



Parliamentary
Forward View



Horizon scanning: Water policy

Policy developments and opportunities to engage



June 2023

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Horizon scanning: Water policy

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This is a briefing paper on environmental policy relating to water resources and systems, including both freshwater and marine environments. In recent years, critical policy developments in environmental governance, including the Environment Act 2021 and England's new Environmental Improvement Plan have created multiple opportunities for positive engagement.

The briefing is intended for IES members to encourage awareness of relevant policy issues, support horizon scanning for environmental professionals, and identify opportunities to engage with decision makers and the public on emerging issues linked to water and the environmental sciences. This briefing was first published in March 2022 and has been reissued for June 2023.

For more information about the latest developments in freshwater, find out more about the [Foundation for Water Research](#) (FWR). For more information about marine and coastal science, join our [Marine & Coastal](#) community.

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1. Specialism-specific relevance

This briefing is primarily written for an audience of environmental professionals undertaking work linked to water. Specialisms which may be affected by the subject-matter of the briefing include:

- Built environment
- Climatology
- Conservation & ecology
- Environmental management
- Marine and coastal science
- Sustainability
- Waste management
- Water

Ultimately, this subject is likely to affect any professional whose work concerns topics associated with freshwater, wastewater, or marine environments.

2. Environmental Improvement Plan

In January 2023, the UK Government published its [Environmental Improvement Plan](#) (EIP) as the first update to its [25 Year Environment Plan](#).

The Plan covers 10 high-level goals, one of which is 'Clean and plentiful water', although several of the others directly interact with water, either through linked natural systems or through other goals with the potential for significant co-benefits.

Many of the measures in the EIP addressing water exist to support the delivery of the Government's [legally-binding targets on water](#) (and linked interim targets). Those measures include:

- Reiterating the commitment to deliver on the [Storm Overflows Discharge Reduction Plan](#), as well as to utilise the fines and measures set out in legislation to drive action by water companies, supported by an increase in the water company enforcement budget of £2.2 million per year;
- Measures to reduce nutrient pollution from wastewater, including requiring the production of [Drainage and Wastewater Management Plans](#), as well as upgrades to 160 wastewater treatment works by 2028 and a further 400 by 2038, including for anaerobic digestion;
- Measures to reduce nutrient pollution from agriculture, including through [Catchment Sensitive Farming](#), the [Sustainable Farming Incentive](#), and [Diffuse Water Pollution Plans](#);
- Expanding the [Water and Abandoned Metal Mines programme](#) with 40 new schemes by 2038;
- Supporting the [Chalk Stream Strategy](#) launched by the [Catchment-Based Approach Chalk Stream Restoration Group](#);
- Delivery of the [Integrated Water Plan](#) and Roadmap for Water Efficiency, including reviewing water efficiency options in planning, [building regulations](#) and non-household buildings (the latter through voluntary schemes), as well as work with regulators and water companies to put in place Water Resource Management Plans and Drought Plans, reduce consumption, and deliver a 50% reduction in leakage by 2050;

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- Designation of the [National Policy Statement for Water Resources Infrastructure](#) to support new infrastructure for water supply;
- Measures to encourage innovative water efficiency approaches in buildings, including technologies and approaches to funding and maintenance, while also considering [fittings-based approaches to water efficiency](#), and new efficiency standards for homes in areas of serious water stress;
- Changes to planning and building regulations, including mandatory [Sustainable Drainage Systems](#) in new developments, as well as a review of the [Building Regulations 2010](#) and the associated [water efficiency, water reuse and drainage standards](#);
- Measures to address abstraction, including use of the [Water Resources Licensing Digital Service](#) to restrict abstraction during low flow levels and modernisation of the regime through the [Environmental Permitting Regulations](#);
- Support for delivery capacity, including catchment officers in each area, nutrient advisers in the [Planning Advisory Service](#), and supported capacity for [Natural England](#).

