Our RAPID Gate One report – a brief explanation

29 May 2026

Desalination projects

Securing water for the future: why we're exploring desalination

Anglian Water is the largest water company in England by geographic area. We serve almost seven million customers in one of the UK's fastest growing regions.

Our region faces increasing challenges in meeting future water demand, driven by population growth, climate change and the need to protect our environment. Diversifying our water supply is therefore essential to meeting the long-term needs of our communities.

Looking ahead to 2050 and beyond, it's clear that without action our region could face a major shortfall in water supply. We've estimated that this gap would be the equivalent of around half the amount of water we put into our network currently.

Keeping taps running

Every five years, we publish a Water Resources Management Plan (WRMP), which sets out how we will manage water supplies over a minimum of the next 25 years.

In our most recent plan, published in 2024, we explain that meeting future demand cannot rely on just one solution.

Instead, to keep taps running and ensure the future prosperity of the region we need to:

- Use less water – including through our ongoing smart meter roll-out, fixing leaks, and promoting improved water efficiency
- Make better use of existing supplies – including our new strategic pipelines to move water from wetter to drier parts of our region
- Develop new sources of water where needed – including our proposed new reservoirs, water recycling and desalination plants

We're proposing a number of new water sources, to help us keep taps running now and in the future. That includes two new reservoirs in Lincolnshire and the Cambridgeshire Fens, which would store excess water during wetter months for use when it's needed most; an advanced water recycling centre to help us make the most of the water we already have and two new desalination plants, which would turn seawater into clean, drinkable water for homes and businesses. Because the water comes from the sea, it is available all year round. With hotter, drier summers expected, desalination would provide a flexible year-round supply option, with no impact on rivers, chalk streams or other sensitive sources.

Through our WRMP we have explored a range of options to understand how best to meet our communities' future water needs. This work shows that, in every credible long-term scenario, desalination plays an essential role in securing a reliable and resilient water supply for our region.

Exploring desalination

Anglian Water is proposing two new desalination plants – in Lincolnshire and Norfolk – to help keep taps running and protect our precious environment.

Desalination is a proven technology used extensively around the world. While we would be among the first in the UK to develop desalination, it is used widely across the world with over 16,000 desalination plants providing clean water in over 170 countries. In many parts of the world, desalination is already a routine and reliable part of everyday water supply, supporting homes, businesses and economies in dry and water-stressed regions.

Desalination could help to:

- Provide long-term water security for our region
- Reduce pressure on inland rivers and sensitive ecosystems by lowering the need to take water from these sources
- Support growth in our region
- Create skilled jobs and local opportunities during construction and operation
- Strengthen the region's resilience to climate change

We're currently exploring the feasibility of desalination plants in Lincolnshire and Norfolk.

RAPID and Gate One – what this stage really means

To help plan for major new water supplies across the country, water companies work with regulators through RAPID (Regulators' Alliance for Progressing Infrastructure Development). This process brings together Ofwat, the Environment Agency and the Drinking Water Inspectorate and is designed to support early, transparent decision-making on complex infrastructure projects.

Our desalination projects are currently at Gate One of the RAPID framework. This is a very early checkpoint. Gate One is about learning and testing ideas, not making decisions. It allows us to explore whether desalination is worth looking at in more detail by asking some simple but important questions:

- Could a desalination plant work in practice?
- Could it be done in a way that protects the environment?
- Will it be best value for our customers?
- Should we continue exploring this option?

Gate One is not a commitment to build anything. It does not confirm that a desalination plant will go ahead, confirm a location, set a design, determine a planning route, or imply community support. Those decisions, if they are ever taken, would come much later and only after further evidence, consultation and approvals.

At this stage we are deliberately keeping options open. However, the work carried out so far, alongside extensive global experience, gives us confidence that desalination has the potential to play a significant role in securing reliable water supplies for our region in the future.

What's happening now – and what it means

Right now, we're building our evidence base and carefully narrowing down the best options for where the desalination plants could be built and how they might be designed.

