Business Investment in Nature: Supporting UK Economic Resilience and Growth

August 2025

Green Finance Institute

WWF

Acknowledgements

The GFI and WWF provided oversight of this paper. The authors also gratefully acknowledge Nature-Positive Transition Pathway statement of support signatories and businesses that provided examples for the report. We wish to thank GFI, WWF, Department for Environment, Food and Rural Affairs (Defra), the UK Climate Change Committee, and Office for Environmental Protection (OEP) colleagues for reviewing the report and providing invaluable insight.

About the Green Finance Institute:

Established in 2019, the Green Finance Institute is accelerating the transition towards an environmentally sustainable and resilient economy by catalysing investment in net zero and nature-positive outcomes. Uniquely positioned at the nexus of the public and private sectors, the Green Finance Institute is the UK's principal forum for innovation in green finance.

About WWF:

WWF is an independent conservation organisation, with over 30 million followers and a global network active in nearly 100 countries. Our mission is to stop the degradation of the planet's natural environment and to build a future in which people live in harmony with nature, by conserving the World's biological diversity, ensuring that the use of renewable natural resources is sustainable and promoting the reduction of pollution and wasteful consumption.

Objective:

The Green Finance Institute and WWF-UK are working closely with business, finance and academia to develop Nature-Positive Transition Pathways (NPPs) for the UK economy. This paper demonstrates why it is essential to integrate nature into the UK's economic growth strategy and urges the UK Government to participate in the development of NPPs. This work builds on two former reports. In April 2024, the GFI partnered with the Universities of Oxford and Reading and UNEP-WCMC to quantify the UK's exposure to nature risk, and the development of NPPs were a key recommendation of this report. In October 2024, WWF-UK and Aviva published a joint report calling on the UK Government to develop NPPs to deliver the UK's nature-positive goals as set out in the Global Biodiversity Framework.

Contents

Executive summary

Introduction

This report demonstrates why integrating nature into the UK's economic growth strategy is critical, warning that chronic climate and nature degradation in the UK alone could reduce GDP by 4.7% within this decade, outweighing gains from current infrastructure initiatives. These estimates could actually underestimate the real costs; the Institute and Faculty of Actuaries have warned that the global economy could lose up to 50% of GDP between approximately 2070 and 2090 due to climate change. Nature-related risks, including water scarcity, pollution, flooding, soil degradation, and resource scarcity, are already disrupting key sectors such as housing, energy, agriculture, manufacturing, and tourism. These risks are driving up operational costs, threatening asset viability, and undermining regional economic resilience.

The report identifies a major growth opportunity. UK businesses are increasingly investing in nature-based solutions to build their resilience, and innovations to reduce their impacts on nature. A large number of examples cited in the report illustrate how UK businesses and sectors are taking targeted action, such as investing in regenerative agriculture, water efficiency, and circular technologies, and generating financial returns and competitive advantage. This includes action from many of the sectors highlighted as priorities for growth under the UK Government's Industrial Strategy. Scaling up this investment could be a powerful engine for technological innovation and economic growth.

Financial risks and investment opportunities

The examples in this report focus on the most significant drivers of regional and national economic growth resulting from investment in nature: plentiful water supply, improved water quality, flood and storm protection, and resilient soil health. It also covers nature-related risks and opportunities in two cross-sectoral themes: resource efficiency and sustainable finance.

Water quantity

Water shortages threaten sectors such as agriculture, manufacturing, energy and construction. Delays in housing projects alone could cost the UK economy up to £25 billion in the next five years as available water supplies are insufficient to satisfy growing demand in many regions of the UK. Disruptions to electricity generation in thermal plants could add £20–450 million annually to energy system costs. Major manufacturers like Diageo have experienced production disruptions due to local water restrictions. Businesses are responding: landowners are managing their land to enhance water storage; water utilities like United Utilities and Southern Water have launched developer incentive schemes; multiple power stations, such as Damhead Creek and Grain, are using closed-cycle cooling; Diageo is investing in water monitoring and reuse. These measures both enhance resilience and reduce input costs.

Water quality

Only 14% of UK rivers are in good ecological health and all fail to meet required chemical standards. Pollution, caused by a combination of activities, including physical modification (weirs and small dams), runoff from rural land, wastewater and recycled water effluent, has disrupted seafood exports, closed beaches and cancelled major sporting events, with knock-on impacts on tourism revenue. Businesses responsible for pollution are investing in cleaner operations, for example, food processors are co-investing with farmers in better land management to cut nutrient pollution.

Flood and storm protection

Floods and storms pose material risks to infrastructure in exposed areas. In 2024, UK flood insurance claims hit a record £585 million, and losses of key agricultural crops reached 26–38%. Lenders like Nationwide Building Society use flood data at origination to prevent offering mortgages on uninsurable properties with a high-risk of flooding, and energy assets are suffering damages including £200m in storm surge costs to the Bacton Gas Terminal. Businesses are investing in natural flood management in response. A sandscaping project has been launched to protect Bacton, Sainsbury's and AWS have supported landowners to enhance water storage with the Rivers Trust, and Severn Trent has invested £76 million in sustainable urban drainage systems.

Soil quality

Soil degradation costs the UK economy up to £1.4 billion annually. Fertiliser price spikes of 250–400% in 2022 caused food price inflation, and nearly 5% of UK dairy farms stopped production in 2023 largely due to input cost pressure. To tackle this, UK businesses are shifting to regenerative agriculture, soil monitoring, and precision farming. First Milk offers premiums for regenerative practices, which are building resilience and reducing reliance on expensive inputs. One-third of farms now use Variable Rate Technology and in 2024, £130 million was invested in UK agri-tech.

Resource efficiency

UK businesses are facing rising costs due to the declining availability of virgin natural resources, particularly in resource-intensive sectors like construction and manufacturing. Companies like Descycle, Notpla, and Shellworks are developing new circular economy technologies and alternative materials that reduce impacts on nature and are attracting significant venture capital.

Sustainable finance

The UK is a global leader in climate transition finance, and this can be replicated for nature. In 2024, the net zero economy in the UK attracted £20 billion in private capital. The same year, Bloomberg estimated that 900 UK businesses developing technologies, processes and business models that reduce harm to nature raised £2.8 billion in capital. Financial institutions are also beginning to develop nature-related financial products: Barclays has linked corporate loans to Biodiversity Net Gain performance; Aviva Investors launched a Natural Capital Transition Global Equity Fund.

Nature-Positive Transition Pathways: Supporting UK Economic Resilience and Growth

To unlock investment at scale, this report calls for the development of Nature-Positive Transition Pathways (NPPs); these are sector-specific pathways towards achieving the targets under the Environmental Improvement Plan for England and contributing to the UK's National Biodiversity Strategy and Action Plan and Global Biodiversity Framework targets. The individual business investment examples in this report will not be sufficient to meet EIP targets, nor to meet the government's growth ambitions, and must be scaled up and undertaken across entire sectors. NPPs, co-designed by government and the private sector, will help government identify where policy or support may be needed to drive broader business action at a sectoral level, ensuring scale while creating a level playing field. This co-design will ensure that business action, guided by NPPs, is aligned to national, regional and local environmental and economic targets.

The Financial Services Growth and Competitiveness Strategy identifies sustainable finance as a priority growth opportunity for the UK's finance sector. Aligned with this vision, NPPs provide private financial institutions with the clarity needed to manage risks and make long-term investments into new markets and technologies.

NPPs could mirror the success of net zero transition pathways, which have catalysed billions in investment and job creation in the UK's net zero economy. A similar approach for nature can mobilise private capital, stimulate innovation, and deliver positive outcomes for nature. Learnings from the development of net zero pathways have already been applied to scoping and methodology development for NPPs, including the increased emphasis on co-development between public and private sector. NPPs will be integrated with existing net zero pathways and lay out key business actions and expected outcomes over time. As climate change is a key driver of nature loss, and healthy ecosystems are necessary to address climate change, NPPs will build on net zero pathways to recommend actions that are aligned with both the targets of the upcoming Environmental Improvement Plan and with the government's Carbon Budget Delivery Plan.

This report concludes by urging departments across the UK government to support and participate in the co-development of NPPs with business, academia, and the finance sector. Doing so will help achieve the UK's nature targets by informing government and business action to drive nature investment, thus ensuring resilient, inclusive, and sustainable economic growth.

UK businesses and financial institutions are encouraged to actively engage in the co-development process to ensure that Nature-Positive Transition Pathways are practical. As NPP guidance emerges, company boards could use it in due course to ensure their integrated climate-nature transition plans are robust and aligned, and financial institutions should use it as a means to benchmark the ambition of published transition plans.

Introduction

Why investing in nature is crucial to growth

The UK government has made economic growth a core mission of its Plan for Change.[1]

Yet the UK's exposure to chronic and continued nature degradation, coupled with climate change, directly threatens its growth prospects. Indeed, economic losses caused by continued stress on the natural environment in the coming decade are far greater than economic gains from many of the government's current growth initiatives (see Box 1).

Beyond macroeconomic forecasts that evidence negative impacts on Gross Domestic Product (GDP) from nature degradation, UK businesses are becoming more aware that they are facing financial losses, especially in regions where climate and nature stresses are most acute. In the last few years, many large UK businesses have experienced a financial impact on their operations and supply chains from floods, droughts, disease outbreaks, soil health decline and air and water pollution. Businesses that heavily depend on water supply are considering whether those supplies will be adequate in the future. If businesses relocate, this could undermine regional economic resilience.

At the same time, regulatory and consumer pressure is causing businesses to address their own impacts on the natural environment. These impacts can degrade local ecosystems and create additional nature risks for other companies that depend on them. Corporate litigation risk is increasing, and is recognised as a potential nature-related economic risk to UK GDP.[2] In addition, the preferences of consumers in the UK are increasingly shifting towards products and services that avoid damage to the environment.[3,4]

On the flip side, businesses (and the UK economy) stand to gain from investment into nature restoration and business models that reduce negative nature impacts. This is not solely through improved resilience to nature and climate risks, but also due to investments in new technologies, materials and business models that provide UK businesses with a competitive edge (see Figure 1 below). Significant opportunities exist in many of the sectors highlighted as priorities for growth under the UK Government's Industrial Strategy.[9] The Financial Services Growth and Competitiveness Strategy identifies sustainable finance as a priority growth opportunity for the UK's finance sector.[10]

Box 1: The impact of climate and nature risks on the UK's growth ambitions

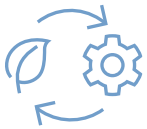
The UK government's Plan for Change includes investing in infrastructure and housing, streamlining the planning system, addressing regulatory hurdles, and encouraging business investment in technology. The UK government is also investing in specific initiatives including increased airport capacity, the Oxford-Cambridge Growth Corridor and building new reservoirs.

Centre for Economics and Business Research (CEBR) estimates that Heathrow Airport as a whole will contribute £4.7bn to the UK economy in 2025 (0.18% of 2024 GDP)[5,6] and by 2035, the Oxford-Cambridge Corridor is projected to add £5.2bn annually (0.2% of 2024 GDP).[6,7]

Yet chronic and continued nature degradation has been found to be wiping billions of pounds off the UK economy every year. Estimates show that chronic climate and nature risks in the UK alone could decrease UK GDP by 4.7% within this decade.[8]

Nature in a good state can provide benefits supporting the delivery of policy objectives like water security and economic resilience. When nature is at risk specific government policy objectives are directly threatened: for example, water shortages and pollution to water bodies affect the viability of new energy infrastructure and housing developments respectively.

Figure 1: Business action on nature drives investment and economic growth



Business action on nature

- ✔ **Invest in nature restoration.**
- ✔ **Support sustainable technologies and business models** that reduce nature harm.
- ✔ **Foster cross-sector collaboration** across supply chains.
- ✔ **Align corporate plans** with national nature goals.
- ✔ **Enhance analysis** of nature-related risks and opportunities.
- ✔ **Improve disclosure quality** with decision-relevant nature data.

Results in investment and growth from

- ✔ **Physical and natural capital formation** for long-term growth.
- ✔ **Increased business and regional resilience** to climate – and nature-related risks.
- ✔ **Improved global market access** to sell technologies and products.
- ✔ **UK leadership** in nature-related sustainable finance.
- ✔ **Technological innovation** and productivity improvements.
- ✔ **Providing solutions for government growth initiatives** to work with, not against, nature.

