

Water Resources Forum, March 2019 – Briefing paper

Our long-term water resources strategy

1. Introduction

In our revised draft Water Resources Management Plan (WRMP19) we have proposed a best value programme of options which resolves the substantial water resource deficit forecast in our supply area over the next 80 years, provides improved resilience to a severe drought and takes a regional perspective, enabling greater sharing of water resources across the south east of England.

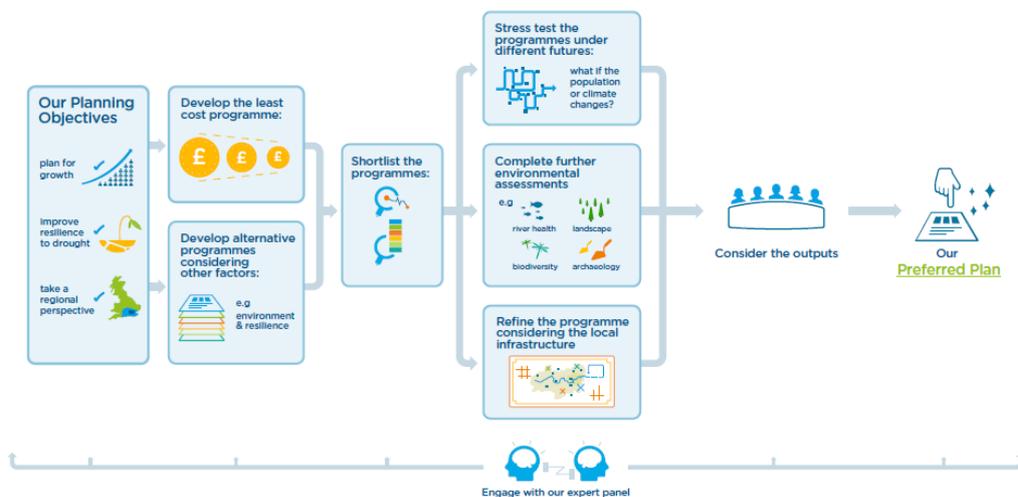
We worked with other water companies, leading industry experts and regulators to develop the planning and decision making framework. We have used a suite of advanced decision support tools, which take account of a range of factors including cost, environmental impact and benefit and customer preferences, to develop alternative programmes of demand management and new resource options. We stress tested the alternative programmes to see how they performed under different futures and used an adaptive planning approach and expert judgement to decide on the best value programme. The approach is complex and we engaged an independent panel of industry experts to challenge and critique our work to ensure it is robust.¹

At the Water Resources Forum we will outline our preferred programme, the additional work we have undertaken to address comments received as part of the further consultation and develop our adaptive planning work. A member of our Expert Panel will also talk about their role in this process.

2. Our approach

We followed a step-wise approach to determine our preferred programme as illustrated in Figure 1. It is described in detail in Section 10 of our updated revised draft WRMP19 (available in April 2019).

Figure 1 Our approach to programme appraisal



¹ rdWRMP19 Appendix Y – A report from our Expert Panel available on our website www.thameswater.co.uk/wrmp

3. The highlights

Our preferred programme combines measures to reduce leakage and manage demand with new resource options.

Demand management is the main focus in the short to medium term, comprising an integrated package including significant reductions in leakage (15% by 2020 and 50% by 2050), metering all water supply connections by 2035 and an enhanced water efficiency programme. However demand management on its own will not be enough, and we will also need to develop new resources. We have proposed strategic water resource development at three key points in the planning period - to 2030 (driven by the need to increase drought resilience), 2037 (driven by regional need for water resources) and the 2080s (to maintain security of supply in the long-term).