To find out more about the full list of policy commitments in the EIP affecting other environmental specialisms, read the [latest analysis from the IES](#).

3. Marine and Coastal policy

The [Environmental Improvement Plan](#) also has significant consequences for marine and coastal science. Although marine and coastal environments are not explicitly mentioned in any of the EIP's 10 Goals, those environments are key factors in three of the Goals: Goal 1 'Thriving plants and wildlife', which addresses marine biodiversity; Goal 6 'Using resources from nature sustainably', which addresses fisheries management and marine resources; and Goal 7 'Mitigating and adapting to climate change', which acknowledges the role of the marine environment in addressing climate change.

Measures on marine biodiversity are constructed to support the delivery of the Government's [legally-binding target on marine biodiversity](#) (and linked interim target), including:

- Implementation of the [UK Marine Strategy](#), the [North-East Atlantic Environment Strategy](#), and the [Kunming-Montreal Global Biodiversity Framework](#), including protection of 30% of UK sea through the [Nature Recovery Network](#) and ongoing negotiations to secure an implementing Agreement under the [UN Convention on the Law of the Sea](#) for marine protected areas in [Areas Beyond National Jurisdiction](#);
- Development of [Marine Net Gain](#) as an equivalent

to terrestrial [Biodiversity Net Gain](#) for infrastructure developments at sea;

- Designation of [Highly Protected Marine Areas](#) (the first of which have [now been designated](#)) and strengthened protections for marine areas by 2024;
- Ongoing support for the [ReMeMaRe](#) (Restoring Meadow, Marsh and Reef)) initiative, with a goal to restore 15% of priority habitats along the English coast by 2043;
- Reiterated commitments to increase marine conservation funding, including £20 million through [competitive ocean grants](#) and £17 million through the World Bank's [PROBLUE programme](#).

Measures on marine resources include:

- Implementation of the [Joint Fisheries Statement](#) and the delivery of [Fisheries Management Plans](#) starting in 2023, alongside continued monitoring and implementation of marine plans and the development of sustainable ocean plans with the support of the [High Level Panel for a Sustainable Ocean Economy](#);
- A new commitment to publish transparent assessments of the sustainability outcomes of annual fisheries negotiations;
- Measures to address bycatch of cetaceans and seal species, including ongoing support for the [Bycatch Mitigation Initiative](#) and trials to explore existing gear;
- Continued support for the [Marine Natural Capital and Ecosystem Assessment Programme](#) to provide an evidence base on ecological, societal, and economic information about marine resources;
- Optimisation of marine space through the [Marine Spatial Prioritisation](#) cross-governmental programme;
- Ongoing support for the [IUU Fishing Action Alliance](#) established at the [Lisbon Ocean Conference](#), including support for developing countries to sustainably management resources through the [Blue Planet Fund](#) and support for enforcement and data collection through [Ocean Partnerships](#).

Measures on the marine environment and climate change include:

- Supporting the [UK Blue Carbon Evidence Partnership](#) and the [Marine Natural Capital and Ecosystem Assessment](#) to build data and evidence on blue carbon ecosystems and services;
- Delivering on commitments to reduce maritime emissions through the [Transport Decarbonisation Plan](#), the [Clean Maritime Plan](#), and [Maritime 2050 Roadmap](#);
- Further measures through the Government's [Energy Security Strategy](#) and its plans for offshore wind.

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4. Environmental targets

Along with the [Environmental Improvement Plan](#) (EIP), the Government has published a framework of long-term [legally-binding environmental targets](#), including those which apply to water, as required under the [Environment Act](#).

Several of the proposed targets will have implications for water, including four which directly address freshwater and one on Marine Protected Areas. The EIP also sets out interim targets to support progress towards the long-term targets, and to support the wider goal of clean and plentiful water.