Indeed, the World Economic Forum identifies significant economic opportunities within a nature-positive economy. It estimates that a global nature-positive transition could generate US$10.1 trillion (£7.6 trillion) in annual business value and create 395 million jobs by 2030.[11] Already in 2024, nature-related businesses in the UK generated an estimated revenue of £2.2bn and employed over 21,000.[12] The UK has the potential to be at the forefront of this, benefiting from new industries, if it includes nature within its growth ambitions.

What businesses need to scale action

The positive news is that UK businesses want to take action on nature, build their resilience, reduce their impacts, and invest in new opportunities. This also supports the UK government's targets for the private sector to be investing in nature restoration and positions the UK finance sector to be a leader in nature-positive finance.

The UK government's Environmental Improvement Plan (EIP)[13] is a natural vehicle to help inform businesses on how to prioritise their investments. It lays out the government's own environmental priorities and its strategy to achieve England's legally binding nature targets, which in term supports delivery of the UK's National Biodiversity Strategy and Action Plan (NBSAP)[14] and the Global Biodiversity Framework (GBF).[15]

What the EIP does not provide, however, is detailed guidance on the actions different sectors can take to deliver on these targets.

UK businesses express concerns that, while they want to take action (and some are already doing so, as illustrated in the case studies discussed below), they remain unclear what activities will best support their own resilience and UK environmental priorities, what the economic payback will be, and how they should be investing their time and resources. Individual businesses are also reluctant to be the sole mover within their sector. Without a clear roadmap of action, the financial sector too lacks confidence to provide supporting investment through the creation of new financial products.

The private sector is keen to see the development of sectoral transition pathways (Nature-Positive Transition Pathways) to bridge this gap. These pathways provide science-based and practical guidance on what high-level actions businesses across different sectors should be taking in order to align with the targets under the EIP. Pathways will also help the UK government to understand which policy levers will be most effective to support businesses to take specific actions, such as efficiency standards, concessional funding or extension of compliance markets.

More than 25 leading UK businesses and trade associations have signed a statement of support calling for the development of Nature-Positive Transition Pathways (NPPs) for the UK and outlining how they believe this will unlock business investment and growth:

"We believe Nature-Positive Transition Pathways will provide critical evidence and understanding of the role of the private sector in meeting the UK's nature-related targets. Pathways will help inform future UK policy to support the private sector's transition. This would in turn provide the private sector with confidence to invest in the action required to avoid and reduce negative impacts on nature as well as restore nature. This will help unlock commercial opportunities associated with the UK's nature-positive transition."

Nature-Positive Transition Pathways Private Sector Statement of Support, 2025

About this paper

This paper seeks to demonstrate how scaled-up business action on nature will deliver on multiple government agendas by:

- driving financial returns for UK businesses and supporting the government's economic growth objectives
- improving the resilience and competitiveness of the UK economy delivering positive outcomes for nature and thereby meeting the UK's nature targets.

It draws on evidence from the scientific and business community to provide a range of case studies of how UK businesses are being negatively impacted by nature degradation, what current action to manage those risks looks like, and how this is driving financial benefits. It also explores how scaling up these actions presents significant opportunities for both investment and economic growth. Finally, it discusses how NPPs could support a larger-scale shift from the business sector and contribute to the UK government's economic growth targets.

The case studies focus on the most significant drivers of regional and national economic growth resulting from investment in nature: plentiful water supply, improved water quality, flood and storm protection, and resilient soil health. It also covers nature-relates risks and opportunities in two cross-sectoral themes: resource efficiency and sustainable finance.

This work builds on two former reports. In 2024, the Green Finance Institute partnered with the universities of Oxford and Reading and UN Environment Programme World Conservation Monitoring Centre to quantify the UK's exposure to nature risk.[16] This clearly demonstrated that nature degradation poses plausible and material economic risks within the next decade. Within the recommendations, the report called for the development of NPPs. This analysis was shortly followed by a report on NPPs published jointly by WWF-UK and Aviva.[17] This second report outlined the role of NPPs in providing the necessary clarity to businesses and policymakers to achieve national nature targets as well as outlining how NPPs can be developed.

Water quantity

Overview

Seven out of 17 regions in England are projected to experience severe water stress by 2030, increasing to 12 regions by 2040,[18] and areas such as Sussex, Cambridgeshire, Suffolk and Norfolk are already experiencing water shortages.[19] Water shortages can cause severe disruptions to sectors that heavily depend on water, such as agriculture, manufacturing, data storage, energy and the built environment. This can lead to delays in production and hence lost revenue, increased abstraction costs, and additional costs to implement water conservation technologies. In the UK, estimates suggest that under a 1-in-100-year drought event, surface water and groundwater shortages could lead to a total loss of 24% GDP.[20] Nature's ability to provide a plentiful water supply in England is currently at high risk, due to land-use changes and pollution damage, and climate impacts increasing water demand.[21]

Financial risks by sector

Built environment

Water shortages may lead to losses of up to £25bn for the UK economy over the next five years, primarily due to delays or cancellation of housing projects.[22] This has the potential to pose a major barrier to achieving the UK government's housing development goals. Estimates suggest that insufficient water resources may prevent the construction of 61,600 homes in the east and south-east of England during this parliamentary term.[23]

This has knock-on impacts on economic growth opportunities. Cambridge, a global innovation hub, faces challenges expanding its commercial and residential real estate as water shortages limit the construction of new developments. In response to water shortages, the Environment Agency has set a water neutrality mandate requiring that any new developments must not increase water extraction. This has delayed the construction of 9,000 homes and 300,000 square metres of commercial space.[24] Other high-value and high productivity areas in the south-east, where housing demand is critical for economic growth, face similar challenges.

Energy

In England and Wales, the energy sector is responsible for almost half of all water abstractions[25], to cool thermo-electric power plants – particularly nuclear, which accounted for 15% of UK electricity generation in 2024.[26] The viability of these plants is highly dependent on local water availability. It is projected that increased water stress in the UK could reduce dependable thermal power capacity using fresh water by about 50%, leading to an estimated additional £20-450m per year in system costs.[27, 28] This is driven by more expensive cooling methods, limited site choices due to water availability, higher fuel consumption, and shifts in capacity planning. In 2022, France had to import more energy than it exported for the first time in four decades, as droughts caused the closure of nuclear reactors and declines in hydropower output. This resulted in significant losses for the energy company EDF which also has operations in the UK.[29] Heatwaves or droughts forced electricity generators across Europe to shut down or reduce the capacity of their nuclear plants in 2018, 2019 and 2022.[30, 31] Similarly, droughts in California between 2011 and 2017 added £1.7bn in costs to energy prices.[32]

Manufacturing

Extreme weather events, which are increasingly likely owing to climate change, can amplify the impacts of water stress and disrupt manufacturing facilities and supply chains. In 2018, snowstorms in the West Midlands caused disruptions to water supplies, forcing Jaguar Land Rover and Cadbury to temporarily shut down their plants in the area, affecting over 14,000 employees.[33]

Water quantity

Water shortages can also disrupt water supply for businesses when limits are set on consumption from water utilities or local government. Diageo experienced disruptions to its Scotch whisky operations in 2010 when Scotland was hit with droughts, and the government advised local businesses to reduce their water use.[34] Humber Doucy Brewing Co, a family-owned Ipswich-based brewery, was forced to drop expansion plans due to a moratorium on new non-domestic water connections until 2033 by Essex and Suffolk Water.[35]

Private sector investment opportunity

As a result of chronic and increasing exposure to water stress in the UK, the private sector has started to invest in a range of water efficiency measures. These not only reduce water stress but also improve business productivity, reduce input costs and build resilience to future water shortages, preventing production disruption and lost revenue. This also creates investment and growth opportunities for the businesses that develop and manufacture water efficiency technologies.

Water efficiency measures will be essential to meeting the government's housing development and economic growth targets while ensuring sufficient water for both residential and commercial use.

Water efficiency schemes and technology

Water utilities in the UK are working with housing developers to tackle water shortages. United Utilities' Environmental Incentives Scheme and Thames Water's Water Neutrality Incentive offer incentives to developers to build water-efficient homes. Their schemes encourage developers to implement measures such as low-water-use devices, greywater recycling and rainwater harvesting.[36,37] To secure water supplies for the construction of new affordable housing it is also necessary to improve the water efficiency of existing properties, by retrofitting into them solutions that are used in new built properties. To support these efforts, Southern Water is building water recycling plans across its regions to deliver additional capacity.[38]

Businesses are also supporting behavioural change, which must work in tandem with efficiency technology. For example, Sainsburys and Severn Trent are working with Nectar to incentivise customers to save water.

Energy companies are investing in closed-cycle and hybrid cooling systems that reduce the amount of water needed for cooling purposes in thermal power generation. Hybrid cooling systems, which use water when available and mechanical air draft when not, covered 14% of current gas plants in the UK based on 2014 data, a proportion that is likely to have increased to over 30% of plants today.[39] Closed-cycle cooling systems have been introduced in multiple gas plants, including in Damhead Creek Power Station (805MW capacity)[40] and Grain Power Station (1,275MW capacity).[41]

In the manufacturing sector, Diageo has significantly invested in water efficiency measures to build resilience to future water supply disruptions.[42, 43] It launched a water strategy that aims to increase the efficiency of water use across its supply chain in Scotland and globally.[44] Every two years, Diageo assesses its operations across portfolio sites using the Aqueduct tool from the World Resources Institute, site surveys and third-party expertise to identify priority water-stressed regions. At site level, operational efficiency projects, behavioural change programmes, water use monitoring and investment into water recycling and reuse technology all improve water efficiency.[45] For example, Diageo's Scotch whisky manufacturing plants now use closed-loop condensers to minimise water consumption and they are piloting a water sensor provider to reduce line cleaning times and overall water use.[46,47]

Ecolab, as US-based company that produces solutions to improve resource efficiency including automating water management and monitoring water flows, generated US$7.2bn in revenue in 2023.[48] Developing UK capabilities in these technologies will open up growing international market opportunities as climate change makes water shortages an increasingly common problem globally.

Water quality

Overview

Natural ecosystems filter, buffer, dilute and break down pollutants in water, ensuring the availability of clean and high-quality water for businesses. High water quality is particularly material for food production, tourism and hospitality, and manufacturing. Yet just 14% of UK rivers are in good ecological health – meaning intact, resilient and able to recover from disturbances – and all rivers in the UK currently fail to meet legally required chemical standards.[49] The agriculture sector and water industry have highest environmental impacts on England's water bodies.[50] In 2023, the UK experienced over 600,000 discharges of raw sewage into its waterways,[51] with over 30,000 occurring in bathing areas.[52] Drivers of nature loss such as land-use change and pollution are increasing the demand on natural systems and putting nature's ability to provide clean water at high risk in England.[53] Water quality issues are exacerbated by increasing frequency and intensity of floods, storms and heatwaves.[54] Water quality has also become a major political issue with increasing public pressure to improve water quality in the UK and stronger scrutiny of water companies and regulators.

Financial risks by sector

Food and beverage manufacturing

Food and beverage manufacturing and aquaculture require ultra-clean water to maintain product purity and meet strict quality standards. Contaminated or hard water can cause defects or introduce harmful substances into products as well as increase maintenance costs and decrease process efficiency.

In the aquaculture sector, polluted waters lead to lower-graded products and export bans. The Shellfish Association of Great Britain has documented how polluted seas have severely affected British exports as markets such as the EU impose strict standards on quality of products.[55] Offshore Shellfish Ltd's facility in Lyme Bay, Europe's largest offshore mussel farm, faced E. coli contamination issues possibly due to sewage pollution.[56] The contamination, which was caught through a rigorous testing protocol, led to an export ban from the contaminated area of the farm for several weeks.[57] Sales can be affected domestically too, as seafood restaurants often avoid using locally sourced oysters soon after sewage discharge events.[58,59]

In 2024, Classic Mineral Water, a bottled water company based in Lurgan, County Armagh, entered administration after discovering contamination in its borewell water supply.[60] The company, which supplied major retailers including Tesco, Aldi and Lidl, had to recall products and halt production due to contamination that it attributed to a third-party source.[61]

Tourism

Polluted waters have led to beach closures, cancellation of sport and social events, and disruptions to tourism. Beach closures are now occurring regularly across the country including in Wales (June 2024),[62] Blackpool (June 2023),[63] East Yorkshire (April 2023),[64] Norfolk (March 2023)[65] and East Sussex (August 2022).[66] These closures mean local businesses and coastal communities lose revenue from tourism trade. In 2024, 8.2% of England's bathing waters did not meet the minimum standard defined in the Bathing Water Regulations, which can have similar effects on footfall in tourist hotspots.[67]

Large sporting events such as the East Sussex Triathlon[68] and the Outlaw Triathlon in Nottinghamshire[69] had to cancel their swimming components due to pollution levels. Similarly, Henley Swim was forced to cancel multiple swimming events due to high pollution concentrations in the Thames and eventually ceased operations in 2024, citing river pollution as a key factor. The Clean Water Sports Alliance, representing 450,000 people involved in outdoor activities, has highlighted the disruptions and

Water quality

cancellations caused by water pollution to events, activities and training sessions.[70] A wide range of businesses have reported disruptions and lost sales as a result, such as canoeing operators in the Wye Valley (Herefordshire)[71] and surfing schools in Cornwall and Devon.[72, 73]

Private sector investment opportunity

Sectors that depend on high-quality water, and that are no longer able to consistently rely on their supply, are investing in measures to treat water inputs themselves. This builds resilience to future water disruptions. At the same time, sectors that generate negative impacts on water quality, such as water utilities and agriculture, are investing in measures to better manage and treat their discharge. Pollution events decrease water quality, increase treatment costs and create risks for other businesses that depend on water supply. As a result, measures to better manage this pollution help to reduce treatment costs and prevent future disruptions to other businesses.