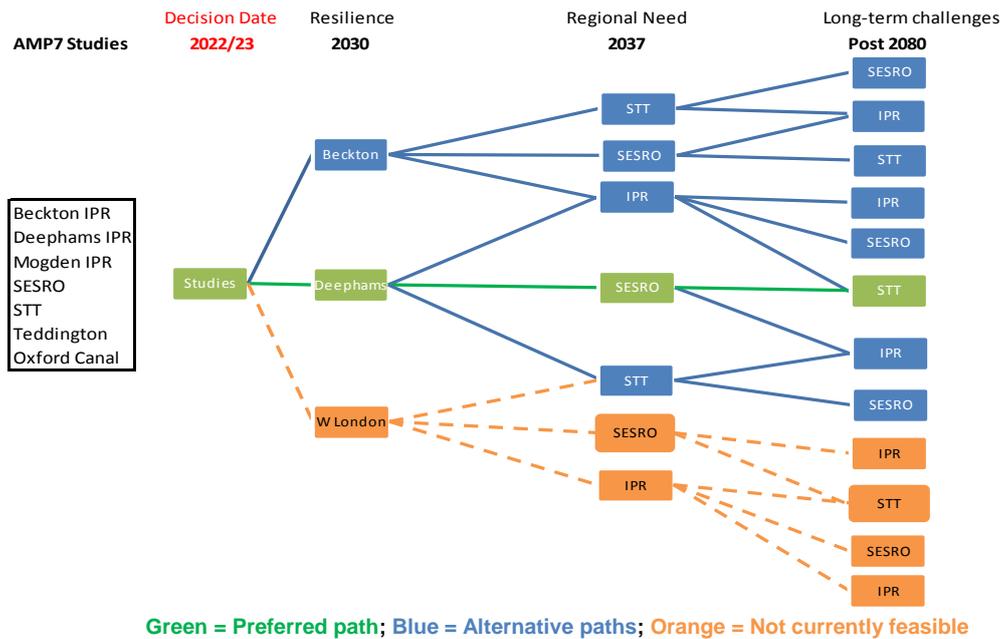
In summary, our preferred programme of resource development is:

- Water reuse at Deephams - this option can be constructed in time to meet the need to improve drought resilience by 2030. There is a decision as to whether it is better to build a smaller reuse (referred to as IPR) plant at Deephams, supported by innovative groundwater schemes, small regional trades and transfers or a single larger reuse (IPR) plant at Beckton.
- Reservoir development (SESR) - this is the preferred option to meet regional need across the South East and secure supplies of water in the medium term (2037/38). It also will enable us to make changes to our abstractions to improve vulnerable chalk streams and other water courses in our supply area, including on the Wandle, Wye and Cray as well as the Lee (Amwell Magna) and Thames (Oxford watercourses).
- Severn-Thames transfer (STT) - Once the SESR has been fully utilised further options are required to secure supplies to the end of the planning period. Re-use, desalination and the STT are all available to meet this demand. We favour the STT. The construction of SESR before a STT is supported by Affinity Water as the STT does not provide a resilient solution for them and is more expensive. This position is supported by WRSE too.

4. Adaptive planning and ensuring our plan is fit for the future

It is no longer a question of which resource option is best to meet the future supply demand challenges in our supply area and across the South East, a combination of strategic options will be required and the decision is which option is needed when. We have set out our preferred programme based on the work that we have completed to date, there are alternative options and the option decision tree shown in Figure 2 visualises the potential pathways. We will undertake further studies over the next few years with a decision to confirm the preferred investment programme in 2022/23.

Figure 2 Option decision tree



The benefits of taking an adaptive approach is that we can review and adjust our plan with the availability of new information, for example :

- We recognise concerns raised by stakeholders regarding the likelihood of achieving our planned leakage reductions by 2020 and the ambitious further reductions from demand management built into the preferred programme in the next 5 years and to 2050. We will be able to track our progress and report performance in our Annual Return and in developing our next full reiteration of our plan in 2022/23.
- If the supply demand situation improves before 2030 we can defer or cancel construction of some of the smaller options in our preferred programme. If Deephams or Oxford Canal transfer were not available or the supply demand situation is worse we would need to implement a larger re-use option at Beckton (or potentially in West London from the Mogden catchment). We intend to complete studies and pre-planning on reuse options by 2022/23.
- We consider that the best sequence of resource development is the construction of SESR before a STT. This position is supported by Affinity Water. The STT in isolation does not provide a resilient solution for Affinity Water and is more expensive. However, the decision on which option is needed in 2037/38 need not be made now. We have a regulatory commitment to undertake further work on SESR and STT and confirm option design. WRSE Regional WRMPs will also be available to help inform the decision making process. We have an adaptive plan that allows the definitive decision to be made in 2022/23 in alignment with Affinity Water, Anglian Water, Southern Water, Severn Trent Water, United Utilities and regional-level WRMPs.

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