The long-term targets for water are:

- **Agriculture and water:** the load of each of the following (a) total nitrogen, (b) total phosphorus, (c) sediment, entering the water environment through agricultural diffuse pollution is, by 31st December 2038, at least 40% lower than agricultural diffuse pollution in the year from 1st January 2018 to 31st December 2018.
- **Waste water:** the load of total phosphorus discharged into freshwaters from discharges of treated waste water ... is, by 31st December 2038, at least 80% lower than discharges in the year from 1st January 2020 to 31st December 2020.
- **Abandoned metal mines:** the length of relevant waters polluted by any of the following: (a) arsenic, (b) cadmium, (c) copper, (d) lead, (e) nickel, (f) zinc; from abandoned metal mines is, by 31st December 2038, at least 50% lower than in the year from 1st January 2022 to 31st December 2022.
- **Water demand:** the volume of potable water supplied per day per head of population in England is, by 31st March 2038, at least 20% lower than in the year from 1st April 2019 to 31st March 2020.
- **Marine Protected Areas (MPAs):** before the end of 31st December 2042 (a) the number of protected features which are in favourable condition within all relevant MPAs is not less than 70% of the total number of all protected features within relevant MPAs; and (b) all other protected features within relevant MPAs are in recovering condition.

The interim targets for water set out in the EIP are:

- **Agriculture and water (reduction):** Reduce nitrogen, phosphorus and sediment pollution from agriculture to the water environment by 10% by 31 January 2028.
- **Agriculture and water (sensitive catchments):** Reduce nitrogen, phosphorus and sediment pollution from agriculture to the water environment by 15% in catchments containing protected sites in unfavourable condition due to nutrient pollution by 31 January 2028.

- **Waste water:** Reduce phosphorous loadings from treated wastewater by 50% by 31 January 2028, against a 2020 baseline.

- **Abandoned metal mines:** Construct eight mine water treatment schemes and 20 diffuse interventions to control inputs of target substances to rivers by 31 January 2028.

- **Water demand:** Reduce the use of public water supply in England per head of population by 9% by 31 March 2027 and 14% by 31 March 2032.

- **Water leakage:** Reduce leakage by 20% by 31 March 2027 and 30% by 31 March 2030 by the end of January 2028.

- **Marine Protected Areas:** For 48% of designated features in Marine Protected Areas (MPAs) to be in favourable condition, with the remainder in recovering condition, by 31 January 2028.

Outside of the specified water targets, a number of the other targets may present the possibility of risks or co-benefits for water. These include:

- **Targets to address waste and resource use**, which may have consequences for waste water and its effects on watercourses;
- **Targets to address biodiversity on land**, which may have effects on freshwater ecosystems and the quality of use of water resources.

Importantly, the water targets act in conjunction with the [existing targets and limit levels](#) which are already enshrined in UK legislation.

Many of these existing water objectives are explicitly listed in the EIP, such as restoring 75% of water bodies to good ecological status and targeting a level of resilience to drought so that emergency measures are needed only once in 500-years..



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Although there are other policy targets and limit levels addressing water, the targets listed in the EIP are likely to be the primary focus of UK Government policy on water resources, given their legally-binding and high profile nature.

Where they have not been replaced or updated in the EIP, some existing regulations on water have been subjected to doubt due to the ongoing progress of the [Retained EU Law \(Revocation and Reform\) Bill](#), which is addressed in the next section.

Following the UK's exit from the European Union, the development of targets, limit levels, and goals has continued for both parties, creating different standards of regulation between the UK and the EU. This may lead to unintended consequences, particular on cross-border issues or those linked to complex economic systems.

Although the process for setting the targets has now ended, engagement from professionals working with water remains critical. Going forward, it will be important to ensure that efforts to implement and meet the targets accurately reflect the insights and expertise that the environmental sciences have to offer.

The challenge will be to articulate the technical requirements of translating the targets into real-world measures which are able to be adopted by the government officers and politicians responsible for making decisions.

In that context, water professionals and other environmental scientists will be well-positioned to identify governance gaps and potential unintended consequences.

