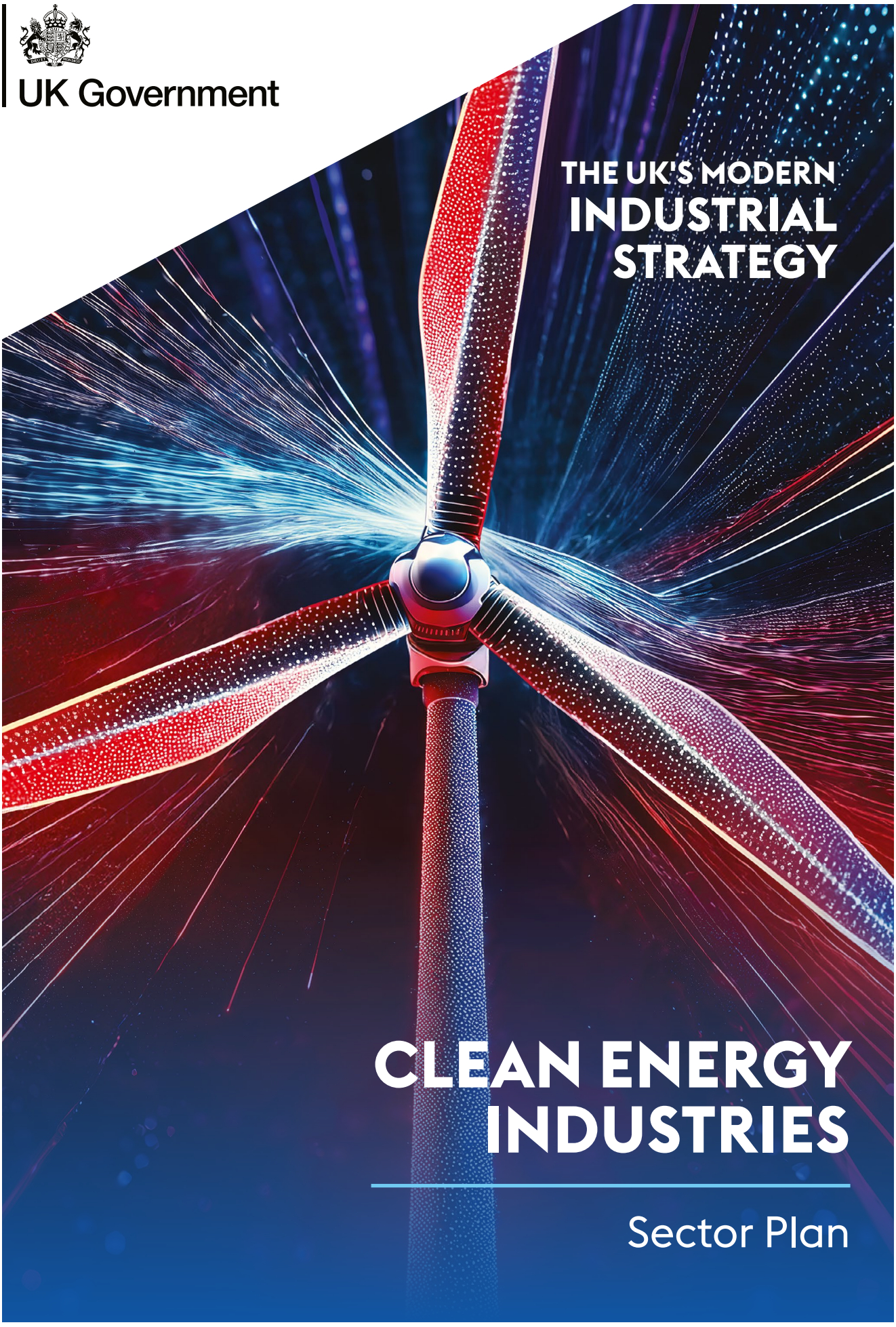
UK Government

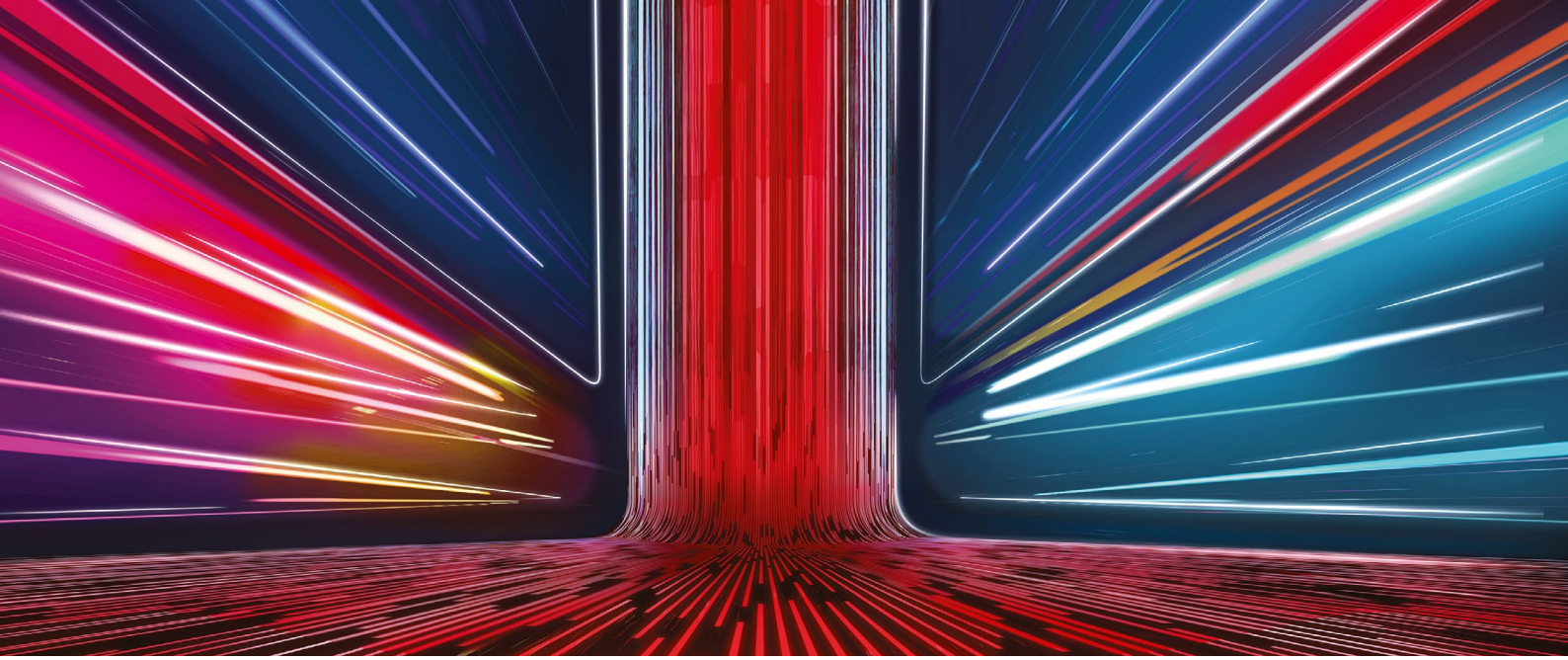


THE UK'S MODERN
INDUSTRIAL
STRATEGY

CLEAN ENERGY INDUSTRIES

Sector Plan

Contents



Ministerial Foreword

Rt Hon Ed Miliband,
Secretary of State for Energy Security and Net Zero

The clean energy transition is the economic opportunity of the 21st century. It is our chance to build up the industries of the future right here at home. It is Britain's chance to race ahead.

In our industrial heartlands and coastal communities, there is an enormous opportunity to build the energy industries of the future and create the good jobs at good wages that people have long demanded.

The global transition to net zero calls for huge investment in wind, nuclear fission and fusion, hydrogen, carbon capture, heat pumps, networks and other critical technologies. With this Sector Plan we are targeting at least a doubling of current investment levels across our frontier Clean Energy Industries to over £30 billion per year by 2035. These are the industries of the future. Industries that the UK is perfectly placed to specialise in. Industries that can create hundreds of thousands of jobs for engineers, technicians, mechanics, electricians, and welders in every corner of the country. But our vision will not just deliver jobs. It will create a new generation of good, industrial jobs with strong trade union representation and position the UK as a world-leading exporter of low carbon products, services and innovation.

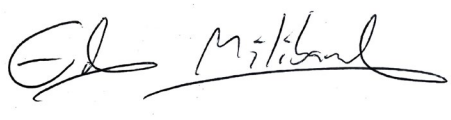
The Government can't achieve our ambitions for these Clean Energy Industries alone. We know that our vision has to be delivered working side by side with UK businesses and trade unions. With the best of British industry we share a vision of a stronger, more dynamic economy, fuelled by investment in the technologies of the future, creating good jobs right across the country.

