‘BUILDING WATER-SUPPLY INFRASTRUCTURE IS WELL WORTH THE INVESTMENT’

The National Infrastructure Commission wants the UK government to press water firms to get tough on leakage rates and to invest in securing supplies – but as customers, we must all do our bit, too. Commissioner **Kate Barker** sets out her case

As we worked in sweltering offices this summer, uppermost in our thoughts may have been making the most of the hot weather and our holidays, rather than not making the most of our water supplies.

But as the proposed hosepipe bans in Northern Ireland and the northwest of England demonstrated, our water infrastructure is under strain. This serves to emphasise the risks to England’s water system that the National Infrastructure Commission (NIC) has highlighted.

Published earlier this year, Preparing for a Drier Future highlights the need to make our systems far more resilient, while increasing supply – and reducing demand from consumers across the country.

For our report, we defined drought as a period of such low rainfall that companies have to place restrictions on households’ water supply by providing water only at certain times of day, or through standpipes.

Luckily, the limits placed on customers this year never reached that far. Looking ahead, however, we calculated that without further action there could be as much as a one in four chance of the UK suffering a drought – and its associated restrictions – between now and 2050.

INVESTMENT

Since 1989, water in England has been provided by private-sector companies, each with a monopoly in their given area. Ofwat as the regulator sets the prices, and the Environment Agency and Drinking Water Inspectorate regulate wider performance.

Since privatisation, water companies have invested more than £140 billion in the network, predominantly on meeting new European Union environmental requirements. But although that investment has also led to some improvements to existing supply assets, such as pipes and existing reservoirs, little new infrastructure has been built.

And reductions in demand have been only modest. Daily consumption of water per person in Britain is currently 141 litres, a fall of just nine litres since 2000.

> "We believe that a long-term plan for investment and the application of new technologies should reduce costs, and that tackling leaks could save more than 1,400 megalitres a day by 2050"

This is a stark comparison to the 115 litres per person per day in Belgium and Denmark, among the best in Europe.

Water companies are consulting on their water resources management plans – but current drafts have limited ambition to improve long-term resilience. This is in no small part because of the limited public appreciation of the consequences of drought – the last time companies imposed restrictions on households’ water supply was in 1976.

On the other hand, hosepipe bans like those experienced this year were imposed as recently as 2012. And even more frequently companies have used drought permits to take more water from the environment than they normally would when their resources start running low.

The system also suffers as water companies plan with very little join-up between them, despite established regional co-ordination groups. There was some hope of changing this when the companies came together through Water UK to develop a long-term national perspective on water resources in 2016, but that does not seem to have translated into their current plans.

RESILIENCE

Our report found that the cost of increasing the resilience of our water supply over the next 30 years could be £21 billion, compared to the £40 billion predicted cost of relying on emergency measures such as transporting water around the country using road and ship tankers allowing for the likelihood that these droughts occur.

There would also be significant inconvenience for households and businesses.

Building new infrastructure, and improving the existing network, is therefore well worth the investment. We need to tackle this, and reduce demand, to make England more resilient to the increased risk of droughts. We calculate that these efforts would need to secure as much as 4,000 megalitres per day of additional capacity, to achieve this aim.

