

Learning Journey on Water Security: UK Water Offer

The overarching goals for the UK in relation to global water security are to; tackle and reverse growing water insecurity and its consequences caused by depletion and degradation of natural water sources; and address poor water management and increasing demand. To do this, the UK has a well-developed water ‘offer’ that together can help reach the goal of global water security. This note details some of that water offer.

- > **UK water leadership:** The UK developed the concept of modern sanitation and water supply, with an early example being the [Victorian Bazalgette London sewer](#).
- > **Ownership and regulation:** The UK has four models of ownership: government department in Northern Ireland, GoCo in Scotland, Mutual in Wales, and private companies in England. But the common thread is strong and clear, regulation to deliver the right outcomes for society.
- > **Competition and markets:** The UK set up the world’s first water retail markets for business customers, delivering savings and environmental benefits. Similar market mechanisms are being developed for sewage sludge, which will help drive circular economy solutions.
- > **Innovation:** The UK has a huge number of water tech start-ups and most water companies have labs and pilot schemes to support these fledgling companies. At the same time, the English regulator, Ofwat, has established a huge innovation fund, which along with the Scottish Hydro Nation initiative has made the UK the best place in the world for water innovation and tech.
- > **Nature-based solutions (NbS):** The UK is developing NbS to tackle aquatic climate change impacts such as floods and droughts and is committed to catchment restoration which will also absorb carbon. Many of these catchment-based projects are multi-partner involving communities, businesses, utilities, NGOs, and government.
- > **Blue-green Infrastructure:** Work is underway to develop integrated blue-green infrastructure solutions. [Welsh Water’s RainScape projects](#) are a great example of adapting urban landscapes to reduce run-off and mitigate against flooding. Scotland has a similar programme called 10,000 Raingardens for Scotland, and the Environment Agency has published a National Flood and Coastal Erosion Risk Management (FCERM) Strategy to the year 2100.
 - **Water resilience:** The UK is taking a lead in planning for a resilient future based on climate change predictions and growing/changing population. The Met Office, Defra, the Environment Agency, and others have together produced [models that can accurately predict UK weather in 40 years’ time](#). This is key to ensuring that the UK’s water infrastructure can cope with the effects of the climate in the future. Initiatives that are linked in some way to UKCP18 include [Twenty65](#) (what the UK water sector needs to look like in 2065) and [Net Zero 2030](#) (England’s water utilities have committed to this sooner than any other industry).
- > **Green funding:** Anglian Water and other water companies have innovated by developing green bonds as a financial vehicle for environmental enhancement. The government has also facilitated £2.7bn in funding for green recovery from England’s water utilities
- > **Affordability:** Water affordability is a key priority for the UK water sector. Both the economic regulators and the consumer protection bodies are able to scrutinise water company plans to ensure water prices are fair and that all companies have schemes to alleviate water poverty.
- > **Net-zero carbon:** The UK’s water sector was the first in the world to set a target for net-zero carbon. All water companies have set 2030 as the target date for achieving this. The innovations needed to meet this target are relevant globally.

- > **Full cost recovery:** Investment programmes of billions of pounds are delivered each year, funded through full cost recovery with no government subsidy. Water companies in England and Wales invested more than £8bn in 2019/20, part of a £44bn spending commitment for 2015–2020.
- > **Continuous improvement:** The UK has low prices for delivering water and sanitation services and world-class tap water quality, and excellent environmental protection for the aquatic environment. But at the same time, consumer protection, water quality, and environmental regulators, and NGOs push for improvements. The combined strength of civil society alongside regulation has led to the designation of inland waterways as bathing water, and in response to criticism from the press and public, water companies are addressing aquatic water quality. This is a journey and in the UK the water utilities sit within a wider water sector where NGOs, press, regulators, and the public all have a voice.
- > **Water research:** The UK water sector also includes universities and research bodies such as the world leading [Centre for Ecology and Hydrology](#) and the [Water Research Centre](#). Given the importance of water to both adaptation and mitigation, the government wants to strengthen the UK's research and development capabilities ([see GCRF](#)). This includes application and engagement; for example, the Camellia project – run by Imperial College London, University College London (UCL), and the University of Oxford, along with British Geological Survey (BGS) – is focused on public engagement with water science, and is globally unique.
- > **Public engagement:** Civil society structures and NGOs, along with the fora set up by water companies, ensure that there is wide-scale public engagement in decision-making in the water sector, in particular the investment priorities of the utilities. Some of the company financial KPIs reflect successful customer engagement.
- > **Expert bodies and consultants:** The UK has a wide range of internationally recognised expertise on water: global consultants and engineering firms and specialist companies ranging from environmental economics to digital water solutions, and from large-scale infrastructure to nano materials. There are also a range of chartered institutions and trade bodies that regulate and promote learning and good practice in the sector alongside a number of training and qualification bodies. The UK also has globally recognised water quality and water efficiency standards. This expertise is promoted by bodies like [British Water](#).
- > **WASH:** Overseas aid provided by the UK government and by NGOs like WaterAid are globally recognised and deliver water and sanitation projects throughout the world. Britain also trains and educates water professionals from many countries through outreach programmes or directly at UK universities, or as a hybrid through Massive Open Online Courses (MOOCs) on water.

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DOI: [10.19088/K4D.2022.026](https://doi.org/10.19088/K4D.2022.026)



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