On-site water treatment (to manage dependencies)

The BMW-Mini plant in Oxford collaborated with Excel Water to install a wide range of solutions to improve water quality and reduce water consumption at the plant.[74] These measures have helped BMW-Mini minimise the use of chemicals and effluent discharge within its water supply and improved water efficiency. They provide the plant with a reliable supply of high-quality water, preventing production disruptions and lost revenues.

Nature-based water treatment (to manage impacts)

Water utilities impact the quality of water through the return of used water to water sources. Many water utilities are taking action to manage these impacts through wetland creation. Effluent water passes through the wetland to be filtered and cleaned before returning to a local waterway, while sites increase animal and plant biodiversity in the local environment.

For example, Southern Water was charged £90m in 2021 for effluents, and has since invested into nature-based treatment. [75] Its wetland at Lavant Wastewater Treatment Works, West Sussex, treated 158 storm overflow releases in 2024, to equal or higher standards as traditional treatment processes.[76] The wetland has put an end to untreated releases from the site that would have previously gone out into the River Lavant. Work is now underway to build a £1.45 million wetland at its Staplefield Wastewater Treatment Site in West Sussex.[77] Similarly, Anglian Water is taking a nature-based approach to treat water in its operating catchments. It has created a wetland treatment centre in Norfolk that treats millions of litres of water a day and improves the resilience of its treatment services to flood and storm events.[78] Anglian Water estimates significant potential for cost savings using natural solutions for water filtration alongside co-benefits for biodiversity and plans to spend £50m by 2050 on wetland creation.[79]

Sustainable land management (to manage impacts)

Agricultural runoff is a major driver of water quality issues in the UK. For example, the River Wye, a site of special scientific interest (SSSI), has experienced severe phosphate pollution resulting in algal blooms, habitat degradation and severe biodiversity decline since 2020. Local residents have taken legal action against Avara Foods, a poultry processor sourcing from farms in the region. As a result, Avara has had to reduce its number of farms in the area.[80] In February 2025, this legal case was extended to other firms involved in large-scale chicken farming in the region and to Welsh Water.[81] Pollution incidents have been reported in multiple areas in the UK, including the River Itchen and River Test,[82] Norfolk Broads,[83] River Axe[84] and River Eden.[85]

Water quality

To manage these impacts, Avara Foods has launched a sustainable poultry roadmap[86] with the aim to eliminate contributions to excess phosphate in the River Wye by 2025. Avara is working with catchment farms to audit application of poultry fertiliser against a new soil assurance standard to reduce runoff pollution.[87] In addition, some supermarkets have formed the Wye Agri-Food Partnership which includes a focus on the treatment of drainage and runoff from free-range poultry areas.[88] In parts of the Wye and other catchments in the UK, farmers are also using water buffers and cover crops to reduce runoff.[89] While such interventions help decrease the environmental footprint of food production, the agrifood sector needs to undergo a broader transition in line with the recommendations of the UK Climate Change Committee.

More broadly, over 100 agrifood businesses and organisations have committed to the UK Food and Drink Pact's Water Roadmap, which includes a target to source half of fresh food from areas with sustainable management practices and the restoration of key freshwater ecosystems in the UK.[90] Many of the actions included within the roadmap not only reduce pollution but also improve productivity and reduce input costs for farmers, and prevent production disruptions due to water quality for other sectors.

Flood and storm protection

Overview

Floods and storms are a material risk to any business with physical assets in exposed areas or that relies on vulnerable infrastructure such as energy, water and transport facilities. The frequency and severity of extreme weather events in the UK continues to increase with climate change, with an average 20% increase in UK rainfall compared to pre-industrial storm levels.[91] Flood protection benefits from nature are at high risk in England, due to ongoing impacts from land- and sea-use change, overexploitation, and climate change.[92] Floods and storms can cause major disruptions, damage equipment and facilities, and halt production and supply chains for extended periods, all of which lower revenues and increase costs for businesses. The financial costs are particularly high for sectors with high capital intensity or low profit margins or that supply continuous services, such as developers, agriculture businesses and utilities.

Financial risks by sector

Housing

Concerns around flood risk directly threaten the UK government's ability to meet its housebuilding target of 1.5 million new homes by 2030. Over six million properties across the UK are currently at high risk of flooding and this is expected to rise to eight million by 2050.[93], [94] Estimates suggest that UK properties are currently overvalued by approximately £20bn due to unaccounted exposure to flood risk,[95] and the Bank of England highlights the number of people living in flood-prone areas will rise significantly in the coming decades.[96]

Mortgage lenders such as Nationwide, following responsible lending principles, are unable to finance some homes in high flood risk areas due to concerns over their long-term marketability and insurability.[97] Lenders are concerned that these properties pose too high a risk for commercial insurers and so are dependent on government assistance which cannot be guaranteed in the long term. This has knock-on impacts for mortgage-backed securities and other asset portfolios tied to these properties. Equally, insurers face more frequent and larger claims, as well as higher reinsurance premiums or the potential inability to reinsure high-risk portfolio segments. In 2024, UK insurers faced their costliest year on record for flood-related claims, with payouts of £585m.[98] Severe storms such as Babet, Ciarán and Henk caused widespread damage, leading to over 38,000 flood-related claims.[99]

Agrifood

Some 62% of the UK's food consumption is supplied domestically[100] and farmers manage 70% of the UK's land. Flooding events on farms lead to significant financial losses as a result of lost crops, reduced yields and damage to infrastructure. In 2024, around 5% of agricultural crops across the UK were lost due to extreme flood events.[101] The Energy and Climate Intelligence Unit estimates that farmers saw a revenue decline of nearly £900m compared to 2023, with losses increasing to £1.2bn when compared to the 2015-2023 average. Key crops like wheat, winter barley and oilseed rape were particularly affected, with production dropping by 26-38%.[102] Coastal flooding costs farmers in Lincolnshire an average of £1,366/ha to £5,526/ha per flood.[103] In 2018, extreme weather events, such as flooding, droughts and storms, cost Welsh livestock farmers £175m, equivalent to 9% of the total Welsh agricultural output that year.[104] The total cost to Welsh and Scottish farmers was £336m.[105]

Infrastructure

Key infrastructure sectors, including manufacturing, energy and transport, are vulnerable to inland floods, coastal erosion and storm surges that disrupt the supply of their services. In January 2024, Storm Henk caused power outages for over 38,000 people and resulted in train service disruptions across the UK.[106] The Bacton Gas Terminal in Norfolk provides 5% of the UK's natural gas and acts as a trade facilitator between the UK and the EU. It experienced disruptions to operations in 2013 due to a tidal surge that led to the highest sea levels seen in 60 years.[107]

Flood and storm protection

It is owned and operated by six different companies, then including Shell and Perenco. The storm forced thousands to abandon their homes and erosion damages to the gas terminal were estimated at £200m.[108] Similarly, the Humber region is one of the most flood-prone regions in the UK, with over 200,000 properties, 500,000 people and 14,000 businesses, as well as a large shipping economy.[109] In 2007, torrential rainfall flooded large parts of Hull and East Riding affecting over 1,300 businesses with total damage around £200m. [110] A tidal surge in 2013 created widespread damages in the area including halting production at a Cemex factory for over a year, the liquidation of The Reeds Hotel, and submerging key streets in Hull's city centre.[111, 112]

Private sector investment opportunity

Businesses across the built environment, agriculture and utility sectors are investing in natural flood management, nature-based solutions to mitigate flood and storm risk.

Flood and storm protection

Coastal protection

Shell and Perenco, in partnership with North Norfolk District Council and the Environment Agency, launched a sandscaping scheme to provide protection to the Bacton Gas Terminal.[113] It has been successful in reducing disruptions, protecting the coast from erosion, and ensuring the continued operation and resilience of the terminal. The alternative to these measures was a costly brownfield terminal redevelopment or reduced capacity at the terminal, increasing costs or reducing revenues respectively. In the Humber, through a partnership between the local council, the Environment Agency and Yorkshire Water, £50m was invested in a nature-based approach to attenuate surface water flows, increasing resilience while providing positive outcomes for nature.[114]

Sustainable land management practices

Many businesses are investing in natural flood management opportunities. For example, The Rivers Trust's Replenish project involved businesses such as food and drink manufacturers, food retailers and technology companies including Sainsbury's and AWS, which supported landowners in implementing nature-based solutions to enhance water storage and flood resilience.[115] Similarly, the Aire Resilience Company in Leeds coordinates local businesses and landowners to deliver long-term, evidence-based natural flood management interventions in the mid and upper Aire Valley.[116] Farmers are planting trees, creating buffer strips, restoring rivers and introducing beavers to manage flooding.[117], [118]

Sustainable urban drainage systems

Sustainable urban drainage systems (SUDs) are being deployed at various locations in the UK to build flood resilience. One of the largest SUDs schemes in the UK has been deployed in Nottinghamshire: Severn Trent invested £76m in the Mansfield Sustainable Flood Resilience Project to tackle excess surface water resulting from extreme rainfall. This innovative retrofit initiative enhances storage capacity, strengthening the network's ability to meet future catchment demands. The first phase of construction faced a real-world test during storms Babet, Gerrit and Ciaran (2023/24), proving highly effective in mitigating flooding hotspots through improved hydraulic performance. Building on the success of the Mansfield pilot, Severn Trent is now exploring its expansion into Asset Management Plan period 8 (AMP8), aiming to develop four 'urban catchments of the future' that integrate artificial intelligence, nature-based solutions, traditional infrastructure, and community-led approaches to surface water management. The project protects 90,000 residents from costly flood damage and created 390 local jobs, contributing to economic growth in the region.[119]

Soil quality

Overview

Healthy soils underpin the productivity and resilience of multiple sectors in the UK by supporting food production, water regulation, air quality, carbon storage, nutrient cycling and biodiversity.[120] Soil is a depository for nutrients and facilitates the decomposition and transformation of nutrients that are essential for plant growth.[121] Additionally, soil has a crucial role in regulating water flows as it has the capacity to retain and gradually release stormwater, mitigating the impacts of floods and storms.[122] It can store water during wet periods and facilitate its distribution during droughts.

However, intensive agriculture practices, the removal of vegetation, pollution, and climate change are degrading the quality of soils in the UK. Two-thirds of UK soils display imbalances in key nutrients needed for plant growth.[123] England and Wales lose 2.9 million tonnes of topsoil[a] due to erosion each year.[124] Degraded soils have a diminished capacity to provide ecosystem services. An estimated 3.9 million hectares of agricultural land are at risk of compaction in England and Wales,[125] which affects the resilience of farms against extreme weather events. Both the government and businesses have implemented measures to increase nutrient levels, prevent erosion and tackle compaction.[126] A 2010 study estimated that soil degradation in England and Wales costs the economy between £0.9bn and £1.4bn per year.[127]

As the impact of floods and water shortages is covered in previous sections, this section focuses on the role of soil in food production and in the nutrient cycle.

[a] "Topsoil is the uppermost layer of soil, which is high in nutrients and organic matter" (RHS). It contains organic matter that is essential to maintain healthy ecosystems and food production.

