 Option
		In house awareness campaign to reduce internal losses	New WRMP24 Option

Generic option	Sub-Option	Specific Option	Overall Category
	Active Leakage Control	Advanced District Metered Area (DMA) Intervention. Made up of the following components: • DMA Redesign – capital work to redesign DMAs to better identify leakage. Includes splitting DMAs, moving priority district meters etc. • Acoustic logger installation • Replacement of service pipes • Pressure Management: install new pressure management schemes within individual DMAs at sub-DMA level. • DMA Excellence – operational component of work following DMA Redesign. Includes assessment of demand in the DMA (incl. temporary logging of large customers) and using Find and Fix programmes to pinpoint leaks. • Fixing Leaks – the final stage of DMA Enhancement is capital work to fix the leaks identified. This option was re-named from 'Enhanced ALC' in WRMP19.	New WRMP24 Option
		Improvements in systems to allow more easy reporting of visible leaks and analysis of social media for leak notification	New WRMP24 Option
		Be more operationally efficient	New WRMP24 Option
		Decreasing the time taken to fixing reported leaks	New WRMP24 Option
		Develop metrics and monitoring to quantify SR leakage	New WRMP24 Option
		Enhanced district meter verification - meter verification is an on-site check to determine the accuracy of flow being registered through a meter.	New WRMP24 Option
		Enhanced logger verification - logger verification is a simple on site check to ensure that the flow being registered by a meter matches the flow being recorded by the data logging device attached to the meter.	New WRMP24 Option
		Explore PRV noise reduction methods	New WRMP24 Option

Generic option	Sub-Option	Specific Option	Overall Category
		Household meter under /over registration analysis - meter verification as an on-site check to determine the accuracy of flow being registered through a meter.	New WRMP24 Option
		Improve quality of repairs	New WRMP24 Option
		Improving analytics to detect leak breakouts	New WRMP24 Option
		Increase pressure for leak detection	New WRMP24 Option
		Measuring performance of the ALC activity	New WRMP24 Option
		Non-household meter under /over registration analysis - meter verification as an on-site check to determine the accuracy of flow being registered through a meter.	New WRMP24 Option
		Remote sensing technologies - aircraft-based	New WRMP24 Option
		Remote sensing technologies - ground-based	New WRMP24 Option
		Remote sensing technologies - satellite-based	New WRMP24 Option
		Trunk main and service reservoir leakage reduction by improved metering	New WRMP24 Option
		Installation of through bore hydrants to allow for in-pipe leak detection/localisation	New WRMP24 Option
	Pressure Management	Pressure Management - install new zonal pressure management schemes	New WRMP24 Option
		CaLM Networks - this option includes a range of activities: targeted extension of pressure management, upgrade of controllers for PRVs and pumps, transient investigations, trunk mains expansion/extension, distribution mains expansion/extension. To include: • Design, construction, and commissioning of new pressure management schemes. • Retrofit improved controllers to pumps and valves to enable more precise and responsive pressure profiles to be maintained that minimise leakage while providing adequate pressures at critical points at all times. • Investigating the existence of pressure transience using transient loggers, tracing the sources of those transients and removing the causes.	New WRMP24 Option

Generic option	Sub-Option	Specific Option	Overall Category
	Smart Networks	Smart Networks Programme to improve leakage targeting and detection	New WRMP24 Option
	Mains Rehabilitation	Asset renewal - this option would involve the replacement and renewal of trunk mains. This option excludes replacement of communication pipes and Customer Supply Pipes (CSP) (from the property boundary to inside the property).	New WRMP24 Option
		Develop procedure for abandoned mains	New WRMP24 Option
		Minimise joints	New WRMP24 Option
		Replace rather that repair - household supply pipes. Includes a study to assess the impact on leakage if the supply pipes are replaced instead of repairing them.	New WRMP24 Option
	Leakage Innovation	Innovative techniques improving speed and quality of repairs, such as: • Adoption of keyhole repair techniques • Advanced technologies for precise and accurate leak location – acoustics • Advanced technologies for precise and accurate leak location - tracer gases • Quality/Make joints leak free - product development • Use technologies for repairing pipes from the inside • Enhanced detection equipment/innovation in detection • Enhanced repair methods/innovation in repair methods	New WRMP24 Option
	Regulation	Investigate and lobby for improved regulatory incentives for reducing leakage	New WRMP24 Option
Metering	Progressive Smart Upgrade Programme - Non-household (PSUP)	Proactive replacement of basic meters with smart meters on non-household properties	New WRMP24 Option
	Selective metering	Selective metering (agricultural troughs)	New WRMP24 Option
	Illegal connections	Target and meter illegal connections	New WRMP24 Option
	Information	In-home display of real time consumption	New WRMP24 Option

Generic option	Sub-Option	Specific Option	Overall Category
	Metering Innovation - new meter installations	Investigate innovative practices to install meters at no access and unmeterable properties. This includes a change in practice for no access and an investment/trial of alternative technology for unmeterables.	New WRMP24 Option
	Metering Innovation - proactive meter upgrades	Investigate innovative practices to upgrade meters at no access and unmeterable properties. This includes a change in practice for no access and an investment/trial of alternative technology for unmeterables.	New WRMP24 Option
Water Efficiency	Advice and Guidance	Social landlord audits and benchmarking	New WRMP24 Option
		Adolescents showering campaign	New WRMP24 Option
		Campaign to encourage customers to self-repair internal leaks	New WRMP24 Option
		Leaky Loos campaign	New WRMP24 Option
		Development of a multi-utility consumption web-portal	New WRMP24 Option
		Community/religious groups to promote water efficiency advice	New WRMP24 Option
		Council and community landscape redesign advice	New WRMP24 Option
		Use satellite technology to advise customer when to water their gardens	New WRMP24 Option
		Target water consumption at the community scale	New WRMP24 Option
		Target water consumption in university private rental sector	New WRMP24 Option
		Targeted information concerning the benefits of trickle irrigation compared to spray irrigation.	New WRMP24 Option
		Targeted water efficiency information to other abstractors	New WRMP24 Option
		Targeting perceptions and attitudes via shared spaces (urban environment)	New WRMP24 Option
		Digital engagement with all customers	New WRMP24 Option
		Tailored digital engagement with customers, targeted at high use households	New WRMP24 Option
		Targeted water efficiency communication based on supply demand pressures	New WRMP24 Option
		Targeted digital engagement based on presence of continuous flow	New WRMP24 Option
	Self-Install	Distribution of innovative technologies / products	New WRMP24 Option

Generic option	Sub-Option	Specific Option	Overall Category
		Subsidy for water butts	New WRMP24 Option
		Subsidising drought tolerant plants	New WRMP24 Option
		Rebate to replace old toilets	New WRMP24 Option
		Rebates on water efficient fixtures and fittings	New WRMP24 Option
	Direct Efficient Goods Plumber Installation	Installation of smart shower monitor	New WRMP24 Option
		Virtual Smarter Home Visit (vSHV) – As above but the customer consultation is online. Any water saving devices are mailed to the customer.	New WRMP24 Option
		Household water efficiency visits and wastage repairs to mini bulk metered properties, targeted based on high use and continuous flow	New WRMP24 Option
		Household water efficiency visits and wastage repairs to bulk metered properties, targeted based on high use and continuous flow	New WRMP24 Option
		Appliance exchange programme	New WRMP24 Option
		Replacement - installation of self-closing taps	New WRMP24 Option
		Replacement - installation of a shallow trap toilet	New WRMP24 Option
		Replacement - installation of a composting toilet	New WRMP24 Option
		Retrofit - installation of 'smart devices' (such as taps) that can send data to the customer portal	New WRMP24 Option
		Replacement - installation of instantaneous water heaters/boilers	New WRMP24 Option
		Trial installation of whole house flow restrictors in high pressure areas	New WRMP24 Option
		Installation of water efficiency devices and internal leak repairs embedded into other internal visits such as internal meter repairs and CSL	New WRMP24 Option
	Partner Efficiency Goods and Installation	Partnership with retailers for more efficient white goods	New WRMP24 Option
		Subsidy to appliance manufacturers	New WRMP24 Option
	Non-Domestic Advice and Assistance	Smarter Business Visits to Non Household Properties - customer funded	New WRMP24 Option
		Provision of water butts	New WRMP24 Option

Generic option	Sub-Option	Specific Option	Overall Category
		Replacement - installation of a new toilet	New WRMP24 Option
		Replacement - installation of a waterless urinals	New WRMP24 Option
		Replacement - installation of self-closing taps	New WRMP24 Option
		Replacement - installation of a shallow trap toilet	New WRMP24 Option
		Replacement - installation of a composting toilet	New WRMP24 Option
		Replacement - installation of timing devices	New WRMP24 Option
		Whole farm water efficiency programme	New WRMP24 Option
		Trial installation of innovative water efficient products in non-household premises	New WRMP24 Option
		Discretionary Water use - using non potable water for large users such as golf courses	New WRMP24 Option
	Research	Whole-town water efficiency programme	New WRMP24 Option
WRSE Region-wide	Metering	Compulsory metering - Basic meters in 5 year rollout	New WRMP24 Option
	Metering	Compulsory metering - Hosepipes	New WRMP24 Option
	Metering	Compulsory metering - walk-by meters with limited fixed network in 10 year rollout	New WRMP24 Option
	Metering	Meter remaining unmetered swimming pool owners	New WRMP24 Option
	Advice and Guidance	Household water efficiency	New WRMP24 Option
	Advice and Guidance	Media campaigns to influence water use	New WRMP24 Option
	Advice and Guidance	Metered households' proactive consumption support	New WRMP24 Option
	Direct Efficient Goods Plumber Installation	Household water efficiency programme (Company led, home visit)	New WRMP24 Option
	Direct Efficient Goods Plumber Installation	Replacement -installation of a dual flush toilet	New WRMP24 Option
	Self-Install	Distribution of tap inserts for self-installation	New WRMP24 Option
	Self-Install	Free water efficiency goods and advice to all newly metered customers	New WRMP24 Option

Generic option	Sub-Option	Specific Option	Overall Category
	Partner Efficiency Goods and Installation	Partnership projects with utility companies	New WRMP24 Option
	Non-Domestic Advice and Assistance	Non-household and commercial water efficiency	New WRMP24 Option
	Non-Domestic Advice and Assistance	Water Audits -Commercials (Non-process)	New WRMP24 Option
	Greywater Recycling	Treated greywater reuse in new households	New WRMP24 Option

Third Party Options

10. In addition to potential options identified by Thames Water and through regional planning, third parties were also invited to propose viable options or offer opportunities for collaboration to develop new demand options.

11. To provide transparency to third parties, allowing identification of new opportunities to bid for demand management and leakage services we published and continue updating, as required, the following information:

- Our WRMP24 setting out our water needs and detailing the water volume requirements on a geographic basis (across our WRZs) and over time, covering the period over the 80 years from 2020 to 2100
- Water resources market information updated in line with updates to the draft and final WRMP
- A rejection register, updated on an ongoing basis, which lists types of solutions that have been assessed within WRMP19 and considered not viable, and the reasons for this
- Links to any other relevant information, including the WRSE's IRPS/FWRR for the South East
- A feedback form to capture any ideas for improvement
- A complaints form

12. We have been encouraging third parties to submit bids for solutions covering water resources, demand management and leakage services that create value for customers. In March 2021 we published our Bid Assessment Framework[2] (BAF) document. It sets out in detail the policies and processes that will apply for assessing bids from third parties for solutions that will help us meet our future water needs. To facilitate consistency the BAF document includes our evaluation criteria which we will apply in the assessment process of any received proposals.

[2] Thames Water, Bid Assessment Framework. March 2021.

13. In addition to the publication of the BAF document, the following market engagement avenues were promoted by us for third parties looking to offer their solutions to Thames Water as part of the WRMP24 process:

    - Periodic Indicative Notice (or PIN) via OJEU and the UK Find a Tender service, notifying third parties of our intentions to procure demand management and leakage services, and which outlines the engagement process for third parties
    - Contact details and guidance on how suppliers should register their interest and what information they should provide for our evaluation
    - A dedicated 'Bright Ideas' email address for third parties wishing to develop and pilot innovative solutions, which may not have sufficient technological maturity for consideration in our WRMP24

14. We have not received any third party proposals for demand management and leakage services, and we will continue advertising this opportunity through stakeholder engagement throughout the WRMP process.

Demand Options Screening

Overview

16. The purpose of the Demand Options Screening Process is to determine a list of Feasible Options for managing water demand that can be optimised by comparative assessment during the modelling phase.

17. The Demand Options Screening process is illustrated within the overall WRMP process diagram in Figure 1.

18. There are two predominant stages in the Demand Options Screening Process:

    - Stage 1 – Primary Screening of the Unconstrained Options List (see Section Stage 1 - Primary Screening of the Unconstrained Options List)

19. The purpose of Stage 1 is to review and screen out those options on the unconstrained list that do not meet the key objectives. The resulting refined list of options represents a manageable set of options for further assessment.

    - Stage 2 – Secondary Screening to Create a Feasible Options List (see Section Stage 2 - Secondary Screening to Create a Feasible Options List)

20. The purpose of Stage 2 is to create a list of water Demand Options which are considered to have a reasonable chance of implementation and of achieving a water demand saving. The list must embrace both a sufficient and manageable number of options to allow real choices to be made when undertaking their optimisation in the modelling process.

21. To achieve this outcome we undertakes two levels of screening of Demand Options, Primary Screening and Secondary Screening. Primary Screening assesses option feasibility at a high level for acceptance or not, having regard to Technological, Financial, Environmental, Risk and Resilience and Legal constraints. Secondary screening further refines the options list that has emerged from the primary screening exercise by reference to qualitative criteria.

22. The outcome of sequential Primary and Secondary screening exercises is the drawing up of a Feasible Demand Options List. The options included in the Feasible Demand Options List are then optimised in the 'Demand Profile Calculator' and our Integrated Demand Management (IDM) model.

Screening Process Changes for WRMP24

23. The Demand Options Screening Process shown in Figure 1 is identical to the process undertaken in the preparation and publication of the WRMP19. This approach has been reviewed for WRMP24 to ensure that the criteria and process is aligned with the supply options screening approach and that recommendations from regional planning are considered.

24. The main changes to note are:

    - Removal of the Combined Options from the Demand Options List

25. In WRMP19 all discrete water Demand Options and combinations of discrete options underwent Primary Screening and Secondary Screening before being declared a Feasible Demand Option.

26. For WRMP24 to achieve consistency with the process outlined in the EA's, Water Resources Planning Guideline, it was deemed more appropriate to first, screen out discrete water Demand

Options and then, through the modelling phase, develop the Demand Reduction Programmes. This alteration ensured that all feasible discrete options were considered and included in the IDM modelling process used to identify the optimised combinations of options.

- Secondary Screening Questions - Addition

27. **Change, Question 11**: Can cost and benefit of the demand option be modelled for comparison with alternative at DMA level or can the option be actively investigated in the 2025-30 period for future consideration within our long-term strategy? (Text in italics indicates the addition for WRMP24.)

Stage 1 - Primary Screening of the Unconstrained Options List

28. The purpose of Primary Screening is to remove from further consideration any water Demand Options not considered viable having regard to Technological, Financial, Environmental, Risk and Resilience and Legal constraints.

29. Each option in the Unconstrained Options List is assessed against the following questions:

(i) Technical: Is the option currently technically feasible?
(ii) Cost: Does the option avoid excessive cost, using available outline cost information?
(iii) Environmental: From an initial environmental assessment, are the likely significant effects of the option on the environment considered acceptable?
(iv) Risk: Does the option give rise to an acceptable risk of it being implemented? Is there an acceptable risk that the option will not provide a net water resource benefit or not provide sufficient future resilience?
(v) Legal: Does the option comply with current legal requirements?

30. This assessment is conducted at a high level by Thames Water economists, engineers and environmental experts who specialise in each of the Generic Options areas.

31. To pass through the Primary Screening exercise each Demand Option must score 'yes' to all five questions. If an option is rejected it will not continue to Secondary Screening and will be listed on the WRMP19 Rejection Register. Options that pass Primary Screening continue to Secondary Screening.

32. The Primary Screening of Demand Management Options is presented in Table 4. Of the 135 Demand Management Options, 44 have been screened out by Primary Screening.

Table 4: Primary Screening of Demand Management Options

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
Leakage	Advice and Guidance	Advice and information on leakage detection and fixing techniques (Agriculture)	y	y	y	y	y	Accepted	To Secondary Screening
		Advice and information on leakage detection and fixing techniques (Industrial and Commercial Customers)	y	y	y	y	y	Accepted	To Secondary Screening
		In house awareness campaign to reduce internal losses	y	y	y	y	y	Accepted	To Secondary Screening
	Active Leakage Control	ALC + 10% - Enhanced levels of 'Find and Fix' over and on top of that already being undertaken to maintain current levels of leakage to achieve a further 10% reduction in leakage.	y	y	y	y	y	Accepted	To Secondary Screening
		ALC + 20% - Enhanced levels of 'Find and Fix' over and on top of that already being undertaken to maintain current levels of leakage to achieve a further 20% reduction in leakage.	y	y	y	y	y	Accepted	To Secondary Screening

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Advanced District Metered Area (DMA) Intervention. Made up of the following components: • DMA Redesign – capital work to redesign DMAs to better identify leakage. Includes splitting DMAs, moving priority district meters etc. • Acoustic logger installation • Replacement of service pipe • Pressure Management: install new pressure management schemes within individual DMAs at sub-DMA level • DMA Excellence – operational component of work following DMA Redesign. Includes assessment of demand in the DMA (incl. temporary logging of large customers) and using Find and Fix programmes to pinpoint leaks. • Fixing Leaks – the final stage of DMA Enhancement is capital work to fix the leaks identified. This option was re-named from 'Enhanced ALC' in WRMP19.	y	y	y	y	y	Accepted	To Secondary Screening
		Improvements in systems to allow more easy reporting of visible leaks and analysis of social media for leak notification	y	y	y	y	y	Accepted	To Secondary Screening
		Be more operationally efficient	y	y	y	y	y	Accepted	To Secondary Screening
		Decreasing the time taken to fixing reported leaks	y	y	y	y	y	Accepted	To Secondary Screening
		Develop metrics and monitoring to quantify SR leakage	y	y	y	y	y	Accepted	To Secondary Screening

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Enhanced district meter verification - meter verification is an on-site check to determine the accuracy of flow being registered through a meter.	y	y	y	y	y	Accepted	To Secondary Screening
		Enhanced logger verification - logger verification is a simple on site check to ensure that the flow being registered by a meter matches the flow being recorded by the data logging device attached to the meter.	y	y	y	y	y	Accepted	To Secondary Screening
		Explore PRV noise reduction methods	y	y	y	y	y	Accepted	To Secondary Screening
		Household meter under /over registration analysis - meter verification as an on-site check to determine the accuracy of flow being registered through a meter.	y	y	y	y	y	Accepted	To Secondary Screening
		Improve quality of repairs	y	y	y	y	y	Accepted	To Secondary Screening
		Improving analytics to detect leak breakouts	y	y	y	y	y	Accepted	To Secondary Screening
		Increase pressure for leak detection	y	y	y	y	y	Accepted	To Secondary Screening
		Measuring performance of the ALC activity	y	y	y	y	y	Accepted	To Secondary Screening
		Non-household meter under /over registration analysis - meter verification as an on-site check to determine the accuracy of flow being registered through a meter.	y	y	y	y	y	Accepted	To Secondary Screening
		Remote sensing technologies - aircraft-based	y	y	y	y	y	Accepted	To Secondary Screening
		Remote sensing technologies - ground-based	y	y	y	y	y	Accepted	To Secondary Screening

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Remote sensing technologies - satellite-based	y	y	y	y	y	Accepted	To Secondary Screening
		Trunk main and service reservoir leakage reduction by improved metering	y	y	y	y	y	Accepted	To Secondary Screening
		Installation of through bore hydrants to allow for in-pipe leak detection/localisation	y	y	y	y	y	Accepted	To Secondary Screening
	Pressure Management	Pressure Management 4 - further reduction of pressure on existing schemes that are made up of multiple DMAs. Requires the installation of additional tall building boosters.	y	y	y	n	y	Rejected	Prior to the implementation of a Pressure Management Scheme, we conduct extensive investigations to determine the viability and benefit of installing Pressure Management across multiple DMAs in a zone. This includes desktop studies involving topographic data, burst and customer complaint history, large users and large blocks of flats information to identify customers that may be impacted by pressure management. Further hydraulic modelling studies and field studies are then undertaken to verify this information and ensure the Pressure Management Scheme is viable. Due to the extensive studies undertaken prior to the implementation of existing large Pressure Management Schemes, there is limited scope for further significant reductions in pressure even with the installation of additional tall building boosters. Consequently, the risk that this demand option will not provide a net benefit is considered unacceptable and therefore this option has not been taken further in the screening process.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Pressure Management - install new pressure management schemes within individual DMAs at sub-DMA level.	y	y	y	y	y	Accepted	To Secondary Screening
		Pressure Management - install new zonal pressure management schemes	y	y	y	y	y	Accepted	To Secondary Screening
		CaLM Networks - this option includes a range of activities: targeted extension of pressure management, upgrade of controllers for PRVs and pumps, transient investigations, trunk mains expansion/extension, distribution mains expansion/extension. To include: • Design, construction, and commissioning of new pressure management schemes. • Retrofit improved controllers to pumps and valves to enable more precise and responsive pressure profiles to be maintained that minimise leakage while providing adequate pressures at critical points at all times. • Investigating the existence of pressure transience using transient loggers, tracing the sources of those transients and removing the causes.	y	y	y	y	y	Accepted	To Secondary Screening
	Smart Networks	Smart Networks Programme to improve leakage targeting and detection	y	y	y	y	y	Accepted	To Secondary Screening

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
	Mains Rehabilitation	Asset Replacement - replace individual pipes that have high burst rates	y	y	y	y	y	Accepted	To Secondary Screening
		Asset Replacement 100m - replace individual pipes that have high burst rates and must be above 100m in length	y	y	y	y	y	Accepted	To Secondary Screening
		Comms Only - replace communication pipes only	y	y	y	y	y	Accepted	To Secondary Screening
		Full DMA Mains Replacement of at least 90% of DMA - includes mains replacement, comm pipe replacement and boundary box install (does not include CSL repair)	y	y	y	y	y	Accepted	To Secondary Screening
		Partial DMA Mains Replacement - targets worst performing assets and includes mains replacement, comm pipe replacement and boundary box install (does not include CSL repair)	y	y	y	y	y	Accepted	To Secondary Screening
		Asset renewal - this option would involve the replacement and renewal of trunk mains. This option excludes replacement of communication pipes and Customer Supply Pipes (CSP) (from the property boundary to inside the property).	y	n	y	y	y	Rejected	Replacement of large diameter pipes is not a cost effective option.
		Develop procedure for abandoned mains	y	y	y	y	y	Accepted	To Secondary Screening
		Minimise joints	y	y	y	y	y	Accepted	To Secondary Screening

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Replace rather that repair - household supply pipes. Includes a study to assess the impact on leakage if the supply pipes are replaced instead of repairing them.	y	y	y	y	y	Accepted	To Secondary Screening
	Leakage Innovation	Innovative techniques improving speed and quality of repairs, such as: • Adoption of keyhole repair techniques • Advanced technologies for precise and accurate leak location – acoustic • Advanced technologies for precise and accurate leak location - tracer gases • Quality/Make joints leak free - product development • Use technologies for repairing pipes from the inside • Enhanced detection equipment/innovation in detection • Enhanced repair methods/innovation in repair methods	y	y	y	y	y	Accepted	To Secondary Screening
	Regulation	Investigate and lobby for improved regulatory incentives for reducing leakage	y	y	y	y	y	Accepted	To Secondary Screening
Metering	Progressive Metering Programme (PMP)	Meter all houses (AMI technology) and repair CSLs found	y	y	y	y	y	Accepted	To Secondary Screening
		Meter all houses (AMR technology) and repair CSLs found	y	y	y	y	y	Accepted	To Secondary Screening

