



HM Government

Mobilising Green Investment

2023 Green Finance Strategy

March 2023



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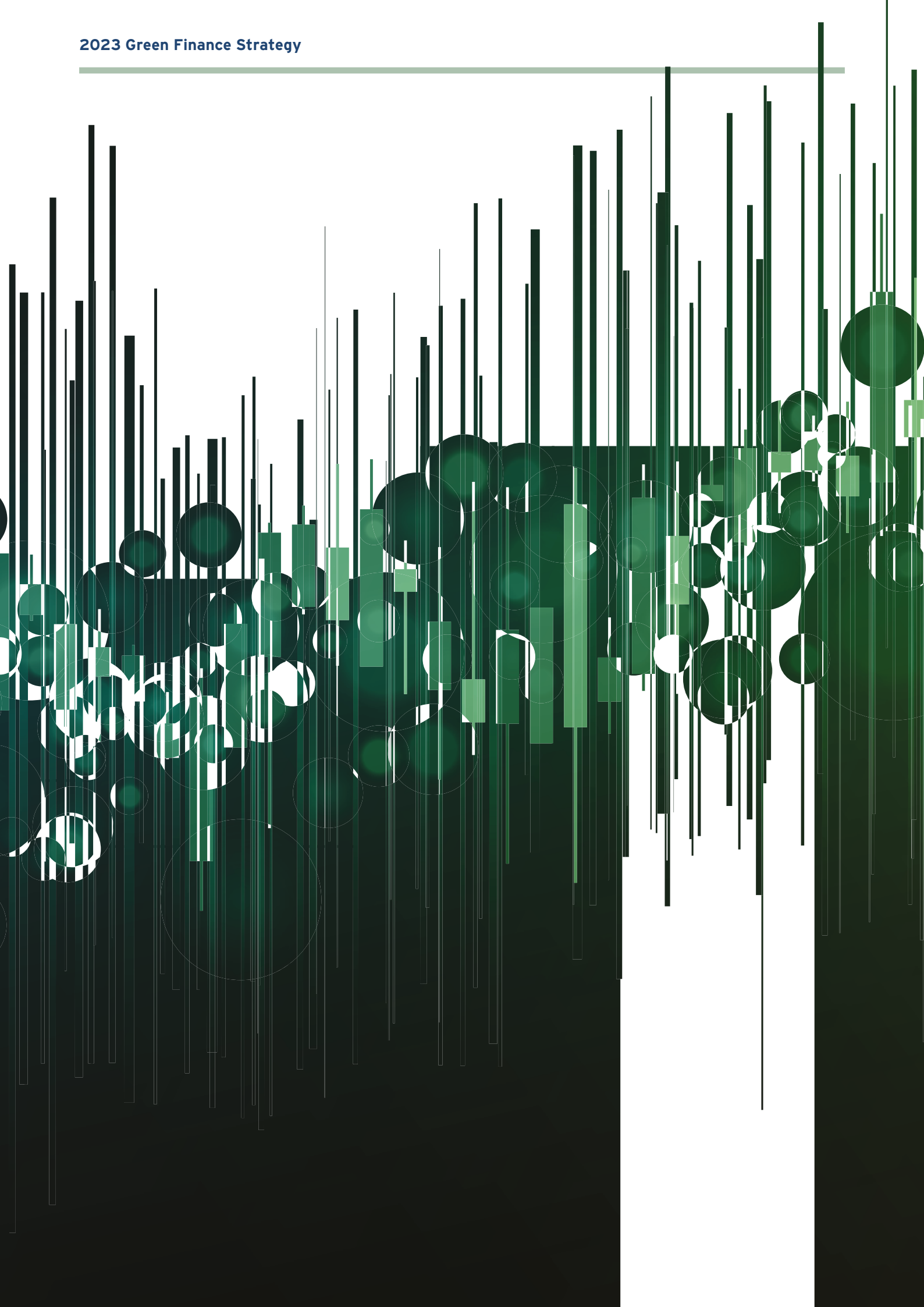
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Ministerial Foreword

Finance is the lifeblood of growing economies. It flows through the arteries of trade and commerce, feeding enterprise and innovation, and turning great ideas into thriving businesses. But it is particularly critical during times of industrial and technological change – like now. Britain has just 27 years to become a net zero economy effectively ending our contribution to climate change by 2050. We also have to reverse the decline in nature and adapt to our changing climate. We must also protect ourselves from volatile international energy markets resulting from Putin's illegal invasion of Ukraine. The environmental and economic rewards of this transformation will be immense – but the challenges involved will be great. We not only need pioneering firms and entrepreneurs to create green products and services. We also need the right support structure to propel them to commercial success. That is why the Government's new Green Finance Strategy is so crucial.

We have led the world on green finance. We were the first major country to publish a green finance strategy in 2019. In 2021, we placed finance at the heart of our COP26 Presidency and became the first G20 nation to require the largest companies and financial firms to make public how they are responding to financial risks and opportunities from climate change. We established a UK Infrastructure Bank with £22 billion of capital to level up and decarbonise our economy. And we have raised over £26 billion through selling green gilts. All these measures have given us a strong head start in the race to finance the green Industrial Revolution.

But to decarbonise in 27 years, and meet our environmental objectives as set out in our Environmental Improvement Plan, and deliver energy security, we will require a step-change in levels of investment. The global transition to a resilient, nature-positive, net zero economy will see trillions of pounds reallocated and invested into new technologies, services and infrastructure. There are huge opportunities for the UK's financial and professional services industry in this transition. From venture capital supporting climate and nature tech solutions, to banks funding major renewables projects, we want our world-leading financial services sector to drive every step of the global transition.

We also need to tackle the risks from climate change and environmental degradation. From increasingly frequent and severe weather events causing damage to infrastructure and supply chains, to changing consumer expectations and preferences shifting demand for certain products and services, companies and their investors need the right policies in place to support them in managing these risks and avoiding stranded assets. Acting now is also important to minimise the fiscal risks of the transition and maximise the growth opportunities – the costs of inaction are significantly higher.

The Green Finance Strategy represents the latest policy blueprint – developed by HM Treasury, the new Department for Energy Security and Net Zero, and Department for Environment, Food and Rural Affairs – to seize this opportunity, mitigate those risks and ensure the necessary finance flows to our net zero, energy security and environmental industries. The Strategy sets out how the UK Government will pursue its ambition to become the world's first Net Zero-aligned Financial Centre – equipping the market with the information and tools necessary to drive the transition. We are setting out next steps on transition planning and the UK Green Taxonomy to ensure green finance markets are robust.

The Strategy also sets out how UK Government is working with a range of public financing bodies to commercialise and finance the green technologies needed for the transition, complementing steps taken through Powering Up Britain, to deliver cheap, clean British energy sources to heat our homes and power our industries. Together, these steps will boost economic growth across the country, creating almost half a million new green jobs and opportunities for businesses to export their expertise around the world.

Nature sustains economies and livelihoods, and protecting and restoring nature is inseparable from addressing climate change. This Strategy incorporates both nature and climate adaptation into our green finance framework. We are also publishing a new nature markets framework alongside the Strategy, to explain how we will develop high-integrity markets enabling farmers and land managers to attract investment into natural capital.

Finally, the Strategy sets out how the UK will use our leadership and the expertise of our financial sector to accelerate the shift to a green global financial system and catalyse green financing globally, including in emerging and developing markets. These economies are crucial for tackling climate change and halting nature's decline, as well as being key partners for the UK in generating shared prosperity from the global transition.

The next three decades will see the biggest changes to industry since the 19th century, as we move from a fossil-fuel driven economy to a decarbonised one that leaves our environment in a better state than we found it. Our ability to exploit the opportunities of this new Green Industrial Revolution will depend on our readiness to finance it. This document explains how we will achieve our objectives.



A handwritten signature in blue ink that reads "Grant Shapps".

**Rt Hon
Grant Shapps MP**
Secretary of
State for Energy
Security and Net Zero



A handwritten signature in blue ink that reads "Jeremy Hunt".

**Rt Hon
Jeremy Hunt MP**
Chancellor
of the Exchequer



A handwritten signature in blue ink that reads "Thérèse Coffey".

**Rt Hon
Thérèse Coffey MP**
Secretary of State for
Environment, Food
and Rural Affairs

Executive Summary

1. **Climate change, biodiversity loss and environmental degradation are transforming the global economy.** As countries, companies and individuals across the world respond to these challenges, finance and investment have a crucial role to play. The global transition to a net zero, resilient and nature positive economy will see trillions of pounds reallocated and invested in new projects, products and services. The UK's world-renowned finance sector can put us at the forefront of this transition.
2. **The UK's COP26 Presidency in 2021 generated historic momentum in the numbers of businesses, regions and investors seeking to align with climate and environmental goals. Over 90% of global GDP is now covered by national net zero targets.** In the financial services sector this was exemplified through the commitment of the Glasgow Financial Alliance for Net Zero (GFANZ), which unites over 550 members across the financial sector committed to align with a net zero future, spanning 50 countries and representing 40% of global private financial assets.¹ Now is the time for the UK to build on that leadership.
3. **The transition is not only an environmental imperative, but a growth opportunity for the UK.** Supplying the goods and services necessary to reach global net zero ambitions is estimated to be worth up to £1 trillion to UK businesses to 2030². Furthermore, exports within low carbon and renewable energy industries are growing significantly faster than exports from the broader economy. Between 2020 and 2021, it is estimated exports from these sectors increased by 67%, compared to total exports which increased by 6%.³
4. **The 2023 Green Finance Strategy ('this Strategy') is an update to the UK's 2019 Green Finance Strategy and sets out how continued UK leadership on green finance will cement the UK's place at the forefront of this growing global market, and how we will mobilise the investment needed to meet our climate and nature objectives.** Published alongside this Strategy are the UK government's *Powering Up Britain*, *Nature Markets Framework*, *International Climate Finance Strategy* and *UK 2030 Strategic Framework for Climate and Nature*. Collectively these publications confirm the UK's ambition to address climate and environmental challenges, and the practical steps we are taking to drive progress.

What are our objectives?

5. This Strategy aims to reinforce and expand the UK's position as a world leader on green finance and investment, delivering five key objectives:
 - a. **UK financial services growth and competitiveness** - The UK can and will do more to support our financial services sector to prosper from a transitioning global economy. From venture capital supporting innovative climate tech solutions, to banks lending to major renewables projects and asset managers allocating capital to support the companies of the future - behind every step of our transition will be our world-leading financial services sector.

- b. **Investment in the green economy** - Private investment will be crucial to delivering net zero, building climate resilience and supporting nature's recovery. We estimate that to deliver on the UK's net zero ambitions, through the late 2020s and 2030s, an additional £50-60 billion capital investment will be required each year.⁴ A 2021 report estimated that over the next ten years, our domestic nature-related goals could require between £44-97 billion of investment⁵. This investment will support the sectors and technologies of the future, enable traditional sectors to adapt and thrive as part of the transition, and presents a significant opportunity to level up the UK, including those parts with an industrial heritage.
- c. **Financial stability** - Climate change and environmental degradation pose profound risks to the economy. The Bank of England projected £110 billion in additional losses for UK banks out to 2050 in their disorderly transition scenario, and 50-70% higher losses for UK insurers in their highest climate risk scenario.⁶ Similarly, over half the world's GDP is generated in sectors that depend on the goods and services nature provides.⁷ An effective green finance framework will ensure the finance sector has the information it needs to manage risks from climate change and nature loss.
- d. **Incorporation of nature and adaptation** - There has been significant progress on nature finance both domestically and internationally since 2019, culminating in the commitments on finance made in the landmark Kunming-Montreal Global Biodiversity Framework agreed at the UN Convention on Biological Diversity COP 15 in December 2022. There is also increasing recognition of the Government's critical role in supporting private investment in climate resilience, as highlighted by the Climate Change Committee's recent report.⁸ To reflect these developments, as well as calls from industry for an integrated approach, this Strategy will explicitly incorporate both nature and climate adaptation into the government's green finance policy framework.
- e. **Alignment of global financial flows with climate and nature objectives** - With our world leading expertise and outward looking financial sector, the UK is strategically placed to collaborate with international partners to support the alignment of global financial frameworks and stimulate investment towards emerging and developing markets where capital needs are highest. The UK can capture a huge economic opportunity by supporting the global transition, whilst building closer relationships with high growth emerging markets and developing economies as they seek to meet their own financing needs.

CHAPTER 1 | FOUNDATIONS: UK approach to green finance

- 6. The UK is recognised as a leading green finance centre internationally⁹. This is in large part due to the strength and innovation of UK industry, and has been supported by our strong policy framework. From the 2019 *Green Finance Strategy* to the 2021 *Greening Finance Roadmap*, the UK government has shown commitment to taking the required steps so industry can deliver. Through our call for evidence (early summer 2022), 134 leading stakeholders across the business and investment community provided clear feedback on where government action was needed.
- 7. A key area of feedback in the call for evidence was transition finance, where financial markets raised the need for continued innovation to provide products and

services that support higher emitting companies to decarbonise and reduce their environmental impact. To support this, the UK government will commission an **industry-led market review** into how the UK can enhance our position and become the best place in the world for raising transition capital.

CHAPTER 2 | ALIGN: Enabling the market to align with UK climate and environmental goals

8. Mobilising private capital into the sectors and technologies needed to deliver net zero and our wider environmental targets requires market participants to have the right information and tools to assess opportunities and risks effectively. Stakeholders have been clear there is a role for the UK government to facilitate financial markets to deliver this, as well as to ensure green finance markets are robust and that protections against greenwashing are in place for consumers.
9. This Strategy outlines how the UK government will pursue its ambition to become the world's first Net Zero-aligned Financial Centre. This Strategy will show how the UK government will provide **transparency**, support the development of market **tools**, and support **transmission channels** to allow the financial sector to align with net zero.
10. We will deliver on our commitments in *Greening Finance: A Roadmap to Sustainable Investing*, ensuring market participants have the information and data they need to manage risks and allocate capital where there are opportunities:
 - a. Currently the Financial Conduct Authority requires listed companies, as well as large asset owners and managers to disclose transition plans on a 'comply or explain' basis. **The Government commits to consulting on the introduction of requirements for the UK's largest companies** to disclose their transition plans if they have them. To ensure parity between listed and private companies, as well as to ensure requirements are consistent and comparable across the economy, we expect to consult on the basis that these requirements could align closely with those of the FCA, including the 'comply or explain' basis. This is supported by the UK government-convened Transition Plan Taskforce (TPT), currently developing best practice for companies and investors seeking to disclose transition plans, ensuring quality and consistency. The consultation will take place in Autumn / Winter 2023, once the TPT has finalised its framework.
 - b. We will **continue to support the work of the International Financial Reporting Standards (IFRS) Foundation's new standard-setting board - the International Sustainability Standards Board (ISSB)** - and will set up a framework to assess these standards for their suitability for adoption in the UK as soon as the final standards are published (expected summer 2023).
 - c. We will launch a call for evidence on **Scope 3 greenhouse gas (GHG) emissions reporting**¹⁰, to better understand the costs and benefits of producing and using this information. We will update the **Environmental Reporting Guidelines**, including for Streamlined Energy and Carbon Reporting¹¹, which provides voluntary guidance for UK organisations.
 - d. In response to the Climate Change Committee's report 'Investment for a well-adapted UK', we will work **with industry partners** to improve the approach to

climate resilience assessment and disclosure through the development of adaptation metrics and guidance. Our final approach will be set out alongside our adaptation finance deliverables and action plan in 2024.

11. The UK government will also support industry as it develops the **new market frameworks, associated tools and expertise required to expand green finance activity**.
 - a. We will deliver a **UK Green Taxonomy** - a tool to provide investors with definitions of which economic activities should be labelled as green. This will support the quality of standards, labels and disclosures used in the industry for green finance activity. We expect to consult on the Taxonomy in Autumn 2023. The Government proposes that nuclear - as a key technology within our pathways to reach net zero - will be included within the UK's Green Taxonomy, subject to consultation. After the Taxonomy has been finalised, we will initially expect companies to report voluntarily against it for a period of at least two reporting years after which we will explore mandating disclosures. Government does not wish to place undue burdens onto companies whose size or scale makes the disclosure of taxonomy-related information unreasonable. Therefore, we will develop proposals with proportionality in mind.
 - b. We will address the growing Environmental, Social, Governance (ESG) investment trends to ensure this activity is robust and protects UK markets and, ultimately, consumers. Alongside this Strategy we have published a consultation on **regulating ESG ratings providers** to seek views on how regulation could help ensure better outcomes for these products.¹² We will continue to act as observers, alongside the Financial Conduct Authority, to the industry-led working group that is developing an **ESG Data and Ratings Code of Conduct** to promote best practice in the market.
 - c. We will ensure the UK is the home of sustainable finance skills, expertise and professional development. We will re-launch the **Green Finance Education Charter**, which will expand to encompass more professional bodies, broaden its remit to include nature, and continue to work with counterparts globally to promote and replicate the successful Charter model.
12. The UK government will explore the actions it can take to enable key **transmission channels** through which financial markets can support businesses to grow as part of a net zero, resilient and nature positive economy. This will include:
 - a. **Access to liquidity:** We will work closely with industry and the regulator to implement Solvency UK, creating the potential for over £100 billion of productive investments from insurers in the next ten years, all while maintaining high standards of policyholder protection.
 - b. **Effective investor stewardship:** We will work with the Financial Conduct Authority, Financial Reporting Council and the Pensions Regulator to review the regulatory framework for the effective stewardship that is crucial to climate and environmental oversight, including the operation of the UK Stewardship Code.
 - c. **Fiduciary duty:** The Department for Work and Pensions will examine the extent their Stewardship Guidance is being followed in late 2023. Government will engage with interested stakeholders on how we can continue to clarify fiduciary duty

through a series of roundtables and a working group of the Financial Markets and Law Committee.

13. We will work closely with financial regulators – such as the Bank of England, Financial Conduct Authority, Financial Reporting Council and The Pensions Regulator – and the environmental regulator in England, the Environment Agency, to ensure that the UK's regulatory framework supports the growth of green finance.
14. **We will collaborate with international partners** to accelerate the alignment of global financial flows with a net zero, resilient and nature positive global economy through:
 - a. **Championing action to align the global financial system** by supporting equal ambition by other countries and ensuring interoperable approaches. This includes leveraging our position and using our voice at key global negotiations and forums such as the G20, G7, Coalition of Finance Ministers for Climate Action and International Platform for Sustainable Finance.
 - b. **Driving the alignment of development finance**, working with international financial institutions and the wider donor community. This includes fulfilling our commitment to align all new bilateral UK Official Development Assistance (ODA) with the Paris Agreement in 2023; delivering our 2021 commitment to ensure all bilateral ODA spending does no harm to nature, and stopping any new direct financial or promotional support for the fossil fuel energy sector overseas, other than in exceptional circumstances.
 - c. **Building partnerships with emerging markets and developing economies** to support the growth and alignment of their finance sectors, including actions to enhance sharing of lessons from green finance implementation in the UK.

CHAPTER 3 | INVEST: Mobilising and creating opportunities for green investment

15. The economic transformation required to meet our climate and nature objectives will create investment opportunities across the economy. The UK business and investment landscape is one of the most competitive, attractive and innovative in the world, and we will ensure we are using all levers available to mobilise private capital into the key sectors, projects and technologies needed to transition to a net zero, resilient and nature positive global economy. Since 2010, the UK has seen £198 billion of investment into low carbon energy, through a mixture of government funding, private investment and levies on consumer bills.
16. The UK government has already introduced a range of new measures to mobilise and attract private investment. We committed **£30 billion of domestic investment** for the green industrial revolution at Spending Review 2021, as well as **£6 billion** for energy efficiency at the Autumn Statement 2022 and up to **£20 billion** for CCUS announced at Spring Budget 2023. We are now seeing a step-change in the UK, with annual investment in low carbon sectors more than doubling in real terms over the past five years. Across 2021 and 2022 alone, over £50 billion of new investments were delivered in low carbon sectors in the UK. ¹³

17. We are providing **clarity** on pathways for investment across our net zero, nature and adaptation in the UK:
- a. Alongside this Strategy, we are publishing *Powering Up Britain* which sets out how we are taking bold action to achieve our energy security and net zero objectives. Through our *Environmental Improvement Plan* we set out how we will work with land managers, communities and businesses to improve the natural environment. Together these communicate the **UK's plan to grow green investment across all parts of the UK**, including by:
 - i. Providing up to **£20 billion funding for early deployment of Carbon Capture, Usage and Storage (CCUS)**. This unprecedented level of funding will unlock private investment and the creation of jobs across the UK, particularly in the East Coast, North West of England and North Wales, and kick-start the delivery of subsequent phases of this new sustainable industry in the UK;
 - ii. Announcing a suite of developments aiming to **increase deployment of low carbon hydrogen in the UK**. These include confirming the first 15 winning projects from the £240 million Net Zero Hydrogen Fund and the two CCUS-enabled hydrogen projects moving forward on the Track-1 clusters, and publishing a shortlist of 20 projects we intend to enter due diligence with for the first electrolytic hydrogen allocation round;
 - iii. Launching **Great British Nuclear** (GBN), which will be an arms-length body responsible for driving delivery of new nuclear projects. GBN will be backed with the funding it needs, and we will work with GBN to publish a roadmap later this year;
 - iv. Announcing plans for the **Great British Insulation Scheme**, based on proposals announced last year as ECO+, which will deliver £1 billion additional investment by March 2026 in energy efficiency upgrades, such as loft and cavity wall insulation; and
 - v. Launching the **up to £160 million Floating Offshore Wind Manufacturing Investment Scheme** to kick start investment in port infrastructure projects needed to deliver our floating offshore wind ambitions.
 - b. Throughout 2023, we will develop and publish a series of **net zero investment roadmaps**. These will articulate investment needs by sector alongside summarising the relevant government policy and funding to make the sector investable. We will also publish a roadmap to guide nature positive investment in key sectors by 2024. We will engage with investors, across sectors, to ensure these contain the information and clarity that will support investment decisions.
 - c. We are working with external partners to better track private investment into the net zero economy and building towards a fuller way of **tracking green investment flows** in the UK - including annual private finance flows into nature's recovery in England.
18. We will use government and other public levers to mobilise private investment, providing investors with **confidence** to invest in green technologies at different stages

of commercial maturity. In addition to measures set out in the *Powering Up Britain and Environmental Improvement Plan*:

- a. We will intensify work with the public finance institutions and welcome the joint statement they have made today supporting the Strategy. The UK's public finance institutions and UK's export credit agency, UK Export Finance, play a key role in supporting sectors and technologies across to commercial maturity and scale:
 - i. The **UK Infrastructure Bank (UKIB)** is a UK government-owned policy bank with £22 billion of financial capacity across its private and local authority lending arms. Its mission is to partner with the private sector and government to increase infrastructure investment to help to tackle climate change and promote economic growth across the UK. As of 27 March 2023, it has announced 12 deals, investing approximately £1.2 billion and unlocking over £5 billion of private capital.
 - ii. The **British Business Bank (BBB)** is a government-owned economic development bank established by the UK government. BBB supports access to finance for smaller businesses to drive sustainable growth and prosperity across the UK, and also to enable the transition to a net zero economy. Between 2014 and end of August 2022, BBB supported £505 million of equity investment in clean technology companies.
 - iii. **UK Research and Innovation (UKRI)** is a non-departmental public body of the UK government that directs research, innovation and skills funding. It brings together seven disciplinary research councils, Research England which is focused on higher education institutions, and the UK's innovation agency, Innovate UK. Between 2015 and 2020 Innovate UK supported 5,940 companies with £1.9 billion of net zero related grants.
 - iv. The UK's export credit agency, **UK Export Finance's (UKEF)** mission is to advance prosperity by ensuring no viable UK export fails for lack of finance or insurance, doing that sustainably and at no net cost to the taxpayer. Alongside this Strategy the Chancellor has announced an increase in UKEF's capacity from £50 billion to £60 billion to support UK exporters and supply chains. UKEF is committed to increasing its support in clean growth and climate adaptation.
 - b. We will also work with the **Green Finance Institute** to explore how **blended finance** models might be used to more strategically mobilise private finance to support our green objectives. This builds on the example we have set through the £30 million of seed capital we are investing into the Big Nature Impact Fund (BNIF), which will leverage private sector investment in a range of nature projects in England.
19. We are supporting the creation and promotion of investment opportunities throughout the economy:
- a. We will support local authorities to develop their ability to attract private investment through the work of the **Local Net Zero Hubs** and the **UKIB**, as well as through promotion of programmes such as the **Local Investment in Natural Capital programme** and **Investment Zones**. This is alongside plans to promote net zero investment in the eight Freeports across England, two in Scotland and two in Wales.

- b. We have the joint most generous **capital allowance regime** in the OECD with a policy of full expensing from 1 April 2023 to 31 March 2026. From April 2023 we announced a higher rate of **R&D Expenditure Credit** - which means that the UK's R&D tax relief for large companies has the joint highest uncapped headline rate in the G7 - and an increased rate of relief for loss-making R&D intensive SMEs.
 - c. We will establish a new partnership with business and finance leaders to support the delivery of our net zero target, forming a shared view of the actions needed through a new **Net Zero Business & Investment Group**.
 - d. We will host the **Global Investment Summit** in September 2023. This will build on the Global Investment Summit held in 2021, at which government announced nearly £10 billion of new foreign direct investments in the UK.
20. We will provide the clarity that stakeholders have called for to unlock voluntary markets for carbon and nature whilst ensuring environmental integrity - creating innovative new markets for green investment:
- a. We will **consult on the specific steps and interventions needed to support the growth of high integrity voluntary markets** and protect against greenwashing. This will position the UK to serve as a global hub for voluntary carbon trading.
 - b. We have published alongside this Strategy **a new Nature Markets Framework**, which sets out principles and priorities for the development of high-integrity markets to enable farmers and land managers to attract investment in natural capital, and our plans to develop a comprehensive suite of **nature investment standards**.
21. Drawing lessons from our domestic leadership and expertise from our financial sector, the **UK will support emerging and developing economies** (EMDEs) to grow sustainably while creating opportunities for shared prosperity. Utilising a range of levers, including delivering on our commitment to provide £11.6 billion in International Climate Finance (ICF) between 2021/22 and 2025/26, the UK will:
- a. **Deepen our country partnerships and build green finance capability**, including by co-delivering the Just Energy Transition Partnerships in South Africa, Vietnam and Indonesia and supporting country plans to mobilise finance.
 - b. **Provide strategic investment and enhance the scale of investment opportunities**, including through British International Investment, the UK's development finance institution, which has invested over \$1.7 billion of climate finance since 2018; and building on the £5.2 billion in private investment already mobilised through our ICF¹⁴.
 - c. **Develop innovative approaches to unlock private finance**, such as through the new Climate Investment Funds Capital Market Mechanism, which is expected to issue green bonds in the region of \$5-7 billion for climate projects in EMDEs using returns from previous UK investments.
 - d. **Achieve global impact through the reform of the international financial architecture** by championing the Bridgetown Agenda, supporting the implementation of the IMF Resilience and Sustainability Trust, and promoting greater use of guarantees to allow scarce public finance to go further.

- e. **Enable private investment in international climate adaptation**, including tripling ICF funding for adaptation from £500 million in 2019 to £1.5 billion in 2025, and building our support for new approaches in Disaster Risk Financing.





CHAPTER 1 | FOUNDATIONS

UK Approach to Green Finance



1.1 Meeting global climate and environmental challenges

1. The **twin threats of climate change and biodiversity decline** are increasingly being felt at home and abroad. From extreme summer heat in the UK, to devastating floods in Pakistan and the loss and fragmentation of habitats globally, all around us the imperative to transition to net zero, adapt to climate change and halt nature and biodiversity loss is becoming increasingly acute.
2. Addressing these challenges poses **economic opportunity for early movers**. Significant upfront public and private capital will be needed. Between 2023 and 2050, \$150 trillion of total investment in the energy transition will be required for the world to align with a 1.5 degree pathway. This requires annual investments to quadruple from current levels.¹⁵ Additionally, \$275–400 billion per year will be required by 2030 for increased protection and restoration of nature.¹⁶ However, these investments can unlock significant returns and economic opportunities: estimates suggest every dollar spent on transforming the global energy system provides a payoff of at least \$3 and potentially more than \$7¹⁷, and every dollar spent on investing in more resilient infrastructure in low- and middle-income countries provides \$4 in benefits.¹⁸
3. The **economic growth potential of the UK and global transition** is a key consideration behind this Strategy. From the growth of new technologies to investment in infrastructure and the increasing demand for nature-based solutions, there are major opportunities for early movers. To secure this economic growth potential, we have the joint most generous capital allowance regime in the OECD, as well as generous R&D and patent tax reliefs. The UK is also pioneering breakthrough technologies and investing in world class data and analytics, for example through the Centre for Greening Finance and Investment, a research consortium led by the University of Oxford and funded by UK Research & Innovation.
4. The UK has led by example by setting out **world-leading climate and nature targets**. To meet each of these commitments, private finance will be critical, and that is why the UK has placed it at the centre of our efforts. Using this strong domestic record, we've worked to ensure finance is equally central in global agreements, including by working with our international partners to ensure the alignment of financial flows was captured in the long-term goals of the Paris Agreement, and the targets in the Kunming-Montreal Global Biodiversity Framework.
5. This Strategy ensures that **the UK is better equipped to meet our domestic and international climate and environmental targets** (see Table 1 below), seizing the opportunity for UK growth in this expanding field and maximising the role of private finance to meet climate and nature commitments affordably.

Table 1: Our domestic and international climate and environmental commitments

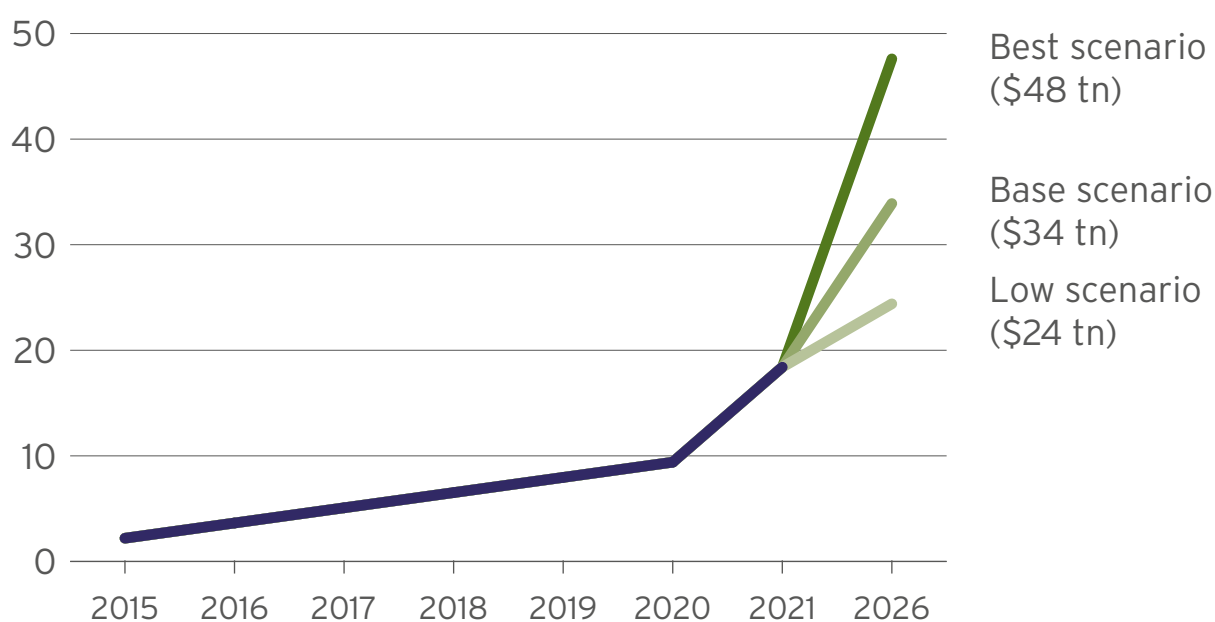
	UK commitments	International commitments
Climate mitigation 	Legally binding target to reach net zero by 2050, and stay within our carbon budgets.	Delivery of our commitments under the Paris Agreement and Glasgow Climate Pact. This includes our Nationally Determined Contribution, working towards the \$100 billion climate finance goal and the achievement of Article 2.1c, and agreeing a new post-2025 finance goal.
Environment 	Legally binding targets for the natural environment, in England, including to halt the decline in species abundance by 2030.	Delivery of Kunming-Montreal Global Biodiversity Framework (GBF), increasing investment in biodiversity from all sources to at least \$200 billion a year by 2030, and fulfilling Target 15.
Climate adaptation 	We will set out a five year strategy to build the UK's climate resilience in the third National Adaptation Programme (NAP3) in 2023.	UK will double International Climate Finance (ICF) to £11.6 billion between 2021/22 and 2025/26, and as part of this triple our funding for adaptation from £500 million in 2019 to £1.5 billion in 2025.

1.2 The UK green finance growth opportunity

6. Green finance is any structured financial activity - a product or service - that has been created to ensure a better environmental outcome. It includes an array of loans, debt mechanisms and investments that are used to encourage the development of green projects or manage the impact of climate change on investments. Finance is a critical enabler for transitioning the real economy. As such, developing the right financial expertise and attracting the right capital to the UK is central to delivering our transition.
7. We estimate that in 2022 alone, £23 billion of new low carbon investment was delivered in the UK - ranging from renewables, hydrogen, carbon capture and storage, nuclear, sustainable materials, energy storage, electrified transport, to clean heat.¹⁹

8. Given the scale of the transition needed at home and abroad, there is a growing demand for green financial services. Global Environmental, Social and Governance (ESG) assets under management (AUM) have increased from \$2.2 trillion in 2015 to \$18.4 trillion in 2021 and are predicted to reach \$34 trillion in 2026.²⁰ ESG-oriented AUM is set to grow much faster than the asset and wealth management market as a whole. Unlocking the potential of green finance is, therefore, integral to the vision set out in the Chancellor's 2022 Autumn Statement - for both financial services and green industries to be key growth sectors for the UK.

Figure 1: Global ESG assets under management set to grow to \$34 trillion by 2026 (ESG AUM, \$trillion)



Source: PwC Global ESG and AWM Market Research Centre analysis, Lipper, Preqin, ESG Global, [link](#).

9. In practice, this translates into asset owners allocating capital to large-scale renewables projects to power homes and businesses; asset managers developing new funds to service clients' growing demand for exposure to green and transition industries; green companies raising money through capital markets to finance their growth and expansion. Behind every transaction, sits a team of financial, legal, data and accountancy experts with the skills and expertise to move deals through to completion. This presents a huge opportunity for the UK financial sector. Not just for financial services firms themselves, but also the growing ecosystem of professional services, technical experts and businesses that support them. Adaptation finance is yet to achieve the same level of momentum. This Strategy sets out how we intend to create the conditions for more private money to flow into ensuring the UK's climate action and resilience.
10. The growth opportunity of fulfilling our common climate and nature goals depends on international collaboration. For finance, this means developing common or aligned approaches to greening financial frameworks - to remove, not create barriers to cross-border investment. Bringing global green sectors and technologies to commercial viability will require coordination, the sharing of expertise, and frictionless flow of capital to the right companies and projects. Furthermore, the UK recognises

the unique challenges and growth potential in emerging markets and developing economies (EMDEs), and we are committed to building strong partnerships which remove barriers to growth and generate mutual prosperity.

1.3 Foundations – UK green finance progress so far

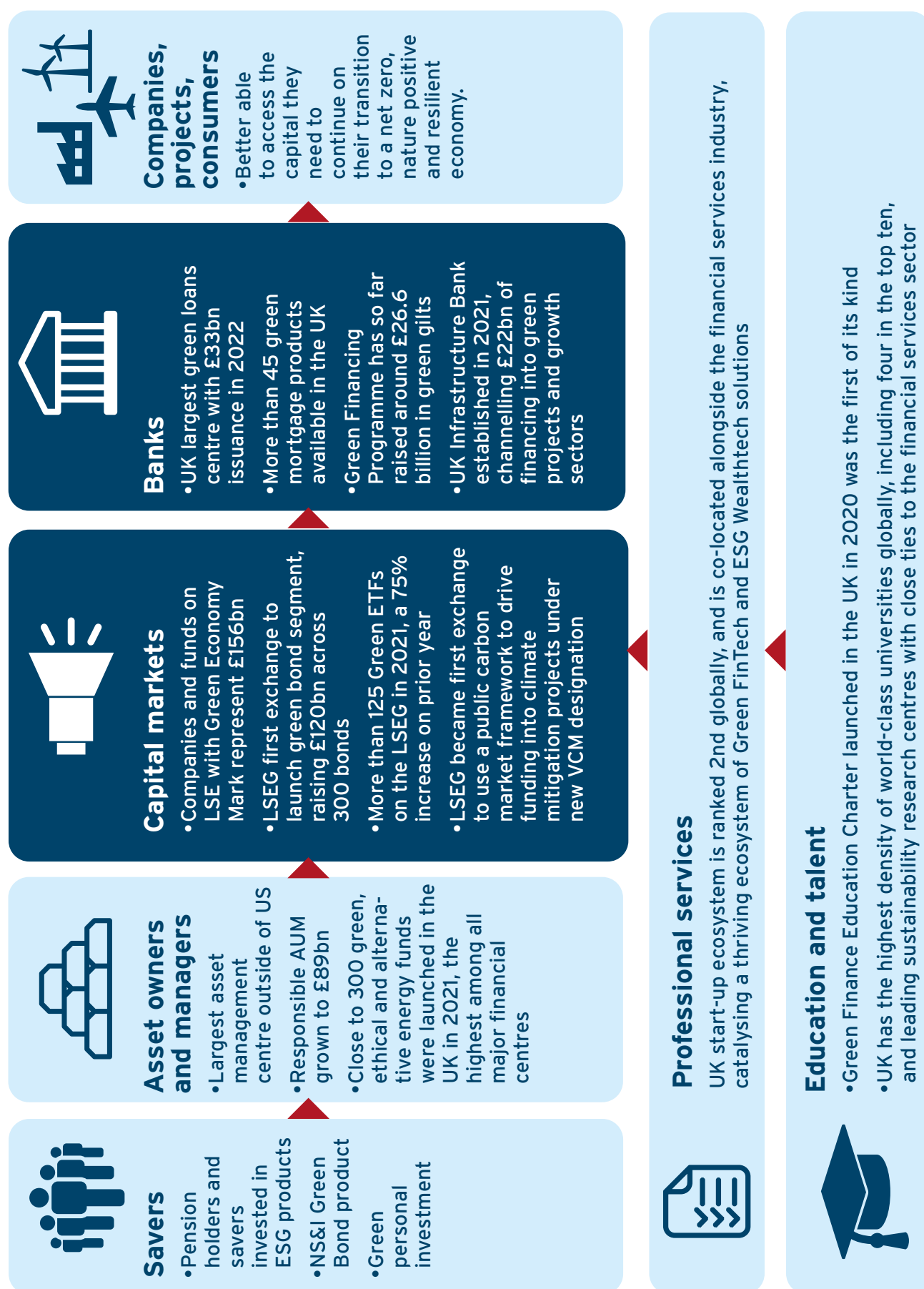
11. The UK financial services industry has made significant progress in developing itself as a global green finance centre. The strength, maturity and international role of the UK's financial sector is proven not just in volume but also in its global presence. This, combined with the UK's leadership on climate and nature at a political and business level, has solidified its position as a leading centre for green finance, which continues to attract capital and talent. Given the scale of the opportunity available, it will be critical for the UK to maintain this position, and the publication of this Strategy sets out a number of steps government is taking to that end.