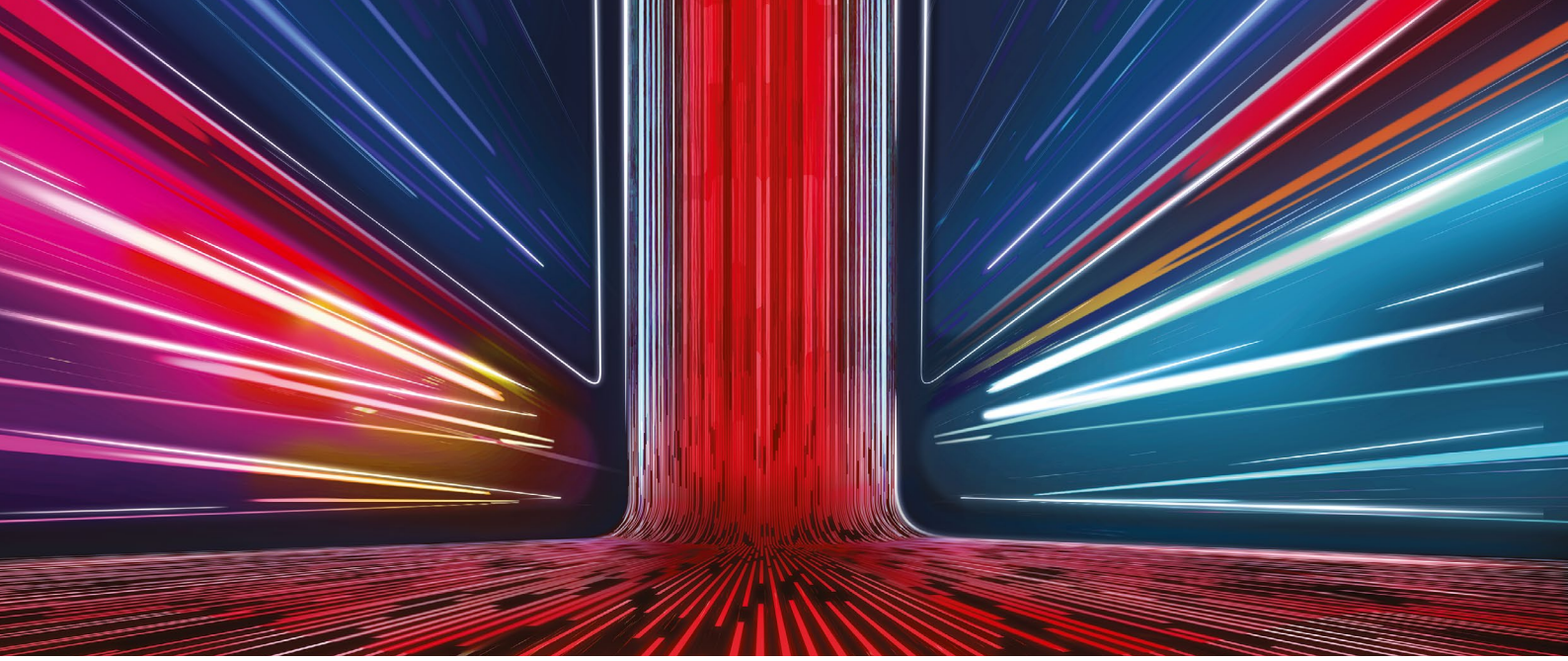
Our Clean Energy Superpower Mission means we are doubling down on Britain's strengths and giving those industries the certainty they need to invest in the UK. This Sector Plan builds on that certainty, addressing specific barriers to investment and growth in priority areas. Over the coming months and years we will work in partnership with industry to deliver on these goals.

From blade manufacturing in Hull to new nuclear in Somerset, Carbon Capture Usage and Storage in Scotland, floating wind off the coasts of Scotland and Wales, and fusion in the East Midlands we will deliver the benefits of our Clean Energy Superpower Mission to communities up and down the country.

In recent years we have witnessed how dependence on fossil fuels has made us vulnerable. From Covid-19 to Russia's invasion of Ukraine, we have experienced the fragile nature of global supply chains, and we have seen that families and businesses are the ones that pay the price of this insecurity through increased energy bills. Only by putting clean energy at the heart of our Industrial Strategy, alongside our Clean Energy Superpower Mission, can we end this vulnerability. Our plans will not just provide the UK with energy security, but will also deliver economic security and growth at home as we transform our energy system and our economy.