For further commentary on the selected targets and how they might affect policy and regulation for water, see the consultation responses to the environmental targets consultation from [the IES](#) and the [Society for the Environment's Environmental Policy Forum](#).

5. Retained EU Law Bill

Following the UK's exit from the European Union, the Government has put forward a [Retained EU Law \(Revocation and Reform\) Bill](#), with the intention to address EU laws which

still have effect in the UK. Retained EU law will either be:

- Formally approved and retained in law going forwards;
- Reformed and either updated or replaced with UK-created alternatives;
- Revoked where they are no longer relevant to the UK;
- Given an explicit extension for further consideration.

Previously, the Government intended to allow any retained law which had not been formally approved to 'sunset' and no longer have legal force from the end of 2023, though these plans are not now expected to move forward.

Currently, the full portfolio of retained EU laws is being considered by relevant Government departments (numbering [more than 3700 laws in total](#), nearly 1800 of which are linked to the [Department for Environment, Food & Rural Affairs](#) (DEFRA)).

The process will be lengthy and require significant investigation of the practical relevance of individual laws to the overall governance of the UK.

Although significant changes to the regulation of water resources are unlikely given the extent to which [the EIP references existing legal frameworks](#), there is an ongoing need for engagement and for awareness of the potential ramifications for regulation of water and linked natural systems.

More details may become clear as future expressions of intent by the Government are made public, including through the implementation of the Government's [Integrated Water Plan](#) and other commitments in the EIP.

Either way there will be a continued need for expert engagement by water professionals with the specifics of the review. Following considerable [criticism of the Bill's limited timeframe](#) for review, the Government has stated its intention to report back to Parliament on the laws due for repeal.

The Bill is currently being finalised through dialogue between the House of Commons and the House of Lords.

Consideration of how regulations work in practice will be fundamental to determining their appropriateness in the UK context, and whether reform, revocation, or retention will be the most suitable outcome.



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6. Implementation of commitments

As part of the shift from governance arrangements under EU directives to a UK-driven framework of environmental regulation, the Environment Act has made significant changes to the regulation and enforcement of water-related issues.

Between [licensing reviews](#) and [drainage and sewerage management plans](#) for the water sector, there is the potential to better protect against risk and manage capacity issues, but this will rely on careful scrutiny and whether or not arms-length bodies such as the OEP and Environment Agency are properly able to challenge failures.

The success of regulatory changes which affect water will be highly reliant on the quality of their implementation. For example, the current [water resources charge proposals](#) which took effect last year have the potential to be a satisfactory improvement on past charges, though whether or not they will drive positive improvement still depends on effective enforcement and application in practice.

Scrutiny of the implementation of these measures will be especially important in the context of a relaxed target framework for water, with some of the long-term targets potentially posing a lower standard than those which existed under the [Water Framework Directive](#), particularly in terms of large-scale strategic factors such as the overall health of rivers.

