



Water Resources Forum, 27 October 2016

Briefing paper: Demand management and resource options

The purpose of this paper is to provide background information on the programme of work to examine demand management and resource options which will be considered in the development of our next Water Resources Management Plan (WRMP19). At the Water Resources Forum, on the 27 October 2016, we will provide an update on this work including feedback received from stakeholders at a recent Technical Stakeholder Meeting (6 October 2016).

Introduction

In our current plan (WRMP14), we focused on measures to manage demand over the next 10 years and set out the need to develop new resources in the long term to meet future challenges and maintain security of supply in the region. Since then we have progressed a programme of work to examine demand management and resource options.

Demand Management Options

We have reviewed possible demand management options, engaged with stakeholders on these (May 2016), and published a draft screening report setting out the constrained list of options to be taken forward for consideration for WRMP19(August 2016). The constrained options are presented in Figure 1.

Figure 1: Constrained list of demand management options

Leakage Reduction	Water efficiency	Tariff Controls	Non-Potable Water	Metering
Active Leakage Control	Smarter Home Visits	Targeted Incentive Scheme	Grey water recycling system	Progressive Metering Programme
Pressure Management	Commercial Audits and Fixes		Rainwater harvesting system	Bulk Metering Programme
Mains Rehabilitation	Wastage fixes e.g. Leaky Loos		Storm Water Recycling System	Optant Metering Programme
Customer Side Leakage	Innovative Solutions (devices & technology)		Decentralised wastewater recycling plant	
	Housing association fixes (fixes problems found at properties)		Centralised or semi-centralised wastewater recycling plant	
	Intensive area-based comms/marketing			

Black text: existing options
Green text: new options

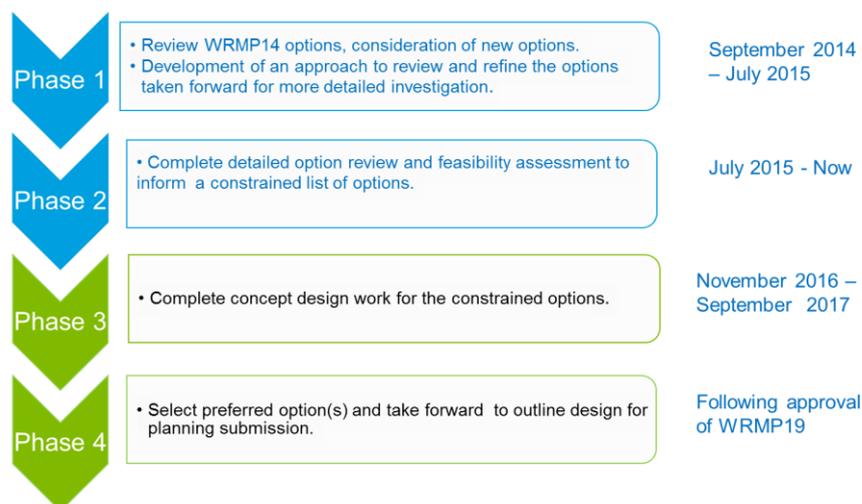
At a technical stakeholder meeting (6 October 2016) we provided an update on options noted to be of specific interest to stakeholders: non-potable reuse; and a new incentive scheme. We also outlined findings from a review of best practice initiatives, both in the UK and internationally, completed to inform our current programme on water efficiency and also future plans.

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Resource options

We have developed a 4-phase programme of work to undertake a full review of potential resource options and detailed work on options identified as preferred options as shown in Figure 2. We are currently concluding Phase 2 of the programme. We are engaging with stakeholders as we progress this work.

Figure 2: 4-Phase Programme to examine resource options.



An overview of work completed to date is summarised below and the next steps outlined.

Phase 1 involved a review of a wide range of potential resource options, and refinement of these options considering engineering scope, cost, environmental impacts and benefits, planning and operational risk to take forward a reduced list of options for more detailed investigation. We published screening reports for large and small resource options setting out the work completed, in May and September 2015 respectively, and sought feedback on this work.

Phase 2 involved detailed investigation of the refined list of resource options. In September 2016 we published option feasibility reports, which set out the work completed for each option type, and an updated screening report which outlined the constrained list of options to be taken forward for detailed review and costing in Phase 3. We held meetings in May and July 2016 to update stakeholders on progress and held a further technical stakeholder meeting in October 2016 to discuss the proposed constrained list and to seek feedback and comment on the work to date. The draft constrained list of options to be taken forward to Phase 3 is presented in Figure 3.



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Figure 3: Draft Constrained list of options - London

Option Type	Resource Element		Conveyance Element	Raw Water System	Treatment Element	Network Element
	Location	Estimated Deployable Output (MI/d)				
Water Reuse	Deephams - 60MI/d	58	Deephams to King George V Intake 60MI/d Beckton to King George V Intake 300MI/d	TBC	East London Treatment	Coppermills - Honor Oak
	Beckton - 3Nr 100MI/d	268				
Raw Water Transfer	Vyrnwy - 180MI/d	262	Deerhurst to Radcot 300 MI/d	TBC	Kempton	Hampton - Battersea Coppermills - Honor Oak
	Minworth - 88MI/d					
	Draycote - 25MI/d					
	Mythe - 15MI/d					
Desalination	Beckton - 150MI/d	142	N/A	N/A	N/A	Beckton to Coppermills Coppermills - Honor Oak
	Thamesmead - 3Nr 100MI/d	268				
New Reservoir	Abingdon - 75Mm ³	153	N/A	TBC	Kempton	Hampton - Battersea Coppermills - Honor Oak
	Abingdon - 100Mm ³	204				
	Abingdon - 125Mm ³	247				
	Abingdon - 150Mm ³	287				
	Abingdon - 30+90Mm ³	59+179				
	Abingdon - 70+50Mm ³	145+93				
Direct River Abstraction	Teddington - 300MI/d	268	Teddington to Thames-Lee tunnel shaft 300MI/d	TBC	Kempton / East London	Coppermills - Honor Oak Hampton - Battersea (TBC)

What's next

The next steps, and areas of further work, are noted below.

- Review comments from stakeholders on the option feasibility reports and the draft constrained list of options (Comments to be received by 31 October 2016)
- Complete option specific investigations and outstanding feasibility reports including:
 - Groundwater options
 - Catchment management
 - Inter-zonal transfers
 - Hydro-dynamic modelling for direct river abstraction option at Teddington to confirm navigational and environmental impacts
 - Arrangements for third party and bulk supply options
 - Process, timescales and changes needed to River Severn regulation
 - Finalise raw water transfers feasibility assessment and include these options in fine screening
- Review the water system reinforcements required
- Update the fine screening report in December 2016 and March 2017
- Progress conceptual design reports for the constrained options, including cost estimates. (Phase 3)
- Undertake Strategic Environmental Assessment, Habitats Directive and Water Framework Directive assessments

END