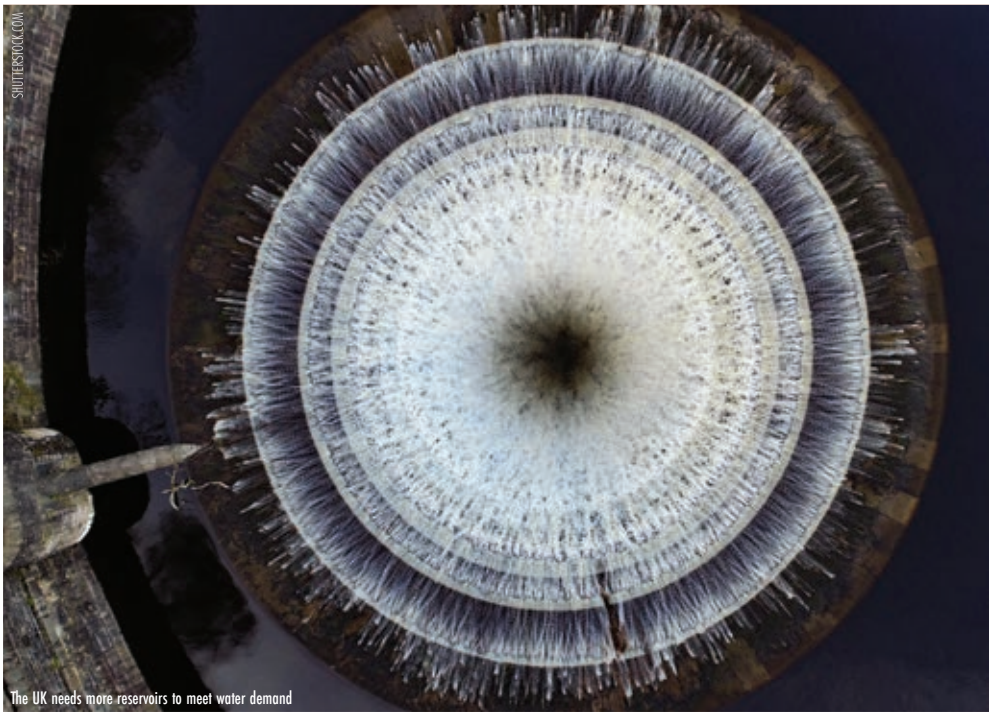
Providing new supply infrastructure,

The most obvious example of this is building more reservoirs – but these come with the clear disadvantage of needing large quantities of land. Desalinating seawater offers the attractive option of a virtually unlimited supply of water but is energy intensive and produces highly polluting waste.

Reusing waste water is less energy-intensive but has more limited availability. We will probably need a combination of all three of these options – but we should also consider a fourth: water transfers.

Water transfers make up only around four per cent of the UK's total water supply but having examined the evidence the NIC considers this worth expanding. Transfers offer the option of moving water from areas with a surplus to those in greater need; new storage in a wider range of places can thereby reduce costs and increase the likelihood of timely delivery.

This could also foster a more transparent market, opening a wider range of options and reducing costs for consumers. There are risks involved – transferring water could enable invasive species and pathogens to spread across the system – and so each must be considered, case by case.



The UK needs more reservoirs to meet water demand

STRATEGIC TRANSFERS

As a result, we have recommended that Ofwat should launch a competitive process by the end of next year to support creating a network of strategic transfers, alongside additional supply infrastructure. These, combined, should increase capacity by 1,300 megalitres a day, and the process would complement the regulator's ongoing price review.

However, the UK also needs to improve its existing infrastructure. Water companies made significant progress in the 1990s and early 2000s to reduce leakages, but improvements have since stalled.

And so, today the UK loses as much as a fifth of its water supply to leaks. The cost of dealing with this is unclear, not least because the condition of the pipe network isn't fully understood. But we believe that a long-term plan for investment and the application of new technologies should reduce costs, and that tackling leaks could save more than 1,400 megalitres a day by 2050.

> "Metering would reduce daily use of water from 141 litres per person per day to nearer 118 by 2050"

We have therefore called on the government to set an ambitious target for water companies to have halved leakages by this date, with Ofwat agreeing five-year commitments for each company.

However, this can't just fall on the water companies: consumers must also play their part by using water more efficiently. We've found that metering can play a big part in this, potentially reducing demand by 15 per cent – or 17 per cent if homes are fitted with smart meters.

This would reduce daily use of water from 141 litres per person per day to nearer 118 by 2050. Our recommendation for government is to enable companies to implement compulsory metering wherever needed by the 2030s.

Overall, to reach that much-needed 4,000 megalitre additional daily capacity, a third of this must come from building new supply, a third from leakage reduction and a third from reducing consumers' demand. This will make the public supply system more resilient to drought – and will result in more water to maintain environmentally important river flow.

We've set out ambitious recommendations for government, the regulator and the water companies to do this, with clear deadlines for implementation.

I very much hope they take our advice. Given that the UK has so recently encountered record-breaking temperatures – and given the clear warnings that climate change may mean we do so more often – consumers may increasingly look to ministers, Ofwat and their water companies to act.

We will all need to do our bit too. ●

Dame Kate Barker is a commissioner with the National Infrastructure Commission

WATER IN THE UK

£21 BILLION	cost of increasing water-supply resilience
£40 BILLION	cost of delivering emergency water supplies
141 LITRES/DAY	average UK water consumption
115 LITRES/DAY	average water consumption Belgium/Denmark
118 LITRES/DAY	UK target average consumption by 2050