Financial risks by sector

Agrifood

The reliance on artificial fertiliser (and fossil fuels) to tackle low levels of nutrients in soils poses a material risk to businesses in the agriculture sector through input costs. In 2022, the cost of fertilisers increased by 250-400%, while the price of diesel doubled.[128] The same year, farmers spent £1.62bn on artificial fertilisers, more than three times what they spent in 2020.[129] This affected consumers,[130] as food price inflation reached 19.8% in the year to March 2023.[131] Input price volatility is affecting the financial viability of farms across the country. Nearly 5% of UK dairy farmers left the sector between 2022 and 2023[132] and this trend is continuing. One in 10 dairy producers stated they are likely to cease production by 2025, while an additional 23% were unsure if they will remain operational after 2025.[133] The vast majority of farmers attribute their exit from the dairy sector to inflation in input prices, including feed, energy and fertiliser. This cost and profit volatility has knock-on impacts on the viability of long-term investments providing an obstacle to growth opportunities.

Private sector investment opportunity

To manage the risks of soil degradation and market volatility, businesses are shifting to innovative business models, including regenerative agriculture, soil monitoring and precision farming. The scale-up of these measures represents a significant investment opportunity, while also reducing costs and building resilience for farmers.

Regenerative agriculture

A growing number of farmers in the UK are shifting to regenerative farming models, which include reducing external inputs (fertiliser, fuel and feed), improving soil health, changing milking regimes and making space for nature. These practices protect farmers from input cost volatility, improve profitability and resilience, and support carbon sequestration and nature restoration.[134]

Soil quality

First Milk, a UK-based cooperative of 700 regenerative dairy farmers, provides a price premium to farmers implementing regenerative practices. This amounted to an average payment of £5,200 per member in FY23, which was roughly 7% of the average income of a dairy farm in England in 2023-24, or 50% of the average income from agri-environmental schemes.[b,135, 136] In FY23, their farmers collectively reduced water consumption by 5.5%, energy consumption by 6%, and their scope 2 and 3 emissions.[137] In parallel, sales increased by 38% to £456m.[138] Dairy processor Yeo Valley launched a 10-year regenerative farming commitment to support its farmers to transition to regenerative practices and to measure the benefits for climate and nature.

Through the Sustainable Markets Initiative (SMI), Barclays, Lloyds Banking Group, and NatWest are involved in a pilot project, 'Routes to Regen', providing support to farmers in the East of England transitioning to regenerative and sustainable farming practices.[139] The project is an example of collaboration between banks, insurers, and leading food corporates, including McCain Foods, McDonald's, and Waitrose & Partners. The project has exceeded its target of engaging 100 farmers, working with Ceres Rural and the Royal Countryside Fund to offer a 'menu' of support directly to farmers, including technical, financial and peer-to-peer support options.

Soil monitoring and precision farming

Soil sensors, remote sensing, drones, GPS and computer vision systems can monitor the performance of farms and automate tasks with limited human intervention. Similarly to regenerative farming, this helps reduce the amount of water, energy and chemical inputs required, lowering input cost and protecting against input price volatility.

Adoption of these technologies in the UK is increasing rapidly. Nearly a third of farms in England are using variable rate technology (VRT) to optimise fertiliser application and soil mapping to assess the chemical properties of soils.[140] Velcourt, one of the UK's largest farm management companies, uses high-resolution soil mapping combined with satellite imagery and weather data to manage its land sustainably. In parallel to improving the yields and financial performance of farms, the developers and manufacturers of these technologies are also attracting significant investment. In 2024, £130m was invested in agri-tech startups in the UK.[141] The Hands Free Farm project, led out of Harper Adams University, is a fully autonomous farm pilot project in Shropshire. Following a successful initial phase, the project has now expanded to a 35-hectare farm raising funding from Precision Decisions and Innovate UK.

Landscape Enterprise Networks

Landscape Enterprise Networks (LENs) bring together businesses, public bodies, NGOs, farmers and land managers to finance and implement nature-based and agricultural initiatives to improve the health, productivity and resilience of landscapes. In 2024, landscape enterprise network projects delivered approximately £10.5m in resilience measures across five landscapes in the UK and EU.[142] For example, the East of England landscape enterprise network model was funded by businesses with high dependencies and impacts in that region, such as Affinity Water, Anglian Water, Cargill, Nestlé and PepsiCo. The network provides farmers with resources, expertise and incentives to farm with nature and implement solutions such as precision agriculture. In 2024, 28 different types of regenerative practice were supported,[143] including reduced cultivation systems, year-long fallow with cover crops, woodland planting and winter cover crops, resulting in increased soil carbon, soil health, biodiversity, habitats for pollinators and mitigated flood risk. These interventions deliver flood risk mitigation, improved water retention and soil fertility, directly benefiting local businesses that rely on these services.

[b] The farm business income (FBI) of dairy farmers has been extremely volatile in the past five years. In 2022/23 it reached an all-time high of £229,200. If we took the average for the five-year period 2020-2024, which is £151,440, then First Milk's annual premium payment of £5,200 would account for 3.4% of the FBI.

Resource efficiency

Overview

In addition to the examples above, a range of emerging technologies and business models across all sectors are enhancing resource efficiency and reducing the overall demand for natural inputs, ultimately reducing negative impacts on nature. As these innovations scale, they will drive new waves of investment and income, while also delivering productivity gains across key sectors of the UK economy.

Financial risks by sector

As the availability of virgin natural resources declines, due to overextraction, regulatory constraints and ecosystem degradation, businesses face increasing operational and financial risks. Scarcity of key inputs such as metals, minerals and timber is already increasing procurement costs, disrupting supply chains and increasing price volatility. These pressures are particularly acute for resource-intensive sectors such as manufacturing, construction and consumer goods.

According to the UK Office for National Statistics, as of March 2025, 53% of UK businesses with supply chain concerns reported that increased costs of sourcing materials were a key issue.[144] This is particularly evident in the construction sector, where the cost of essential building materials, such as timber, steel and concrete, has risen sharply due to global supply chain disruptions, inflation and resource scarcity. These rising input costs have led to delays in project delivery, reduced profit margins and, in some cases, halted developments altogether. Smaller firms, in particular, are struggling to absorb these costs or pass them on to clients, leading to financial strain and increased risk of insolvency.

Private sector investment opportunity

A growing number of UK businesses are already advancing resource efficiency technologies, experiencing rapid growth and attracting substantial investment.

Circular economy

Technologies that support the circular economy reduce impact on nature through minimising resource extraction. By enabling products and materials to be reused, remanufactured or recycled, these innovations reduce the need for virgin resources, extend product lifespans, reduce landfill use, minimise microplastic pollution and lower emissions from production and waste. In sectors like agriculture, circular technologies also help maintain and restore soil health. Circular business models are an emerging growth sector, with more than £6.5bn of venture capital funding mobilised globally for circular economy startups in 2023. It is estimated that the global circular business market size will grow 9.5% per year from 2025 to 2033.[145] In the UK, there has been a similar uptick in venture capital funding to circular startups, for example:

- **Descycle** performs chemical recycling to extract metals from e-waste such as chemical effluent, which has lower costs and impacts on nature compared to traditional methods. It closed series A funding in November 2024 with £10.2m.[146]
- **SUEZ** provides recycling, recovery and waste management services. It reported a turnover of just over £760m for the year ending 31 December 2022, an increase from roughly £710m in the previous year.[147]
- **Material Index** is an early-stage startup creating a marketplace for building material reuse. It raised £1.4m in seed funding in 2024.[148]
- **Biotech4** transforms food waste and sewage into biogas energy supplied to local areas. It has handled over 600,000 tonnes of waste and generated almost 300,000 MWh of energy.[149]
- **Arda** manufactures a leather-like material made from spent barley grain sourced from breweries and distilleries, producing a plastic- and animal-free material with lower CO2 emissions than traditional leathers.[150]

Resource efficiency

Alternative materials help reduce environmental harm by replacing resource-intensive or polluting products with more sustainable options. For example, biodegradable or compostable packaging reduces plastic waste and prevents long-term pollution in oceans and soils. Plant-based proteins use significantly less land, water and energy than animal-based products, helping to reduce deforestation, habitat loss and greenhouse gas emissions. The sustainable material alternative market grew by 8.88% globally in 2024.[151]

- **Quorn**, an alternative protein company, has an annual revenue of over £155m.[152]
- **Notpla** is a packaging alternative made out of seaweed that is edible. It raised over £19.6m in its 2024 funding round.[153]
- **Shellwork**s provides a plastic alternative that is made by microbes, degrades over time and can be composted at home.[154]
- **TaiSan** makes sodium batteries using proprietary electrolyte and anode materials, reducing the need for expensive and carbon-intensive lithium and cobalt. It raised £1.3m in a 2024 funding round.[155]

Sustainable finance

Overview

As mentioned above, the UK economy will need to scale the adoption of technologies that reduce business impacts on nature in order to meet its nature targets and build economic resilience. This will require significant investment in these technologies by financial institutions and large corporates. While some investments will be made through retained earnings, others will generate demand for transition finance.

Growth opportunities for the financial sector

The UK is a global leader in transition[156] and sustainable finance.[157] This is particularly true for the net zero transition, but this success could be replicated for the nature-positive transition. In 2024, the net zero economy in the UK – which includes technologies and services for decarbonising the economy, mitigating the impacts of climate change, and adapting to global warming – attracted over £20bn in private capital.[158] In the same year, Bloomberg estimates there are over 900 businesses in the UK developing technologies, processes and business models that inflict significantly less harm on nature relative to incumbent practices, and that together they raised over £2.8 billion in capital.[159] The finance sector has developed a suite of products to attract this capital and channel it to low-carbon uses including green bonds, sustainability-linked loans, impact-focused funds and blended finance vehicles.

The growth of climate transition finance in the UK, particularly in the energy sector, has been in part driven by policy and regulatory support. The development of decarbonisation pathways to deliver the national net zero target helped identify opportunities in the energy sector and led to the implementation of a series of policy instruments to support the commercialisation and deployment of renewable energy. The Carbon Budget Delivery Plan, the government's strategy for decarbonising the economy within the limits set in the Carbon Budget, mirrors the net zero transition pathways produced by the UK Climate Change Committee. The Renewables Obligation, succeeded by the Contracts for Difference scheme, contributed to the growth of offshore wind generation capacity in the UK. Between 2008 and 2022, the cost of offshore wind fell from approximately £170/MWh to £37/MWh (based on 2012 prices). These instruments crowded in private investment and enabled the growth of a range of low-carbon generation sources in the UK, from which offshore wind has emerged as the primary technology. Offshore wind represented 14% of UK electricity generation by 2022,[160] and the UK has become a world leader in offshore wind capacity.[161] Beyond the energy sector, net zero sectoral pathways have laid the foundations for the government to develop an investment strategy and enabling policies to support the transition in other sectors.

Private financial institutions are investing in net zero solutions across multiple sectors. For example, Nissan's electric vehicle (EV) hub in Sunderland attracted over £1bn in investment from the UK government and commercial banks (including HSBC and Standard Chartered) for the expansion of EV battery infrastructure.[162] The UK's EV market is growing rapidly with EVs accounting for over 20% of new car sales in 2024.[163] Private capital will move to where it can make adequate risk-adjusted returns. Similarly, the electrification of the economy, as mapped out by the path to net zero, has created opportunities in energy storage. Zenobe Energy has raised over £750m from investors including KKR and Infracapital,[164] while Highview Power raised £300m in June from a consortium including UK Infrastructure Bank, Centrica and Goldman Sachs.[165] However, the lack of data to forecast returns on new innovations, impede investments. The UK's policy clarity on its net zero ambition has helped overcome this barrier by providing confidence to capital providers that they can make long-term returns on net zero investments. The same clarity for how the UK will meet its nature targets can play the same catalytic role for private investment in nature.

Sustainable finance

Financial institutions in the UK are already developing products to finance actions to address impacts on nature. For example, Barclays has issued a term loan and revolving credit facility to Cairn Homes, a housing developer, with interest rates linked to Cairn meeting sustainability performance targets, including an increase in biodiversity net gain across new developments.[166] Aviva Investors launched a Natural Capital Transition Global Equity Fund to invest in businesses 'that support and benefit from the transition to a nature-positive economy'.[167]

The UK government has prioritised sustainable and transition finance as a key driver of economic growth, reflected in its recent actions to establish the Transition Finance Council[168] and expand the remit of the Prudential Regulatory Authority to facilitate the growth of sustainable and transition finance. Extending this scope to include nature and building capacity across the finance sector is an effective way to deliver on the UK government's growth ambitions.

Building this capacity will also help to manage the UK financial sector's significant exposure to nature risks. By the 2030s, the seven largest UK banks could see negative portfolio adjustments of 4-5% from physical nature risks.[169] These risks arise both from domestic, UK-based nature risks as well as global nature risks. The World Bank predicts that biodiversity loss could impact up to US$44 trillion of global economic value due to half of global GDP being directly dependent on nature.[170] Additionally, the Financial Stability Board Stocktake on Nature-related Risks report found that most financial authorities recognise biodiversity loss as a material financial risk.[171] The Network for Greening the Financial System stated that nature degradation could have significant macroeconomic implications and failure to account for them could cause risks to financial stability. And the IMF highlights that nature-related risks pose significant threats to the financial system, potentially impacting credit, market, liquidity, underwriting and operational risks.