Exploring potential locations

We are currently exploring whether there are locations where a desalination plant could be suitable, if the idea is taken forward. This work is focused on understanding constraints and ruling out unsuitable areas.

A wide range of factors are being considered, including environmental, marine, engineering, planning and community aspects, to help us understand where desalination may not be appropriate, as well as where it might warrant further investigation. This evidence-gathering approach helps ensure decisions are informed and proportionate.

While locations such as Mablethorpe in Lincolnshire and Bacton in Norfolk were referenced in our Water Resources Management Plan, these were included only for early, high-level cost and environmental assessments. No locations have been shortlisted or selected, and no decisions have been made.

Understanding the water and the environment

Alongside our work to explore potential locations, a key focus at this stage is improving our understanding of the local environment and how desalination could be designed and operated responsibly in our local conditions. This work is about testing assumptions and identifying risks early, so we can understand what may or may not be viable, and how potential impacts could be avoided or reduced.

This includes collecting seawater samples through a coastal monitoring programme to better understand local conditions and the treatment processes that might be required. We are also developing a small-scale pilot plant to explore technical and environmental considerations in real-world conditions. The pilot allows us to carefully test how key elements of a potential scheme might operate in practice – particularly the intake, where seawater is drawn into the plant; and the outfall pipeline, where concentrated salt water would be returned to the sea. This work helps us understand how these elements could be designed to minimise potential impacts on marine life and coastal environments, and to identify any constraints that may limit what is possible. Protecting the environment is central to this early-stage work, and the findings will help inform our next stage of development.

We're also carrying out research into the quality and taste of desalinated water and how it might be conditioned before entering the supply network. This includes inviting a panel of people to take part in taste tests, sampling water produced using different methods. Their feedback helps us understand customer expectations and acceptability and ensures we consider this from the outset.

Together, this work is building an evidence base to inform future decisions and to help us understand whether desalination could be developed in a way that balances water resilience, environmental protection and customer needs.

Working with others

We are working closely with a range of regional and national organisations to help inform our thinking and make sure important issues are identified early. This includes engaging with bodies including the Marine Management Organisation, Water Resources East, Natural England, the Environment Agency, Historic England, The Crown Estate and local authorities.

Their expertise and local knowledge are helping to inform our early thinking on site suitability and ensure environmental, regulatory and community considerations are fully taken into account.

Involving local communities

Local communities also have an essential part to play in our plans.

It's important that we communicate our work to those that might be affected by it, answer their questions, and take on board their feedback as our plans develop. As options are narrowed, we plan to share our emerging proposals and potential locations with communities and will invite feedback through a period of consultation.

Following the initial period of consultation, we will continue to keep communities updated as our plans develop further, as well as provide future opportunities for feedback. Listening to local views and concerns will be a priority as the projects progress.

Our planning application

The planning and consenting route for the projects has not yet been decided. This will depend on the locations identified and the environmental and engineering factors involved. At this stage there is no planning application, and no decision on how consent might be sought.

If the projects progress, consent could be required through the Town and Country Planning Act, with decisions made by the relevant local authority, or through the Development Consent Order process with decisions made by the National Planning Inspectorate. This would depend on the final designs and whether the projects are considered nationally significant.

What happens next

Building on a clear strategic need and well-established global practice, the next phase of work focuses on turning that confidence into robust, locally-specific evidence. Over this next phase of work, we will:

- Continue narrowing down potential options, including exploring where sites may or may not be suitable
- Carry out further environmental and technical studies
- Develop early design options to help test feasibility
- Prepare for future public engagement

We currently expect to confirm preferred locations for each plant in early 2027. Any future decisions would be subject to further evidence, consultation and approvals. Based on our early planning, should the project move forward, construction could begin around 2034, with the plants supplying water by 2040.

This Gate One report marks an early step on a long journey. By sharing our thinking now, we want to be open about the scale of the challenge we face, the clear direction set out in our plans, and the careful work underway to ensure desalination is developed in the right way.

Planning early gives us the best chance of securing reliable, climate-resilient, best-value water supplies for our customers, while protecting the environment now and for future generations.

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