

The future of RAPID

Opportunity to create a National Water Grid for England

1. Introduction

Water UK is the trade association for the UK's water industry. We represent all regulated water and wastewater companies in England, Northern Ireland, Scotland and Wales.

We are responding to Ofwat's consultation on the future of the Regulators' Alliance for the Progression of Infrastructure Development (RAPID). This consultation was prompted by the government's *A New Vision for Water* white paper which set out the principles of an expanded remit for RAPID including wastewater and other strategic projects to enhance regulatory coordination, accelerate delivery and strengthen infrastructure resilience. The consultation covering England, seeks views on the future of RAPID as government transitions to a new regulatory framework, including a single regulator for water.

Local economies are being actively constrained because houses are being delayed and businesses are being blocked from starting or expanded in water-stressed regions, including Sussex, Essex, Cambridgeshire, Oxfordshire and East Anglia.

The water shortage directly threatens the government's target to build 1.5 million new homes by 2029.¹ In addition, the development of vital new data centres whose water needs are currently excluded from the Environment Agency's official forecasts is also being delayed. The situation has deteriorated to the point where, solely due to a lack of available water supply, the Environment Agency formally objected to the construction of a new cancer hospital in Cambridge², delaying its delivery.

Public First warns that water scarcity will severely damage the UK's economic prosperity:

- Water scarcity is already constraining business growth by £8.5bn to £13bn depending on whether government or OBR housing targets are met during this Parliament.³
- Domestic housing is also constrained. It is estimated that if reductions in water demand and reductions in leakage follow recent trends rather than ambitious targets, there is only sufficient water for 420,000 of the 1.5 million homes the government plans to deliver by the end of this parliament.⁴

To unlock local economic growth, deliver homes, and build resilience against climate change, England must fundamentally rework how its water resources are managed.

¹ Water UK (2026), [Barriers to project delivery](#), P6

² Cambridge News (2024), [New Cambridge Cancer Research Hospital approved despite water supply concerns](#)

³ Public First (2025), [The Economic Cost of Water Scarcity](#), P19

⁴ Public First (2026), [The Risk of Water Shortages](#), p.4

The root cause: A historic lack of investment

This immediate crisis is the direct result of a historic level of strategic underinvestment. No new major reservoir has been built in the UK in over thirty years, largely because requests by water companies to build large-scale strategic infrastructure projects have been repeatedly denied by regulators.

A stark example of this caution is the Abingdon reservoir. In 2011, the then Environment Secretary rejected Thames Water's application to build the reservoir, claiming there was "no immediate need."⁵ By the time Thames Water finally received approval to move forward in 2024, the wasted 13 years of delay had driven the estimated project costs from £1 billion to between £5.5 billion and £7.5 billion.

The structural barriers: Unrealistic targets and fragmented planning

Historically, water resource planning has suffered from two major structural failures: a lack of a drought resilience standard and a lack of coordination between regulators.

The transition to a 1-in-500-year drought resilience standard has helped establish a clearer benchmark for the industry. Similarly, the creation of RAPID has had some success in bringing regulators (Ofwat, the Environment Agency, and the Drinking Water Inspectorate) together to tackle fragmentation, ensuring decisions are taken involving all parties in one place.

However, the planning system remains fundamentally broken because of a deeper problem: planning is being driven by unrealistic targets rather than realistic forecasts.

Water Resources Management Plans (WRMPs) are statutory 25-year plans produced by water companies. Today, water companies are effectively required by the government to align their plans with government-mandated targets rather than reasonable forecasts for how demand and leakage will fall. There is also no standard at all for how much headroom water companies should be allowed to build into their system to meet peak demand pressures. The Office for Environmental Protection will monitor *government* action to achieve its Environment Act 2021 target to reduce water put into supply per head of population by 2038. However, no independent advice is given on whether the targets set for water companies to support meeting this goal is realistic or achievable.

The current role of RAPID

The mission and Strategic Resource Options pipeline

RAPID was established to bring regulators (Ofwat, the Environment Agency, and the Drinking Water Inspectorate) together under a "single front door" to promote the development of national water

⁵ BBC News (2011), [Abingdon £1bn reservoir plan rejected by government](#)

resources infrastructure in the interests of water users and the environment. In practice, its primary purpose is to help get water companies' Strategic Resource Options from concept to construction-ready.