Growth opportunities for market service providers

In parallel with finance, the UK has also become a global leader in the provision of professional services and data for sustainability. Consultants and data providers have developed a range of nature-focused products and services to support businesses to better understand and manage their nature risks and opportunities. For example, NatureMetrics has commercialised an innovative approach using environmental DNA to help organisations monitor biodiversity in specific ecosystems. By 2024, it had raised more than £23m investment and generated a turnover of nearly £5m in 2022, reaching 50% revenue growth between 2020-2022.[172]

How Nature-Positive Transition Pathways can scale action

As the examples throughout this paper demonstrate, businesses are starting to invest in nature and see financial returns as a result. However, this action is failing to scale at the pace needed to meet targets under the Environmental Improvement Plan (EIP) or the UK's growth ambitions. UK businesses are hesitant to scale investments as neither the science nor policy is clear in terms of which actions will deliver both the EIP targets and financial returns. This is compounded by a lack of coordination both within and across sectors, which is preventing the business community from responding efficiently.

Nature-Positive Transition Pathways (NPPs) can help bridge this gap. NPPs are sectoral transition pathways that lay out how businesses are expected to contribute to targets under the EIP, how they will interact with net zero pathways, what high-level actions would deliver the targets over what timeframe, and what outcomes would be expected. NPPs cover multiple sectors to help identify opportunities for cross-sectoral collaboration. This is to ensure that the transition to a nature-positive net zero economy is cost effective and that progress made in one sector does undermine that in others.

Figure 2 demonstrates how NPPs play a critical enabling role to scale up business investment in nature restoration and technologies and business models to reduce negative impacts on nature. NPPs are developed through coordination and collaboration across UK businesses, the scientific community, civil society, and the UK government. They both inform the future development of policy and provide clarity, confidence and accountability for the private sector.

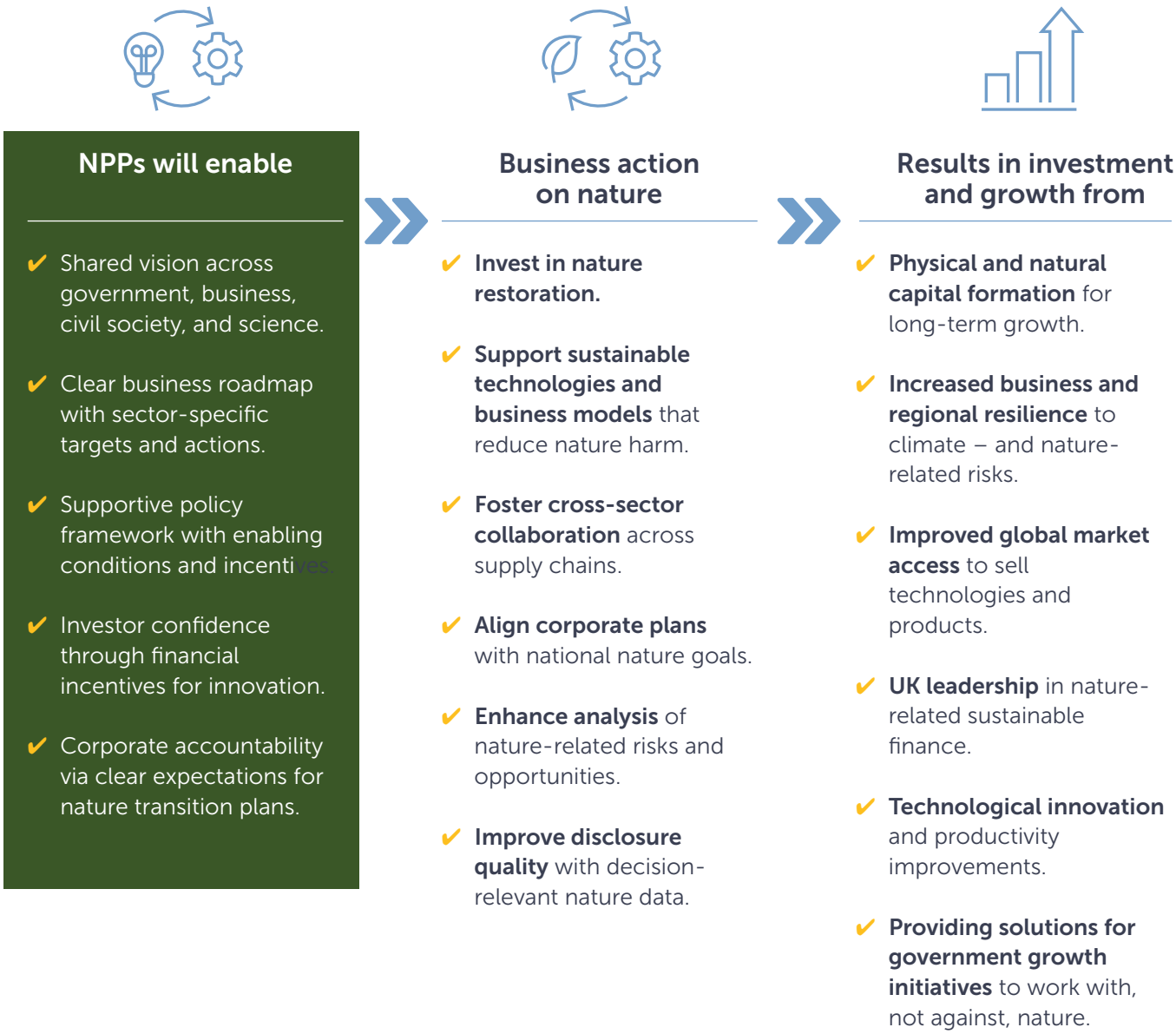


Figure 2: NPPs will enable scaled-up business investment in nature which drives economic growth

NPPs intend to emulate the Climate Change Committee's net zero transition pathways, which have underpinned investment in climate mitigation and adaptation and contributed significantly to economic growth. The net zero sector is growing three times faster than the overall UK economy and supports almost a million jobs.[173]

The EIP includes a wide range of targets relevant to the opportunities discussed throughout this paper (see Figure 3). The delivery of each target requires actions from businesses from multiple sectors and in multiple regions across the UK. NPPs can play a unique role in supporting the delivery of each target by:

- Identifying which sectors are relevant to the delivery of each target.
- Identifying the responsibility of each sector in the delivery of the target, facilitating a balanced and cost-effective approach across the economy as a whole.
- Identifying the kinds of investment businesses within each sector should make and over what timeframe.
- Coordinating between businesses, science and the UK government to ensure there is a shared vision and common understanding of how the target should be met.
- Enabling coordination between businesses across the value chain as well as between businesses operating in the same landscapes for the effective implementation of investments.

Water quantity

- Reduce the use of public water supply in England per head by 20% by 2038
- Cut water company leaks by 50% by 2050
- Restore 75% of water bodies to good ecological status

Water quality

- Reduce nitrogen, phosphorus and sediment pollution from agriculture by at least 40% by 2038
- Reduce pollutants entering the water environment through sustainable drainage and wetlands

Flood and storm protection

- Invest £100 million to improve coastal and flood defences in the most exposed areas
- Pay for natural flood risk management through new farming schemes
- Implement woodland creation to slow water flow

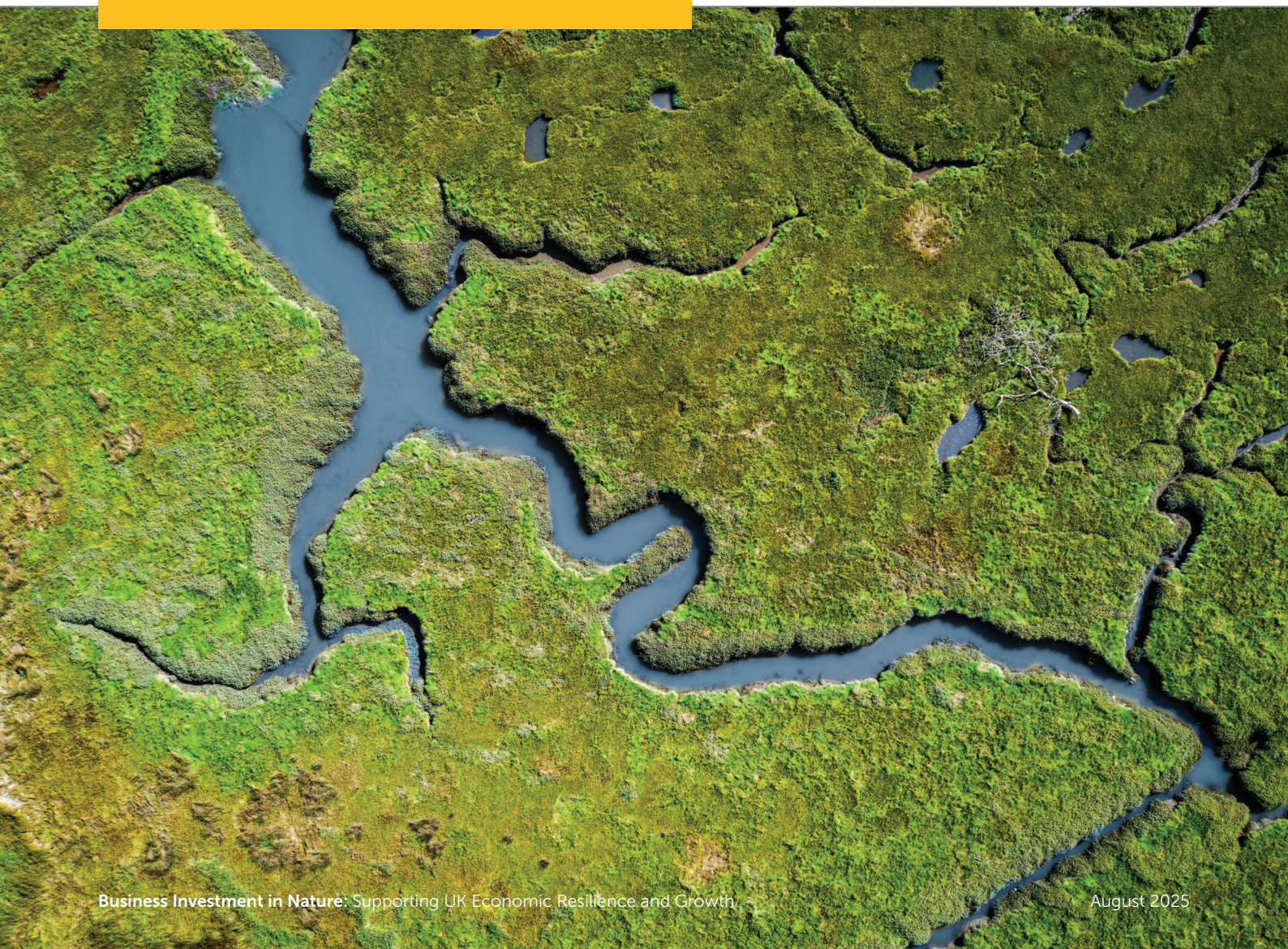
Soil quality

- Place 40% of agricultural soil under sustainable management by 2028
- Increase this to 60% by 2030

Resource efficiency

- Drive Extended Producer Responsibility
- Eliminate avoidable waste
- Double resource productivity by 2050

Figure 3: The EIP includes a range of targets relevant to the opportunities in this paper



Recommendation

The UK is heavily exposed to compounding nature and climate risks that threaten the government's growth agenda. Chronic climate and nature risks in the UK alone could cause losses of 4.7% of UK GDP within this decade, a number that far exceeds the growth improvements forecast from key initiatives under the government's Plan for Change. These estimates could underestimate the real costs; the Institute and Faculty of Actuaries have warned that the global economy could lose up to 50% of GDP between approximately 2070 and 2090 due to climate change.[174] These risks will impact a wide range of sectors, disrupting production and hence revenues, increasing costs and causing damage to physical assets.

Swift and coordinated action can secure and bolster the UK's future growth trajectory by building resilience, improving productivity, and developing a competitive advantage for the UK in the technologies, materials and financial products that are needed to reduce business impacts on nature. The examples in this paper demonstrate how businesses across a range of sectors are taking action and seeing both financial benefits and positive outcomes for nature.