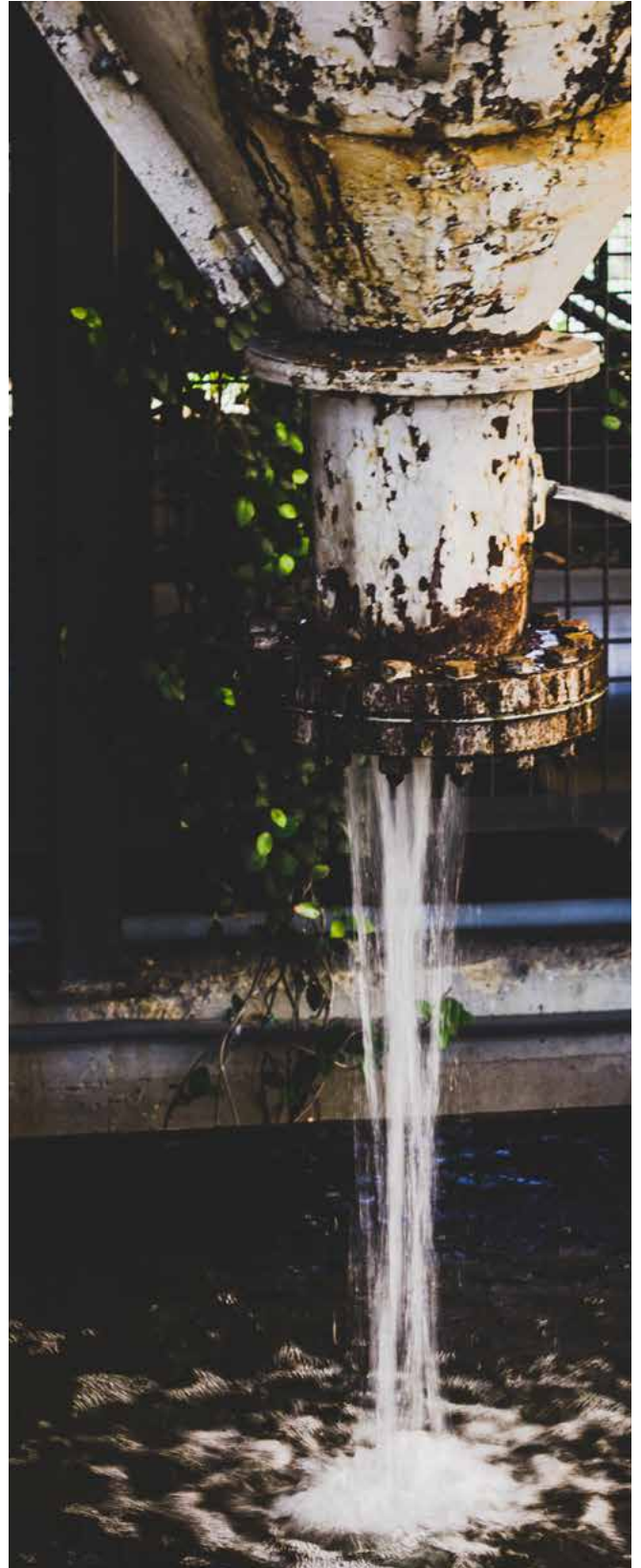
Ongoing engagement with DEFRA and relevant regulatory bodies by environmental experts will be increasingly important as the Government works to implement and action key areas of the EIP.

Engagement with Ofwat, the Environment Agency, and the OEP will be crucial to ensuring that challenges linked to regulation, implementation, and enforcement are properly addressed in Government policy.

There is a strong opportunity for water science to support work that aligns governance, regulation, and policy to drive environmental improvement throughout water resources and other natural systems.

Awareness of regulatory changes linked to these bodies will also be important to maintaining effective horizon scanning so that environmental professionals working or specialising in water are appropriately equipped to take a long-term perspective to environmental monitoring and improvement.

For more information about the implementation of policy, [sign up to the mailing list](#) for the new [Environmental Policy Implementation Community](#) (EPIC), presented by [Environmental Protection UK](#) and the IES.



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7. Water security and resilience

The [IPCC's Sixth Assessment Report](#) (and the [report of its second working group on impacts, adaptation, and vulnerability](#)) demonstrate the significance of long-term planning to address water security and to embed resilience into design-making.

In the context of the increased cost of living, there has been a renewed drive to increase public literacy in water scarcity, personal water use, and the benefits of water security.

As climate adaptation efforts become increasingly mainstreamed in planning and policy systems, a significant co-benefit could be better water security and catchment-level plans to address risks associated with scarcity and poor water quality.

In light of ongoing reforms to planning and the built environment, including the [Levelling-Up & Regeneration Bill](#) and the replacement of [Environmental Impact Assessments](#) with [Environmental Outcomes Reports](#), issues around the long-term future of resilience in the built environment remain uncertain.

Despite that uncertainty, the Government announced in January 2023 that [Sustainable Drainage Systems](#) will be made mandatory for new developments in England, contributing to an increased shift towards natural flood risk management approaches.