Box 1: UK ranked 1st on Global Green Finance Index

London has been ranked on the Global Green Finance Index²¹ as the leading green financial centre for a third consecutive year. The ranking considers 149 quantitative factors, as well as a worldwide survey of finance professionals, focusing on four broad areas of competitiveness: business environment, financial infrastructure, human capital talent, and overall sustainability factors.

12. Leadership can be seen across the UK's financial system, with each part of that system playing the necessary role to deliver as a world-leading green finance hub. Figure 2 articulates what that leadership looks like in practice across different parts of the system:

Figure 2: Finance industry action



1.3.1 Action by UK government

13. UK leadership has largely been a function of the vision and innovation seen throughout industry. However, it is recognised that the UK's strong green finance policy framework has been a core supporting pillar of success so far. From the first *Green Finance Strategy* in 2019, this Government has been delivering on policy commitments and building a world-leading framework.

Box 2: UK policy and regulatory leadership since 2019

- 2019: UK government published the *Green Finance Strategy* (2019) and established the Green Finance Institute in partnership with the City of London Corporation.
- 2021: We published our *Net Zero Strategy* (2021) and *Energy Security Strategy* (2022), and have now built on these with our *Powering Up Britain* published alongside this Strategy, setting out policies and proposals for decarbonising all sectors of the UK economy to meet our energy security objectives and net zero target by 2050.
- 2021: We passed the landmark Environment Act 2021, putting environmental goals, such as reversing the decline in biodiversity, on a statutory footing.
- 2023: We published our Environmental Improvement Plan, setting out how we will work with land managers, communities and businesses to deliver our environmental goals.

Greening the financial system

- 2019: Established a Joint Government-Regulator Taskforce to explore the most effective approach to implementing the recommendations of the Taskforce on Climate-related Financial Disclosures (TCFD).
- 2019: Co-funded the British Standards Institution (BSI) to design and roll out a programme of internationally relevant standards on Sustainable Finance.²²
- 2020: UK government was the first G7 country to commit to mandatory TCFD reporting, and published a roadmap towards mandatory climate-related disclosure.
- 2021: Mainstreamed climate considerations into the work of the financial regulators - the Financial Conduct Authority, Prudential Regulation Authority and Financial Policy Committee - when carrying out their duties.
- 2021: The UK published *Greening Finance: A Roadmap to Sustainable Investing* focussing on ensuring that the information exists to enable every financial decision to factor in climate change and the environment.
- 2022: Climate-related disclosure requirements introduced for large companies and LLPs.
- 2022: UK government launched the Transition Plan Taskforce, a group of industry experts tasked with developing guidance for gold standard transition plans.
- 2022: The UK signed up to a commitment in the Global Biodiversity Framework to ensure the largest companies regularly monitor and disclose their risks, dependencies and impacts on nature.

Financing our green objectives

- 2021: Established the UK Infrastructure Bank with £12 billion in debt and equity and £10 billion guarantees.
- Since 2021: 2021 Spending Review confirmed £30 billion of spend on the green industries revolution. Since then, government has made new announcements that provide long-term certainty on our investment plans, including an additional £6 billion for energy efficiency and up to £20 billion for CCUS.
- 2021: In the 2021 Spending Review, government also set a goal to mobilise more than £1 billion per year, of private finance into nature's recovery in England by 2030. This Strategy sets out the measures we are putting in place to mobilise that investment, including through our Nature Markets Framework, published alongside this Strategy.
- 2021-2022: We hosted the Global Investment Summit and the Green Trade and Investment Expo bringing together some of the world's highest profile investors, CEOs and financiers.
- Since their launch in 2021: Raised more than £26 billion from the sale of green gilts issued by the UK Debt Management Office, and retail Green Savings Bonds sold via NS&I.

International leadership

- We have committed to double the UK's ICF to £11.6 billion between 2021/22 and 2025/26, including tripling our funding for adaptation to £1.5 billion in 2025, and ringfencing £3 billion to protect and restore nature.
- 2019: Committed to align all new bilateral Official Development Assistance (ODA) with the Paris Agreement, to be delivered in 2023.
- 2020: British International Investment launched its Climate Change Strategy, including a net zero 2050 target.
- 2021: The UK hosted COP26 and launched GFANZ, the world's largest coalition of financial institutions committed to net zero, which unites over 550 members across the financial sector committed to align with a net zero future, spanning 50 countries and representing 40% of global private financial assets.²³ Government also announced its ambition to become the world's first Net Zero-aligned Financial Centre, including the intention to move towards making it mandatory for firms to disclose their transition plans.
- 2021: UK G7 Presidency secured mandatory climate disclosure commitments from members.
- 2021: UK G7 Presidency secured support for launch of the Taskforce on Nature-related Financial Disclosures (TNFD), now an international market-led taskforce with over 900 members representing over \$20 trillion AUM across geographies and sectors.
- 2021: UK Export Finance launched its Climate Change Strategy, including a net zero 2050 target.

- 2022: The International Development Strategy set out our commitment to ensure our bilateral ODA becomes 'nature positive', aligning with the Kunming-Montreal Global Biodiversity Framework and the international goal to halt and reverse biodiversity loss by 2030.

1.3.2 Action by devolved administrations

14. The UK government is working closely with devolved administration partners to achieve our greenhouse gas emission reduction targets. Our net zero target covers the whole of the UK, and all parts of the UK have an integral role to play in delivering the UK's carbon budgets leading up to 2050.
15. While green finance policy in the UK is reserved, and applies across the UK, there are a number of initiatives underway across Scotland, Wales and Northern Ireland to catalyse investment into net zero and nature's recovery.

Scottish Government

16. The Scottish Government will ensure that Scotland's financial services industry, with Edinburgh the second largest financial centre in the UK, plays a key role in delivering the UK's net zero targets. The financial sector is developing capacity in this space, including through transparent and effective financial reporting. Some key actions being taken include:
 - a. **Launching the Scottish Taskforce on Green and Sustainable Financial Services**, which coordinates industry to secure Scotland's place as a globally recognised green finance centre;
 - b. supporting the **Taskforce on Nature-related Financial Disclosures (TNFD)** as members of the TNFD forum;
 - c. Expansion of the **Green Investment Portfolio**, which will allow the Scottish Government to present new projects which demonstrate Scotland is a world leader in future innovative green industries supporting net zero. The Portfolio has a current value of approx. £3.7 billion, with around £300 million private investment already invested into projects and approx. £875 million currently under offer or in active discussions;
 - d. Continuing to develop the **Funding to Finance** approach, which aims to secure consistent project pipeline, and to close the investment gap by 2030;
 - e. Establishment of the **Scottish National Investment Bank (SNIB)** to deploy commercial, mission-focused investment. SNIB invests in projects, communities, and scaling businesses to deliver positive environmental, economic and social impacts for the people of Scotland, and has a particular focus on catalysing and crowding in private capital. SNIB engages regularly with UK-wide public finance institutions, particularly the UK Infrastructure Bank and British Business Bank, and works collaboratively with them where there is commonality between their remits. Since its launch SNIB has committed £227 million to net zero investments;
 - f. Commitment to develop **Scottish Government Interim Principles for Responsible Investment in Natural Capital**, a values-led, high-integrity market for responsible

private investment in natural capital. This commitment is supported by the Interim Principles for Responsible Investment in Natural Capital, which have been cited as illustrating good practice by the UK's Finance Nature Recovery initiative, and by the launch of the Facility for Investment Ready Nature in Scotland (FIRNS), a £1.8 million investment readiness fund.

Welsh Government

17. The Welsh Government recognises the role of the financial services industry in supporting the investment required for Wales to play its role in delivering the UK's Net Zero targets and biodiversity action. It is committed to ensuring that investment supports a just transition in Wales and as such is working in partnership to identify appropriate financing models, coordinate and deliver investment for Net Zero Wales and the 30x30 biodiversity target. Some key actions being taken include:
 - a. Establishment of the **Ministerial Portfolio for Climate Change** in 2021, with an annual budget of over £2 billion to support Net Zero and tackle biodiversity loss in Wales.
 - b. Supporting **financial disclosures and accounting** in Wales through the delivery of Innovation and Digital strategies.
 - c. Continuing the **Welsh Government Energy Service** facilitating project financing for public sector, community energy and decarbonisation schemes.
 - d. Establishment of **Sector and Regional Funds and Boards** examples including the Economy Futures Fund, Circular Economy Fund, City Region Deals, Net Zero Industry Wales and Woodland Financing Group.
 - e. Contributing to the **Global Biodiversity Framework** by developing an action plan to deliver the 30x30 biodiversity target, including consideration of statutory biodiversity targets, ethical and transparent private investment in nature recovery.
 - f. Commitment of the **Development Bank of Wales** to support Net Zero and climate adaptation targets. This includes the launch of the Bank's Green Business Loan Scheme providing Welsh businesses with a package of support to help them reduce carbon emissions and save on future energy bills.

Northern Ireland Executive

18. The Northern Ireland Executive has a number of key growth and energy-related strategies in place focusing on energy decarbonisation and growth of the green economy - the Energy Strategy "Path to net zero", the 10x Economic Vision (Department for the Economy) and the Green Growth Strategy (Department of Agriculture, Environment and Rural Affairs). These strategies focus on delivering self-sufficiency in affordable renewable energy whilst invigorating growth in the economy fuelled by green tech, skills and processes. Delivering decarbonisation at pace is in addition legislated by the Climate Change Act (NI) 2022 whilst the 10x Economic Vision paper delivers on the Energy Strategy target of doubling the size of Northern Ireland's green economy to £2 billion by 2030 through 3 themes of Sustainability, Innovation and most crucially Inclusion - which is in line with Section 75 of the Northern Ireland Act regarding equality in public duties. A range of key enablers are proposed:

- a. Through the **Green Innovation Challenge Fund**, the Department for the Economy, in collaboration with DAERA, has developed key focus areas of Net Zero Utilities, Net Zero Future Fuels, Soil Nutrient Separation, and Advanced Gaseous Storage. It is anticipated that the program will be live by 2024 to at least £20 million range, subject to funding.
- b. Through the **Green Growth Support Package**, the Northern Ireland Executive is collaborating with UK government and Innovate UK to potentially launch a green growth support package during 2023 to deliver hydrogen generation hubs, biofuels / synthetics / eFuels options, and eco parks. It also supports novel use of existing renewables to generate new zero emission fuels and energy. Capital support remains subject to funding but is potentially up to £30 million.
- c. To support **Energy and Resource Efficiency**, Invest NI (economic delivery partner to the Department for the Economy) provides technical consultancy support to all Northern Ireland businesses with an annual energy and resource spend in excess of £30,000. This support offers fully funded technical audits, feasibility studies, and advice, complete with a report and recommendations to help businesses identify cost and carbon savings through energy and resource efficiency. The **Resource Efficiency Capital Grant** from Invest NI provides support to eligible Invest NI client companies to help with the cost of investing in resource efficient technologies that will drive savings and business productivity. Grants of up to £50,000 are available to help with the purchasing of new equipment. Invest NI also supports delivery of **sustainability reports** which are available to all Northern Ireland businesses with an annual energy and resource spend in excess of £30,000. The aim of such reports is to provide a holistic assessment and understanding of a business's environmental performance across a number of areas, such as Raw Materials, Energy, Carbon, Packaging, Biodiversity and Waste.

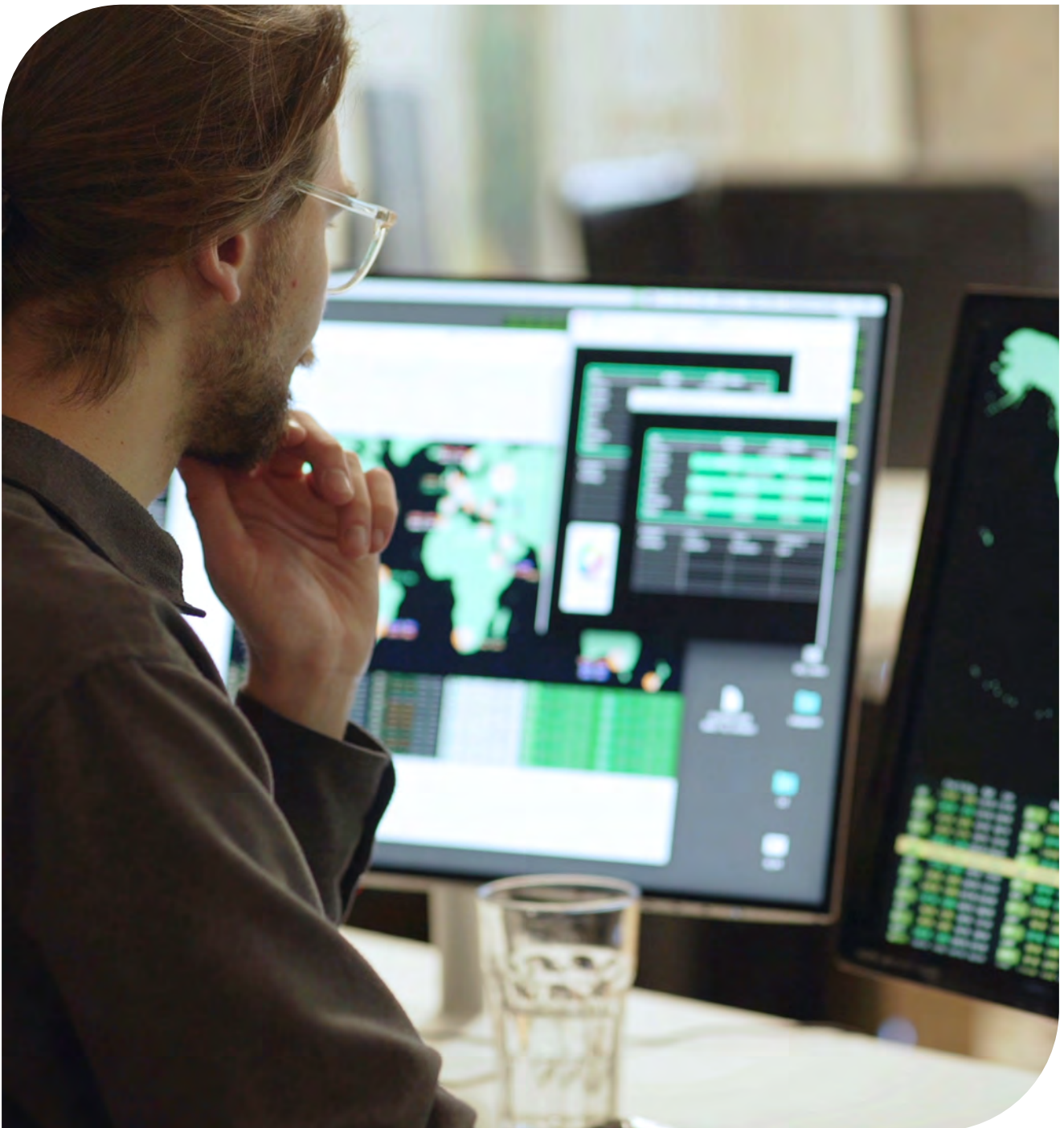
1.4 Building on our foundations – pillars of strategic action for green finance

19. In 2022, we issued a call for evidence to support the development of this Strategy. The call for evidence asked stakeholders a range of questions to provide a) an evaluation of the existing policy framework and b) gather evidence on where future Government policy could support industry to deliver on their ambitions. We received 134 responses from financial institutions, companies, trade associations, local authorities and NGOs. The call for evidence, and a series of associated stakeholder engagement roundtables and workshops, has provided an accurate and timely picture of the policy issues most pressing to market participants. A summary of the evidence and feedback is found in chapters 2 and 3.

1.4.1 The interaction between Align (greening finance) and Invest (financing green)

20. The remainder of this Strategy sets out two pillars of strategic action where the UK government will act to unlock green finance:
 - a. Chapter 2 - Align sets out the regulatory framework, tools and channels to enable the financial services sector to align activity with a pathway to a net zero, resilient and nature positive global economy – greening the financial system.

- b. Chapter 3 - Invest outlines how government and public finance institutions are mobilising private capital into the sectors and technologies needed to deliver our targets - financing our green objectives.
21. The Strategy also sets out how we are leveraging UK leadership to forge the way to a truly global green financial system, thereby helping shift the trillions needed in private investment to meet global needs whilst building close relationships with international partners.
 22. For both domestic and international action, the steps taken within each chapter will be highly complementary, with efforts to green the financial system facilitating investment at scale. To secure the objectives set out in the 'Invest' chapter, delivery of 'Align' will be essential.



Box 3: The role of green finance in the global response to climate change and biodiversity decline

The greening of global financial systems is a pre-requisite for **meeting financing needs in emerging markets and developing economies (EMDEs)** where the bulk of investment to reach net zero, protect nature and adapt to climate impacts need to take place. This is why the UK COP26 Presidency placed an emphasis on driving mobilisation of finance from both public and private sources, coupling unprecedented commitments from the private sector with a clear plan for delivering on the \$100 billion climate finance mobilisation goal. This strategy represents a key part of our actions to facilitate the meeting of EMDE financing needs, building on the *ICF Strategy* and the *UK government's strategy for international development*.

EMDEs face **immense challenges and are critical partners** in delivering effective solutions to our collective climate and nature crises. We want to share expertise with these markets to facilitate increased ambition, to generate shared prosperity and accelerate the global transition in a just and inclusive manner. This means working bilaterally to share UK financial sector expertise; as well as working in collaboration with other countries, philanthropy and the private sector, through initiatives like the Just Energy Transition Partnerships. It also means scaling innovative financing instruments which are capable of mobilising investment into harder to reach sectors and geographies, and developing sustainable capital markets to leverage both local and international sources of finance.

Beyond our actions to further leverage the private sector, we will **continue to strengthen international support** to deliver on the priorities of EMDEs, especially to those most vulnerable. This includes continuing to scale up public finance through the delivery of our £11.6 billion ICF commitment between 2021/22 and 2025/26, including delivering a balanced split between support for adaptation and mitigation and investing at least £3 billion in the protection and restoration of nature. We will continue to ensure that climate finance reaches the communities who need it most, including through the UK-Fiji-led Taskforce on Access to Climate Finance and its country pilots in Bangladesh, Fiji, Jamaica, Rwanda and Uganda. Acknowledging that some impacts of climate change are now irreversible, we will build on the progress made on funding arrangements for loss and damage at recent COPs.

In tandem with our direct support for EMDEs, **reforming the international financial architecture** will lay the groundwork for system-wide change. The UK is taking a leading role, including by supporting the Bridgetown Agenda and operationalisation of the IMF's Resilience and Sustainability Trust. The UK is calling for the Multilateral Development Banks (MDBs) to unlock billions of dollars in new lending by implementing the recommendations of the G20 Review of MDBs' Capital Adequacy Framework. We are championing the use of Climate Resilient Debt Clauses, with UK Export Finance becoming the first bilateral Export Credit Agency to offer these. And we are supporting the Canada-led Global Carbon Pricing Challenge and its aim to triple the coverage of carbon pricing globally, which is critical for greening finance flows.

As the cost and difficulty of action increases, the **world must seize the opportunity to invest for our common future**. Moving forward to setting the new post-2025 goal on climate finance and implementing the Global Biodiversity Framework, it will be critical to use all forms of finance in delivery of our climate and nature goals. That is why the UK will continue to emphasise the importance of coherent international action to green the financial sector, of effective use of concessional finance to protect the most vulnerable and mobilise private finance, and of reaching scale through the international financial architecture.

1.4.2 Transition finance

23. Two areas stakeholders drew out in their feedback were a) the need for Government to support industry to develop and deploy innovative financial products and services to continue to attract international business, and b) the need for Government to work with industry to develop a high integrity approach to transition financing.

Box 4: Description of transition finance

While green finance refers to the financing of activities that can already be deemed as 'green', 'transition finance' refers to financial products and services that support higher emitting companies and activities to become green. These instruments are generally used by companies seeking to reduce greenhouse gas emissions, and should be part of a credible decarbonisation pathway that is consistent with global climate goals. Many of the products and services being developed for decarbonisation also have the potential to be used in companies' nature positive transition journeys.

24. Transition finance is especially relevant for heavy industries, which will need to undertake deep decarbonisation over a longer time period. Reaching net zero is going to require a whole economy transition, so decarbonising these industries will be critical, and as such it is vital they are able to maintain access to finance. In addition to investment into new green activities, we need to ensure that hard to abate sectors with a long-term role to play can also access the finance they need to transition.
25. Financial markets have been increasingly innovating to provide products and services that direct forward-looking capital to support higher emitters to finance genuine transition. New instruments such as sustainability-linked loans and bonds and transition bonds have grown rapidly, unlocking a broader scope of investment opportunities (see case study below). To uphold market integrity, transition finance should be consistent with global climate and nature goals and used by companies with clear transition plans and quantified targets.

Box 5: Case study - British Airways sustainability linked financing

In 2021, British Airways was the first airline to receive a sustainability-linked loan tied to one of its sustainability targets. British Airways entered into a sustainability-linked asset-financing structure (through Enhanced Equipment Trust Certificates, commonly referred as EETCs), with a total of \$785 million raised to finance seven new-generation fuel-efficient aircraft. The certificates mature between 2031 and 2035. The interest rate payable is subject to an increase of 0.25% points should British Airways fail to satisfy the Sustainability Performance Target for the financial year ending 31 December 2025.

The Sustainability Performance Target selected for British Airways is to reduce CO₂ intensity to 88.3 grams per passenger per kilometre flown in 2025, an 8% reduction compared to 2019. This target is a key milestone for the work towards the parent company, IAG Group's, long term goal to achieve net zero carbon emissions by 2050, in line with the Paris Agreement.

An independent second party opinion was obtained, which confirmed that the certificates align with the International Capital Market Association (ICMA) Sustainability-Linked Bond Principles.

Date: July 2021

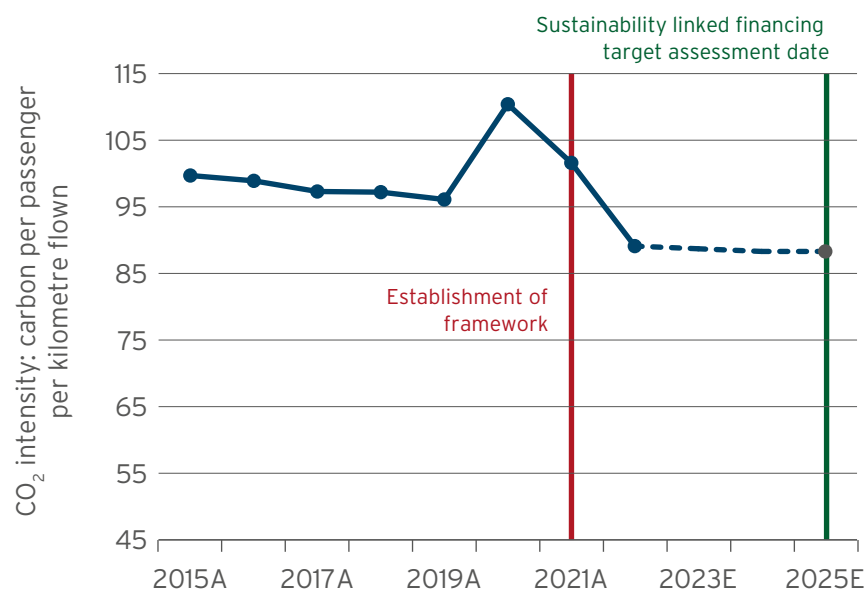
KPI: CO₂ per passenger per kilometre flown

Target: Reduction of CO₂/pkm by 8% between 2019 and 2025

Standard: ICMA

Second party verification: DNV

Sustainability linked financing example: British Airways



Source: IAG, British Airways, DNV, Department for Energy Security and Net Zero

26. It is vital that investor confidence is upheld in the ambition, additionality and comparability of the transition pathways that underpin transition finance instruments. There is a growing range of transition guidance and definitions available in the market. The UK government will continue to support and promote market development of high integrity and innovative new transition finance instruments that are consistent with a pathway to net zero and the Paris temperature goal.

27. In 2019 the UK government launched the UK Centre for Greening Finance and Investment (CGFI), a national centre established to accelerate the adoption and use of climate and environmental data and analytics by financial institutions internationally. Now, the University of Oxford, together with CGFI, is developing a new Transition Finance Centre of Excellence using funding from Banco Santander. The Centre will play a leading role in defining aspects of transition finance such as best practice sectoral transition plans and developing new capabilities for practitioners.
28. Disclosure of transition plans (see Chapter 2: Align) will also enhance the availability of reliable, comparable reporting on the transition pathways of UK corporates and financial institutions, and provide a robust evidence base for the transition finance market. This will provide a mechanism for organisations to demonstrate to investors their long-term transition strategy and unlock financial flows toward areas of the economy that need to transition.

1.4.3 Capturing the opportunity through a new Transition Finance Market Review

29. Innovations in transition finance are gathering pace. Now is an opportune time to convene market experts to look systematically at how to ensure new transition finance instruments are developed and structured with high integrity and using UK based financial services expertise.
30. The UK government is commissioning a review into how the UK can become the best place in the world for raising transition capital. The Transition Finance Market Review will consider what the UK financial and professional services ecosystem needs to do to become a leading provider of transition financial services and innovative instruments on the pathway to 2050. The review will research, develop ideas, identify opportunities, and showcase best practice. It will consider what market tools the private sector could provide that would be most impactful to create the conditions for:
 - a. **Scaling transition focused capital raising** with integrity, and the market for new, innovative transition finance instruments (such as sustainability linked debt and transition bonds);
 - b. **Maximising the opportunity for UK based financial services** to develop, structure and export transition finance services; and
 - c. **Positioning the UK's professional services ecosystem** as a global hub supporting this innovative activity (legal; accountancy; consultancy; data and analytics; skills and education).
31. The Review will be led by an external expert, who will be supported by a panel of advisors, and a small secretariat. The review will leverage and align with ongoing Transition Plan Taskforce work (see section 2.2.2). It should look at international comparisons, and prioritise international coherence and interoperability (consistent with our goals in section 2.6.1). This Review will have regard to the UK Listing Review led by Lord Hill and its recommendations on how to encourage more high-quality UK equity listings and public offers, along with the Government's response. We are acting on Lord Hill's recommendations, for instance in our consultation on reforms to the UK's prospectus regime to make regulation more agile and effective, and facilitate wider participation in the ownership of public companies.



CHAPTER 2 | ALIGN



Enabling the market to align with UK climate and environmental goals

1. The UK made a commitment at COP26 to become the world's first Net Zero-aligned Financial Centre. Meeting this ambition will better position the UK's finance sector to seize the opportunity from the transition to a net zero, nature-positive and resilient economy, in line with the Paris Agreement²⁴ and Kunming-Montreal Global Biodiversity Framework²⁵.
2. This chapter sets out actions the UK government will take to achieve this ambition, building on *Greening Finance: A Roadmap to Sustainable Investing* (2021), and on stakeholder feedback received in our Call for Evidence. This includes improving the quality and quantity of sustainability-related information and data provided to the market, supporting the development of related tools and frameworks and using policy levers to shift and scale up the availability of finance for these goals. This will ensure we have the world-leading market frameworks in place to raise ambition on global standards and translate financial activity into real-world impact.

Box 6: Call for Evidence feedback – stakeholder views on UK next steps

- **Ask 1:** Give clarity on the UK government's expectations for the UK finance sector and the action they should take in response to the global transition to a net zero, resilient and nature positive economy. We address this in section 2.1.
- **Ask 2:** Implement a regulatory and disclosure framework that ensures investors and consumers receive the information they need from businesses and financial firms, and that new investment tools and market frameworks are robust and protect consumers. We address this in Sections 2.2 – 2.5.
- **Ask 3:** Maximise interoperability between the UK's green finance regulatory framework and those of other major financial centres and raising global standards whilst enabling market participants to operate seamlessly between jurisdictions. We address this in section 2.6.

2.1 A pathway towards a UK Net Zero-aligned Financial Centre

2.1.1 What is a Net Zero-aligned Financial Centre?

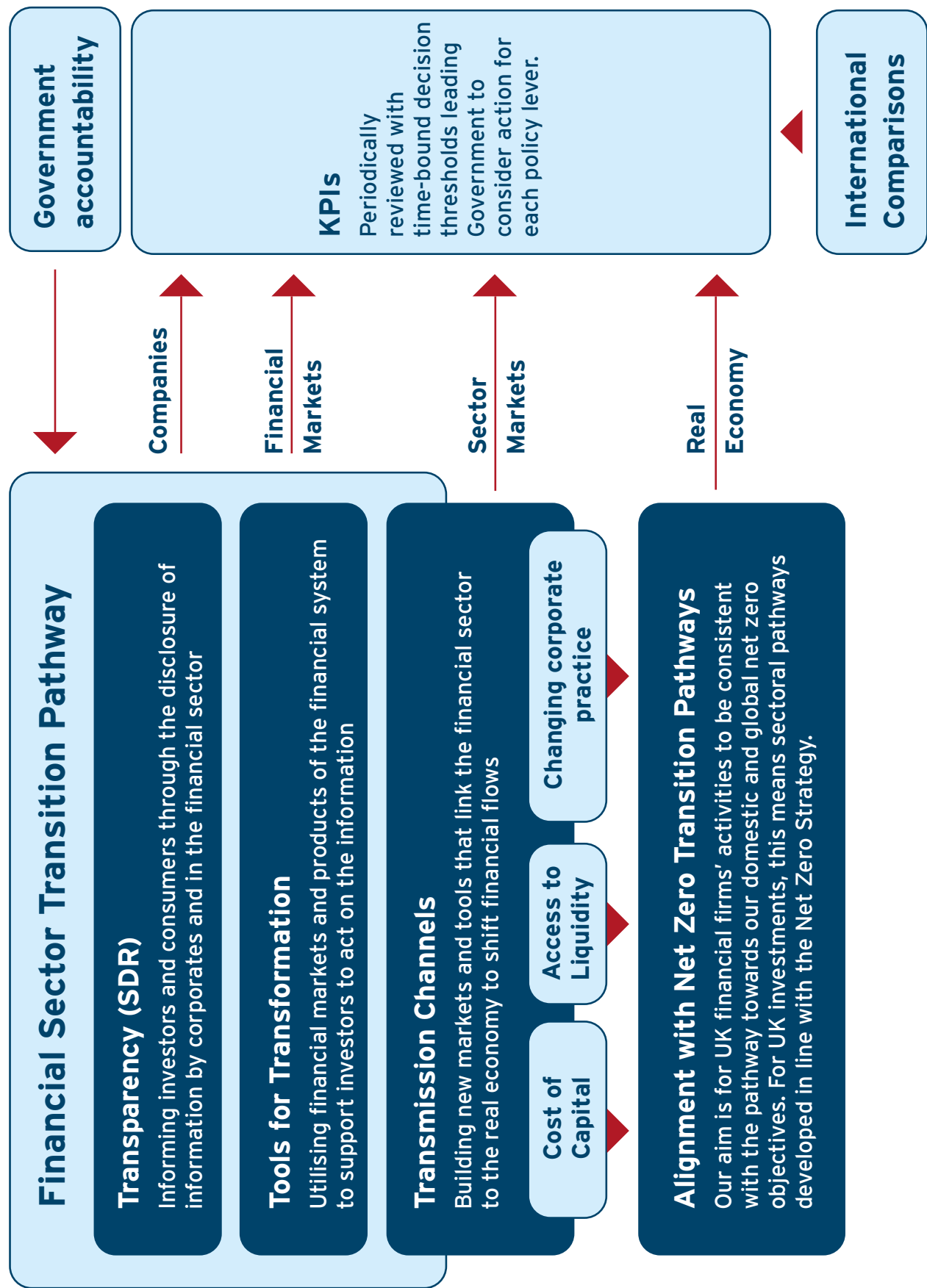
3. Our aim is for UK financial firms' activities to be consistent with the pathway towards our domestic and global net zero objectives, including our nationally determined contribution under the Paris Agreement, and our domestic carbon budgets. The key components of our strategy towards this pathway include:
 - a. UK financial institutions having a robust firm-level transition plan setting out how they will decarbonise as the UK meets its net zero targets, and
 - b. strong government oversight of the financial sector as a whole to ensure financial flows shift towards supporting net zero²⁶.

4. The creation and implementation of high quality transition plans provides the key vehicle for driving change, and companies themselves are well placed to design their transition pathway in line with their wider objectives and existing strengths. To support companies in their efforts and encourage quality and consistency, the Transition Plan Taskforce (TPT) is developing the gold standard for private sector transition plans. The government also has a role in overseeing their progress, and ensuring it adds up to progress against domestic and global net zero objectives.
5. Transition plans are important for joining up the strong domestic and international work on sustainability disclosures and the private sector leadership on net zero commitments made in the run up to COP26. They help ensure these pledges turn into real action by companies that ultimately will drive the transition to net zero.
6. We are clear that there is no pathway to net zero without protecting and restoring nature. In the landmark Kunming-Montreal Global Biodiversity Framework, the UK signed up to international goals and targets to put nature on a path to recovery by 2030. As part of this, we committed to ensuring that large and transnational companies and financial institutions regularly monitor and disclose their risk, dependencies and impacts on nature.
7. As we transition to net zero, we will also take action to prepare for the physical impacts of the changing climate, seeking to align finance flows with a climate resilient economy and increase investment in adaptation.
8. The Net Zero-aligned Financial Centre framework sets out how the government's green and sustainable finance policies work toward bringing about the net zero transition in the real economy and provide Government oversight to ensure the shifting of financial flows. The framework brings together public and private sector action in three related areas:
 - a. **Transparency:** We will ensure the right information and data flows from the real economy to financial firms, and from financial services to end investors, to **inform** stakeholders. This will support financial firms' own disclosure and investors' capital allocation. See section 2.2 for more detail on Transparency. Key policy levers include Sustainability Disclosure Requirements (see section 2.2.1), transition plans (see section 2.2.2), financial product labelling (see section 2.2.5) and support for initiatives seeking to improve global data coverage and tracking capability (section 2.6.1).
 - b. **Tools for transformation:** We will support the development of tools and frameworks that all financial market participants will need to incorporate information into investment decisions and monitor their progress on sustainability so that financial markets can **act upon** the data provided. As part of this, we will continue to promote interoperability with other jurisdictions. See section 2.3 for more detail on Tools for transformation. Key policy levers include our work on benchmarks (see section 2.3.4) and ESG ratings (see section 2.3.3).
 - c. **Transmission channels:** We will use government policy levers to **shift and scale up** the availability of finance for the transition to net zero by i) de-risking green investments and lowering their cost of capital, ii) broadening pools of capital and the investor base, and iii) enabling investors to influence corporate practice. See section 2.4 for more detail on transmission channels. Policies such as the

UK Infrastructure Bank (see section 3.2.2), Solvency UK (see section 2.4.1), our Green Gilt programme (see section 2.4.2), and our work on investor stewardship (see section 2.4.3) will support delivery of the Net Zero-aligned Financial Centre framework.



Figure 3: Net Zero-aligned Financial Centre framework



9. The Paris Agreement aims to strengthen the response to climate change in a variety of ways, including through making financial flows consistent with a pathway towards low GHG emissions and climate-resilient development. Our aim is for UK financial firms' activities to be consistent with the pathway towards our domestic and global net zero objectives, and many have already committed to aligning their activities with Net Zero through initiatives such as the Glasgow Financial Alliance for Net Zero (GFANZ) and Race to Zero, championed under the UK's COP26 Presidency. Sectoral pathways for the UK are being developed in line with the UK's Net Zero Strategy, and we will continue working to strengthen understanding of international transition pathways, including by drawing on work to enhance international tracking, remove reporting barriers and improve interoperability.

