

Towards a national water resources planning framework in England

Julien J. Harou PhD

Professor, Chair in Water Engineering, University of Manchester, UK;

Honorary Professor, University College London, UK

In early 2020, the Environment Agency (EA) will release a national framework for water resources. The report will describe the scale of the public water supply challenge regionally and nationally by considering water demands, leakage levels and the potential for developing new supplies and water transfers. The report will also consider future water demands outside of public water supply, including water for agriculture, industry and the environment. Perhaps most significantly, the paper will set out the role and expectations of regional plans (i.e. those made by regional groupings typically led by private water companies). To understand the significance of this upcoming paper, let us quickly describe the sector and summarise recent developments in English water resource planning.

England has 19 private water companies regulated by the EA, the financial Water Services Regulation Authority (Ofwat, which also regulates Wales) and the Drinking Water Inspectorate (DWI). Companies have a statutory duty to meet public water supply demands and must publish and receive approval for their water resource management plans on a 5-year planning cycle. Despite the fact that national-scale planning ceased with privatisation in the early 1990s, over the last 20 years planning exercises by regional groupings have taken on an increased role, with Water Resources of the South East (WRSE) and Water Resources East (WRE) active for nearly two decades and one decade, respectively. Despite increasing collaboration, there are few new water transfers between regions and individual company plans are still largely independent of regional assessments; for example, setting their own individual service level targets. Regional planning was hereto encouraged but not required; this is due to change as per recent government and regulator documents, as summarised below.

In May 2016, the Department for Environment, Food and Rural Affairs (Defra) published its *Guiding Principles for Water Resources Planning* for English water companies (Defra, 2016). This describes Defra's desire for water companies to take a long-term and strategic approach to developing resilient water supplies considering all possible sources of water and demand management, including water trades between and within company service areas. The guidelines insist on water companies acting collectively to enhance and protect the environment and achieve efficient solutions.

The National Infrastructure Commission's *Preparing for a Drier Future* (NIC, 2018), published in April 2018, identified the scale of the challenge, with an additional 4 thousand million litres per day needed for the supply–demand system to become appropriately resilient to drought, and to accommodate possible climate and population changes. Interestingly, more than half of likely new supply solutions were identified as regional water transfers and leakage is recommended to be halved by 2050. Multi-sectoral collaboration was recognised as a way to achieve resilience, and the need to align company plans with regional ones was promoted.

In August 2018, Defra and the regulators EA, Ofwat and the DWI published a joint letter (Defra, 2018a) to the industry informing companies that they must demonstrate tangible progress and commit resources to increasing their collaboration in developing strategic and efficient regional solutions that consider cross-sector collaborative solutions and are co-produced with local groups. There is a requirement to produce regional plans that feed directly into individual water company plans and explore inter-regional transfers as part of the planning process, and to make greater use of markets and competition. Additionally, and perhaps in exchange, the letter's authors committed to 'clear, joined up direction from government and regulators' (Defra, 2018a).

Defra's November 2018 *Draft National Policy Statement for Water Resources Infrastructure* cites the aims of saving money, reducing risk and adding environmental and aesthetic value as their desired central drivers (Defra, 2018b). Minimising energy use and good design for new infrastructure that leaves a lasting legacy are also listed. Defra's July 2019 25-year environment plan (Defra, 2019) speaks of multi-region cross-sector planning including strategic environment objectives, and suggested the water abstraction licensing system will be reformed to reduce unsustainable abstraction.

In April 2019, Ofwat and the regulators announced the Regulators' Alliance for Progressing Infrastructure Development (RAPID), which aims to improve regulation, remove barriers and meet long-term water resource challenges. Ofwat's *Emerging Strategy* report (Ofwat, 2019), published in May 2019, states that it will maintain its current approach of allowed returns on water company assets and outcome-based

incentives on a 5-year cycle, while continuing to push companies to innovate and provide public value.

Several questions will need to be addressed in the coming years and may start to be tackled in the upcoming national framework report. For example

- What will be the role for cross-sector collaboration in terms of infrastructure investment and scheme operation? To what extent will water supply planning rely on multi-sector interventions and innovations (like sharing infrastructure, trading water, etc)?
- Who will benefit and how from water trading (financially and in terms of increased water supply resilience), whether within company borders between license holders or between companies?
- What should drive water transfer selection? Willingness to pay for water services (expect water to flow towards London) or a national level of service (lofty, but inefficient)? And how will transfers be operated given different scarcity levels in the giving and receiving regions?
- Will national and regional water supply planning approaches eventually enable interfacing with local catchment-based planning and land-use planning?
- Will the sector continue to move away from least-cost planning to consider a wider array of socio-economic goals, and if so, will difficult to achieve objectives such as robustness to uncertainty and adaptability to change be taken on, and how?

While the documents described above point towards an increased role for strategic assessment at the regional and national scale, a national planning framework should not be confused with a return to national planning. Defra makes it clear that water companies will maintain the statutory duty to produce plans and the EA will not be recommending individual options for development. In practice, the proposed framework is likely to involve a multi-tiered spatial framing of

the problem and process where company, regional and national water resource models are used iteratively to optimise, stress test and deliberate the options proposed in company plans. The role of RAPID and the proposed modality of interactions and iterations between the regional groups and with the regulators will be impactful and will likely reshape the sector for years to come.

Certainly, the upcoming national framework report may be 2020's most useful guide to where this part of the UK water sector is headed. Nationally, it will be relevant to water planners, consumers and investors. Internationally, the report will shape opinions about whether the unique privatised English water supply system can deliver its intended benefits to customers and appropriately trade-off regional and national economic efficiency, resilience and equity. In March 2019, Sir James Bevan, chief executive of the EA, described the closing water supply–demand gap in the next 20 years as the ‘jaws of death’ (Bevan, 2019). The water sector, and no doubt society more widely, are eagerly awaiting the authorities’ upcoming initial approach to avoid that predicament.

REFERENCES

- Bevan J (2019) *Escaping the Jaws of Death: Ensuring Enough Water in 2050*. Environment Agency, Bristol, UK.
- Defra (Department for Environment, Food and Rural Affairs) (2016) *Guiding Principles for Water Resources Planning: For Water Companies Operating Wholly or Mainly in England*. Defra, London, UK.
- Defra (2018a) *Building Resilient Water Supplies – A Joint Letter from Defra, the Environment Agency, the Drinking Water Inspectorate and Ofwat to Water Companies*. Defra, London, UK.
- Defra (2018b) *Draft National Policy Statement for Water Resources Infrastructure*. Defra, London, UK.
- Defra (2019) *A Green Future: Our 25 Year Plan to Improve the Environment*. Defra, London, UK.
- NIC (National Infrastructure Commission) (2018) *Preparing for a Drier Future*. NIC, London, UK.
- Ofwat (Water Services Regulation Authority) (2019) *Ofwat's Emerging Strategy: Join the Conversation*. Ofwat, Birmingham, UK.