While businesses are starting to act, notably with the increased adoption of Taskforce on Nature-related Financial Disclosures[175], they want more guidance and better coordinated action in order to give them the confidence to invest at scale. More than 25 leading UK businesses and trade associations have signed a statement of support calling for the development of NPPs for the UK to help establish this confidence. NPPs can play this role by developing a shared vision of the transition required to meet the UK's nature targets. This gives clarity to businesses on what to include in their nature transition plans and clarity to the government on what policy would support those businesses to take action. This parallels net zero pathways that have played a powerful role in stimulating investment in decarbonisation in the UK, and which continue to be refined.

The recommendation from this paper is that departments across the UK government support and participate in the co-development of Nature-Positive Transition Pathways with the private sector. This will build on existing UK government support of private sector investment into nature restoration and activities that reduce negative nature impacts through, for example, the development of nature markets, Local Nature Recovery Strategies and the Circular Economy Taskforce. This report highlights how business investment in nature has already contributed to resilience and growth. As such, private sector delivery of the EIP through NPPs represents a significant opportunity to enhance UK economic resilience and competitiveness. Yet, despite the clear business appetite for nature-related investment, the UK does not have the mechanisms to coordinate and scale these investments at the landscape and sector level which is required to meet EIP targets.

Co-design of NPPs will support the UK's environmental leadership through alignment of UK sectors with national and regional nature and economic targets, ensuring a level playing field for private sector contribution. NPPs will help coordinate action across government departments and agencies, as well as support the development of an enabling policy framework. NPPs will support the government to identify:

- Areas for targeted policies, incentives, and regulation to accelerate action.
- Barriers and opportunities that each sector is facing with their transition.
- Opportunities for cross-departmental collaboration within governments and policy coherence to deliver economic growth, climate, and nature targets.

This paper also recommends that UK businesses and financial institutions actively engage in the co-development process to ensure that Nature-Positive Transition Pathways are practical. As NPP guidance emerges, company boards could use it in due course to ensure their integrated climate-nature transition plans are robust and aligned, and financial institutions should use it as a means to benchmark the ambition of published transition plans.

[1] HM Government. (2024, December 5). Plan for Change. https://www.gov.uk/government/publications/plan-for-change.
[2] Ranger, N., Oliver, T., Avery, H. (2024, April). Assessing the Materiality of Nature-related Financial Risks for the UK. https://hive.greenfinanceinstitute.com/wp-content/uploads/2024/04/GFI-GREENING-FINANCE-FOR-NATURE-FINAL-FULL-REPORT-RDS4.pdf.
[3] KPMG UK. (2023). Over half of UK consumers prepared to boycott brands over misleading green claims.
[4] BCG. (2021). Winning the Consumer with Sustainability.
[5] CEBR. (2021, July). Supporting a Global Britain – The Economic impact of Heathrow Airport. https://cebr.com/reports/supporting-a-global-britain-the-economic-impact-of-heathrow-airport/.
[6] Statistica. (2025, April). UK GDP - Statistics & Facts. https://www.statista.com/topics/3795/gdp-of-the-uk/.
[7] BBC. (2024, January). Oxbridge growth corridor 'to add £78bn to economy'. https://www.bbc.co.uk/news/articles/c4gpzrnxy3zo.
[8] Ranger, N., Oliver, T., Avery, H. (2024, April). Assessing the Materiality of Nature-related Financial Risks for the UK. https://hive.greenfinanceinstitute.com/wp-content/uploads/2024/04/GFI-GREENING-FINANCE-FOR-NATURE-FINAL-FULL-REPORT-RDS4.pdf.
[9] HM Government. (2025). The UK's Modern Industrial Strategy. https://assets.publishing.service.gov.uk/media/68595e56db8e139f95652dc6/industrial_strategy_policy_paper.pdf.
[10] UK Government. (2025). Financial Services Growth and Competitiveness Strategy.
[11] World Economic Forum. (2020, July 14). New Nature Economy Report II: The Future of Nature and Business. https://www.weforum.org/publications/new-nature-economy-report-ii-the-future-of-nature-and-business/.
[12] BloombergNEF. (2025). The Growing Role of Nature-Related Business in the UK Economy.
[13] HM Government. (2023). Environmental Improvement Plan 2023. https://assets.publishing.service.gov.uk/media/64a6d9c1c531eb000c64fffa/environmental-improvement-plan-2023.pdf#page=97&zoom=100,0,0.
[14] Department of Agriculture, Environment and Rural Affairs (DEFRA), Scottish Government, Welsh Government and UK Government (2025). Blueprint for Halting and Reversing Biodiversity Loss: the UK's National Biodiversity Strategy and Action Plan for 2030. https://uk.chm-cbd.net/sites/gb/files/2025-04/31.03.2025_UK_National_Biodiversity_Strategy_and_Action_Plan.pdf.
[15] UNEP. (2022). Decision adopted by the Conference of the Parties to the Convention on Biological Diversity. https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-04-en.pdf.
[16] Ranger, N., Oliver, T., Avery, H. (2024, April). Assessing the Materiality of Nature-related Financial Risks for the UK. https://hive.greenfinanceinstitute.com/wp-content/uploads/2024/04/GFI-GREENING-FINANCE-FOR-NATURE-FINAL-FULL-REPORT-RDS4.pdf.
[17] Ellis, K. & Gkoumas, V. (2024, September). National nature-positive Pathways to guide policy and private sector action. WWF. https://www.wwf.org.uk/sites/default/files/2024-09/WWF-Aviva-Nature-Positive-Pathways.pdf.
[18] Kingfisher. (2023). Seven regions in England will face severe water stress by 2030 as Brits significantly underestimate their daily water usage. https://www.kingfisher.com/media/news/2023/seven-regions-in-england-will-face-severe-water-stress-by-2030-a.
[19] Environment Agency. (2024). Meeting our Water Needs for the Next 25 Years. https://environmentagency.blog.gov.uk/2024/03/21/meeting-our-water-needs-for-the-next-25-years/.
[20] Ranger, N., Oliver, T., Avery, H. (2024, April). Assessing the Materiality of Nature-related Financial Risks for the UK. https://hive.greenfinanceinstitute.com/wp-content/uploads/2024/04/GFI-GREENING-FINANCE-FOR-NATURE-FINAL-FULL-REPORT-RDS4.pdf.
[21] Lusardi, J., Rice, P., Craven, J., Hinson, C., Bell, F., Morgan, A., Martin, K., Dobson, M., Sunderland, T., and Waters, R. (2024). State of Natural Capital Report for England 2024 - risks to nature and why it matters, Natural England.
[22] Public First. (2025). The Case for Water Smart Housing. https://www.publicfirst.co.uk/wp-content/uploads/2025/02/The-Case-for-Water-Smart-Housing-Report.pdf.

[23] Public First. (2025). The Case for Water Smart Housing. https://www.publicfirst.co.uk/wp-content/uploads/2025/02/The-Case-for-Water-Smart-Housing-Report.pdf.
[24] Savills. (2024). Nature Markets Update. https://www.savills.co.uk/landing-pages/landscope/naturemarketsupdateapr2024.pdf.
[25] Byers, E., Hall, J., Amezaga, J. (2014). Electricity generation and cooling water use: UK pathways to 2050. Global Environmental Change. 25, 16-30.
[26] World Nuclear Association. (2024, December 6). Nuclear Power in the UK. https://world-nuclear.org/information-library/country-profiles/countries-t-z/united-kingdom.
[27] Qadrdan, M., Byers, E., Chaudry, M., Hall, J., Jenkins, N. & Xu, X. (2019). Electricity systems capacity expansion under cooling water availability constraints. IET Energy Syst. Integr.
[28] Byers, E., et al. (2020). Drought and climate change impacts on cooling water shortages and electricity prices in Great Britain. https://www.nature.com/articles/s41467-020-16012-2.
[29] Crellin, F. (2022, July 15). Warming rivers threaten France's already tight power supply. https://www.reuters.com/business/energy/warming-rivers-threaten-frances-already-tight-power-supply-2022-07-15/.
[30] Brown, P. (2018, September 11). Weatherwatch: nuclear power plants feel the heat. https://www.nuclearconsult.org/blog/nuclear-power-weatherwatch-nuclear-power-plants-feel-the-heat/.
[31] Barber, G. (2022, July 21). Nuclear Power Plants Are Struggling to Stay Cool. Wired. https://www.wired.com/story/nuclear-power-plants-struggling-to-stay-cool/.
[32] Gleick, P. (2016, February). Impacts of California's Ongoing Drought: Hydroelectricity Generation 2015 Update. Pacific Institute. https://pacinst.org/publication/impacts-of-californias-ongoing-drought-hydroelectricity-generation-2015-update/.
[33] ITV. (2018, March 5). Jaguar Land Rover halts production at Solihull and Castle Bromwich plants due to water shortages. https://www.itv.com/news/2018-03-05/jaguar-halts-production-at-solihull-plant-due-to-water-shortages.
[34] BBC News. (2010, July 13). Environment Minister visits drought-threat area. https://www.bbc.co.uk/news/10610297.
[35] Lawson, A. (2024, October 15). Water firm blocks drinks-makers in Suffolk from expanding supply. The Guardian. https://www.pressreader.com/australia/the-guardian-australia/20241015/282428469640507.
[36] Water Magazine. (2022, March 9). Thames Water to reward housing developers who achieve water neutrality. https://www.watermagazine.co.uk/2022/03/09/thames-water-to-reward-housing-developers-who-achieve-water-neutrality/.
[37] United Utilities. (2024, December 8). Homes of the future - United Utilities works with housing developers to encourage water wise developments. https://www.unitedutilities.com/corporate/newsroom/latest-news/homes-of-the-future—-united-utilities-works-with-housing-developers-to-encourage-water-wise-developments/.
[38] Southern Water. (2025). Annual Report and Financial Statements. https://www.southernwater.co.uk/annual-report-2025/.
[39] Byers, E., Hall, J., Amezaga, J. (2014). Electricity generation and cooling water use: UK pathways to 2050. Global Environmental Change.
[40] Scottish Power. (2014). Dahead Creek Power Station: Site Information.
[41] Millcroft. (n.d.). Grain power station. https://www.millcroft.co.uk/projects/grain-power-station/.
[42] Bedol, D. (2017, November 14). Pass The (Cassava) Beer: Diageo's Response to Water Scarcity. https://d3.harvard.edu/platform-rctom/submission/pass-the-cassava-beer-diageos-response-to-water-scarcity.
[43] Mackay, D. (2021, October 25). 11 distilleries on Speyside recognised for managing precious water supplies. https://www.pressandjournal.co.uk/fp/news/moray/3555570/11-distilleries-on-speyside-recognised-for-managing-precious-water-supplies/.
[44] Diageo. (2022). Water Stewardship Strategy. https://www.diageo.com/~/media/Files/D/Diageo-V2/Diageo-Corp/esg/sustainability/water-stewardship/preserve-water-for-life-our-water-stewardship-strategy-june-2022.pdf.

