

Watering the AI revolution

Response to Data Centres APPG Inquiry

Water UK is the trade association for the United Kingdom's water industry. We represent all regulated water and wastewater companies in England, Northern Ireland, Scotland and Wales. Water UK welcomes the opportunity to respond to the [Data Centres APPG Inquiry](#) into the conditions to enable data centre growth.

Executive Summary

Water UK recognises the importance of delivering additional data centres as part of the UK's growth ambitions. However, decades of underinvestment in England's water supply infrastructure is restricting economic growth, particularly in water-stressed regions like the South East and East of England where data centre development is concentrated. No new reservoirs have been built in England for over 30 years because government has blocked proposals. As a result, we are paying the price today – houses cannot be built and businesses cannot expand for no other reason than a lack of water. Even with Ofwat's recent approval of new water resource schemes, excessive delays in the planning approval system mean these projects will not deliver water quickly enough to meet demand.

The ability of the UK to support data centres is also undermined by flawed statutory forecasting. Water companies are mandated by the Environment Agency to plan on the assumption that business water demand will fall by 15% by 2050, even though the agency acknowledges that non-household demand is rising. Furthermore, when preparing plans for new water resources such as reservoirs, water companies are obliged to follow the Environment Agency's National Framework for Water Resources which explicitly excludes the water needed for major technological drivers such as data centres and gigafactories. The result is that water companies must plan on the basis on very ambitious targets, which the Environment Agency concedes relies on people changing their habits which will be "notoriously difficult" to achieve.

The inability to plan on the basis of realistic forecasts creates a large and growing gap between the amount of water the country needs and the amount we are able to supply. Last year, the gap was 336 million litres of water a day. As a direct result, water companies are forced to prioritise new housing, which they are legally required to connect to their network, over businesses, which they are not. The economy is paying the price.

To enable growth, the government and regulators must reform water resource investment and planning frameworks. In the medium term, Ofwat should leverage its 2025–30 price control growth "re-opener" to fund critical network expansions, removing hurdles that refuse to acknowledge the limits of ambitious demand-reduction targets. Over the longer term, the Environment Agency must reform its planning guidelines to mandate that water companies plan using realistic demand forecasts rather than idealistic reduction goals. Furthermore, future Water Resource Management Plans must incorporate flexible pathways to adapt dynamically to higher-than-expected growth within investment cycles, backed by increased headroom capacity to support future developments.

In addition, we require immediate reforms to the system for planning approval and a review of restrictions on abstraction where there's economic need. Alongside these measures, given the shortage of water in parts of the country, we need the following from the data centre sector to enable its growth:

1. Mandatory disclosure of water usage at the planning stage, mirroring emerging frameworks in Australia, the European Union and some states within the United States. (See response to [B4](#))
2. Minimum water-use efficiency standards and bans on open-loop cooling systems within designated water-stressed areas. (See response to [C8](#))
3. Changes to Environment Agency permitting to enable data centre operators to use treated wastewater for cooling at scale to prevent depleting local drinking water supplies. (See response to [C4](#))

This submission indicates where we are responding to specific APPG questions, and sets out short, medium and long term recommendations that can enable data centre growth while making best use of currently limited water supplies.

Background

The lack of water infrastructure forms a barrier to growth

In response to question A1, the lack of water infrastructure in areas experiencing the most demand for data centres acts as a barrier to further development. England has underinvested in water infrastructure for decades which, in places, is making the delivery of housing and new businesses including data centres challenging.

Not a single new reservoir has been built in England for more than 30 years despite a more than 20% increase in population over that time and significant changes to our climate. Attempts by water companies to build new reservoirs have been blocked by politicians and regulators in favour of keeping customer water bills down. Notable examples include:

- In 2011, the then Environment Secretary, now Dame Caroline Spelman, rejected an application by Thames Water to build a new reservoir in Abingdon. It would have cost £1 billion had it been approved then, but she said there was “no immediate need”. In 2024, Thames Water was finally given approval, but costs over the wasted 13 years have now risen to between £5.5 billion and £7.5 billion.
- In 2014, Bristol Water applied to build a new reservoir at Cheddar for £114 million. It was rejected then, but was approved in 2024. The exact same reservoir will now cost £839 million.