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
	(previously Houses Only)	Meter all houses (Basic technology) and repair CSLs found	y	y	y	y	y	Accepted	To Secondary Screening
	Bulk Metered Area (previously Blocks of Flats (Bulks) Only)	Bulk metering flats (AMI technology) and repair CSLs found	y	y	y	y	y	Accepted	To Secondary Screening
		Bulk metering flats (AMR technology) repair CSLs found	y	y	y	y	y	Accepted	To Secondary Screening
	Houses and Bulks	Meter all houses and bulk meter (external) blocks of flats (AMI technology) and repair CSLs found	y	y	y	y	y	Accepted	To Secondary Screening
		Meter all houses and bulk meter (external) blocks of flats (AMR technology) and repair CSLs found	y	y	y	y	y	Accepted	To Secondary Screening
		Meter all houses and bulk meter (external) blocks of flats (Basic technology) and repair CSLs found	y	y	y	y	y	Accepted	To Secondary Screening
	Houses, bulks and individual flats	Meter all houses (including CSL repair), individual flats (internal, no CSL repair) and bulk meter (including CSL repair) blocks of flats (AMI technology)	y	y	y	y	y	Accepted	To Secondary Screening
		Meter all houses (including CSL repair), individual flats (internal, no CSL repair) and bulk meter (including CSL repair) blocks of flats (AMR technology)	y	y	y	y	y	Accepted	To Secondary Screening
		Meter all houses (including CSL repair), individual flats (internal, no CSL repair) and bulk meter (including CSL repair) blocks of flats (Basic technology)	y	y	y	y	y	Accepted	To Secondary Screening

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Meter all houses (including CSL repair) and individual flats (internal, no CSL repair) with Basic technology and bulk metering (including CSL repair) blocks of flats with AMR technology	y	y	y	y	y	Accepted	To Secondary Screening
	Mini Bulk Metered Area	Install small bulk meters on properties with multiple supplies (previously called Small Blocks Flats Bulks)	y	y	y	y	y	Accepted	To Secondary Screening
	Progressive Smart Upgrade Programme - Household (PSUP) (previously Household meter upgrades)	Proactive replacement of basic meters with smart meters on household properties	y	y	y	y	y	Accepted	To Secondary Screening
	Progressive Smart Upgrade Programme - Non-household (PSUP) (previously non-household meter upgrades)	Proactive replacement of basic meters with smart meters on non-household properties	y	y	y	y	y	Accepted	To Secondary Screening
	Selective metering	Selective metering (agricultural troughs)	y	y	y	y	y	Accepted	To Secondary Screening
	Illegal connections	Target and meter illegal connections	y	y	y	y	y	Accepted	To Secondary Screening

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
	Information	In-home display of real time consumption	y	y	y	y	y	Accepted	To Secondary Screening
	Metering Innovation - new meter installations	Investigate innovative practices to install meters at no access and unmeterable properties. This includes a change in practice for no access and an investment/trial of alternative technology for unmeterables.	y	y	y	y	y	Accepted	To Secondary Screening
	Metering Innovation - proactive meter upgrades	Investigate innovative practices to upgrade meters at no access and unmeterable properties. This includes a change in practice for no access and an investment/trial of alternative technology for unmeterables.	y	y	y	y	y	Accepted	To Secondary Screening
Water Efficiency	Advice and Guidance	Benchmark to help drive water efficient behaviours (domestic)	y	y	y	n	y	Rejected*	High risk that this will not achieve behaviour change and therefore save water and produce a yield. Potential for Baseline.
		Social landlord audits and benchmarking	y	y	y	n	y	Rejected	High risk that this will not achieve behaviour change and therefore save water and produce a yield. Option 'Benchmark to help drive water efficient behaviours (domestic)' includes all housing and is considered more suitable.
		Call Centre contact to customers giving water efficiency advice	y	y	y	n	y	Rejected*	Medium risk that this will not achieve behaviour change and therefore save water and produce a yield. However, this option will continue to be included in baseline. We will proactively call customers specifically on water efficiency and also integrate more water efficiency information / advice into more customer journeys – call centre and online.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Intensive area based promotional campaigns	y	y	y	n	y	Rejected*	Medium risk that this will not achieve behaviour change and therefore save water and produce a yield. However, this option will continue to be included in baseline.
		Develop an AMR interface tool to help drive water efficiency behaviours	y	y	y	n	y	Rejected	We are moving away from procuring / installing AMR devices, in favour of AMI smart meters. These devices will allow customers to see more accurate and frequent consumption information on mobile-responsive web-portals. Consequently, there is a medium risk this option will not provide sufficient future resilience as the online technology will not be compatible with the majority of in ground technology.
		Develop water certificates for customer properties	y	n	y	n	y	Rejected	There is a high risk that this will not achieve a water saving as homes which achieve a certificate are already water aware. This is also not a cost-effective option for all households in the supply area. We are however providing bespoke Water Saving Reports to each household following their Smarter Home Visit (SHV).

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Development and promotion of an online water use calculator	y	y	y	n	y	Rejected*	Medium risk that this will not achieve a behaviour change and therefore save water and produce a yield as it targets already water wise customers. However, this option will continue to be included in baseline. We will continue to offer all household customers a free online calculator tool, in the form of the Water Energy Calculator (WEC). The WEC is an Energy Saving Trust software tool that provides personalised water use, water and energy saving advice, which can be downloaded by the customer.
		Development of Smart Phone Applications	y	y	y	n	y	Rejected	Medium risk that this will not achieve a behaviour change and therefore save water and produce a yield as it targets already water wise customers. Instead of a Smart Phone Application, we have recently launched our new Thames Water website using a SiteCore platform. This will be far more capable, flexible and cost effective than smartphone apps.
		Distribution of advice and guidance via Water Regs visits	y	y	y	n	y	Rejected*	High risk that this will not achieve a water saving as we will not know if the guidance has been acted upon. However, this option will continue to be included in baseline using the lessons from AMP5/6/7, into programmes for AMP8 and beyond.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Distribution of self-audit packs	y	n	y	y	y	Rejected	High risk that this will not achieve a water saving as we will not know if the guidance has been acted upon. At present, the distribution of self-audit packs is also not seen as a cost effective water efficiency method. We promote our free online Water Energy Calculator as the preferred method of quantifying personalised water use/savings and identifying appropriate water savings interventions.
		Distribution of water saving information in customers' bills	y	y	y	n	y	Rejected*	Medium risk as it is unknown whether the information will achieve an actual water saving. However, this option will continue to be included in baseline using the lessons from AMP5/6/7, into programmes for AMP8 and beyond.
		Distribution of water saving information via leaflet distribution	y	y	y	n	y	Rejected*	Medium risk as it is unknown whether the information will achieve an actual water saving. However, this option will continue to be included in baseline using the lessons from AMP5/6/7, into programmes for AMP8 and beyond.
		Education in schools and provision of educational material	y	y	y	n	y	Rejected*	Medium risk as it is unknown whether the information will achieve an actual water saving. However, this option will continue to be included in baseline using the lessons from AMP5/6/7, into programmes for AMP8 and beyond.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Adolescents showering campaign	y	y	y	n	y	Rejected*	We do not consider it beneficial to focus on one specific campaign type. We have an 'always on' approach to educating younger generations around water usage, including showering. We already have a dedicated education team who talk to schools throughout the year, providing tips to children across our region.
		Campaign to encourage customers to self-repair internal leaks	y	y	y	n	y	Rejected*	High risk that this will not achieve a water saving as we will not know if the guidance has been acted upon. However, this option will continue to be included in baseline using the lessons from AMP5/6/7, into programmes for AMP8 and beyond.
		Leaky Loos campaign	y	y	y	n	y	Rejected*	We already have a 'You may have a leaky loo' message included in measured customer bills where high use is identified and we provide information on our website/social media.
		Events and road shows	y	y	y	n	y	Rejected	We have reduced the number of events and road shows, as there is little to no mechanism or quantifying any real water savings attributed to this action
		Free water efficiency goods and advice to all newly metered customers	y	y	y	y	y	Accepted	To Secondary Screening
		Offer free water efficiency goods online	y	y	y	y	y	Accepted	To Secondary Screening

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Promotions via newspapers	y	y	y	n	y	Rejected*	High risk that this will not achieve a water saving as we will not know if the guidance has been acted upon. However, this option will continue to be included in baseline using the lessons from our area specific water saving programmes in AMP5/6/7, into programmes for AMP8 and beyond.
		Water efficiency advice via an internet promotion	y	y	y	n	y	Rejected*	High risk that this will not achieve a water saving as we will not know if the guidance has been acted upon. However, this option will continue to be included in baseline using the lessons from AMP5/6/7, into programmes for AMP8 and beyond.
		Development of a multi-utility consumption web-portal	y	y	y	n	y	Rejected	The smart meter portal/toolkit is due for delivery within AMP7. High risk that this will not achieve additional water saving beyond our only portal.
		Community/religious groups to promote water efficiency advice	y	y	y	n	y	Rejected*	High risk that this will not achieve a water saving as we will not know if the advice has been acted upon. However, there is potential for including as part of our geo-targeted media programme.
		Council and community landscape redesign advice	y	y	y	n	y	Rejected	This option has been rejected owing to the high risk that water savings may not be realised.
		Use satellite technology to advise customer when to water their gardens	y	y	y	n	y	Rejected	This option has been rejected owing to the high risk that water savings may not be realised.
		Target water consumption at the community scale	y	y	y	n	y	Rejected	This option has been rejected owing to the high risk that water savings may not be realised.
		Target water consumption in university private rental sector	y	y	y	n	y	Rejected	This option has been rejected owing to the high risk that water savings may not be realised.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Targeted information concerning the benefits of trickle irrigation compared to spray irrigation.	y	y	y	y	y	Accepted	To Secondary Screening
		Targeted water efficiency information to other abstractors	y	y	y	y	y	Accepted	To Secondary Screening
		Targeting perceptions and attitudes via shared spaces (urban environment)	y	y	y	y	y	Accepted	To Secondary Screening
		Digital engagement with all customers	y	y	y	y	y	Accepted	To Secondary Screening
		Tailored digital engagement with customers, targeted at high use households	y	y	y	n	y	Rejected*	Medium risk as it is unknown whether the engagement will achieve an actual water saving. However, this option will continue to be included in baseline using the lessons from AMP7 into AMP8 and beyond.
		Targeted water efficiency communication based on supply demand pressures	y	y	y	n	y	Rejected*	This option is being trialled currently and it is yet unknown whether the engagement will achieve an actual water saving. However, this option has a potential for inclusion in baseline using the lessons from AMP7 into AMP8 and beyond.
		Targeted digital engagement based on presence of continuous flow	y	y	y	n	y	Rejected*	Medium risk as it is unknown whether the engagement will achieve an actual water saving. However, this option will continue to be included in baseline using the lessons from AMP7 into AMP8 and beyond.
	Self-Install	Distribution of aerated shower head	y	y	y	y	y	Accepted	To Secondary Screening
		Distribution of cistern displacement devices	y	y	y	y	y	Accepted	To Secondary Screening

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Distribution of hose guns for self-installation	y	y	y	n	y	Rejected	We have ceased to offer garden trigger hoses due to lack of measurable water savings evidence. Some anecdotal evidence shows that water consumption increases due to customers wanting to use the new gadget.
		Distribution of Shower Timers	y	y	y	y	y	Accepted	To Secondary Screening
		Distribution of tap inserts for self-installation	y	y	y	y	y	Accepted	To Secondary Screening
		Distribution of water gels to gardeners for self-installation	y	y	y	n	y	Rejected	We have ceased to offer this due to lack of measurable and significant water savings evidence.
		Distribution of water saving devices to businesses via Water Regs visits	y	y	y	n	y	Rejected*	High risk that this will not achieve a water saving if the devices are not installed. However, this option will continue to be included in baseline using the lessons from AMP5/6/7, into programmes for AMP8 and beyond.
		Distribution of innovative technologies / products	y	y	y	n	y	Rejected*	High risk that this will not achieve a water saving if the devices are not installed. However, this option will continue to be included in baseline using the lessons from AMP5/6/7, into programmes for AMP8 and beyond.
		Subsidy for water efficient white goods	y	n	y	y	y	Rejected	We do not offer this as there as many other more cost effectives actions to implement ahead of such rebates. In addition, previous offers have only resulted in a small uptake.
		Subsidy for water butts	y	y	y	n	y	Rejected	We do not offer subsidy for water butts due to lack of measurable water savings evidence.
		Subsidising drought tolerant plants	y	y	y	n	y	Rejected	We do not offer subsidy for drought tolerant plants due to lack of measurable water savings evidence.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Rebate to replace old toilets	y	n	y	y	y	Rejected	We do not offer this as there as many other more cost effectives actions to implement ahead of such rebates.
		Rebates on water efficient fixtures and fittings	y	n	y	y	y	Rejected	We do not offer this as there as many other more coordinated cost effectives actions to implement ahead of such rebates. We provide free devices to customers who complete the online water and energy calculator.
	Direct Efficient Goods Plumber Installation	Installation of water butt	y	y	y	y	y	Accepted	To Secondary Screening
		Installation of smart shower monitor	y	n	y	y	y	Rejected	Our small trial results indicated this is not a cost effective option.
		Smarter Home Visits to newly metered Household Properties as part of the Progressive Metering Programme - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	y	y	y	y	y	Accepted	To Secondary Screening
		Smarter Home Visits to newly metered optant Household Properties - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	y	y	y	y	y	Accepted	To Secondary Screening
		Smarter Home Visits to newly metered Household Properties as part of the Progressive Smart Upgrade Programme - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	y	y	y	y	y	Accepted	To Secondary Screening
		Smarter Home Visits to current unmeasured Household Properties - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	y	y	y	y	y	Accepted	To Secondary Screening

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Virtual Smarter Home Visit (vSHV) – As above but the customer consultation is online. Any water saving devices are mailed to the customer.	y	y	y	n	y	Rejected*	High risk that this will not achieve a water saving if the devices are not installed. However, this option will continue to be included in baseline using the lessons from AMP5/6/7, into programmes for AMP8 and beyond.
		Household water efficiency visits and wastage repairs to mini bulk metered properties, targeted based on high use and continuous flow	y	y	y	y	y	Accepted	To Secondary Screening
		Household water efficiency visits and wastage repairs to bulk metered properties, targeted based on high use and continuous flow	y	y	y	y	y	Accepted	To Secondary Screening
		Housing Association fixes problems found at Household properties (LAHAs only)	y	y	y	n	y	Rejected	Medium risk that the engagement will not achieve an actual water saving.
		Wastage Fixes - Free leak fixes for all customers with internal leakage (i.e. leaky-loos and leaking taps)	y	y	y	y	y	Accepted	To Secondary Screening
		Appliance exchange programme	y	n	y	y	y	Rejected	We do not offer this as there as many other more cost effective actions to implement ahead of such programmes. This option may encourage replacement of appliances before they are due for replacement and thus increasing waste.
		Plumber assisted installation of tap inserts	y	y	y	y	y	Accepted	To Secondary Screening
		Replacement - installation of a dual flush toilet	y	y	y	y	y	Accepted	To Secondary Screening
		Replacement - installation of a low flush toilet	y	y	y	y	y	Accepted	To Secondary Screening

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Replacement - installation of self-closing taps	y	y	y	y	y	Accepted	To Secondary Screening
		Replacement - installation of a shallow trap toilet	y	y	y	y	y	Accepted	To Secondary Screening
		Replacement - installation of a composting toilet	y	y	y	y	y	Accepted	To Secondary Screening
		Retrofit - installation of a dual flush toilet device	y	y	y	y	y	Accepted	To Secondary Screening
		Retrofit - installation of 'smart devices' (such as taps) that can send data to the customer portal	y	n	y	y	y	Rejected	Our small trial results indicated this is not a cost effective option.
		Replacement - installation of instantaneous water heaters/boilers	y	n	y	y	y	Rejected	We do not offer this as there as many other more cost effective actions to implement ahead of such programmes. This option may encourage replacement of heaters before they are due for replacement and thus increasing waste.
		Household Innovation and Tariffs	y	y	y	y	y	Accepted	To Secondary Screening
		Trial installation of whole house flow restrictors in high pressure areas	y	y	y	y	y	Accepted	To Secondary Screening
		Installation of water efficiency devices and internal leak repairs embedded into other internal visits such as internal meter repairs and CSL	y	y	y	y	y	Accepted	To Secondary Screening
	Partner Efficiency Goods and Installation	Partner controlled domestic plumbing installs	y	y	y	y	y	Accepted	To Secondary Screening
		Partnership projects with national organisations	y	y	y	y	y	Accepted	To Secondary Screening
		Partnership projects with public and third sector organisations	y	y	y	y	y	Accepted	To Secondary Screening
		Partnership projects with utility companies	y	y	y	y	y	Accepted	To Secondary Screening

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Partnership with retailers for more efficient white goods	y	y	y	y	y	Accepted	To Secondary Screening
		Partnership working benefits	y	y	y	y	y	Accepted	To Secondary Screening
		Subsidy to appliance manufacturers	y	y	y	n	y	Rejected	We do not offer this as there as many other more cost effectives actions to implement ahead of such subsidies.
	Non-Domestic Advice and Assistance	Benchmark to help drive water efficient behaviours (non-domestic)	y	y	y	n	y	Rejected*	High risk that this will not achieve behaviour change and therefore save water and produce a yield. However, this option will continue to be included in baseline. We have a number of case studies on our website which outline some benchmark and good practice advice for non-domestic buildings. We will be launching new online tools and advice in early 2017.
		Smarter Business Visits to Non Household Properties - company funded. Includes wastage repair offer for non-household customers with continuous flow	y	y	y	y	y	Accepted	To Secondary Screening
		Smarter Business Visits to Non Household Properties - customer funded	y	y	y	n	y	Rejected	High risk that this will not achieve a water saving due to low certainty around customer participation.
		Exploit retail and loan funding opportunities for non-domestic water saving	y	y	y	n	y	Rejected	High risk that this will not achieve water savings following Non Household customers' transfer to Castle Water in 2017.
		Free water efficiency goods and advice to all newly metered businesses	y	y	y	n	y	Rejected	High risk that this will not achieve water savings or be cost effective for Thames Water following Non Household customers' transfer to Castle Water in 2017.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Introduce training for non-domestic customers about wise water use	y	y	y	n	y	Rejected	High risk that this will not achieve water savings. We have previously delivered a number of water efficiency training sessions for non-domestic customers. However, much of this role will now move to Castle Water with the transfer of customers in 2017.
		Non-Domestic water saving advice and assistance	y	y	y	n	y	Rejected*	Medium risk that this will not achieve a behaviour change and result in water savings. However, this option will continue to be included in baseline. We have the industry's most comprehensive self-audit tool kit available online (Saving water in your Business). We offer a range of free downloadable water efficiency case studies for businesses.
		Provision of water butts	y	y	y	n	y	Rejected	High risk that this will not achieve water savings or be cost effective.
		Replacement - installation of a new toilet	y	y	y	y	y	Accepted	To Secondary Screening
		Replacement - installation of a waterless urinals	y	y	y	y	y	Accepted	To Secondary Screening
		Replacement - installation of self-closing taps	y	y	y	y	y	Accepted	To Secondary Screening
		Replacement - installation of a shallow trap toilet	y	y	y	y	y	Accepted	To Secondary Screening
		Replacement - installation of a composting toilet	y	y	y	y	y	Accepted	To Secondary Screening
		Replacement - installation of timing devices	y	y	y	y	y	Accepted	To Secondary Screening
		Optimising water using processes	y	y	y	n	y	Rejected	High risk that this will not achieve water savings following Non Household customers' transfer to Castle Water in 2017.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Whole farm water efficiency programme	y	y	y	n	y	Rejected	High risk that this will not achieve water savings or be cost effective.
		Trial installation of innovative water efficient products in non-household premises	y	y	y	n	y	Rejected	High risk that this will not achieve water savings following Non Household customers' transfer to Castle Water in 2017.
		Discretionary Water use - using non potable water for large users such as golf courses	y	y	y	y	y	Accepted	To Secondary Screening
	Research	Continue to support ongoing research projects	y	y	y	y	y	Accepted	To Secondary Screening
		Ofwat water efficiency research fund	y	y	y	y	y	Accepted	To Secondary Screening
		Save Water Swindon and other flagship research projects	y	y	y	y	y	Accepted	To Secondary Screening
		Whole-town water efficiency programme	y	n	y	y	y	Rejected	We do not offer this as there as many other more cost effective actions to implement ahead of such programmes.
		Support the leak toilet valves project phase 2	y	y	y	y	y	Accepted	To Secondary Screening
		Support the research undertaken by UKWIR	y	y	y	y	y	Accepted	To Secondary Screening
		Support the Waterwise evidence base	y	y	y	y	y	Accepted	To Secondary Screening
	Regulation	Enforce use of water efficient fittings in new buildings	y	y	y	y	n	Rejected	We are not empowered to enforce such actions. To include this as a discrete additional management option would also be double counting as our demand forecasts do assume the installation of water efficient fittings in new buildings.
		Flow restrictor charging	y	y	y	y	n	Rejected	We are not empowered to enforce a tariff reduction for a restriction in domestic water supply pressure. This would contravene our other regulatory target relating to minimum pressures.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Ban high water use devices	y	y	y	y	n	Rejected	We are not empowered to enforce such actions as we are a service provider and must meet the reasonable expectations of customers. This option could only be enforced by the Government.
		Preventing new development	y	y	y	y	n	Rejected	We are not empowered to prevent a growth in demand by enacting planning restrictions and preventing new development. we are routinely consulted on planning and development matters and may influence the scale and location of new development. We will continue to liaise with planning authorities into the future but cannot include this as a discrete demand management option.
		Legislate on water use	y	y	y	y	n	Rejected	We are not empowered to enforce such actions as we are a service provider and must meet the reasonable expectations of customers.
Incentive Schemes	Green Redeem (previously Targeted Incentive Scheme)	Customers are incentivised through non-financial offers (vouchers, prize draws, community rewards) to be more efficient with their water consumption.	y	y	y	y	y	Accepted	To Secondary Screening
	Innovative Tariffs	Financial Tariff implementation - only feasible post smart metering.	y	y	y	y	y	Accepted	To Secondary Screening

