
Centre City Tower, 7 Hill Street, Birmingham B5 4UA
21 Bloomsbury Street, London WC1B 3HF

Secretary of State for Environment, Food & Rural Affairs
Water Resources Management Plan Consultation
Area 3D
Nobel House
17 Smith Square
London
SW1P 3JR

28 May 2018

Dear Secretary of State,

Cambridge Water – draft water resources management plan 2019

Cambridge Water published its draft water resources management plan 2019 on 2 March 2018 for consultation. This letter provides a summary of our assessment of the draft plan. It is our statutory consultation response, produced in accordance with our statutory duties and the Government’s strategic policies and objectives for Ofwat. These views are without prejudice to any subsequent decisions that we may make at the next price review (PR19) in connection with the business plan that the company is scheduled to provide to us in September. Our assessment has considered:

- how adequately the plan follows the requirements of the Water Resources Planning Guideline and Defra’s guiding principles for water resources planning; and
- how the plan helps achieve our vision of ensuring trust and confidence in the sector through the delivery of our key themes for PR19 of great customer service, affordable bills, resilience in the round and innovation.

Water resources planning is a key part of company business activities. We expect companies to integrate the development of their water resources management plans into their mainstream business planning and to adopt the ‘twin track’ approach to improve water supply resilience through both increased supply and reduced demand. We will continue to work closely with Government and the other regulators in both England and Wales to ensure that the water resources planning outcome, of a long-term secure supply of water, is reflected through our price review process.

Cambridge Water supplies water to a population of approximately 300,000 people in an area which includes the city of Cambridge. Its water resources are planned on the

basis of a single integrated zone and it predicts that it will be in deficit in the future, without additional action to reduce demand or provide additional supplies. This means there would be insufficient water to maintain supply to customers in some severe drought conditions. The deficit is driven by the increasing demand and a reduction in the amount of water the company can take from the environment.

In summary, we welcome Cambridge Water's approach to customer participation and its ambitious short and long term leakage reduction targets. While much of Cambridge Water's draft plan is in line with our expectations and good practice, there are areas of the plan where insufficient evidence is provided to convince us that the plan delivers in the best interests of customers. In particular:

- The company should better explain the link between the assessment of available supplies and the levels of service. For example the figures in the plan relating to the levels of service during droughts of differing return periods appear to have similar available supply forecasts and it is unclear how they have been derived. This lack of transparency significantly reduces the clarity and our confidence in the draft plan.
- Water trading options have not been selected in the preferred options within the draft plan, though the company intends to identify further trading options during the consultation period. In the final plan we expect the company to have considered whether earlier trading options could be beneficial. We note that Anglian Water have included an export to Cambridge Water within its adaptive planning scenario in the period 2025-30. Cambridge Water should clearly reference the evaluation of this option within its final plan.

Further details on these points are outlined in the annex to this letter alongside more detailed comments on different areas of the draft plan.

I look forward to seeing these comments reflected in Cambridge Water's final plan and statement of response.

Yours sincerely



David Black
Senior Director, PR19

Annex

In this annex we outline further details on the points raised in our main letter alongside more detailed comments on different areas of the draft plan. Our points reflect our assessment approach and cover:

- 1. Plan building blocks:** The overall approach to the development of the plan in line with the technical guidance and broader resilience issues.
- 2. Customer participation:** The type and quality of interaction with customers and the impact this has had on the plan formulation and proposals.
- 3. Demand forecast:** How the company has considered the impacts of population growth, leakage and water efficiency in its demand forecast.
- 4. Supply forecast:** How the company has considered climate change, abstraction licences changes and transfers in its supply forecast.
- 5. Forecast uncertainty:** The robustness of the plan in accommodating uncertainties in the demand and supply forecasts.
- 6. Supply-demand balance:** The robustness of the overall need for water, if any, and the scenario testing applied to this assessment.
- 7. Options:** The approach taken to identifying and screening options for both supply and demand, including identification of trades and third party options.
- 8. Decision making:** The decision making tools, preferred programme development process and accompanying assurance processes.
- 9. National and regional considerations:** The interaction and consistency with national studies and regional groups (where relevant).

1. Plan building blocks

Cambridge Water has generally used methods and data appropriate to the scale and complexity of the problem that it needs to address. However, we have concerns regarding the clarity of the level of service stated in the plan and the approach to non-drought resilience. In particular:

- The company should provide further explanation linking the assessment of available supplies (deployable output) to the stated levels of service as droughts of differing return periods appear to have similar deployable outputs. Cambridge Water needs to provide further clarity on the figures presented in the plan relating to the levels of service and associated levels of deployable outputs. We discuss this issue further in section 4 below.

