

Environment Agency

Water company drought plan guideline

Background to CIWEM

CIWEM is the leading independent Chartered professional body for water and environmental professionals, promoting excellence within the sector. The Institution provides independent comment on a wide range of issues related to water and environmental management, environmental resilience and sustainable development.

We welcome the opportunity to provide a response to the consultation on the Environment Agency's Water company drought plan guideline. This response is informed by our members working in water resources planning.

General Comments

Generally the guideline is clear and appropriate. It is also good to see that it is also timely. Drought plans need to be technically robust, but also be clear and accessible to a wide range of stakeholders including customers. Therefore, the guideline may benefit from more carefully distinguishing between "what a company should do to develop a robust plan" from a technical perspective, versus "what a company needs to communicate within the published report" to ensure accessibility to a wide audience. The guideline also needs to take account of the latest guidance that is being developed by UKWIR for WRMP19 on risk-based planning and decision making.

In general more needs to be done by the industry, regulators and government to communicate the need for water efficiency at all times and not just during times of drought.

Response to consultation questions

How to write a drought plan

1. Do you think the technical changes to this drought plan guideline will allow a water company to adequately plan for a drought to maintain supplies to its customers and protect the environment? If not, what changes do you think need to be made to allow a company to achieve this?

The technical changes will allow water companies to adequately plan for a drought; however the changes are only appropriate if a suitable mechanism is in place to allow for funding of measures to develop resilience to more extreme droughts. The requirement for funding for drought options and baseline water resource options should be expected to be secured through water company Water Resource Management Plans (WRMP) and through their Asset Management Plans (AMPs) and investment.

The guideline notes that water companies should consider droughts outside of historical range. However there is likely to be much variation in how companies interpret this and it would be useful if further guidance could be provided on modelling future droughts, for example by

reference to the CEH's future flows and groundwater levels products and data sets (see also response to question 2). There have been proposals by the Environment Agency that companies include severe and extreme drought scenarios in Deployable Output assessments within WRMPs so, where possible, there should be consistency of approach to any recommendations. However, it is important that guideline retains sufficient flexibility to ensure that companies can select scenarios relevant to the risks appropriate to their water resource systems. Drought simulation can be subjective and at present there is no reference to ascertaining climate change-derived droughts through the use of UKCP09 data or similar.

Stakeholders and customers expect that plans are as concise and accessible as possible. However, the guidelines could be interpreted as requiring significant additional content to be added to the main plan document (for example, detailed information on scenario testing and/or the full inclusion of environmental appraisals as appendices), when a summary of this information would suffice. Including detailed technical content into the main drought plan document will not result in a better plan and could be a barrier to effective consultation. The main plan should be permitted to have shorter summary information with more detailed information retained in any supporting reports. Full copies of site environmental assessments could be made available on request and available separately for regulatory engagement and review (for example, audit report detailing scenario modelling approaches).

2. Please tell us if there are any other plans and processes that you feel are relevant to drought plans that companies should consider.

WRMP and drought plan guidelines need to be closely aligned, with the inherent links recognised. Drought plan guidelines should take account of UKWIR guidance that is being developed for WRMP19 on risk-based planning and decision making. The risk-based planning project should result in a better understanding of extreme events, based on stochastic modelling. The decision-making project will be an update to the economics of balancing supply and demand approach and is likely to include *real options*, but also other alternatives to the economics of balancing supply and demand approach such as *Info Gap* and *Robust Decision Making*.

A real options analysis approach taken during Water Resource Management Plan decision making may help plan measures to address drought and extreme drought. Experience from Australia suggests integrating long term supply demand planning and drought responses using real options analysis and a diverse portfolio of supply and demand options could be beneficial depending upon how the analysis is formulated. As part of the response to the driest year on record (2006), a detailed Integrated Resource Planning model was utilised to develop short and long term demand management behaviour change programmes to meet the gap between new supply options. Additionally, a broader portfolio of options as part of a 'security through diversity' approach was important in enabling Western Australia to have lesser watering restrictions than other states.

