



Thames Water

Water Resources Management Plan 2019

Demand Management Options
Screening Report

March 2017

Executive Summary

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 (WRMP19) Demand Management Feasible Options.

Thames Water has a legal duty to produce a Water Resource Management Plan every five years¹ that sets out how we plan, develop and maintain an efficient and economical system of water supply over a 25 year period².

To understand whether there is sufficient water to meet customers' needs over the WRMP19 planning period, Thames Water has forecast the water supply/demand position for the company's water supply area. The demand forecasts for WRMP19 are currently being developed. Draft demand forecasts indicate a deficit of around 400MI/d for the 25 year scenario (to 2044/45) and 800MI/d for the 80 year scenario (to 2099/2100).

Demand Options Screening

The purpose of the Water Resource Management Plan is to set out how we will provide a secure supply of water to our customers. When a supply demand deficit has been identified, the volume of supply must be increased, the volume of demand decreased or a combination of supply and demand options employed to minimise the risk of the deficit.

To achieve this, both Supply and Demand Management Options undergo a Screening Process to identify potential solutions that minimise the risk of the deficit. Following the Screening process, Supply and Demand options are assessed together in the Economics of Balancing Supply and Demand, EBSD model prior to Programme Appraisal which establishes the preferred or 'best value' Supply Demand Programme for the planning period.

Figure 1 illustrates the connection between the Supply and Demand Screening Process and the overall WRMP process.

This report details the Demand Management Options Screening process undertaken for WRMP19. The purpose of this process is to determine a list of Feasible Demand Management Options which could be implemented to reduce demand. The Feasible Demand Management Options will be optimised in the Integrated Demand Management (IDM) model to produce Constrained Optimised Demand Management Programmes that can then be entered into EBSD.

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

- **Stage 1 - Create an Unconstrained Options List (see Section 3.2)**

The purpose of this stage is to create a list of all possible options that may be technically feasible but not necessarily free of environmental or planning issues. For WRMP19, an unconstrained list of 135 Demand Management Options has been developed comprising options under the generic categories, Leakage, Metering, Water Efficiency, Incentives and Non-Potable Water Supply.

¹ Water Industry Act 1991, Sections 37A to 37D, (as amended by the Water Act of 2003)