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
Non-potable	Rainwater Harvesting	Individual Buildings (Typology 1) - Commercial Only. Individual commercial Buildings throughout our supply area that are being redeveloped contain a non-potable treatment system.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.
		Individual Buildings (Typology 1) - Residential Only. Individual residential buildings throughout our supply area that are being redeveloped contain a non-potable treatment system.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.
		Individual Buildings (Typology 1) - Commercial and Residential. Individual commercial and residential buildings throughout our supply area that are being redeveloped contain a non-potable treatment system.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Individual Buildings within a Development (Typology 2) - Commercial Only. A non-potable treatment system is delivered to individual commercial buildings on a new development.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.
		Individual Buildings within a Development (Typology 2) - Residential Only. A non-potable treatment system is delivered to individual residential buildings on a new development.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.
		Individual Buildings within a Development (Typology 2) - Commercial and Residential. A non-potable treatment system is delivered to individual commercial and/or residential buildings on a new development.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Multiple Buildings within a Development (Typology 3) - Commercial only. A non-potable treatment system and network is delivered that serves multiple commercial buildings on new developments. i.e. multiple non-potable system can be delivered on the one development.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.
		Multiple Buildings within a Development (Typology 3) - Residential only. A non-potable treatment system and network is delivered that serves multiple residential buildings on new developments. i.e. multiple non-potable system can be delivered on the one development.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.
		Multiple Buildings within a Development (Typology 3) - Commercial and Residential. A non-potable treatment system and network is delivered that serves multiple commercial buildings on new developments. i.e. there could be a number of these non-potable systems delivered on the one development.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		All Buildings within a Development (Typology 4) - Commercial and Residential. A non-potable central system and network is delivered that serves all buildings on a new development.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.
	Stormwater Harvesting	Individual Buildings (Typology 1) - Commercial Only. Individual commercial Buildings throughout our supply area that are being redeveloped contain a non-potable treatment system.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.
		Individual Buildings (Typology 1) - Residential Only. Individual residential buildings throughout our supply area that are being redeveloped contain a non-potable treatment system.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Individual Buildings (Typology 1) - Commercial and Residential. Individual commercial and residential buildings throughout our supply area that are being redeveloped contain a non-potable treatment system.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.
		Individual Buildings within a Development (Typology 2) - Commercial Only. A non-potable treatment system is delivered to individual commercial buildings on a new development.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.
		Individual Buildings within a Development (Typology 2) - Residential Only. A non-potable treatment system is delivered to individual residential buildings on a new development.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Individual Buildings within a Development (Typology 2) - Commercial and Residential. A non-potable treatment system is delivered to individual commercial and/or residential buildings on a new development.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.
		Multiple Buildings within a Development (Typology 3) - Commercial only. A non-potable treatment system and network is delivered that serves multiple commercial buildings on new developments. i.e. multiple non-potable system can be delivered on the one development.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.
		Multiple Buildings within a Development (Typology 3) - Residential only. A non-potable treatment system and network is delivered that serves multiple residential buildings on new developments. i.e. multiple non-potable system can be delivered on the one development.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Multiple Buildings within a Development (Typology 3) - Commercial and Residential. A non-potable treatment system and network is delivered that serves multiple commercial buildings on new developments. i.e. there could be a number of these non-potable systems delivered on the one development.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.
		All Buildings within a Development (Typology 4) - Commercial and Residential. A non-potable central system and network is delivered that serves all buildings on a new development.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.
	Greywater Recycling	Individual Buildings (Typology 1) - Commercial Only. Individual commercial Buildings throughout our supply area that are being redeveloped contain a non-potable treatment system.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Individual Buildings (Typology 1) - Residential Only. Individual residential buildings throughout our supply area that are being redeveloped contain a non-potable treatment system.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.
		Individual Buildings (Typology 1) - Commercial and Residential. Individual commercial and residential buildings throughout our supply area that are being redeveloped contain a non-potable treatment system.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.
		Individual Buildings within a Development (Typology 2) - Commercial Only. A non-potable treatment system is delivered to individual commercial buildings on a new development.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Individual Buildings within a Development (Typology 2) - Residential Only. A non-potable treatment system is delivered to individual residential buildings on a new development.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.
		Individual Buildings within a Development (Typology 2) - Commercial and Residential. A non-potable treatment system is delivered to individual commercial and/or residential buildings on a new development.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.
		Multiple Buildings within a Development (Typology 3) - Commercial only. A non-potable treatment system and network is delivered that serves multiple commercial buildings on new developments. i.e. multiple non-potable system can be delivered on the one development.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
		Multiple Buildings within a Development (Typology 3) - Residential only. A non-potable treatment system and network is delivered that serves multiple residential buildings on new developments. i.e. multiple non-potable system can be delivered on the one development.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.
		Multiple Buildings within a Development (Typology 3) - Commercial and Residential. A non-potable treatment system and network is delivered that serves multiple commercial buildings on new developments. i.e. there could be a number of these non-potable systems delivered on the one development.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.
		All Buildings within a Development (Typology 4) - Commercial and Residential. A non-potable central system and network is delivered that serves all buildings on a new development.	y	y	y	n	y	Rejected	High risk that this will not achieve water savings as we cannot regulate the maintenance and continued use of non-potable systems on individual private commercial properties located throughout the water supply area. However, the feasibility of this option will continue to be researched under the Household Innovation and Tariffs option.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
	Wastewater (Blackwater) Recycling	Blackwater recycling at new developments	y	y	y	n	n	Rejected	Blackwater recycling has been rejected on the grounds of it being more complicated to implement and presenting higher risks. In addition, there is no current guidance on the use of treated effluent (Blackwater) for non-potable purposes in the UK. In the absence of such guidance and due to the potential risk of contamination and impact on public health, we will not take this option further in the screening process. With further developments in the future, this option could be reconsidered in future planning periods.
WRSE Region-wide	Metering	Compulsory metering - Basic meters in 5 year rollout	n	y	y	y	y	Rejected	This WRSE Region-wide option is a duplicate an of option that we have considered as an option to make up our demand management programme, with the difference being that actions would have been aligned across all WRSE companies and/or delivered centrally. Companies in the WRSE region did not develop fully aligned demand management programmes, due to inter-company variability in programmes delivered to date resulting in differences in priorities and deliverability of different options in different parts of the region. We have, therefore, rejected this option as duplicates of an option that we have considered.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
	Metering	Compulsory metering - Hosepipes	n	y	y	y	y	Rejected	This WRSE Region-wide option is a duplicate an of option that we have considered as an option to make up our demand management programme, with the difference being that actions would have been aligned across all WRSE companies and/or delivered centrally. Companies in the WRSE region did not develop fully aligned demand management programmes, due to inter-company variability in programmes delivered to date resulting in differences in priorities and deliverability of different options in different parts of the region. We have, therefore, rejected this option as duplicates of an option that we have considered.
	Metering	Compulsory metering - walk-by meters with limited fixed network in 10 year rollout	n	y	y	y	y	Rejected	This WRSE Region-wide option is a duplicate an of option that we have considered as an option to make up our demand management programme, with the difference being that actions would have been aligned across all WRSE companies and/or delivered centrally. Companies in the WRSE region did not develop fully aligned demand management programmes, due to inter-company variability in programmes delivered to date resulting in differences in priorities and deliverability of different options in different parts of the region. We have, therefore, rejected this option as duplicates of an option that we have considered.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
	Metering	Meter remaining unmetered swimming pool owners	n	y	y	y	y	Rejected	This WRSE Region-wide option is a duplicate an of option that we have considered as an option to make up the Thames Water demand management programme, with the difference being that actions would have been aligned across all WRSE companies and/or delivered centrally. Companies in the WRSE region did not develop fully aligned demand management programmes, due to inter-company variability in programmes delivered to date resulting in differences in priorities and deliverability of different options in different parts of the region. We have, therefore, rejected this option as duplicates of an option that we have considered.
	Advice and Guidance	Household water efficiency	n	y	y	y	y	Rejected	This WRSE Region-wide option is a duplicate an of option that we have considered as an option to make up the Thames Water demand management programme, with the difference being that actions would have been aligned across all WRSE companies and/or delivered centrally. Companies in the WRSE region did not develop fully aligned demand management programmes, due to inter-company variability in programmes delivered to date resulting in differences in priorities and deliverability of different options in different parts of the region. We have, therefore, rejected this option as duplicates of an option that we have considered.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
	Advice and Guidance	Media campaigns to influence water use	n	y	y	y	y	Rejected	This WRSE Region-wide option is a duplicate an of option that we have considered as an option to make up the Thames Water demand management programme, with the difference being that actions would have been aligned across all WRSE companies and/or delivered centrally. Companies in the WRSE region did not develop fully aligned demand management programmes, due to inter-company variability in programmes delivered to date resulting in differences in priorities and deliverability of different options in different parts of the region. We have, therefore, rejected this option as duplicates of an option that we have considered.
	Advice and Guidance	Metered households proactive consumption support	n	y	y	y	y	Rejected	This WRSE Region-wide option is a duplicate an of option that we have considered as an option to make up the Thames Water demand management programme, with the difference being that actions would have been aligned across all WRSE companies and/or delivered centrally. Companies in the WRSE region did not develop fully aligned demand management programmes, due to inter-company variability in programmes delivered to date resulting in differences in priorities and deliverability of different options in different parts of the region. We have, therefore, rejected this option as duplicates of an option that we have considered.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
	Direct Efficient Goods Plumber Installation	Household water efficiency programme (Company led, home visit)	n	y	y	y	y	Rejected	This WRSE Region-wide option is a duplicate an of option that we have considered as an option to make up the Thames Water demand management programme, with the difference being that actions would have been aligned across all WRSE companies and/or delivered centrally. Companies in the WRSE region did not develop fully aligned demand management programmes, due to inter-company variability in programmes delivered to date resulting in differences in priorities and deliverability of different options in different parts of the region. We have, therefore, rejected this option as duplicates of an option that we have considered.
	Direct Efficient Goods Plumber Installation	Replacement -installation of a dual flush toilet	n	y	y	y	y	Rejected	This WRSE Region-wide option is a duplicate an of option that we have considered as an option to make up the Thames Water demand management programme, with the difference being that actions would have been aligned across all WRSE companies and/or delivered centrally. Companies in the WRSE region did not develop fully aligned demand management programmes, due to inter-company variability in programmes delivered to date resulting in differences in priorities and deliverability of different options in different parts of the region. We have, therefore, rejected this option as duplicates of an option that we have considered.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
	Self-Install	Distribution of tap inserts for self-installation	n	y	y	y	y	Rejected	This WRSE Region-wide option is a duplicate an of option that we have considered as an option to make up the Thames Water demand management programme, with the difference being that actions would have been aligned across all WRSE companies and/or delivered centrally. Companies in the WRSE region did not develop fully aligned demand management programmes, due to inter-company variability in programmes delivered to date resulting in differences in priorities and deliverability of different options in different parts of the region. We have, therefore, rejected this option as duplicates of an option that we have considered.
	Self-Install	Free water efficiency goods and advice to all newly metered customers	n	y	y	y	y	Rejected	This WRSE Region-wide option is a duplicate an of option that we have considered as an option to make up the Thames Water demand management programme, with the difference being that actions would have been aligned across all WRSE companies and/or delivered centrally. Companies in the WRSE region did not develop fully aligned demand management programmes, due to inter-company variability in programmes delivered to date resulting in differences in priorities and deliverability of different options in different parts of the region. We have, therefore, rejected this option as duplicates of an option that we have considered.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
	Partner Efficiency Goods and Installation	Partnership projects with utility companies	n	y	y	y	y	Rejected	This WRSE Region-wide option is a duplicate an of option that we have considered as an option to make up the Thames Water demand management programme, with the difference being that actions would have been aligned across all WRSE companies and/or delivered centrally. Companies in the WRSE region did not develop fully aligned demand management programmes, due to inter-company variability in programmes delivered to date resulting in differences in priorities and deliverability of different options in different parts of the region. We have, therefore, rejected this option as duplicates of an option that we have considered.
	Non-Domestic Advice and Assistance	Non-household and commercial water efficiency	n	y	y	y	y	Rejected	This WRSE Region-wide option is a duplicate an of option that we have considered as an option to make up the Thames Water demand management programme, with the difference being that actions would have been aligned across all WRSE companies and/or delivered centrally. Companies in the WRSE region did not develop fully aligned demand management programmes, due to inter-company variability in programmes delivered to date resulting in differences in priorities and deliverability of different options in different parts of the region. We have, therefore, rejected this option as duplicates of an option that we have considered.

Generic option	Sub-Option	Specific Option	Technical	Cost	Environment	Risk and Resilience	Legal	WRMP24 Overall Outcome - Stage 1	Screening Reasoning
	Non-Domestic Advice and Assistance	Water Audits -Commercials (Non-process)	n	y	y	y	y	Rejected	This WRSE Region-wide option is a duplicate an of option that we have considered as an option to make up the Thames Water demand management programme, with the difference being that actions would have been aligned across all WRSE companies and/or delivered centrally. Companies in the WRSE region did not develop fully aligned demand management programmes, due to inter-company variability in programmes delivered to date resulting in differences in priorities and deliverability of different options in different parts of the region. We have, therefore, rejected this option as duplicates of an option that we have considered.
	Greywater Recycling	Treated greywater reuse in new households	n	y	y	y	y	Rejected	This WRSE Region-wide option is a duplicate an of option that we have considered as an option to make up the Thames Water demand management programme, with the difference being that actions would have been aligned across all WRSE companies and/or delivered centrally. Companies in the WRSE region did not develop fully aligned demand management programmes, due to inter-company variability in programmes delivered to date resulting in differences in priorities and deliverability of different options in different parts of the region. We have, therefore, rejected this option as duplicates of an option that we have considered.

Stage 2 - Secondary Screening to Create a Feasible Options List

33. The purpose of Secondary Screening is to provide a manageable list of Demand Management Options to input into the IDM model for optimisation, while ensuring that a sufficient range of water management schemes is being assessed. The Feasible Options List produced by this stage is input into the Integrated Demand Management (IDM) model for optimisation before options progress onto the final stages of the Water Resource Management Plan process; EBSD Modelling, Program Appraisal and the presentation of the Preferred Programme.

34. Our approach to Demand Options screening has been developed in consultation with the Environment Agency, Ofwat and the Consumer Council for Water (CCW).

35. The Feasible List of Demand Options must provide a sufficient but manageable number of options to allow real choices to be made between options when undertaking optimisation in IDM.

36. As noted, to achieve this we undertakes two levels of screening, Primary Screening and Secondary Screening. Secondary Screening refines the option list that emerges from the Primary Screening process further by screening options by reference to qualitative criteria.

37. Each option that passed through the Primary Screening process is assessed against the following questions applied for the purposes of Secondary Screening:

    (i) Does the option avoid excessive cost?
    (ii) Is the option likely to be acceptable in terms of planning and environmental constraints?
    (iii) Is the option likely to help meet Water Framework Directive (WFD) objectives and prevent deterioration of water body status?
    (iv) Does the option have an acceptable risk of social impact or inequality?
    (v) Does the option align with company policy objectives?
    (vi) Does the option provide flexibility/adaptability to climate change uncertainty?
    (vii) Does the option provide conjunctive use benefits or other benefits to water resource management?
    (viii) Is the option practical and efficient to implement and maintain?
    (ix) Is the option lead time sufficiently flexible to planning or other uncertainties to ensure security of supply is maintained?
    (x) Are all other risks and uncertainties acceptable?
    (xi) Can costs and benefits of the Demand Option be modelled for comparison with alternatives at DMA level or can the option be actively investigated in the 2025-30 period for future consideration within our long-term strategy?

38. This assessment is carried out by internal Thames Water economists, engineers and environmental experts who specialise in each of the Generic Options areas.

39. To pass Secondary Screening each option must score 'yes' to all eleven questions. If an option is rejected it will be listed on the WRMP24 Rejection Register.

40. Options that pass through the Secondary Screening exercise make up the List of Feasible Options.

41. The Secondary Screening assessment is presented in the Table below.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
Leakage	Advice and Guidance	Advice and information on leakage detection and fixing techniques (Agriculture)	y	y	Y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners.
		Advice and information on leakage detection and fixing techniques (Industrial and Commercial Customers)	y	y	Y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners. Potential for Baseline.
		In house awareness campaign to reduce internal losses	y	y	Y	y	y	y	y	y	y	y	n	Rejected	High risk that this will not achieve a water saving as we will not know if the guidance has been acted upon.
	Active Leakage Control	ALC + 10% - Enhanced levels of 'Find and Fix' over and on top of that already being undertaken to maintain current levels of leakage to achieve a further 10% reduction in leakage.	y	y	Y	y	y	y	y	y	y	n	y	Rejected	Given the extensive work on leakage detection and repair activity there is considered to be limited scope to make significant further leakage reductions with current methods of leakage detection and repair alone. As leakage is reduced further, the uncertainty of delivery increases. In addition, as leakage is reduced, much greater time is required to detect multiple, smaller leaks in a DMA. In the absence of other work (i.e. Network Reconfiguration), additional leakage detection as an individual demand management option becomes prohibitive both with regard to cost and sustainability of leakage reduction. Consequently, although the risk that 'ALC + 10%' will not provide a leakage reduction is less than the risk associated with 'ALC + 20%', the additional cost and risk of non-delivery is considered unacceptable and therefore this option has not been taken further in

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															the screening process. Rather, it has been replaced by 'Advanced DMA Intervention'.
		ALC + 20% - Enhanced levels of 'Find and Fix' over and on top of that already being undertaken to maintain current levels of leakage to achieve a further 20% reduction in leakage.	y	y	Y	y	y	y	y	y	y	n	y	Rejected	Given the extensive work on leakage detection and repair activity, with 60,000 repairs completed on the water supply network per year, there is considered to be limited scope to make significant further leakage reductions with current methods of leakage detection and repair alone. As leakage is reduced further, the uncertainty of delivery increases. The high risk that this demand option will not provide the additional 20% leakage reduction is considered unacceptable and therefore this option has not been taken further in the screening process.
		Advanced District Metered Area (DMA) Intervention. Made up of the following components: • DMA Redesign – capital work to redesign DMAs to better identify leakage. Includes splitting DMAs, moving priority district meters etc. • Acoustic logger installation • Replacement of service pipes • Pressure Management: install new pressure management schemes within individual DMAs at sub-DMA level. • DMA Excellence –	y	y	Y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		operational component of work following DMA Redesign. Includes assessment of demand in the DMA (incl. temporary logging of large customers) and using Find and Fix programmes to pinpoint leaks. • Fixing Leaks – the final stage of DMA Enhancement is capital work to fix the leaks identified. This option was re-named from 'Enhanced ALC' in WRMP19.												
		Improvements in systems to allow more easy reporting of visible leaks and analysis of social media for leak notification	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Be more operationally efficient	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Decreasing the time taken to fixing reported leaks	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Develop metrics and monitoring to quantify SR leakage	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															model this option at a DMA level. Potential for Baseline.
		Enhanced district meter verification - meter verification is an on-site check to determine the accuracy of flow being registered through a meter.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Enhanced logger verification - logger verification is a simple on site check to ensure that the flow being registered by a meter matches the flow being recorded by the data logging device attached to the meter.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Explore PRV noise reduction methods	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Household meter under /over registration analysis - meter verification as an on-site check to determine the accuracy of flow being registered through a meter.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Improve quality of repairs	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Improving analytics to detect leak breakouts	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															model this option at a DMA level. Potential for Baseline.
		Increase pressure for leak detection	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Measuring performance of the ALC activity	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Non-household meter under /over registration analysis - meter verification as an on-site check to determine the accuracy of flow being registered through a meter.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Remote sensing technologies - aircraft-based	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Remote sensing technologies - ground-based	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Remote sensing technologies - satellite-based	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Trunk main and service reservoir leakage reduction by improved metering	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Installation of through bore hydrants to allow	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		for in-pipe leak detection/localisation													realised or quantified and the inability to model this option at a DMA level.
	Pressure Management	Pressure Management - install new pressure management schemes within individual DMAs at sub-DMA level.	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected as a separate option for modelling purposes only and as this activity is included in the Advanced District Metered Area (DMA) Intervention.
		Pressure Management - install new zonal pressure management schemes	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		CaLM Networks - this option includes a range of activities: targeted extension of pressure management, upgrade of controllers for PRVs and pumps, transient investigations, trunk mains expansion/extension, distribution mains expansion/extension. To include: Design, construction, and commissioning of new pressure management schemes. Retrofit improved controllers to pumps and valves to enable more precise and responsive pressure profiles to be maintained that minimise leakage while providing adequate pressures at critical points at all times. Investigating the	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		existence of pressure transience using transient loggers, tracing the sources of those transients and removing the causes.													
	Smart Networks	Smart Networks Programme to improve leakage targeting and detection	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
	Mains Rehabilitation	Asset Replacement - replace individual pipes that have high burst rates	y	y	y	y	y	y	y	n	y	y	n	Rejected	Replacing individual pipes as a demand management intervention is not a practical or efficient use of time, resources (human and equipment) or permits (traffic management/dig). It is also difficult to accurately measure and model the demand benefit making it infeasible for realistic modelling against alternative demand options.
		Asset Replacement 100m - replace individual pipes that have high burst rates and must be above 100m in length	y	y	y	y	y	y	y	n	y	y	n	Rejected	Replacing individual pipes as a demand management intervention, even at length of 100m, is not a practical or efficient use of time, resources (human and equipment) or permits (traffic management/dig). It is also difficult to accurately measure and model the demand benefit making it infeasible for realistic modelling against alternative demand options.
		Comms Only - replace communication pipes only	y	y	y	n	y	y	y	n	y	y	n	Rejected	Replacing individual communication pipes alone as a demand management intervention, is not a practical or efficient use of time, resources (human and equipment) or permits (traffic management/dig). It is unlikely to be considered acceptable by our customers to interrupt their supply to replace their communication pipe without replacing the water main at the same time. It is also

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															difficult to accurately measure and model the demand benefit making it infeasible for realistic modelling against alternative demand options.
		Full DMA Mains Replacement of at least 90% of DMA - includes mains replacement, comm pipe replacement and boundary box install (does not include CSL repair)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Partial DMA Mains Replacement - targets worst performing assets and includes mains replacement, comm pipe replacement and boundary box install (does not include CSL repair)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Develop procedure for abandoned mains	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Minimise joints	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Replace rather that repair - household supply pipes. Includes a study to assess the impact on leakage if the supply pipes are	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		replaced instead of repairing them.													
	Leakage Innovation	Innovative techniques improving speed and quality of repairs, such as: • Adoption of keyhole repair techniques • Advanced technologies for precise and accurate leak location - acoustics • Advanced technologies for precise and accurate leak location - tracer gases • Quality/Make joints leak free - product development • Use technologies for repairing pipes from the inside • Enhanced detection equipment/innovation in detection • Enhanced repair methods/innovation in repair methods	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Regulation	Investigate and lobby for improved regulatory incentives for reducing leakage	y	y	y	y	y	y	y	n	y	n	n	Rejected	we are not empowered to introduce regulatory incentives. High risk that leakage reduction may not be realised or quantified and the inability to model this option at a DMA level.
Metering	Progressive Metering Programme (PMP) (previously	Meter all houses (AMI technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Meter all houses (AMR technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
	Houses Only)	Meter all houses (Basic technology) and repair CSLs found	y	y	y	n	n	y	n	y	y	n	y	Rejected	For the last three AMP periods, we have used AMI, AMR and Dumb meter technology as we moved towards a full smart metering solution. However, from AMP7 and beyond, we will no longer support the large scale rollout of Dumb meter technology. There are three main factors for this decision; 1. Reduced Customer Benefit and social inequality: Dumb meter technology is not supported by Web and Mobile Apps that allow customers to track their water use in real time. Web and Mobile Apps facilitate a greater reduction in water use and therefore lower bills and increase customer confidence in meter reading accuracy. This in turn leads to greater customer satisfaction and a reduction in customer calls. 2. Low Reduction in CSL: Due to the requirement for manual meter reads, Dumb meter technology results in a 24% reduction in CSL compared with 56% and 76% from ARM and AMI technology. 3. No Benefit to Mains Replacement Targeting: due to their real time monitoring abilities, AMR and AMI technology provides data to conduct a water balance within a DMA or sub DMA facilitating better mains replacement targeting. Due to the requirement for manual meter reads, Dumb metering technology cannot provide this benefit. To reconfirm this decision, the full Dumb metering option has still been taken forward for modelling, see 'Meter all houses (including CSL repair) and individual flats (internal, no CSL repair) with DUMB technology and