2.1.2 Measuring progress

10. Key to ensuring that the UK's Net Zero-aligned Financial Centre framework delivers the outcomes necessary, will be the development and application of appropriate key performance indicators (KPIs). These KPIs will help to target our policies and measure their outcomes, focusing not just on sustainable finance outcomes, but also on the impact on the UK's growth and competitiveness. We intend to engage widely with stakeholders on our approach to these KPIs with a view to finalising our framework in 2024.
11. The areas we envisage these KPIs potentially covering include topics such as: the quantity and quality of sustainability reporting and transition plans; consistency of finance flows with climate goals; the size of green finance markets; jobs and skills in green finance; and the competitiveness of the UK as a global green finance centre.
12. The government will regularly assess the effectiveness of our policy within the Net Zero-aligned Financial Centre structure, through periodic monitoring of KPIs and appropriate policy adjustment, ensuring that Government is transparent and accountable for driving the transition of the finance sector.

2.2 Transparency: Comparable and consistent information flows

13. The bedrock of financial markets is information. Market participants need consistent, comparable data and information to flow from the real economy into their decision-making. This allows asset owners to better understand which projects will have the greatest positive climate impact; it enables financial firms to lend or borrow money based on a timely and accurate assessment of climate and nature risks; and it empowers companies themselves to better tell their stakeholders how they will reach their climate and environmental objectives. Ultimately, more information should lead to more accurate pricing in markets.
14. The UK has already taken a number of steps to ensure market participants have the data they need. This includes: becoming the first G20 country to require Taskforce on Climate-related Financial Disclosure-aligned (TCFD) disclosures across the economy; setting out a comprehensive approach to disclosure in the 2021 *Greening Finance: A Roadmap to Sustainable Investing*, and being the first government to fund and fully support the creation and progress of the Taskforce on Nature-related Financial Disclosures (TNFD). The UK government is committed to continuing on this path, and is creating an effective disclosure framework for sustainability information. We know

the importance of getting this right, balancing investor needs for information with the burdens of providing that information.

2.2.1 Sustainability Disclosure Requirements

Progress to date

15. *Greening Finance: A Roadmap to Sustainable Investing* (2021) set out the UK government's long-term strategy to ensure investors and consumers are able to access the sustainability information they need²⁷. Our plan for Sustainability Disclosure Requirements (SDR), a streamlined disclosure framework for sustainability information, is central to this. The SDR framework brings together new and existing sustainability reporting requirements for business, the financial sector and investment products. This will enable market participants to identify investment opportunities, ensuring that sustainability claims stand up to scrutiny and protect against consumer harms such as 'greenwashing'.
16. A key aspect of the UK's disclosure framework has been the requirements aligned with TCFD recommendations. The TCFD is an industry-led group, set up in 2015, tasked with developing a disclosure framework which could apply to any company in any geography, supporting them to consider and report on their climate risks and opportunities in a uniform way.
17. Given the positive market reaction to the framework and subsequent voluntary reporting, in our 2019 Green Finance Strategy we set an expectation that all listed companies and large asset owners should disclose in line with TCFD by 2022. In addition, we set up a cross government and regulator taskforce to consider the appropriateness of mandatory disclosure requirements and coordinate thinking. The taskforce ultimately advised that mandatory disclosure requirements should be introduced to improve the quantity, quality and consistency of reporting, and in November 2020 the Government set out a commitment to introduce economy-wide requirements by 2025.
18. We have delivered on this commitment, becoming the first G20 government to do so:
 - a. New regulations on 28 October 2021, required listed companies with over 500 employees, alongside private companies and Limited Liability Partnerships (LLPs) with more than 500 employees and a turnover of over £500 million to disclose their governance, strategy, risk management and use of metrics and targets regarding climate risks and opportunities, within their annual Strategic Report. This must include the use of scenario analysis. These new requirements apply for accounting periods starting on or after 6 April 2022.²⁸
 - b. As of the end of December 2021, the the FCA introduced climate-related disclosure requirements aligned with the TCFD's recommendations for the following regulated firms: premium listed companies, issuers of standard listed shares and global depositary receipts, asset managers, life insurers and FCA-regulated pension providers.
 - c. From 1 October 2021, the Government introduced requirements relating to occupational pension schemes reporting in line with the TCFD recommendations, to improve both the quality and governance and the level of action by trustees in identifying, assessing and managing climate risk.²⁹ On 1 October 2022 updated

requirements were introduced in relation to the calculation and reporting of a metric which gives the alignment of the scheme's assets with the goal of limiting the increase in the global average temperature to 1.5°C above pre-industrial levels.³⁰

19. The UK is currently in the first full year of TCFD-aligned climate-related disclosure requirements cycle. TCFD requirements will be a central part of the SDR framework as well as the foundation for the IFRS Sustainability Disclosure Standards (see Section 2.2.3). This provides UK firms with a firm footing as the UK requirements evolve to take into account IFRS Sustainability Disclosure Standards.
20. Government has announced plans to implement TCFD recommendations in central government annual reports and accounts, with a three-year phased implementation extending to 2025-26. This will align central government climate-related disclosure with best practice in the private sector, improve climate-related risk reporting, and embed climate change into organisations' decision-making processes. The UK's export credit agency, UK Export Finance, and some public finance institutions are already reporting or committed to reporting in line with the TCFD recommendations.

Box 7: Case study on UK Export Finance TCFD disclosure

In 2021, UK Export Finance made its first TCFD disclosure, delivering on a commitment made in the 2019 Green Finance Strategy and becoming the first UK government department to do so. The disclosure set out UAEF's approach to climate change (across TCFD's four key pillars (Governance; Strategy; Risk Management; and Metrics and Targets) and highlighted key progress in embedding it across the department.

Last year, UK Export Finance published its second TCFD disclosure, significantly enhancing its approach:³¹

- Estimating, for the first time, UAEF's financed emissions across its full portfolio, using an approach aligned with industry best practice and developed specifically for export credit agencies;
- Setting ambitious quantitative 2030 decarbonisation targets for the oil and gas, and power sectors, which will guide UAEF on its pathway to net zero by 2050.
- Committing to set an emissions intensity-based decarbonisation target for its aviation sector exposure within 12 months.

Implementing TCFD has allowed UK Export Finance to better identify, assess and manage climate-related risks across all its activities, as well as identifying actions to support decarbonisation of its portfolio on its path to net zero by 2050. This includes actions UK Export Finance can take to support its customers' transitions. It has also enabled UK Export Finance to play a leadership role among export credit agencies globally, encouraging others to follow the UK's lead.

21. Building on the experience of the TCFD, the UK government has been one of the largest supporters of the global, market-led Taskforce on Nature-related Financial Disclosures (TNFD) - in recognition of the increasingly financial material risks associated with biodiversity loss. The TNFD has been set up to create a risk

management and disclosure framework for organisations to report and act on evolving nature-related risks and opportunities, with the ultimate aim of supporting a shift in global financial flows away from nature-negative outcomes and towards nature-positive outcomes.

22. The TNFD consists of 40 individual Taskforce Members representing financial institutions, corporates and market service providers with assets under management (AUM) exceeding \$20 trillion.³² It now has over 900 institutions from across sectors and geographies in its TNFD Forum. There are currently over 100 pilots being officially conducted by the TNFD, with 10 National Consultation Groups (NCG) across the world, to facilitate market engagement, capacity building and adoption.

Next steps

23. We remain committed to implementing SDR. In line with the recommendation of the independent Net Zero Review, we will look to ensure close coordination on this between the government and the relevant regulators. We will set out further detail on the implementation of SDR in the summer to reflect the rapid development of international standards.
24. SDR should be introduced in a way that complements the UK's wider legal framework for non-financial reporting, gives companies sufficient opportunity to adjust to new requirements and minimises duplication with other forms of corporate reporting. This is why the Government is conducting a broader review of the UK's non-financial reporting framework, which will take a fresh look at the wider legal landscape in which sustainability disclosures and other planned reforms will be situated. The review will begin with a call for evidence and aims to ensure that this wider legal framework delivers decision-useful information in a cost-effective, streamlined, and proportionate manner. We encourage stakeholders to respond to this when published.
25. In the following sections we set out our **plans to implement the components of the SDR regime**. This will include next steps on:
 - a. Disclosure of transition plans (see section 2.2.2)
 - b. IFRS Sustainability Disclosure Standards produced by the International Sustainability Standards Board (see section 2.2.3)
 - c. Supporting companies to understand and report on their GHG emissions, nature-related financial risks and impacts, and physical climate risks (see section 2.2.4);
 - d. Fund labels and FCA approach to SDR (see section 2.2.5).

2.2.2 Transition plans

What are transition plans?

26. Transition plans typically set out a) high-level targets organisations are using to mitigate climate risk, including greenhouse gas reduction targets, b) interim milestones, and c) actionable steps the organisation plans to take to hit those targets. This is crucial in setting out how organisations will both drive change and adapt as the world moves towards a net zero economy. Many organisations, especially those with public-facing climate and environmental targets, have already started using transition

plans. For example, of the 1,448 UK organizations that disclosed through CDP, a global voluntary disclosure platform, in 2022, 404 reported having developed a 1.5°C-aligned climate transition plan.³³

Work of the Transition Plan Taskforce

27. To address the need for a better understanding of best practice within the market, Government launched the Transition Plan Taskforce (TPT), co-chaired by HM Treasury and Aviva, in April 2022. The TPT is expected to publish its Disclosure Framework and Implementation Guidance for transition plans in the summer 2023.
28. The Taskforce will continue to develop its ideas, seeking to build consensus and both drawing on and influencing international disclosure standards. By establishing robust expectations for transition plans, the TPT is informing the implementation of the UK's SDR. It will also enable investors to exercise more effective stewardship, by using consistent and comparable transition plans to better allocate and oversee capital.
29. In its second phase of work, the TPT will consider in more detail how nature's recovery, climate adaptation and social impacts can be incorporated into transition plans. The TPT will also begin work to develop sector-specific transition plan guidance and develop the TPT Sandbox to accelerate new capabilities to support preparers and users of transition plans.³⁴
30. Transition plans have the potential to mobilise green and transition finance at a transformative scale globally, creating new economic opportunities. The TPT intends to raise international ambition for a global baseline standard on transition plans and has prioritised interoperability by working towards alignment with elements of the draft IFRS Sustainability Disclosure Standards. The TPT has proposed to align with ISSB guidance by encouraging company transition plans to use the same reporting boundary as their wider corporate reporting. This approach would enable integration of international financial flows within company transition reporting. The TPT is also working with initiatives such as GFANZ to align guidance and support transition planning across the sector.

UK support for transition plans

31. Given the important role of transition planning, the UK government committed to moving toward mandatory disclosure of transition plans during our COP26 Presidency. The FCA has now introduced and updated rules for asset managers/owners and listed companies with comply or explain requirements to publish transition plans.
32. The Government commits to consulting on the introduction of requirements for the UK's largest companies to disclose their transition plans if they have them. This will complement existing requirements in place from the FCA, and as such will ensure parity between listed and private companies, and ensure requirements are consistent and comparable across the economy. This consultation will take place once the TPT has completed its work in autumn/winter 2023. It will look to align with the FCA's existing obligations for transition plans, which require plans to be produced on a 'comply or explain' basis.
33. The government wishes to encourage companies to plan for their transition but does not wish to place undue burdens onto companies whose size or scale makes mandatory disclosure unreasonable. Therefore, we will consult on proposals with

proportionality in mind and within the context of the UK's non-financial reporting review, which will consider the thresholds used to determine which companies must comply with reporting obligations under the Companies Act 2006. As a result, any future obligations will only apply to the UK's most economically significant entities – the vast majority of companies will not have additional burdens placed on them by these proposals.

34. The government will also work with the FCA to ensure transition plan requirements are delivered across the financial services sector alongside requirements across listed and private companies.
35. The government will also take proactive steps to encourage other jurisdictions to mandate transition plan requirements. This will include encouraging consistency with the TPTs guidance, which will go beyond the baseline for transition plans set out under the ISSB. We will advocate for the importance of international alignment and best practice in transition planning- collaborating with our partners through key forums such as the G7, G20 Sustainable Finance Working Group (SFWG) and our leadership of the private finance workstream at the Coalition of Finance Ministers for Climate Action.

2.2.3 IFRS Sustainability Disclosure Standards

36. Over the last decade, many voluntary sustainability reporting standards and frameworks have been created in the market, responding to the increased demand for climate and sustainability information from market participants. Between 2013 and 2016, the number of reporting frameworks that focus on sustainability in a broad sense doubled to nearly 400.³⁵
37. Given the global nature of financial systems, harmonisation and interoperability between jurisdictions is a priority for the UK in developing our approach to greening the financial sector. This can help facilitate growth by reducing unnecessary regulatory burden for businesses and financial service providers working across jurisdictions and maximise efficient flow of capital.
38. Recognising the importance of international harmonisation, at COP26 the International Financial Reporting Standards (IFRS) Foundation announced the creation of the International Sustainability Standards Board (ISSB) to develop IFRS Sustainability Disclosure Standards, with the objective to set a global baseline for sustainability reporting. The final version of the first two standards – a general requirement standard and a climate-related standard – are expected to be published in June 2023.
39. At CBD COP 15 in December 2022, the ISSB further announced that it would incorporate water, biodiversity and ecosystems into its development of future standards, drawing on the work of the Task Force for Nature-Related Financial Disclosures (TNFD) and other relevant initiatives.
40. The UK government, financial regulators and many market participants have strongly welcomed the initiative to create the IFRS Sustainability Disclosure Standards. This builds on the UK's long history of support for the IFRS Foundation's financial reporting standards, which are used by the UK and approximately 125 other countries.
41. Establishing the IFRS Sustainability Disclosure Standards is a ground-breaking step which recognises that many businesses and financial firms are global and have activities that cross borders. Sustainability Disclosure Standards will provide these

organisations with a high-quality reporting framework and ensure investors have access to globally consistent and comparable information.

42. The UK government will continue to show international leadership in its support for the IFRS Sustainability Disclosure Standards. Meeting the recommendation of the independent Net Zero Review, we intend to launch a formal assessment mechanism as soon as the first two standards are published (expected in June 2023). This assessment will aim to ensure that the standards endorsed by the Government for use in the UK are appropriate for UK companies. These standards will provide the basis for future obligations within company law and FCA requirements for listed companies, ensuring a single set of standards is applied across the UK regulatory framework. Further standards will be similarly assessed as they are published.
43. The government remains committed to introducing mandatory reporting against the UK endorsed standards, subject to the conclusion of the assessment process. Decisions on incorporating the endorsed standards into company law will be taken alongside future reforms to the UK's non-financial reporting framework, as they are developed within the UK's Non-Financial Reporting Review. Implementation of FCA requirements for listed companies will be taken forward independently once the standards are endorsed for use in the UK.
44. To support Government in its decision making, the government intends to establish two advisory committees, the first of which is expected to be government led and will have a remit covering matters of public policy. The second committee, which will be supported by the Financial Reporting Council (FRC) and independently chaired, will have a technical focus and - among other things - be responsible for considering how the standards fit alongside existing reporting requirements for UK companies in scope. These committees are expected to be established by the time the ISSB launches its first two standards and framework documents will be published shortly. The government's aim is for an endorsement decision to be made within 12 months of the final standards being published, but a decision will be made sooner if possible.
45. We would like to thank the ISSB for the excellent progress it has made to develop its initial standards and encourage its continued work to create a globally interoperable baseline on sustainability disclosures. The UK government and financial regulators, including the FCA and FRC, continue to support these efforts on the international stage. The government recognises that for the objectives of an international baseline to be met it is important that there is strong global take up of the standards, which we will support through our international engagement and development assistance.

2.2.4 Supporting businesses to understand and report on their greenhouse gas emissions, nature-related financial risks, dependencies and impacts, and physical climate risks

Emissions

46. For most businesses and investors, a key starting point to assessing climate risks and opportunities, or to setting a transition plan, is developing an understanding of energy use and greenhouse gas (GHG) emissions.
47. Disclosure of specified energy use and GHG emissions by the largest UK businesses has been required since 2013. This currently includes, under Streamlined Energy

and Carbon Reporting (SECR), reporting of scope 1 (direct emissions) and scope 2 (indirect emissions), but (except in a few limited circumstances) does not include scope 3 emissions (those generated in the value chain of an organisation). A number of organisations do however include detailed scope 3 disclosures in their reports on a voluntary basis; or have assessed their scope 3 emissions when setting net zero targets (such as under the Science Based Targets Initiative) or reporting through voluntary non-Governmental disclosures systems (such as CDP).

48. As scope 3 GHG emissions can account for anywhere between 80-95% of an organisation's total footprint³⁶, this is a major information gap for investors, preventing them from fully assessing the climate-related risks and opportunities of their investments³⁷. However, there is significant uncertainty in the market around the methodologies used to generate and report scope 3 GHG emissions data. With organisations facing increased demand to disclose scope 3 GHG emissions, **the UK government wants to explore how it can support Scope 3 reporting and will launch a call for evidence to gather stakeholder views.**
49. A key barrier to data availability in value chains is the capacity of businesses to generate and report that data. The UK government is committed to reducing the burden of generating this data for businesses as much as possible. This means supporting the data generation and reporting process for small and medium-sized enterprises who are often an important part of the value chain for larger businesses or financial firms, helping them to decarbonise.
50. To highlight best practice guidance for gathering and reporting environmental data, the UK government will test with stakeholders updates to the Environmental Reporting Guidelines (ERG), which provides voluntary environmental reporting guidance for UK organisations. Section 3.2.2 provides more information about how we are supporting small businesses to decarbonise.



Box 8: Measuring and managing small and medium enterprises' GHG emissions

There are 5.5 million small and medium enterprises (SMEs) in the UK, comprising over 99% of businesses and around 50% of total GHG emissions from UK businesses. They are a core part of the UK's journey to net zero and we are keen to support SMEs to set meaningful net zero targets and reduce their GHG emissions. Streamlining and simplifying the data collection process is key to this.

The UK government is working with Bankers for Net Zero, the British Business Bank and a range of industry stakeholders, to automate SME sustainability reporting on a national scale by creating a common data sharing platform for net zero data sharing – building on both Open Banking and Open Energy. This will aid SME engagement with, and planning for, the transition to net zero. This programme will remove a major barrier that SMEs face in setting and working towards their net zero targets, as measuring, monitoring and managing their GHG emissions can prove time and resource intensive and thus deter them from their goal. It will also help banks manage their own net-zero strategies, including managing risk and unlocking opportunities for access to capital.

Enabling banks to help their SME customers to track GHG emissions, including scope 3 GHG emissions, will help unlock further access to capital to help achieve our national net zero goals. Bankers for Net Zero plan to feature the pilot programme of this at COP28.

Nature-related financial risks, dependencies and impacts

51. The UK government remains committed to supporting the work of the Taskforce for Nature-Related Financial Disclosures (TNFD).³⁸ The TNFD framework will enable investors to make more nature-positive capital allocation decisions. It will be designed to be used by businesses and financial institutions of different sizes, across sectors and jurisdictions, in a manner that can inform the global baseline on nature related reporting. The UK TNFD NCG provides an awareness and capacity building platform for institutions across sectors to pilot the various iterations of the TNFD framework and collectively find solutions to implementation challenges.
52. The UK government will explore how best the final TNFD framework, due to be published in September 2023, should be incorporated into UK policy and legislative architecture, in line with Target 15 of the Global Biodiversity Framework. The TNFD provides the main method of operationalising Target 15 and the UK government welcomes closer integration with the ISSB to build a global baseline on sustainability reporting.
53. Further, and as announced in September 2022, we are working with the Bank of England, the Green Finance Institute and other partners to quantify more effectively the potential UK financial exposures from nature loss and degradation.

Box 9: Building on the Glasgow Leaders' Declaration on Forests and Land Use

COP26 marked a significant moment for global efforts to protect and restore forests, which are crucial to the functioning of the carbon and water cycle, as well as climate change mitigation and adaptation.

Over 140 countries – representing 90% of the world's forests – signed the Glasgow Leaders' Declaration on Forests and Land Use (GLD) and committed to work collectively to halt and reverse forest loss and land degradation by 2030 while delivering sustainable development and promoting an inclusive rural transformation.

Recognising the power and necessity of private finance in protecting forests and other ecosystems, GLD Action 6 commits countries to facilitate the alignment of financial flows with international goals to reverse forest loss and degradation. We will work with UK financial institutions, starting with a series of Government-convened roundtables in 2023, to further tackle deforestation-linked finance.

Physical climate risks

54. Environmental reporting requirements for businesses and the financial sector are becoming stronger, with the implementation of SECR and TCFD, the development of the IFRS Sustainability Disclosure Standards and the work of the Transition Plan Taskforce. These measures make it easier for investors to understand the climate risks associated with their investments and help direct finance towards adaptation. But evidence from the annual TCFD status report, and the FCA and FRC's reviews of TCFD reporting, suggests that organisations are struggling with aspects of reporting requirements for physical climate risks.
55. In response to the Climate Change Committee's report 'Investment for a well-adapted UK', we will work with industry partners to improve, and make more efficient for business, the approach to climate resilience assessment and disclosure through the development of adaptation metrics and guidance. This will facilitate a more structured, quantitative and consistent approach to the assessment and management of physical climate risks. We will ensure that the government's future climate-related disclosure guidance includes sufficient information and detail on physical climate risk to support organisations in disclosing and mitigating this risk. We will champion the development of adaptation metrics within the IFRS Sustainability Disclosure Standards.
56. We will scope what support businesses and the finance sector needs, for example guidance, training, facilitating collaboration and standardising data sets, and anticipate developing partnerships with the private sector to support delivery. We will announce our approach alongside our adaptation finance deliverables and action plan by the end of 2024.

2.2.5 Fund labels and FCA approach to SDR

57. The FCA's proposals on SDR and investment labels³⁹ aim to protect consumers from greenwashing and help them navigate the market and make more informed decisions. They also aim to increase transparency on sustainability-related features of products,

and how sustainability risks and opportunities are being managed by firms. The FCA's recent consultation on these proposals invited initial views on new sustainability disclosure requirements for asset managers and FCA-regulated asset owners, as well as a new classification and labelling system for sustainable investment products.

58. Within their proposals on SDR and investment labels, the FCA noted that a taxonomy - such as the UK Green Taxonomy, once developed - could be one way of demonstrating that assets meet a credible standard of sustainability.
59. The FCA has engaged extensively with industry, including through their Disclosure and Labels Advisory Group, made up of industry experts and consumer representatives. The FCA will work with government as they finalise their proposals, and as they consider impacts on consumers and competition.

2.3 Tools for transformation

60. Companies and investors must have access to certain tools to be able to assess and act on sustainability disclosures, develop and deliver on transition plans, or to develop new products and services. This includes having access to the right data and analytics as well as the right skills and expertise. As the green and sustainable finance market has grown, so too has the creation of new financial tools - from green bond verifications to ESG ratings to sustainability linked loans and bonds. The UK government and regulators are currently taking action to support the development and robustness of such tools, products and services, including:
 - a. the UK Green Taxonomy (see section 2.3.1),
 - b. data and analytics (see section 2.3.2);
 - c. ESG data and rating agencies (see section 2.3.3);
 - d. benchmarks (see section 2.3.4),
 - e. financial advice (see section 2.3.5); and
 - f. education and skills (see section 2.3.6).

2.3.1 A UK Green Taxonomy

61. Government is committed to implementing a usable and useful UK Green Taxonomy. A Green Taxonomy can prove an important tool in enabling the supply of relevant and reliable sustainability information into the market, supporting an increase in financing for activities supporting the transition to net zero and delivering on UK environmental objectives. It can also support efforts to counter greenwashing and improve market integrity.
62. Developing an appropriate taxonomy is complex and we are keen to learn the lessons from taxonomies introduced in other jurisdictions. This will involve developing the building blocks of the UK Green Taxonomy, such as environmental objectives and the relevant criteria, and considering whether it is appropriate to pursue a 'Transition Taxonomy', which was a recommendation of the *Net Zero Review*, or include certain transitional activities within one Taxonomy.

63. The Government will engage with market participants to drive forward and understand how best to design a taxonomy which achieves our objectives, ensuring that the information generated through a taxonomy is decision-useful to both investors and companies and can be produced in a simpler, proportionate way. We will continue to work through the Green Technical Advisory Group (GTAG), building on their expert advice to date. We expect to consult on the Taxonomy in Autumn 2023.
64. Nuclear energy has an important role in achieving net zero by 2050 as a crucial source of reliable low carbon energy. Box 10 provides details on the environmental considerations for nuclear energy, including its benefits. (See also the Power chapter of the *Net Zero Growth Plan* and chapter 4 of *Powering Up Britain - Energy Security Plan*). The Government proposes that nuclear - as a key technology within our pathways to reach net zero - will be included within the Taxonomy, subject to consultation.
65. In the longer term, we also maintain the ambition to introduce mandatory company disclosures against a future Taxonomy, though we recognise the usability challenges that have been experienced internationally. The Government will therefore introduce a testing period of voluntary disclosures for at least two reporting years before the introduction of mandatory obligations. This is to ensure that a future Taxonomy provides accessible and reliable information that is useful to markets.
66. Government does not wish to place undue burdens onto companies whose size or scale makes the disclosure of taxonomy-related information unreasonable. Therefore, we will develop proposals with proportionality in mind.
67. Whilst developing an effective framework that is tailored to the UK market, we will continue to work with international partners to maximise interoperability and harmonisation, which will be critical in minimising reporting burden, facilitating cross-border financing and maintaining high levels of transparency and environmental integrity. In line with GTAG guidance, we will also work with international partners to ensure that other efforts to develop national taxonomies are informed by the UK's principles and approach.
68. Finally, given the importance of agriculture for our nature and climate change goals we have created the Land, Nature, and Adapted Systems Advisory Group (LNAS) as a sub-group to the GTAG to advise on sustainable agriculture and fisheries. It will also consider the role of infrastructure, including nature-based infrastructure, in delivering a resilient economy.

Box 10: Green credentials of UK nuclear energy

Overview of the role of nuclear energy in a net zero, resilient, nature-positive future

- Nuclear energy has a key role in achieving the UK's net zero objectives, by providing clean and non-weather dependent power to complement intermittent renewable energy sources.
- The Government proposes that nuclear - as a key technology within our pathways to reach net zero - will be included within the UK's Green Taxonomy, subject to consultation.

- Over the last 60 years, nuclear power plant designs have increased efficiency and safety and decreased the amount of waste produced. The Hinkley Point C power plant, currently under construction, will save 9 million tonnes of CO₂ per year.⁴⁰ EDF analysis indicates this would be equivalent to taking nearly four million cars off the road annually.⁴¹ Nuclear provided the second largest share of low carbon electricity generation in the UK in 2021, at around 27%.⁴²
- The 2022 UN ECE Integrated Life-cycle Assessment of Electricity Sources evaluated the environmental impacts of electricity generation technologies. The assessment found that most life cycle impact indicators for nuclear energy were low – in many cases lower than for renewables.⁴³ Impact indicators where nuclear energy had a higher potential impact than renewables were water use and ionising radiation, which the UK effectively manages through regulation.
- In the UK, nuclear energy is subject to a robust and independent regulatory regime, which ensures UK nuclear power plants are appropriately sited to cope with the water usage required, and that measures are in place to mitigate the impact on people and the environment. UK regulations also ensure control and mitigation measures are used to maximise the safety of nuclear facilities and ensure radiation exposure is as low as reasonably practicable and under regulatory limits. Radiation doses in the UK from the nuclear industry are well below the regulatory limits, including for populations near nuclear facilities. Less than 0.01% of the UK's average annual radiation exposure came from the discharges of the UK's civil nuclear industry.⁴⁴ (See also the Power chapter of the Net Zero Growth Plan and chapter 4 of *Powering Up Britain - Energy Security Plan*).

Summary of environmental impact indicators for nuclear energy⁴⁵

Lower or comparable to renewables



Higher than renewables - with mitigations available



2.3.2 Data and analytics

69. In addition to supporting companies to report their climate change and nature related financial risks, the UK is also pioneering breakthrough technologies and investing in world class data and analytics. In the 2019 Green Finance Strategy, the UK government launched the £10 million **Climate and Environmental Risk Analytics for Resilient**

Finance programme through UKRI. The resulting **UK Centre for Greening Finance & Investment (CGFI)**, a research consortium led by the University of Oxford and funded by UKRI, was established in 2021 to accelerate the adoption and use of climate and environmental data and analytics by financial institutions, enabling the finance sector to support the delivery of a low carbon economy and the recovery and restoration of our natural environments.

70. CGFI acts as a platform to connect wider UK science and innovation with financial institutions, providing a route by which the latest climate and environmental science is made accessible, commercialised, and exported globally, placing the UK as global hub for climate and environmental analytics for financial institutions. It undertakes applied research, hosts open tools and datasets, provides expertise to industry and policymakers and supports commercial innovation. Focus areas include physical and transition climate issues, nature and litigation.
71. CGFI will now broaden its research scope and promote best practice, develop guidance and standards through its innovation hubs in Leeds and London. It will expand its support to all parts of the UK green finance ecosystem through sector specific workshops and prototyping, capacity building and student placement programmes, stimulating commercial innovation, and more. As mentioned in Chapter 1, the University of Oxford, together with the CGFI, is developing a new Transition Finance Centre of Excellence, which will provide best practice data and analytics on aspects of transition finance. CGFI is also stepping up its role as a translation centre and convening hub for the science and finance communities, to accelerate comprehension of climate and environmental issues and adoption of these insights into financial decision-making.

Box 11: Supporting data needed for nature markets

Well-functioning nature markets will rely on good quality data and the UK government, alongside public institutions, are acting to support this:

- Our **Natural Capital and Ecosystem Assessment (NCEA)** programme is a science innovation and transformation programme, which spans land and water environments and has been set up to collect data on the extent, condition and change over time of England's ecosystems and natural capital, and the benefits to society.⁴⁶ The programme is further developing tools and guidance to support the application of this evidence in decision making.
- The TNFD's **Nature-related Data Catalyst** brings together a range of actors from across the nature-related data landscape to recommend ways to accelerate the development of nature-related data, analytics and tools.⁴⁷
- UKRI has invested in research and innovation programmes that will strengthen and accelerate embedding the value of biodiversity into decision making in the finance and business sectors, including UKRI's £7 million '**Integrating Biodiversity and Finance for a Nature Positive Future (NPF)**' programme.⁴⁸ This will develop the solutions needed to embed the values of biodiversity into financial decision making. This investment will build a national multi-stakeholder

community that can drive the development of knowledge, tools and skills to incorporate biodiversity-related risks and opportunities into planning, reporting and investment decisions for the finance and business sectors.

- As part of the National Environment Research Council (NERC)'s **£40 million Changing the Environment programme**,⁴⁹ the University of Exeter's £10 million project 'Renewing biodiversity through a people-in-nature approach' (RENEW) with the National Trust will develop solutions for the renewal of biodiversity.⁵⁰ This will include developing new tools and standards for embedding biodiversity renewal in finance and business activities and enable better biodiversity decision-making.

2.3.3 ESG ratings

72. ESG ratings are becoming increasingly important products for investors trying to assess the environmental performance of a company. The UK is a leader in the ESG-related services market- including ESG ratings, data, and verification products. This market has grown rapidly in the past few years, and is projected to exceed \$34 trillion globally by 2026⁵¹. Half of all global professionally managed assets are projected to include ESG considerations by 2024.⁵² Considering their growing importance, the government wants to ensure transparency and good market conduct by the providers of these products in the UK.
73. Whilst recognising that ESG investment decisions are a matter for the markets, the Government believes it is important that the ESG agenda is not side-tracked by political activism or political agendas. Government regulation should also ensure that it is consistent with the approach taken across Government. For example, the Government believes that continued private investment in the UK defence industry and its NATO allies is essential to protect the UK national interest, the UK economy and broader environmental and social goals.
74. As part of the Edinburgh Reforms, the Chancellor announced that government would consult on the regulation of ESG ratings providers. Alongside this Strategy, HM Treasury has also published a consultation on *Future financial services regulatory regime for Environmental Social and Governance 'ESG' ratings providers*.⁵³ This seeks views on whether ESG ratings providers should be brought into the FCA's regulatory perimeter and on how this could be done.
75. Government has also joined the industry-led ESG Data and Ratings Working Group, which was convened to develop a voluntary code of conduct for these firms, as an observer.

2.3.4 Benchmarks

76. The UK government recognises that benchmarks and indices play a role in the allocation of capital towards green and sustainable investment. The UK's regulatory regime for benchmarks already makes provision for ESG benchmarks⁵⁴. It sets out requirements for voluntary ESG labels (UK Climate Transition Benchmarks and UK Paris-aligned Benchmarks) and requires all providers of benchmarks to disclose sustainability metrics or declare that they do not have a sustainability objective. This helps consumers verify the green credentials of benchmarks with a sustainability objective.

77. Wider regulatory and government initiatives, including the UK Green Taxonomy and investment fund labelling proposals, as well as other tools set out in section 2.2.2 in this Green Finance Strategy update, are also likely to have an impact on the provision of benchmarks in the UK.
78. The UK government will decide on the necessity of further reforms to the regulatory regime for benchmarks after the implementation of the other measures in this Strategy. In the meantime, the FCA will continue to use existing regulatory and supervisory levers to ensure that UK benchmarks are produced robustly and with due transparency.

2.3.5 Financial advice

79. As the FCA outlined in its recent SDR and investment labels consultation, it is exploring how to introduce rules for financial advisers aimed at confirming that they should take sustainability matters into account in their investment advice and understand investors' preferences on sustainability to ensure their advice is suitable.

2.3.6 Education and skills

80. Announced in the 2019 Green Finance Strategy and launched in June 2020, the Green Finance Education Charter (GFEC) is a world first. The Charter aims to build the knowledge and skills of finance professionals, and the capacity and capabilities of the finance sector, to support UK and international net zero and sustainability targets.
81. Charter signatories are leading professional bodies in the finance sector. Most are based in the UK and all operate on a global basis. In total, Charter signatories educate, train and represent approximately 1 million finance professionals and reach many more through their public engagement and thought-leadership activities. The GFEC website provides more information on the work that Charter signatories have done.⁵⁵
82. Following a successful period of delivery since 2020⁵⁶, the GFEC will be re-launched alongside this Strategy as the Sustainable Finance Education Charter (SFEC). This reflects the need for professional bodies and professionals to address wider issues of biodiversity loss and nature-based finance, transition planning, and ensuring an economically and socially inclusive transition in support of the UK's net zero objectives. The SFEC will also expand its remit to:
 - a. Attract and work with a wider set of UK professions that play key supporting roles in aligning finance and sustainability.
 - b. Help Charter members and others expand the scope of professional development programmes to encompass nature-based finance and other emerging areas requiring finance professionals to develop their knowledge and skills.
 - c. Work with counterparts in other jurisdictions to promote and replicate the successful Charter model abroad.

2.4 Transmission channels

83. Transmission channels are the link between projects and sectors that will have an impact on the transition, and the scale of finance available.⁵⁷ A significant volume of capital is under management by those looking to integrate their investment strategies

with net zero, nature positive, climate resilient projects. The UK government's introduction of Solvency UK and regulatory changes to broaden the investment opportunities of defined contribution pension schemes mean that there is more opportunity for those managing these assets to put them into green long-term productive assets.

84. The UK government will continue to explore the actions it can take to enable key transmission channels for financing aligned to a net zero, resilient and nature positive economy:
 - a. **Cost of capital** - developing mechanisms to lower the financing costs businesses face when seeking to fund capital expenditure for activities aligned with the transition. Chapter 3 (Invest) of this Strategy sets out the UK government's strategy to strategically mobilise private sector investment into these areas using a variety of interventions that will help de-risk investments, enabling businesses in these sectors to benefit from a lower cost of capital, and support growth.
 - b. **Access to liquidity** - improving the ease and speed at which businesses can access capital, and investors can deploy it, by both broadening the investor base and attracting new market entrants looking to align with with new market entrants looking to align with the transition to a net zero, resilient and nature positive economy.
 - c. **Investor Stewardship** - using the influence that investors have via corporate governance, including shareholder engagement, which can persuade and help guide businesses to take action. This ultimately can support investors to generate long-term value in their investments.

2.4.1 Unlocking long term capital to improve access to liquidity for green investment

85. The **insurance industry** has an important role to play in supporting the transition to net zero. It does this through the investments it will make in projects and companies that target sustainable business models, the broad range of insurance products it provides that support adaptation to the impacts of climate change, and through the underwriting of key risks in the project development process. The Association of British Insurers have highlighted that their members have the capacity to support up to 1/3 of the total investment needed by 2035, in line with our net zero pathway.⁵⁸ On the underwriting side, the products the industry develops that mitigate risk for companies, investors, and consumers can significantly speed up the pace of deployment, particularly for nascent technologies and business models.
86. At the Autumn Statement 2022 we set out our package of reforms for Solvency II, the retained EU regime for the prudential regulation of insurance. These set out plans to move to a new regime, tailored to the unique features of this country's insurance market: **Solvency UK**. Reforms will provide incentives for insurers to increase investment in long-term productive assets, including innovative green assets and renewable energy infrastructure. ABI predict that Solvency UK creates the potential for over £100 billion of productive investments from insurers in the next ten years, all while maintaining high standards of policyholder protection.⁵⁹ We will begin to implement these reforms in the coming months and will continue to work closely with industry and the regulator to do so.