Test your drought triggers and proposed actions

3. Do you think the guidance strikes the right balance between planning for events more severe than those on the historical record and planning for droughts that you might reasonably expect to experience?

Yes it is appropriate to cover both events as drought plans need to show resilience to be able to cope with more extreme drought events and events different in nature outside of the historic record. Scenario testing therefore needs to be included to stress test the plans accordingly. It is also important to consider historic records including a range of hydrological conditions, to retain links to the WRMP, for example, assessing levels of service and frequency of triggering drought actions to ensure that these are appropriate.

As stated in the response to question 1, whilst these assessments need to be completed for planning purposes, they do not necessarily need to be covered in full explanative technical detail within the main report, but the outputs summarised.

Research into historic droughts shows that almost always droughts become much worse because of a factor unconnected to rainfall. For example in Britain, increased visitor numbers during hot weather. The guideline should emphasize the need to include non-hydrological triggers of drought such as increased levels of unusual demand.

Resilience is increasingly recognised by Ofwat and the Environment Agency as essential to the water sector. As such resilience ought to be referenced more within the guideline. Drought plans should propose or facilitate actions that aim to achieve, or improve, resilience of water supply systems and their management to either low rainfall or prolonged dry periods and implications for customer levels of service.

Resilience is also increasingly a theme for cities in the UK and is being explored as part of the 100 Resilient Cities programme. The interaction between the regional scale drought management responses of water companies and city scale actions need to be considered. This links to land use planning where decisions on water management for new developments can have a significant impacts on how resilient a city is to drought.

Water sensitive cities for example is an approach that addresses this and considers decentralised options such as water re-use, rainwater harvesting and storm water management that could reduce pressures on centralised systems. Developing semi-autonomous water supplies throughout cities via new development and as part of retrofit programmes can support a transition towards greater resilience. In the case of the UK this could be implemented through inset appointments and upstream competition.

What to do during the drought

4. Please tell us if there are any other supply or demand management actions that water companies should consider.

The outputs from the UKWIR Report *WR01 Understanding the impacts of drought restrictions* could also be used to inform this. It provides a case study analysis of intervention methods and how customers responded to the temporary use bans. This goes beyond on the UKWIR code of practice and should be referenced when developing a drought plan.

Potential exemptions and concessions need to be consistent between companies to avoid confusion. This also links with interpretation of the temporary use ban categories.

Drought communications plan

8. Do you think the guidance on communications planning will allow water companies to keep their customers informed during a drought? Please tell us if there is any additional information water companies should consider?

The UKWIR report WR01 provides useful analysis of the first implementation of new temporary use bans from the *Flood and Water Management Act 2010*. This includes suggestions on how to monitor communications and their impacts. Additionally, a comparison between communications implemented by the different companies impacted by the 2012 drought provides lessons on when to start communications and the best methods. This was supported by a review of messaging information provided by the water companies and a large survey of domestic and non-domestic customers on the best routes. Direct company messages were perceived as the most effective.

The 2012 drought identified that clear communication and standardised approaches across water companies were key to tackling drought. How this goes beyond the UKWIR guidance should be outlined in the drought plan guideline. During a drought, water companies focus on developing public awareness of water efficiency, but these activities should be encouraged at all times to increase resilience.

9. Please tell us if you have any other views or comments on these proposed changes that have not been covered by previous questions.

The report UKWIR WR01 identified a range of data gaps and varying levels of detail between water companies. Although neither a top down (Environment Agency report) nor bottom up assessment (UKWIR) of the impacts of temporary use bans on water use provided statistically significant results, the broader trends are of interest.

Companies who recorded their communications efforts in more detail may find it easier to match with impacts on demand. As smart metering levels increase, this can be used to evaluate the impacts of actions taken during a drought. For example, better disaggregation of demand components within smart meter data and real-time analysis could identify the potential versus the actual savings in outdoor use, but also better target the larger proportion of domestic consumption that is indoors.