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															bulk metering (including CSL repair) blocks of flats with AMR technology.'
	Bulk Metered Area (previously Blocks of Flats (Bulks) Only)	Bulk metering flats (AMI technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Bulk metering flats (AMR technology) repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Houses and Bulks	Meter all houses and bulk meter (external) blocks of flats (AMI technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	n	Rejected	Metering of houses and bulks as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.
		Meter all houses and bulk meter (external) blocks of flats (AMR technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Rejected	Metering of houses and bulks as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.
		Meter all houses and bulk meter (external) blocks of flats (Basic technology) and repair CSLs found	y	y	y	n	n	y	n	y	y	n	y	Rejected	Metering of houses and bulks as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.
	Houses, bulks and individual flats	Meter all houses (including CSL repair), individual flats (internal, no CSL repair) and bulk meter (including CSL repair) blocks of flats (AMI technology)	y	y	y	y	y	y	y	y	y	y	n	Rejected	Metering of houses, bulks and individual flats as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.
		Meter all houses (including CSL repair), individual flats (internal, no CSL repair) and bulk meter (including CSL repair) blocks of flats (AMR technology)	y	y	y	y	y	y	y	y	y	y	n	Rejected	Metering of houses, bulks and individual flats as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Meter all houses (including CSL repair), individual flats (internal, no CSL repair) and bulk meter (including CSL repair) blocks of flats (Basic technology)	y	y	y	n	n	y	n	y	y	n	y	Rejected	For the last three AMP periods, we have used AMI, AMR and Dumb meter technology as we moved towards a full smart metering solution. However, from AMP7 and beyond, we will no longer support the large scale rollout of Dumb meter technology. There are three main factors for this decision; 1. Reduced Customer Benefit and social inequality: Dumb meter technology is not supported by Web and Mobile Apps that allow customers to track their water use in real time. Web and Mobile Apps facilitate a greater reduction in water use and therefore lower bills and increase customer confidence in meter reading accuracy. This in turn leads to greater customer satisfaction and a reduction in customer calls. 2. Low Reduction in CSL: Due to the requirement for manual meter reads, Dumb meter technology results in a lower reduction in CSL compared with AMR and AMI technology. 3. No Benefit to Mains Replacement Targeting: due to their real time monitoring abilities, AMR and AMI technology provides data to conduct a water balance within a DMA or sub DMA facilitating better mains replacement targeting. Due to the requirement for manual meter reads, Dumb metering technology cannot provide this benefit.
		Meter all houses (including CSL repair) and individual flats (internal, no CSL repair) with Basic technology and bulk metering (including CSL repair)	y	y	y	n	n	y	n	y	y	n	y	Rejected	For the last three AMP periods, we have used AMI, AMR and Dumb meter technology as we moved towards a full smart metering solution. However, from AMP7 and beyond, we will no longer support the large scale rollout of Dumb meter technology. There are three main

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		blocks of flats with AMR technology													factors for this decision; 1. Reduced Customer Benefit and social inequality: Dumb meter technology is not supported by Web and Mobile Apps that allow customers to track their water use in real time. Web and Mobile Apps facilitate a greater reduction in water use and therefore lower bills and increase customer confidence in meter reading accuracy. This in turn leads to greater customer satisfaction and a reduction in customer calls. 2. Low Reduction in CSL: Due to the requirement for manual meter reads, Dumb meter technology results in a lower reduction in CSL compared with AMR and AMI technology. 3. No Benefit to Mains Replacement Targeting: due to their real time monitoring abilities, AMR and AMI technology provides data to conduct a water balance within a DMA or sub DMA facilitating better mains replacement targeting. Due to the requirement for manual meter reads, Dumb metering technology cannot provide this benefit.
	Mini Bulk Metered Area	Install small bulk meters on properties with multiple supplies (previously called Small Blocks Flats Bulks)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Progressive Smart Upgrade Programme - Household (PSUP) (previously Household	Proactive replacement of basic meters with smart meters on household properties	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
	meter upgrades)														
	Progressive Smart Upgrade Programme - Non-household (PSUP) (previously non-household meter upgrades)	Proactive replacement of basic meters with smart meters on non-household properties	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Selective metering	Selective metering (agricultural troughs)	y	y	y	y	y	y	y	n	y	y	n	Rejected	Informed by our trials, this option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. The installation of meters is not considered to be practical.
	Illegal connections	Target and meter illegal connections											n	Rejected	Illegal connections are already being metered when identified as part of our progressive metering programme. This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
	Information	In-home display of real time consumption	y	y	y	y	y	y	y	y	y	n	y	Rejected	we already provide access to usage information via Smart Meters online portal. This option has been rejected owing to the high risk that additional water savings may not be realised.
	Metering Innovation - new meter installations	Investigate innovative practices to install meters at no access and unmeterable properties. This includes a change in practice for no access	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		and an investment/trial of alternative technology for unmeterables.													
	Metering Innovation - proactive meter upgrades	Investigate innovative practices to upgrade meters at no access and unmeterable properties. This includes a change in practice for no access and an investment/trial of alternative technology for unmeterables.	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
Water Efficiency	Advice and Guidance	Free water efficiency goods and advice to all newly metered customers	y	y	y	y	y	y	y	y	y	n	n	Rejected	This has been rejected as a discrete option as there is a risk that water savings will not be realised if customers do not install and use the devices or implement the advice. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit
		Offer free water efficiency goods online	y	y	y	y	y	y	y	y	y	n	n	Rejected	This has been rejected as a discrete option as there is a risk that water savings will not be realised if customers do not install and use the devices or implement the advice. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit
		Targeted information concerning the benefits of trickle irrigation compared to spray irrigation.	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Targeted water efficiency information to other abstractors	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															realised or quantified and the inability to model this option at a DMA level.
		Targeting perceptions and attitudes via shared spaces (urban environment)	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Digital engagement with all customers	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Self-Install	Distribution of aerated shower head	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Distribution of cistern displacement devices	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Distribution of Shower Timers	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Distribution of tap inserts for self-installation	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
	Direct Efficient Goods Plumber Installation	Installation of water butt	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Smarter Home Visits to newly metered Household Properties as part of the Progressive Metering Programme - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Smarter Home Visits to newly metered optant Household Properties - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Smarter Home Visits to newly metered Household Properties as part of the Progressive Smart Upgrade Programme - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Smarter Home Visits to current unmeasured Household Properties - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	y	y	y	y	y	y	y	y	y	n	y	Rejected	This option has been rejected owing to the high risk that water savings may not be realised with the decreasing number of unmeasured properties as our programmes of progressive metering and optant metering are implemented.
		Household water efficiency visits and wastage repairs to mini bulk metered properties, targeted based on high use and continuous flow	y	y	y	y	y	y	y	y	y	y	n	Rejected	The meter fitted to a mini bulk metered area will be for leakage detection purposes and will be non-revenue. This means it will measure the total water supplied but the meter will not be measuring water use in individual flats. Individual premises within a mini bulk metered area may have individual meters and these are included in the Smarter Home Visits and Wastage Fixes options.
		Household water efficiency visits and wastage repairs to bulk metered properties, targeted based on high use and continuous flow	y	y	y	y	y	y	y	y	y	y	n	Rejected	The meter fitted to a bulk metered area will be for leakage detection purposes and will be non-revenue. This means it will measure the total water supplied but the meter will not be measuring water use in individual flats. Individual premises within a bulk metered area may have individual meters and these are included in the

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															Smarter Home Visits and Wastage Fixes options.
		Wastage Fixes - Free leak fixes for all customers with internal leakage (i.e. leaky-loos and leaking taps)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Plumber assisted installation of tap inserts	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a dual flush toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a low flush toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Replacement - installation of self-closing taps	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a shallow trap toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a composting toilet	n	y	y	y	y	y	n	n	y	n	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property and uptake expected to be very low due to concerns over disconnecting from mains supply, installation and location within the property, ongoing maintenance, odour etc. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Retrofit - installation of a dual flush toilet device	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Household Innovation and Tariffs	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Trial installation of whole house flow restrictors in high pressure areas	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Installation of water efficiency devices and internal leak repairs embedded into other internal visits such as internal meter repairs and CSL	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
	Partner Efficiency Goods and Installation	Partner controlled domestic plumbing installs	y	y	y	y	y	y	y	y	y	y	y	Rejected*	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners. This option is being explored as a benchmark option through small scale pilot projects with social housing providers
		Partnership projects with national organisations	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners.
		Partnership projects with public and third sector organisations	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Partnership projects with utility companies	y	y	y	y	y	y	y	y	y	n	n	Rejected*	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners. We will continue to work with other utility companies to explore opportunities through our baseline programme.
		Partnership with retailers for more efficient white goods	y	y	y	y	y	y	y	y	y	n	n	Rejected*	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners. Potential for baseline through Government-led initiatives.
		Partnership working benefits	y	y	y	y	y	y	y	y	y	n	n	Rejected*	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners. We have many partnership programmes running to benefit water efficiency and will continue to enhance these and new projects in the future to explore opportunities through our baseline programme.
		Smarter Business Visits to Non Household Properties - company funded. Includes wastage repair offer for non-household customers with continuous flow	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Replacement - installation of a new toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															promote multiple non-household retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a waterless urinals	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of self-closing taps	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a shallow trap toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Replacement - installation of a composting toilet	n	y	y	y	y	y	n	n	y	n	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property and uptake expected to be very low due to concerns over disconnecting from mains supply, installation and location within the property, ongoing maintenance, odour etc. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of timing devices	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Discretionary Water use - using non potable water for large users such as golf courses	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework.
	Research	Continue to support ongoing research projects	y	y	y	y	y	y	y	y	y	y	n	Rejected*	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. Through our baseline programme we will continue to support the Water UK and UKWIR water efficiency research initiatives – a combined water sector initiative.
		Ofwat water efficiency research fund	y	y	y	y	y	y	y	y	y	y	n	Rejected*	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. Through our

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															baseline programme we will continue to support the Water UK and UKWIR water efficiency research initiatives – a combined water sector initiative.
		Save Water Swindon and other flagship research projects	y	y	y	y	y	y	y	y	y	n	n	Rejected	The Save Water Swindon Project finished in 2014.
		Support the leak toilet valves project phase 2	y	y	y	y	y	y	y	y	y	y	n	Rejected*	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. However, this option will continue to be included in baseline. We have been supporting the leaking toilet valves project throughout AMP6 and this will continue into AMP7 and beyond.
		Support the research undertaken by UKWIR	y	y	y	y	y	y	y	y	y	y	n	Rejected*	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. Through our baseline programme we will continue to support the Water UK and UKWIR water efficiency research initiatives – a combined water sector initiative.
		Support the Waterwise evidence base	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework.
Incentive Schemes	Green Redeem (previously Targeted Incentive Scheme)	Customers are incentivised through non-financial offers (vouchers, prize draws, community rewards) to be more efficient with their water consumption.	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	This option encourages customers to be more efficient therefore in subsequent modelling and reporting it will be classified as a Water Efficiency option.
	Innovative Tariffs	Financial Tariff implementation - only feasible post smart metering.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. However, this option will continue to be investigated as part of Household Innovation and Tariffs option.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
Leakage	Advice and Guidance	Advice and information on leakage detection and fixing techniques (Agriculture)	y	y	Y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners.
		Advice and information on leakage detection and fixing techniques (Industrial and Commercial Customers)	y	y	Y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners. Potential for Baseline.
		In house awareness campaign to reduce internal losses	y	y	Y	y	y	y	y	y	y	y	n	Rejected	High risk that this will not achieve a water saving as we will not know if the guidance has been acted upon.
	Active Leakage Control	ALC + 10% - Enhanced levels of 'Find and Fix' over and on top of that already being undertaken to maintain current levels of leakage to achieve a further 10% reduction in leakage.	y	y	Y	y	y	y	y	y	y	n	y	Rejected	Given the extensive work on leakage detection and repair activity there is considered to be limited scope to make significant further leakage reductions with current methods of leakage detection and repair alone. As leakage is reduced further, the uncertainty of delivery increases. In addition, as leakage is reduced, much greater time is required to detect multiple, smaller leaks in a DMA. In the absence of other work (i.e. Network Reconfiguration), additional leakage detection as an individual demand management option becomes prohibitive both with regard to cost and sustainability of leakage reduction. Consequently, although the risk that 'ALC + 10%' will not provide a leakage reduction is less than the risk associated with 'ALC + 20%', the additional cost and risk of non-delivery is considered unacceptable and therefore this option has not been taken further in the screening process. Rather, it has been replaced by 'Advanced DMA Intervention'.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		ALC + 20% - Enhanced levels of 'Find and Fix' over and on top of that already being undertaken to maintain current levels of leakage to achieve a further 20% reduction in leakage.	y	y	Y	y	y	y	y	y	y	n	y	Rejected	Given the extensive work on leakage detection and repair activity, with 60,000 repairs completed on the water supply network per year, there is considered to be limited scope to make significant further leakage reductions with current methods of leakage detection and repair alone. As leakage is reduced further, the uncertainty of delivery increases. The high risk that this demand option will not provide the additional 20% leakage reduction is considered unacceptable and therefore this option has not been taken further in the screening process.
		Advanced District Metered Area (DMA) Intervention. Made up of the following components: • DMA Redesign – capital work to redesign DMAs to better identify leakage. Includes splitting DMAs, moving priority district meters etc. • Acoustic logger installation • Replacement of service pipes • Pressure Management: install new pressure management schemes within individual DMAs at sub-DMA level. • DMA Excellence – operational	y	y	Y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		component of work following DMA Redesign. Includes assessment of demand in the DMA (incl. temporary logging of large customers) and using Find and Fix programmes to pinpoint leaks. • Fixing Leaks – the final stage of DMA Enhancement is capital work to fix the leaks identified. This option was re-named from 'Enhanced ALC' in WRMP19.												
		Improvements in systems to allow more easy reporting of visible leaks and analysis of social media for leak notification	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Be more operationally efficient	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Decreasing the time taken to fixing reported leaks	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Develop metrics and monitoring to quantify SR leakage	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Enhanced district meter verification - meter verification is an on-site check to determine the accuracy of flow being registered through a meter.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Enhanced logger verification - logger verification is a simple on site check to ensure that the flow being registered by a meter matches the flow being recorded by the data logging device attached to the meter.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Explore PRV noise reduction methods	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Household meter under /over registration analysis - meter verification as an on-site check to determine the accuracy of flow being registered through a meter.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Improve quality of repairs	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Improving analytics to detect leak breakouts	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Increase pressure for leak detection	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Measuring performance of the ALC activity	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Non-household meter under /over registration analysis - meter verification as an on-site check to determine the accuracy of flow being registered through a meter.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Remote sensing technologies - aircraft-based	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Remote sensing technologies - ground-based	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Remote sensing technologies - satellite-based	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Trunk main and service reservoir leakage reduction by improved metering	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Installation of through bore hydrants to allow for in-pipe leak detection/localisation	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
	Pressure Management	Pressure Management - install new pressure management schemes within individual DMAs at sub-DMA level.	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected as a separate option for modelling purposes only and as this activity is included in the Advanced District Metered Area (DMA) Intervention.
		Pressure Management - install new zonal pressure management schemes	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		CaLM Networks - this option includes a range of activities: targeted extension of pressure management, upgrade of controllers for PRVs and pumps, transient investigations, trunk mains expansion/extension, distribution mains expansion/extension. To include: Design, construction, and commissioning of new pressure management schemes. Retrofit improved controllers to pumps and valves to enable more precise and responsive pressure profiles to be maintained that minimise leakage while providing adequate pressures at critical points at all times. Investigating the	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		existence of pressure transience using transient loggers, tracing the sources of those transients and removing the causes.													
	Smart Networks	Smart Networks Programme to improve leakage targeting and detection	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
	Mains Rehabilitation	Asset Replacement - replace individual pipes that have high burst rates	y	y	y	y	y	y	y	n	y	y	n	Rejected	Replacing individual pipes as a demand management intervention is not a practical or efficient use of time, resources (human and equipment) or permits (traffic management/dig). It is also difficult to accurately measure and model the demand benefit making it infeasible for realistic modelling against alternative demand options.
		Asset Replacement 100m - replace individual pipes that have high burst rates and must be above 100m in length	y	y	y	y	y	y	y	n	y	y	n	Rejected	Replacing individual pipes as a demand management intervention, even at length of 100m, is not a practical or efficient use of time, resources (human and equipment) or permits (traffic management/dig). It is also difficult to accurately measure and model the demand benefit making it infeasible for realistic modelling against alternative demand options.
		Comms Only - replace communication pipes only	y	y	y	n	y	y	y	n	y	y	n	Rejected	Replacing individual communication pipes alone as a demand management intervention, is not a practical or efficient use of time, resources (human and equipment) or permits (traffic management/dig). It is unlikely to be considered acceptable by our customers to interrupt their supply to replace their communication pipe without replacing the water main at the same time. It is also difficult to accurately measure and model the demand benefit making it infeasible for realistic modelling against alternative demand options.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Full DMA Mains Replacement of at least 90% of DMA - includes mains replacement, comm pipe replacement and boundary box install (does not include CSL repair)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Partial DMA Mains Replacement - targets worst performing assets and includes mains replacement, comm pipe replacement and boundary box install (does not include CSL repair)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Develop procedure for abandoned mains	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Minimise joints	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Replace rather that repair - household supply pipes. Includes a study to assess the impact on leakage if the supply pipes are replaced instead of repairing them.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
	Leakage Innovation	Innovative techniques improving speed and quality of repairs, such as: • Adoption of keyhole	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		repair techniques • Advanced technologies for precise and accurate leak location - acoustics • Advanced technologies for precise and accurate leak location - tracer gases • Quality/Make joints leak free - product development • Use technologies for repairing pipes from the inside • Enhanced detection equipment/innovation in detection • Enhanced repair methods/innovation in repair methods													
	Regulation	Investigate and lobby for improved regulatory incentives for reducing leakage	y	y	y	y	y	y	y	n	y	n	n	Rejected	We are not empowered to introduce regulatory incentives. High risk that leakage reduction may not be realised or quantified and the inability to model this option at a DMA level.
Metering	Progressive Metering Programme (PMP) (previously Houses Only)	Meter all houses (AMI technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Meter all houses (AMR technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Meter all houses (Basic technology) and repair CSLs found	y	y	y	n	n	y	n	y	y	n	y	Rejected	For the last three AMP periods, we have used AMI, AMR and Dumb meter technology as we moved towards a full smart metering solution. However, from AMP7 and beyond, we will no longer support the large scale rollout of Dumb meter technology. There are three main factors for this decision; 1. Reduced Customer Benefit

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															and social inequality: Dumb meter technology is not supported by Web and Mobile Apps that allow customers to track their water use in real time. Web and Mobile Apps facilitate a greater reduction in water use and therefore lower bills and increase customer confidence in meter reading accuracy. This in turn leads to greater customer satisfaction and a reduction in customer calls. 2. Low Reduction in CSL: Due to the requirement for manual meter reads, Dumb meter technology results in a 24% reduction in CSL compared with 56% and 76% from ARM and AMI technology. 3. No Benefit to Mains Replacement Targeting: due to their real time monitoring abilities, AMR and AMI technology provides data to conduct a water balance within a DMA or sub DMA facilitating better mains replacement targeting. Due to the requirement for manual meter reads, Dumb metering technology cannot provide this benefit. To reconfirm this decision, the full Dumb metering option has still been taken forward for modelling, see 'Meter all houses (including CSL repair) and individual flats (internal, no CSL repair) with DUMB technology and bulk metering (including CSL repair) blocks of flats with AMR technology.'
	Bulk Metered Area (previously Blocks of Flats (Bulks) Only)	Bulk metering flats (AMI technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Bulk metering flats (AMR technology) repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Houses and Bulks	Meter all houses and bulk meter (external) blocks of flats (AMI technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	n	Rejected	Metering of houses and bulks as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Meter all houses and bulk meter (external) blocks of flats (AMR technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Rejected	Metering of houses and bulks as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.
		Meter all houses and bulk meter (external) blocks of flats (Basic technology) and repair CSLs found	y	y	y	n	n	y	n	y	y	n	y	Rejected	Metering of houses and bulks as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.
	Houses, bulks and individual flats	Meter all houses (including CSL repair), individual flats (internal, no CSL repair) and bulk meter (including CSL repair) blocks of flats (AMI technology)	y	y	y	y	y	y	y	y	y	y	n	Rejected	Metering of houses, bulks and individual flats as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.
		Meter all houses (including CSL repair), individual flats (internal, no CSL repair) and bulk meter (including CSL repair) blocks of flats (AMR technology)	y	y	y	y	y	y	y	y	y	y	n	Rejected	Metering of houses, bulks and individual flats as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.
		Meter all houses (including CSL repair), individual flats (internal, no CSL repair) and bulk meter (including CSL repair) blocks of flats (Basic technology)	y	y	y	n	n	y	n	y	y	n	y	Rejected	For the last three AMP periods, we have used AMI, AMR and Dumb meter technology as we moved towards a full smart metering solution. However, from AMP7 and beyond, we will no longer support the large scale rollout of Dumb meter technology. There are three main factors for this decision; 1. Reduced Customer Benefit and social inequality: Dumb meter technology is not supported by Web and Mobile Apps that allow customers to track their water use in real time. Web and Mobile Apps facilitate a greater reduction in water use and therefore lower bills and increase customer confidence in meter reading accuracy. This in turn leads to greater

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															customer satisfaction and a reduction in customer calls. 2. Low Reduction in CSL: Due to the requirement for manual meter reads, Dumb meter technology results in a lower reduction in CSL compared with AMR and AMI technology. 3. No Benefit to Mains Replacement Targeting: due to their real time monitoring abilities, AMR and AMI technology provides data to conduct a water balance within a DMA or sub DMA facilitating better mains replacement targeting. Due to the requirement for manual meter reads, Dumb metering technology cannot provide this benefit.
		Meter all houses (including CSL repair) and individual flats (internal, no CSL repair) with Basic technology and bulk metering (including CSL repair) blocks of flats with AMR technology	y	y	y	n	n	y	n	y	y	n	y	Rejected	For the last three AMP periods, we have used AMI, AMR and Dumb meter technology as we moved towards a full smart metering solution. However, from AMP7 and beyond, we will no longer support the large scale rollout of Dumb meter technology. There are three main factors for this decision; 1. Reduced Customer Benefit and social inequality: Dumb meter technology is not supported by Web and Mobile Apps that allow customers to track their water use in real time. Web and Mobile Apps facilitate a greater reduction in water use and therefore lower bills and increase customer confidence in meter reading accuracy. This in turn leads to greater customer satisfaction and a reduction in customer calls. 2. Low Reduction in CSL: Due to the requirement for manual meter reads, Dumb meter technology results in a lower reduction in CSL compared with AMR and AMI technology. 3. No Benefit to Mains Replacement Targeting: due to their real time monitoring abilities, AMR and AMI technology provides data to conduct a water balance within a DMA or sub DMA facilitating better mains replacement targeting. Due to the requirement for manual meter reads, Dumb metering technology cannot provide this benefit.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
	Mini Bulk Metered Area	Install small bulk meters on properties with multiple supplies (previously called Small Blocks Flats Bulks)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Progressive Smart Upgrade Programme - Household (PSUP) (previously Household meter upgrades)	Proactive replacement of basic meters with smart meters on household properties	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Progressive Smart Upgrade Programme - Non-household (PSUP) (previously non-household meter upgrades)	Proactive replacement of basic meters with smart meters on non-household properties	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Selective metering	Selective metering (agricultural troughs)	y	y	y	y	y	y	y	n	y	y	n	Rejected	Informed by our trials, this option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. The installation of meters is not considered to be practical.
	Illegal connections	Target and meter illegal connections											n	Rejected	Illegal connections are already being metered when identified as part of our progressive metering programme. This option has been rejected owing to the high risk that water savings