87. Similarly, **Defined Contribution (DC) pension schemes** are ideal vehicles for investing in illiquid assets, such as investments in green projects, that have the potential to deliver longer term sustainable positive returns which are key to successful savers' retirement outcomes. Since 2019, the government has been encouraging DC pension schemes to broaden their investment approaches to ensure they are considering as diverse a range of assets as possible for the financial benefit of members.
88. For the pensions sector, we have published *Enabling Investment in Productive Finance* (2021) and the consultation on *Broadening the investment opportunities of defined contribution pension schemes* (2022). These set out the UK government's intention to enable trustees of defined contribution pension schemes to exclude performance-based fees (paid when a fund manager exceeds pre-determined performance targets) from their charge cap calculations, where this is in the best interests of their members. Following a positive response from the industry, amended regulations will be brought into force as early as April 2023, subject to Parliamentary approval.
89. At the Spring Budget 2023 we announced a new Long-term Investment for Technology and Science (LIFTS) initiative, spurring the creation of new vehicles for investment into science and tech companies, tailored to the needs of UK defined contribution pension schemes which will provide a key stimulus for industry to create the structures needed to mobilise DC scheme investment into our most cutting-edge companies. At Budget, the government launched the request for feedback on the design of the competition. We will also shortly come forward with a consultation on the accelerated transfer of the £364 billion Local Government Pension Scheme assets into pools to support increased investment in innovative companies and other productive assets, leading by example.

2.4.2 Green bonds

90. There is significant demand from investors for liquid green debt securities, and it is expected that the ongoing Green Financing Programme (Green Gilt) will help catalyse further growth of the corporate green bond market in the UK.

UK Green Financing Programme (Green Gilt)

91. The UK's Green Financing Programme is a key pillar of the UK government's green finance agenda. The Green Financing Programme has raised more than £26 billion from the sale of green gilts and NS&I's retail Green Savings Bonds since their launch in 2021. These financing products raise money to fund projects with clearly defined climate or environmental benefits. The Green Financing Framework, published in June 2021, sets out how funds raised by the Programme help to finance government expenditures that tackle climate change, biodiversity loss and other urgent environmental challenges, while creating green jobs across the UK.
92. The inaugural green gilt issue in September 2021 broke a number of records. At the time, it was the largest inaugural green issuance by any sovereign and attracted the largest number of investor accounts (including new investors to the gilt market) and volume of orders for a gilt syndication executed by the UK Debt Management Office.
93. NS&I's retail Green Savings Bonds (GSB) went on sale to UK savers in October 2021. The GSB allow UK savers to contribute to the UK's net zero target and other environmental challenges. As of February 2023, NS&I had raised £0.5 billion

from the GSB in the 2022-23 financial year and £0.8 billion since the initial October 2021 launch.⁶⁰

94. The UK government has committed to transparency for investors in the Green Financing Programme. We published our first annual allocation report in September 2022, detailing the green spending programmes to which the proceeds raised have been allocated. It details how the Green Financing Programme is already using private capital to finance government schemes that are protecting property and infrastructure from the effects of climate change, stimulating markets for low-carbon technologies, investing in the natural environment, and supporting green jobs across the UK.
95. We have also committed to publishing an impact report on a regular basis, detailing the environmental impacts and any social co-benefits resulting from the expenditures (the first to do so among major sovereign issuers). Impact reports will be published at least biennially, with the first expected by September 2023.

2.4.3 Investor stewardship

96. As the providers and allocators of capital, the UK's pensions, insurance and investment sectors - namely asset owners, asset managers, and the service providers that support them - can use their rights and influence to drive change within the businesses in which they invest. Doing so as part of broader market alliances can amplify this effect, sending clear signals to corporates and influencing their behaviour. The UK government and regulators are working hard to ensure that the UK's pensions, insurance and investment sectors can meet the expectations on stewardship that the government set out in the 2021 Greening Finance Roadmap.
97. Effective stewardship is crucial to the successful management of risks, opportunities and impacts presented by climate and environmental change. The Financial Reporting Council's (FRC's) world-leading UK Stewardship Code⁶¹ defines stewardship as "the responsible allocation, management and oversight of capital to create long-term value for clients and beneficiaries leading to sustainable benefits for the economy, the environment and society". In 2023, signatories to this Code grew to 254, representing £46.4 trillion AUM (up from 235 signatories and £40.7 trillion AUM in 2022). Research published by the FRC in July 2022 found strong evidence of material changes of practice following the Code's revision in 2020.
98. A particular priority is improving information flows to create a comprehensive disclosure environment, thereby ensuring that decision-useful information and metrics flow into and out of the system. This will ensure that stewardship can be both efficiently implemented and transparently assessed.
99. Therefore, in Q4 2023, the FRC - working with the FCA, Department for Work and Pensions (DWP) and The Pensions Regulator - will review the regulatory framework for effective stewardship, including the operation of the Stewardship Code. The review will assess whether the Stewardship Code is creating a market for effective stewardship and the need for any further regulation in this area. The review will consider:
 - a. Ways to evaluate and communicate the efficacy of stewardship activity and outcomes;
 - b. The need for a common language for stewardship, for example, defining engagement;

- c. The role of systemic stewardship in supporting the achievement of positive sustainability outcomes.
 - d. Ways to align expectations, and reporting that is proportionate and not duplicative; and
 - e. Evolving expectations for stewardship in asset classes other than listed equity.
100. Ahead of this review, we will begin to engage with stakeholders and seek evidence. Depending on the evidence we receive and the outcome of the review, further action to ensure the effectiveness of the stewardship regulatory framework may be necessary.
101. The UK government recognises the key role of pension scheme trustees especially, as there are over £3 trillion⁶² in UK pension investments, but also that climate change impacts, and actions that Governments globally take to tackle it, present a financial risk/opportunity for pensions. The regulations we've already introduced require relevant trustees to measure and report on their investment portfolio's alignment with the Paris Agreement, together with existing climate governance and disclosure requirements. This will help inform trustees' investment decisions, stewardship and voting.
102. The Law Commission's 2014 report suggested that fiduciary duty means that non-financial factors can be taken into account if the two-stage test is met:
- a. Trustees should have good reason to think the scheme members would share the concern; and
 - b. The decision should not involve a risk of significant financial detriment to the fund.
103. We recognise trustees would like to know what latitude they have and in DWP's Stewardship Guidance, introduced in 2022, the UK government stated that trustees may want to consider both financial and non-financial matters in their stewardship activities. We acknowledge decisions around investing and systemic risks are complicated and that trustees would like further information and clarity on their fiduciary duty in the context of the transition to net zero. To address this, we are taking the following steps:
- a. DWP will examine the extent to which their Guidance is being followed in late 2023.
 - b. This will be complemented by a working group of the Financial Markets and Law Committee (FMLC) where participants, including DWP, will consider the issues around fiduciary duty and what further action is needed.
 - c. We will be holding a series of roundtables later this year to engage with interested stakeholders on how we can continue to clarify fiduciary duty.

2.5 Working with regulators

104. UK regulators have an important role to play, including as active members of standard setting organisations and partnerships, to support the financial system shift necessary to achieve climate and sustainability goals. Key regulatory bodies we consider in this space are the Bank of England, the Environment Agency, the Financial Conduct Authority, the Financial Reporting Council and The Pensions Regulator ("the regulators").

105. Box 12 below sets out the commitment made by regulators in the context of this Strategy. The regulators will also share insights and seek opportunities more widely, supporting the priorities of the Green Finance Strategy and helping to drive clear and consistent disclosure and reporting of financially material non-financial risks. Figure 4 below summarises the regulators' remit, current work and future actions related to climate and sustainability.

Box 12: Commitment from green finance regulators

Green finance regulators will identify shared priorities for environmental and financial regulators and explore options for closer working ties to deliver shared objectives, establishing a working group within the existing Sustainable Finance Regulators group to explore opportunities. Areas to be considered by the group may include, but not be limited to, a review of regulatory priorities on environmental finance and how support can be leveraged across the group, intelligence gathering on greenwashing and other ESG risks bringing together financial and real-economy regulators, and coordination of collective views and responses to international consultations. The group will share insights and seek opportunities more widely, supporting the priorities of the Green Finance Strategy and helping to drive clear and consistent disclosure and reporting of financially material non-financial risks.

Figure 4: Overview of remit, work and future actions by regulators

The **Bank of England's** mission is to promote the good of the people of the UK by maintaining monetary and financial stability. Climate change is relevant to the Bank's mission as the physical effects of climate change and the transition to net-zero create financial risks and economic consequences. These risks and consequences can affect the safety and soundness of the firms that the Bank regulates, the stability of the wider financial system, and the economic outlook.

Non-exhaustive examples of recent activity and future work:

- Supported the UK Government, regulators, and international authorities to develop a transition finance infrastructure and the broader green finance strategy, including a direct role in the Transition Plan Taskforce.
- Set supervisory expectations for banks and insurers on the management of climate-related financial risks. These expectations became part of core supervisory processes in 2022.
- Set up the Climate Financial Risk Forum (CFRF) with the FCA to build capacity and share best practice to help the financial sector address climate-related financial risks.

- Advanced international thinking on the relationship between climate risks and regulatory capital, setting out its thinking in a climate change adaptation report (CCAR)⁶³, and a subsequent report on climate-related risks and regulatory capital frameworks⁶⁴.
- Delivered a bottom-up climate scenario exercise (the Climate Biennial Exploratory Scenario (CBES)) the results⁶⁵ explored risks in banks, insurers and the UK system.
- Undertook domestic and international work to advance the understanding of financial stability risks from climate change, including tools to monitor risks and the use of transition plans and scenarios.
- Explored possible macroeconomic implications of climate change⁶⁶.
- Taken action to understand its own climate exposures - as set out in its climate disclosure report⁶⁷ and seen in its commitment to achieve net zero across its operations.
- Engaged with external stakeholders (including DEFRA) to further explore the degree that nature loss and degradation can give rise to financial risks.
- Been an active member of international climate groups focusing on the financial risks from climate change and an orderly transition to net zero.

The **Environment Agency** is the largest environmental regulator in the UK and plays a critical role in ensuring environmental standards are met and maintained. The EA works with businesses, communities and others to reduce, mitigate and adapt to the impacts of climate change, and to manage their use of resources to protect and improve water, air, land and biodiversity for all, and encourage sustainable development.

Non-exhaustive examples of recent activity and future work:

- Completed a project titled SEEBEYOND, that looked at developing standardised metrics to assist the food and drink sector to report their environmental performance.
- Will develop a closer working relationship between regulators to bring together and facilitate UK environmental and financial regulators.
- Will explore the barriers limiting the disclosure of convictions for environmental offences within corporate reports, alongside details of actions and mitigations to prevent further offences, to provide a level playing field and increase transparency for investors.

The **Financial Conduct Authority (FCA)** has a strategic objective to ensure financial services markets work well. To support this, the FCA has three operational objectives: to secure an appropriate degree of protection for consumers; to protect and enhance the integrity of the UK financial system; and to promote effective competition in the interests of consumers.

Non-exhaustive examples of recent activity and future work:

- Co-leading international work at the International Organization of Securities Commissions (IOSCO) to promote a global baseline of sustainability-related reporting standards under the ISSB. Domestically, FCA has signalled its aim to consult on adapting existing TCFD-aligned Listing Rules to reference IFRS Sustainability Disclosure Standards once finalised and available for use in the UK.
- Participating as an active member of the Government's TPT and workstream lead, also collaborating with industry to road-test the TPT's draft Disclosure Framework⁶⁸.
- Convened multiple industry groups to advance the sustainable finance agenda, including:
 - Climate Financial Risk Forum, with the Prudential Regulation Authority to ensure close collaboration between regulators and industry
 - Vote Reporting Group (VRG), an industry working group, to establish a framework for asset manager vote reporting
 - Industry-led working group to develop a voluntary Code of Conduct for ESG data and ratings providers⁶⁹
 - Disclosures and Labels Advisory Group, to provide advice on the development of proposals on Sustainability Disclosure Requirements (SDR) and investment labels.
- Upcoming deliverables include: the release of a Policy Statement on SDR and investment labels, along with final rules/guidance; follow-up to a Discussion Paper on sustainability-related governance, incentives and competence in regulated firms; analysing intelligence to identify/address greenwashing; embedding sustainability considerations across all of the FCA's regulatory functions.

The **Financial Reporting Council's (FRC's)** purpose is to serve the public interest by setting high standards of corporate governance, reporting, audit and actuarial work and by holding to account those responsible for delivering them. The objective of their work on climate and environmental issues is to play a leading role in improving transparency, and promoting improvements and innovation in relation to company reporting on climate and wider sustainability risks and opportunities, and related governance activities and behaviours.

Non-exhaustive examples of recent activity and future work:

- Supported companies in improving TCFD disclosures and preparing for FCA TCFD listing rule.
- Published practical guidance⁷⁰ to support companies disclosing their net zero targets and new Guidance on the Strategic Report⁷¹ covering climate-related financial risks and opportunities.

- Undertook a thematic review on climate⁷², recommending actions for boards, auditors, investors, accounting and actuarial bodies, regulators and standard setters to address climate-related challenges, followed by a TCFD reporting thematic⁷³.
- Published guidance⁷⁴ for audit firms to identify better practices in responding to climate risks.
- Worked on actuarial policy to increase engagement on climate and environmental risks.
- Influences the development of global standards for sustainability reporting, assurance and the ethical and independence standards.
- Established the FRC's ESG group to develop their ESG strategy and work-plan.
- Will consider companies' disclosures on transition plans and expect to encourage companies to use the TPT guidance.
- Will consider whether to propose any specific changes related to climate or the environment in a revision of the UK Corporate Governance Code and Stewardship Code. FRC Lab⁷⁵ continues to look at improving provision of ESG data by companies and third-party providers.

The **Pensions Regulator (TPR)** is the public body that protects workplace pensions in the UK. TPR works with employers and those running pensions so that people can save safely for their retirement. Its statutory objectives include protecting member benefits, reducing calls on the pension protection fund (PPF), and promoting good scheme administration.

Non-exhaustive examples of recent activity and future work:

- Set expectations concerning how climate change should be considered and managed by trustees of occupational pension schemes.
- Produced guidance for trustees required to comply with new duties under the governance and reporting of climate change risk regulations.
- Collaborated with TPT to develop a transition plan disclosure framework and implementation guidance for consultation.
- Sits on the industry's VRG, to support trustee engagement and stewardship on proxy voting by fund managers and Taskforce on Social Factors, to explore how social risks and opportunities can be applied by pension scheme trustees, industry, and policymakers.
- It will publish its modular code of practice, in 2023, which will include new modules on climate change and stewardship.
- It will publish a thematic review of TCFD-style reports produced by schemes in scope of governance and climate-risk reporting regulations.
- It will also run a regulatory initiative in 2023 to check compliance with broader ESG and climate change reporting, which must be included in the scheme's Statement of Investment Principles and Implementation Statements.

2.6 Working with international partners

106. The twin crises of climate change and biodiversity loss transcend national boundaries. Rewiring the financial system to manage their risks, while creating the conditions for finance to flow into net zero, resilient and nature positive investments, requires collaboration at the same scale.
107. The UK has helped lay the groundwork for global action to green financial systems by supporting key principles in international agreements. **Article 2.1c of the Paris Agreement** committed signatories to the goal of making “finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development”, and **Target 14 of the Global Biodiversity Framework** commits signatories to align all relevant public and private activities and financial flows with its goals and targets. The measures in this chapter will build on the UK’s leadership on green finance to catalyse global progress towards these goals.
108. To ensure that international processes pay sufficient attention to these critical drivers of the global transition, the UK will champion the importance of these goals, in particular seeking greater recognition of Article 2.1c through the upcoming **Global Stocktake** and the **Sharm-el Sheikh Dialogue** agreed at COP27, and working towards a new global financial goal to replace the \$100 billion goal, which better reflects the important role of efforts to align the global financial system in meeting the needs of developing countries. This will be coupled with efforts through key fora such as the **G20 Sustainable Finance Working Group** (SFWG), to ensure build consensus and coherence around actions to build a globally aligned, interoperable financial system.
109. Many of the actions set out throughout this strategy to align the UK financial sector, will accelerate the global alignment of financial flows and help increase opportunities for green investment in overseas markets, such as through firm-level climate risk disclosure and transition planning. This includes support for emerging markets and developing economies (EMDEs) where green investment needs are highest and where the development of high-integrity approaches to transition financing and efforts to build capability will be critical in avoiding capital flight. Building on these actions, we will seek to accelerate progress by:
 - a. **Championing action to align the global financial system** - using our voice in international fora to advocate for equivalent ambition from other countries, emphasising the importance of interoperability.
 - b. **Driving alignment of development finance** - aligning the UK’s development assistance and international finance levers with climate and nature goals, and using our voice in international financial institutions to encourage them to do the same.
 - c. **Building partnerships with EMDEs** - sharing our learning and working with our partners to enhance capability and develop the building blocks for unlocking green investment.

2.6.1 Championing action to align the global financial system

110. Since the first Green Finance Strategy **the UK has catalysed ambitious global action** to align the global financial system. This included prioritising finance through our

COP26 presidency, which saw the launch of the International Sustainability Standards Board (ISSB) and the Glasgow Financial Alliance for Net Zero (GFANZ); and elevating the importance of climate risk disclosure through our G7 presidency, which brokered unprecedented agreement between G7 Finance Ministers and Central Bank Governors to move towards mandatory financial disclosures based on the Task Force on Climate-related Financial Disclosures (TCFD) framework.

111. To achieve a globally aligned financial system which is coherent and interoperable, our efforts need to be met by equal ambition by our international partners. To support this, the UK Government will continue using its voice in international forums - including the G7, G20, Financial Stability Board (FSB), Coalition of Finance Ministers for Climate Action, UN Framework Convention on Climate Change (UNFCCC) and UN Convention on Biological Diversity (UNCBD) - to advocate for broadening and deepening coverage of green finance policy frameworks. In particular, **we will call for greater global action on mandatory sustainability disclosures, transition planning requirements, data availability and science-based green taxonomies.**
112. Stakeholders responding to the Call for Evidence highlighted interoperability as a key priority for UK regulatory and policy interventions. We will **aim to avoid the proliferation of different standards and reporting frameworks** and instead promote high integrity, common baselines and principles. We welcome the harmonising and coordinating role of the FSB, in addition to the work of individual bodies, such as the ISSB, and the TPT's efforts to develop a gold standard for transition plans. We will use international forums to build consensus in these areas, including the International Platform on Sustainable Finance, the Coalition of Finance Ministers for Climate Action, and through both the G7 and G20, including dedicated technical working groups such as the SFWG.
113. In particular, the Government is working in **three key areas to drive interoperability** in global action to align finance with climate and nature goals:
 - a. Assessing the IFRS Sustainability Disclosure Standards for use in the UK and supporting the adoption of equivalent standards by other jurisdictions (see section 2.2.3);
 - b. Supporting the work of the TPT in creating a global gold standard for transition plan disclosures aligned with IFRS Sustainability Disclosure Standards, which we intend to promote as a basis for other jurisdictions to use (see section 2.2.2), and;
 - c. Encouraging the development of a science-based global baseline on taxonomies- considering the Green Taxonomy Advisory Group recommendations and strengthening our engagement in the International Platform for Sustainable Finance (see section 2.3.1).
114. The **FSB** plays a central role in coordinating initiatives by global financial authorities and standard setting bodies to address climate-related financial risks through its Climate Roadmap. We welcome the FSB's work to date on disclosures, data, vulnerabilities, and regulatory practices. The FSB has played a key role in driving the work of the TCFD and embedding IFRS Sustainability Disclosure Standards within the G20's reform agenda. Over the coming year, the UK Government will support the TPT to consider aligning with the FSB's 2023 regulatory work on transition planning, and we will encourage implementation of transition plans by other jurisdictions.

115. The lack of capability to track international financial flows and widespread data gaps on climate finance remains a critical barrier for financial institutions to integrate climate related risk into their decision making and deliver their climate and nature targets. In addition to the UK's Landscape of Climate Finance work (see section 3.1.3), **the UK is working with the Climate Policy Initiative (CPI) to map the mobilisation of finance flows through the UK to EMDEs**, including to understand data gaps and how tracking and reporting of international flows could be improved. Moreover, Financial Services Deepening Africa also worked with CPI to launch a Landscape of Climate Finance in Africa report at COP27. These efforts will contribute to measuring progress against Article 2.1c of the Paris Agreement and Target 15 of the GBF, and will enhance our understanding of how UK activities are influencing global finance flows.
116. The Government will also continue working to **improve the supply, quality and comparability of climate and nature related financial data, globally**. This will support raising the quality of disclosures, investment tracking and support investor confidence- complementing our work on reporting of Scope 3 GHG emissions in section 2.2.4. The UK welcomes the work of the FSB Climate Vulnerabilities Data Group in addressing data gaps and maximising data flows between financial authorities. Our own UK PACT programme has supported a range of global projects on this issue, such as the Colombian Climate Asset Disclosure Initiative (CCADI) which is working to promote the inclusion of climate change risks into investment decisions by financial actors and providing recommendations to the Colombian Government regarding the greening of their financial system. We will also focus future work on areas where investment is most lacking, but data gaps remain, such as internal investment within countries and companies, and towards adaptation.
117. Leveraging our efforts to improve investment tracking and data availability, the UK will support international activity to **raise the integrity of climate and nature alignment commitments**, ensuring a level playing field and protecting against greenwashing. To this end, we welcome the work of the UN Secretary General's High-Level Expert Group on Net-Zero Commitments and support the Race to Zero's adoption of robust targets and mitigating actions. We will continue to collaborate with other key initiatives developing science-based methodologies to promote integrity and coherence.
118. To maximise our role in accelerating change, the UK is supporting coalitions that are translating commitments into actions across public and private financial transitions. For example, the UK is the co-chair of the **Powering Past Coal Alliance (PPCA)**, an alliance of governments, subnational governments and private sector organisations committed to phasing out unabated coal power by 2030 in the EU and OECD, and 2040 in the rest of the world. Since its launch in 2017, the PPCA has grown substantially, with more than \$17 trillion USD AUM now committed via PPCA membership. As part of this we are working with financial institutions to refresh the PPCA's Finance Principles, which translate the aim of global unabated coal power phase-out into tangible actions they can take. We are working to ensure these principles are fully integrated through individual firms' lending, investments, reporting and engagement policies, and working through the PPCA and its partners to address challenges around insufficient coal asset data.
119. We will also champion high standards in working with international partners. For instance, **UK Export Finance (UKEF)** will continue to work with its international counterparts and customers to set stretching climate goals and boost clean growth

and climate adaptation investments. UKEF will work with partners to modernise the terms and standards that OECD Export Credit Agencies apply, raising the bar for public export finance internationally. They will also continue to champion internationally the COP26 Presidency statement on aligning international public finance with the clean energy transition.

Box 13: Role of the Bank of England in greening the global financial system

The UK Government works closely with the Bank in our efforts to green the global financial system, including through our joint UK seat at the G20 SFWG and G7 Finance Track. They are a leading member of the global organisations seeking to analyse the financial risks from climate change and potential mitigations. As the Bank advances its climate agenda it will continue to work closely with the international community to ensure outcomes are aligned to its objectives, including through the Basel Committee for Banking Supervision (BCBS), International Association of Insurance Supervisors, Financial Stability Board (FSB), Network for Greening the Financial System (NGFS), G7 and G20. Examples of specific work are as follows:

- Supporting a holistic approach to assessing, measuring and mitigating climate-related financial risks through the BCBS's Task Force on Climate-Related Financial Risks (TCFR);
- Advocating rapid and robust development and implementation of IFRS Sustainability Disclosure Standards;
- Contributing to FSB workstream outputs on topics such as supervisory and regulatory approaches to climate change, disclosures, scenario analysis, financial stability risk monitoring, and macroprudential work. In 2023, the Bank will work with international standard-setting bodies to understand the role of transition plans in prudential risk management and financial stability;
- Chairing the NGFS workstream on monetary policy, and previously chairing the workstream focused on scenario design and analysis;
- Contributing to the work of the Sustainable Insurance Forum, having co-founded it in 2016 and held the chair from 2020 to 2022; and
- Providing training through the Centre for Central Banking Studies.

2.6.2 Driving alignment of development finance

120. We recognise that it is critical for the UK to assist emerging markets and developing economies (EMDEs) to align finance flows with climate and environmental goals. In the first instance, that means ensuring that the support that we provide to these countries is consistent with these goals. That is why we committed in the first Green Finance Strategy to **align all UK Official Development Assistance (ODA) with the Paris Agreement**, making us the first country in the world to do so. This was reiterated in the International Development Strategy (IDS) with a timebound milestone, committing to ensure all new bilateral UK ODA aligns with the Paris Agreement in 2023. The

FCDO (major ODA spending department), has embedded this through the creation of a new rule in their Programme Operating Framework specific to Paris Alignment. We also committed in the IDS to take steps to ensure that bilateral ODA becomes 'nature positive', aligning with the Kunming-Montreal Global Biodiversity Framework (GBF) and the international goal to halt and reverse biodiversity loss by 2030.

121. Since the 2019 commitment to align UK ODA with the Paris Agreement, the UK in 2021 **ended the provision of new direct financial or promotional support for the fossil fuel energy sector overseas** other than in limited circumstances. This includes UK Export Finance with respect to the financial support the Government provides for UK exports.
122. The UK is also embedding Paris Agreement objectives in British International Investment (BII), the UK's development finance institution, which committed to align its activities and investment portfolio with the Paris Agreement. **BII launched a Climate Strategy** in 2020, which set out three building blocks for its Paris alignment approach: achieving net zero GHG emissions by 2050, ensuring a just transition, and supporting adaptation and resilience. BII pursues a dual approach to net zero which includes assessing new investments for alignment with their host country's pathway to net zero, as well as steering the wider investment portfolio to align with a 1.5 C pathway.
123. Using our shareholdings in multilateral development banks (MDBs), the UK will continue working beyond our bilateral investment to ensure that they are aligned with the Paris Agreement and GBF goals. We will work -including with partner countries- to **ensure MDBs fully align their activities with the Paris Agreement in** accordance with their timebound commitments, and by 2025 at the latest. We will also support them to align with the GBF by **implementing the MDB COP26 Joint Statement on Nature**, including tracking and scaling up finance for nature.
124. Last year, the UK also co-launched a **Joint Donor Statement on International Finance for Biodiversity and Nature**. This statement by 14 countries included a commitment to collectively increase international biodiversity finance and align relevant international development flows commensurate with the ambition of the GBF. This means mitigating nature-related risks and impacts; assessing risks across financial systems from biodiversity loss; supporting recipient countries' transitions to net zero, nature positive economies; and increasing finance aligned with the international mission to halt and reverse biodiversity loss by 2030.
125. The UK has worked to drive broader international action by public finance, including building a coalition of 39 signatories to the **COP26 Clean Energy Transition Partnership (CETP)**,⁷⁶ committing to shift international public support out of the fossil fuel energy sector and into clean energy; as well as a commitment in the G7 to end new support for fossil fuels by the end of 2022. When fully implemented, the CETP and G7 commitments have the potential to shift \$39 billion per year into the clean energy transition.⁷⁷ A number of countries have implemented their commitments in line with the UK policy, and we are now prioritising the full implementation of all other commitments.
126. We also make sure UK supported lending is done in a sustainable manner. The UK adheres to the **G20 Operational Guidelines for Sustainable Finance**, as well as being the first G7 country to publish its sovereign debt portfolio, and we encourage all official creditors to do likewise. Similar guidance exists for private creditors.

2.6.3 Building partnerships with emerging markets and developing economies

127. EMDEs have the largest investment needs for achieving climate and environment goals, but generally have less developed capital markets. In order to accelerate the growth in green finance in these economies, the UK supports these countries by sharing expertise from implementation of our own policies, ensuring they have the financial capabilities necessary to fulfil their climate and nature goals.
128. As this strategy shows, there is significant interdependency between different aspects of green finance policy frameworks, such as between disclosure requirements, taxonomies, and transition plans. The global economy is learning how to green financial systems at a rapid rate by implementing climate-aligned policies. That is why we must take a strategic approach to interventions to enable countries to put in place the building blocks of functioning green finance eco-systems, which can be developed over time and tailored to local contexts.
129. We will therefore accelerate the dissemination of learning from implementation in the UK through our international networks and partnerships. This includes through delivering on the International Development Strategy commitment of launching our **Financial Services Centre of Expertise**. The Centre will leverage the UK's strengths to provide tailored support on financial market development in EMDEs with a heavy emphasis on green finance, we expect the Centre to be fully operational by 2025. Our aim is to facilitate EMDEs to develop net zero aligned financial systems. This will enable them to address data gaps, access international green finance flows, avoid a proliferation of standards and practices, and better enable the UK financial sector to support the development of, and provide capital to, net zero transitions globally.
130. To make future interventions as targeted and effective as possible we will work with industry and country partners to **develop an information toolkit for optimising support for the greening of financial systems** in EMDEs. This will enable efforts to build capability to be made more strategic as we advance towards an interoperable green financial system, and to remain responsive to local contexts whilst being informed by growing expertise and policy advancement in the UK. It will be accompanied by efforts to bolster the sharing of UK green finance skills and expertise via UK International Climate Finance (ICF) programming. These actions will increase the ability of EMDEs to develop policies, capabilities, and markets to service their financing needs, whilst building closer relationships with the UK and our world leading financial sector.

Box 14: UK leadership and assistance to build capacity in emerging markets and developing economies

In line with our international commitments and the approach set out through the International Development Strategy, the UK directly assists emerging markets and developing economies by building capability and capacity to implement measures to green their financial systems. As well as supporting knowledge sharing and collaboration through a range of international fora and partnerships, part of our £11.6 billion ICF commitment is delivered through programming which helps build capability, such as:

- **UK Partnering for Accelerated Climate Transitions** (UK PACT) uses country programmes, skill-shares, secondments and technical assistance to green financial systems.
- **Financial Sector Deepening Africa** works with policymakers, investors and issuers to green financial systems by advising on regulatory reform, mobilising green capital, supporting issuance of green bonds and catalysing green technologies.
- **The Bank of England** shares its expertise to enable central banks to implement effective public financial management, such as through running climate scenario analysis workshops in 2022 with central banks from countries across Africa and Asia.
- **The Nature Positive Economy Programme** will be delivered in partnership with the UN Development Programme's Biodiversity Finance Initiative (BioFin) and Financial Sector Deepening Africa. This supports governments, central banks, businesses, and financial institutions to integrate nature-related risks and opportunities into decision-making.
- **The NDC Partnership** is supported by a £23 million UK contribution. Under its finance strategy, the Partnership is building green capabilities in central banks, integrating nationally determined contributions (NDCs) into public financial management and engaging with the private sector to tailor effective enabling environments for investment.



CHAPTER 3 | INVEST

Mobilising and creating opportunities for green investment



1. Investment is key to delivering a thriving green economy at home and abroad, and the UK business and investment landscape is one of the most competitive, attractive and innovative in the world. The UK ranks second in Europe for most attractive renewable investment opportunities⁷⁸; first in Europe in terms of most active, deepest capital markets⁷⁹; and fourth in the global innovation index⁸⁰.
2. Our 2019 *Green Finance Strategy* established that the strategic use of public funds, long-term policy frameworks and market signalling can mobilise private investment. The UK government has since taken major steps towards delivering on this (see Chapter 1: Foundations, section 1.3). We committed **£30 billion of domestic investment** for the green industrial revolution at Spending Review 2021, as well as **£6 billion** for energy efficiency at the Autumn Statement 2022 and up to **£20 billion** for CCUS announced at Spring Budget 2023.
3. This chapter sets out how government and public finance institutions will act to mobilise the private capital needed to drive forward an economy-wide transformation at the scale and pace required to deliver our net zero, environmental and climate adaptation commitments. This includes mobilising investment towards emerging markets and developing economies (EMDEs) in support of the global transition.
4. This chapter sits alongside *Powering Up Britain* published today.⁸¹ The policies and ambitions we have committed to will help leverage around £100 billion of private investment as we develop new industries and innovative low carbon technologies. It also sits alongside our *Environmental Improvement Plan* (January 2023), setting out how we will improve the natural environment and our new *Nature Markets Framework*, also published today.⁸² Together these communicate to businesses, investors and the finance sector, here and abroad, the UK's plan to grow green investment across all parts of the UK – setting a clear direction, creating investment opportunities and providing a comprehensive framework of government support.
5. Our approach builds on the feedback we heard from the investment and finance community through our call for evidence (summer 2022):

Box 15: Call for Evidence feedback - stakeholder views on UK next steps

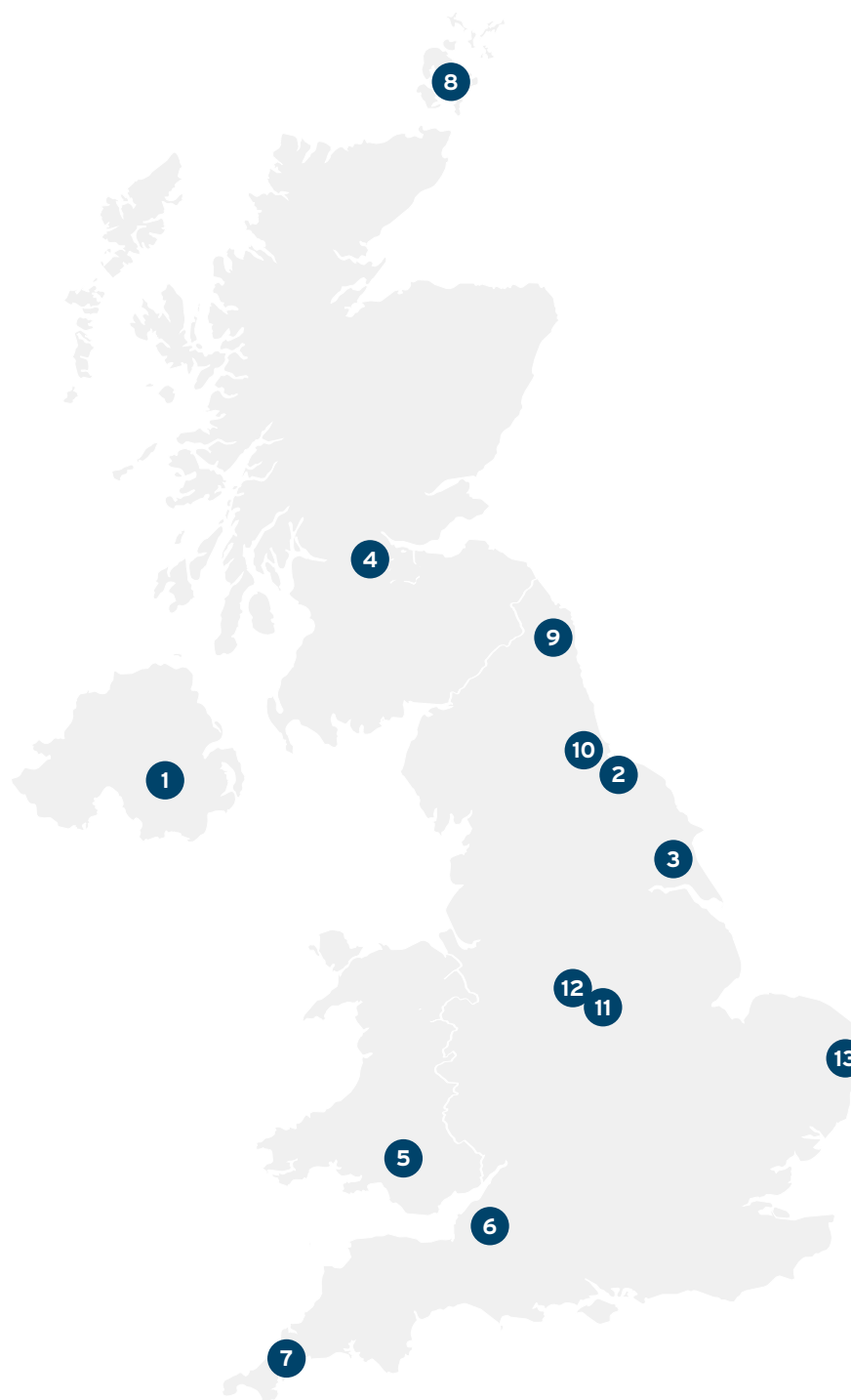
- **Ask 1:** Improve the long-term clarity investors and businesses have in the pathways for key sectors and technologies that will underpin a net zero, resilient and nature positive economy. We address this in section 3.1.
- **Ask 2:** Work closely with public finance institutions such as the UK Infrastructure Bank, British Business Bank, UK Research & Innovation and UK's export credit agency, UK Export Finance, to deploy public levers that will crowd in and de-risk investment in key sectors and technologies. We address this in section 3.2.
- **Ask 3:** Ensure all parts of the project development and investment chain, including local government and businesses, have the capacity to develop investor ready projects and raise capital. We address this in sections 3.2., 3.2.4, 3.3 and 3.4.
- **Ask 4:** Improve the technical capacity of emerging markets and developing economies to attract green investment and use public finance levers to de-risk investment, building new export markets for UK businesses and supporting a global transition. We address this in section 3.5.

3.1 Green investment across the UK economy: progress, priorities and the path ahead

3.1.1 Progress to date in driving green investment

6. The economic, business and financial transformation ahead creates investment opportunities across every sector of the UK economy. The UK has already made significant progress in attracting investment into green sectors. Annual investment in low carbon sectors has more than doubled in real terms over the past five years. Across 2021 and 2022 alone, £50 billion of new investments were delivered in low carbon sectors in the UK.⁸³
7. These investments are being made across all regions of the UK, and support our mission to level up the UK.⁸⁴ Figure 5 below highlights some of the projects that have secured investment in recent years to support our net zero objective.
8. That said, the transition required to meet our net zero, climate resilience and environmental objectives will require significant further private investment across all areas of the economy (see section 3.1.2). We are in an increasingly competitive international race to secure this investment and so the UK government is committed to act now. We will answer investor and industry calls to provide the long-term certainty, strategic de-risking, and confidence to invest in the technologies and infrastructure necessary to deliver our green investment objectives.

Figure 5: Examples of public and private green investments across the UK since autumn 2021



1

Octopus Energy, Craigavon. Acquired Northern Irish heat pump manufacturer Renewable Energy Devices, to expand current factory and scale heat pump production capacity to over 12,000 heat pumps a year; bringing **100 new green jobs** to Northern Ireland.