Today, this mechanism is overseeing a pipeline of unprecedented scale. Efforts are underway via RAPID to ensure that up to £2 billion of development funding to 2030 successfully unlocks £50 billion of capital investment. This critical pipeline includes:

- Nine new reservoirs
- Nine desalination schemes
- Seven water recycling schemes
- Nine major inter-regional water transfers to share resources effectively

This level of investment is a direct response to the severe supply and demand challenges facing England. However, the lack of urgency and because of our wider water resource planning system does not include a central coordinating authority, our national drought resilience and preparedness remain heavily compromised. While RAPID currently oversees 28 SROs (and five smaller options) alongside water companies, Defra, local authorities, and bodies like Natural England, its mandate is still restricted. RAPID lacks the authority to quickly resolve regulatory blockages due to its role being purely advisory rather than a formal decision-maker.

How RAPID operates

To manage the progression of major projects, up until recently the RAPID gated process had four stages: Gate 1 (concept), Gate 2 (feasibility), Gate 3 (detailed design) and Gate 4 (ready for delivery). However, in March 2026 Ofwat announced a combined gated process bringing “...together RAPID’s oversight of early project development and Ofwat’s Major Projects team's regulation of later stage delivery”.⁶ This combined model merges RAPID’s early-stage design oversight with Ofwat’s Major Projects regulation for later stages:

- Gate A – RAPID approval for next stage of design
- Gate B – RAPID approval that the project is viable
- Gate C – Ofwat approval that the project is ready for procurement
- Gate D – Ofwat approval to enter contracts and financial close once procurement is completed
- Gate E – Conclusion of the construction and commissioning periods
- Gate F – Contract closeout and transfer assets under Direct Procurement for Customers or application of the Price Review process

The first two gates (led by RAPID) focus on working up the design and feasibility, and the remaining gates (led by Ofwat) focus on the commercial and procurement approach.

⁶ Ofwat (2026), [Major Water Infrastructure Programme – overview of the combined gated process](#), P1-2

What has marginally improved

RAPID has started to demonstrate that coordinated regulatory action can yield positive results:

- **A credible, funded pipeline:** RAPID has turned theoretical regional plans into a funded, deliverable pipeline of projects. Under PR19, £469 million was approved for development funding⁷; under PR24, this has increased to over £2 billion in approved development funding⁸.
- **Parallel approval pathways:** Historically, major water projects were choked by sequential regulatory approvals where a company could spend years gaining approval from one regulator only to be blocked by another. RAPID's "single front door" structurally requires regulators to evaluate projects simultaneously. This speeds up regulatory alignment and *could* reduce late-stage surprises, lowering development costs, and providing greater certainty for investors, utilities and customers.
- **Projects finally advancing to market:** Multiple strategic assets which have faced decades of delay have finally reached advanced stages under this framework⁹:
 - » The Grand Union Canal Transfer: Combining Minworth Water Recycling and canal transfer, this project has passed Gate 3 and is progressing toward delivery preparation (Gate 4), targeting operation in the early 2030s.
 - » The South East Strategic Reservoir Option (SESRO / "White Horse Reservoir"): This scheme has completed Gate 3, statutory consultation has concluded, and the Development Consent Order (DCO) is expected in late 2026.
 - » The Hampshire Water Transfer and Water Recycling: This has become the first major scheme to enter the formal DCO planning process.

However, these improvements are insufficient to deliver SROs at the pace required. To accelerate critical infrastructure delivery, RAPID must evolve. This requires a strengthened mandate to make binding project-specific decisions and a flexible funding model aligned with project milestones. Without these changes, RAPID will continue to face the same regulatory barriers that have caused decades of delay.

Furthermore, until there is a National Water Grid for England overseen by an independent systems operator many of the same challenges will remain such as the need for greater national level coordination of optioneering to ensure best value schemes come to market.

2. Improving RAPID to accelerate major water infrastructure projects

Water UK is supportive of revamping and strengthening RAPID so that it further supports strategic infrastructure delivery. However, RAPID should not determine national priorities. It should instead identify barriers to delivery and propose resolutions above the regional level to influence priorities, whereas government should be responsible for determining national priorities. [Question 6]

⁷ Ofwat (2019), [PR19 Final Determinations](#), P4

⁸ Ofwat (2025), [RAPID: securing customers' future water supplies in AMP8](#)

⁹ Ofwat (2025), [Gate three submissions and final decisions](#)

On a scale of 1-10, please rate the following options in order of importance (1 = most important, 10 = least important) [Question 5]

Strengthen challenge and escalation to resolve important issues earlier.	1 – There’s an important role to bring competing views together to resolve important issues and deliver.
Troubleshoot common problems, share learning and best practice.	2 – RAPID has a critical role to troubleshoot common problems.
Increase the frequency, transparency and/or quality of information flows.	5 – Large amounts of information are already shared at each project gate, however there may be scope for the quality of information to be improved. If necessary, companies and third parties can also coalesce to share best practice.
Engage with wider catchment demands across sectors.	7 – This role should be carried out by the regional system planning function.
Secure government backing to support programme delivery.	10 – It shouldn’t be seeking government backing and instead be focused on troubleshooting common problems. Government should set the level of resilience it wants and leave system planners/regulators to get on delivering the outputs which get you to that outcome.