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															may not be realised or quantified and the inability to model this option at a DMA level.
	Information	In-home display of real time consumption	y	y	y	y	y	y	y	y	y	n	y	Rejected	We already provide access to usage information via Smart Meters online portal. This option has been rejected owing to the high risk that additional water savings may not be realised.
	Metering Innovation - new meter installations	Investigate innovative practices to install meters at no access and unmeterable properties. This includes a change in practice for no access and an investment/trial of alternative technology for unmeterables.	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Metering Innovation - proactive meter upgrades	Investigate innovative practices to upgrade meters at no access and unmeterable properties. This includes a change in practice for no access and an investment/trial of alternative technology for unmeterables.	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
Water Efficiency	Advice and Guidance	Free water efficiency goods and advice to all newly metered customers	y	y	y	y	y	y	y	y	y	n	n	Rejected	This has been rejected as a discrete option as there is a risk that water savings will not be realised if customers do not install and use the devices or implement the advice. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit
		Offer free water efficiency goods online	y	y	y	y	y	y	y	y	y	n	n	Rejected	This has been rejected as a discrete option as there is a risk that water savings will not be realised if customers do not install and use the devices or implement the advice. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															other demand management activity such as our Smarter Home Visit
		Targeted information concerning the benefits of trickle irrigation compared to spray irrigation.	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Targeted water efficiency information to other abstractors	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Targeting perceptions and attitudes via shared spaces (urban environment)	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Digital engagement with all customers	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Self-Install	Distribution of aerated shower head	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Distribution of cistern displacement devices	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Distribution of Shower Timers	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Distribution of tap inserts for self-installation	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
	Direct Efficient Goods Plumber Installation	Installation of water butt	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Smarter Home Visits to newly metered Household Properties as part of the Progressive Metering Programme - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Smarter Home Visits to newly metered optant Household Properties - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Smarter Home Visits to newly metered Household Properties as part of the Progressive Smart Upgrade Programme - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Smarter Home Visits to current unmeasured Household Properties - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	y	y	y	y	y	y	y	y	y	n	y	Rejected	This option has been rejected owing to the high risk that water savings may not be realised with the decreasing number of unmeasured properties as our programmes of progressive metering and optant metering are implemented.
		Household water efficiency visits and wastage repairs to mini bulk metered properties, targeted based on high use and continuous flow	y	y	y	y	y	y	y	y	y	y	n	Rejected	The meter fitted to a mini bulk metered area will be for leakage detection purposes and will be non-revenue. This means it will measure the total water supplied but the meter will not be measuring water use in individual flats. Individual premises within a mini bulk metered area may have individual meters and these are included in the Smarter Home Visits and Wastage Fixes options.
		Household water efficiency visits and wastage repairs to bulk metered properties, targeted based on high use and continuous flow	y	y	y	y	y	y	y	y	y	y	n	Rejected	The meter fitted to a bulk metered area will be for leakage detection purposes and will be non-revenue. This means it will measure the total water supplied but the meter will not be measuring water use in individual flats. Individual premises within a bulk metered area may have individual meters and these are included in the Smarter Home Visits and Wastage Fixes options.
		Wastage Fixes - Free leak fixes for all	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		customers with internal leakage (i.e. leaky-loos and leaking taps)													
		Plumber assisted installation of tap inserts	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a dual flush toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a low flush toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of self-closing taps	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a shallow trap toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a composting toilet	n	y	y	y	y	y	n	n	y	n	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property and uptake expected to be very low due to concerns over disconnecting from mains supply, installation and location within the property, ongoing maintenance, odour etc. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Retrofit - installation of a dual flush toilet device	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Household Innovation and Tariffs	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Trial installation of whole house flow restrictors in high pressure areas	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Installation of water efficiency devices and internal leak repairs embedded into other internal visits such as internal meter repairs and CSL	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
	Partner Efficiency Goods and Installation	Partner controlled domestic plumbing installs	y	y	y	y	y	y	y	y	y	y	y	Rejected*	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners. This option is being explored as a benchmark option through small scale pilot projects with social housing providers
		Partnership projects with national organisations	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners.
		Partnership projects with public and third sector organisations	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners.
		Partnership projects with utility companies	y	y	y	y	y	y	y	y	y	n	n	Rejected*	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners. We will continue to work with other utility companies to explore opportunities through our baseline programme.
		Partnership with retailers for more efficient white goods	y	y	y	y	y	y	y	y	y	n	n	Rejected*	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners. Potential for baseline through Government-led initiatives.
		Partnership working benefits	y	y	y	y	y	y	y	y	y	n	n	Rejected*	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners. We have many partnership programmes running to benefit water efficiency and will continue to enhance these and new projects in

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															the future to explore opportunities through our baseline programme.
		Smarter Business Visits to Non Household Properties - company funded. Includes wastage repair offer for non-household customers with continuous flow	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Replacement - installation of a new toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a waterless urinals	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of self-closing taps	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a shallow trap toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a composting toilet	n	y	y	y	y	y	n	n	y	n	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property and uptake expected to be very low due to concerns over disconnecting from mains supply, installation and location within the property, ongoing maintenance, odour etc. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of timing devices	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Discretionary Water use - using non potable water for large users such as golf courses	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework.
	Research	Continue to support ongoing research projects	y	y	y	y	y	y	y	y	y	y	n	Rejected*	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. Through our baseline programme we will continue to support the Water UK and UKWIR water efficiency research initiatives – a combined water sector initiative.
		Ofwat water efficiency research fund	y	y	y	y	y	y	y	y	y	y	n	Rejected*	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. Through our baseline programme we will continue to support the Water UK and UKWIR

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															water efficiency research initiatives – a combined water sector initiative.
		Save Water Swindon and other flagship research projects	y	y	y	y	y	y	y	y	y	n	n	Rejected	The Save Water Swindon Project finished in 2014.
		Support the leak toilet valves project phase 2	y	y	y	y	y	y	y	y	y	y	n	Rejected*	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. However, this option will continue to be included in baseline. We have been supporting the leaking toilet valves project throughout AMP6 and this will continue into AMP7 and beyond.
		Support the research undertaken by UKWIR	y	y	y	y	y	y	y	y	y	y	n	Rejected*	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. Through our baseline programme we will continue to support the Water UK and UKWIR water efficiency research initiatives – a combined water sector initiative.
		Support the Waterwise evidence base	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework.
Incentive Schemes	Green Redeem (previously Targeted Incentive Scheme)	Customers are incentivised through non-financial offers (vouchers, prize draws, community rewards) to be more efficient with their water consumption.	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	This option encourages customers to be more efficient therefore in subsequent modelling and reporting it will be classified as a Water Efficiency option.
	Innovative Tariffs	Financial Tariff implementation - only feasible post smart metering.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. However, this option will continue to be investigated as part of Household Innovation and Tariffs option.

43. Of the 108 demand management options remaining after Primary Screening, a further 87 have been screened out by Secondary Screening. This leaves 21 Feasible Demand Management Options.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
Leakage	Advice and Guidance	Advice and information on leakage detection and fixing techniques (Agriculture)	y	y	Y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners.
		Advice and information on leakage detection and fixing techniques (Industrial and Commercial Customers)	y	y	Y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners. Potential for Baseline.
		In house awareness campaign to reduce internal losses	y	y	Y	y	y	y	y	y	y	y	n	Rejected	High risk that this will not achieve a water saving as we will not know if the guidance has been acted upon.
	Active Leakage Control	ALC + 10% - Enhanced levels of 'Find and Fix' over and on top of that already being undertaken to maintain current levels of leakage to achieve a further 10% reduction in leakage.	y	y	Y	y	y	y	y	y	y	n	y	Rejected	Given the extensive work on leakage detection and repair activity there is considered to be limited scope to make significant further leakage reductions with current methods of leakage detection and repair alone. As leakage is reduced further, the uncertainty of delivery increases. In addition, as leakage is reduced, much greater time is required to detect multiple, smaller leaks in a DMA. In the absence of other work (i.e. Network Reconfiguration), additional leakage detection as an individual demand management option becomes prohibitive both with regard to cost and sustainability of leakage reduction. Consequently, although the risk that 'ALC + 10%' will not provide a leakage reduction is less than the risk associated with 'ALC + 20%', the additional cost and risk of non-delivery is considered unacceptable and therefore this option has not been taken further in the screening process. Rather, it has been replaced by 'Advanced DMA Intervention'.
		ALC + 20% - Enhanced levels of 'Find and Fix' over and on top of that already being	y	y	Y	y	y	y	y	y	y	n	y	Rejected	Given the extensive work on leakage detection and repair activity, with 60,000 repairs completed on the water supply network per year, there is considered to be limited scope to make

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		undertaken to maintain current levels of leakage to achieve a further 20% reduction in leakage.													significant further leakage reductions with current methods of leakage detection and repair alone. As leakage is reduced further, the uncertainty of delivery increases. The high risk that this demand option will not provide the additional 20% leakage reduction is considered unacceptable and therefore this option has not been taken further in the screening process.
		Advanced District Metered Area (DMA) Intervention. Made up of the following components: • DMA Redesign – capital work to redesign DMAs to better identify leakage. Includes splitting DMAs, moving priority district meters etc. • Acoustic logger installation • Replacement of service pipes • Pressure Management: install new pressure management schemes within individual DMAs at sub-DMA level. • DMA Excellence – operational component of work following DMA Redesign. Includes assessment of	y	y	Y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		demand in the DMA (incl. temporary logging of large customers) and using Find and Fix programmes to pinpoint leaks. • Fixing Leaks – the final stage of DMA Enhancement is capital work to fix the leaks identified. This option was re-named from 'Enhanced ALC' in WRMP19.													
		Improvements in systems to allow more easy reporting of visible leaks and analysis of social media for leak notification	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Be more operationally efficient	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Decreasing the time taken to fixing reported leaks	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Develop metrics and monitoring to quantify SR leakage	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Enhanced district meter verification - meter verification is an on-site check to determine the	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		accuracy of flow being registered through a meter.													
		Enhanced logger verification - logger verification is a simple on site check to ensure that the flow being registered by a meter matches the flow being recorded by the data logging device attached to the meter.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Explore PRV noise reduction methods	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Household meter under /over registration analysis - meter verification as an on-site check to determine the accuracy of flow being registered through a meter.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Improve quality of repairs	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Improving analytics to detect leak breakouts	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Increase pressure for leak detection	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Measuring performance of the ALC activity	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Non-household meter under /over registration analysis - meter verification as an on-site check to determine the accuracy of flow being registered through a meter.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Remote sensing technologies - aircraft-based	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Remote sensing technologies - ground-based	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Remote sensing technologies - satellite-based	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Trunk main and service reservoir leakage reduction by improved metering	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Installation of through bore hydrants to allow for in-pipe leak detection/localisation	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
	Pressure Management	Pressure Management - install new pressure management schemes within individual DMAs at sub-DMA level.	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected as a separate option for modelling purposes only and as this activity is included in the Advanced District Metered Area (DMA) Intervention.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Pressure Management - install new zonal pressure management schemes	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		CaLM Networks - this option includes a range of activities: targeted extension of pressure management, upgrade of controllers for PRVs and pumps, transient investigations, trunk mains expansion/extension, distribution mains expansion/extension. To include: Design, construction, and commissioning of new pressure management schemes. Retrofit improved controllers to pumps and valves to enable more precise and responsive pressure profiles to be maintained that minimise leakage while providing adequate pressures at critical points at all times. Investigating the existence of pressure transience using transient loggers, tracing the sources of	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		those transients and removing the causes.													
	Smart Networks	Smart Networks Programme to improve leakage targeting and detection	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
	Mains Rehabilitation	Asset Replacement - replace individual pipes that have high burst rates	y	y	y	y	y	y	y	n	y	y	n	Rejected	Replacing individual pipes as a demand management intervention is not a practical or efficient use of time, resources (human and equipment) or permits (traffic management/dig). It is also difficult to accurately measure and model the demand benefit making it infeasible for realistic modelling against alternative demand options.
		Asset Replacement 100m - replace individual pipes that have high burst rates and must be above 100m in length	y	y	y	y	y	y	y	n	y	y	n	Rejected	Replacing individual pipes as a demand management intervention, even at length of 100m, is not a practical or efficient use of time, resources (human and equipment) or permits (traffic management/dig). It is also difficult to accurately measure and model the demand benefit making it infeasible for realistic modelling against alternative demand options.
		Comms Only - replace communication pipes only	y	y	y	n	y	y	y	n	y	y	n	Rejected	Replacing individual communication pipes alone as a demand management intervention, is not a practical or efficient use of time, resources (human and equipment) or permits (traffic management/dig). It is unlikely to be considered acceptable by our customers to interrupt their supply to replace their communication pipe without replacing the water main at the same time. It is also difficult to accurately measure and model the demand benefit making it infeasible for realistic modelling against alternative demand options.
		Full DMA Mains Replacement of at least 90% of DMA - includes mains replacement,	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		comm pipe replacement and boundary box install (does not include CSL repair)													
		Partial DMA Mains Replacement - targets worst performing assets and includes mains replacement, comm pipe replacement and boundary box install (does not include CSL repair)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Develop procedure for abandoned mains	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Minimise joints	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Replace rather that repair - household supply pipes. Includes a study to assess the impact on leakage if the supply pipes are replaced instead of repairing them.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
	Leakage Innovation	Innovative techniques improving speed and quality of repairs, such as: • Adoption of keyhole repair techniques • Advanced technologies for precise and accurate leak	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		location - acoustics • Advanced technologies for precise and accurate leak location - tracer gases • Quality/Make joints leak free - product development • Use technologies for repairing pipes from the inside • Enhanced detection equipment/innovation in detection • Enhanced repair methods/innovation in repair methods													
	Regulation	Investigate and lobby for improved regulatory incentives for reducing leakage	y	y	y	y	y	y	y	n	y	n	n	Rejected	We are not empowered to introduce regulatory incentives. High risk that leakage reduction may not be realised or quantified and the inability to model this option at a DMA level.
Metering	Progressive Metering Programme (PMP) (previously Houses Only)	Meter all houses (AMI technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Meter all houses (AMR technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Meter all houses (Basic technology) and repair CSLs found	y	y	y	n	n	y	n	y	y	n	y	Rejected	For the last three AMP periods, we have used AMI, AMR and Dumb meter technology as we moved towards a full smart metering solution. However, from AMP7 and beyond, we will no longer support the large scale rollout of Dumb meter technology. There are three main factors for this decision; 1. Reduced Customer Benefit and social inequality: Dumb meter technology is not supported by Web and Mobile Apps that allow customers to track their water use in real time. Web and Mobile Apps facilitate a greater

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															reduction in water use and therefore lower bills and increase customer confidence in meter reading accuracy. This in turn leads to greater customer satisfaction and a reduction in customer calls. 2. Low Reduction in CSL: Due to the requirement for manual meter reads, Dumb meter technology results in a 24% reduction in CSL compared with 56% and 76% from ARM and AMI technology. 3. No Benefit to Mains Replacement Targeting: due to their real time monitoring abilities, AMR and AMI technology provides data to conduct a water balance within a DMA or sub DMA facilitating better mains replacement targeting. Due to the requirement for manual meter reads, Dumb metering technology cannot provide this benefit. To reconfirm this decision, the full Dumb metering option has still been taken forward for modelling, see 'Meter all houses (including CSL repair) and individual flats (internal, no CSL repair) with DUMB technology and bulk metering (including CSL repair) blocks of flats with AMR technology.'
	Bulk Metered Area (previously Blocks of Flats (Bulks) Only)	Bulk metering flats (AMI technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Bulk metering flats (AMR technology) repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Houses and Bulks	Meter all houses and bulk meter (external) blocks of flats (AMI technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	n	Rejected	Metering of houses and bulks as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.
		Meter all houses and bulk meter (external) blocks of flats (AMR technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Rejected	Metering of houses and bulks as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Meter all houses and bulk meter (external) blocks of flats (Basic technology) and repair CSLs found	y	y	y	n	n	y	n	y	y	n	y	Rejected	Metering of houses and bulks as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.
	Houses, bulks and individual flats	Meter all houses (including CSL repair), individual flats (internal, no CSL repair) and bulk meter (including CSL repair) blocks of flats (AMI technology)	y	y	y	y	y	y	y	y	y	y	n	Rejected	Metering of houses, bulks and individual flats as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.
		Meter all houses (including CSL repair), individual flats (internal, no CSL repair) and bulk meter (including CSL repair) blocks of flats (AMR technology)	y	y	y	y	y	y	y	y	y	y	n	Rejected	Metering of houses, bulks and individual flats as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.
		Meter all houses (including CSL repair), individual flats (internal, no CSL repair) and bulk meter (including CSL repair) blocks of flats (Basic technology)	y	y	y	n	n	y	n	y	y	n	y	Rejected	For the last three AMP periods, we have used AMI, AMR and Dumb meter technology as we moved towards a full smart metering solution. However, from AMP7 and beyond, we will no longer support the large scale rollout of Dumb meter technology. There are three main factors for this decision; 1. Reduced Customer Benefit and social inequality: Dumb meter technology is not supported by Web and Mobile Apps that allow customers to track their water use in real time. Web and Mobile Apps facilitate a greater reduction in water use and therefore lower bills and increase customer confidence in meter reading accuracy. This in turn leads to greater customer satisfaction and a reduction in customer calls. 2. Low Reduction in CSL: Due to the requirement for manual meter reads, Dumb meter technology results in a lower reduction in CSL compared with AMR and AMI technology. 3.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															No Benefit to Mains Replacement Targeting: due to their real time monitoring abilities, AMR and AMI technology provides data to conduct a water balance within a DMA or sub DMA facilitating better mains replacement targeting. Due to the requirement for manual meter reads, Dumb metering technology cannot provide this benefit.
		Meter all houses (including CSL repair) and individual flats (internal, no CSL repair) with Basic technology and bulk metering (including CSL repair) blocks of flats with AMR technology	y	y	y	n	n	y	n	y	y	n	y	Rejected	For the last three AMP periods, we have used AMI, AMR and Dumb meter technology as we moved towards a full smart metering solution. However, from AMP7 and beyond, we will no longer support the large scale rollout of Dumb meter technology. There are three main factors for this decision; 1. Reduced Customer Benefit and social inequality: Dumb meter technology is not supported by Web and Mobile Apps that allow customers to track their water use in real time. Web and Mobile Apps facilitate a greater reduction in water use and therefore lower bills and increase customer confidence in meter reading accuracy. This in turn leads to greater customer satisfaction and a reduction in customer calls. 2. Low Reduction in CSL: Due to the requirement for manual meter reads, Dumb meter technology results in a lower reduction in CSL compared with AMR and AMI technology. 3. No Benefit to Mains Replacement Targeting: due to their real time monitoring abilities, AMR and AMI technology provides data to conduct a water balance within a DMA or sub DMA facilitating better mains replacement targeting. Due to the requirement for manual meter reads, Dumb metering technology cannot provide this benefit.
	Mini Bulk Metered Area	Install small bulk meters on properties with multiple supplies (previously called Small Blocks Flats Bulks)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
	Progressive Smart Upgrade Programme - Household (PSUP) (previously Household meter upgrades)	Proactive replacement of basic meters with smart meters on household properties	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Progressive Smart Upgrade Programme - Non-household (PSUP) (previously non-household meter upgrades)	Proactive replacement of basic meters with smart meters on non-household properties	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Selective metering	Selective metering (agricultural troughs)	y	y	y	y	y	y	y	n	y	y	n	Rejected	Informed by our trials, this option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. The installation of meters is not considered to be practical.
	Illegal connections	Target and meter illegal connections											n	Rejected	Illegal connections are already being metered when identified as part of our progressive metering programme. This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
	Information	In-home display of real time consumption	y	y	y	y	y	y	y	y	y	n	y	Rejected	We already provide access to usage information via Smart Meters online portal. This option has been rejected owing to the high risk that additional water savings may not be realised.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
	Metering Innovation - new meter installations	Investigate innovative practices to install meters at no access and unmeterable properties. This includes a change in practice for no access and an investment/trial of alternative technology for unmeterables.	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Metering Innovation - proactive meter upgrades	Investigate innovative practices to upgrade meters at no access and unmeterable properties. This includes a change in practice for no access and an investment/trial of alternative technology for unmeterables.	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
Water Efficiency	Advice and Guidance	Free water efficiency goods and advice to all newly metered customers	y	y	y	y	y	y	y	y	y	n	n	Rejected	This has been rejected as a discrete option as there is a risk that water savings will not be realised if customers do not install and use the devices or implement the advice. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit
		Offer free water efficiency goods online	y	y	y	y	y	y	y	y	y	n	n	Rejected	This has been rejected as a discrete option as there is a risk that water savings will not be realised if customers do not install and use the devices or implement the advice. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit
		Targeted information concerning the benefits of trickle irrigation	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		compared to spray irrigation.													
		Targeted water efficiency information to other abstractors	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Targeting perceptions and attitudes via shared spaces (urban environment)	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Digital engagement with all customers	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Self-Install	Distribution of aerated shower head	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Distribution of cistern displacement devices	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Distribution of Shower Timers	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Distribution of tap inserts for self-installation	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
	Direct Efficient Goods Plumber Installation	Installation of water butt	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Smarter Home Visits to newly metered Household Properties as part of the Progressive Metering Programme - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Smarter Home Visits to newly metered optant Household Properties - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Smarter Home Visits to newly metered Household Properties as part of the Progressive	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Smart Upgrade Programme - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)													
		Smarter Home Visits to current unmeasured Household Properties - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	y	y	y	y	y	y	y	y	y	n	y	Rejected	This option has been rejected owing to the high risk that water savings may not be realised with the decreasing number of unmeasured properties as our programmes of progressive metering and optant metering are implemented.
		Household water efficiency visits and wastage repairs to mini bulk metered properties, targeted based on high use and continuous flow	y	y	y	y	y	y	y	y	y	y	n	Rejected	The meter fitted to a mini bulk metered area will be for leakage detection purposes and will be non-revenue. This means it will measure the total water supplied but the meter will not be measuring water use in individual flats. Individual premises within a mini bulk metered area may have individual meters and these are included in the Smarter Home Visits and Wastage Fixes options.
		Household water efficiency visits and wastage repairs to bulk metered properties, targeted based on high use and continuous flow	y	y	y	y	y	y	y	y	y	y	n	Rejected	The meter fitted to a bulk metered area will be for leakage detection purposes and will be non-revenue. This means it will measure the total water supplied but the meter will not be measuring water use in individual flats. Individual premises within a bulk metered area may have individual meters and these are included in the Smarter Home Visits and Wastage Fixes options.
		Wastage Fixes - Free leak fixes for all customers with internal leakage (i.e. leaky-loos and leaking taps)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Plumber assisted installation of tap inserts	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a dual flush toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a low flush toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of self-closing taps	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a shallow trap toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a composting toilet	n	y	y	y	y	y	n	n	y	n	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property and uptake expected to be very low due to concerns over disconnecting from mains supply, installation and location within the property, ongoing maintenance, odour etc. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Retrofit - installation of a dual flush toilet device	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Household Innovation and Tariffs	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Trial installation of whole house flow restrictors in high pressure areas	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Installation of water efficiency devices and internal leak repairs embedded into other internal visits such as internal meter repairs and CSL	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
	Partner Efficiency	Partner controlled domestic plumbing installs	y	y	y	y	y	y	y	y	y	y	y	Rejected*	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
	Goods and Installation														a DMA level until commitment from specific partners. This option is being explored as a benchmark option through small scale pilot projects with social housing providers
		Partnership projects with national organisations	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners.
		Partnership projects with public and third sector organisations	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners.
		Partnership projects with utility companies	y	y	y	y	y	y	y	y	y	n	n	Rejected*	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners. We will continue to work with other utility companies to explore opportunities through our baseline programme.
		Partnership with retailers for more efficient white goods	y	y	y	y	y	y	y	y	y	n	n	Rejected*	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners. Potential for baseline through Government-led initiatives.
		Partnership working benefits	y	y	y	y	y	y	y	y	y	n	n	Rejected*	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners. We have many partnership programmes running to benefit water efficiency and will continue to enhance these and new projects in the future to explore opportunities through our baseline programme.
		Smarter Business Visits to Non Household	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Properties - company funded. Includes wastage repair offer for non-household customers with continuous flow													
		Replacement - installation of a new toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a waterless urinals	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of self-closing taps	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a shallow trap toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Replacement - installation of a composting toilet	n	y	y	y	y	y	n	n	y	n	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property and uptake expected to be very low due to concerns over disconnecting from mains supply, installation and location within the property, ongoing maintenance, odour etc. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of timing devices	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Discretionary Water use - using non potable water for large users such as golf courses	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework.
	Research	Continue to support ongoing research projects	y	y	y	y	y	y	y	y	y	y	n	Rejected*	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. Through our baseline programme we will continue to support the Water UK and UKWIR water efficiency research initiatives – a combined water sector initiative.
		Ofwat water efficiency research fund	y	y	y	y	y	y	y	y	y	y	n	Rejected*	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. Through our baseline programme we will continue to support the Water UK and UKWIR water efficiency research initiatives – a combined water sector initiative.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Save Water Swindon and other flagship research projects	y	y	y	y	y	y	y	y	y	n	n	Rejected	The Save Water Swindon Project finished in 2014.
		Support the leak toilet valves project phase 2	y	y	y	y	y	y	y	y	y	y	n	Rejected*	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. However, this option will continue to be included in baseline. We have been supporting the leaking toilet valves project throughout AMP6 and this will continue into AMP7 and beyond.
		Support the research undertaken by UKWIR	y	y	y	y	y	y	y	y	y	y	n	Rejected*	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. Through our baseline programme we will continue to support the Water UK and UKWIR water efficiency research initiatives – a combined water sector initiative.
		Support the Waterwise evidence base	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework.
Incentive Schemes	Green Redeem (previously Targeted Incentive Scheme)	Customers are incentivised through non-financial offers (vouchers, prize draws, community rewards) to be more efficient with their water consumption.	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	This option encourages customers to be more efficient therefore in subsequent modelling and reporting it will be classified as a Water Efficiency option.
	Innovative Tariffs	Financial Tariff implementation - only feasible post smart metering.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. However, this option will continue to be investigated as part of Household Innovation and Tariffs option.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
Leakage	Advice and Guidance	Advice and information on leakage detection and	y	y	Y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		fixing techniques (Agriculture)													model this option at a DMA level until commitment from specific partners.
		Advice and information on leakage detection and fixing techniques (Industrial and Commercial Customers)	y	y	Y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners. Potential for Baseline.
		In house awareness campaign to reduce internal losses	y	y	Y	y	y	y	y	y	y	y	n	Rejected	High risk that this will not achieve a water saving as we will not know if the guidance has been acted upon.
	Active Leakage Control	ALC + 10% - Enhanced levels of 'Find and Fix' over and on top of that already being undertaken to maintain current levels of leakage to achieve a further 10% reduction in leakage.	y	y	Y	y	y	y	y	y	y	n	y	Rejected	Given the extensive work on leakage detection and repair activity there is considered to be limited scope to make significant further leakage reductions with current methods of leakage detection and repair alone. As leakage is reduced further, the uncertainty of delivery increases. In addition, as leakage is reduced, much greater time is required to detect multiple, smaller leaks in a DMA. In the absence of other work (i.e. Network Reconfiguration), additional leakage detection as an individual demand management option becomes prohibitive both with regard to cost and sustainability of leakage reduction. Consequently, although the risk that 'ALC + 10%' will not provide a leakage reduction is less than the risk associated with 'ALC + 20%', the additional cost and risk of non-delivery is considered unacceptable and therefore this option has not been taken further in the screening process. Rather, it has been replaced by 'Advanced DMA Intervention'.
		ALC + 20% - Enhanced levels of 'Find and Fix' over and on top of that	y	y	Y	y	y	y	y	y	y	n	y	Rejected	Given the extensive work on leakage detection and repair activity, with 60,000 repairs completed on the water supply