Developed in close collaboration with industry, local and devolved governments and trade unions, this is our 10-year plan to back Clean Energy Industries. With the offer set out in this plan, I have a simple message. Build it in Britain. Power the World.





1. Build it in Britain. Power the World.

Britain used to be an energy powerhouse. We built technologies that brought jobs and prosperity across the country. We have a once in a generation chance to build on that prosperity and growth, but only if we double down on our advantages. If we delay, or fail to seize the available opportunities, other countries will win the race for these industries of the future. Clean energy is that future and a perfect fit for the UK's strengths.

The UK has major growth opportunities in Clean Energy Industries. We are a coastal nation, a scientific and innovation superpower, with strengths in high-value manufacturing and a skilled energy workforce to match. With our world-leading renewable energy deployment, and deep capital markets, Britain is the natural home for Clean Energy Industries. We can deliver investment in manufacturing and deployment that will have significant spillover benefits for innovation, services, and skills across the country, leveraging the clean energy transition to turbocharge growth.

Clean energy investors are clear that they want to grow in the UK and to invest billions here, but they cannot do this on their own. They need certainty, they need stability, they need a partner to take the first step with them in developing new technologies, and they need an incentive to expand supply chains. This is our plan to secure that growth, to back those Clean Energy Industries and unlock billions more in investment. To break down barriers to projects, to invest alongside industry where necessary, to ensure we create good jobs, to incentivise companies to build it in Britain.

This is the global economic opportunity of our time, and in an uncertain world, the Government's Missions to Kickstart Economic Growth and make the UK a Clean Energy Superpower are sending a clear message that we are unwavering in our commitment to these industries and to energy security. The net zero economy is already growing three times faster than the wider UK economy[1] and we have seen over £40 billion of private investment in clean energy announced since July.[2] Our Clean Industry Bonus smashed expectations, with £544 million for offshore wind developers to prioritise investment in regions that need it most,[3] leveraging billions more in private investment, including in traditional oil and gas communities, ex-industrial areas, ports, and coastal towns.

Delivering Clean Power by 2030 will protect the economy and billpayers from the rollercoaster of fossil fuel prices, the cause of half of recessions since 1970.[4] By harnessing the potential of AI, automation and advanced technologies we can optimise how energy is generated and consumed. The resulting modern, affordable, and secure energy system is fundamental to building a stronger and more productive economy. The UK will build an energy system that will bring down bills for households and businesses for good, bringing certainty, stability, and growth.

Growing our Clean Energy Industries and boosting domestic supply chains is fundamental to supporting wider industry to decarbonise. Growing our Clean Energy Industries and boosting domestic supply chains is fundamental to supporting wider industry to decarbonise. Foundational industries such as steel, chemicals, critical minerals, composites and other materials such as glass, provide critical inputs to enable growth in Clean Energy Industries.

UK Strengths

Where Britain has strengths, the Government will double down on them. We will:

- **Lean into our strengths as a coastal power,** to ensure we continue to lead the world in offshore wind, with turbines made here at home.
- **Unleash the pent-up power of onshore wind**, maintaining momentum after the Government lifted the ban on this growing technology.
- **Build on our status as a leading nuclear nation**, to deliver nuclear fission projects to power our country for decades to come.
- **Harness our digital strengths**, using technology to boost grid flexibility, ensuring resilience, and reducing costs.
- **Utilise our skilled energy workforce,** including from the oil and gas sector, by developing new carbon capture and hydrogen facilities in our industrial heartlands, and revitalising communities.
- **Put our home heating expertise to use**, to make and install a new generation of heat pumps, building on the skills of Britain's boiler makers.
- **Lay the foundations for growth**, by ensuring Britain's electricity network supply chains grow rapidly so clean power projects can connect to the grid.
- **Use our position as a scientific superpower** to sprint ahead in the global race for fusion energy technology and look to the future of clean energy.
- **Maximise our potential to export** our technologies and service expertise by growing domestic industries and securing favourable trade partnerships.
- **Leverage our world-leading green finance sector**, to cement the UK's role as the sustainable finance capital of the world.