Expansion of entry criteria for projects entering the RAPID programme

Water UK supports the expansion of entry criteria for projects entering the RAPID programme. [Question 7] For example, wastewater capacity can be a barrier to housing¹⁰ and a more coordinated approach would be beneficial.

However, any RAPID input should be proportionate and not overly burdensome for smaller schemes. For smaller or non-SRO schemes, RAPID should provide a light-touch pathway to arbitrate regulatory blockages, resolving conflicts pragmatically rather than forcing them through a heavy, resource-intensive gated process.

The following criteria when deciding whether a project should enter the RAPID programme are considered of the utmost importance: [Question 9]

- The project involves significant multi-party complexity
- The project would benefit from early cross-regulator alignment
- The project involves conflicting policy drivers or trade-offs that require regulatory input
- The project may require in-period adjustment to development funding to support long-term planning
- The project is nationally or regionally significant for resilience, the environment or customers

Whereas projects spanning more than one cost control and asset management period, and those requiring ring-fenced phased development funding are of less importance.

¹⁰ BBC News (2025), [Sewage deal set to release thousands of new homes](#)

On the above basis, all the following strategically important project types should ‘definitely be included’ within RAPID given the size and scale of the challenge to meet population, growth and climate change projections: [Question 10]

- Strategic wastewater treatment projects
- Large-scale wastewater transfer schemes
- Water recycling and reuse schemes
- Desalination schemes
- Major interconnectors or transfer schemes
- Strategic resilience schemes, including drought resilience
- Other nationally or regionally significant water infrastructure

3. A more comprehensive approach– the National Water Grid for England

The following section focuses on the need for a more comprehensive approach, and where relevant we have referred to the specific consultation questions designed to improve RAPID’s function today.

Building upon our desire for a national coordinating body¹¹, Water UK strongly recommends government go further by ensuring that an independent system operator, working alongside the existing five regional systems planners, manage a future National Water Grid for England to undertake scenario planning, determine best value and monitor delivery.

A National Water Grid for England

Once new strategic supply projects are agreed upon, they still face severe systemic barriers and delays driven by regulatory and political caution. To overcome these barriers, we need to transition to a more forward-thinking model.

England requires a National Water Grid, with an independent statutory system operator. Just as the energy sector benefits from the independent oversight of the National Energy System Operator to balance supply and demand nationally, the water sector needs a central "controlling mind."

An independent system operator would:

- 1. Act as an evidence-led arbiter:** Independently determine whether demand-reduction targets are realistic and advise the government when more physical supply infrastructure is required.
- 2. Provide a national overview:** Look beyond regional and company boundaries to coordinate optioneering and ensure that the best-value, most strategic assets are built.
- 3. Remove structural barriers to delivery:** Streamline planning, fast-track strategic transfers, and manage a national grid to balance resources across the country.

¹¹ Water UK (2025), *A Reset for Water: Water UK’s response to the Independent Water Commission’s Call for Evidence*, P93-95

4. Proposed water system operator

A newly created system operator potentially emerging from RAPID should work alongside regional systems planners to manage a future National Water Grid for England.

Lessons can be applied from the National Energy System Operator (NESO) as a neutral system operator¹².

NESO as a neutral system operator:

- Takes a whole system view considering supply and demand
- Takes no commercial stake in generation or networks
- Publicly owned by the UK government
- Remains separate from industry and government day-to-day control
- Balances electricity supply and demand using control centres, forecasts and balancing actions
- Ensures frequency & voltage stability and security of supply
- Serves a strategic system planner producing long-term plans on electricity transmission, gas networks and future system needs e.g. renewables, hydrogen
- Manages grid connection queues and market design inputs (how generators are paid)

On the other hand, currently the English water system is:

- Fragmented via multiple regulators: Ofwat, Environment Agency, Drinking Water Inspectorate
- Regionally siloed: water companies serve fixed areas leading to weak system coordination
- Relies upon unrealistic targets: planning is based on impractical water reduction targets

There should be a system operator to independently determine whether demand reduction targets set by government will be met. If targets will not be met, the system operator should advise government that more supply is required. Water companies should be incentivised via Outcome Delivery Incentives to hit stretching targets alongside penalties for not delivering Performance Commitments.