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		already being undertaken to maintain current levels of leakage to achieve a further 20% reduction in leakage.													network per year, there is considered to be limited scope to make significant further leakage reductions with current methods of leakage detection and repair alone. As leakage is reduced further, the uncertainty of delivery increases. The high risk that this demand option will not provide the additional 20% leakage reduction is considered unacceptable and therefore this option has not been taken further in the screening process.
		Advanced District Metered Area (DMA) Intervention. Made up of the following components: • DMA Redesign – capital work to redesign DMAs to better identify leakage. Includes splitting DMAs, moving priority district meters etc. • Acoustic logger installation • Replacement of service pipes • Pressure Management: install new pressure management schemes within individual DMAs at sub-DMA level. • DMA Excellence – operational component of work following DMA Redesign. Includes assessment of demand	y	y	Y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		in the DMA (incl. temporary logging of large customers) and using Find and Fix programmes to pinpoint leaks. • Fixing Leaks – the final stage of DMA Enhancement is capital work to fix the leaks identified. This option was re-named from 'Enhanced ALC' in WRMP19.													
		Improvements in systems to allow more easy reporting of visible leaks and analysis of social media for leak notification	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Be more operationally efficient	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Decreasing the time taken to fixing reported leaks	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Develop metrics and monitoring to quantify SR leakage	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Enhanced district meter verification - meter verification is an on-site check to determine the	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		accuracy of flow being registered through a meter.													model this option at a DMA level. Potential for Baseline.
		Enhanced logger verification - logger verification is a simple on site check to ensure that the flow being registered by a meter matches the flow being recorded by the data logging device attached to the meter.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Explore PRV noise reduction methods	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Household meter under /over registration analysis - meter verification as an on-site check to determine the accuracy of flow being registered through a meter.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Improve quality of repairs	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Improving analytics to detect leak breakouts	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Increase pressure for leak detection	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Measuring performance of the ALC activity	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Non-household meter under /over registration analysis - meter verification as an on-site check to determine the accuracy of flow being registered through a meter.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Remote sensing technologies - aircraft-based	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Remote sensing technologies - ground-based	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Remote sensing technologies - satellite-based	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Trunk main and service reservoir leakage reduction by improved metering	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Installation of through bore hydrants to allow for in-pipe leak detection/localisation	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
	Pressure Management	Pressure Management - install new pressure management schemes within individual DMAs at sub-DMA level.	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected as a separate option for modelling purposes only and as this activity is included in the Advanced District Metered Area (DMA) Intervention.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Pressure Management - install new zonal pressure management schemes	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		CaLM Networks - this option includes a range of activities: targeted extension of pressure management, upgrade of controllers for PRVs and pumps, transient investigations, trunk mains expansion / extension, distribution mains expansion / extension. To include: Design, construction, and commissioning of new pressure management schemes. Retrofit improved controllers to pumps and valves to enable more precise and responsive pressure profiles to be maintained that minimise leakage while providing adequate pressures at critical points at all times. Investigating the existence of pressure transience using transient loggers, tracing the sources of those transients and removing the causes.	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
	Smart Networks	Smart Networks Programme to improve	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		leakage targeting and detection													realised or quantified and the inability to model this option at a DMA level.
	Mains Rehabilitation	Asset Replacement - replace individual pipes that have high burst rates	y	y	y	y	y	y	y	n	y	y	n	Rejected	Replacing individual pipes as a demand management intervention is not a practical or efficient use of time, resources (human and equipment) or permits (traffic management/dig). It is also difficult to accurately measure and model the demand benefit making it infeasible for realistic modelling against alternative demand options.
		Asset Replacement 100m - replace individual pipes that have high burst rates and must be above 100m in length	y	y	y	y	y	y	y	n	y	y	n	Rejected	Replacing individual pipes as a demand management intervention, even at length of 100m, is not a practical or efficient use of time, resources (human and equipment) or permits (traffic management/dig). It is also difficult to accurately measure and model the demand benefit making it infeasible for realistic modelling against alternative demand options.
		Comms Only - replace communication pipes only	y	y	y	n	y	y	y	n	y	y	n	Rejected	Replacing individual communication pipes alone as a demand management intervention, is not a practical or efficient use of time, resources (human and equipment) or permits (traffic management/dig). It is unlikely to be considered acceptable by our customers to interrupt their supply to replace their communication pipe without replacing the water main at the same time. It is also difficult to accurately measure and model the demand benefit making it infeasible for realistic modelling against alternative demand options.
		Full DMA Mains Replacement of at least 90% of DMA - includes mains replacement,	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		comm pipe replacement and boundary box install (does not include CSL repair)													
		Partial DMA Mains Replacement - targets worst performing assets and includes mains replacement, comm pipe replacement and boundary box install (does not include CSL repair)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Develop procedure for abandoned mains	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Minimise joints	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Replace rather that repair - household supply pipes. Includes a study to assess the impact on leakage if the supply pipes are replaced instead of repairing them.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
	Leakage Innovation	Innovative techniques improving speed and quality of repairs, such as: • Adoption of keyhole repair techniques • Advanced technologies for	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		precise and accurate leak location – acoustics • Advanced technologies for precise and accurate leak location - tracer gases • Quality/Make joints leak free - product development • Use technologies for repairing pipes from the inside • Enhanced detection equipment/innovation in detection • Enhanced repair methods/innovation in repair methods													
	Regulation	Investigate and lobby for improved regulatory incentives for reducing leakage	y	y	y	y	y	y	y	n	y	n	n	Rejected	We are not empowered to introduce regulatory incentives. High risk that leakage reduction may not be realised or quantified and the inability to model this option at a DMA level.
Metering	Progressive Metering Programme (PMP) (previously Houses Only)	Meter all houses (AMI technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Meter all houses (AMR technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Meter all houses (Basic technology) and repair CSLs found	y	y	y	n	n	y	n	y	y	n	y	Rejected	For the last three AMP periods, we have used AMI, AMR and Dumb meter technology as we moved towards a full smart metering solution. However, from AMP7 and beyond, we will no longer support the large scale rollout of Dumb meter technology. There are three main

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															factors for this decision; 1. Reduced Customer Benefit and social inequality: Dumb meter technology is not supported by Web and Mobile Apps that allow customers to track their water use in real time. Web and Mobile Apps facilitate a greater reduction in water use and therefore lower bills and increase customer confidence in meter reading accuracy. This in turn leads to greater customer satisfaction and a reduction in customer calls. 2. Low Reduction in CSL: Due to the requirement for manual meter reads, Dumb meter technology results in a 24% reduction in CSL compared with 56% and 76% from ARM and AMI technology. 3. No Benefit to Mains Replacement Targeting: due to their real time monitoring abilities, AMR and AMI technology provides data to conduct a water balance within a DMA or sub DMA facilitating better mains replacement targeting. Due to the requirement for manual meter reads, Dumb metering technology cannot provide this benefit. To reconfirm this decision, the full Dumb metering option has still been taken forward for modelling, see 'Meter all houses (including CSL repair) and individual flats (internal, no CSL repair) with DUMB technology and bulk metering (including CSL repair) blocks of flats with AMR technology.'
	Bulk Metered Area (previously Blocks of Flats (Bulks) Only)	Bulk metering flats (AMI technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Bulk metering flats (AMR technology) repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
	Houses and Bulks	Meter all houses and bulk meter (external) blocks of flats (AMI technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	n	Rejected	Metering of houses and bulks as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.
		Meter all houses and bulk meter (external) blocks of flats (AMR technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Rejected	Metering of houses and bulks as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.
		Meter all houses and bulk meter (external) blocks of flats (Basic technology) and repair CSLs found	y	y	y	n	n	y	n	y	y	n	y	Rejected	Metering of houses and bulks as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.
	Houses, bulks and individual flats	Meter all houses (including CSL repair), individual flats (internal, no CSL repair) and bulk meter (including CSL repair) blocks of flats (AMI technology)	y	y	y	y	y	y	y	y	y	y	n	Rejected	Metering of houses, bulks and individual flats as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.
		Meter all houses (including CSL repair), individual flats (internal, no CSL repair) and bulk meter (including CSL repair) blocks of flats (AMR technology)	y	y	y	y	y	y	y	y	y	y	n	Rejected	Metering of houses, bulks and individual flats as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.
		Meter all houses (including CSL repair), individual flats (internal, no CSL repair) and bulk meter (including CSL repair) blocks of flats (Basic technology)	y	y	y	n	n	y	n	y	y	n	y	Rejected	For the last three AMP periods, we have used AMI, AMR and Dumb meter technology as we moved towards a full smart metering solution. However, from AMP7 and beyond, we will no longer support the large scale rollout of Dumb meter technology. There are three main factors for this decision; 1. Reduced Customer Benefit and social inequality: Dumb meter technology is not supported by Web and Mobile Apps that allow customers to track their water use in real

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															time. Web and Mobile Apps facilitate a greater reduction in water use and therefore lower bills and increase customer confidence in meter reading accuracy. This in turn leads to greater customer satisfaction and a reduction in customer calls. 2. Low Reduction in CSL: Due to the requirement for manual meter reads, Dumb meter technology results in a lower reduction in CSL compared with AMR and AMI technology. 3. No Benefit to Mains Replacement Targeting: due to their real time monitoring abilities, AMR and AMI technology provides data to conduct a water balance within a DMA or sub DMA facilitating better mains replacement targeting. Due to the requirement for manual meter reads, Dumb metering technology cannot provide this benefit.
		Meter all houses (including CSL repair) and individual flats (internal, no CSL repair) with Basic technology and bulk metering (including CSL repair) blocks of flats with AMR technology	y	y	y	n	n	y	n	y	y	n	y	Rejected	For the last three AMP periods, we have used AMI, AMR and Dumb meter technology as we moved towards a full smart metering solution. However, from AMP7 and beyond, we will no longer support the large scale rollout of Dumb meter technology. There are three main factors for this decision; 1. Reduced Customer Benefit and social inequality: Dumb meter technology is not supported by Web and Mobile Apps that allow customers to track their water use in real time. Web and Mobile Apps facilitate a greater reduction in water use and therefore lower bills and increase customer confidence in meter reading accuracy. This in turn leads to greater customer satisfaction and a reduction in customer calls. 2. Low Reduction in CSL: Due to the

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															requirement for manual meter reads, Dumb meter technology results in a lower reduction in CSL compared with AMR and AMI technology. 3. No Benefit to Mains Replacement Targeting: due to their real time monitoring abilities, AMR and AMI technology provides data to conduct a water balance within a DMA or sub DMA facilitating better mains replacement targeting. Due to the requirement for manual meter reads, Dumb metering technology cannot provide this benefit.
	Mini Bulk Metered Area	Install small bulk meters on properties with multiple supplies (previously called Small Blocks Flats Bulks)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Progressive Smart Upgrade Programme - Household (PSUP) (previously Household meter upgrades)	Proactive replacement of basic meters with smart meters on household properties	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Progressive Smart Upgrade Programme - Non-household (PSUP) (previously non-household	Proactive replacement of basic meters with smart meters on non-household properties	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
	meter upgrades)														
	Selective metering	Selective metering (agricultural troughs)	y	y	y	y	y	y	y	n	y	y	n	Rejected	Informed by our trials, this option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. The installation of meters is not considered to be practical.
	Illegal connections	Target and meter illegal connections											n	Rejected	Illegal connections are already being metered when identified as part of our progressive metering programme. This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
	Information	In-home display of real time consumption	y	y	y	y	y	y	y	y	y	n	y	Rejected	We already provide access to usage information via Smart Meters online portal. This option has been rejected owing to the high risk that additional water savings may not be realised.
	Metering Innovation - new meter installations	Investigate innovative practices to install meters at no access and unmeterable properties. This includes a change in practice for no access and an investment/trial of alternative technology for unmeterables.	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Metering Innovation - proactive meter upgrades	Investigate innovative practices to upgrade meters at no access and unmeterable properties. This includes a change in practice for no access and an investment/trial of alternative technology for unmeterables.	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
Water Efficiency	Advice and Guidance	Free water efficiency goods and advice to all newly metered customers	y	y	y	y	y	y	y	y	y	n	n	Rejected	This has been rejected as a discrete option as there is a risk that water savings will not be realised if customers do not install and use the devices or implement the advice. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit
		Offer free water efficiency goods online	y	y	y	y	y	y	y	y	y	n	n	Rejected	This has been rejected as a discrete option as there is a risk that water savings will not be realised if customers do not install and use the devices or implement the advice. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit
		Targeted information concerning the benefits of trickle irrigation compared to spray irrigation.	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Targeted water efficiency information to other abstractors	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Targeting perceptions and attitudes via shared spaces (urban environment)	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Digital engagement with all customers	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Self-Install	Distribution of aerated shower head	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Distribution of cistern displacement devices	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Distribution of Shower Timers	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Distribution of tap inserts for self-installation	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
	Direct Efficient Goods Plumber Installation	Installation of water butt	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Smarter Home Visits to newly metered Household Properties as part of the Progressive Metering Programme - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Smarter Home Visits to newly metered optant Household Properties - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Smarter Home Visits to newly metered Household Properties as part of the Progressive Smart Upgrade Programme - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Smarter Home Visits to current unmeasured Household Properties - involves water efficiency devices, water audit and water savings plan with	y	y	y	y	y	y	y	y	y	n	y	Rejected	This option has been rejected owing to the high risk that water savings may not be realised with the decreasing number of unmeasured properties as our programmes of progressive metering and optant metering are implemented.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		customer (non-LAHAs only)													
		Household water efficiency visits and wastage repairs to mini bulk metered properties, targeted based on high use and continuous flow	y	y	y	y	y	y	y	y	y	y	n	Rejected	The meter fitted to a mini bulk metered area will be for leakage detection purposes and will be non-revenue. This means it will measure the total water supplied but the meter will not be measuring water use in individual flats. Individual premises within a mini bulk metered area may have individual meters and these are included in the Smarter Home Visits and Wastage Fixes options.
		Household water efficiency visits and wastage repairs to bulk metered properties, targeted based on high use and continuous flow	y	y	y	y	y	y	y	y	y	y	n	Rejected	The meter fitted to a bulk metered area will be for leakage detection purposes and will be non-revenue. This means it will measure the total water supplied but the meter will not be measuring water use in individual flats. Individual premises within a bulk metered area may have individual meters and these are included in the Smarter Home Visits and Wastage Fixes options.
		Wastage Fixes - Free leak fixes for all customers with internal leakage (i.e. leaky-loos and leaking taps)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Plumber assisted installation of tap inserts	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a dual flush toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a low flush toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of self-closing taps	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a shallow trap toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a composting toilet	n	y	y	y	y	y	n	n	y	n	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property and uptake expected to be very low due to concerns over disconnecting from mains

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															supply, installation and location within the property, ongoing maintenance, odour etc. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Retrofit - installation of a dual flush toilet device	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Household Innovation and Tariffs	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Trial installation of whole house flow restrictors in high pressure areas	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Installation of water efficiency devices and internal leak repairs embedded into other internal visits such as internal meter repairs and CSL	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
	Partner Efficiency Goods and Installation	Partner controlled domestic plumbing installs	y	y	y	y	y	y	y	y	y	y	y	Rejected*	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners. This option is being explored as a benchmark option through small scale pilot projects with social housing providers

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Partnership projects with national organisations	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners.
		Partnership projects with public and third sector organisations	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners.
		Partnership projects with utility companies	y	y	y	y	y	y	y	y	y	n	n	Rejected*	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners. We will continue to work with other utility companies to explore opportunities through our baseline programme.
		Partnership with retailers for more efficient white goods	y	y	y	y	y	y	y	y	y	n	n	Rejected*	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners. Potential for baseline through Government-led initiatives.
		Partnership working benefits	y	y	y	y	y	y	y	y	y	n	n	Rejected*	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners. We have many partnership programmes running to benefit water efficiency and will continue to enhance these and new projects in the future to explore opportunities through our baseline programme.
		Smarter Business Visits to Non Household	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Properties - company funded. Includes wastage repair offer for non-household customers with continuous flow													
		Replacement - installation of a new toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a waterless urinals	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of self-closing taps	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a shallow trap toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household retrofit activities conjunctively, integrated with other

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a composting toilet	n	y	y	y	y	y	n	n	y	n	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property and uptake expected to be very low due to concerns over disconnecting from mains supply, installation and location within the property, ongoing maintenance, odour etc. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of timing devices	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Discretionary Water use - using non potable water for large users such as golf courses	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework.
	Research	Continue to support ongoing research projects	y	y	y	y	y	y	y	y	y	y	n	Rejected*	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. Through our baseline programme we will continue to support the Water UK and UKWIR water efficiency research initiatives – a combined water sector initiative.
		Ofwat water efficiency research fund	y	y	y	y	y	y	y	y	y	y	n	Rejected*	This option cannot be modelled at DMA level or the benefits accurately quantified

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															for the model framework. Through our baseline programme we will continue to support the Water UK and UKWIR water efficiency research initiatives – a combined water sector initiative.
		Save Water Swindon and other flagship research projects	y	y	y	y	y	y	y	y	y	n	n	Rejected	The Save Water Swindon Project finished in 2014.
		Support the leak toilet valves project phase 2	y	y	y	y	y	y	y	y	y	y	n	Rejected*	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. However, this option will continue to be included in baseline. We have been supporting the leaking toilet valves project throughout AMP6 and this will continue into AMP7 and beyond.
		Support the research undertaken by UKWIR	y	y	y	y	y	y	y	y	y	y	n	Rejected*	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. Through our baseline programme we will continue to support the Water UK and UKWIR water efficiency research initiatives – a combined water sector initiative.
		Support the Waterwise evidence base	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework.
Incentive Schemes	Green Redeem (previously Targeted Incentive Scheme)	Customers are incentivised through non-financial offers (vouchers, prize draws, community rewards) to be more efficient with their water consumption.	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	This option encourages customers to be more efficient therefore in subsequent modelling and reporting it will be classified as a Water Efficiency option.
	Innovative Tariffs	Financial Tariff implementation - only feasible post smart metering.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. However, this option will continue to be investigated as

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															part of Household Innovation and Tariffs option.

45. The Water Efficiency Options which are notated 'Rejected*' refer to options that have the potential to be included in Baseline Water Efficiency activities having not passed through to the Feasible Options list. The explanation as to why an option has been excluded from the Feasible Options list but retained in the baseline is included in the table.

46. The baseline programme refers to the established programme of activity that we undertakes to promote an efficient use of water and ensure we deliver our statutory duty to 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.