To capitalise on these strengths, we must be focussed. In this strategy we signal our priorities for the UK's clean energy economy. This is about making positive, if challenging, choices and identifying frontier Clean Energy Industries where we have the greatest growth potential. These are: **Wind (Onshore, Offshore and Floating Offshore), Nuclear Fission, Fusion Energy, Carbon Capture Usage and Storage (CCUS) including Greenhouse Gas Removals (GGRs), Hydrogen, and Heat Pumps**. Electricity networks also provide a number of foundational inputs to the growth driving sectors, including HVDC cables and transformers, acting as a cross-economy enabler of growth.

There are many other technologies which are also vital for the Clean Energy Superpower Mission but are not among these frontier industries. These include solar, bioenergy, storage including Long Duration Energy Storage, heat networks, and smart technologies. We will continue to support the deployment of these technologies.

Other Sector Plans include other key green technologies beyond Clean Energy Industries - electric vehicles and battery technologies in Advanced Manufacturing, climate technologies within Digital and Technologies, green services in Professional and Business Services, and sustainable finance within Financial Services. The Industrial Strategy sets out our approach to foundational industries. These sectors are essential to delivering our net zero targets and supporting the global transition. Through these Sector Plans, we are ensuring British businesses are financing, innovating, making, and exporting the next generation of green technologies in the UK and overseas.

Our vision

By 2035 the UK will be a global leader in Clean Energy Industries, creating hundreds of thousands of good jobs at good wages across the country, supported by strong trade union recognition. We will become a world-leading exporter of low-carbon products, services and innovation.

As a global leader, by 2035 we want the UK to:

- Be the most attractive place in Europe to invest in Clean Energy Industries.
- Have grown exports in all frontier Clean Energy Industries.
- Have created hundreds of thousands of good quality jobs across the country.
- Have driven higher domestic commercialisation of evolving clean energy technologies.
- Have secured more resilient and robust supply chains.

In line with the wider Industrial Strategy, we are targeting at least a doubling of current investment levels across our Clean Energy Industries to over £30 billion per year by 2035.[5] In addition, our plan to decarbonise the power system by 2030 will create a new era of clean energy independence, unleashing an estimated £10 billion per year in largely private investment into electricity transmission networks alone.[6] We will achieve our vision by:

1. **Providing a clear mission to drive investment certainty.** We are confirming long-term deployment plans for key technologies and updating regulations to support growth, providing certainty to industry.
2. **Delivering targeted catalytic public investment to drive jobs, innovation and growth**. This includes a new £1 billion Clean Energy Supply Chain Fund under Great British Energy, the National Wealth Fund with a total £27.8 billion in capital, and the British Business Bank with £25.6 billion in total financial capacity including £4 billion in additional scale-up and start up support.
3. **Breaking down barriers to investment.** We are reducing electricity costs for IS-8 manufacturing industries and foundational industries and increasing support for our most energy-intensive industries. We are removing blockers in the planning system via the Planning & Infrastructure Bill and National Policy Statements. We will ensure delivery of key infrastructure, particularly grids, ports, rail, and road.

4. **Ensuring we have the skilled workforce we need, creating good quality jobs and ensuring they are at the heart of our clean energy future.** We will ensure workers voices are represented, including through strong trade union recognition. The Clean Energy Workforce Strategy will ensure that jobs are not only abundant, but also of high quality, focusing on fair pay, favourable terms, and good working conditions.

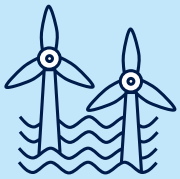
Not just jobs, good jobs

We know our plan will usher in economic growth, but it is essential that this benefits people across the UK. Our plan will not just create jobs, it will create good jobs. In 2022, there were 450,000 employees working either directly in low carbon and renewable energy jobs, or in the wider supply chain.[7] These jobs tend to pay higher wages than the national average[8] and hundreds of thousands more could be supported in net zero sectors by 2030.[9] We are partnering with workers, trade unions, devolved governments, mayoral strategic authorities, and businesses to ensure these jobs are high quality. We will shortly set out Government's first ever Clean Energy Workforce Strategy. Our plan will benefit every nation and region of the UK, taking full advantage of the skills of our existing energy workforce and giving a new lease of life to industrial and coastal communities. Many manufacturing jobs are based outside of London and the South East, spreading benefits across the country.[10]

Diversified, resilient supply chains

International trade is undergoing a rapid transformation, and increasing demand for clean energy presents significant opportunities and challenges. The UK is reliant on a range of imported materials, components, and technologies. Global value chains are more specialised and efficient, but this has sometimes resulted in complex and interdependent supply chains. These are vulnerable to disruption, especially where supply of critical inputs are concentrated in one or a few countries. Equally, advanced economies are defined by their broad-based specialisms and economic capabilities. In this regard, relative to other G7 economies, the UK has suffered sustained decline in the diversity of its manufacturing export strengths since the 1990s.[11] We will diversify the UK's supply chains and build up manufacturing capacity.