As a result, the South East and East of England are water stressed, and this is also the area of the country undergoing rapid data centre development. Right now, houses are being blocked and businesses are unable to expand for no other reason than a lack of water. A lack of water is the only thing stopping development in parts of Sussex, Suffolk and Lincolnshire. The problem is spreading. Water supplies are so low that it has forced a moratorium on business expansion in East Anglia and parts of Essex.

Government has accepted the need for greater drought resilience following a report from the independent National Infrastructure Commission, which found that a failure to prepare for drought would be almost double the cost (£40 billion) of proactively preparing through building reservoirs (£21 billion). As a result, government approved development funding in 2024 for nine reservoirs, alongside construction costs for one at Havant Thicket, nine desalination plants, nine major transfers of water from wetter to drier regions and seven water recycling projects.¹

Government targets assume water demand will fall

In response to questions D5, D7 and D8, water is increasingly needed for business, but despite the plans to build new reservoirs and other supply options set out above, we will still face future water scarcity because official forecasts are flawed. Water companies are being required to plan on the assumption that businesses in England will reduce their use of water by 9% by 2038 and 15% by 2050. In attempting to justify these targets when they were set in 2022, the then UK Government asserted that, “...the reduction in economic dependence on heavy industry and manufacturing means there is no longer a strong link between non-household water demand and economic activity”.

Only three years later, the National Framework for Water Resources, the Environment Agency’s estimate of future water supply demand deficits admits that “uncertain growth in some non-household sectors may mean demand increases beyond the levels planned.”² Indeed, it rightly acknowledges that “Data centres are fundamental to growth, industry and society,” and “Data centres can require a large amount of water for cooling processes and there is the potential for a new large demand as more data centres are built”. Yet, precisely because Water Resource Management Plans are required to factor in the flawed demand target, insufficient action has been authorised by regulators to provide new sources of water. The situation is even worse because, as the Framework acknowledges “current non-household demand forecasts in [Water Resources Management Plans] are largely based on local authority plans which do not fully reflect the potential additional water needs of existing and new businesses”.³

Despite the UK Government’s classification of data centres as Critical National Infrastructure and its plans to establish AI Growth Zones with over 150 applications received within one water company’s supply area, the National Framework for Water Resources excludes data centres. However, this Framework is the basis for determining whether new reservoirs should be built. Our economy cannot afford for businesses to be unable to grow because of such flawed estimates of their need for water. In time, this situation is resolvable if we move away from these flawed assumptions and build sufficient headroom into the system to enable growth. Water companies are required by law to prioritise household over non-household customers, so a lack of water will hit business growth first.

The Environment Act 2021 also set targets for reducing total water put into supply per head in England. This target assumes not only the reductions in business demand outlined above, but also large reductions in domestic consumption per head. As a result of planning water resources on the basis of targets that

¹ Ofwat (2025), [RAPID: securing customers' future water supplies in AMP8](#)

² Environment Agency (June 2025), ‘[National Framework for Water Resources 2025: water for growth, nature and a resilient future](#)’

³ Ibid.

appear impossible to meet, in 2025-26 demand is 336 million litres a day higher than was assumed in Water Resources Management Plans in 2024.⁴ This deficit may not be apparent in a wet year, where there is excess water to take from the environment. However, in 2025 and 2026, this deficit ultimately meant that reservoir, river and groundwater levels dropped earlier, hosepipe bans had to be imposed earlier and more widely, and there was greater environmental harm than would otherwise be the case.