Table 5: Secondary Screening of Demand Management Options

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
Leakage	Advice and Guidance	Advice and information on leakage detection and fixing techniques (Agriculture)	y	y	Y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners.
		Advice and information on leakage detection and fixing techniques (Industrial and Commercial Customers)	y	y	Y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners. Potential for Baseline.
		In house awareness campaign to reduce internal losses	y	y	Y	y	y	y	y	y	y	y	n	Rejected	High risk that this will not achieve a water saving as we will not know if the guidance has been acted upon.
	Active Leakage Control	ALC + 10% - Enhanced levels of 'Find and Fix' over and on top of that already being undertaken to maintain current levels of leakage to achieve a further 10% reduction in leakage.	y	y	Y	y	y	y	y	y	y	n	y	Rejected	Given the extensive work on leakage detection and repair activity there is considered to be limited scope to make significant further leakage reductions with current methods of leakage detection and repair alone. As leakage is reduced further, the uncertainty of delivery increases. In addition, as leakage is reduced, much greater time is required to detect multiple, smaller leaks in a DMA. In the absence of other work (i.e. Network Reconfiguration), additional leakage detection as an individual demand management option becomes prohibitive both with regard to cost and sustainability of leakage reduction. Consequently, although the risk that 'ALC + 10%' will not provide a leakage reduction is less than the risk associated with 'ALC + 20%', the additional cost and risk of non-delivery is considered unacceptable and therefore this option has not been taken further in the screening process. Rather, it has been replaced by 'Advanced DMA Intervention'.
		ALC + 20% - Enhanced levels of 'Find and Fix'	y	y	Y	y	y	y	y	y	y	n	y	Rejected	Given the extensive work on leakage detection and repair activity, with 60,000 repairs completed

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		over and on top of that already being undertaken to maintain current levels of leakage to achieve a further 20% reduction in leakage.													on the water supply network per year, there is considered to be limited scope to make significant further leakage reductions with current methods of leakage detection and repair alone. As leakage is reduced further, the uncertainty of delivery increases. The high risk that this demand option will not provide the additional 20% leakage reduction is considered unacceptable and therefore this option has not been taken further in the screening process.
		Advanced District Metered Area (DMA) Intervention. Made up of the following components: • DMA Redesign – capital work to redesign DMAs to better identify leakage. Includes splitting DMAs, moving priority district meters etc. • Acoustic logger installation • Replacement of service pipes • Pressure Management: install new pressure management schemes within individual DMAs at sub-DMA level. • DMA Excellence – operational component of work following DMA	y	y	Y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Redesign. Includes assessment of demand in the DMA (incl. temporary logging of large customers) and using Find and Fix programmes to pinpoint leaks. • Fixing Leaks – the final stage of DMA Enhancement is capital work to fix the leaks identified. This option was re-named from 'Enhanced ALC' in WRMP19.													
		Improvements in systems to allow more easy reporting of visible leaks and analysis of social media for leak notification	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Be more operationally efficient	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Decreasing the time taken to fixing reported leaks	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Develop metrics and monitoring to quantify SR leakage	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Enhanced district meter verification - meter	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		verification is an on-site check to determine the accuracy of flow being registered through a meter.													quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Enhanced logger verification - logger verification is a simple on site check to ensure that the flow being registered by a meter matches the flow being recorded by the data logging device attached to the meter.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Explore PRV noise reduction methods	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Household meter under /over registration analysis - meter verification as an on-site check to determine the accuracy of flow being registered through a meter.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Improve quality of repairs	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Improving analytics to detect leak breakouts	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Increase pressure for leak detection	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															quantified and the inability to model this option at a DMA level.
		Measuring performance of the ALC activity	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Non-household meter under /over registration analysis - meter verification as an on-site check to determine the accuracy of flow being registered through a meter.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Remote sensing technologies - aircraft-based	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Remote sensing technologies - ground-based	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Remote sensing technologies - satellite-based	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Trunk main and service reservoir leakage reduction by improved metering	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Installation of through bore hydrants to allow for in-pipe leak detection/localisation	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
	Pressure Management	Pressure Management - install new pressure management schemes	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected as a separate option for modelling purposes only and as this

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		within individual DMAs at sub-DMA level.													activity is included in the Advanced District Metered Area (DMA) Intervention.
		Pressure Management - install new zonal pressure management schemes	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		CaLM Networks - this option includes a range of activities: targeted extension of pressure management, upgrade of controllers for PRVs and pumps, transient investigations, trunk mains expansion/extension, distribution mains expansion/extension. To include: Design, construction, and commissioning of new pressure management schemes. Retrofit improved controllers to pumps and valves to enable more precise and responsive pressure profiles to be maintained that minimise leakage while providing adequate pressures at critical points at all times. Investigating the existence of pressure transience using transient loggers,	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		tracing the sources of those transients and removing the causes.													
	Smart Networks	Smart Networks Programme to improve leakage targeting and detection	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
	Mains Rehabilitation	Asset Replacement - replace individual pipes that have high burst rates	y	y	y	y	y	y	y	n	y	y	n	Rejected	Replacing individual pipes as a demand management intervention is not a practical or efficient use of time, resources (human and equipment) or permits (traffic management/dig). It is also difficult to accurately measure and model the demand benefit making it infeasible for realistic modelling against alternative demand options.
		Asset Replacement 100m - replace individual pipes that have high burst rates and must be above 100m in length	y	y	y	y	y	y	y	n	y	y	n	Rejected	Replacing individual pipes as a demand management intervention, even at length of 100m, is not a practical or efficient use of time, resources (human and equipment) or permits (traffic management/dig). It is also difficult to accurately measure and model the demand benefit making it infeasible for realistic modelling against alternative demand options.
		Comms Only - replace communication pipes only	y	y	y	n	y	y	y	n	y	y	n	Rejected	Replacing individual communication pipes alone as a demand management intervention, is not a practical or efficient use of time, resources (human and equipment) or permits (traffic management/dig). It is unlikely to be considered acceptable by our customers to interrupt their supply to replace their communication pipe without replacing the water main at the same time. It is also difficult to accurately measure and model the demand benefit making it infeasible for realistic modelling against alternative demand options.
		Full DMA Mains Replacement of at least 90% of DMA - includes	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		mains replacement, comm pipe replacement and boundary box install (does not include CSL repair)													
		Partial DMA Mains Replacement - targets worst performing assets and includes mains replacement, comm pipe replacement and boundary box install (does not include CSL repair)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Develop procedure for abandoned mains	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Minimise joints	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. Potential for Baseline.
		Replace rather that repair - household supply pipes. Includes a study to assess the impact on leakage if the supply pipes are replaced instead of repairing them.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
	Leakage Innovation	Innovative techniques improving speed and quality of repairs, such as: • Adoption of keyhole repair techniques • Advanced technologies for precise	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		and accurate leak location - acoustics • Advanced technologies for precise and accurate leak location - tracer gases • Quality/Make joints leak free - product development • Use technologies for repairing pipes from the inside • Enhanced detection equipment/innovation in detection • Enhanced repair methods/innovation in repair methods													
	Regulation	Investigate and lobby for improved regulatory incentives for reducing leakage	y	y	y	y	y	y	y	n	y	n	n	Rejected	We are not empowered to introduce regulatory incentives. High risk that leakage reduction may not be realised or quantified and the inability to model this option at a DMA level.
Metering	Progressive Metering Programme (PMP) (previously Houses Only)	Meter all houses (AMI technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Meter all houses (AMR technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Meter all houses (Basic technology) and repair CSLs found	y	y	y	n	n	y	n	y	y	n	y	Rejected	For the last three AMP periods, we have used AMI, AMR and Dumb meter technology as we moved towards a full smart metering solution. However, from AMP7 and beyond, we will no longer support the large scale rollout of Dumb meter technology. There are three main factors for this decision; 1. Reduced Customer Benefit and social inequality: Dumb meter technology is not supported by Web and Mobile Apps that allow customers to track their water use in real time.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															Web and Mobile Apps facilitate a greater reduction in water use and therefore lower bills and increase customer confidence in meter reading accuracy. This in turn leads to greater customer satisfaction and a reduction in customer calls. 2. Low Reduction in CSL: Due to the requirement for manual meter reads, Dumb meter technology results in a 24% reduction in CSL compared with 56% and 76% from ARM and AMI technology. 3. No Benefit to Mains Replacement Targeting: due to their real time monitoring abilities, AMR and AMI technology provides data to conduct a water balance within a DMA or sub DMA facilitating better mains replacement targeting. Due to the requirement for manual meter reads, Dumb metering technology cannot provide this benefit. To reconfirm this decision, the full Dumb metering option has still been taken forward for modelling, see 'Meter all houses (including CSL repair) and individual flats (internal, no CSL repair) with DUMB technology and bulk metering (including CSL repair) blocks of flats with AMR technology.'
	Bulk Metered Area (previously Blocks of Flats (Bulks) Only)	Bulk metering flats (AMI technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Bulk metering flats (AMR technology) repair CSLs found	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Houses and Bulks	Meter all houses and bulk meter (external) blocks of flats (AMI technology) and repair CSLs found	y	y	y	y	y	y	y	y	y	y	n	Rejected	Metering of houses and bulks as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.
		Meter all houses and bulk meter (external) blocks of flats (AMR	y	y	y	y	y	y	y	y	y	y	y	Rejected	Metering of houses and bulks as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		technology) and repair CSLs found													
		Meter all houses and bulk meter (external) blocks of flats (Basic technology) and repair CSLs found	y	y	y	n	n	y	n	y	y	n	y	Rejected	Metering of houses and bulks as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.
	Houses, bulks and individual flats	Meter all houses (including CSL repair), individual flats (internal, no CSL repair) and bulk meter (including CSL repair) blocks of flats (AMI technology)	y	y	y	y	y	y	y	y	y	y	n	Rejected	Metering of houses, bulks and individual flats as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.
		Meter all houses (including CSL repair), individual flats (internal, no CSL repair) and bulk meter (including CSL repair) blocks of flats (AMR technology)	y	y	y	y	y	y	y	y	y	y	n	Rejected	Metering of houses, bulks and individual flats as a combined option is rejected for modelling purposes only and not as a concept; instead individual options are modelled.
		Meter all houses (including CSL repair), individual flats (internal, no CSL repair) and bulk meter (including CSL repair) blocks of flats (Basic technology)	y	y	y	n	n	y	n	y	y	n	y	Rejected	For the last three AMP periods, we have used AMI, AMR and Dumb meter technology as we moved towards a full smart metering solution. However, from AMP7 and beyond, we will no longer support the large scale rollout of Dumb meter technology. There are three main factors for this decision; 1. Reduced Customer Benefit and social inequality: Dumb meter technology is not supported by Web and Mobile Apps that allow customers to track their water use in real time. Web and Mobile Apps facilitate a greater reduction in water use and therefore lower bills and increase customer confidence in meter reading accuracy. This in turn leads to greater customer satisfaction and a reduction in customer calls. 2. Low Reduction in CSL: Due to the requirement for manual meter reads, Dumb

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															meter technology results in a lower reduction in CSL compared with AMR and AMI technology. 3. No Benefit to Mains Replacement Targeting: due to their real time monitoring abilities, AMR and AMI technology provides data to conduct a water balance within a DMA or sub DMA facilitating better mains replacement targeting. Due to the requirement for manual meter reads, Dumb metering technology cannot provide this benefit.
		Meter all houses (including CSL repair) and individual flats (internal, no CSL repair) with Basic technology and bulk metering (including CSL repair) blocks of flats with AMR technology	y	y	y	n	n	y	n	y	y	n	y	Rejected	For the last three AMP periods, we have used AMI, AMR and Dumb meter technology as we moved towards a full smart metering solution. However, from AMP7 and beyond, we will no longer support the large scale rollout of Dumb meter technology. There are three main factors for this decision; 1. Reduced Customer Benefit and social inequality: Dumb meter technology is not supported by Web and Mobile Apps that allow customers to track their water use in real time. Web and Mobile Apps facilitate a greater reduction in water use and therefore lower bills and increase customer confidence in meter reading accuracy. This in turn leads to greater customer satisfaction and a reduction in customer calls. 2. Low Reduction in CSL: Due to the requirement for manual meter reads, Dumb meter technology results in a lower reduction in CSL compared with AMR and AMI technology. 3. No Benefit to Mains Replacement Targeting: due to their real time monitoring abilities, AMR and AMI technology provides data to conduct a water balance within a DMA or sub DMA facilitating better mains replacement targeting. Due to the requirement for manual meter reads, Dumb metering technology cannot provide this benefit.
	Mini Bulk Metered Area	Install small bulk meters on properties with multiple supplies	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		(previously called Small Blocks Flats Bulks)													
	Progressive Smart Upgrade Programme - Household (PSUP) (previously Household meter upgrades)	Proactive replacement of basic meters with smart meters on household properties	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Progressive Smart Upgrade Programme - Non-household (PSUP) (previously non-household meter upgrades)	Proactive replacement of basic meters with smart meters on non-household properties	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Selective metering	Selective metering (agricultural troughs)	y	y	y	y	y	y	y	n	y	y	n	Rejected	Informed by our trials, this option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level. The installation of meters is not considered to be practical.
	Illegal connections	Target and meter illegal connections											n	Rejected	Illegal connections are already being metered when identified as part of our progressive metering programme. This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
	Information	In-home display of real time consumption	y	y	y	y	y	y	y	y	y	n	y	Rejected	We already provide access to usage information via Smart Meters online portal. This option has

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															been rejected owing to the high risk that additional water savings may not be realised.
	Metering Innovation - new meter installations	Investigate innovative practices to install meters at no access and unmeterable properties. This includes a change in practice for no access and an investment/trial of alternative technology for unmeterables.	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Metering Innovation - proactive meter upgrades	Investigate innovative practices to upgrade meters at no access and unmeterable properties. This includes a change in practice for no access and an investment/trial of alternative technology for unmeterables.	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
Water Efficiency	Advice and Guidance	Free water efficiency goods and advice to all newly metered customers	y	y	y	y	y	y	y	y	y	n	n	Rejected	This has been rejected as a discrete option as there is a risk that water savings will not be realised if customers do not install and use the devices or implement the advice. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit
		Offer free water efficiency goods online	y	y	y	y	y	y	y	y	y	n	n	Rejected	This has been rejected as a discrete option as there is a risk that water savings will not be realised if customers do not install and use the devices or implement the advice. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit
		Targeted information concerning the benefits	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		of trickle irrigation compared to spray irrigation.													quantified and the inability to model this option at a DMA level.
		Targeted water efficiency information to other abstractors	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Targeting perceptions and attitudes via shared spaces (urban environment)	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Digital engagement with all customers	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
	Self-Install	Distribution of aerated shower head	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Distribution of cistern displacement devices	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Distribution of Shower Timers	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Distribution of tap inserts for self-installation	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
	Direct Efficient Goods Plumber Installation	Installation of water butt	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Smarter Home Visits to newly metered Household Properties as part of the Progressive Metering Programme - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Smarter Home Visits to newly metered optant Household Properties - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Smarter Home Visits to newly metered Household Properties as part of the Progressive	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Smart Upgrade Programme - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)													
		Smarter Home Visits to current unmeasured Household Properties - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)	y	y	y	y	y	y	y	y	y	n	y	Rejected	This option has been rejected owing to the high risk that water savings may not be realised with the decreasing number of unmeasured properties as our programmes of progressive metering and optant metering are implemented.
		Household water efficiency visits and wastage repairs to mini bulk metered properties, targeted based on high use and continuous flow	y	y	y	y	y	y	y	y	y	y	n	Rejected	The meter fitted to a mini bulk metered area will be for leakage detection purposes and will be non-revenue. This means it will measure the total water supplied but the meter will not be measuring water use in individual flats. Individual premises within a mini bulk metered area may have individual meters and these are included in the Smarter Home Visits and Wastage Fixes options.
		Household water efficiency visits and wastage repairs to bulk metered properties, targeted based on high use and continuous flow	y	y	y	y	y	y	y	y	y	y	n	Rejected	The meter fitted to a bulk metered area will be for leakage detection purposes and will be non-revenue. This means it will measure the total water supplied but the meter will not be measuring water use in individual flats. Individual premises within a bulk metered area may have individual meters and these are included in the Smarter Home Visits and Wastage Fixes options.
		Wastage Fixes - Free leak fixes for all customers with internal leakage (i.e. leaky-loos and leaking taps)	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Plumber assisted installation of tap inserts	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a dual flush toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a low flush toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of self-closing taps	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a shallow trap toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
															Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a composting toilet	n	y	y	y	y	y	n	n	y	n	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property and uptake expected to be very low due to concerns over disconnecting from mains supply, installation and location within the property, ongoing maintenance, odour etc. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Retrofit - installation of a dual flush toilet device	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Household Innovation and Tariffs	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	
		Trial installation of whole house flow restrictors in high pressure areas	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
		Installation of water efficiency devices and internal leak repairs embedded into other internal visits such as internal meter repairs and CSL	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level.
	Partner Efficiency	Partner controlled domestic plumbing installs	y	y	y	y	y	y	y	y	y	y	y	Rejected*	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
	Goods and Installation														a DMA level until commitment from specific partners. This option is being explored as a benchmark option through small scale pilot projects with social housing providers
		Partnership projects with national organisations	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners.
		Partnership projects with public and third sector organisations	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners.
		Partnership projects with utility companies	y	y	y	y	y	y	y	y	y	n	n	Rejected*	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners. We will continue to work with other utility companies to explore opportunities through our baseline programme.
		Partnership with retailers for more efficient white goods	y	y	y	y	y	y	y	y	y	n	n	Rejected*	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners. Potential for baseline through Government-led initiatives.
		Partnership working benefits	y	y	y	y	y	y	y	y	y	n	n	Rejected*	This option has been rejected owing to the high risk that water savings may not be realised or quantified and the inability to model this option at a DMA level until commitment from specific partners. We have many partnership programmes running to benefit water efficiency and will continue to enhance these and new projects in the future to explore opportunities through our baseline programme.
		Smarter Business Visits to Non Household	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Properties - company funded. Includes wastage repair offer for non-household customers with continuous flow													
		Replacement - installation of a new toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a waterless urinals	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of self-closing taps	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of a shallow trap toilet	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Replacement - installation of a composting toilet	n	y	y	y	y	y	n	n	y	n	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the property and uptake expected to be very low due to concerns over disconnecting from mains supply, installation and location within the property, ongoing maintenance, odour etc. Instead it is more effective to promote multiple domestic retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Replacement - installation of timing devices	n	y	y	y	y	y	n	n	y	y	y	Rejected	This has been rejected as a discrete option owing to the high cost to engage with each customer and gain access to the premises. Instead it is more effective to promote multiple non-household retrofit activities conjunctively, integrated with other demand management activity such as our Smarter Home Visit, Smarter Business Visit and Wastage fix programmes.
		Discretionary Water use - using non potable water for large users such as golf courses	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework.
	Research	Continue to support ongoing research projects	y	y	y	y	y	y	y	y	y	y	n	Rejected*	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. Through our baseline programme we will continue to support the Water UK and UKWIR water efficiency research initiatives – a combined water sector initiative.
		Ofwat water efficiency research fund	y	y	y	y	y	y	y	y	y	y	n	Rejected*	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. Through our baseline programme we will continue to support the Water UK and UKWIR water efficiency research initiatives – a combined water sector initiative.

Generic option	Sub-Option	Specific Option	1	2	3	4	5	6	7	8	9	10	11	WRMP24 Overall Outcome - Stage 2	Screening Reasoning
		Save Water Swindon and other flagship research projects	y	y	y	y	y	y	y	y	y	n	n	Rejected	The Save Water Swindon Project finished in 2014.
		Support the leak toilet valves project phase 2	y	y	y	y	y	y	y	y	y	y	n	Rejected*	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. However, this option will continue to be included in baseline. We have been supporting the leaking toilet valves project throughout AMP6 and this will continue into AMP7 and beyond.
		Support the research undertaken by UKWIR	y	y	y	y	y	y	y	y	y	y	n	Rejected*	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. Through our baseline programme we will continue to support the Water UK and UKWIR water efficiency research initiatives – a combined water sector initiative.
		Support the Waterwise evidence base	y	y	y	y	y	y	y	y	y	n	n	Rejected	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework.
Incentive Schemes	Green Redeem (previously Targeted Incentive Scheme)	Customers are incentivised through non-financial offers (vouchers, prize draws, community rewards) to be more efficient with their water consumption.	y	y	y	y	y	y	y	y	y	y	y	Feasible Option	This option encourages customers to be more efficient therefore in subsequent modelling and reporting it will be classified as a Water Efficiency option.
	Innovative Tariffs	Financial Tariff implementation - only feasible post smart metering.	y	y	y	y	y	y	y	y	y	y	n	Rejected	This option cannot be modelled at DMA level or the benefits accurately quantified for the model framework. However, this option will continue to be investigated as part of Household Innovation and Tariffs option.

Screening Output - Feasible Options List

48. The outcome of the Demand Management Options Screening Process (Section 0) is a Feasible Options List. The Feasible Options list includes options that have been assessed as having a reasonable prospect of being implemented and of achieving a water demand saving.

49. The options included in the Feasible Options list are input into the Integrated Demand Management (IDM) model. The IDM model, by a process of optimisation, produces a Programme of Demand Options (Section 0) which then progresses to the final stages of the Water Resources Management Plan process; Program Appraisal and the presentation of the Preferred 'best value' investment Programme.

50. Table 6 sets out the Feasible Demand Management Options for inclusion in WRMP24, under generic water demand management headings, at the sub-option level.

Table 6: Feasible Options Summary

Leakage	Metering	Water Efficiency
Advanced District Metered Area intervention (DMAi)	Progressive Metering Programme (PMP)	Digital Engagement
Leakage Innovation	Progressive Smart Upgrade Household (HH PSUP)	Household Innovation and Tariffs
Mains Rehabilitation	Bulk Metered Area (BMA)	Smarter Home Visits - Progressive Metering Programme (PMP)
	Mini Bulk Metered Area (mBMA)	Smarter Home Visits - Optants
	Progressive Smart Upgrade Non-household (NHH PSUP)	Smarter Home Visits - Progressive Smart Upgrade Programme (PSUP)
	Metering Innovation – Progressive Metering Programme (PMP)	Wastage Fix
	Metering Innovation - Progressive Smart Upgrade Programme (PSUP)	Green Redeem
		Smarter Business Visits

Black Text = Options included in WRMP19 and reassessed for inclusion in WRMP24
Green Text = New Options for WRMP24

51. The following sections provide an overview of the Feasible Demand Management Options. The purpose of these sections is to give an indication of the water demand intervention options that will be modelled in the IDM model. Specific details of the costs and benefits of these intervention options will be published following the final IDM model run (see Section 0).

Leakage

52. Leakage occurs as a result of the water pipes failing. There are a number of causes including ageing infrastructure, third party actions or natural events associated with ground movement.

53. To hold leakage at current levels involves considerable expenditure to detect and repair leaks as they occur (Active Leakage Control), to maintain our existing pressure management schemes and to replace our pipework to arrest the deterioration of its performance over time.

54. The Sustainable Economic Level of Leakage (SELL) is the level of leakage at which it would cost more to reduce leakage further than it would to produce water in other ways. The calculation depends on the 'value of water'. That is, if a higher value is attached to water, then it may be economical to reduce leakage to lower levels. The SELL determines the leakage targets set by us.

55. The leakage reduction options outlined in this section are the options that are available to go beyond SELL in order to further reduce leakage. The Feasible Leakage Reduction Options are summarised in Table 7.

Table 7: Feasible Leakage Reduction Options

Generic Option	Sub-Option	Specific Option
Leakage	Active Leakage Control	Advanced DMA Intervention. Made up of the following components: • DMA Redesign – capital work to redesign DMAs to better identify leakage. Includes splitting DMAs, moving priority district meters etc. • Acoustic logger installation • Replacement of service pipes • Pressure Management: install new pressure management schemes within individual DMAs at sub-DMA level. • DMA Excellence – operational component of work following DMA Redesign. Includes assessment of demand in the DMA (incl. temporary logging of large customers) and using Find and Fix programmes to pinpoint leaks. • Fixing Leaks – the final stage of DMA Enhancement is capital work to fix the leaks identified. This option was re-named from 'Enhanced ALC' in WRMP19.
	Mains Rehabilitation	Full DMA Mains Replacement of at least 90% of DMA - includes mains replacement, comm pipe replacement and boundary box install (does not include CSL repair)
		Partial DMA Mains Replacement - targets worst performing assets and includes mains replacement, comm pipe replacement and boundary box install (does not include CSL repair)

Generic Option	Sub-Option	Specific Option
	Leakage Innovation	Innovative techniques improving speed and quality of repairs, such as: • Adoption of keyhole repair techniques • Advanced technologies for precise and accurate leak location - acoustics • Advanced technologies for precise and accurate leak location - tracer gases • Quality/Make joints leak free - product development • Use technologies for repairing pipes from the inside • Enhanced detection equipment/innovation in detection • Enhanced repair methods/innovation in repair methods

Advanced District Metered Area Intervention (DMAi)

56. Advanced DMA Intervention is an innovative solution which combines a basket of capital and operational activities. The interaction between these components will either reduce leakage directly or help us better understand water demand and locate leaks within a DMA.

57. To enhance the delivery of Active Leakage Control, this solution will split a number of large DMAs into smaller DMAs under the DMA Redesign stage. It will also assess DMAs that have historically been 'unavailable' for leakage detection due to inherent network configuration issues (for example; a District Meter that is broken but requires relocation due to traffic management issues or DMA boundary issues that require new assets to resolve).

58. DMA Redesign may involve the installation of new District Meters, installation of new valves and washouts and the provision of enabling activities (for example, traffic management; human resources employed to facilitate repeat site visits) to optimise the operation of existing assets so to reconfigure and test the new DMA boundary. This work will enable more accurate targeting and easier repair of leaks within a DMA.

59. Advanced DMA Intervention also comprises acoustic logger installation, replacement of service pipes in DMAs or pressure management where our investigations indicate these solutions would enable leakage reduction.

60. These activities will be followed up by DMA Excellence stage, which is defined as improving the accuracy of leakage detection by better accounting for demand. This is done by assessments of demand in the DMA (incl. temporary logging of large customers) and using 'find and fix' programmes to pinpoint leaks.