2

SeAH Wind, Teesside. Investing over **£400 million** to build a new factory, producing steel monopile foundations for offshore wind turbines, creating up to **800 jobs** by 2030.

3 Siemens Gamesa, Hull. Invested **£186 million** in expanding its offshore wind blade factory, more than doubling its size, creating and safeguarding over **1,000 jobs**.

4 Mitsubishi Electric, Livingston. Mitsubishi invested a further **£15.3 million** in its Livingston manufacturing facility with Scottish Enterprise support, to significantly increase its productivity, efficiency and research and development (R&D) capabilities.

5 LanzatechUK, Port Talbot. Developing a commercial scale plant in Port Talbot to convert industrial waste gases into more than 100mn litres of sustainable aviation fuel annually. HMG awarded the project **£3.1 million** through the Green Fuels, Green Skies competition and **£25 million** through the Advanced Fuels Fund.

6 Bristol City Leap, Ameresco and Vattenfall Heat UK, Bristol. A game-changing approach towards decarbonisation at city-scale. During the first five years of the twenty-year partnership, the private sector will invest almost **£500 million** in low carbon energy infrastructure including heat networks to help Bristol meet its targets of becoming carbon neutral by 2030.

7 Geothermal Engineering Ltd, Cornwall. Secured **£15 million** investment from Kerogen Capital and Thrive Renewables to fund the UK's first deep geothermal plant at United Downs in Cornwall as part of its mission to provide 25 MWe of baseload electricity and 100 MWh of heat energy across its geothermal portfolio by 2028

8 SSEN, Orkney. As part of its **£41 million** programme of strategic investment, SSE is delivering **£2.7 million** in the network near Kirkwall in Orkney, to upgrade 16km of overhead power lines that are fed from Kirkwall Primary substation, creating 7.3MW of additional network capacity in the local area. Alongside enabling growth of electric vehicles and heat pumps, the investment will support the development of the UK's first low carbon, operationally-based aviation test centre.

9 Dogger Bank, Port of Tyne & North East coast of England. Dogger Bank Wind Farm is being built more than 130km off the North East coast of England. SSE Renewables, Equinor and Vårgrønn are investing **£9 billion** to build 3.6GW, sufficient to power around **6 million** UK homes. The project is already supporting or creating more than **2,000 jobs** in the UK during construction and operations. The new Operations base in Port of Tyne opened in March 2023 and will support **400 long-term job opportunities**.

- 10 **Alfanar Energy, Teesside.** Announced **£1.5 billion** of investment in Teesside to build a commercial scale plant converting black bin bag waste into sustainable aviation fuel, creating approximately **750 jobs** during construction and **240 full time jobs** after that. HMG awarded the project **£2.4 million** funding through the Green Fuels, Green Skies competition and **£11 million** through the Advanced Fuels Fund.
- 11 **D2N2 low carbon growth fund, Derbyshire and Nottinghamshire.** In 2022 D2N2 LEP committed **£6.5 million** to support seven projects ranging from enabling hydrogen-fuelled buses and refuse lorries, and new approaches to anaerobic digestion, to decarbonising food and drink manufacturing.
- 12 **Rolls-Royce SMR, Derby.** Secured **£490 million** of investment for its small modular reactors programme (£210mn UKRI funding, £280mn commercial equity). Rolls-Royce SMR claim over **600 UK based workers** are contributing to the programme.
- 13 **EDF and HMG, Suffolk.** The government has announced its **£700 million** investment in Sizewell C - the first direct investment in a nuclear project for 35 years - becoming a co-shareholder in the project with EDF. Subject to final approvals, at peak construction the project is expected to support up to **10,000 jobs nationwide** and provide reliable, low-carbon, power to the equivalent of **6 million homes for over 50 years**.

3.1.2 Investment priorities across our green objectives

Net zero and energy security

9. We estimate that to deliver on the UK's net zero ambitions, through the late 2020s and 2030s, an additional £50-60 billion of capital investment will be required each year. Most of this investment will need to come from the private sector.⁸⁵ Investment in supply chains in the UK are an important part of this, ensuring energy security and enabling us to capture global growth opportunities in new green industries.
10. Accompanying strategies, including *Powering Up Britain*, set out deployment goals and policies for the decarbonisation and growth of sectors across the UK economy. These world leading ambitions - such as delivering up to 50GW offshore wind capacity by 2030⁸⁶; up to 70GW of solar by 2035⁸⁷; up to 10GW of low carbon hydrogen production capacity by 2030⁸⁸, at least 5Mt of CO₂ removal through greenhouse gas removals (GGRs)⁸⁹ and to increase plans for civil nuclear deployment to up to 24GW by 2050⁹⁰ - are already driving investment in innovation, scaling of sectors and deployment of technologies.

Nature

11. The UK government has set a legally binding target to halt the decline in domestic species abundance in England by 2030, and then increase abundance by at least 10% to exceed 2022 levels by 2042.⁹¹ This target, together with other goals set out in our Environmental Improvement Plan published in January 2023, sets a clear direction that can help to make the UK a leader in private investment in natural capital.

12. To support this, we have set a goal to mobilise at least £500 million of private finance per year into nature's recovery in England by 2027, rising to more than £1 billion per year by 2030.⁹² We expect to see this finance made up principally of investment in nature-based solutions for carbon sequestration, flood risk management and water quality, as well as compensating for biodiversity and nutrient impacts (e.g. through Biodiversity Net Gain and Marine Net Gain).

Climate adaptation and resilience

13. To prepare the UK for the physical effects of climate change - across flood protection, the public water system, housing retrofit for overheating, nature restoration and broader infrastructure - indicative estimates from the Climate Change Committee (CCC) suggest that additional investment of around £5 billion per year this decade will be needed. If considering all 61 risks and opportunities identified in the UK's third Climate Change Risk Assessment (CCRA3), this could plausibly rise to £10 billion per year.⁹³
14. Investment in making the UK resilient to the impacts of climate change will realise substantial benefits in reducing short and long-term costs to the UK economy.⁹⁴ However, there is currently uncertainty around: the optimal scale and benefits of investing in resilience, nationally or by economic sectors; how that investment should change over time; and the optimal source of that investment, whether public or private.
15. The UK government, working with the CCC, is scoping research requirements in adaptation investment needs. The analysis will expand on the CCC's 2023 report on adaptation finance to improve the evidence base, and findings will be published in the fourth Climate Change Risk Assessment (CCRA4), due for publication in 2027.

3.1.3 Charting the investment roadmap to green the UK economy

16. To implement long term investment strategies that support our objectives, investors need greater clarity on the pathways for the sectors and technologies needed to support this economic transition. In 2022 we published several net zero investment roadmaps, which summarised government policies and opportunities available for specific sectors (automotive⁹⁵, hydrogen⁹⁶, CCUS⁹⁷, Jet Zero⁹⁸). We will continue to develop these further to reflect sectoral investment needs, and commit to working with investors to ensure they contain the information and clarity that will support investment decisions. Alongside this Strategy, we have published a roadmap on offshore wind, and will shortly publish a roadmap on heat pumps, as well as updated roadmaps on CCUS, and hydrogen. We plan to publish roadmaps for further sectors later this year to support the net zero transition and will refresh them as necessary when there are significant developments.
17. A number of sectors (such as agriculture, forestry, water, resources and waste) also have a critical role to play in delivering the goals set out in our Environmental Improvement Plan, in addition to the key contribution they will make to meeting our net zero target. We will aim to publish an investment roadmap by 2024 to support the nature-positive transition pathway for these sectors and will update them as policy develops.

Monitoring green investment flows

18. Tracking investment flows will help industry and the UK government to monitor progress against our targets and provide timely assessment on the impact of UK government interventions and industry response. In the Net Zero Strategy, in response to calls from the CCC and National Audit Office, the UK government committed to 'work with external partners and data providers to better track private investment into the net zero economy going forward'.⁹⁹ We are also committed to monitoring annual private finance flows into nature's recovery in England against our target.
19. Meeting these commitments, the UK government has commissioned two pieces of external research to scope existing investment tracking methodologies and evaluate available data sources. The first of these is the UK Landscape of Climate Finance research to track investment into net zero sectors (see Box 16 below). The second is focused on exploring options to track private investment into nature which we plan to publish shortly. We are looking at the feasibility of adopting some of the methods recommended.

Box 16: UK Landscape of Climate Finance (LCF) research

The methodology and data scoping phase will inform development of a pilot **UK Landscape of Climate Finance (LCF)** model, and is due to conclude in Summer 2023. This research will aim to track investment flows from public and private sources of finance into net zero sectors. This is a critical first step taken by the UK government to build the evidence base on green investment flows in the UK. Stakeholder engagement with data holders, financial sector participants and existing LCF developers has informed this scoping phase.

This research will identify key data gaps. We can then explore how to address these as part of our commitment to investigate how we apply a systematic and robust approach to tracking annual investment flows.

3.2 Government and public sector levers to mobilise private investment

3.2.1 Our strategic approach to mobilise investment

20. The right policy frameworks and signals can shape and accelerate the growth of the sectors and technologies, supporting the market to drive solutions. Central government, public finance institutions and local authorities all have a critical role. This includes providing the funding and incentives that both de-risk projects and improve the clarity of policy direction to instil investor confidence.
21. Published alongside this Strategy, the *Powering Up Britain* provides more detail on how the UK government will use policy, regulatory and funding levers, on a sectoral and whole-economy basis, to provide businesses and investors with confidence in critical net zero sectors and technologies. These build on the UK government's long-term plan and strong policy framework set out in the Net Zero Strategy and British Energy Security Strategy.

22. Similarly, our Environmental Improvement Plan (2023) also sets out how the UK government plans to achieve a range of targets and goals for the natural environment in England, providing clear long-term signals to investors.
23. On climate adaptation, we will build a launchpad for private and public collaboration over the next 5 years to overcome barriers to investment and assist in the creation and functioning of new markets. We will announce our approach alongside our adaptation finance deliverables and action plan by the end of 2024.

Box 17: Case study of offshore wind - effectiveness of UK policy framework

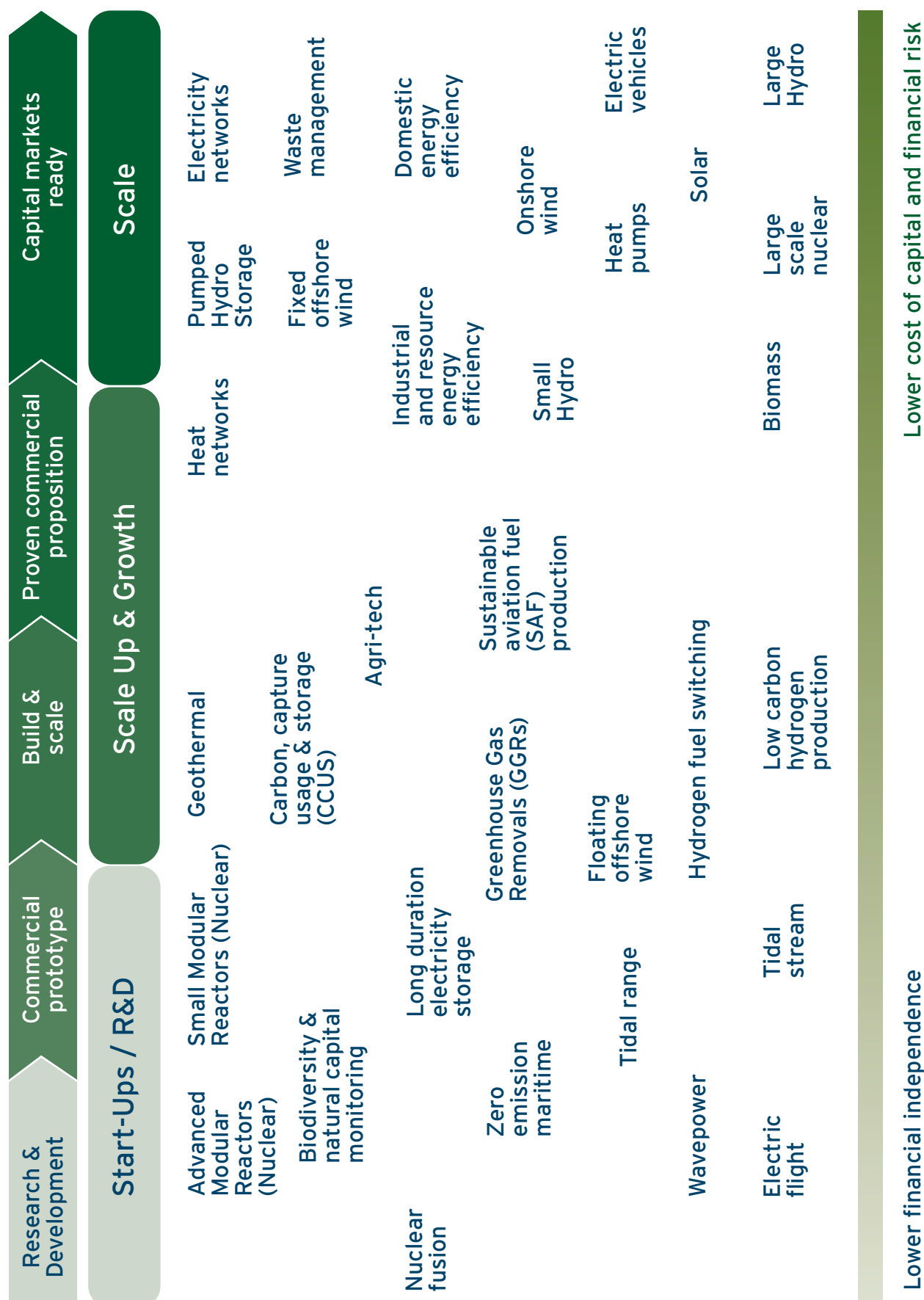
The growth of the offshore wind sector is a great example of the effectiveness of the UK policy framework in attracting private investment. The government's earlier support scheme (Renewables Obligation and Final Investment Decision Enabling for Renewables) brought forward a significant amount of deployment which accelerated investment, technological development and learning. The Contracts for Difference (CfD) support scheme (see section 3.2.2), launched in 2014, drove competition and cost reduction. Between the first CfD allocation round in 2015 and the fourth in 2022 the per unit (MWh) price of offshore wind fell by almost 70%.

The UK now has the highest deployment of offshore wind capacity in Europe, the first, second, third and fourth largest operational offshore wind farm projects in the world, and by 2030 we could have more than enough wind capacity to power every home in Britain¹⁰⁰.

Commercial maturity of key sectors and technologies

24. Many of the key sectors and technologies needed to support the transition to a net zero, resilient and nature positive economy have financial returns that are currently too low or risky to attract investment in the market.
25. Recognising differences in commercial maturity is therefore an important part of determining how we address barriers to attracting investment. Figure 6 below shows an indicative snapshot of the commercial maturity in the UK of certain key sectors and technologies needed to meet our net zero, nature and climate adaptation commitments. This influences the type of support needed, from early-stage grant funding, to loans and guarantees, tax credits and allowances, revenue support models, or co-investment on major infrastructure projects.

Figure 6: Commercial maturity of key sectors and technology in the UK to meet our net zero, nature and climate adaptation commitments



The role of public finance institutions and UK Export Finance

26. The UK's public finance institutions and UK's export credit agency, UK Export Finance (UKEF) play a key role in supporting sectors and technologies to commercial maturity and scale (see Table 2). As illustrated by Figure 7, UKRI tend to focus on earlier stage support for innovation, the BBB support smaller businesses vital to commercialisation of green technologies, while UKIB and UKEF support first-of-a-kind commercial deployment, and later stage scaling-up and growth stages for businesses and technologies. Since the first *Green Finance Strategy*, they have each made formal commitments, or established with a mandate (in the case of UKIB), to prioritise net zero as part of their portfolios.

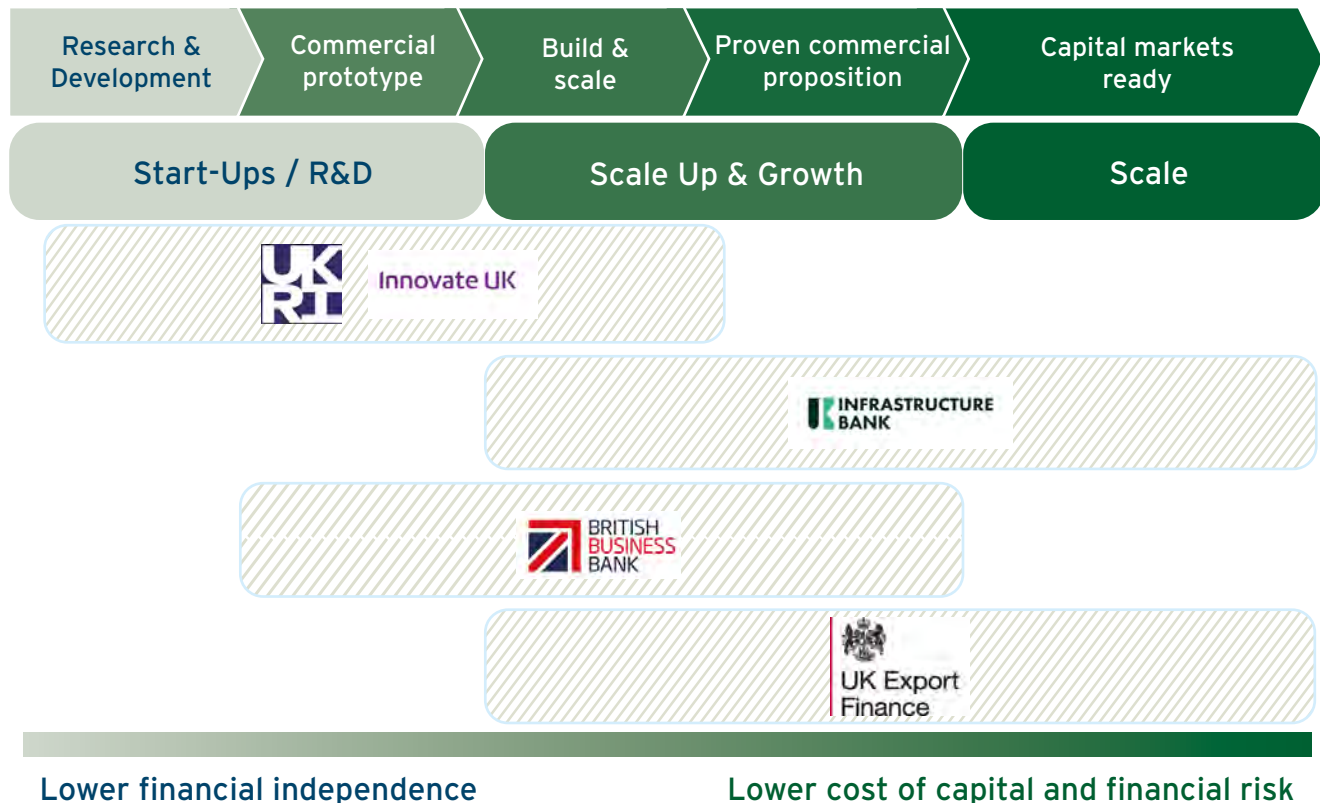
Table 2: UK public finance institutions and UK Export Finance

Organisation	Description	Type of support
UK Infrastructure Bank (UKIB)	UKIB is a UK government-owned policy bank with £22 billion of financial capacity across its private and local authority lending arms. Its mission is to partner with the private sector and government to increase infrastructure investment to help to tackle climate change and promote economic growth across the UK. As of 27 March 2023, it has announced 12 deals, investing approximately £1.2 billion and unlocking over £5 billion of private capital.	Senior debt Mezzanine / first loss finance Guarantees Equity
British Business Bank (BBB)	BBB is a government-owned economic development bank established by the UK government. BBB supports access to finance for smaller businesses to drive sustainable growth and prosperity across the UK, and also to enable the transition to a net zero economy. Between 2014 and end of August 2022, BBB supported £505 million of equity investment in clean technology companies.	Debt ¹⁰¹ Guarantees ¹⁰² Equity ¹⁰³

Organisation	Description	Type of support
UK Export Finance (UKEF)	UKEF is the UK's export credit agency. Its mission is to advance prosperity by ensuring no viable UK export fails for lack of finance or insurance, doing that sustainably and at no net cost to the taxpayer. Alongside this Strategy the Chancellor has announced an increase in UKEF's capacity from £50 billion to £60 billion to support UK exporters and supply chains. UKEF is committed to increasing its support in clean growth and climate adaptation.	Export guarantees ¹⁰⁴ Debt (for overseas buyers) ¹⁰⁵ Guarantees (for overseas buyers) ¹⁰⁶
UK Research and Innovation (UKRI) & Innovate UK	UKRI is a non-departmental public body of the UK government that directs research, innovation and skills funding. It brings together seven disciplinary research councils, Research England which is focused on higher education institutions, and the UK's innovation agency, Innovate UK . Between 2015 and 2020 Innovate UK supported 5,940 companies with £1.9 billion of net zero related grants. As a result, these businesses created 67,000 new jobs, and went on to raise £4.8 billion of private investment.	Grants ^{107 108} Innovation loans Investor partnership & knowledge sharing ¹⁰⁹ Research commercialisation ¹¹⁰ Investor readiness ¹¹¹

27. The UK government is committed to intensify work with the public finance institutions, and UK Export Finance, to mobilise private investment across green sectors and established sectors that need to transition, supporting green technologies through to commercialisation and scale. These institutions work closely together, and the UK government welcomes the joint statement made by these institutions supporting this Strategy.

Figure 7: Focus of public finance institutions and UK Export Finance across the commercial maturity spectrum



3.2.2 Government and public levers to support a whole economy transition

28. The actions set out in *Powering Up Britain* and the *Environmental Improvement Plan* show how government and public levers are being, and will be, used to provide businesses and investors with confidence across:
- New and emerging technologies:** providing research and innovation support;
 - Commercialisation:** support for technologies and businesses finding a route to market;
 - Growing green sectors:** government and public levers helping sectors scale up;
 - Established sectors:** supporting the transition to greener practices; and
 - Climate resilience and adaptation across the economy:** enabling and stimulating investment into climate resilience.
29. We have set out below how these actions will mobilise investment. More information on specific policies can be found in the *Powering Up Britain - Energy Security and Net Zero Growth Plans* and *Environmental Improvement Plan*.

New and emerging technologies: providing research and innovation support

30. Strategic, sustained, long-term investment in research, innovation, skills and infrastructure across the UK will be vital for meeting our climate, nature and adaptation commitments. Publicly funded research and innovation (R&I) is important where market failures or barriers are holding back private sector investment,

and to create and shape markets which may not otherwise form fast enough to meet our targets.

31. In the Spring Budget 2023 we signalled our intent to increase support for the UK's most innovative companies by extending the British Patient Capital programme a further 10 years until 2033-34 and increasing its focus on research & development intensive industries, providing at least £3 billion in investment. We have also committed to increase domestic public investment in R&D outside the Greater South East by at least 40% by 2030.¹¹²
32. The **Net Zero R&I Delivery Plan** published alongside this Strategy outlines the UK government's current portfolio of net zero R&I programmes for 2022-25, based on the challenges outlined in the Net Zero Research and Innovation Framework.¹¹³ In total, we expect to invest £4.2 billion in net zero R&I over 2022-25, delivered through government and UKRI programmes. Further funding from Ofgem's £450 million Strategic Innovation Fund (£263 million during 2022-25) is being invested on innovation related to energy networks. Our net zero-related R&I funding includes:
 - a. The **£1 billion Net Zero Innovation Portfolio (NZIP)**¹¹⁴ and the **£385 million Advanced Nuclear Fund** which aim to accelerate the commercialisation of low carbon technologies, systems and business models in power, buildings, greenhouse gas removals and industry;
 - b. The **£206 million investment in the UK Shipping Office for Reducing Emissions (UK SHORE)** to develop and demonstrate pre-commercial clean maritime technologies and support accelerating the deployment of near-commercial solutions;¹¹⁵
 - c. The £200 million **Zero Emission Road Freight Demonstrator**, supporting industry to demonstrate multiple zero emission HGV technologies and associated infrastructure at scale on UK roads, enabling multi-year data collection in real world operations;¹¹⁶
 - d. The £685 million **for the Aerospace Technology Institute** programme from 2022-2025 to support the development of new low- and zero-carbon aircraft;¹¹⁷
 - e. At least £75 million for **net zero-related research into natural resources, waste and F-gases** from 2022-25.¹¹⁸
33. Other examples of R&I support that contribute to our broader nature and climate adaptation commitments are:
 - a. The **£200 million for the Flood and Coastal Innovation Programme (FCIP)**, including a wide range of innovative projects such as apps alerting residents to flooding, actions to improve drainage and schemes to protect vital sand dune beaches;
 - b. The **£270 million committed to agricultural and horticultural R&D through the Farming Innovation Programme (FIP)** to 2029, to enhance productivity, environmental sustainability and resilience in England's farming sectors; and
 - c. Supporting 86 innovative nature projects across England to explore ways of generating revenue from nature markets and operate on repayable private sector investment, through the **£10 million Natural Environment Investment Readiness Fund (NEIRF)**.

Box 18: UKRI & Innovate UK

UK Research & Innovation (UKRI) investment in research, innovation, and skills creates the conditions for the UK to address the complex and interrelated challenges of achieving net zero by 2050. Beyond early-stage research, investment in new technologies is essential to bring them closer to commercialisation. Building on a substantial £800 million per annum portfolio in this area, UKRI will continue to make strategic investments that fast-track progress to achieving this ambition.

Examples of UKRI programmes that drive investment into emerging green technologies include:

- **Innovate UK**, the UK's national innovation agency, supporting business-led innovation in all sectors, technologies and UK regions. Between 2015 and 2020 Innovate UK supported 5,940 companies with £1.9 billion of net zero related grants. As a result, these businesses created 67,000 new jobs, and went on to raise £4.8 billion of private investment¹¹⁹.
- Innovate UK's '**Financing Net Zero**' programme, which focuses on unlocking investment to scale net zero innovation by: i) educating investors on climate tech solutions, ii) upskilling businesses and local authorities to become investment ready; iii) building interactions between climate tech investors and businesses to increase deal flow and iv) unlocking markets through demand led innovation.
- **Engineering and Physical Sciences Research Council (EPSRC) 'Prosperity Partnerships'** are business-led research that arises from an industrial need, with the work being co-delivered between the business and academic partners. This supports excellent, world leading fundamental research which has clear benefit to the businesses involved, resulting in accelerated impact arising from the new knowledge, innovations, or technologies. For every £1 the UK government invests in net zero research through EPSRC's Prosperity Partnerships, an additional £1.34 is invested by industry partners.
- UKRI has invested **£5 million in a research network to help UK agri-food industry** reach net zero. Supported by BBSRC, ESRC, EPSRC and NERC, the network will bring UK researchers together to explore effective ways to support the industry to reduce its GHG emissions and improve its environmental sustainability.

Commercialisation: support for technologies and businesses finding a route to market

Bridging the innovation to commercialisation gap

34. Accessing venture capital is an important next step for businesses looking to transition from the R&D stage to rapidly scale up and move up the commercial maturity curve. The UK is Europe's most developed venture capital market¹²⁰, ranks top in Europe for total climate tech venture capital funding between 2013 and the first half of 2021¹²¹, and we recently supported the launch of Cleantech for UK, a coalition of leading entrepreneurs and investors committed to scaling clean tech businesses¹²². We recognise that the UK government has a role working alongside the private sector to improve access to venture capital for green technologies, and the approach taken to the Clean Growth Fund (CGF) is a prime example.

Box 19: Clean Growth Fund

In the 2019 *Green Finance Strategy* the UK government committed £20 million to a new clean growth venture capital fund, with a view to catalysing the Clean Growth equity financing market. Launched in May 2020, the Clean Growth Fund (CGF) is a venture capital fund backed by both public and private investors. It was initially launched with a £40 million cornerstone investment, half funded by the UK government and half funded by CCLA, a specialist investment management firm. The target fund size was £100 million, and the fund achieved final close at £101 million, with £20 million from government invested alongside £81 million by the private sector.

The CGF is an independent venture capital fund managed by Clean Growth Investment Management LLP. The fund's focus is on speeding up the commercialisation of innovative, UK-based, clean technologies that quantifiably reduce GHG emissions. This accelerates deployment, catalyses the UK clean growth venture capital market, and leverages further investment into clean tech start-ups. CGF makes direct investments in companies seeking to commercialise promising technologies. Investments are made across the technology spectrum, including hardware, software, process systems, materials, deep tech and business model innovations.

To date, CGF has invested £26.5 million into 10 companies who are deploying the following solutions to market: enabling flexibility on the power grid, thermal battery solutions to heat domestic buildings, industrial biotechnology to synthesise clean chemicals, software to optimise solar farms, renewable energy integration into logistics transport and technology designed to capture CO₂ from energy intensive industries.

Support for small businesses

35. Smaller businesses across the UK have a critical role to play in the transition, by innovating they can pioneer technologies, diffusing these throughout the supply chains. They also need support to address their own carbon footprints (they account for almost a third of UK GHG emissions and around 50% of total GHG emissions from UK businesses¹²³) and respond to supply chain challenges as corporate clients adopt net zero and other environmental targets.
36. The shape, scale and timing of these opportunities and challenges differ from business to business, but also from region to region within the UK. Depending on their business stage and the maturity of their product or service, smaller businesses will need many diverse types of finance to succeed, and costs are a frequently cited barrier impeding action.¹²⁴ Support for smaller businesses is therefore important for unlocking green investment opportunities.
37. The UK government supports businesses by providing information and encouraging greater action to meet their net zero commitments via the UK Business Climate Hub (BCH), part of the international SME Climate Hub. Through the BCH, smaller businesses in the UK are encouraged to join the UN's 'Race to Zero' initiative - a global effort to reduce the amount of greenhouse gases we all generate to zero by

2050. More than 3,700 UK small businesses have joined this initiative and set robust, measurable net zero targets.

38. Public financing is also available for small businesses: the BBB offers a range of equity and debt programmes – delivered via intermediary private finance institutions – to suit business needs, and between 2014 and August 2022 has supported £505 million of clean technology equity investments.

Box 20: British Business Bank

The British Business Bank's (BBB) remit is to help smaller businesses overcome the numerous finance barriers they face as they start up, grow and succeed. In 2023, BBB will launch a strategy that describes its role in the net zero transition and provides a long-term view as all BBB programmes become "sustainable by default" over time.

BBB is exploring the potential use of its existing products including guarantees to catalyse lending and investment into critical transition themes such as retrofit and energy efficiency, and electric vehicle adoption. Given the importance of place-based finance, the BBB will also explore green investment issues including in the new Nations and Regions Investment Funds, which will support economic growth by leveraging private sector investment across a broad range of sectors and incorporating net zero considerations.

BBB also works with the small business and finance market ecosystems to tackle information capacity gaps and raise awareness of potential solutions. For instance, through the 2022 Green to Grow campaign¹²⁵, the BBB provided information to small businesses from a wide range of sources on the benefits of sustainability, explaining how finance can help and providing case studies that highlight good practices and champions.¹²⁶ The BBB is also working with Bankers for Net Zero on solutions to make GHG emissions reporting frictionless for small companies.

Case study: Teesside-based Nova Pangaea's patented process converts woody and agricultural residues into high-value sustainable products that will be used to produce sustainable aviation fuel for British Airways. Successive funding rounds from the British Business Bank's Northern Powerhouse Investment Fund and grant funding support from the Department for Transport have enabled Nova Pangaea to build a demonstration plant and prove the capability of its process.¹²⁷

Growing green sectors: government and public levers to help sectors scale up

39. Sectors and technologies moving towards commercial maturity must attract further investment to scale up capacity, remain cost and price competitive, and maintain resilient supply chains in the face of increasing global demand for inputs. The right policy frameworks, market arrangements and signals can act as a catalyst for more investment. Giving clarity around public funding and incentives in the short-term, with appropriate market frameworks and policy direction in the long-term, helps increase private sector confidence and reduce financing costs for green investment projects.

Types of levers

40. The UK government deploys **grant funding to reduce upfront costs for large investments** in infrastructure or manufacturing in the short-term. Key examples of this are:
 - a. **The £1 billion CCUS Infrastructure Fund (CIF)** to help reduce the capital costs borne by private investors in strategic CCUS infrastructure, transport and storage networks, and industrial carbon capture (ICC) projects (see Fuel Supply and Hydrogen chapter of the *Net Zero Growth Plan*);¹²⁸
 - b. **The £240 million Net Zero Hydrogen Fund (NZHF)** to support the development and construction of new low carbon hydrogen production plants that can deploy in the 2020s, including both CCUS-enabled and electrolytic hydrogen. The first competition window for Strands 1 and 2 of the NZHF ran from April to July 2022, aimed at projects which require development or capital costs without revenue support, and successful applicants have been announced alongside this Strategy (see Fuel Supply and Hydrogen chapter of the *Net Zero Growth Plan*);¹²⁹
 - c. **The £30 million Heat Pump Investment Accelerator Competition** to drive investment in domestic manufacturing of heat pumps (see Heat and Buildings chapter of the *Net Zero Growth Plan*);¹³⁰
 - d. **The up to £160 million Floating Offshore Wind Manufacturing Investment Scheme**¹³¹ to kick start investment in port infrastructure projects needed to deliver our floating offshore wind ambitions, and the **Offshore Wind Manufacturing Investment Scheme**¹³² which supported major port infrastructure and manufacturing investment (see Power chapter of the *Net Zero Growth Plan*);
 - e. **The Automotive Transformation Fund** has been developed to support the creation of an internationally competitive, electric vehicle supply chain in the UK; and
 - f. **The £165 million Advanced Fuels Fund** to support the development of commercial scale sustainable aviation fuel (SAF) plants in the UK (see Transport chapter of *Powering Up Britain - Energy Security and Net Zero Growth Plans*).¹³³
41. We also enable consumers to access **smaller increments of funding to reduce burden on them** and help them purchase low carbon goods, which creates a positive demand signal and encourages investment. A key example of this is the new Energy Company Obligation scheme - the **Great British Insulation Scheme** - which will deliver £1 billion additional investment by March 2026 in energy efficiency upgrades, such as loft and cavity wall insulation.

Box 21: Using different levers to drive investment in energy efficiency and low carbon heating across homes, businesses and the public sector

Improving energy efficiency by reducing the amount of energy that households and businesses need is a crucial element in the UK government's approach to meeting its net zero targets, as well as a key part of the response to high energy prices. We are investing over £6.6 billion this parliament towards improving energy efficiency and low carbon heating, and will be investing a further £6 billion over 2025-2028.

Whether the challenge is retrofitting the UK's housing stock, decarbonising its businesses, or developing retrofit programmes for public sector buildings, such as schools, colleges and hospitals, the provision of finance and supporting development of the right supply chains are essential. As set out in Heat & Buildings chapter of the *Net Zero Growth Plan*, some of the recent steps have taken include:

- **Establishing the Energy Efficiency Taskforce** to support the reduction of the UK's final energy consumption from buildings and industry by 15% by 2030 against 2021 levels.¹³⁴
- The **Boiler Upgrade Scheme (BUS)** is providing **£450 million between 2022-2025**, and we have announced this will now be extended to at least 2028. The scheme has led to a number of offers, from both energy suppliers and financial lenders, that utilise BUS funding to reduce and spread the upfront cost, supporting the expansion of the low carbon heat market, scaling up manufacturing and upskilling installers.¹³⁵
- **The £1.425 billion Phase 3 of the Public Sector Decarbonisation Scheme** will provide grant funding over the financial years 2022/23 - 2024/25. Phases 1 and 2 provided more than £1 billion in grants over the financial years 2020/21 and 2021/22.¹³⁶
- **The up to £20 million Green Home Finance Accelerator** to support the development of innovative green finance products that help homeowners with upfront costs of energy improvements. We expect to fund up to 27 successful projects, supported by around £4 million of initial grant funding for a 6-month Discovery Phase.¹³⁷

42. Our medium-term approach is to design sectoral market support '**business models**'. Business models are tailored to the needs and circumstances of sectors, and support mechanisms are designed in consultation with industry so that we can reduce risk and provide long-term clarity. This is particularly helpful for sectors that face significant uncertainty around future prices and costs. Key examples are:
 - a. **The Contracts for Difference (CfD) renewable support scheme**, which has been highly effective in mobilising investment in renewables in the UK and driving down cost since it was launched in 2014.¹³⁸ CfDs incentivise investment by providing revenue stability while protecting consumers from rising costs. The last CfD round, Allocation Round 4 in July 2022, was our largest ever, supporting an expanded number of renewable technologies and securing almost 11GW of low carbon

capacity.¹³⁹ (See Power chapter of the *Net Zero Growth Plan* and chapter 4 of *Powering Up Britain - Energy Security Plan*.)