The trade-off between water and electricity

There are two main approaches to cooling data centres: open-loop systems, which expel heat by evaporating water in cooling towers, and closed-loop systems, which pump the same water around the system but mechanically cool it. The latter conserve water, but require more electricity. Hybrid systems attempt to balance both, but often rely on water-intensive evaporative cooling during peak summer temperatures—coinciding exactly with maximum seasonal pressure on the water network.⁵ In response to question C3, because the cost of water is, and will likely continue to be, significantly below the cost of energy, all else being equal, data centre operators will prioritise using less energy over water usage. This incentive is likely to be particularly strong in England, where decades of underinvestment have kept water bills artificially low, but where energy prices are among the highest in the developed world. Medium sized businesses in the UK pay around 92% more than the EU median for electricity.⁶ The natural trade off will be to minimise the use of electricity.

Immediate policy recommendations

Water efficiency standards for data centres in water stressed areas

In response to question B4, planning decisions should take account of the availability of water efficiency technologies and the location of proposed data centres. For example, areas experiencing water stress, currently around two thirds of the country by land mass, including the South East and East of England, may require water efficiency standards for proposed data centres.

In water stressed areas, data centres should be as water efficient as possible to avoid limiting growth in other areas of the economy. This could be encouraged through, for example, a minimum water usage efficiency standard to be defined taking account of the UK climate. This is important during peak summer temperatures which is when household water demand is highest. This would not need to apply to *all* data centres, as there is a potential trade-off between water usage and operational cost, but could apply specifically in areas already classified as ‘water stressed’ for the purposes of enabling compulsory metered charging.⁷

Data centres should be as water efficient as possible and only be in areas of water stress where this is essential to their function or where to do otherwise would be prohibitively expensive. This is because if

⁴ Water UK analysis of water company annual reports. Demand in 2025-26 was 14,110 ml/d compared to 13,774 ml/d assumed in 2024 Water Resources Management Plans.

⁵ Green Digital Services Alliance (GDSA) and Defra (2025), [Water Use in Data Centre and AI Report](#)

⁶ BP Consulting (2026), [Industry Updates: Great Britain Still Among the Highest Electricity Prices in Europe](#)

⁷ For a definition of water stressed areas see Department for Environment, Food and Rural Affairs and the Environment Agency (2021), [Water Stressed Areas – 2021 classification](#)

data centres are situated in areas of water stress when they do not need to be, or use more water than they need to, this will deplete headroom and limit growth of businesses that do need to be location specific. To enable these discussions, more clarity and transparency will be needed on actual intended water use at the planning stage.

Mandatory disclosure of water usage at planning stage in water-stressed areas

In response to question C8, a major challenge the water sector faces is not knowing how much water is required for emerging data centres. Speculative applications tend to apply for very large volumes of water on a precautionary basis, providing maximum flexibility in design. Requiring transparency about water use during pre-planning and planning processes as well as publishing the environmental performance of existing data centres would enable water companies to effectively plan. Australia is leading the way by first setting out its expectations of achievable levels of water efficiency⁸ which is now being followed by draft mandatory standards governing land, energy and water use for data centres being consulted on now.⁹

Similarly, the European Union's Energy Efficiency Directive, passed in September 2025, requires data centres operating in the EU to disclose their Water Usage Effectiveness – litres of water used per kilowatt hour of data processing.¹⁰ In the United States, data centre regulation is occurring at state level rather than federally, but several states, including California, New Jersey and Utah have signed requirements into law while others consider legislation requiring water usage requirements of data centres be published. The states of South Carolina and Kansas are both considering legislation banning open loop cooling for data centres,¹¹ and Singapore aims for all data centres to achieve a Water Use Efficiency of 2.0 m³/ MWh or less within the next 10 years.¹²

Disclosure using a consistent metric up front would enable water companies to understand what investment is required in their network to accommodate this demand, and will enable government to set clear water efficiency standards appropriate for a UK context.