61. In the final stage of Advanced DMA Intervention all leaks identified are fixed or pipes replace to achieve leakage reduction.

Leakage Innovation

62. Leakage Innovation includes activities that provide a new and cost efficient way to reduce leakage on our distribution mains network. Leakage Innovation is designed to be more cost efficient than Mains Rehabilitation. Leakage Innovation includes activities that we are currently aware of and those that will be developed in the future.

63. Activities in leakage innovation include (but are not limited to):

- Adoption of keyhole repair techniques

- Advanced technologies for precise and accurate leak location – acoustics
- Advanced technologies for precise and accurate leakage location – tracer gases
- New quality or design of joints so they are leak free – product development
- Using technologies for repairing pipes from the inside
- Enhanced detection equipment or innovation in detection
- Enhanced repair methods or innovation in repair methods

64. An important part of developing technologies and approaches to leakage reduction and repair that are currently emerging or not sufficiently developed is investment in trials of the technology and approached throughout AMP8. This investment is crucial to test and demonstrate the most cost effective innovative solutions available prior to their full implementation in later AMPs.

Mains Rehabilitation

65. Water mains rehabilitation is a traditional and long term sustainable option to reduce leakage from our distribution mains network. We are responsible for over 31,000km of water mains across London and Thames Valley. A lot of London's water mains are between 100 and 150 years old and although the original cast iron mains have served customers well, the increase in road traffic, corrosive soil conditions and ground movement mean they are more likely to leak or burst. We are therefore investing heavily in replacing the original mains.

66. To date, the approach to mains rehabilitation has been based on results combining national research, our experience over the last 14 years, experience gathered from other water companies and discussions with manufacturers.

67. However, since 2011, an approach to target pipe condition as well as performance has been investigated to ensure mains replacement is targeted to deliver sustainable benefits. This means mains replacement targeting is being done at street and 'superstring' level. Superstrings are pipes connected to each other of the same age, material and diameter. By analysing the performance of each pipe, those pipes within a DMA that are performing the worst can be targeted.

68. The distribution of mains replacement at pipe level is first modelled in the Distribution Mains Model. The output of this model provides us with the costs and benefits for mains rehabilitation.

Customer Supply Pipe Leakage

69. Customer supply pipe leakage (CSL) makes up a substantial proportion of the total water leakage across our supply area. The new 'smart' customer metering technology we are installing has provided an opportunity to identify customer side leaks. This is because smart meters have allowed identification of continuous flow to individual customer properties, indicating customer side leakage or wastage within the property. This, in turn, facilitates a more targeted and real time method to reduce customer supply pipe leakage.

Metering

70. The Thames Water area was designated as being in an area of serious water stress by the Secretary of State for the Environment Food and Rural Affairs in 2007. As a result, legal powers were granted for compulsory metering in 2012 (AMP5) on approval of WRMP09.

71. In WRMP24, seven metering options have been identified in the Demand Option Feasible List as potential options to reduce demand for water. These have been broken down by type of property

and type of technology because there are different costs and demand benefits associated with each. These Feasible Metering Options are summarised in Table 8.

Table 8: Feasible Metering Options

Generic Option	Sub-Option	Specific Option
Metering	Progressive Metering Programme (PMP) (previously Houses Only)	Meter all houses (AMI technology) and repair CSLs found
		Meter all houses (AMR technology) and repair CSLs found
	Bulk Metered Area (previously Blocks of Flats (Bulks) Only)	Bulk metering flats (AMI technology) and repair CSLs found
		Bulk metering flats (AMR technology) repair CSLs found
	Mini Bulk Metered Area	Install small bulk meters on properties with multiple supplies (previously called Small Blocks Flats Bulks)
	Progressive Smart Upgrade Programme - Household (PSUP) (previously Household meter upgrades)	Proactive replacement of basic meters with smart meters on household properties
	Progressive Smart Upgrade Programme - Non-household (PSUP) (previously Non-household meter upgrades)	Proactive replacement of basic meters with smart meters on non-household properties
	Metering Innovation - PMP	Investigate innovative practices to install new meters at no access and unmeterable properties. This includes a change in practice for no access and an investment/trial of alternative technology for unmeterables.
	Metering Innovation - PSUP	Investigate innovative practices to upgrade meters at no access and unmeterable properties. This includes a change in practice for no access and an investment/trial of alternative technology for unmeterables.

Property Type

72. **Houses (detached, semi-detached or terraced):** meters can be installed internally or externally. An external meter requires the installation of a standard boundary box outside the property to house the meter. This results in a reduction in usage and wastage, and for houses with meters installed externally in a detection of customer side leakage.

73. **Individual dwellings in a block of flats**: requires customer access to the property to install the meter at each individual dwelling (internal) within a block of flats. This activity results in a reduction of water usage and wastage but cannot detect customer side leakage as the meter is located at the property end of the customer supply pipe.

74. **Bulks and mini bulks:** installation of a single bulk meter on the supply pipe of a block of flats. This requires the installation of a large chamber outside the property to house the meter which is significantly more labour intensive and therefore expensive than the standard boundary box required for houses. Bulk meters do not measure supply to individual dwellings within the block of flats.

Meter Technology and Policy

75. **Advanced Metering Infrastructure (AMI)**: using a fixed network meter reading system (usually radio based), meters are read electronically and do not require a meter reader. Electronic readings are remotely passed from the meter through to utility offices for billing and network management purposes. With these systems it is possible to collect more frequent data on water consumption and alarm conditions, which can be used to deliver additional demand reduction through live monitoring.

76. AMI metering has the greatest demand benefit or reduction in usage (through behaviour change), wastage and CSL due to its 'real time' monitoring capability.

77. **Automatic Meter Reading (AMR):** a meter with a short range radio is installed at each property. The meter reader equipped with a meter reading device is required to walk by the meter in order to take a meter reading but does not require physical access to the meter. This process can also be undertaken in certain circumstances by vehicle – known as drive-by reading. The data is captured electronically. Additional data may also be collected, such as: a small number of historic meter readings; minimum and maximum flows; tamper alarms; low battery warnings and the identification of potential leaks.

78. AMR metering has significant benefits in the way of reduced usage (through behaviour change), wastage and CSL due to the frequency of data being provided. AMR water demand reduction benefits are less than AMI benefits.

79. **Basic Meters:** a conventional meter is installed with a register dial. Meter reading is undertaken by a meter reader gaining physical access to the meter and visually recording the meter reading. The meter reading can either be recorded in a book or keyed into an electronic meter reading data capture device. Some data capture devices have bar-code readers to record/check the meter serial number. New basic meters are no longer being installed but are still operational at properties where they have previously been installed.

80. Basic meters provide the least benefit in terms of reduced demand for water and reduction in usage (through behaviour change) and wastage. This is attributable to the infrequency of meter readings and the unreliability of registered dials to accurately record data. CSLs are rarely captured by basic meters unless they are substantial due to the infrequency of data readings.

81. For WRMP24, the following types of metering were identified in the programme used to roll out metering:

82. **Progressive Metering Programme (PMP)**: a programme of compulsory installation of AMI meters on unmeasured properties within an area. Customers are billed on an unmeasured tariff for one year before they are automatically switched to metered charges, although they have the option to migrate earlier if they elect to do so.

83. **Progressive Smart Upgrade Programme (PSUP):** a proactive programme of replacing basic meters with AMI meters on household and non-household properties within an area.

84. **Bulk Metering:** targeted metering of water supply points that supply more than 25 dwellings in a large block of flats. Whilst these meters are not used for billing purposes and therefore will not directly affect usage, there are substantial savings with reference to leakage reduction and the more efficient targeting of detection of water loss activity.

85. **Mini Bulk Metering**: targeted metering of water supply points that supply up to 25 dwellings in a small block of flats.

86. **Metering Innovation**: targeting properties that it was not possible to meter under the Progressive Metering and Progressive Smart Upgrade Programmes. This will require implementation of innovative technologies and approaches because we are either unable to gain access to these properties or installing a meter is considered impractical or carries a health and safety risk.

87. **Optant Metering**: customers request a meter to be installed on their property. This can be an AMI or AMR meter. The customer immediately switches to a metered charge.

88. In WRMP24, the feasible metering options will be delivered through the Progressive Metering, Progressive Smart Upgrade, Bulk Metering and Metering Innovation programmes. Optant metering will remain part of the baseline metering options for WRMP24.

Water Efficiency

89. Water efficiency is a core component of the sustainable management of water resources. Water efficiency has received strong support from our customers as a priority only second to leakage reduction. The UK Government has also set out its aspiration to achieve a reduction in water use and support for measures to promote the efficient use of water[3].

90. In response to the preferences of stakeholders, customers, Government and our own belief that water efficiency is critical to the sustainable management of water resources, we has considered 108 different options to promote the efficient use of water.

91. The Feasible Water Efficiency options are summarised in Table 9.

Table 9: Feasible Water Efficiency Options

Generic Option	Sub-Option	Specific Option
Water Efficiency	Advice and Guidance	Digital engagement with all customers
	Direct Efficient Goods Plumber Installation	Smarter Home Visits to newly metered Household Properties as part of the Progressive Metering Programme - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)
		Smarter Home Visits to newly metered optant Household Properties - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)
		Smarter Home Visits to newly metered Household Properties as part of the Progressive Smart Upgrade Programme - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)
		Wastage Fixes - Free leak fixes for all customers with internal leakage (i.e. leaky-loos and leaking taps)

[3] Water For Life, Defra, December 2011

Generic Option	Sub-Option	Specific Option
		Household Innovation and Tariffs
	Non-Domestic Advice and Assistance	Smarter Business Visits to Non Household Properties - company funded. Includes wastage repair offer for non-household customers with continuous flow
	Green Redeem (previously Targeted Incentive Scheme)	Customers are incentivised through non-financial offers (vouchers, prize draws, community rewards) to be more efficient with their water consumption.

Smarter Home Visit

92. Smarter Home Visits (SHV) are offered to household customers who are metered through our Progressive Metering and Progressive Smart Upgrade Programmes, as well as to those customers who request a meter to be installed through Optant metering. The visits comprise free in home retrofitting of water saving devices and personalised water savings advice.

93. This programme includes large-scale communication and engagement across our entire customer base concerning the efficient use of water and multiple water and energy savings opportunities.

Wastage Fix (i.e. Leaky Loos)

94. Wastage Fixes are offered to customers following a smarter home visit if they are found they have a leaking toilet or tap.

Smarter Business Visit

95. Smarter Business Visits (SBV) are offered to non-household premises and are similar to a Smarter Home Visit in that a representative attends the business to assess where improvements to discretionary water usage can be achieved by installing water saving devices or fixing leaking toilets.

96. For those non-household properties who are interested, the following actions are included:

- fitting of water saving devices (showerhead, showersave, showertimer, tap inserts, kitchen swivel and save-a-flush devices)
- identifying leaking toilets and carrying out a free one-off fix; and
- fitting free urinal controls where practical

97. The SBV option being delivered as part of WRMP19 has been shown to deliver cost effective water savings. However, with Thames Water exiting the non-household retail market in April 2017, the savings shown to be delivered by SBV may be at risk. we will continue to offer the SBV service to non-household customers and will monitor the water savings delivered as the programme progresses.

Digital Engagement

98. This is a new water efficiency option for inclusion in WRMP24. This option will allow smart metered customers to have continuous access to their own water consumption data.

99. Customers will be able to view their water consumption and associated costs via a Digital Engagement Portal. The Portal will also provide advice on interpreting the available data, saving water and on identified and fixing potential leakage / wastage issues identified by the data.

Household Innovation and Tariffs

100. Household innovation and Tariffs encompasses our household activity and future tariffs implementation.

101. Household innovation encompasses six potential solutions:

- AMP8 Water Efficiency Innovation Trials (new) – this is the most critical of the six solutions
- Eliminate Wastage (new)
- Non-Potable Water Supplies
- Water Efficiency on BMAs and mBMAs (new)
- Media campaigns
- New Water Efficiency Innovation

102. The imposition of tariff or pricing controls can be an effective strategy for water demand management if the water rate structures contain strong incentives to conserve water (Dziegielewski, 2003). This view is supported by behavioural economic theory that indicates that consumers may respond to economic incentives by assuming behaviours that maximise their economic self-interest. Tariff charging can be implemented by reforming water rates, introducing surcharges or establishing penalties to deter high water or wasteful water usage practices, and encourage consumers to conserve water. However, tariff strategy with respect to water management has not been adopted in the UK mainly because it requires compulsory metering which may have significant financial impact on low income households of above average size if such metering were imposed.

103. We had previously planned to undertake variable tariffs trials in AMP6 with the aim of introducing them early in AMP7. Due to our relatively low level of meter penetration and views expressed by customers during customer focus groups, we will not introduce Innovative Tariffs until we have a more significant level of meter penetration. In WRMP24, we plan to introduce tariffs in 2035, once we have completed our Progressive Metering Programme to ensure fairness in billing to customers.

We will continue to research and work with relevant stakeholders, researchers and academics to investigate and determine the best way to trial and implement financial tariffs in the future.

Green Redeem

104. The purpose of the Green Redeem Scheme is to incentivise customers through non-financial offers to be more efficient with their water consumption.

105. The incentive scheme works in a similar way to financial tariffs, whereby customers are rewarded through non-financial offers (vouchers, prize draws, community rewards) to reduce their water consumption. The main difference between conventional financial tariffs and the incentive scheme is that the incentive scheme does not directly impact on customers' bills. We will not need to obtain a high level of meter penetration prior to implementing the scheme as there are no negative

impacts on customers' bills. The scheme aims to influence customers' behaviours through offering positive rewards as opposed to the imposition of negative dis-benefits.

106. The incentive scheme works by incentivising customers to use less water through the awarding of points that can be exchanged for money-off vouchers, charity donations, prize draw entries and days out etc. We provide water reduction targets for customers based on their current usage and award points that may differ depending on whether they reach their water saving target, whether they sustain the reduction in water usage and or whether they exceed their target.

Creating Demand Reduction Programmes

107. To enable the appraisal of the Feasible Demand Management Options alongside the Supply Options (Figure 1), the Feasible Demand Management Options must be optimised to produce Demand Reduction *Programmes*.

108. The purpose of creating demand reduction programmes is to provide a total demand reduction and cost for a 'basket' of demand options. This means that we appraise and optimise each of our demand options and combine them to create several different demand reduction programmes.

109. This avoids an assessment where each demand option is appraised against each supply option individually. Since, on average, demand options are cheaper than supply options, optimisation of individual demand and supply options would result in a plan that is neither deliverable nor reliable. To avoid this, we create demand reduction programmes and optimise these with our supply options to develop our preferred plan.

110. There are three primary steps to create demand reduction programmes for our dWRMP24:

111. Definition of programme scenarios, which consider different levels of leakage, PCC and Non-household demand reduction glide paths

112. Cost benefit ratio of each demand option calculated using our tool, 'Options Data Calculator'.

113. Optimisation of demand options using two of our tools: 'Demand Profile Calculator', and Integrated Demand Management (IDM) model.

Demand Reduction Programme Outputs

114. We have developed three demand reduction programmes for inclusion in programme appraisal for dWRMP24.

115. These programmes are called, Deliverable, High and High Plus. They are defined as:

116. **Deliverable** is the programme where we can guarantee delivery. This programme has approved profiles of delivery for each option. For example, the number of meters we can install each AMP are based on current practices and experience. The Deliverable programme achieves the targets set out by our strategy.

117. **High** is the programme that is deliverable but slightly more ambitious in the speed with which we conduct the demand option activity. For example, this programme is designed to complete the metering programme faster and achieves a greater reduction in leakage by 2050 than the Deliverable Programme.

118. **High Plus** is our most ambitious programme. This programme requires significant innovation in both leakage and PCC reduction activity in the near future. The high plus assumes our most cost beneficial programmes from metering and water efficiency can be complete within AMP8. This is done to increase the volume of leakage we can reduce in AMP8. It also assumes innovation activities will be available by 2030 to continue to reduce leakage by 2050 by a volume that is greater than both the deliverable and high plus programmes.

119. Table 10 summarises the definition of each demand reduction programme scenario.

Table 10: Definition of programme scenarios

Target	Deliverable	High	High Plus
50% Leakage Reduction	50% by 2050	50% by 2045	50% by 2040
AMP8 Leakage reduction	15% in AMP8	15% in AMP8	20% in AMP8
Household Consumption Reduction (PCC)	Deliverable delivery of options – innovation by 2035	Ambitious delivery of options – innovation by 2033	Very ambitious delivery of options – innovation by 2030
Non-Household Consumption Reduction	AMP8 and AMP9 activity	AMP8 and AMP9 activity	AMP8 and AMP9 activity

Conclusions

120. This report has, in the context of the overall WRMP24 process, outlined water Demand Management options (Section 0), detailed the Demand Management Options Screening process undertaken (Section 0) and presented the resulting Demand Management Feasible Options (Section 0). An overview of the Integrated Demand Management (IDM) model has been provided that will be employed to undertake the next step whereby the Demand Management Feasible Options are optimised to produce a Demand Reduction Programme (Section 0) for inclusion in the WRMP19 programme appraisal process.

121. The output of this report, the 18 Demand Management Feasible Options list is summarised in Table 11. These options have been screened from an original unconstrained list of 216 Demand Management Options. The options that have been rejected as part of this process will be included in the WRMP24 Rejection Register for reconsideration at the next WRMP, or they will be studied further as they have merit in being enacted at a later date.

Demand Management Feasible Options List

Table 11: Demand Management Feasible Options

Generic option	Sub-Option	Specific Option
Leakage	Active Leakage Control	Advanced District Metered Area (DMA) Intervention. Made up of the following components: • DMA Redesign – capital work to redesign DMAs to better identify leakage. Includes splitting DMAs, moving priority district meters etc. • Acoustic logger installation • Replacement of service pipes • Pressure Management: install new pressure management schemes within individual DMAs at sub-DMA level. • DMA Excellence – operational component of work following DMA Redesign. Includes assessment of demand in the DMA (incl. temporary logging of large customers) and using Find and Fix programmes to pinpoint leaks. • Fixing Leaks – the final stage of DMA Enhancement is capital work to fix the leaks identified. This option was re-named from 'Enhanced ALC' in WRMP19.
	Mains Rehabilitation	Full or partial DMA Mains Replacement - includes mains replacement, comm pipe replacement and boundary box install (does not include CSL repair)
	Leakage Innovation	Innovative techniques improving speed and quality of repairs, such as: • Adoption of keyhole repair techniques • Advanced technologies for precise and accurate leak location – acoustics

Generic option	Sub-Option	Specific Option
		• Advanced technologies for precise and accurate leak location - tracer gases • Quality/Make joints leak free - product development • Use technologies for repairing pipes from the inside • Enhanced detection equipment/innovation in detection • Enhanced repair methods/innovation in repair methods
Metering	Progressive Metering Programme (PMP) (previously Houses Only)	Meter all houses (AMI or AMR technology) and repair CSLs found
	Bulk Metered Area (previously Blocks of Flats (Bulks) Only)	Bulk metering flats (AMI or AMR technology) and repair CSLs found
	Mini Bulk Metered Area	Install small bulk meters on properties with multiple supplies (previously called Small Blocks Flats Bulks)
	Progressive Smart Upgrade Programme - Household (PSUP) (previously Household meter upgrades)	Proactive replacement of basic meters with smart meters on household properties
	Progressive Smart Upgrade Programme - Non-household (PSUP) (previously non-household meter upgrades)	Proactive replacement of basic meters with smart meters on non-household properties
	Metering Innovation - new meter installations	Investigate innovative practices to install meters at no access and unmeterable properties. This includes a change in practice for no access and an investment/trial of alternative technology for unmeterables.
	Metering Innovation - proactive meter upgrades	Investigate innovative practices to upgrade meters at no access and unmeterable properties. This includes a change in practice for no access and an investment/trial of alternative technology for unmeterables.
Water Efficiency	Advice and Guidance	Digital engagement with all customers
	Direct Efficient Goods Plumber Installation	Smarter Home Visits to newly metered Household Properties as part of the Progressive Metering Programme - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)

Generic option	Sub-Option	Specific Option
		Smarter Home Visits to newly metered optant Household Properties - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)
		Smarter Home Visits to newly metered Household Properties as part of the Progressive Smart Upgrade Programme - involves water efficiency devices, water audit and water savings plan with customer (non-LAHAs only)
		Wastage Fixes - Free leak fixes for all customers with internal leakage (i.e. leaky-loos and leaking taps)
		Household Innovation and Tariffs
	Non-Domestic Advice and Assistance	Smarter Business Visits to Non Household Properties - company funded. Includes wastage repair offer for non-household customers with continuous flow
	Green Redeem (previously Targeted Incentive Scheme)	Customers are incentivised through non-financial offers (vouchers, prize draws, community rewards) to be more efficient with their water consumption.

Programme Selection

122. The Demand Management Feasible Options were input into two tools ('Demand Profile Calculator' and our Integrated Demand Management (IDM) model) to produce Demand Reduction Programmes. The results of the modelling are described in a separate report, 'Thames Water Draft WRMP24, Demand Management Feasible Options'.

Appendix A: Primary and Secondary Screening Questions, WRMP24 and WRMP19

WRMP24 Primary Screening Questions

(i) Technical: Is the option currently technically feasible?

(ii) Cost: Does the option avoid excessive cost, using available outline cost information?

(iii) Environmental: From an initial environmental assessment, are the likely significant effects of the option on the environment considered acceptable?

(iv) Risk: Does the option give rise to an acceptable risk of it being implemented? Is there an acceptable risk that the option will not provide a net water resource benefit or not provide sufficient future resilience?

(v) Legal: Does the option comply with current legal requirements?

WRMP24 Secondary Screening Questions

(i) Does the option avoid excessive cost?

(ii) Is the option likely to be acceptable in terms of planning and environmental constraints?

(iii) Is the option likely to help meet Water Framework Directive (WFD) objectives and prevent deterioration of water body status?

(iv) Does the option have an acceptable risk of social impact or inequality?

(v) Does the option align with company policy objectives?

(vi) Does the option provide flexibility/adaptability to climate change uncertainty?

(vii) Does the option provide conjunctive use benefits or other benefits to water resource management?

(viii) Is the option practical and efficient to implement and maintain?

(ix) Is the option lead time sufficiently flexible to planning or other uncertainties to ensure security of supply is maintained?

(x) Are all other risks and uncertainties acceptable?

(xi) Can cost and benefit of the demand option be modelled for comparison with alternative at DMA level or can the option be actively investigated in the 2025-30 period for future consideration within our long-term strategy?

WRMP19 Primary Screening Questions

(i) Technical: Is the option currently technically feasible?

(ii) Cost: Does the option avoid excessive cost, using available outline cost information?

(iii) Environmental: From an initial environmental assessment, are the likely significant effects of the option on the environment considered acceptable?

(iv) Risk: Does the option give rise to an acceptable risk of it being implemented? Is there an acceptable risk that the option will not provide a net water resource benefit or not provide sufficient future resilience?

(v) Legal: Does the option comply with current legal requirements?

WRMP19 Secondary Screening Questions

(i) Does the option avoid excessive cost?

(ii) Is the option likely to be acceptable in terms of planning and environmental constraints?

(iii) Is the option likely to help meet Water Framework Directive (WFD) objectives and prevent deterioration of water body status?

(iv) Does the option have an acceptable risk of social impact or inequality?

(v) Does the option align with company policy objectives?

(vi) Does the option provide flexibility/adaptability to climate change uncertainty?

(vii) Does the option provide conjunctive use benefits or other benefits to water resource management?

(viii) Is the option practical and efficient to implement and maintain?

(ix) Is the option lead time sufficiently flexible to planning or other uncertainties to ensure security of supply is maintained?

(x) Are all other risks and uncertainties acceptable?

(xi) Can cost and benefit of the demand option be modelled for comparison with alternative at DMA level?

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