- b. **The Regulated Asset Base (RAB) funding model for future nuclear projects**¹⁴⁰ introduced in 2022. RAB models have been successfully used for many years to finance large, long-term single-asset infrastructure projects in the UK. In November 2022, the UK government confirmed an investment of £700 million in the Sizewell C project.¹⁴¹ This represents one of our biggest steps yet in our journey to energy independence. (See Power chapter of the *Net Zero Growth Plan* and chapter 4 of *Powering Up Britain - Energy Security Plan*.)
- c. **The Hydrogen Production Business Model (HPBM)** will provide revenue support to hydrogen producers to overcome the operating cost gap between low carbon hydrogen and high carbon fuels. In December 2022 we set out the model design in the HPBM Heads of Terms which will form the basis of the Low Carbon Hydrogen Agreement (LCHA) signed with hydrogen producers.¹⁴² Alongside this Strategy, we have published the shortlist of projects for the **UK's first electrolytic hydrogen allocation round (HAR1)**¹⁴³ to take forward to due diligence, and re-confirmed our aim to award contracts totalling up to 250MW capacity through this round. Successful projects in this round will be funded by government until the hydrogen levy is in place. In August 2022, we also published a consultation on **Hydrogen Transport and Storage Business Models**, as part of our commitment to design these by 2025.¹⁴⁴ We are aiming to introduce legislative powers, when parliamentary time allows, which will be crucial to designing these new business models by 2025. (See Fuel Supply and Hydrogen chapter of the *Net Zero Growth Plan* and chapter 4 of *Powering Up Britain - Energy Security Plan*.)
- d. **A suite of CCUS business models**¹⁴⁵ are being developed, tailored to different parts of the CCUS sector. (See Fuel Supply and Hydrogen chapter of the *Net Zero Growth Plan* and chapter 4 of the *Energy Security Plan*.) These include:
 - i. the **transport and storage ('T&S') business model** to establish the commercial arrangements that will fund transport and storage infrastructure and enable CCUS clusters;
 - ii. the **industrial carbon capture (ICC) and waste ICC business models** to provide ongoing revenue support for industrial and waste management emitters to decarbonise;
 - iii. the **Dispatchable Power Agreement (DPA)** contractual framework for power CCUS, published in November 2022; and
 - iv. the **power bioenergy with CCS (power BECCS) business model**, consulted on in August 2022 with our response published imminently.
- e. We consulted on the design of **engineered Greenhouse Gas Removals (GGR) Business Models** in July 2022.¹⁴⁶ The consultation also explored options for building a negative greenhouse gas emissions market in the UK and key considerations in relation to the monitoring, reporting and verification of engineered GGRs. We intend to respond and set out the next steps this year. (See Greenhouse Gas Removals chapter of the *Net Zero Growth Plan*.)

43. As part of the British Energy Security Strategy, we announced the **Review of Electricity Market Arrangements (REMA) programme**. It is exploring enduring reforms to our electricity (non-retail) market arrangements to ensure that they remain fit both for today and future generations. We aim to publish a second REMA consultation in Autumn 2023 and will take decisions on shorter-term reforms more quickly where it is viable to do so throughout the REMA programme (see chapter 5 of the *Energy Security Plan*).
44. We also deploy **regulation** to set standards, create demand and supply signals, and create new market frameworks. These also act as signals for investors to identify investible opportunities across sectors. Key examples are:
 - a. **The Zero Emission Vehicle (ZEV) mandate**¹⁴⁷ planned from 2024 will support delivery of the phase out of the sale of new petrol and diesel cars and vans from 2030, and ensure that all new cars and vans are zero emissions at the tailpipe from 2035. This is driving adoption and deployment of zero emission vehicles, as well as investment in their manufacturing, supply chains and enabling infrastructure. (See Transport chapter of the *Net Zero Growth Plan*.)
 - b. **The Sustainable Aviation Fuel (SAF) mandate** starting in 2025 with a target of at least 10% SAF in the UK aviation fuel mix by 2030. This aims to reduce GHG emissions from aviation by generating demand for SAF and providing an incentive to SAF producers in the form of tradeable certificates. It also sends a long-term signal to investors on the vital role the government believes the technology will play in the UK. In March 2023, we launched a second consultation on the mandate's design. We commissioned an independent review to help understand the conditions needed to create a sustainable long-term UK SAF industry in October 2022. We will very shortly respond to its findings, and will work with industry on options to increase revenue certainty for UK SAF plants and options to stabilise the UK market for feedstocks. (See Transport chapter of the *Net Zero Growth Plan*.)
 - c. **The Low Carbon Hydrogen Standard** sets a maximum GHG emissions threshold for hydrogen production processes to be considered 'low carbon hydrogen', and a methodology for calculating GHG emissions.¹⁴⁸ Compliance with the standard will help ensure new low carbon hydrogen production supported by government makes a direct contribution to our carbon reduction targets. (See Fuel Supply & Hydrogen chapter of the *Net Zero Growth Plan*.)
 - d. **Mandatory Biodiversity Net Gain**, which we legislated to introduce in the Environment Act 2021, will establish a market for biodiversity units from November 2023.¹⁴⁹ Land managers who can create or enhance habitat on their land will be able to sell the resulting biodiversity units to developers needing to meet their obligations. (See Goal 1 'Thriving plants and wildlife' and Goal 6 'Using resources from nature sustainably' of the *Environmental Improvement Plan*.)
45. We have committed to publish a Land Use Framework for England in 2023, which will help to inform how we manage trade-offs between different land uses as we deliver our ambitious climate and environmental goals, and provide greater clarity to the market. (See Goal 6 'Using resources from nature sustainably' and Goal 7 'Mitigating and adapting to climate change' of the *Environmental Improvement Plan*.)

Innovative uses of public financing to make crowding in private investment more effective

46. Innovations in public financing mechanisms have the potential to improve the capacity to crowd in private investment more effectively. A key example of this is the use of blended finance structures which can support projects to secure the investment they need, whilst providing value for money for the taxpayer.
47. '**Blended finance**' is a catch-all term that covers financial products or structures that combine different funding sources aimed at lowering the risk profile of specific companies or projects and ultimately attracting private capital.
48. Examples include public sector provision of concessional guarantees, first loss tranches of debt structures, performance wraps (insurance), and subordinated debt. All are examples of a creative use of traditional grant funding, that can be customised to the involved parties' priorities and risk appetites, and can target a particular sector, project type or context.

Box 22: Blended finance case studies focusing on nature markets

The UK government is investing £30 million Big Nature Impact Fund (BNIF), a new blended finance impact fund managed by Federated Hermes and Finance Earth.¹⁵⁰ Our catalytic investment will crowd in significant levels of private capital, with the aim of developing a track record for private sector investment in nature recovery at scale, which others can follow.

BNIF will accelerate the creation across England of high-integrity nature projects that generate revenue from ecosystem services such as carbon sequestration, biodiversity and water quality, by creating biodiverse woodlands and other priority habitats, and restoring peatlands. By taking a blended finance approach and aggregating these projects up to an investible level, BNIF will help lower transaction costs and reduce risks, bringing the risk profile of these projects in line with institutional investors' appetite.

The £50 million Woodland Carbon Guarantee helps accelerate woodland planting rates and develop the domestic market for woodland carbon, by offering a price guarantee for verified carbon credits sold to the UK government.¹⁵¹

Our new Environmental Land Management schemes are being designed to dovetail with private investment.¹⁵² In particular, we are supporting the bespoke **Landscape Recovery** projects to secure private funding alongside public funds in innovative ways. We have carried out numerous tests and trials looking at different mechanisms to crowd in private finance to improve nature's recovery, and we will continue to learn from these and other projects as private markets for nature develop.

49. Over the past decade the UK has developed significant international experience developing blended finance instruments, including support for the Global Innovation Lab for Climate Finance.¹⁵³ Many public finance institutions, public funds and initiatives also already include a mix of blended finance options (see Table 2). The UK Infrastructure Bank has a broad range of options including significant (£10 billion) capacity to provide guarantees, and the British Business Bank oversees products

that use grants and guarantees to crowd in private sector lending. UK Export Finance also works closely with a wide range of private credit insurers and lenders to help UK companies access export finance, complementing the provision of support from the private market.

50. To build on a strong track record of existing blended finance structures and interventions, the UK government is committed to exploring additional areas where such structures could have impact. We will work with the Green Finance Institute and industry leaders in the finance sector to develop a forward-looking analysis of blended finance models and where they could be better deployed in the UK.
51. In addition, both our call for evidence and the independent *Net Zero Review* highlighted concerns that the broad range of government funding schemes that are available for businesses and project developers can at times create undue complexity and do not always suit the specific needs of the relevant sector. The UK government recognises the importance of ensuring the **design of funding schemes** is as impactful and effective as possible, and delivers value for money. We will explore the design of funding schemes for net zero projects ahead of the next Spending Review.

Green infrastructure projects across sectors: common barriers and solutions

52. Much of the green investment required at the stage of commercial maturity is investment in infrastructure. Based on industry feedback we understand that there are significant pools of private finance ready to deploy into green infrastructure projects but there can be a mismatch between market appetite and the risk profile of green projects. The UK Infrastructure Bank has an important role to play in crowding private investment into these.



Box 23: UK Infrastructure Bank

UKIB published a Strategic Plan in Summer 2022, which sets out how it will deliver on its mission across its five priority sectors: clean energy; digital; transport; water; and, waste.¹⁵⁴ Projects which UKIB invests in must meet its triple bottom line: achieving one or both of its strategic objectives (tackling climate change and promoting economic growth across the UK), generating a positive financial return and demonstrating additionality. It will focus where there's an undersupply of private finance and reducing barriers to investment - thereby crowding-in private capital.

UKIB has an initial £22 billion of financial capacity which it aims to deploy over the next five to eight years, subject to the pipeline of investable projects. It can provide corporate and project finance and invest across the capital structure, including senior debt, mezzanine, guarantees and equity. Where possible, UKIB will invest on terms in line with other sources of finance. However, it can go further, including: taking on risks that other investors are unwilling - or not yet willing - to take; and offering concessional terms, including on price and tenor, where that is necessary.

UKIB will finance early-stage technologies commercially deploying for the first time; proven technologies to accelerate their deployment toward government ambitions; and, mature technologies transitioning to subsidy-free models. It will also invest in the natural capital market, creating pathways for future private investment by demonstrating the soundness and replicability of emerging business models, including approaches that aggregate projects.

UKIB is now operational and, as of 27 March 2023, has announced 12 deals, investing approximately £1.2 billion and unlocking over £5 billion of private capital. Projects that contribute towards meeting net zero include:

- Committing £162.5 million as a cornerstone investor in Next Power UK ESG fund, the UK's largest subsidy-free solar fund;
- Investing £150 million, alongside £1 billion from other investors, in the UK portion of finance for the 1.4GW NeuConnect interconnector project; and
- Providing £10 million to the West Midlands Combined Authority, supporting the introduction of green buses in Birmingham.

Case study - Electricity storage: UKIB has announced, alongside this Strategy, that following an expressions of interest process it will appoint managers for equity funds covering both short and long duration electricity storage. UKIB will invest on a matched basis, crowding-in wider sources of finance. Going forward, UKIB expect to make direct investments in the electricity storage sector, which was identified as an investment opportunity in their Strategic Plan.

53. Heat Networks are an example of an infrastructure investment which will require significant private sector finance to help deliver decarbonised heating. Heat network regulation will come into force in 2024 and Heat Network Zoning in England will come into force by 2025 to support long-term strategic investment into heat networks. We are continuing to grow and decarbonise the UK heat network market through

the **Green Heat Network Fund (GHNF)** and can confirm that capital support will be extended to 2028, including £220 million to facilitate the continued growth of low carbon heat networks over 2025/6 and 2026/7. Local authorities applying to the UK government's **GHNF** for funding can now also access loans from the UK Infrastructure Bank at preferential rates.¹⁵⁵

54. Central to delivery of net zero infrastructure at scale is an **efficient planning system**. It can currently take many years to get a major project through the planning system, and as volumes and complexity increases, the system is increasingly facing delays and challenges. We published our action plan in February 2023 to improve the **Nationally Significant Infrastructure Project** planning process.¹⁵⁶ This important document contains a raft of reforms across the entire system to make it stronger, fairer and faster. We are now also publishing five revised energy **National Policy Statements** covering Renewables, Oil and Gas Pipelines, Electricity Networks and Gas Generation, and an overarching Energy Statement for consultation. This includes a new requirement for offshore wind to be considered as 'critical national infrastructure'. (See chapter 4 of *Powering Up Britain - Energy Security*.)
55. We are also taking steps to increase the use of nature-based solutions within infrastructure and development in England. The UK government has set an expectation of a significant increase in the use of nature and catchment-based solutions in the water sector, with companies and regulators working towards delivering these solutions as a matter of preference. As well as mandating Biodiversity Net Gain for developers and Nationally Significant Infrastructure Projects, we are aiming to make **Sustainable Drainage Systems (SuDS)** mandatory in new housing developments in 2024, subject to final decisions on scope, thresholds and process following consultation.

Established sectors: supporting the transition to a net zero, resilient and nature positive economy

56. As green sectors innovate and grow, it is also crucial that established, high carbon sectors invest to shift towards greener practices. The UK government's levers and support can help increase the rate of adoption of greener practices, particularly when they are not yet fully cost- or price-competitive with established practices.
57. A major lever to incentivise uptake of low carbon practices is carbon pricing. The **UK Emissions Trading Scheme (UK ETS)** incentivises the reduction of emissions in a cost-effective way.¹⁵⁷ A cap is set on the total amount of certain greenhouse gases that can be emitted by the sectors covered by the scheme over a given period. This incentivises industries to lower their emissions impact and increases the uptake of green technologies, creating positive demand signals that mobilise investment. The UK Government will work with the rest of UK ETS Authority¹⁵⁸ to legislate to continue the ETS beyond 2030, until at least 2050. The ETS will remain aligned with our net zero goals, so giving the private sector the certainty they need to invest in decarbonisation. We will explore expanding the scheme to more sectors of the economy, including high emitting sectors. The UK ETS Authority will shortly publish a Government Response to our consultation on initial expansion of the UK ETS's scope to cover energy from waste/waste incineration and domestic maritime emissions.

58. We are providing specific incentives for **industrial sectors to switch fuel and energy sources**, from fossil fuels to electricity and hydrogen, as well as bioenergy, and to support industrial **resource efficiency and energy efficiency**. (See Industry chapter of the *Net Zero Growth Plan*.) We do this through several levers, such as:
- a. **The Industrial Energy Transformation Fund (IETF)**, which provides grant funding to supporting industry to cut their energy bills and carbon emissions through investing in energy efficiency and low carbon technologies. We are announcing an extension to the IETF, increasing total grant funding available by £185 million. Subject to business case approval, we intend to open Phase 3 of the IETF for new applications in early 2024;
 - b. **The hydrogen production and CCUS business models** (see fuller description in 'Growing green sectors' section above), which will support CCUS and help make hydrogen a cost competitive option compared to alternative fossil fuels, incentivising their uptake; and
 - c. **The Climate Change Agreements** scheme, which we are extending by two years, and provides reduced Climate Change Levy rates for eligible businesses in over 50 industrial sectors worth an estimated £300 million a year. We are also publishing a consultation on the detail of the extension and views on a potential future Climate Change Agreements scheme.
59. We recognise that UK **industrial electricity prices** are higher than those of other countries, which may be a barrier to investment. We have committed to address this to ensure UK industry remains competitive. We have taken several steps to reduce the cost of electricity for the UK industrial sector, and energy intensive industries in particular, including:
- a. The **British Industry Supercharger**, with targeted measures to bring the energy costs for key UK industries in line with other major economies, benefitting 300 businesses across the UK;
 - b. The **Energy Intensive Industries (EII) Compensation Scheme**, extended until March 2025, helps high energy usage businesses such as steel and paper manufacturers with their electricity costs;
 - c. A commitment to outline a **clear approach to gas vs electricity 'rebalancing'** by the end of 2023/4, aiming to make significant progress affecting relative prices by the end of 2024. Rebalancing will generate the clear short-term price signal necessary to shift businesses to lower carbon, more energy efficient technologies like heat pumps. This is vital to meet Government's existing decarbonisation commitments, including our goal of 600,000 heat pumps installed per year by 2028.
60. Investment in the **circular economy** and resource efficiency can also contribute to energy demand reduction targets, whilst increasing the resilience of UK industrial supply chains. This requires the adoption of new, sustainable business models and growth in the UK's capacity to reuse, remanufacture and recycle products and materials. In the Resources and Waste Strategy (2018) and Net Zero Strategy (2021), the UK government has set out plans to support the development of the circular economy. The UK is well placed to capture the opportunity from this transformation.

To support the transition and to help drive investment, UKRI has initiated programmes including the National Interdisciplinary Circular Economy Research (NICER), which is bringing together researchers, businesses, policymakers, and wider society to identify, develop and embed circular economy approaches and technologies across key industrial sectors.

61. We are working with the oil and gas industry and regulators to **decarbonise oil and gas production in the North Sea**, primarily through electrification of infrastructure and cessation of routine flaring (see Fuel Supply and Hydrogen chapter in the *Net Zero Growth Plan*). Through the North Sea Transition Deal, the industry is committed to reducing its emissions by 10% by 2025, 25% by 2027 and 50% by 2030 (against a 2018 baseline).¹⁵⁹ The North Sea Transition Deal will support workers, businesses, and the supply chain through this transition by harnessing the industry's existing capabilities, infrastructure and private investment potential to exploit new and emerging technologies such as hydrogen production, CCUS and floating offshore wind.
62. **Government wants to encourage oil and gas companies to reinvest their profits** in oil and gas extraction from the UK to support the economy, jobs and the UK's energy security. The Energy Profits Levy on extraordinary oil and gas profits was increased to 35% in the Autumn Statement, but in recognition of the need to continue investing in UK energy security and decarbonisation, it comes with an investment allowance for the reinvestment of profits in ring-fenced activities and a separate investment allowance for investment in carbon emissions reducing technology, such as installing bespoke wind turbines to power upstream production assets.
63. The Energy Profits Levy is accompanied by the temporary Electricity Generator Levy, introduced by Government on extraordinary returns in the market due to electricity prices far exceeding historical levels, as a result of Putin's illegal invasion of Ukraine and weaponisation of gas supplies. This will ensure that energy companies contribute to the UK's collective efforts to strengthen public finances, and fund cost of living support and public services. We will keep the investment landscape for renewables under review to ensure we can deliver the capacity needed to decarbonise the sector.
64. We are also committed to ensuring that efforts to shift UK industry towards greener practices are not undermined by carbon leakage; that is, the movement of production and associated emissions from one country to another due to different levels of decarbonisation effort through carbon pricing and climate regulation. Alongside this Strategy, the government has published a consultation on a range of domestic policies to protect against carbon leakage and ensure UK industry has the optimal policy environment to decarbonise. These include a **carbon border adjustment mechanism** (CBAM) and **mandatory product standards** (MPS) and the embodied emissions data required to introduce those policies. (See Industry chapter of *Net Zero Growth Plan*.)

Across the maturity curve: enabling and stimulating investment into climate resilience

65. The Climate Change Committee published its 'Investment for a well-adapted UK' report in February 2023 highlighting the need to mobilise a range of funding sources to support adaptation investment¹⁶⁰. The report highlights a range of market barriers holding back new investment, including: limitations on climate risk information; lack of bankability of climate adaptation projects; and policy, regulatory and behavioural barriers. One of the biggest barriers to adaptation finance is being able to monetise

the benefits of adaptation action to repay private investment. We are running two projects seeking to address this barrier:

- a. **Monetising insurance benefits from flood resilience:** Insurance is a major part of the financial response to climate risk, but its viability and affordability is threatened where risks become very high. We will explore opportunities for new financing mechanisms for facilitating insurance markets to build flood resilience, where that will reduce overall costs.
- b. **Coastal Loss Innovative Funding and Financing (CLIFF):** A study exploring the development of innovative financing mechanisms to support residents in properties impacted by sea level rise, either through incentives to relocate from high-risk areas or by providing financial protection.

3.2.3 Supporting local areas to unlock green investment opportunities

66. Local authorities play an essential role to unlock the investment opportunities that support the UK's net zero, resilience and nature objectives, whilst also supporting local economic growth: around 80% of all the UK's GHG emissions are potentially within scope or influence of local authorities and they have key responsibilities around planning, transport and waste management¹⁶¹.
67. Local authorities also have a local leadership and convening role, which means they can work closely with businesses and investors to encourage investment that would not otherwise be obtained, and making it easier for place-based investment models to be developed. The UK government is working to increase the volume of private sector investment activity in local green projects in the UK and support local authorities to facilitate the generation and promotion of new investment opportunities. This means building capacity for local authorities to attract green investment for opportunities associated with places in the UK.

Building the capacity of local actors to attract green investment

68. Local authorities and other local organisations can often face a lack of resources and skills needed to develop commercially viable investment propositions for investors. The UK government is funding work to address this through **Local Net Zero Hubs**, which support local authorities to develop net zero projects that can attract commercial investment and through the **Net Zero Go platform** launched in 2022, an online resource that supports local authorities in developing projects through the sharing of knowledge and best practice.¹⁶² Going forward we will continue to strengthen support to local authorities to help them attract private sector investment and share expertise. The UK government and its Local Net Zero Hubs will work with UKIB and GFI to provide expertise to local authorities in identifying, developing and framing commercially attractive investments. (See Local Net Zero chapter in the *Net Zero Growth Plan*.)
69. The UK government is also **providing four local authority areas with up to £1 million each to act as trailblazers through our Local Investment in Natural Capital (LINC) Programme**. These local authorities will use the funding to build their capacity to attract private investment at scale, direct it towards their local environmental priorities (including those identified and mapped through Local Nature Recovery Strategies), as part of their plans for economic growth, and share learning with other local authorities. The selected authorities are Cornwall Council, Northumberland

County Council (on behalf of the Borderlands Inclusive Growth Deal area), West Midlands Combined Authority and York and North Yorkshire.

Box 24: Working with other public institutions and bodies to support capacity building in local places

- The **UK Infrastructure Bank (UKIB)** local authority advisory function's first phase pilots have focused on three key areas at the heart of the net zero and local growth challenge: the electrification of buses; mass transit; and, place-based, low-carbon energy infrastructure. The function is building to a steady state through 2023, offering support to authorities across the UK.
- The **Local Government Association** has released an updated version of their guide to green finance for local authorities.
- The **National Parks Partnership (NPP)** and **National Association for Areas of Outstanding Natural Beauty (NAAONB)** to support capacity building of Protected Landscape bodies and increase pipelines of projects for private investment. National Parks and Areas of Outstanding Natural Beauty (AONBs) cover nearly 25% of land in England and are critical to attracting investment into natural capital in a way that protects habitats for nature while enabling access for people.
- We are working with the **Ecosystems Knowledge Network** and **Green Finance Institute (GFI)** to publicise and share cases studies and learning from the Natural Environment Investment Readiness Fund (NEIRF). The Green Finance Institute has drawn on the learnings from NEIRF projects to develop an Investment Readiness Toolkit, that provides an online framework to support the development of nature-based projects and improving their investment readiness. We will consider options for continuing our investment readiness support for nature projects beyond the current iteration of the NEIRF, drawing on the results of an independent evaluation of the programme.
- **Innovate UK's** £60 million place-based net zero programme **Net Zero Living** is designed to ensure UK places and communities thrive as part of the transition. It will address key non-technical barriers to the adoption and deployment of locally-appropriate solutions across the UK, such as finance, helping innovative businesses to prosper and communities to thrive.

Government and public sector levers to mobilise private sector investment locally.

70. The UK government and other public institutions have launched a range of **schemes that use public funding and finance to mobilise private sector investment in local places**. Through these levers we will continue to support local authorities to support the scaling and deployment of key sectors and technologies for our net zero, nature, and resilience objectives. For example:
 - a. As announced in the Budget, new **Investment Zones** will drive local economic growth. Green business sectors are one of the five priority sectors for the Investment Zones and all Investment Zones are also required to demonstrate their contribution to national net zero and environmental targets.

- b. Building on the LEVI Pilot and initial capability funding, the **Local Electric Vehicle Infrastructure (LEVI) fund** supports electric vehicle (EV) charging infrastructure proposals led by local authorities (see Transport chapter of the Net Zero Growth Plan). The LEVI Fund is providing a further £343 million capital and £37.8 million resource funding to support local authorities to work with industry and transform the availability of charging infrastructure for drivers without off-street parking. This will enable strategic and best practice local provision of public EV infrastructure.
- c. UKIB plays an important role in catalysing local government support for the net zero transition. **UKIB's local authority function** will lend up to £4 billion to local authorities at a preferential rate (gilts + 60bps) for high value and strategic projects of at least £5 million.

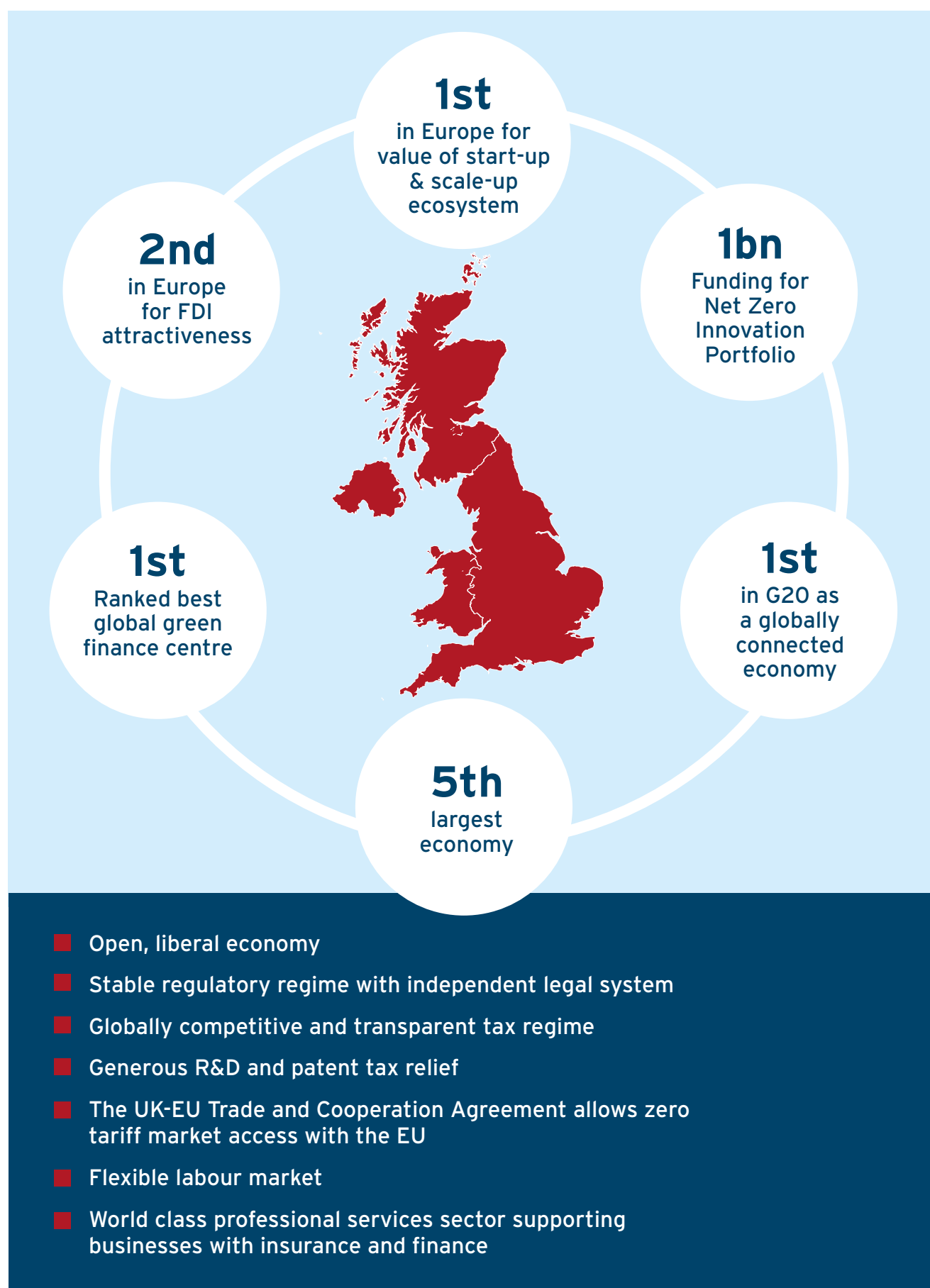
Developing new approaches to local green finance

71. We also recognise that there is an opportunity to support innovations in place-based investment models which can support local authorities to attract investment. These can build on the learnings of “blended finance” models (see section 3.2.2). The UK government and other public institutions are supporting several initiatives to promote this at a local level:
 - a. The UK government has funded a 3Ci project to develop a **business model for increasing private-sector investment in local net zero projects**.
 - b. The **Impact Investing Institute** is working with Wakefield Council on a place-based impact investing pilot, to support the Council to develop a project pipeline of local investment opportunities and support engagement with potential investors.
 - c. The exploration of **Smart Local Energy Systems (SLES)** as part of the UKRI's Prospering from the Energy Revolution programme aims to bring together different energy assets and infrastructure, making them operate in a smarter way, to help local places reduce carbon emissions more quickly and more cost effectively.
 - d. As part of the Prime Minister's Business Council convened in 2022, Lloyds Banking Group, Octopus Energy, Shell and National Grid launched a **Local Low Carbon Accelerator** partnership to provide a blueprint for local authorities and the private sector to work together and deliver green infrastructure. UKIB have supported its projects, providing expert advice throughout the process.
72. The UK government will continue to support new and innovative approaches to local green finance, including opportunities for blended finance in place-based approaches. Work is underway through the **Local Net Zero Forum** to develop models for how place-based approaches to net zero can work, and how blending public and private sector finance can contribute to these, which will inform our policy and programme development.
73. Councils have in recent years started issuing **Community Municipal Investments through the Abundance platform**, allowing communities to invest in net zero projects in their area. This complements opportunities for local authorities to benefit from UKIB's dedicated lending offer for net zero projects as well as to borrow from markets through Green and Sustainable Bonds. This represents a potentially important new source of funding for local projects and the UK government is exploring ways to support the growth of the Municipal Green Bond market.

74. We also recognise the continued importance of local authorities in **incorporating climate adaptation and resilience considerations as a priority** within local delivery of green investment. This includes considering resilience within local net zero ambitions and climate mitigation projects, as well as natural capital projects.

3.2.4 Maintaining an attractive business and investment environment

75. The UK is an attractive investment destination (see Figure 8). We have the joint most generous **capital allowance regime** in the OECD covering capital allowances as well as generous **R&D and patent tax reliefs**. This includes a policy of full expensing from 1 April 2023, which will provide continuity of tax relief for businesses. Following our exit from the European Union we also have the UK-EU Trade Cooperation Agreement, which allows zero tariff market access with the EU, while further UK Free Trade Agreements are turbocharging exports to the rest of the world (currently 70 plus EU).
76. In addition, we announced that from April 2023 the rate of the **Research & Development Expenditure Credit (RDEC)** will be increased from 13% to 20%. This means that the UK's R&D tax relief for large companies has the joint highest uncapped headline rate in the G7.¹⁶³ Further, from April 2023, a **higher rate of relief for loss-making R&D intensive SMEs** will be introduced. Eligible companies will receive £27 from HMRC for every £100 of R&D investment.
77. The UK also provides a series of location-based incentives to stimulate trade, investment, innovation and job creation in **Freeports** across the country – that is in areas near shipping ports or airports.¹⁶⁴ Our Freeports model includes a comprehensive package of measures, comprising tax reliefs, customs, business rates retention, planning, regeneration, innovation and trade and investment support. These are essential levers to secure investment in key infrastructure needed for our net zero, resilience and nature objectives. The UK has announced the creation of eight Freeports in England in East Midlands, Felixstowe and Harwich, the Humber, Liverpool City Region, Plymouth and South Devon, Solent, Teesside and the Thames, two Green Freeports in Scotland in Firth of Forth Green and Inverness and Cromarty Firth, and two in Wales in Anglesey, and Port Talbot and Milford Haven.

Figure 8: UK business and investment environment

Financing to build export capability

78. The transition to a greener, more resilient economy has the potential to create significant export opportunities for the UK, which is both a growth opportunity and supports the global transition to a net zero, resilient and nature positive economy. Attracting the investment needed to accelerate the deployment and build the supply chains of low carbon technologies has the potential to anchor these industries in the UK, boosting export capability. Exports can enhance the growth potential of UK businesses, making them more attractive to investors.
79. Exports within low carbon and renewable energy industries are growing significantly faster than exports from the broader economy. In 2021, it is estimated exports from these sectors increased by 67% from 2020, compared to total exports which increased by 6%.¹⁶⁵ Currently, our exports are strongest within more established green sectors, such as low emission vehicles and offshore wind, but driving investment into and growing emerging sectors could unlock significant opportunities. For example, exports from CCUS could be worth an estimated £4.3 billion in GVA by 2050.¹⁶⁶
80. The UK government has ambitious goals for boosting exports, which are supported by UK Export Finance (UKEF). UKEF is an important enabler for mobilising private investment for the net zero transition by de-risking projects and finance, and helping green economy exporters seize export opportunities and attract investment.



Box 25: UK Export Finance

UKEF's mission is to advance prosperity by ensuring no viable UK export fails for lack of finance and insurance, doing that sustainably and at no net cost to the taxpayer. Alongside this Strategy the Chancellor has announced an increase in UKEF's capacity from £50 billion to £60 billion to support UK exporters and supply chains, and UKEF is committed to increasing its support in clean growth and climate adaptation. In 2021-2022, the economic impact of UKEF support was up to £4.3 billion of UK Gross Value Added (GVA) and an estimated up to 72,000 UK jobs - 40,000 directly employed by exporters and a further 32,000 jobs supported indirectly through the UK supply chain¹⁶⁷.

In 2021, UKEF published its Climate Change Strategy for 2021-24 in which it committed to net zero greenhouse gas emissions by 2050 across its portfolio and operations, and providing international leadership on climate change amongst export credit agencies and relevant financial institutions.¹⁶⁸

UKEF has a range of products to deliver its support to companies of all sizes across the UK, helping them to access finance for their exports of goods, services and intangibles to markets around the globe. In addition, it provides overseas partners with access to finance for projects where they commit to sourcing goods and services from the UK. UKEF is using a range of levers to support UK export potential and capability:

- UKEF has put in place a **£2 billion clean growth direct lending facility** dedicated to financing clean growth projects overseas that contain UK export content.
- UKEF has a domestic product range to help UK exporters and investors realise the opportunities of green trade. Its **Export Development Guarantee (EDG)** helps companies who export from, or plan to export from, the UK to access high value working capital loan facilities over £25 million, actively supporting investment into UK supply chains, enabling them to seize new global export opportunities and establishing UK suppliers in new net zero sectors and those where the UK does not currently have a dominant global export position.
- UKEF also offers **transition finance** to support UK companies that are actively working to transition their business away from fossil fuels. This includes a Transition Export Development Guarantee for companies that can demonstrate via a Climate Transition Plan that they are Paris-aligned and transitioning away from business activities in the overseas fossil fuel sector. UKEF has also supported a number of **Sustainability-Linked Loans (SLLs)** through its EDG product, including in the aviation, construction and manufacturing sectors. These loans provide favourable terms should a company meet pre-agreed sustainability targets which are ambitious and relevant to the borrower's business (i.e. reducing emissions), encouraging their achievement of positive sustainability outcomes.

3.3 Working with the business and investment community

3.3.1 Promoting investment opportunities

81. The UK government has an important role to play in supporting the private sector to identify investment opportunities. Stakeholder feedback has indicated that whilst

there is available capital to be invested in green projects, more can be done to improve the visibility of projects that require investment and support all stages of the project development life cycle. We understand the importance of developing a positive feedback loop between government, businesses and investors about key investment opportunities, streamlining information flows and enhancing investor confidence.

82. The UK government works with the private sector to source and help promote exciting green projects and investment opportunities to interested investors. We do this by **advertising** investible propositions in locations across the UK, and by directly **connecting** investors to investment opportunities.
83. We advertise and promote investment opportunities through:
 - a. **The Investment Atlas platform:** The Investment Atlas¹⁶⁹ is the UK government's online catalogue of priority investment opportunities, from across investment types and covering the whole of the UK. The Atlas enables investors to find information quickly and access expertise. On the Investment Atlas, we have 41 green related specific investment opportunities across our High Potential Opportunities, Large Capital Investment Opportunities and Freeports. Additionally, we have 14 sector overviews with a green focus on the Atlas. From October 2021 to January 2023, the Investment Atlas had over 100,000 unique visitors and over 500,000 page views.
 - b. **Promoting UK green investment opportunities:** We build on this with direct engagement with the investment community, for example through events such as the Green Trade and Investment Expo, which was held on 1 November 2022 in Gateshead. This event brought together 200 British business leaders and global investors, showcasing investment and export opportunities presented by the UK's net zero transition. In September this year the Government will also host the Global Investment Summit 2023. This will build on the Global Investment Summit held in 2021, at which government announced nearly £10 billion of new foreign direct investments in the UK.¹⁷⁰
84. The UK government can also help promote exciting green projects by connecting investment opportunities to interested investors through:
 - a. Our **Office for Investment** provides a single front door to the UK government for high-value and high-impact domestic and international investors, facilitating and helping the UK to win green inward investments through a concierge offer.¹⁷¹ The Office for Investment works closely with regional and national stakeholders to source investment opportunities across the UK, and promotes these with both sovereign and domestic institutional investors to drive increased investment in line with the government's net zero agenda.
 - b. Our **Venture Capital Unit** works to develop long-term relationships with global corporate and venture capital investors, attracting investment into UK companies.¹⁷² The Unit promotes leading start-ups at showcase events, organises roundtables at UK Embassies and introduces pre-screened companies to known investors via sector brochures and single deals.

Box 26: Venture Capital Unit

Over the past seven years, the Venture Capital Unit has facilitated £5 billion of VC investment into UK start-ups. Net Zero investment is a key focus for the Unit, and this year it is running its second Green Builders of Tomorrow competition, in conjunction with Octopus Investments. It is open to early-stage companies seeking to raise £5 million - £100 million during 2023, and targets investors in the UAE and across the Middle East.