[45] Diageo. (n.d.). Sustainable Solutions. https://www.diageo.com/en/esg/sustainability/diageo-sustainable-solutions.
[46] The water audit experts. (n.d.). Water scarcity & the whisky industry. https://h2obuildingservices.co.uk/news/water-footprint/water-scarcity-the-whisky-industry/.
[47] 4T2. (n.d.). Sensors. https://4t2sensors.com/.
[48] BloombergNEF. (2024, October 25). Twelve Case Studies Survey the Business Opportunities in Curbing Nature Loss. https://about.bnef.com/blog/twelve-case-studies-survey-the-business-opportunities-in-curbing-nature-loss/.
[49] Natural England. (2025, January 27). State of the water environment indicator B3: supporting evidence. https://www.gov.uk/government/publications/state-of-the-water-environment-indicator-b3-supporting-evidence.
[50] Natural England. (2025, January 27). State of the water environment indicator B3: supporting evidence. https://www.gov.uk/government/publications/state-of-the-water-environment-indicator-b3-supporting-evidence.
[51] Surfers Against Sewage. (2024). Sewage pollution: facts & figures. https://www.sas.org.uk/water-quality/water-quality-facts-and-figures/?gad_source=1.
[52] Wildenberg, L. (2024). Sewage spills in bathing areas are 'environmental vandalism'. The Times. https://www.thetimes.com/uk/article/sewage-spillsbathing-areas-health-risk-clean-it-up-x5ml37vg7.
[53] Lusardi, J., Rice, P., Craven, J., Hinson, C., Bell, F., Morgan, A., Martin, K., Dobson, M., Sunderland, T., and Waters, R. (2024). State of Natural Capital Report for England 2024 - risks to nature and why it matters.
[54] Salvidge & Hosea. (2025). Revealed: drinking water sources in England polluted with forever chemicals. https://www.theguardian.com/environment/2025/jan/16/the-forever-chemical-hotspots-polluting-england-drinking-water-sources?.
[55] Holton, K. and Martinez, D. (2025, March 14). The Great British Sewage Dump. Reuters. https://www.reuters.com/investigates/special-report/britain-water-sewage/.
[56] Ungoed-Thomas, J. & Jenz, M. (2023, August 12). 'An utter disgrace': 90% of England's most precious river habitats blighted by raw sewage and farming pollution. The Guardian.
[57] Ungoed-Thomas, J. & Jenz, M. (2023, August 12). 'An utter disgrace': 90% of England's most precious river habitats blighted by raw sewage and farming pollution. The Guardian.
[58] Horton, H. (2022, August 22). Fears over English shellfish as untreated waste dumped in water. The Guardian. https://www.theguardian.com/environment/2022/aug/22/fears-over-english-shellfish-as-untreated-waste-dumped-in-water.
[59] Grant, H. (2023, June 18). No swimming, no surfing: how a summer of sewage is ruining the British seaside day out. https://sailgreener.com/no-swimming-no-surfing-how-a-summer-of-sewage-is-ruining-the-british-seaside-day-out/.
[60] McKenna, M. (2024, October 16). Fears for up to 60 jobs as Lurgan firm Classic Mineral Water goes into administration. https://armaghi.com/news/lurgan-news/fears-for-up-to-60-jobs-as-lurgan-firm-classic-mineral-water-goes-into-administration/253481.
[61] McNair, A. (2024, October 16). Contaminated water supply drives company to insolvency. BBC News. https://www.bbc.co.uk/news/articles/cx2ljrv723no.
[62] Bevan, N. (2024, June 18). Swim ban lifted after mystery pollution at beach. BBC News. https://www.bbc.co.uk/news/articles/cw44qw7dwkpo.
[63] Horton, H. (2022, August 22). Fears over English shellfish as untreated waste dumped in water. The Guardian. https://www.theguardian.com/environment/2022/aug/22/fears-over-english-shellfish-as-untreated-waste-dumped-in-water.
[64] BBC. (2023, April 27). Bridlington South Beach water pollution investigations continue. https://www.bbc.co.uk/news/uk-england-humber-65413156.
[65] Boneham, I. (2023, May 19). Nine UK beaches stripped of Blue Flag status after water quality tumbles. NationalWorld. https://www.nationalworld.com/news/environment/uk-beaches-stripped-of-blue-flag-status-as-water-quality-tumbles-4150017.
[66] Guyoncourt, S. (2022, August 24). Around 90 of Britain's beaches have suffered from sewage pollution this summer, alerts reveal. The i Paper. https://inews.co.uk/news/britains-beaches-sewage-pollution-summer-1811314.

[67] Defra. (2024, November 26). 2024 Statistics on English coastal and inland bathing waters: A summary of compliance with the 2013 bathing water regulations. https://www.gov.uk/government/statistics/bathing-water-quality-statistics/2024-statistics-on-english-coastal-and-inland-bathing-waters-a-summary-of-compliance-with-the-2013-bathing-water-regulations.

[68] Askew, J. (2024, September 2). Triathlon swimming leg cancelled over sewage fears. BBC News. https://www.bbc.co.uk/news/articles/cze52ryej3no.

[69] Astle, H. & Jefford, W. (2024, July 28). BBC News. Triathlete 'devastated' as he pulls out of race. https://www.bbc.co.uk/news/articles/cw9y2g12xgro.

[70] Seabrook, V. (2024, April 30). UK water sports demand clean-up, blaming sewage for illness and event cancellations. Sky News. https://news.sky.com/story/uk-water-sports-demand-clean-up-blaming-sewage-for-illness-and-event-cancellations-13126116.

[71] McEwan, G. & Benton, C. (2025, January 1). Canoeists unable to train in river after oil leak. BBC News. https://www.bbc.co.uk/news/articles/c5yd4reln1lo.

[72] Itvx. (2024, September 2). Devon beaches shut to swimmers due to sewage pollution. ITV News. https://www.itv.com/news/westcountry/2024-09-02/devon-beaches-shut-to-swimmers-due-to-sewage-pollution.

[73] Stenson, M. (2024, March 30). Devon beaches hit by dozens of sewage alerts. Devon Live. https://www.devonlive.com/news/devon-news/devon-beaches-hit-dozens-sewage-9197566.

[74] Excel Water. (n.d.). Improving Water Quality At Large Car Manufacturing Plant. https://excelwater.co.uk/casestudy/bmw-uk/.

[75] Environment Agency. (2021, July). Record £90m fine for Southern Water following EA prosecution. https://www.gov.uk/government/news/record-90m-fine-for-southern-water-following-ea-prosecution.

[76] Southern Water. (2025). Annual Report and Financial Statements. https://www.southernwater.co.uk/annual-report-2025/.

[77] Southern Water. (2025). Work started on new Staplefield wetland. https://www.southernwater.co.uk/latest-news/work-started-on-new-staplefield-wetland/.

[78] The Rivers Trust. (2018, July 12). Norfolk Rivers Trust create wetland water treatment facility for Anglian Water. https://theriverstrust.org/about-us/news/wet-and-wildand-clever-norfolk-rivers-trust-create-wetland-water-treatment-facility-for-anglian-water.

[79] Loveday, K. (2022, June 19). Anglian Water goes wild with 26 new treatment wetlands. The UK Water Report. https://www.thewaterreport.co.uk/single-post/anglian-water-goes-wild-with-26-new-treatment-wetlands.

[80] Goodwin, N. (2024, March 19). River Wyd pollution leads chicken firm to be sued. BBC News. https://www.bbc.co.uk/news/articles/c06l7e0edx2o.

[81] Messenger, S. (2025, February 4). 'My children won't know the rivers I grew up with'. BBC News. https://www.bbc.co.uk/news/articles/cjexnyvnxeno.

[82] Robinson, R. et al. (2024, May 21). Quantification and risk assessment of polar organic contaminants in two chalk streams in Hampshire, UK using the Chemcatcher passive sampler. Science of Total Environment. https://test-itchen.com/pollutants-in-test-itchen/.

[83] Howlett, J. (2024, March 4). FiPL spotlight: improving nutrient use and reducing nitrate and phosphate pollution in the Broads. Department for Environment, Food & Rural Affairs. https://defrafarming.blog.gov.uk/2024/03/04/fipl-spotlight-improving-nutrient-use-and-reducing-nitrate-and-phosphate-pollution-in-the-broads/.

[84] The Marshwood Vale Magazine. (2024, January 31). The River Axe. https://www.marshwoodvale.com/nature/2024/01/the-river-axe/.

[85] Ungoed-Thomas, J. & Jenz, M. (2023, August 12). 'An utter disgrace': 90% of England's most precious river habitats blighted by raw sewage and farming pollution. The Guardian. https://www.theguardian.com/environment/2023/aug/12/an-utter-disgrace-90-of-englands-most-precious-river-habitats-blighted-by-raw-sewage-and-farming-pollution.

[86] Avara Foods, (n.d.). Avara Foods Sustainability Roadmap. https://www.datocms-assets.com/115469/1706018619-avara-poultry-manure-roadmap.pdf

[87] Avara Foods. (2024, February). Sustainable Poultry Roadmap Progress Update. https://www.datocms-assets.com/115469/1712757856-sustainable-poultry-update-feb-2024-final-new-link-added.pdf
[88] The Wye & Usk Foundation. (n.d.). The Wye Agri-Food Partnership. https://wyeuskfoundation.org/our-work/the-wye-agri-food-partnership/.
[89] Wessex Water YTL Group (n.d.). River Stour Phosphorus Reduction Scheme. https://corporate.wessexwater.co.uk/our-purpose/rivers-and-coastal-waters/catchment-management/river-stour-phosphorus.
[90] Wrap UK. (n.d.) UK Food and Drink Pact Water Roadmap members. https://www.wrap.ngo/take-action/uk-food-drink-pact/water-roadmap/members.
[91] MetOffice. (2021, March 11). Record-breaking rain more likely due to climate change. https://www.metoffice.gov.uk/about-us/news-and-media/media-centre/weather-and-climate-news/2021/record-breaking-rainfall-more-likely-due-to-climate-change.
[92] Lusardi, J., Rice, P., Craven, J., Hinson, C., Bell, F., Morgan, A., Martin, K., Dobson, M., Sunderland, T., and Waters, R. (2024). State of Natural Capital Report for England 2024 - risks to nature and why it matters.
[93] Environment Agency. (2025, January 22). National assessment of flood and coastal erosion risk in England 2024. https://www.gov.uk/government/publications/national-assessment-of-flood-and-coastal-erosion-risk-in-england-2024/national-assessment-of-flood-and-coastal-erosion-risk-in-england-2024.
[94] Poynting, M. (2024, December 17). One in four properties at flood risk by 2050 - report. BBC News. https://www.bbc.co.uk/news/articles/c99x4599gr7o.
[95] Hometrack. (2023, December 19). Escalating flood risks mean UK properties are on track to be overvalued by £20bn. https://www.hometrack.com/escalating-flood-risks-mean-uk-properties-are-on-track-to-be-overvalued-by-20-billion/.
[96] Bank of England (2024, November). Financial Stability Report. https://www.bankofengland.co.uk/financial-stability-report/2024/november-2024.
[97] Jones, R. (2024, April 30). Nationwide stops lending on some flood-risk properties. https://www.theguardian.com/business/2024/apr/30/nationwide-stops-lending-on-some-flood-risk-properties.
[98] The ABI. (2025, February 10). More action needed to protect properties as adverse weather takes record toll on insurance claims In 2024. https://www.abi.org.uk/news/news-articles/2025/2/more-action-needed-to-protect-properties-as-adverse-weather-takes-record-toll-on-insurance-claims-in-2024/.
[99] Stone, J. (2025, February 11). Record UK Flood Insurance Claims in 2024 - Rising Costs and Risks. https://www.unda.co.uk/news/record-uk-flood-insurance-claims-in-2024-rising-costs-and-risks/.
[100] Defra. (2024). Agriculture in the UK Dashboard. https://defra-farming-stats.github.io/auk-dashboard/.
[101] Grimshaw, E. & Jewers, N. (2024, October 7). Farmers' warning as food crops lost to floods. BBC News. https://www.bbc.co.uk/news/articles/cgmgxxz2e29o.
[102] Energy & Climate Intelligence Unit. (2024, May 21). Estimated financial losses faced by UK farmers due to wet weather impacts on key arable crops. https://eciu.net/analysis/reports/2024/estimated-financial-losses-faced-by-uk-farmers-due-to-wet-weather-impacts-on-key-arable-crops.
[103] Gould, I. et al. (2020, January). The impact of coastal flooding on agriculture: A case-study of Lincolnshire, United Kingdom. Land Degradation & Development. https://www.researchgate.net/publication/338519816_The_impact_of_coastal_flooding_on_agriculture_A_case-study_of_Lincolnshire_United_Kingdom.
[104] WWF Cymru. (2024, March). Extreme weather and its impact on farming viability in Wales. https://www.wwf.org.uk/our-reports/extreme-weather-and-its-impact-farming-viability-wales-2024.
[105] SAC Consulting. (2023, September). The Impact of Extreme Weather Events on Scottish Agriculture. WWF. https://www.wwf.org.uk/our-reports/impact-extreme-weather-events-scottish-agriculture.
[106] Leigh, S. et al. (2024, January 3). Storm Henk batters UK leading to power outages, travel disruption and flooding. BBC News. https://www.bbc.co.uk/news/uk-67861206.
[107] BBC News. (2013, December 6). Tidal surge hits east UK coastal towns after storm. https://www.bbc.co.uk/news/uk-25253080.
[108] The Crown Estate. (2015, January 29). North Norfolk Sandscaping. https://studylib.net/doc/12923007/i——?.