- There is limited evidence of non-drought resilience to the full range of potential hazards and threats, like flood risk or freeze-thaw events, being assessed in the draft plan. Figure 17 titled 'Resilience lens segments' which is intended to provide further insight into this is not readable and should be amended in the final plan.

2. Customer participation

There is good evidence of customer participation in the development of the plan through a wide range of approaches, including workshops and online surveys. However, there appears to have been limited engagement on the proposed level of service and the associated bill impacts of the programme. We would expect to see further clarity on this and potentially further work reflected in the final plan. Further specific comments:

- The draft report includes an accessible executive summary detailing the company's proposals across key elements of the plan. The plan is generally easy to navigate with an overview provided at the introduction of each section and this is complemented by a non-technical summary document.
- While evidence is provided on engagement on level of service, the conclusions appear to focus upon temporary use and non-essential use bans. Cambridge Water should clarify whether there have been discussions with customers regarding more severe restrictions, such as standpipes, including the consideration of costs and the relative level of resilience of other companies.
- The company has demonstrated good practice through the use of an interactive planning exercise with customers to understand their option preferences. Cambridge Water state that customers demonstrated a preference for options that reduce leakage and options to help them understand and reduce their usage.
- The company intended to complete its willingness to pay research prior to the final plan. We would therefore expect the outcomes of this to be included in the final plan with clear explanation of how this has influenced the selection of preferred options.
- Cambridge Water has engaged with its Customer Challenge Group (CCG) although it is not clear how this engagement has shaped the draft plan and this should be clarified in the final plan.

3. Demand forecast

Cambridge Water appears to have followed the relevant guidance and assessed demand through consideration of appropriate components. However, we have concerns about the clarity of per capita consumption (PCC) estimates and engagement on non-household demand. Further specific comments:

- Cambridge Water have followed the guidelines through development of a population forecast based on local authority plan projections.
- The company needs to provide further explanation of the baseline and final plan PCC trends. We are unsure of the reasons for the observed small increase in measured PCC and corresponding decrease in unmeasured PCC across the planning period, in both the baseline and preferred plan.
- Non-household demand is forecast based on statistical analysis of past trends and will remain broadly flat across the planning period. The draft plan does present evidence that Cambridge Water has attempted to engage with retailers but that the information available from them was limited. The company should consider how it could continue to engage more effectively with large users or retailers to enhance and validate this forecast.

4. Supply forecast

Abstraction licence changes have been integrated into the forecast appropriately, however, we have significant concern over the transparency of the calculation of supply (deployable output) and how it interacts with the level of service. Greater clarity is also required on the level of outage over the planning period. Further specific comments:

- Abstraction licence changes reduce the supply forecast by approximately 9 MI/d by 2020. The draft plan incorporated the available information contained in Water Industry National Environment Programme 2 and the final plan should use the next data release (WINEP3). We expect the final plan to explain any changes between these two releases and how the programme has changed as a consequence.
- The derivation of supply forecasts used in Cambridge Water's baseline plan is not presented transparently and needs to be clarified for the final plan. Further considerations:
 - It is unclear how the supply forecast associated with the reference level of service is calculated and whether there is any dependence on drought orders or measures. The plan narrative and planning tables appear to indicate a severe drought, or the worst historic drought, would result in a supply of 89 MI/d. It is then unclear how the available

supply of 99 MI/d, used for the dry year annual average, is derived and therefore how the deficit in this scenarios is addressed.

- Cambridge Water should clarify how it has assigned return periods to its historical drought events as, in table 10 of the planning tables the reported supply forecasts appear identical for droughts of differing return periods (for example 1-in-200 and 1-in-500 years).
- The reported outage of 9% of supply across the planning period is above the industry average of 6%. Cambridge Water state it has an ongoing programme to refurbish works and minimise outages, which should reduce this, however, this reduction does not appear to be reflected in the plan. Greater clarity regarding the forecast levels of outage is required in the final plan.

5. Forecast uncertainty

Uncertainty is not a significant driver of the plan and the overall approach is in accordance with guidelines. The key forecast uncertainty is the rate of housing growth in Cambridge.

6. Supply-demand balance

The supply-demand balance profile presented is in line with the assumptions of the individual supply and demand components and appears to be consistent with the relevant guidance. It is noted that the balance moves from a surplus at the previous plan to a deficit due to sustainability reductions and higher than forecast population growth in Cambridge.

7. Options

Cambridge Water have presented a range of supply and demand options, including ambitious short and long term leakage reduction targets. However, there is a lack of clarity on how options were assessed, the approach to water trading and third party options and the range of supply options considered. Further specific comments:

- The screening criteria used to develop the feasible list of options appear to be appropriate, however, an unconstrained options list and rejections log was not provided and should be included for the final plan.
- The draft plan appears to have identified a single third party supply option. Limited information is provided on the approach to third party engagement and the company should provide clarity on its approach and consider what it could do in order to promote these options.