3.3.2 Engaging the business and investment community

85. Beyond investment promotion, the right channels of communication and engagement between government, businesses and investors are needed to ensure that policies are effective, market barriers are addressed efficiently, and all parties can build their approach to the transition to a net zero economy in lockstep. Government is establishing a new partnership to work with business and finance leaders to support the delivery of our net zero target - a new **Net Zero Business and Investment Group**.
86. The group will look to develop a shared view of market barriers across different sectors to deliver net zero and the respective roles across Government, industry and the finance sector in addressing these. It will also look at identifying the key policy support, information and advice businesses (including SMEs) require in their transition. The work of the group will be complimentary to that of other existing taskforces supported by Government and a wide range of stakeholders will over time be invited to get involved in the work of the group as its focus evolves. The full composition of the Leadership Group and Secretariat for the group will be announced in the near future.
87. This continues our commitment to working closely with the investment and business community, as has been exemplified by the Green Finance Institute (GFI). The GFI was launched in 2019 with seed funding by the UK government and aims to support the mainstreaming of green finance both in the UK and overseas. Its strategy has been to identify the barriers to investment in real economy decarbonization by sector and committing to develop the solutions to overcome them, and in doing so the Institute has become a valued partner for market participants and policy makers.

Box 27: Green Finance Institute

Since launching the GFI has carried out high profile and impactful work across a number of strategic areas. The GFI is now moving from start-up to scale-up, growing its sector pilots into market-wide financial solutions in the built environment and road transport. It will expand into new sectors, including sustainable aviation, carbon capture and storage, and harder to abate industrials. The GFI will also continue to help develop the market for investment into nature.

Examples of recent and active projects include:

- **Built environment:** Launching the Coalition for the Energy Efficiency of Buildings (CEEB) to support development of green financial products, developing Green Home Finance Principles which one third of the UK mortgage market has already committed to align with.
- **Road transport:** Working with over 230 industry organisations to identify the challenges and opportunities for investors in electric vehicle (EV) charging infrastructure, consumer access, heavy goods vehicles and the battery supply chain.
- **Nature:** Supporting the Natural Environment Investment Readiness Fund (NEIRF) and the subsequent Facility for Investment Ready Nature in Scotland (FIRNS), advising and hosting the secretariat for the group and launching GFI Hive¹⁷³, an online knowledge sharing platform on investment in nature.
- **Local investment:** Leading research into barriers faced by local authorities to attract investment and co-leading the Local Climate Bond Campaign, supporting local authorities in raising municipal finance and supporting six issuances to date.
- **Emerging markets:** Designing the Green Finance Guarantee Facility to overcome obstacles faced by financial institutions on the mitigation of real or perceived risk in emerging market climate infrastructure investments.
- **Greening financial markets:** Chairing and providing secretariat for the Green Technical Advisory Group, supporting development of the UK Green Taxonomy; providing secretariat for Integrity Council on Voluntary Carbon Markets.

3.4 Unlocking high-integrity carbon and nature markets

88. The UK has been a pioneer in the use of market mechanisms to mobilise finance for climate and nature since 2002, when we established Europe's first Emissions Trading Scheme (ETS). Today our goal is to make the UK ETS the world's first net zero consistent cap and trade market. Internationally, we are a leading supporter of carbon pricing and market uptake in emerging markets and developing economies, having helped over 30 to put a price on their own emissions through carbon taxes, ETSs and offset mechanisms. As well helping to direct local finance towards cleaner development, this enhanced capacity can facilitate participation in international carbon markets.
89. Demand is increasing from the private sector for high-integrity markets that allow organisations to purchase high quality credits for carbon and other ecosystems services. The UK government is committed to fostering growth in these markets in

a way that is high-integrity, unlocks truly additional finance for net zero, and takes advantage of the synergies between carbon and other ecosystem services, such as biodiversity, water or flood mitigation, to unlock additional investment in nature.

3.4.1 Voluntary carbon markets

90. Voluntary carbon markets (VCMs) enable carbon credits to be purchased, usually by organisations, for use against voluntary climate commitments, as opposed to legally binding emissions reduction obligations. VCMs have grown rapidly in recent years from around \$300 million in 2019 to \$2 billion in 2021¹⁷⁴, fuelled by an increase in net zero commitments made by non-state actors. Further progress was made at COP26, including through agreement on the framework and rules for international carbon trading under Article 6 of the Paris Agreement.
91. Financial institutions and other stakeholders have highlighted a number of challenges that could prevent VCMs from reaching their potential. These include the need for clarity on what constitutes a good quality credit, how credits should be used when claiming the achievement of private sector net zero targets, relevant disclosure and assurance processes, the need for common international standards and principles, and the need for clarity on a range of regulatory matters. Whilst it is important that the market is able to innovate, there is a clear appetite for UK government action to ensure the market grows in a manner that provides assurance on integrity. This includes considering targeted regulatory interventions where these will help the market play a greater role in the transition to net zero and ensure companies are not incentivised to use credits as an alternative to taking action on their own internal emissions.
92. More is needed to build international consensus on VCMs, including their interactions with Article 6. The **Voluntary Carbon Markets Initiative (VCMI)** and the **Integrity Council on Voluntary Carbon Markets (VCMI)**, created through international multistakeholder processes during the UK's COP26 Presidency, are striving to tackle many of these challenges by providing greater clarity on the definition of high-integrity VCMs. Both initiatives will publish their guidance this year; the UK government will consider the potential for their outputs to serve as a basis for international best practice on market integrity, and the extent to which they could be incorporated within relevant regulatory regimes, including through the consultation set out in section 3.4.3. The UK government has confirmed its intention to position the UK as a global hub for trading in voluntary carbon markets, and is grateful for the work of the UK VCM Forum and its chair, Dame Clara Furse, to this end.

3.4.2 Nature Markets

93. Nature markets enable farmers and natural resource managers to sell carbon and other ecosystem services – the benefits provided by nature – through sustainable management and nature restoration projects. Nature markets may be voluntary or driven by regulatory obligations. They include VCMs such as the UK Woodland Carbon Code and UK Peatland Code, and other emerging nature markets such as Biodiversity Net Gain in England. Further opportunities exist in markets still in development such as for blue carbon, see below.

94. Nature markets need to grow rapidly to attract investment at the scale required to achieve our net zero and environmental targets. The UK government is committed to supporting the development of markets for carbon and other ecosystem services in the UK, guiding, and stimulating demand while also ensuring that they build trust and confidence.
95. We are supporting market participants to develop and converge around common, trusted standards and processes which will ensure integrity. With the right policy guardrails, the growth of nature markets can represent a triple win: delivering for the climate and the environment; providing vital revenue streams to finance farm businesses and nature recovery; and enabling responsible firms to meet their net zero and environmental obligations and commitments transparently and efficiently.
96. As announced at Budget 2023, the UK government is exploring elements of the tax treatment of ecosystem service markets and environmental land management. This includes a call for evidence published on the 15 March 2023 on the tax treatment of the production and sale of ecosystem service units. The aim is to understand the commercial operations and the areas of uncertainty in respect of taxation.

Box 28: Peatland Code update

The Peatland Code and UK Saltmarsh Code are voluntary certification standards for UK peatland restoration projects, providing a consistent approach for projects wishing to attract carbon finance. We recently funded the International Union for Conservation of Nature (IUCN), UK Centre for Ecology & Hydrology (UKCEH) and the James Hutton Institute to expand the Code to a significantly larger area of England's peat. This will help facilitate more private investment into peatland restoration.

97. We are also supporting innovation to develop and pilot new nature markets. Our **Natural Environment Investment Readiness Fund (NEIRF)** is supporting the development of 86 nature projects across England to generate revenue from nature markets and operate on repayable private sector investment. Projects will either monetise the benefits of nature or develop tools or standards to help others to do so. We will consider options for continuing our investment readiness support for nature projects beyond the current iteration of the NEIRF, drawing on the results of an independent evaluation of the programme.

Box 29: Supporting farmers to participate in nature markets

As custodians of over 70% of UK land, farmers will be key to the success of nature markets, and we are committed to ensuring they can access these markets. A recent report from the GFI's Farming and Finance working group on "Financing a Farming Transition", identifies barriers and corresponding enablers under the themes of Data, Priority Environmental Outcomes, Environmental Markets Principles and Aggregation Models. The UK government will progress work in each of these areas, including through actions set out in this Strategy – and we have commissioned the GFI to develop an online toolkit this year to help farmers identify and navigate opportunities to access private sector investment to pay for nature positive outcomes.

Environmental Farmers' Group – a collaborative aggregation model

Aggregating supply is key for attracting investment into natural capital. The Natural Environment Investment Readiness Fund (NEIRF) has awarded funding to the Environmental Farmers Group (EFG), a natural capital trading co-operative that operates across several farmer clusters in the Avon catchment. It aims to facilitate access for its 75 farmer members to private nature markets, providing a fair financial return on restoring their natural capital through the sale of biodiversity units, nutrient offsets and carbon credits.

EFG's aggregation model provides an opportunity for organisations looking for large-scale environmental trades to deal with a single body. In order to develop scale and ensure the inclusion of smaller farms, equalisation is built into the member contracts so that 88% of a trade will go to the member farm providing the ecosystem service/environmental outcome, while 9% is shared with the farms in the catchment area. The remainder pays for EFG's operating costs.

3.4.3 Accelerating Market Development

98. The UK government will act to unlock the potential of high-integrity voluntary carbon and nature markets to contribute to net zero and wider environmental improvement. We will consult later this year on specific steps and interventions needed to mobilise additional finance through high-integrity voluntary markets and protect against the risk of greenwashing. This will be guided by the principles that:
 - a. Interventions across Government and the private sector should create a cohesive regime for unlocking capital, with voluntary markets effectively integrated into the long-term strategy for financial disclosure and transition planning;
 - b. Regulatory responsibilities should be clarified, and regulations introduced in a proportionate manner where there is clear evidence that doing so would improve the integrity and scale of the UK market; and
 - c. High-integrity voluntary markets should be encouraged, with the right principles and transparency to protect investors and consumers, ensure additionality towards net zero and the environment, and where appropriate seek to maximise synergies between carbon and nature markets.

99. This consultation will respond to key recommendations of the independent Net Zero Review and the findings of the CCC's report on Voluntary Carbon Markets and Offsetting. Recognising the interconnectedness of global carbon markets, it will build on the work of key international initiatives (see section 3.4.1) to develop guidance for best practice in the international market and consider how their findings should be applied in the context of the UK market and regulatory regime, including to ensure a coherent approach across carbon and other nature markets.
100. The Transition Plan Taskforce will provide clarity on the use of high-integrity VCMs within its framework, aligning with international best practice. We will continue to work with leading stakeholders to address remaining uncertainties on the interface between VCMs and Article 6 and promote consensus on best practice for high-integrity VCMs through multilateral international fora.
101. We are publishing alongside this Strategy the first Nature Markets Framework. This sets out principles and priorities for the development of mechanisms for investment in ecosystem services - including carbon removal and storage, biodiversity and water quality - and aims to clarify how farmers and natural resource managers can engage in nature market to unlock these opportunities.
102. At the core of this framework is the principle of environmental integrity. It builds on experience and lessons learned from the development of the UK Woodland Carbon Code and UK Peatland Code as well as emerging international best practice, such as that being developed by VCMi and VCMi. It also provides further details on how revenue streams from multiple nature markets and public grants such as Environmental Land Management schemes can be combined or 'stacked' to make it easier to finance genuinely ambitious, multifunctional land use patterns.
103. The Framework also sets out our plans for the British Standards Institution to work with business, finance, farming and environmental experts to develop a comprehensive suite of nature investment standards.¹⁷⁵
104. Finally, we recognise the integrity offered by the UK ETS could unlock investment at scale in the UK's greenhouse gas removal sector by proving an integrated market where businesses can make economically efficient choices on how to decarbonise or remove their emissions. We will work with the UK ETS Authority to consider options for integrating greenhouse gas removals in the UK ETS, subject to the outcomes of last year's UK ETS consultation, a robust Monitoring, Reporting and Verification regime being in place, and the management of wider impacts - including market stability and the permanence of the emissions stored by the greenhouse gas removal technologies. Further detail will be provided in the Government Response to the ETS consultation.

Box 30: Blue carbon - opportunities to boost investment in our marine environment

Certain marine and coastal habitats capture and store carbon dioxide. These blue carbon habitats are richly biodiverse ecosystems that provide a crucial buffer from coastal flooding, benefit long term fish stocks and improve water quality. The UK Government supports the development of blue carbon and ecosystem markets as one means to help mobilise the finance required for blue carbon habitat creation and restoration. We will ensure that blue carbon markets are developed and implemented in line with agreed principles that ensure robustness, market credibility and efficiency. Codes or standards for claiming blue carbon credits are still in early stages of development in the UK. Our Natural Environment Investment Readiness Fund is supporting projects looking into this, including almost £300k of grants to measure and verify the carbon storage potential in saltmarshes, which will help leverage private investment into these important habitats.

3.5 Beyond the UK: Supporting green investment in emerging markets and developing economies

105. The need to develop effective enabling environments, build capabilities in key institutions, develop bankable project pipelines and deploy public resources effectively to mobilise private investment at scale are common challenges faced by all countries. The UK's green finance expertise, the strengths of the City of London and our strong track record in delivering innovative climate finance provide an opportunity to work with our partner countries to tackle the structural challenges they face in unlocking green investment.
106. As the Intergovernmental Panel on Climate Change's (IPCC) March 2023 Synthesis Report shows, limiting warming to 1.5-2°C above pre-industrial levels will require a three-to-six-fold increase on current levels of climate change mitigation investment to 2030, with investment to emerging markets and developing economies (EMDEs) a critical enabler to closing this investment gap.¹⁷⁶ Separate analysis shows that to achieve climate and nature goals, EMDEs (excluding China) will require over \$1 trillion per year in external investment by 2030.¹⁷⁷ The financial sector has a huge role to play in meeting this challenge and all major financial centres will be considering how they can contribute.
107. Our actions in Chapter 2 to align the financial system are pre-requisites for unlocking this growth, with our actions to green the UK financial sector helping unlock green investment well beyond our borders. In tandem, the *UK International Climate Finance (ICF) Strategy* sets out our full approach to deploying public climate finance to projects and investment on the ground.
108. Complementing those approaches, this section sets out how the UK will mobilise green investment into EMDEs through:

- a. **Country partnerships and building capability** - building long-term relationships to exchange learning, support national planning processes, and develop project pipelines.
- b. **Strategic public investment and enhancing the scale of investment opportunities** - mobilising private investment through blended finance structures and supporting access to large-scale investment, such as through issuance of green and sustainable bonds.
- c. **Innovative approaches to unlock private capital** - building on the ingenuity of the UK financial sector to adopt and scale innovative financial instruments, including by establishing high-integrity carbon markets and developing listed products.
- d. **Global impact through reform of the international financial architecture** - reforming international financial institutions to work better with the private sector and deliver greater impact in meeting the climate and nature investment challenge.
- e. **Enabling private investment in international climate adaptation** - providing financial support and building coalitions to address the barriers to private investment in adaptation and resilience.



Table 3: List of UK public finance institutions and other public finance levers relevant to climate and nature investment in emerging markets and developing economies

UK International Climate Finance (ICF)	ICF is the UK's primary resource for providing climate related financial support towards the \$100 billion goal. We are committed to deliver £11.6 billion between 2021/22 and 2025/26 through bilateral and multilateral channels, supporting EMDEs to: • adapt and build resilience to the current and future effects of climate change; • pursue low carbon economic growth and development; • protect, restore and sustainably manage nature; and • accelerate the clean energy transition.
British International Investment (BII)	BII is the UK's Development Finance Institution (DFI), investing in private firms in ODA-eligible countries in Africa and South Asia, and expanding through a phased approach to the Indo-Pacific and the Caribbean.
UK Export Finance (UKEF)	UKEF is the UK's Export Credit Agency (ECA) and in 2022 was ranked as the world's top ECA for sustainable financing, with over £3.6 billion awarded to clean energy, healthcare and critical infrastructure projects in 2021.¹⁷⁸
International Financial Institutions (IFIs) and multilateral climate and environment funds	IFIs refers to multilateral development banks (MDBs) and the International Monetary Fund (IMF), in which the UK is a major shareholder. The UK is also a major donor to multilateral climate and environment funds such as the Green Climate Fund (GCF), Global Environment Facility (GEF) and Climate Investment Funds (CIF).

3.5.1 Country partnerships and building capability

109. Mobilising green finance at scale requires clear country or regional strategies to meet climate and nature objectives, accompanied by strong pipelines of investment opportunities. The UK will continue working with partner countries to develop these approaches, including sharing knowledge and expertise we have gathered from our domestic action. This will help raise global ambition, accelerate investment, and build lasting capability and partnerships between public and private financial institutions. It will also create effective public policy which provides long-term market confidence and lower risk for investors.
110. Through the UK's ICF, we will continue to develop and implement capacity building instruments in support of these goals. Key current programmes include:

- a. **UK Partnering for Accelerated Climate Transitions (UK PACT)** supports countries to put in place the building blocks for mobilising finance through country programmes, skill-shares, secondments and other technical assistance.
 - b. Through our co-chairing of the **NDC Partnership** we have helped put in place a finance strategy to support investment in countries' nationally determined contributions (NDCs).
 - c. The **UK's Climate Finance Accelerator (CFA)** helps countries develop bankable project pipelines while identifying suitable financing options. The programme operates in 9 countries¹⁷⁹ and convenes project developers, financiers and policymakers in capacity building workshops. The CFA has supported 111 low carbon projects with a potential total value of around \$2.3 billion, representing a material and direct contribution to projects and programmes in EMDEs.
 - d. The **Nature Positive Economy Programme** was launched in 2022 to meet the growing imperative for long-term financing strategies for nature. The programme supports public and private financial institutions in EMDEs to integrate nature-related risks and opportunities into decision making. This involves implementing strategies, tools, and frameworks, and supporting engagement with governments on reforming environmentally harmful subsidies. Building on the Dasgupta Review, the UK's **Nature Transition Support Programme** also supports EMDEs to analyse the relationship between nature and their economies, and will support partners to identify and implement resilient pathways for nature, people, and the economy.
111. Beyond our bi-lateral support, the UK will continue supporting efforts by MDBs to integrate climate and nature investment into national development plans, and for the development and implementation of ambitious Long-Term Strategies for low carbon, climate-resilient development. This includes the **World Bank's Country Climate and Development Reports (CCDRs)**, a diagnostic tool which integrates climate and development. The UK is also the biggest contributor to the **World Bank's Global Programme on Sustainability (GPS)**, which provides global and national analysis of the value of natural capital and ecosystem services, including risks and opportunities for sustainable development.
112. Building on the success of our individual programmes, we are going further to develop ambitious funding models and stronger long-term partnerships to ensure co-ordination and coherence between public and private finance on the ground. This is key for ensuring the impact of climate finance is more than the sum of its parts. The UK will work to do this through initiatives like the **Just Energy Transition Partnerships (JETPs)** for clean energy transitions and the **Lowering Emissions by Accelerating Forest Finance Coalition (LEAF)** for protecting tropical forests and reducing emissions from deforestation.

Box 31: Just Energy Transition Partnerships (JETPs)

JETPs are ambitious partnerships that will deliver investment for just energy transitions away from fossil fuels in partner countries. They bring together a critical mass of development, philanthropic, private, and domestic finance to accelerate early retirement of high-emitting assets, invest in renewable energy and related grid infrastructure, and support an inclusive and equitable transition for affected communities.

The first JETP was launched with South Africa at COP26 with the UK leading an “International Partners Group” to support South Africa’s leadership, and includes an initial \$8.5 billion in public finance. At COP27, South Africa presented its JET Investment Plan, setting out the country’s investment needs to support its decarbonisation commitments and aiming to mobilise a further \$98 billion – showing the investment opportunity for the private sector.

JETPs have also now been launched in Indonesia (US and Japan co-lead G7 engagement with the country, with UK support) with a total finance package of \$20 billion, and Vietnam (UK and EU co-led) with a total finance package of \$15.5 billion. As part of these finance packages, a coalition of private sector investors co-ordinated by the Glasgow Financial Alliance for Net Zero committed \$10 billion and \$7.75 billion to the Indonesia and Vietnam JETPs, respectively, matching the public finance commitments for both partnerships. Discussions are ongoing to agree further JETPs with the Government of Senegal and Government of India.

Alongside the aggregation of finance, the UK is supporting partner countries to make critical policy reforms to enable private investment at scale in renewable energy and energy efficiency. The UK’s immediate priority for JETPs is supporting implementation of partnerships in countries where they are already underway. This has potential to inform approaches taken elsewhere in efforts to accelerate the transition to low carbon, inclusive economic growth.

113. Financing for the transition can further benefit from dialogue between countries with comparable challenges and contexts. To enable this, the UK will work through:
 - a. Our co-leadership of the **Glasgow Breakthrough Agenda**, which is accelerating the global development and deployment of clean technologies. Launched at COP26 by 45 world leaders representing over 70% of global GDP, the Breakthroughs Agenda is driving targeted international cooperation to make clean technologies the most affordable, accessible, and attractive choice globally by 2030.¹⁸⁰
 - b. The **Energy Transition Council**, which brings together political, financial, and technical leadership in the power sector to make clean energy the most affordable and reliable option for its 11¹⁸¹ partner countries. The Council mobilises, tailors and coordinates international public and private finance offers to the energy transition needs of partner countries, including through its Rapid Response Facility. It also improves the timing and relevance of assistance provided by participating institutions including international donors, multilateral development banks, philanthropies and technical agencies.

- c. The **International Just Transition Declaration** which the UK brought forward at COP26, and for the first time sets out how countries providing climate finance would ensure that their international support is playing its part to create good, green jobs around the world. At COP26 the Declaration was signed by 18 donor countries, covering a significant proportion of global international public financing. The UK will continue to collaborate with international partners to embed these principles in our ICF and broader funding streams.
114. In tandem with our efforts on climate, in 2022 the UK – in collaboration with Ecuador, Gabon, and the Maldives – set out a political vision for bridging the global nature finance gap through the **10 Point Plan for Financing Biodiversity**. The Plan presents a clear pathway for bridging the global nature finance gap by defining the role of all sources of finance, with a particular focus on how international public finance can support EMDEs to accelerate the transition to become nature positive.

3.5.2 Strategic public investment and enhancing the scale of investment opportunities

115. While there is no shortage of private capital available to deliver climate and nature goals, public finance has an important role in catalysing investment and creating markets. For this reason, the UK has worked with international partners to establish key multilateral climate and environmental funds such as the **Climate Investment Funds, Green Climate Fund and Global Environment Facility** and is collectively one of the largest contributors to these funds. We will continue to support their work to deliver impact at scale, leverage private investment and maximise value for money.
116. The UK will use its ICF strategically to incentivise and enable investments in EMDEs through a variety of finance instruments, which can be adopted by international partners and markets to reach scale, building on the £5.2 billion in private finance that UK interventions have mobilised to date.¹⁸² This includes deploying blended finance structures and tailoring them to local needs and investor risk-tolerance. It also includes working to enhance the scale of investment opportunities in EMDEs to enable access to deep pools of capital from institutional investors, for example through supporting issuance of green and sustainable bonds.
117. The UK has developed several vehicles to do this, including:
- a. **British International Investment (BII)** provides capital and expertise to private firms in Africa and South Asia, and is now expanding to the Indo-Pacific and the Caribbean. The UK government aims to deploy £200 million of concessional capital through BII's new Climate Innovation Facility to invest in the scale-up of pioneering technologies and climate solutions in markets where private investors have been reluctant to take on the risk alone. BII has also invested \$75 million in Africa and South Asia's first Green Basket Bond, a new innovative, multi-currency, financing structure arranged by Symbiotics, a leading emerging markets access platform and financial lender. The bond will finance small-scale green projects and businesses, funded through 10-15 micro, small, and medium enterprise (MSME) banks.
 - b. **The Private Infrastructure Development Group (PIDG)** supports the development of sustainable infrastructure in Africa, Asia and the Indo-Pacific. Underpinned by majority UK funding, PIDG has closed on 190 infrastructure projects and mobilised

\$23 billion in private investment since 2002.¹⁸³ PIDG deploys a mix of technical assistance, viability gap funding and long-term debt, and provides local currency guarantees to mobilise finance for green infrastructure from local pension funds and insurance companies. PIDG has pioneered development and issuance of green bonds in EMDEs, including supporting Vietnam's first onshore, internationally certified green bond. Bond proceeds will allow the issuance of longer-term loans to finance green infrastructure.

- c. Through its investment arm, the UK-funded **Financial Sector Deepening (FSD) Africa** provides early-stage, risk-bearing capital to inventive financial sector organisations to stimulate capital flows in support of green economic growth. FSD Africa also supports issuance of green and sustainability bonds on the continent. This includes helping Morocco's national rail operator issue Africa's first corporate clean mobility green bond to electrify the country's railways, and supporting Kenya to issue its first green bond.

118. Whilst strengthening trade and supply chains, **UK Export Finance (UKEF)** is also playing an important role in financing sustainable infrastructure in EMDEs. In 2021-22, UKEF provided £7.4 billion in support for UK exports, helping to finance exports to 61 countries without any support for overseas fossil fuels projects.¹⁸⁴ This includes £3.6 billion financing awarded to clean energy, healthcare and critical infrastructure projects, including projects in EMDEs such as Côte d'Ivoire and Türkiye. Some UKEF products include buyer finance support, which helps UK suppliers win contracts on overseas clean growth projects by providing attractive financing terms for overseas buyers. This includes repayment periods of up to 18 years in some sectors, such as renewable energy. UKEF also offer direct lending from a £2 billion allocation ringfenced to support projects aligned with the International Capital Markets Association's Green Bond Principles.
119. Despite challenges, emerging nature sectors are providing some of the most promising investment opportunities globally. The UK's £100 million **Biodiverse Landscapes Fund (BLF)** will have a strong focus on leveraging private capital to protect biodiversity and reduce poverty in six global biodiverse hotspots across three continents. We will also leverage private investment through over £40 million of investment in the **Eco Business Fund** and the **Land Degradation Neutrality Fund**, which are dedicated to raising public and private capital to support sustainable land use projects and improve biodiversity.

3.5.3 Innovative approaches to unlock private capital

120. Harnessing the innovative potential of financial markets and unlocking all available sources of finance will be crucial to meet climate and nature goals. The UK will continue to support such approaches across our portfolio, working closely with the private sector to make our public finance go further, enable innovation in capital markets, and adapt financial instruments in response to the specific challenges of climate and nature financing. This includes:
 - a. Through the new **Climate Investment Funds Capital Market Mechanism (CCMM)**. This new fund is expected to issue green bonds in the region of \$5-7 billion through the London Stock Exchange for EMDEs to develop clean technologies at scale,

which in turn is anticipated to leverage 10 times the amount in co-financing at the project level. It will use returns from historic investments through the Climate Investment Funds (CIFs), to which the UK is the largest contributor, having provided £2.7 billion.

- b. New solutions to help countries leverage the potential of capital markets, including through the **Mobilising Institutional Capital Through Listed Product Structures (MOBILIST)** programme. MOBILIST uses UK funds on commercial terms to enable EMDEs to list on public markets like the London Stock Exchange. For example, a UK investment of £24.5 million through MOBILIST resulted in an IPO of £115 million for Thomas Lloyd Energy Impact Investment Trust to invest in renewable energy in Asia.
 - c. The use of results-based payments, using learning developed through programmes such as the **Transformative Carbon Asset Facility, Ci-Dev** and our support for **REDD+**, can optimise performance of climate projects by linking payment to outcomes. We are already using lessons from these programmes to inform approaches to high-integrity carbon credits, and they offer the potential to inform development of sustainability-linked financing products, which are of increasing interest to the private sector.
 - d. Innovating and championing new debt arrangements that enable vulnerable countries to invest without the risk of being unable to service their debts in the event of climate impacts. In response to calls from many vulnerable countries to introduce **climate resilient debt clauses (CRDCs)**, to pause debt repayment when climate shocks or natural disasters hit, the UK announced that UK Export Finance will be the world's first export credit agency to offer CRDCs in direct sovereign lending. The UK has also published principles for including CRDCs in private sector loans and is calling on more international financial institutions (IFIs) and the private sector to adopt them.
121. We are also working to identify, develop and scale early stage financial products and practices to meet EMDE needs and mobilise private investment, including for nature finance. This includes:
- a. The **Global Innovation Lab for Climate Finance**, a public-private partnership that mobilises finance for financially innovative ideas, making them investable and ready to implement. 62 projects supported to date have mobilised \$3.5 billion in sustainable investment.¹⁸⁵ The UK is working with the Lab to scope new support for projects in Latin America, including a potential thematic window to identify innovative financing solutions for high-integrity forests.
 - b. Our new £65.5 million **Accelerate-to-Demonstrate (A2D) Facility**, delivered in partnership with the United Nations Industrial Development Organization (UNIDO) will drive forward the clean energy transition in EMDEs through innovative technologies and the business models needed to deploy them. This is an expansion of our Clean Energy Innovation Facility, which since 2019 has leveraged around £40 million in direct private investment in EMDEs. We will continue to broaden this portfolio and look to bring in additional international partners over time.
 - c. The UK's £500 million **Blue Planet Fund (BPF)** supports EMDEs to reduce poverty, protect and sustainably manage their marine resources and address human-

generated threats. Programmes under the BPF include technical assistance to support blue bond development and funding for innovative financial tools that encourage private investment into marine nature-based solutions.

- d. The UK's **Biodiversity Challenge Funds (the Darwin Initiative, Illegal Wildlife Trade Challenge Fund, and Darwin Plus)** award grants to support the development and adoption of financial mechanisms to benefit biodiversity, people and the planet. This includes soil carbon credits to support conservation of savanna in Tanzania, insurance for villagers in areas of Human Wildlife Conflict in Nepal, and payments for water to support conservation of tropical forest in Bolivia. To support the mobilisation of financial resources in pursuit of Target 19 of the GBF, we will also investigate further innovative mechanisms to fund biodiversity, including biodiversity credits.

122. In addition, carbon markets are a significant potential source of untapped finance for EMDEs which offer the potential to lower the cost of the transition. Under the UK COP26 Presidency, agreement on global carbon trading rules ('Article 6') was reached after many years of negotiations, providing a basis for international norms and standards to unlock finance whilst providing assurance on environmental integrity. As we take forward action to implement Article 6 and await the findings of voluntary market initiatives such as **VCMI** and **IC-VCM** (see section 3.4), we will aim to strengthen the international consensus needed to unlock a truly global market, provide social protections and avoid greenwashing. This will include working with VCMI to take forward Country Contact Groups to enhance access for EMDEs.
123. The UK government is one of the largest providers of capacity building support for EMDEs seeking to participate in carbon markets and has committed over £650 million to funds supporting carbon markets and results-based payments.¹⁸⁶ As we consider future interventions, the UK will look to ensure coherence in capacity building measures across both voluntary and compliance markets, including working through the Article 6 Implementation Partnership to improve coherence of capacity building efforts. We will work with delivery partners and EMDEs to ensure collaboration with the private sector in delivering high-integrity markets. In addition, we will work to establish complementarity between high-integrity markets for voluntary and compliance purposes, and between those for climate and other environmental services; and to ensure indigenous people and local communities are protected.

3.5.4 Global impact through reform of the international financial architecture

124. International Financial Institutions are a major source of support to emerging markets and developing economies (EMDEs), with MDBs having provided \$51 billion in climate finance in 2021.¹⁸⁷ In line with decisions at COP27, the UK will champion and target specific reforms of the international financial system to make it stronger. We will use our influence in these institutions to drive mobilisation at the scale needed to meet climate and environmental challenges. This includes leading the response to the **Bridgetown Initiative, the World Bank Evolution Roadmap and the G20 MDB Capital Adequacy Framework Review**. Combined with our efforts to green the financial system and enhance the effectiveness of the climate funds, this will be critical in ensuring an international system that is able to deliver better for EMDEs.

125. By implementing the recommendations of the **G20 MDB Capital Adequacy Framework Review**, MDB balance sheets could be used to release billions of dollars of additional finance for EMDEs. The UK is leading in delivering some of the recommendations. For example, since COP26 we have announced UK guarantees to expand MDB lending by over **\$5 billion**, including to support Just Energy Transition Partnerships, such as through the **\$2 billion Room to Run guarantee for the African Development Bank (AfDB)**, developed in partnership with the UK insurance industry. We expect to further scale up our guarantee portfolio in future.
126. Directing **Special Drawing Rights (SDRs)** to deliver on the global commitment – first made by G7 Leaders in the UK – to channel \$100 billion of SDRs to vulnerable countries, could be significantly aided by MDB capabilities. We are exploring the possibility of channelling some SDRs to the African Development Bank through a hybrid capital instrument which would allow the Bank to leverage it by three to four times, potentially becoming a model for other MDBs.
127. Due to their geographical reach, financial expertise and influence, MDBs have significant potential to scale up **private finance mobilisation**, building on approaches we already know work. In particular we will support MDBs to develop innovative new investment vehicles which provide the scale and diversification to attract institutional investors, scale-up support for green capital market development, support the expansion of specialist infrastructure platforms, and deliver strategies for scaling their use of risk transfer as recommended by the G20 MDB Capital Adequacy Framework Review.
128. The UK will support efforts to increase **shock-responsiveness of MDBs**. In recent years the MDBs have significantly scaled up their work with countries to develop crisis preparedness plans and to introduce new contingent finance instruments. But more can be done to improve the responsiveness of the financial system to climate shocks. The UK government is therefore working to promote **Climate Resilient Debt Clauses (CRDCs)** with the MDBs, development finance institutions (DFIs) and the private sector following the announcement of their adoption by UK Export Finance at COP27.
129. The UK will continue to push for increased **volume and effectiveness of MDB climate change spend**, including by encouraging more transparency, scaling up outcome indicators and targets, strengthening policy-based lending for climate, and ensuring the joint MDB climate co-benefits framework incentivises the most impactful climate interventions. We will work with MDBs to **mainstream climate change within their technical assistance support**, including by supporting borrowers to integrate climate considerations in policy formulation to manage climate-related fiscal risks and strengthen enabling environments.
130. The UK is also pursuing reforms to the **International Monetary Fund's** approaches to ensure it is better able to contribute to climate and nature financing challenges, including:
 - a. Supporting the **Resilience and Sustainability Trust (RST)**, which became operational in late-2022. We will continue to shape the RST to ensure it meets vulnerable countries' needs for increased fiscal space to deal with climate shocks.
 - b. Advocating to increase financing for the poorest countries, and for increased access limits for Low Income Countries and greater resourcing of the **Poverty Reduction and Growth Trust (PRGT)**.

- c. Ensuring that climate and nature degradation risks are better reflected in **assessments of macroeconomic stability**.

3.5.5 Enabling private investment in international climate adaptation.

131. The mobilisation of private investment into adaptation projects has faced challenges, in part due to the difficulty in generating sufficient revenue flows from projects. In recognition of this and the critical need for adaptation finance for vulnerable countries, at COP27 the Prime Minister announced that the UK will triple its funding for adaptation from £500 million in 2019 to £1.5 billion in 2025.
132. To respond to the growing impacts of climate change around the world, private investment needs to be channelled into adaptation. Greater awareness of climate risk amongst investors will help attract private investment to adaptive projects, and innovative financial approaches have the potential to enable the private sector to play a greater role. We are drawing lessons from our long-term efforts to increase private investment in mitigation and bringing financial institutions together to break down investment barriers for adaptation, delivering co-benefits for people, climate and nature.
133. MDBs and DFIs are key actors in scaling up adaptation finance, and the UK is supporting them, including by investing £200 million in a new **African Development Bank Climate Action Window**. This seeks to attract private investment for adaptation projects in some of the countries most vulnerable to climate change. BII is working with other DFIs through the **Adaptation and Resilience Investors Collaborative (ARIC)**, to improve understanding of investment in adaptation solutions and developing tools to support the mobilisation of private investment.
134. The risk profile of investments impacted by climate change remains a critical barrier to investment. As such, the UK is supporting the **Coalition on Climate Resilient Investment (CCRI)** to develop tools to more efficiently and effectively price physical climate risk so that the cost of capital is not needlessly inflated. CCCR comprises over 120 members managing \$25 trillion in assets.¹⁸⁸ Its work includes piloting tools in Jamaica to review critical infrastructure investment gaps, modelling climate risks to that infrastructure, and enabling the government and investors to identify investment priorities.
135. As the physical impacts of the climate and nature crises grow, insurance will become ever more important to protect the resilience of countries to better respond to disasters. This is why the UK announced in 2021 a new £120 million funding package for **Disaster Risk Financing (DFR), helped establish the Global Shield Against Climate Risks , and set up the Centre for Disaster Protection**. DFR leverages the expertise and capital of UK insurance and reinsurance markets to increase the resilience of climate vulnerable countries, by providing cheaper, faster and more effective responses to disasters. There is strong demand for this support from climate-vulnerable countries and a track record of success. The Caribbean transfers over \$1.2 billion of hurricane risk each year to its regional risk pool. Africa's regional insurance scheme has covered over \$1 billion of risk so far, and in 2021, its scheme paid out over \$65 million to help African countries respond to droughts and storms.



Next steps

1. This Strategy is the UK's comprehensive blueprint that will unlock green finance and investment, reinforcing the UK's place at the forefront of this market and deliver on the UK's climate and nature objectives. It sets out the actions the UK Government will take to support our financial services sector and investment community to invest in the green economy; prosper from a transitioning global economy; provide information and tools to the financial sector to manage risks from climate change and nature loss; and support the global transition. We look forward to continuing close collaboration with industry as part of ensuring that the UK maintains its position as a global leader.
2. The table below shows commitments over the next year:

Timing	Activity
In 2023	• Publish a series of net zero investment roadmaps and a nature investment roadmap. • Consult on the specific steps and interventions needed to mobilise additional finance through high-integrity voluntary markets and protect against the risk of greenwashing. • Work with UK financial institutions to start a series of Government-convened roundtables, to further tackle deforestation-linked finance. • Host a series of roundtables to engage stakeholders on how we can continue to clarify fiduciary duty. • Consult on the UK Green Taxonomy
Q2 2023	• Bring into force amended regulations to implement pensions reforms, subject to Parliamentary approval, as early as April 2023. • First meeting of Net Zero Business and Investment Group.
Q3 2023	• Launch a formal assessment mechanism as soon as the first two IFRS Sustainability Disclosure Standards are published (expected in June 2023). • Set out further detail on the SDR implementation timeline to reflect the rapid development of international standards. • Engage stakeholders on an update to the Environmental Reporting Guidelines, which provide voluntary environmental reporting guidance for UK organisations. • Launch a call for evidence on scope 3 emissions reporting. • Publish the first impact report detailing the environmental impacts and any social co-benefits resulting from the expenditures of the Green Financing Programme, in September 2023. • Host the Global Investment Summit 2023.