Setting the national direction

National oversight from conception to delivery can help to tackle current water challenges such as meeting demand unlocking local economic growth and responding to drought conditions. [Question 1]

Benefits include strategic planning leading to more efficient decision making, more effective future proofing and better more resilient outcomes. [Question 2] The water resource planning process would also become more efficient by reducing the need for water companies to consult multiple stakeholders who may offer conflicting advice when developing their Water Resources Management Plans. It could coordinate and rationalise the activities of the five regional water resources management groups who currently coordinate the activities of individual companies on a non-statutory footing.

¹² NESO (2025), [The Role of the National Energy System Operator in Delivering the Energy Transition](#)

Water companies should continue to be closely involved and can provide unique data, insight and intelligence to inform a National Water Grid for England managed by an independent system operator. [Question 3]

Governance arrangements – Governance should clearly define roles, with the system operator leading national modelling and planning independently from the regulator and supported by inputs from companies and regional groups. Companies would provide data, delivery plans and liaise directly with businesses, while regional groups shape aligned regional strategies. Government must ensure that national plans translate into funding and policy decisions, supported by coordinated oversight. Independent scrutiny will be important for transparency, alongside clear accountability mechanisms where delivery falls short.

Principles – A National Water Grid for England should combine national coordination with strong input from water companies and regional groups. Companies provide detailed operational insight, while regional groups enable cross-collaboration. The system operator should co-develop plans using this expertise, but remain an independent, evidence-led arbiter focused on whole-system optimisation. Common data standards, transparency and iterative planning will be key to maintaining trust and enabling adaptation to uncertainty.

Limitations – Significant uncertainty in forecasting demand and climate impacts creates risks of under-investment. Regional groups should advise on the achievability of demand and leakage targets considering planned new homes and business uses e.g. data centres to determine whether new supplies are required. The National Water Grid can then take an independent view of these forecasts before setting out whether new supplies are required.

Core functions of a Systems Operator

A National Water Grid addresses many of the challenges we face to meet demand and to unlock growth to help meet housing targets and grow the economy leading to better outcomes for people including manageable bills. It should support water resource planning by taking on the following core functions:

1) Scenario planning: Setting planning scenarios must be independent of individual regulators to avoid structural bias. Ofwat's pressure to suppress bills risks under-forecasting future demand, while the Environment Agency's focus on conservation risks over-forecasting. An independent approach is critical to ensuring scenarios are driven by objective need rather than conflicting regulatory mandates.

Companies should be provided with strategic and coordinated planning scenarios on population growth, climate change and environmental challenges. A top priority would be to meet the government's long-term resilience standard for drought and create a similar standard for peak demand (NB: there is not currently a government standard for peak demand - a national water grid would help facilitate its introduction).

A revised approach should include ownership of the current 'National Framework for Water Resources' process, including accurate and robust modelling of future national demand, support for regional water resource planning groups and oversight of the reconciliation of regional models not undertaken today. A

future system operator could model future demand from new industries (e.g. data centres and hydrogen production) as well as domestic consumers. The operator should also work in partnership with the five regional water resource groups, using their operational insights to inform national strategy and ensure plans are robust and deliverable.

Modelling future demand is critically needed because of the high economic stakes. Public First analysis undertaken for Water UK projects that as much as £6.4bn of economic growth could be lost due to the housing development having limited or little available water supply in addition to £1.3bn being lost in commercial growth.¹³

Case study – Singapore’s PUB – Anticipatory Modelling & Industrial Mandates

To prevent water scarcity from constraining economic growth, Singapore’s national water agency, PUB, operates as a highly integrated national system planner. Under its SMART PUB Roadmap, PUB deployed an enterprise-wide Intelligent Water Management System.¹⁴ Aided by machine learning, the system digests historical consumption data and weather patterns to predict localised demand, optimising water production in real time. An independent system operator for England, modelled after PUB, would possess the statutory power to forecast industrial clusters (such as data centres and hydrogen hubs) and mandate localised, closed-loop water recycling from the outset.

2) Optioneering to determine best value nationally: After robust modelling is undertaken it then becomes paramount that an independent system operator can choose between options to achieve best value nationally. Currently no such body considers the interest of the nation at large. Optioneering would provide government with independent advice on additional investment needs at national and regional level, balancing the critically serious costs of under delivery with the comparably lower risks of over investment.