Further action may still be required to ensure that a catchment-based approach is taken to integrating measures beyond individual sites to securing resilience at a more systemic level.

In that context, [Flood and Coastal Erosion Risk Management](#) (FCERM) remains a key avenue of engagement on the risks associated with the interactions between water and infrastructure. In January 2022, the Government published its third Climate Change Risk Assessment to prepare for the next [National Adaptation Programme](#) after the current Programme ends in 2023.

As a result, efforts to improve adaptation to flooding are likely to continue to increase, and there is a strong opportunity for water science to engage locally in efforts to improve resilience against flood and coastal erosion risk at the catchment scale.

On the sectoral level, Ofwat has set water companies a target to reduce leakage by 16% by 2025, with a further commitment by water companies to deliver a 50% reduction in leakage from 2017/18 levels by 2050. Water companies have also committed to reducing per capita consumption to 110 litres by 2050, supported by the requirement to produce [Drainage and Wastewater Management Plans](#) and the work of the [Regulators' Alliance for Progressing Infrastructure Development](#) (RAPID).

As individual companies roll out and finalise their plans, scrutiny from water professionals will be critical to ensuring that water demand is managed across companies and scales to ensure a systems approach to handling the pressing issue of water security.

8. Climate change

The Government's [Net Zero Strategy](#) has a number of potential ramifications for water policy. The most immediate is the potential to secure co-benefits for water and other natural systems in the expected climate transition.

The Strategy identifies wastewater and the impacts of waste and resources on water systems as a potential area for co-benefits of addressing waste management emissions. In particular, it is expected that there will be improvements in both treatment processes and data collection, which may facilitate significant benefits for water quality in the future.

However, there has not been a strong enough commitment in the Net Zero Strategy, or in global commitments at [COP26](#) and [COP27](#), to address the role of water systems in the climate crisis, either as a solution or for their potential to increase climate risks if unaddressed.

For example, while the role of marine ecosystems in carbon sequestration was recognised on the [agenda at COP27](#), that potential has not yet been fully realised in UK or global policy and will be a key area for engagement as the Government's approach develops.

Another potential area for co-benefits with the Net Zero agenda exists at the intersection of consumer behaviours and utility providers. The potential to re-examine relationships with water providers may help to address household water efficiency and the potential for benefits to water security.

There are also a number of specific issues linked to the energy transition. Plans to expand hydrogen energy production are likely to affect the Government's approach to wastewater treatment, with the Net Zero Strategy explicitly referencing trials of electrolyzers in Northern Ireland.

Ongoing engagement and monitoring will be important to ensuring no environmental harm comes from innovative approaches to energy, while also maximising the potential for co-benefits to water resources.

On 18th July 2022, the High Court ruled that the UK's [Net Zero Strategy](#) was unlawful. The [High Court determined](#) that further details were required to meet the UK's obligations under the [Climate Change Act](#), as the Strategy lacked sufficient evidence of the measures which would limit UK emissions to the levels set out in the UK's [Sixth Carbon Budget](#).

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Water & the Future of the Environmental Sciences

Horizon scanning cannot be confined to narrow considerations of what environmental policy and regulatory changes are being pursued by the Government. The IES takes a 360 degree approach to foresight, examining how complex drivers and pressures are shaping the future of the world of water.

At the end of 2023, the IES will create a thought-leading vision statement on the **future of the environmental sciences**, bringing together interdisciplinary perspectives on horizon scanning from across the environment. That work will support the sector to manage risk, plan ahead, and work towards a better future for the environment achieved through transformative change.

To find out more about our **Future of ES23 Horizon Scanning & Foresight project**, read the latest analysis on the IES website:

- How are **megatrends like climate change** shaping the future?
- How will **emerging science** and the changing face of science shape the sector?

Get in touch to let us know your perspective on the future of water science and the environmental sciences. Join the conversation now and shape our thought-leading vision statement.