Water reuse can deliver net benefits to communities

In response to question C4, where possible, data centres should be cooled using treated wastewater, however, this would benefit from clear Environment Agency permitting process. Currently the UK tech sector relies upon drinking water for cooling. If wastewater permits were easier to obtain, with clear and proportionate expectations on what is required of data centres and processes for doing so, data centres would be encouraged to locate near wastewater treatment works, making use of treated final effluent from the works. This could also be supported through greywater recycling and rainwater harvesting where

⁸ Australian Government (2026), Department of Industry, Science and Resources, [Expectations of data centres and AI infrastructure developers](#)

⁹ Australian Government (2026), Department of the Prime Minister and Cabinet, [Getting it right: Building AI infrastructure that works for Australia: Consultation paper](#)

¹⁰ DataCenters.com (2025), [Inside the EU's Crackdown on Data Center Emissions: What it means globally](#)

¹¹ [State Data Centre Water Usage Legislation Gains Momentum](#) and [Navigating Singapore's Data Centre Regulatory Framework](#)

¹² Infocomm Media Development Authority (2024), [Driving a Greener Digital Future: Singapore's Green Data Centre Roadmap](#)

possible. In Singapore, since the start of January 2024, businesses which use more than 60 megalitres of water a year are required to recycle at least 50% of the water they use.¹³

Review of water abstraction restrictions

In response to question C1, in some parts of the country a shortage of water is driven as much by recent and proposed caps to abstraction licences as it is by climate change or a growing population. In some of these cases, these caps could be temporarily and responsibly suspended to enable economic growth – such as supplying data centres – while new infrastructure is developed. Many historic cuts to abstraction are not based on environmental investigations of the sites in question, and instead are based on high level computer models. There is also currently no mechanism for water companies to challenge these cuts if they discover that they do not deliver the environmental benefit originally envisaged.

Medium and longer-term policy recommendations

In the medium term, i.e. this parliament, government could support data centres through funding water companies to expand their networks. Ofwat sets a five-year price control determining companies' investment over that period. At the end of 2024, Ofwat confirmed £104 billion in investment between 2025-30. However, Ofwat's assessment was based on company business plans drawn up in 2023 and Ofwat has recognised that both population growth, and the government's ambition for development driven economic growth has increased since then. As a result, Ofwat has introduced a 're-opener', a window for water companies to apply for additional investment, to support growth. Ofwat should fund new short and longer-term water resource options through its price control growth re-opener. At present, the re-opener contains unnecessary hurdles, including that the needs case for new schemes cannot acknowledge that current planned for growth is insufficient on this basis that the company has had to use overly optimistic assumptions about demand reduction.

In addition, the water resources planning process should be reformed:

- The Environment Agency should change water resources planning guidelines so water companies can plan based on realistic forecasts and not ambitious targets for demand and leakage reduction.
- The Environment Agency should require Water Resources Management Plans to adapt if growth is higher than expected *within an investment period* to avoid companies having to wait five years to adjust forecasts. The annual review of the plans could then function as a decision point for switching pathways.
- The Environment Agency should require plans to have a greater level of headroom so that water resource zones can enable future development, without a lack of water becoming a barrier to growth.

Finally, even when new water resource projects are approved, they take too long to build which adds unnecessary cost. Water UK's [Barriers to project delivery](#) paper made several recommendations to address the fact that the current system of infrastructure delivery is too cautious, uncertain and slow. Only government can institute the necessary reforms. These include:

¹³ The Straits Times (March 2023), [Water Recycling Requirements to be Mandated for Water-Intensive Industries](#)

- **‘Quick wins’:** such as extending permitted development rights,
- **Medium term reforms:** such as reducing the need for permits and licensing,
- **Longer term reforms:** such as reducing the legal risk that water resource projects face which delay projects and push up costs by implementing in full the recommendations of John Fingleton’s Nuclear Regulatory Review on reform both judicial review and making it easier for major projects to comply with the requirements of the Habitats Regulations.¹⁴

¹⁴ John Fingleton (2025), [Nuclear Regulatory Review 2025: Enabling nuclear delivery through regulatory reform](#)