² Water Industry Act 1991, Section 37

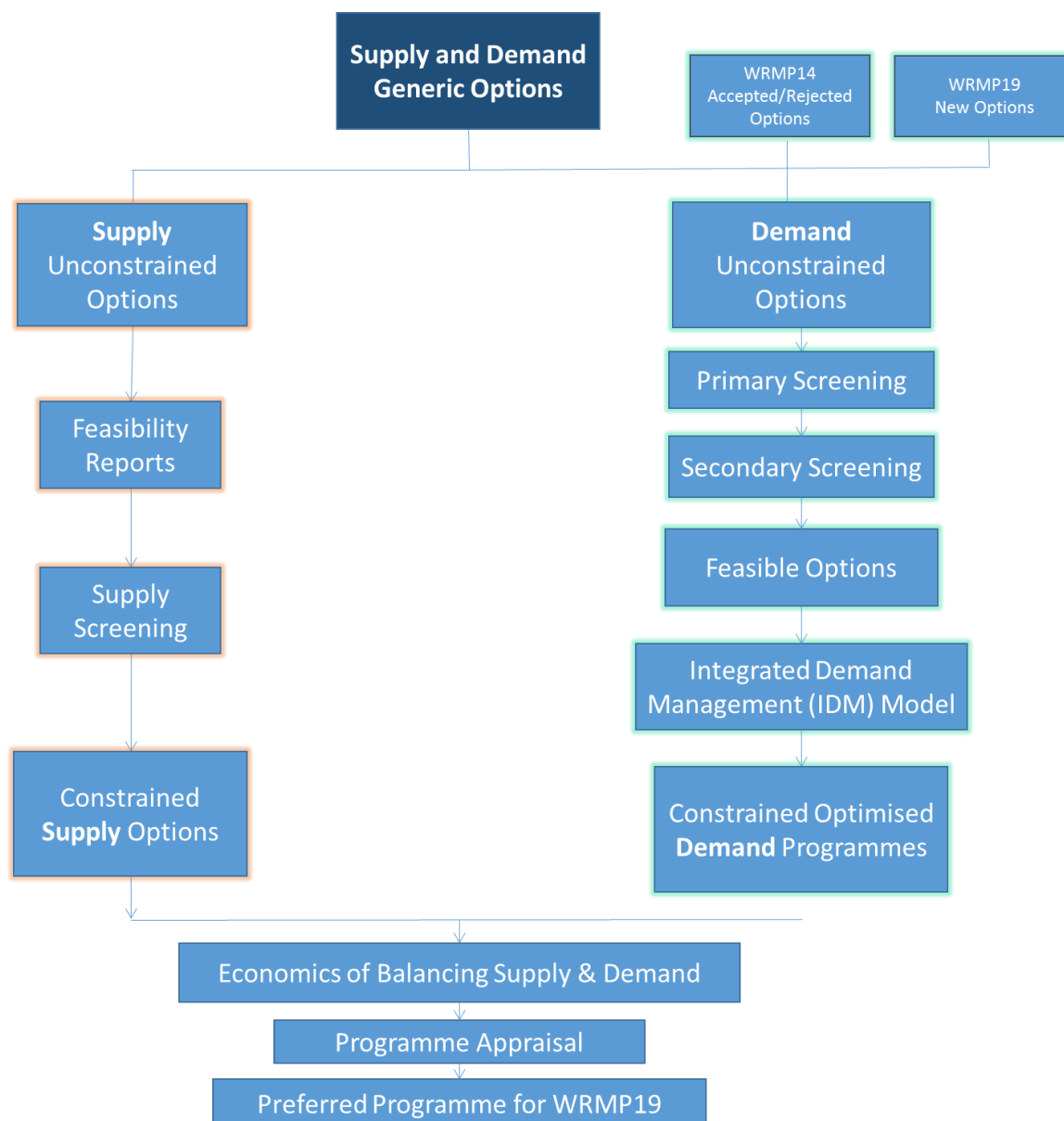


Figure 1 - Water Resources Management Plan Process Overview

- **Stage 2 - Create a Feasible Options List (see Section 3.3)**

There are two further levels of screening undertaken in Stage 2 known as Primary Screening and Secondary Screening. Primary Screening assesses option feasibility at a high level for acceptance within Technological, Financial, Environmental, Risk and Resilience and Legal constraints.

For WRMP19, of the 135 Demand Management Options in the Unconstrained Options list, 44 have been screened out by Primary Screening.

Secondary Screening further refines the options list that has emerged from the primary screening exercise by reference to qualitative criteria. For WRMP19, of the 91 Demand Management Options remaining after Primary Screening, a further 44 options were screened out by Secondary Screening.

Screening Output - Feasible Demand Management Options

The outcome of sequential Primary and Secondary screening is the drawing up of the Feasible Demand Management Options list. There are 47 Feasible Demand Management Options for WRMP19 (see Section 4.0).

Table 1 summarises these options under generic water demand management headings and at the sub-option level.

Leakage	Metering	Water Efficiency	Incentive Schemes	Non-Potable
Enhanced Active Leakage Control	Metering Houses Only	Smarter Home Visit	Targetted Incentives Scheme	Rainwater Harvesting
Pressure Management	Metering Blocks of Flats (Bulks) Only	Smarter Business Visit	Innovative Tarrifs (feasible post-smart metering)	Stormwater Harvesting
Mains Replacement	Metering Houses and Bulks	Housing Association Fix		Greywater Recycling
Customer Side Leakage Repair	Metering Houses, bulks and individual flats	Wastage Fixes (e.g. leaky loos)		
		Intensive area based promotional campaigns		
Metering Houses, bulks and individual flats + Customer Side Leakage Repair + Smarter Home Visit				
Metering Houses, bulks and individual flats + Customer Side Leakage Repair + Housing Association Fix				
Metering Houses + Customer Side Leakage Repair + Smarter Home Visit				

Table 1 - Feasible Demand Management Options Summary

Integrated Demand Management (IDM) Model and Next Steps

The Feasible Demand Management Options are optimised in the Integrated Demand Management (IDM) model to produce Constrained Optimised Demand Management Programmes. These programmes can then be appraised against the Constrained Supply Options in EBSD and the Programme Appraisal process to determine the preferred or 'best value' Supply/Demand Programme for WRMP19.

In March 2017, the Demand Management Feasible Options will be input into the IDM model to produce Constrained Optimised Demand Management Programmes. The results of the IDM modelling will be available in late May 2017.