Future of ES23

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In addition, a 5% shortfall was identified in the Strategy's reductions, so the Court also required the Government to give an explanation of the policies which would fill that gap.

These gaps had previously been identified in March [by the IES](#) and in June by the [UK Climate Change Committee](#).

An [update to the Strategy](#) has now been produced by the Government, somewhat addressing the requirements of the Sixth Carbon Budget but [not completely filling the gap](#). Several measures have relevance for water and the marine environment, including:

- An [Energy Security Plan](#) and [delivery plan](#), a [Carbon Budget Delivery Plan](#), and National Policy Statements on energy infrastructure;
- Ongoing commitments to the [Net Zero Hydrogen Fund](#) and a [new competition window for funding](#), as well as a second competition round on electrolytic hydrogen production;
- A new £160million [Floating Offshore Wind Manufacturing Investment Scheme](#).

For full details, [read the latest analysis from the IES](#). Further measures are expected, but these are not likely to come before the next general election.

Meanwhile, an independent '[Net Zero Review](#)' was commissioned with a specific mandate to determine whether the Government's approach to net zero is sufficiently pro-growth and pro-business. The Review [reported back](#) in January 2023, identifying net zero as "the economic opportunity of the 21st century". It set out 10 long-term missions to be completed by 2035 and 25 immediate actions to be completed by 2025, with a view to creating infrastructure and facilitating action by businesses and local government.

While there is still a need for significant further investigation of the potential for co-benefits for water while addressing climate change, there will still be opportunities for water professionals to engage as the Government implements the Strategy and works to enhance its climate commitments through future global negotiations.

It will be critical to ensure that water professionals can share their expertise to encourage a systems perspective, helping to promote multiple benefits for water, the climate, and human health and wellbeing.

9. Find out more about influencing Government decisions

Our member briefing note: '[Influencing the UK Parliament](#)', first published in 2011 and most recently re-issued in 2022, provides an overview of some of the ways that environmental professionals can influence Parliament and legislation.

The IES also runs training to help environmental professionals learn more about policy, how it affects them, and how they can influence policy decisions. Regular training sessions are available for sign-ups [on the IES website](#).

In the UK, many issues of environmental policy are devolved to national administrations. If you live in Scotland, you can contact your [Member of Scottish Parliament](#) or learn more about [influencing Scottish legislation](#).

If you live in Wales, you can contact your [Member of Senedd Cymru](#) or learn more about the [business of the Senedd](#).

If you live in Northern Ireland, you can contact your local [Member of the Legislative Assembly](#) or learn more about the [Assembly's work](#).

10. Other relevant legislation & regulation

Find out more about existing legislation & policy on this topic:

- [Environment Act 2021](#)
- [Environmental Improvement Plan for England](#)
- [Environmental Targets \(Water\) \(England\) Regulations](#)
- [Environmental Targets \(Marine Protected Areas\) Regulations](#)
- [Retained EU Law \(Revocation and Reform\) Bill](#)
- [Retained EU Law Dashboard](#)
- [Water Environment \(Water Framework Directive\) \(England and Wales\) Regulations 2017](#)
- [Levelling-Up & Regeneration Bill](#)
- [Building Regulations 2010](#)
- [Environmental Permitting Regulations 2016](#)
- [Kunming-Montreal Global Biodiversity Framework](#)
- [Scottish Biodiversity Strategy](#)

Read other relevant briefings from the IES and IAQM:

- [Environmental Improvement Plan: what's coming up in your specialism?](#)
- [Levelling-Up & Regeneration Bill](#)
- [Horizon scanning: air quality](#)
- [Horizon scanning: land & nature](#)
- [A Manifesto for Transformative Change \(Climate change\)](#)
- [Foundation for Water Research](#)
- [Marine & Coastal Community](#)

Is there a policy-related topic which you would like to see covered by the IES? Get in touch at joseph@the-ies.org to let us know your thoughts on potential topics for future briefings, or with your suggestions for other content.



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