Lessons can be applied from the National Infrastructure Commission (NIC) established in 2015 to provide independent advice to government on the UK’s long-term infrastructure needs.¹⁵ It examined barriers to infrastructure delivery, for example making independent recommendations to government on planning reform to speed up the rollout of major projects.¹⁶

NIC demonstrated the value of having a dedicated body with a system-wide view of infrastructure needs and delivery barriers. A National Water Grid for England could perform a similar role for water, providing oversight of strategic projects, monitoring barriers to delivery across regulators and identifying interventions needed to keep nationally important infrastructure on track.

¹³ Public First (2025), *The Cost of Water Scarcity*, P5

¹⁴ PUB (2020), *Digitalising Water: Sharing Singapore’s Experience*, P2-3

¹⁵ House of Commons Library (2021), *National Infrastructure Commission*, P4-5

¹⁶ National Infrastructure Commission (2023), *Delivering Net Zero, Climate Resilience and Growth: Improving Nationally Significant Infrastructure Planning*

Case study – Netherland’s Rijkswaterstaat – Centralised Coordination

Operating under the Dutch Water Act (Waterwet), the agency Rijkswaterstaat acts as a national coordinator that steps in to enforce a legally binding displacement order when water levels drop. This statutory framework brings together all important regulators, water utilities, and ministries under a single operational plan, effectively eliminating regulatory friction and focusing all parties on immediate, coordinated delivery. Rijkswaterstaat secures public trust by providing an impartial source of truth through its Water Management Centre mapping water shortages, pollution and threat of flooding.¹⁷

3) Stress testing and monitoring delivery: The system planner should stress-test company plans against challenging scenarios such as rapid population growth or slower-than-expected reductions in household consumption to expose hidden vulnerabilities. Nationally, the planner should actively monitor the delivery of water resource management plans, tracking leakage, demand metrics and leading indicators. If any pillar of the tripartite strategy (new supply, demand management, or leakage reduction) falls short, the planner would evaluate if a pathway change is necessary. It could recommend action to remedy the situation, including by water companies and through government policy interventions such as the introduction of minimum water efficiency product standards followed by mandatory water efficiency labels.

Transfers will start to increase as the water resource system develops over time. For example, from 2032 the new Grand Union Canal Transfer will move 50 million litres of recycled water a day from Severn Trent’s supply area to the water-stretched South East of England.¹⁸ This capacity could then double if required in the 2040s or 2050s. As England’s water resource system becomes more connected in this way it will increasingly rely on bulk supply agreements, so we should consider that in future there may be a need to evaluate whether the National Water Grid for England could also take on wider functions such as overseeing bulk transfers.

Ofwat has already consulted on principles to govern bulk supply agreements given licences permitting water companies to operate trump contractual agreements supplying other water companies. Ofwat has enforcement powers and has set out high level indications of how it would reach determinations in the event of a dispute. The National Water Grid for England could go further and set out model bulk supply agreements for either new or existing transfers which would help to ensure commitments are reasonably being met to supply demand.

¹⁷ OECD (2014), [Water Governance in the Netherlands](#), P121

¹⁸ Affinity Water (2024), [Water Resources Management Plan 2024](#), P152, P227

Case study – Israeli Water Authority (IWA) – Establishing a Resilience Buffer

Rather than relying on static, regional supply models, the IWA stress-tests the entire national network against severe, multi-year drought scenarios. It dynamically manages its supply assets, using its costliest water sources (such as desalination) as a flexible buffer rather than a primary baseload.¹⁹ In England, a national water grid operator could apply this principle to manage strategic regional water transfers (such as the Severn-Thames transfer) and new mega-reservoirs, and over time once all areas across England achieve a level of resilience dialling transfers up or down based on real-time, nationwide stress tests.

Integrating core system operator functions, such as scenario planning, optioneering, and stress-testing, would prevent costly regional planning failures. A prime example is the Cheddar 2 reservoir, which was denied funding in 2014 as a single-company scheme for Bristol Water, only to be approved a decade later to serve the wider South West.²⁰ Had a system operator approach been in place in 2014 to assess broader regional needs, this vital asset could already be operational today.

¹⁹ OECD (2022), *International Programme for Action on Climate, Israel's Sustainable Water Management Plans*, P2-3

²⁰ BBC News (2025), [Work to build new reservoir 'will start by 2029'](#)