Timing	Activity
Q4 2023	• Provide further information and clarity for trustees on their fiduciary duty in the context of the net zero transition by reviewing Stewardship Guidance (late 2023). • Consult on the introduction of requirements for the UK's largest companies to disclose their transition plan if they have them. This consultation will take place once the TPT has completed its work in Autumn/Winter 2023. • Explore how best the final TNFD framework (expected September 2023) should be incorporated into UK policy and legislative architecture, in line with Target 15 of the Global Biodiversity Framework. • The FRC - working with the FCA, government and The Pensions Regulator - will review the regulatory framework for effective stewardship, including the operation of the Stewardship Code.
In 2024	• Set out adaptation finance deliverables and action plan.

Endnotes

- ¹ GFANZ (2023), available at: <https://www.gfanzero.com/membership/>
- ² McKinsey (2021), 'The Net-Zero Transition: What would it could cost, what it would bring', <https://www.mckinsey.com/capabilities/sustainability/our-insights/opportunities-for-uk-businesses-in-the-net-zero-transition>
- ³ Internal DESNZ analysis, Dataset: Low carbon and renewable energy economy estimates: <https://www.ons.gov.uk/economy/environmentalaccounts/datasets/lowcarbonandrenewableenergyeconomyfirstestimatesdataset> and UK trade: goods and services publication tables: <https://www.ons.gov.uk/economy/nationalaccounts/balanceofpayments/datasets/uktradegoodsandservicespublicationtables>
- ⁴ HM Government (2021), Net Zero Strategy, pp.327-328, <https://www.gov.uk/government/publications/net-zero-strategy>. Figures represent in-year capital expenditure requirements, exclude financing costs, and do not include operating costs. This is to prevent double counting (e.g. where capital expenditure in an energy supply sector is operating expenditure in an end-use sector).
- ⁵ Green Finance Institute (2021), Finance Gap for UK Nature Report, <https://www.greenfinanceinstitute.co.uk/news-and-insights/finance-gap-for-uk-nature-report/>
- ⁶ Bank of England (2022), Results of the 2021 Climate Biennial exploratory scenario, <https://www.bankofengland.co.uk/stress-testing/2022/results-of-the-2021-climate-biennial-exploratory-scenario>
- ⁷ World Economic Forum (2020), New Nature Economy Report 2020, https://www3.weforum.org/docs/WEF_New_Nature_Economy_Report_2020.pdf
- ⁸ Climate Change Committee (2023), Investment for a Well Adapted UK, <https://www.theccc.org.uk/publication/investment-for-a-well-adapted-uk/>
- ⁹ Z/Yen Group Long Finance & Financial Centre Futures (2022), 'The Global Green Finance Index 10', https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4285306
- ¹⁰ Scope 3 encompasses emissions that are not produced by the company itself, and not the result of activities from assets owned or controlled by them, but by those that it's indirectly responsible for, up and down its value chain.
- ¹¹ UK Government, Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance March 2019 (Updated Introduction and Chapters 1 and 2), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/850130/Env-reporting-guidance_inc_SECR_31March.pdf.
- ¹² UK Government (2023), Consultation: Future regulatory regime for environmental social and governance ESG ratings providers, <https://www.gov.uk/government/consultations/future-regulatory-regime-for-environmental-social-and-governance-esg-ratings-providers>
- ¹³ This includes public and private sources of funding. DESNZ analysis of the BloombergNEF, *Energy transition investment dataset*, available at: <https://www.bnef.com/>. The BNEF series captures investments made across different low-carbon technologies and sectors, including power, energy storage, transport, heating, hydrogen, and CCS. Figures should not be taken as fully representative of all low-carbon investments made across the economy and are likely to be a conservative estimate.
- ¹⁴ FCDO (2023), 'UK international climate finance results 2022', <https://www.gov.uk/government/publications/uk-climate-finance-results-2022/uk-international-climate-finance-results-2022>
- ¹⁵ IRENA (2023), World Energy Transitions Outlook 2023: <https://www.irena.org/Publications/2023/Mar/World-Energy-Transitions-Outlook-2023>
- ¹⁶ Independent High-Level Expert Group on Climate Finance (2022), Finance for Climate Action, <https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2022/11/IHLEG-Finance-for-Climate-Action.pdf>
- ¹⁷ Irena (2019), Global energy transformation: A roadmap to 2050, <https://www.irena.org/publications/2019/Apr/Global-energy-transformation-A-roadmap-to-2050-2019Edition#:~:text=Thus%2C%20every%20dollar%20spent%20in,lost%20in%20fossil%20fuel%20industries>
- ¹⁸ United Nations, Webpage: Financing Climate Action, <https://www.un.org/en/climatechange/raising-ambition/climate-finance>
- ¹⁹ This includes public and private sources of funding. DESNZ analysis of the BloombergNEF, *Energy transition investment dataset*, available at: <https://www.bnef.com/>. The BNEF series captures investments made across different low-carbon technologies and sectors, including power, energy storage, transport, heating, hydrogen, and CCS. Figures should not be taken as fully representative of all low-carbon investments made across the economy and are likely to be a conservative estimate.

- ²⁰ PwC (2022), Asset and wealth management revolution, <https://www.pwc.com/gx/en/industries/financial-services/asset-management/publications/asset-and-wealth-management-revolution-2022.html>
- ²¹ Z/Yen Group Long Finance & Financial Centre Futures (2022), 'The Global Green Finance Index 10', https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4285306
- ²² British Standards Institution, Sustainable Finance Standards Programme, <https://www.bsigroup.com/en-GB/about-bis/uk-national-standards-body/BIS-Exploring-new-areas-with-government-funding/projects/Sustainability/sustainable-finance/>
- ²³ GFANZ (2021), <https://www.gfanzero.com/press/amount-of-finance-committed-to-achieving-1-5c-now-at-scale-needed-to-deliver-the-transition/>
- ²⁴ UNFCCC, The Paris Agreement, <https://unfccc.int/process-and-meetings/the-paris-agreement>
- ²⁵ Convention on Biological Diversity (2022), COP15: Final Text of Kunming-Montreal Global Biodiversity Framework, <https://www.cbd.int/article/cop15-final-text-kunming-montreal-gbf-221222>
- ²⁶ HM Treasury (2021), Guidance Fact Sheet: Net Zero-aligned Financial Centre, <https://www.gov.uk/government/publications/fact-sheet-net-zero-aligned-financial-centre/fact-sheet-net-zero-aligned-financial-centre>
- ²⁷ HM Treasury (2021), Greening Finance: A Roadmap to Sustainable Investing, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1031805/CCS0821102722-006_Green_Finance_Paper_2021_v6_Web_Accessible.pdf
- ²⁸ The Companies (Strategic Report) (Climate-related Financial Disclosure) Regulations 2021 and the Limited Liability Partnerships (Climate-related Financial Disclosure) Regulations 2022
- ²⁹ The Occupational Pension Schemes (Climate Change Governance and Reporting) Regulations 2021
- ³⁰ The Occupational Pension Schemes (Climate Change Governance and Reporting) (Amendment, Modification and Transitional Provision) Regulations 2022.
- ³¹ <https://www.gov.uk/government/publications/uk-export-finance-annual-report-and-accounts-2021-to-2022>
- ³² Taskforce on Nature-related Financial Disclosures, <https://tnfd.global/about/>
- ³³ CDP (2021) New CDP data shows companies are recognizing the need for climate transition plans but are not moving fast enough amidst incoming mandatory disclosure, <https://www.cdp.net/en/articles/climate/new-cdp-data-shows-companies-are-recognizing-the-need-for-climate-transition-plans-but-are-not-moving-fast-enough-amidst-incoming-mandatory-disclosure>
- ³⁴ Transition Plan Taskforce, Get Involved, <https://transitiontaskforce.net/get-involved/>
- ³⁵ Social Impact Investment Taskforce (2018), Better Reporting Landscape Report, https://www.impactinvest.org.uk/wp-content/uploads/2020/11/Better-Reporting-Landscape-Report_Final_Embargoed.pdf
- ³⁶ New Climate Institute (2022), Corporate Climate Responsibility Monitor, <https://newclimate.org/resources/publications/corporate-climate-responsibility-monitor-2022>.
- ³⁷ The ICC and Sage (2014), SMEs critical to cutting UK carbon emissions but overlooked in government's net-zero plans, <https://www.sage.com/en-gb/news/press-releases/2022/11/smes-critical-to-cutting-uk-carbon-emissions-but-overlooked-in-governments-net-zero-plans/>.
- ³⁸ British Business Bank, Smaller Businesses and the Transition to Net Zero (2021), page 15 <https://www.british-business-bank.co.uk/research/smaller-businesses-and-the-transition-to-net-zero/>
- ³⁹ Financial Conduct Authority (2022), Sustainability Disclosure Requirements (SDR) and investment labels consultation paper, <https://www.fca.org.uk/publications/consultation-papers/cp22-20-sustainability-disclosure-requirements-sdr-investment-labels>
- ⁴⁰ Based on EDF calculations compared with 3.2 GW of gas-fired generation see EDF (2021): Hinkley Point C: Creating a positive environmental impact, https://www.edfenergy.com/sites/default/files/hinkley_point_c_-_creating_a_positive_environmental_impact_november_2021.pdf
- ⁴¹ EDF, Why we need a mix of energy sources, <https://www.edfenergy.com/energy/nuclear-new-build-projects/hinkley-point-c/local-community/plugged-in/article/why-we-need-a-mix-of-energy-sources>
- ⁴² Department for Business, Energy & Industrial Strategy (2022), Digest of UK Energy Statistics 2022 - Chapter 5 - Electricity, <https://www.gov.uk/government/statistics/electricity-chapter-5-digest-of-united-kingdom-energy-statistics-dukes>
- ⁴³ UNECE (2022), Carbon Neutrality in the UNECE Region: Integrated Life-cycle Assessment of Electricity Sources. Geneva: United Nations Economic Commission for Europe. <https://unece.org/sed/documents/2021/10/reports/life-cycle-assessment-electricity-generation-options>

- ⁴⁴ Environment Agency, Food Standards Agency, Natural Resources Wales (2022), RIFE 27 summary: Radioactivity in food and the environment 2021 <https://www.gov.uk/government/publications/radioactivity-in-food-and-the-environment-rife-reports/rife-27-summary-radioactivity-in-food-and-the-environment-2021>
- ⁴⁵ Based on UNECE (2022), Carbon Neutrality in the UNECE Region: Integrated Life-cycle Assessment of Electricity Sources. Geneva: United Nations Economic Commission for Europe. <https://unece.org/sed/documents/2021/10/reports/life-cycle-assessment-electricity-generation-options>
Resource depletion does not include depletion of uranium however the IAEA deemed uranium resources to be adequate to support global high nuclear development scenarios (IAEA. (2020), Uranium 2020: Resources, Production and Demand. Paris: International Atomic Energy Agency and OECD Nuclear Energy Agency. https://www.oecd-neo.org/jcms/pl_52718/uranium-2020-resources-production-and-demand?details=true).
- ⁴⁶ UK Government, Policy Paper: Natural Capital and Ecosystem Assessment Programme, <https://www.gov.uk/government/publications/natural-capital-and-ecosystem-assessment-programme/natural-capital-and-ecosystem-assessment-programme>
- ⁴⁷ Taskforce on Nature-related Financial Disclosures, The Nature-related Data Catalyst, <https://tnfd.global/consultation-and-engagement/data-catalyst/>
- ⁴⁸ UKRI, Integrating finance and biodiversity for a nature positive future, <https://www.ukri.org/opportunity/integrating-finance-and-biodiversity-for-a-nature-positive-future/>
- ⁴⁹ UKRI, Changing the environment, <https://www.ukri.org/what-we-offer/browse-our-areas-of-investment-and-support/changing-the-environment/>
- ⁵⁰ RENEW, Webpage: Renewing biodiversity through a people-in-nature approach, <https://renewbiodiversity.org.uk/>
- ⁵¹ PwC (2022), ESG-focused institutional investment seen soaring 84% to US\$33.9 trillion in 2026, making up 21.5% of assets under management: PwC report, <https://www.pwc.com/gx/en/news-room/press-releases/2022/awm-revolution-2022-report.html>.
- ⁵² Deloitte (2022), Deloitte Insights: Ingraining sustainability in the next era of ESG investing, <https://www2.deloitte.com/uk/en/insights/industry/financial-services/esg-investing-and-sustainability.html>
- ⁵³ UK Government (2023), Consultation: Future regulatory regime for environmental social and governance ESG ratings providers, <https://www.gov.uk/government/consultations/future-regulatory-regime-for-environmental-social-and-governance-esg-ratings-providers>
- ⁵⁴ Financial Conduct Authority (2022), UK Benchmarks Regulation, <https://www.fca.org.uk/markets/benchmarks/regulation>
- ⁵⁵ Chartered Banker, Green Finance Education Charter Publications, <https://www.charteredbanker.com/centre-for-responsible-banking/green-finance-education-charter/gfec-publications.html>
- ⁵⁶ Chartered Banker (2021), Green Finance Education Charter Progress Report, <https://www.charteredbanker.com/asset/8D487669-13E6-4170-BOB325B34F12CC70/>
- ⁵⁷ Drawing on the work on “transmission mechanisms” in this paper: University of Oxford Smith School of Enterprise and the Environment (2022), Sustainable Finance and Transmission Mechanisms to the Real Economy, <https://www.smithschool.ox.ac.uk/sites/default/files/2022-04/Sustainable-Finance-and-Transmission-Mechanisms-to-the-Real-Economy.pdf>
- ⁵⁸ Association of British Insurers (2022), Climate roadmap: <https://www.abi.org.uk/news/news-articles/2022/11/solvencyireform/>
- ⁵⁹ Association of British Insurers (2022), Press notice: Solvency II reform welcomed by insurance and long-term savings industry: <https://www.abi.org.uk/news/news-articles/2022/11/solvencyireform/>
- ⁶⁰ UK Government, Spring Budget 2023, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1144441/Web_accessible_Budget_2023.pdf
- ⁶¹ Financial Reporting Council (2022), UK Stewardship Code, <https://www.frc.org.uk/investors/uk-stewardship-code>
- ⁶² Office for National Statistics (2022), Funded occupational pension schemes in the UK: January to March 2022, <https://www.ons.gov.uk/economy/investmentpensionsandtrusts/bulletins/fundedoccupationalpensionschemesintheuk/januarytomarch2022>
- ⁶³ Bank of England (2021), PRA Climate Change Adaptation Report 2021 - Climate-related financial risk management and the role of capital requirements, <https://www.bankofengland.co.uk/prudential-regulation/publication/2021/october/climate-change-adaptation-report-2021>
- ⁶⁴ Bank of England (2023), Bank of England report on climate-related risks and the regulatory capital frameworks, <https://www.bankofengland.co.uk/prudential-regulation/publication/2023/report-on-climate-related-risks-and-the-regulatory-capital-frameworks>

- ⁶⁵ Bank of England (2021), Results of the 2021 Climate Biennial Exploratory Scenario (CBES), <https://www.bankofengland.co.uk/stress-testing/2022/results-of-the-2021-climate-biennial-exploratory-scenario>
- ⁶⁶ Bank of England (2022), Climate change: possible macroeconomic implications Quarterly Bulletin 2022 Q4, <https://www.bankofengland.co.uk/quarterly-bulletin/2022/2022-q4/climate-change-possible-macroeconomic-implications>
- ⁶⁷ Bank of England (2022), The Bank of England's climate-related financial disclosure 2022, <https://www.bankofengland.co.uk/prudential-regulation/publication/2022/june/the-bank-of-englands-climate-related-financial-disclosure-2022>
- ⁶⁸ Transition Plan Taskforce (2022), Consultation: The Transition Plan Taskforce Disclosure Framework, <https://transitiontaskforce.net/wp-content/uploads/2022/11/TPT-Disclosure-Framework.pdf>
- ⁶⁹ Financial Conduct Authority (2022), Code of Conduct for ESG data and ratings providers, <https://www.fca.org.uk/news/news-stories/code-conduct-esg-data-and-ratings-providers>
- ⁷⁰ Financial Reporting Council (2022), Net Zero Disclosures, <https://www.frc.org.uk/investors/frc-lab/net-zero-disclosures>
- ⁷¹ Financial Reporting Council (2022), Guidance on the Strategic Report, <https://www.frc.org.uk/accountants/accounting-and-reporting-policy/clear-and-concise-and-wider-corporate-reporting/narrative-reporting/guidance-on-the-strategic-report>
- ⁷² Financial Reporting Council (2020), Climate Thematic, <https://www.frc.org.uk/getattachment/ab63c220-6e2b-47e6-924e-8f369512e0a6/Summary-FINAL.pdf>
- ⁷³ Financial Reporting Council (2022), CRR Thematic review of TCFD disclosures and climate in the financial statements, https://www.frc.org.uk/getattachment/65fa8b6f-2bed-4a67-8471-ab91c9cd2e85/FRC-TCFD-disclosures-and-climate-in-the-financial-statements_July-2022.pdf
- ⁷⁴ Financial Reporting Council (2022), FRC Staff Guidance Auditor responsibilities under ISA (UK) 720 in respect of climate-related reporting by companies required by the Financial Conduct Authority, <https://www.frc.org.uk/getattachment/b6e1b51c-4dc8-413f-8a83-ae051e4d000e/FRC-Staff-Guidance-Auditor-responsibilities-under-ISA-%28UK%29-720-in-respect-of-climate-related-reporting.pdf>
- ⁷⁵ Financial Reporting Council, FRC Lab, <https://www.frc.org.uk/investors/frc-lab#current-projects>
- ⁷⁶ Statement on international public support for the clean energy transition (2021), <https://ukcop26.org/statement-on-international-public-support-for-the-clean-energy-transition/>
- ⁷⁷ International Institute for Sustainable Development (2022), <https://www.iisd.org/articles/insight/stop-funding-oil-gas-internationally>
- ⁷⁸ EY (2023), Report: The most attractive markets for renewable energy investment, <https://www.consultancy.eu/news/8362/the-most-attractive-markets-for-renewable-energy-investment>
- ⁷⁹ New Financial (2022), The Politics of EU Capital Markets, page 14 <https://newfinancial.org/the-politics-of-eu-capital-markets/>
- ⁸⁰ Global Innovation Index (2022), 2022 Report, <https://www.globalinnovationindex.org/gii-2022-report#>
- ⁸¹ UK Government (2023), Powering Up Britain, <https://www.gov.uk/government/publications/powering-up-britain>
- ⁸² UK Government (2023), Environmental Improvement Plan, <https://www.gov.uk/government/publications/environmental-improvement-plan> ; UK Government (2023), Nature Markets Framework, <https://www.gov.uk/government/publications/nature-markets>
- ⁸³ This includes public and private sources of funding. DESNZ analysis of the BloombergNEF, *Energy transition investment dataset*, available at: <https://www.bnef.com/>. The BNEF series captures investments made across different low carbon technologies and sectors, including power, energy storage, transport, heating, hydrogen, and CCS. Figures should not be taken as fully representative of all low-carbon investments made across the economy and are likely to be a conservative estimate.
- ⁸⁴ UK Government (2022), Levelling Up White Paper, <https://www.gov.uk/government/publications/levelling-up-the-united-kingdom>
- ⁸⁵ UK Government (2021), Net Zero Strategy, p 49, <https://www.gov.uk/government/publications/net-zero-strategy>
- ⁸⁶ UK Government, British Energy Security Strategy (2022), page 16, <https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy>
- ⁸⁷ UK Government, British Energy Security Strategy (2022), page 19, <https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy>
- ⁸⁸ UK Government, British Energy Security Strategy (2022), page 22, <https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy>
- ⁸⁹ UK Government, Powering Up Britain - Energy Security and Net Zero Growth Plans (2023)

- ⁹⁰ UK Government, British Energy Security Strategy (2022), page 21, <https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy>
- ⁹¹ UK Government (2023), Environmental Improvement Plan, <https://www.gov.uk/government/publications/environmental-improvement-plan>
- ⁹² UK Government (2021), Autumn Budget and Spending Review 2021, page 72, <https://www.gov.uk/government/publications/autumn-budget-and-spending-review-2021-documents>
- ⁹³ Climate Change Committee (2023), Investment for a well-adapted UK, <https://www.theccc.org.uk/publication/investment-for-a-well-adapted-uk/>
- ⁹⁴ Preinfalk, E et al (2021). How does adaptation affect the public finances? In COACCH Policy Brief, September 2021. Monetary Valuation of Risks and Opportunities in CCRA3, 2021. <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/Monetary-Valuation-of-Risks-and-Opportunities-in-CCRA3.pdf>
- ⁹⁵ UK Government, Automotive Roadmap (2022): Driving us all forward, <https://www.gov.uk/government/publications/automotive-roadmap-driving-us-all-forward>
- ⁹⁶ UK Government, Hydrogen investor roadmap: leading the way to net zero (2022), <https://www.gov.uk/government/publications/hydrogen-investor-roadmap-leading-the-way-to-net-zero>
- ⁹⁷ UK Government, Carbon capture, usage and storage (CCUS): investor roadmap (2022), <https://www.gov.uk/government/publications/carbon-capture-usage-and-storage-ccus-investor-roadmap>
- ⁹⁸ UK Government, Jet Zero investment flightpath (2022), <https://www.gov.uk/government/publications/jet-zero-strategy-delivering-net-zero-aviation-by-2050>
- ⁹⁹ UK Government (2021), Net Zero Strategy, pg 216, <https://www.gov.uk/government/publications/net-zero-strategy>
- ¹⁰⁰ Internal DESNZ analysis
- ¹⁰¹ Programmes and products include SUL (Start Up Loans), the Nations and Regions Investment Funds and the BBI Investment Programmes
- ¹⁰² Programmes and products include the Recovery Loan Scheme RLS and the ENABLE Programmes
- ¹⁰³ Programmes and products include the Enterprise Capital Funds (ECF), Nations and Regions Investment Funds, British Patient Capital BPC, BBI Regional Angels Programme and BBI Managed
- ¹⁰⁴ Programmes and products include the Export Development Guarantee and the General Export Facility
- ¹⁰⁵ Programmes and products include the Direct Lending Facility and Buyer Credit Facility
- ¹⁰⁶ Programmes and products include the Buyer Credit Facility
- ¹⁰⁷ Programmes and products include Catapult support
- ¹⁰⁸ Programmes and products include KTN support
- ¹⁰⁹ Programmes and products include KTN support and Innovate UK EDGE scale-up support
- ¹¹⁰ Programmes and products include Innovate UK EDGE scale-up support
- ¹¹¹ UK Government, Levelling Up White Paper (2022), <https://www.gov.uk/government/publications/levelling-up-the-united-kingdom>
- ¹¹² UK Government, Net Zero R&I Delivery Plan (2023), <https://www.gov.uk/government/publications/uk-net-zero-research-and-innovation-framework-delivery-plan-2022-to-2025>
- ¹¹³ UK Government, Net Zero Innovation Portfolio, <https://www.gov.uk/government/collections/net-zero-innovation-portfolio>
- ¹¹⁴ UK Government, Press notice: Department for Transport launches UK shore to take maritime back to the future with green investment (2022), <https://www.gov.uk/government/news/dft-launches-uk-shore-to-take-maritime-back-to-the-future-with-green-investment>
- ¹¹⁵ UK Government, Press notice: £200 million boost to rollout of hundreds more zero-emission HGVs (2022), <https://www.gov.uk/government/news/200-million-boost-to-rollout-of-hundreds-more-zero-emission-hgvs>
- ¹¹⁶ UK Government, Press notice: Green aerospace tech to receive record government funding (2023), <https://www.gov.uk/government/news/green-aerospace-tech-to-receive-record-government-funding>
- ¹¹⁷ UK Government, Net Zero Strategy (2021), p210, <https://www.gov.uk/government/publications/net-zero-strategy>
- ¹¹⁸ Programmes and products include the ICUR programme
- ¹¹⁹ Innovate UK (2022), Net Zero Review 2022 <https://www.ukri.org/wp-content/uploads/2022/11/IUK-091122-NetZeroReview2022.pdf>

- ¹²⁰ London and Partners (2023), Press notice: London and Partners, <https://media.londonandpartners.com/news/london-retains-crown-as-europes-leading-hub-for-tech-investment>
- ¹²¹ PwC (2022). PwC Net Zero Future 50. <https://www.pwc.co.uk/press-room/press-releases/the-uk-is-emerging-as-a-global-climate-tech-leader-and-is-the-le.html>
- ¹²² UK Government (2023), Press notice: PM meeting with Bill Gates, <https://www.gov.uk/government/news/pm-meeting-with-bill-gates-15-february-2023> and Website: <https://www.cleantechforuk.com/coalition>
- ¹²³ British Business Bank (2021), Smaller Businesses and the Transition to Net Zero, page 15, <https://www.british-business-bank.co.uk/research/smaller-businesses-and-the-transition-to-net-zero/>
- ¹²⁴ British Business Bank's (BBB) recent representative survey of SMEs found that costs were the most significant barrier referenced by respondents (at 35%) with upfront costs (21%) being cited as the most challenging component. Accessible at: British Business Bank (2022), <https://www.british-business-bank.co.uk/press-release/majority-of-smaller-businesses-dont-understand-carbon-jargon-new-british-business-bank-research-reveals/>
- ¹²⁵ British Business Bank (2022), Majority of smaller businesses don't understand 'carbon jargon', new British Business Bank research reveals, <https://www.british-business-bank.co.uk/press-release/majority-of-smaller-businesses-dont-understand-carbon-jargon-new-british-business-bank-research-reveals/>
- ¹²⁶ <https://www.british-business-bank.co.uk/finance-hub/business-guidance/sustainability/>
- ¹²⁷ Northern Powerhouse Investment Fund (2022), Press notice: New £5.25m investment in Nova Pangaea to accelerate business growth, <https://www.npif.co.uk/new-5-25m-investment-in-nova-pangaea-to-accelerate-business-growth/>
- ¹²⁸ UK Government (2021), The Carbon Capture and Storage Infrastructure Fund: an update on its design (May 2021), <https://www.gov.uk/government/publications/design-of-the-carbon-capture-and-storage-ccs-infrastructure-fund/the-carbon-capture-and-storage-infrastructure-fund-an-update-on-its-design-accessible-webpage>
- ¹²⁹ HM Government (2022), Net Zero Hydrogen Fund strand 1 and strand 2, <https://www.gov.uk/government/publications/net-zero-hydrogen-fund-strand-1-and-strand-2>
- ¹³⁰ UK Government (2022), British Energy Security Strategy, page 13, <https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy>
- ¹³¹ UK Government (2022), Consultation: Floating Offshore Wind Manufacturing Investment Scheme: request for information, <https://www.gov.uk/government/consultations/floating-offshore-wind-manufacturing-investment-scheme-request-for-information>
- ¹³² UK Government (2021), Offshore wind manufacturing investment support scheme: investment programme (closed to applications), <https://www.gov.uk/government/publications/offshore-wind-manufacturing-investment-support-scheme-investment-programme>
- ¹³³ UK Government (2022), Transparency data – Advanced Fuels Fund (AFF) competition winners, <https://www.gov.uk/government/publications/advanced-fuels-fund-competition-winners/advanced-fuels-fund-aff-competition-winners>
- ¹³⁴ UK Government (2023), Energy Efficiency Taskforce, <https://www.gov.uk/government/groups/energy-efficiency-taskforce>
- ¹³⁵ UK Government, Apply for the Boiler Upgrade Scheme, <https://www.gov.uk/apply-boiler-upgrade-scheme>
- ¹³⁶ UK Government (2023), Collection: Public Sector Decarbonisation Scheme, <https://www.gov.uk/government/collections/public-sector-decarbonisation-scheme>
- ¹³⁷ UK Government (2021), Notice: Apply for the Green Home Finance Accelerator, <https://www.gov.uk/government/publications/green-home-finance-accelerator>
- ¹³⁸ UK Government (2022), Policy paper: Contracts for Difference, <https://www.gov.uk/government/publications/contracts-for-difference/contract-for-difference>
- ¹³⁹ UK Government (2022), 'Contracts for Difference (CfD) Allocation Round 4: results', <https://www.gov.uk/government/publications/contracts-for-difference-cfd-allocation-round-4-results>
- ¹⁴⁰ UK Government (2022), Guidance: Development costs and the nuclear Regulated Asset Base (RAB) model, <https://www.gov.uk/government/publications/development-costs-and-the-nuclear-regulated-asset-base-rab-model>
- ¹⁴¹ UK Government (2022), 'UK government takes major steps forward to secure Britain's energy independence', <https://www.gov.uk/government/news/uk-government-takes-major-steps-forward-to-secure-britains-energy-independence>
- ¹⁴² UK Government (2022), Hydrogen Productions Business Model, <https://www.gov.uk/government/publications/hydrogen-production-business-model>
- ¹⁴³ UK Government (2022), Consultation: Proposals for hydrogen transport and storage business models (closed), <https://www.gov.uk/government/consultations/proposals-for-hydrogen-transport-and-storage-business-models>

- ¹⁴⁴ UK Government (2022), British Energy Security Strategy, page 23, <https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy>
- ¹⁴⁵ UK Government (2022), Carbon capture, usage and storage (CCUS): business models (December 2022), <https://www.gov.uk/government/publications/carbon-capture-usage-and-storage-ccus-business-models>
- ¹⁴⁶ UK Government (2022), Consultation: Greenhouse gas removals (GGRs) business models (closed), <https://www.gov.uk/government/consultations/greenhouse-gas-removals-ggr-business-models>
- ¹⁴⁷ UK Government (2021), Net Zero Strategy, page 24, <https://www.gov.uk/government/publications/net-zero-strategy>
- ¹⁴⁸ UK Government (2022), UK Low Carbon Hydrogen Standard, <https://www.gov.uk/government/publications/uk-low-carbon-hydrogen-standard-emissions-reporting-and-sustainability-criteria>
- ¹⁴⁹ Environment Act 2021
- ¹⁵⁰ UK Government (2022), Press notice: Update on the The Big Nature Impact Fund, <https://www.gov.uk/government/news/update-on-the-big-nature-impact-fund>
- ¹⁵¹ UK Government (2019), Guidance, Woodland Carbon Guarantee, <https://www.gov.uk/guidance/woodland-carbon-guarantee>
- ¹⁵² UK Government (2021), Environmental land management schemes: overview, <https://www.gov.uk/government/publications/environmental-land-management-schemes-overview>
- ¹⁵³ UK Government (2015), Press notice: £50 million of existing funds allocated to boost investment in renewables, <https://www.gov.uk/government/news/50-million-of-existing-funds-allocated-to-boost-investment-in-renewables>
- ¹⁵⁴ UK Infrastructure Bank (2022), <https://www.ukib.org.uk/strategic-plan>
- ¹⁵⁵ UK Government (2023), Green Heat Network Fund (GHNF): guidance on how to apply, <https://www.gov.uk/government/publications/green-heat-network-fund-ghnf>
- ¹⁵⁶ UK Government (2023), Policy paper: Nationally significant infrastructure projects (NSIP) Action Plan, <https://www.gov.uk/government/publications/nationally-significant-infrastructure-projects-nsip-reforms-action-plan>
- ¹⁵⁷ UK Government (2023), Guidance: Taking part in the UK Emissions Trading Scheme markets, <https://www.gov.uk/government/publications/taking-part-in-the-uk-emissions-trading-scheme-markets/taking-part-in-the-uk-emissions-trading-scheme-markets>
- ¹⁵⁸ The UK ETS Authority is comprised of UK, Scottish and Welsh Governments and Northern Ireland Department of Agriculture, Environment and Rural Affairs.
- ¹⁵⁹ UK Government, North Sea Transition Deal, <https://www.gov.uk/government/publications/north-sea-transition-deal>
- ¹⁶⁰ Climate Change Committee (2023), Investment for a well adapted UK (January 2023) <https://www.theccc.org.uk/publication/investment-for-a-well-adapted-uk/>
- ¹⁶¹ UK Government (2021), Net Zero Strategy, page 261, <https://www.gov.uk/government/publications/net-zero-strategy>
- ¹⁶² Net Zero Go, <https://www.netzerogo.org.uk/s/>
- ¹⁶³ UK Government, Spring Budget 2023, <https://www.gov.uk/government/publications/spring-budget-2023-factsheet-cutting-simplifying-tax-for-businesses-to-invest-and-grow>
- ¹⁶⁴ UK Government (2021), Guidance: What are freeports, <https://www.gov.uk/guidance/freeports#what-are-freeports>
- ¹⁶⁵ Internal DESNZ research, Dataset: Low carbon and renewable energy economy estimates: <https://www.ons.gov.uk/economy/environmentalaccounts/datasets/lowcarbonandrenewableenergyeconomyfirstestimatesdataset> and UK trade: goods and services publication tables: <https://www.ons.gov.uk/economy/nationalaccounts/balanceofpayments/datasets/uktradegoodsandservicespublicationtables>
- ¹⁶⁶ UK Government (2019), Energy Innovation Needs Assessment – Carbon Capture, Usage and Storage, page 10, <https://www.gov.uk/government/publications/energy-innovation-needs-assessments>
- ¹⁶⁷ UK Export Finance (2022), Report: UK Export Finance economic impacts of our support 2021-22, <https://www.gov.uk/government/publications/uk-export-finance-economic-impacts-of-our-support-2021-22>
- ¹⁶⁸ UK Government, UK Export Finance Climate Change Strategy 2021 to 2024 <https://www.gov.uk/government/publications/uk-export-finance-climate-change-strategy-2021-to-2024>
- ¹⁶⁹ UK Government, Webpage: Invest in the UK, <https://www.great.gov.uk/international/investment/>
- ¹⁷⁰ <https://www.gov.uk/government/speeches/foreign-secretary-closing-speech-at-global-investment-summit>
- ¹⁷¹ UK Government, The Office for Investment, <https://www.great.gov.uk/international/content/investment/how-we-can-help/the-office-for-investment/>

- ¹⁷² UK Government, The Venture Capital Unit, <https://www.great.gov.uk/international/content/investment/how-we-can-help/the-venture-capital-unit/>
- ¹⁷³ Green Finance Institute, GFI Hive, <https://www.greenfinanceinstitute.co.uk/gfihive/>
- ¹⁷⁴ Forest Trends' Ecosystem Marketplace (2022), The Art of Integrity: State of Voluntary Carbon Markets, Q3 Insights Briefing. Washington DC: Forest Trends Association
- ¹⁷⁵ British Standards Institution, Press notice: BSI and Defra launch nature investment standards programme, <https://www.bsigroup.com/en-GB/about-bsi/media-centre/press-releases/2023/march/bsi-and-defra-launch-nature-investment-standards-programme/>
- ¹⁷⁶ Intergovernmental Panel on Climate Change (2023), AR6 Synthesis Report, <https://www.ipcc.ch/report/ar6/syr/>
- ¹⁷⁷ Independent High-Level Expert Group on Climate Finance (2022), 'Finance for climate action', <https://www.lse.ac.uk/granthaminstitute/publication/finance-for-climate-action-scaling-up-investment-for-climate-and-development/>
- ¹⁷⁸ UK Government (2022), Press notice: UKEF provides record £3.6bn to help UK businesses construct hospitals, electric railways and offshore wind across the globe, <https://www.gov.uk/government/news/ukef-provides-36-billion-for-sustainable-projects-in-2021>
- ¹⁷⁹ Colombia, Nigeria, Turkey, Mexico, Peru, South Africa, Pakistan, Egypt and Vietnam
- ¹⁸⁰ <https://ukcop26.org/the-breakthrough-agenda/>
- ¹⁸¹ Bangladesh, Morocco, Egypt, India, Pakistan, Nigeria, Kenya, Vietnam, Indonesia, Laos PDR and the Philippines.
- ¹⁸² UK Government, UK Climate Finance Results (2022), <https://www.gov.uk/government/publications/uk-climate-finance-results-2022>
- ¹⁸³ PIDG (2022), 'Annual Review', <https://www.pidg.org/our-impact/our-2021-annual-review/>
- ¹⁸⁴ UK Government, Press notice: British businesses backed by £74 billion government support to export around the world, <https://www.gov.uk/government/news/british-businesses-backed-by-74-billion-government-support-to-export-around-the-world>
- ¹⁸⁵ Climate Finance Lab, <https://www.climatefinancelab.org/impact/>
- ¹⁸⁶ Partnership for Market Implementation (£20 million), the Transformative Carbon Asset Facility (£60 million), Carbon for Initiative for Development (£50 million), REDD Early Movers programme (£73 million), Lowering Emissions by Accelerating Forest Finance (£200 million), Forest Carbon Partnership Facility (£141 million), BioCarbon Fund Initiative for Sustainable Forest Landscapes (£115 million)
- ¹⁸⁷ European Bank for Reconstruction and Development, Press notice: 2021 sees record joint MDB climate finance (2022), <https://www.ebrd.com/news/2022/2021-sees-record-joint-mdb-climate-finance-.html>
- ¹⁸⁸ Coalition for Climate Resilient Investment, Press notice: COP27 AIIB Takes Action to Further Promote Climate-Resilient Infrastructure Investments by joining CCRI, <https://resilientinvestment.org/aiib-joins-ccri/>

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