- Water trades are not selected as preferred options for the draft plan, though it is acknowledged these may be a longer term option. However, opportunities for trading with Cambridge Water have been considered in the short to medium term by other companies. Further considerations:
 - The plan states trading may be required after 2045. In the final plan Cambridge Water should clarify its approach to trading and fully evaluate whether earlier trading options could have the potential to reduce costs, reduce environmental impact and improve resilience.
 - Linked to this point the company should reference trades that are included in other companies' plans. For example the proposed import by Cambridge Water which is included in Anglian Water's adaptive plan. The companies should discuss such trades to ensure they are consistently represented across plans.
 - The company intends to undertake a process to identify further trading opportunities during the consultation period of the draft plan. We would expect detail of this process and the impact on the preferred options to be included in the final plan.
- Cambridge Water propose to reduce leakage by 15% by 2025 which shows a good level of ambition and appears aligned with customer preferences. After 2025 it proposes further reductions to leakage of 41% by 2045. Further considerations:
 - The company should clarify why it has decided to maintain leakage at a constant level during 2025-34 before achieving further reductions.
 - Linked to the above point leakage reductions after 2034 appear to rely on Cambridge Water's development of an innovative 'live network' option. Although the option is likely to require considerable development, we would expect consideration of earlier delivery and include trials to ensure the option is deliverable.
- Cambridge Water has not included compulsory metering in the preferred plan though the level of metering penetration rises from 75% to 91% across the planning period. This is supported by enhanced engagement with customers to educate them around the benefits of opting for a meter though greater clarity is required in the final plan on the deliverability of this approach.
- There are only small changes in average PCC, derived from increased metering, delivered as part of water efficiency measures. It is unclear how this reflects results of customer engagement where customers indicated they wanted further assistance in both understanding and reducing their usage. For the final plan we expect Cambridge Water to further consider water efficiency options and the potential for more ambitious PCC reductions.

- The draft plan considered a range of supply options, however, it does not provide sufficient evidence that the proposed supply-side options are appropriate. We expect to see greater clarity on this provided in the final plan. In particular:
 - It does not appear that an option to resolve operational restrictions at two sites, which impose significant supply constraints, has been considered. Cambridge Water should clarify this and explain in the final plan how it seeks to reduce operational restrictions which impact available supply.
 - Two groundwater sources (HEPW and RIPW) have been included within the preferred plan to improve local resilience. They are not included in all scenarios, however, they are present in the planning tables (baseline deployable output) for the preferred plan. The status of these options, and how they have been analysed against other options, is unclear and the company should provide further explanation of the scope, cost and the selection process followed for them.
 - As stated in section 4, Cambridge Water has an ongoing programme to refurbish works and minimise outages. However, it is unclear how this is represented in the plan options. The outage level remains constant, and at a high level, throughout the planning period.

8. Decision making

An economics of balancing supply and demand (EBSA) approach to decision making adapted to include multi-criteria analysis has been adopted. This is appropriate to the scale and complexity of the problem. However, we have concerns about the transparency on how the preferred programme was selected. Further specific comments:

- Cambridge Water has considered a number of alternative scenarios and also used multi-criteria analysis in its decision making. While complex methods may be appropriate for developing more robust programmes, there is a risk of reduced transparency. In particular:
 - For clarity, for each scenario considered, and the portfolio presented, the company should provide a clear indication of the severity of drought considered, the supply-demand challenge faced, and the cost of the resulting programme to provide context.
 - It appears options selected for resilience in the preferred plan are in fact essential for maintaining a supply-demand balance. For example the groundwater supply options, SIPW, KIPW2 and CRPW2 are identified as supporting local resilience, and are not included in the

least cost plan, but they appear to be essential to maintaining supplies. Greater clarity is required regarding what is driving the preferred plan and how the options contribute to resolving the deficit in the various alternative scenarios.

- It is unclear how the multi-criteria analysis has influenced the plan. Cambridge Water should provide further quantification of the results and summarise the impact.
- There is no summary in the plan that provides a concise and transparent overview of the decision making process. In the final plan, for clarity, we would expect to see a clear summary that concisely explains how and by whom the preferred portfolio was decided on.
- There is evidence of independent assurance of the draft plan and of engagement with the Cambridge Water executive team and the Board during the plan development and its approval.

9. National and regional considerations

Cambridge Water is part of Water Resources East (WRE) regional group, however, the draft plan only provides limited information on interactions with this group. It suggests that because the strategy is long term and beyond the planning horizon it is not relevant for the draft plan. Further specific comments:

- The company should clarify how the Water UK national project has informed the development of its plan.
- Additional information should be provided to explain the relationship between the draft plan and WRE outputs. This could include the identification of options or longer term planning outcomes.