[109] Flood Innovation Centre & European Union. (n.d.). Establishing the region as a flood resilience leader. https://floodinnovation.co.uk/our-impact/humber-flood-cluster/.
[110] Leeds University Business School. (2024, October). Living with water: heritage, flooding and resilience in Hull. https://business.leeds.ac.uk/research-innovation/dir-record/research-blog/2302/living-with-water-heritage-flooding-and-resilience-in-hull.
[111] Scarlett, Jazmin. (2015, February 25). Storm Surge 2013: One Year On – Part Three, Community Resilience. https://gees-talk.blogspot.com/2015/02/.
[112] Waller, Jamie. (2021, June 26). Humber bridge Country hotel's struggles from flooding, huge debt to sudden closure. https://www.grimsbytelegraph.co.uk/news/local-news/humber-bridge-country-hotels-struggles-5575539.
[113] North Norfolk District Council. (n.d.). Bacton to Walcott Coastal Management. https://www.north-norfolk.gov.uk/tasks/coastal-management/bacton-to-walcott-coastal-management/.
[114] Future Humber. (n.d.). Living with Water Projects: Aquagreen infrastructures. https://investhumber.com/opportunities/water-projects-aquagreen-infrastructures/.
[115] Defra. (n.d.). A rural natural flood management replenish project, Cumbria. https://hive.greenfinanceinstitute.com/wp-content/uploads/2024/10/NEIRF-case-study-The-Rivers-Trust-Replenish.pdf.
[116] The Aire Resilience Company. (n.d.). https://aireresilience.org/.
[117] The Flood Hub. (2024). West Cumbria Rivers Trust Natural Flood Management Case Study: Moorside Farm. https://thefloodhub.co.uk/wp-content/uploads/2024/12/NFM-Case-Study-Moorside-Farm.pdf.
[118] The Flood Hub. (2022, June 7). Dam! Have beavers been the answer to managing flood risk all this time? https://thefloodhub.co.uk/blog/dam-have-beavers-been-the-answer-to-managing-flood-risk-all-this-time/.
[119] The Green Estate. (n.d.). Mansfield Sustainable Flood Resilience Project. https://greenestate.org.uk/mansfield-sustainable-flood-resilience-project/.
[120] UK Parliament POSTnote. (2022, January 20). Restoring Agricultural Soils. https://post.parliament.uk/research-briefings/post-pn-0662/.
[121] European Environment Agency. (2019, September 30). https://www.eea.europa.eu/en/analysis/maps-and-charts/agriculture.
[122] Saco, P. et al. (2021, August 4). The role of soils in the regulation of hazards and extreme events. https://royalsocietypublishing.org/doi/10.1098/rstb.2020.0178.
[123] NRM. (2024, March 12). Annual Soil Summary. https://cawood.co.uk/nrm-soil-summary-2022-2023/.
[124] Environment Agency. (2023, January 26). The state of the environment: soil. https://www.gov.uk/government/publications/state-of-the-environment/summary-state-of-the-environment-soil.
[125] Environment Agency. (2023, January 26). The state of the environment: soil.
[126] Horton, H. (2024, July 3). Disastrous fruit and vegetable crops must be 'wake-up call' for UK, say farmers. The Guardian. https://www.theguardian.com/environment/article/2024/jul/03/disastrous-fruit-and-vegetable-crops-must-be-wake-up-call-for-uk-say-farmers.
[127] Graves et al. (2015, November). The total costs of soil degradation in England and Wales. Ecological Economics. https://www.sciencedirect.com/science/article/abs/pii/S0921800915003171.
[128] WWF-UK. (2025). Regenerative Dairy: Modelling the transition costs and benefits for farmers in the UK. https://www.wwf.org.uk/sites/default/files/2025-03/transition-costs-and-benefits.pdf.
[129] Energy & Climate Intelligence Unit. (2023, July 18). Fertiliser prices in 2022/23 and selected company fertiliser performance. https://eciu.net/analysis/reports/2023/fertiliser-prices-in-2022-2023-and-selected-company-fertiliser-performance.
[130] House of Lords. (2022, June 29). Agricultural fertiliser and feed: rising costs. https://hansard.parliament.uk/lords/2022-06-29/debates/5BCBD195-FFCA-41C6-8822-B7A31A1E7558/AgriculturalFertiliserAndFeedRisingCosts.
[131] Energy & Climate Intelligence Unit. (2023, July 18). Fertiliser prices in 2022/23 and selected company fertiliser performance. https://eciu.net/analysis/reports/2023/fertiliser-prices-in-2022-2023-and-selected-company-fertiliser-performance.
[132] AHDB. (2024, July 16). Q2 2024 dairy market review. https://ahdb.org.uk/news/q2-2024-dairy-market-review.

[133] National Farmers' Union. (2023, August 15). Dairy producers braced for an uncertain future, NFU survey reveals. https://www.nfuonline.com/updates-and-information/dairy-producers-braced-for-an-uncertain-future-nfu-survey-reveals/.
[134] National Farmers' Union. (2023, August 15). Dairy producers braced for an uncertain future, NFU survey reveals. https://www.nfuonline.com/updates-and-information/dairy-producers-braced-for-an-uncertain-future-nfu-survey-reveals/.
[135] Department for Environment, Food & Rural Affairs. (2025, March 11). Farm business income. https://www.gov.uk/government/statistics/farm-business-income.
[136] Department for Environment, Food & Rural Affairs. (2025, March 11). Farm business income by type of farm in England 2023/24. https://www.gov.uk/government/statistics/farm-business-income/farm-business-income-by-type-of-farm-in-england-202324#accuracy-and-reliability-of-the-results.
[137] First Milk. (2023). Full Statutory Accounts – Year Ending March 31, 2023. https://www.firstmilk.co.uk/app/media/FM_ANNUAL_REPORT_2023_DIGITAL-1.pdf.
[138] First Milk. (2023). Full Statutory Accounts – Year Ending March 31, 2023. https://www.firstmilk.co.uk/app/media/FM_ANNUAL_REPORT_2023_DIGITAL-1.pdf.
[139] Sustainable Markets Initiative. (2025, March 24). Private sector organisations launch new Sustainable Markets Initiative project with an ambition to scale regenerative farming globally. https://a.storyblok.com/f/109506/x/f848f7b913/smi-routes-to-regen-final-press-release.pdf.
[140] Department for Environment, Food, and Rural Affairs. (2020, March 5). Farm Practices Survey Autumn 2019 – England. https://www.gov.uk/government/statistics/farm-practices-survey-october-2019-general.
[141] Ruaah, L. (2025, March 13). The Top UK Agritech Companies-2025. Beauhurst. https://www.beauhurst.com/blog/top-uk-agritech-companies/.
[142] Landscape Enterprise Networks. (2025). 2024 success sees Landscape Enterprise Networks primed to scale further and faster in 2025. https://landscapeenterprisenetworks.com/lens-primed-to-scale-further-in-2025/?utm_source=rss&utm_medium=rss&utm_campaign=lens-primed-to-scale-further-in-2025.
[143] Landscape Enterprise Networks. (n.d.). Yorkshire. https://landscapeenterprisenetworks.com/lens-locations/yorkshire/.
[144] Office for National Statistics. (2025, April 3). Business insights and impact on the UK economy. https://www.ons.gov.uk/businessindustryandtrade/business/businessservices/bulletins/businessinsightsandimpactontheukeconomy/3april2025.
[145] Business Research Insights. (2025, May 5). Circular Business Market Report Overview. https://www.businessresearchinsights.com/market-reports/circular-business-market-113489.
[146] DEScycle. (2024, November 18). DEScycle secures £10.2m to revolutionise metal recycling technology. https://www.descycle.com/news/series-a.
[147] UK Government. (2024). Full Accounts for SUEZ Recycling and Recovery UK Ltd. https://find-and-update.company-information.service.gov.uk/company/02291198.
[148] Material Index. (n.d.). https://www.material-index.co.uk/.
[149] BioteCH4. (n.d.). https://biotech4.co.uk/.
[150] Arda Biomaterials. (n.d.). https://arda.bio/.
[151] Prasser, A. (2025, April 24). Material Report 2025: Key Market Data and Innovation Insights. StartUs Insights. https://www.startus-insights.com/innovators-guide/material-report/.
[152] Compworth. (n.d.). Quorn Foods. https://compworth.com/company/quorn-foods.
[153] Notpla. (n.d.). https://www.notpla.com/.
[154] Shellworks. (n.d.). https://www.shellworks.com/.
[155] Krampf, S. (2024, July 24). TaiSan secures £1.3m for Quasi-solid State Sodium Batteries. Sodium Battery Hub. https://sodiumbatteryhub.com/2024/07/24/taisan-secures-1-3-million-for-quasi-solid-state-sodium-batteries-development/.
[156] Transition Finance Market Review. (2024, October 18). Scaling Transition Finance: Findings of the Transition Finance Market Review. https://www.cityoflondon.gov.uk/supporting-businesses/economic-research/research-publications/scaling-transition-finance.

[157] The Global City. (n.d.). Sustainable Finance Hub. City of London. https://www.theglobalcity.uk/sustainable-finance.
[158] Energy & Climate Intelligence Unit. (2025, February 24). The future is green: The economic opportunities brought by the UK's net zero economy. https://eciu.net/analysis/reports/2025/net zero-economy-across-the-uk.
[159] Bloomberg NEF. (2025, June 24). The Growing Role of Nature-related Business in the UK Economy. https://tnfd.global/wp-content/uploads/2025/06/The-Growing-Role-of-Nature-Related-Business-in-the-UK-Economy.pdf
[160] The Crown Estate. (2022). Offshore Wind Report. https://www.thecrownestate.co.uk/media/4382/11720_owoperationalreport_2022_tp_020523plusaccessibility.pdf.
[161] Climate Change Committee. (2025, February 26). The Seventh Carbon Budget. https://www.theccc.org.uk/publication/the-seventh-carbon-budget/.
[162] Martin, C. (2025, May 12). Envision wins £1bn funding for Nissan Sunderland battery plant. https://www.autocar.co.uk/car-news/business-infrastructure/envision-wins-%C2%A31-billion-funding-nissan-sunderland-battery-plant.
[163] Tromans, P. (2025, May 19). Electronic car statistics - data and projections. https://heycar.com/uk/news/electric-cars-statistics-and-projections.
[164] Bentley, C. (2023, September 08). KKR gets moving on climate strategy with $750m EV and storage investment. https://www.infrastructureinvestor.com/kkr-gets-moving-on-climate-strategy-with-750m-ev-and-storage-investment/
[165] Green, M. (2024, June 13). Highview Power raises £300 million from UKIB, Centrica and partners for UK liquid air energy storage. https://www.solarpowerportal.co.uk/highview-power-raises-300-million-from-ukib-and-centrica-for-liquid-air-energy-storage/
[166] Cairn. (2022, July 5). Completion of new 277.5m euro sustainability linked facility. https://www.cairnhomes.com/news/sustainability-linked-loan/.
[167] Aviva Investors. (n.d.). Aviva Investors Natural Capital Global Equity Fund. https://www.avivainvestors.com/en-gb/capabilities/equities/natural-capital-transition-global-equity-fund/.
[168] The Global City. (n.d.). The Transition Finance Council. City of London. https://www.theglobalcity.uk/sustainable-finance/opportunities/transition-finance/transition-finance-council.
[169] Ranger, N., Oliver, T., Avery, H. (2024, April). Assessing the Materiality of Nature-related Financial Risks for the UK. https://hive.greenfinanceinstitute.com/wp-content/uploads/2024/04/GFI-GREENING-FINANCE-FOR-NATURE-FINAL-FULL-REPORT-RDS4.pdf.
[170] World Bank Group. (2022, December 7). Securing our future through biodiversity. https://www.worldbank.org/en/news/immersive-story/2022/12/07/securing-our-future-through-biodiversity.
[171] Financial Stability Board. (2024, July 18). Stocktake on Nature-related Risks. https://www.fsb.org/2024/07/stocktake-on-nature-related-risks-supervisory-and-regulatory-approaches-and-perspectives-on-financial-risk/.
[172] Bromley, H. & Purdie, A. (2024, October 25). Twelve Case Studies Survey the Business Opportunities in Curbing Nature Loss. BloombergNEF. https://about.bnef.com/blog/twelve-case-studies-survey-the-business-opportunities-in-curbing-nature-loss/.
[173] Gravener, I. (2025, February 24). Growth and innovation in the UK's net zero economy. CBI Economics. https://www.cbi.org.uk/articles/growth-and-innovation-in-the-uk-s-net zero-economy/#:~:text=The%20net%20zero%20economy%20has,up%2094%25%20of%20the%20sector.
[174] Institute and Faculty of Actuaries and University of Exeter. (2025). Planetary Solvency – finding our balance with nature.
[175] TNFD. (2024). Over 500 organisations and $17.7 trillion AUM now committed to TNFD-aligned risk management and corporate reporting. https://tnfd.global/over-500-organisations-and-17-7-trillion-aum-now-committed-to-tnfd-aligned-risk-management-and-corporate-reporting/.