> 'Through partnership between industry, investors, trade unions, and Government this sector plan sets a long-term, ambitious vision, with significant commitments and real prioritisation on where we collectively focus our efforts. The UK's pitch is clear – **Build it in Britain. Power the World.'**

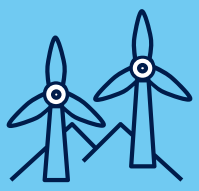


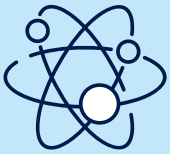
Offshore Wind

- For each gigawatt of offshore wind installed, industry estimates that the sector contributes about £2-3 billion of gross value add to the UK.[1]
- UK offshore wind sector exports were worth £2.4 billion in 2022.[2]
- Up to 100,000 direct and indirect jobs could be supported by the offshore wind sector by 2030.[3]

Onshore Wind

- Onshore wind sector supported up to 19,700 full-time jobs across deployment and the wider supply chain,[4] and generated £191 million per year in exports, in 2022.[5]





Nuclear Fission

- The civil and defence nuclear workforce is estimated to have supported around 96,000 jobs in 2024.[6]
- Modelling from industry forecasts suggest the civil and defence nuclear sector could need around 120,000 employees by the early 2030s.[7]

Fusion Energy

- The UK is home to the UK Atomic Energy Authority (UKAEA) - the world's largest fusion organisation - and a thriving private sector of more than 550 organisations.[8]
- The UK is also well-positioned to capture a share of an estimated £3-12 trillion total global capital investment in fusion in the period 2050-2100.[9]

CCUS including GGRs

- The UK's favourable geology offers capacity to safely store up to 78 billion tonnes of CO_2[10] and the potential to offer international CO_2 storage services.

Hydrogen

- The export market for UK manufacturers in areas such as CCUS-enabled and electrolytic hydrogen production equipment could range from £800 million to £2.2 billion in the period to 2030, potentially increasing to between £5.8 billion and £9.8 billion by 2050.[11]
- Projects from the first Hydrogen Allocation Round are set to commit over £400 million of private capital investment upfront between 2024-2026.[12]

Heat Pumps

- Heat pump exports could contribute £500 million GVA per annum by 2050.[13] UK heat pump sales have grown fourfold since 2019 to over 98,000 in 2024.[14]
- The Heat Pump Association (HPA) estimate the number of heat pump installers needed by 2035 to be around 70,000 FTE.[15]

Electricity Networks

- Onshore grid expansion could contribute £4-11 billion in GVA and support an additional 50,000-130,000 new FTE by 2050.[16]

Infographic References

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6. Cogent (2025) Nuclear Workforce Assessment
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8. London Economics (2023) Overview of the UK fusion sector
9. Internal Department for Energy Security and Net Zero -UKAEA analysis of total capital investment (2023 prices) in Fusion Power Plants between 2050-2100 based on currently unpublished UCL Energy Institute global TIMES modelling. Total estimated fusion energy installed capacity multiplied by capital cost estimates. These estimates could be considered conservative, as they only capture capital costs and do not account for higher estimates of energy gain in fusion plants and co-production opportunities such as heating and desalination. Given the nascency of the technology, assumptions are highly uncertain.
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15. Heat Pump Association (2024) Projecting the Future Domestic Heat Pump Workforce
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Endnotes

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2 Department for Energy Security and Net Zero (2025) This includes £34.8bn announced in the International Investment Summit in October 2024 in addition to £8.9bn announced since July 2024.

3 Department for Energy Security and Net Zero (2025) Funding boost for Clean Industry Bonus as bids smash expectations.

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7 Office for National Statistics (2024) Low Carbon and Renewable Energy Economy estimates.

8 Centre for Climate Change Economics and Policy (2023) Are 'green' jobs good jobs?.

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10 The Institute for Public Policy Research (2024) Manufacturing Matters.

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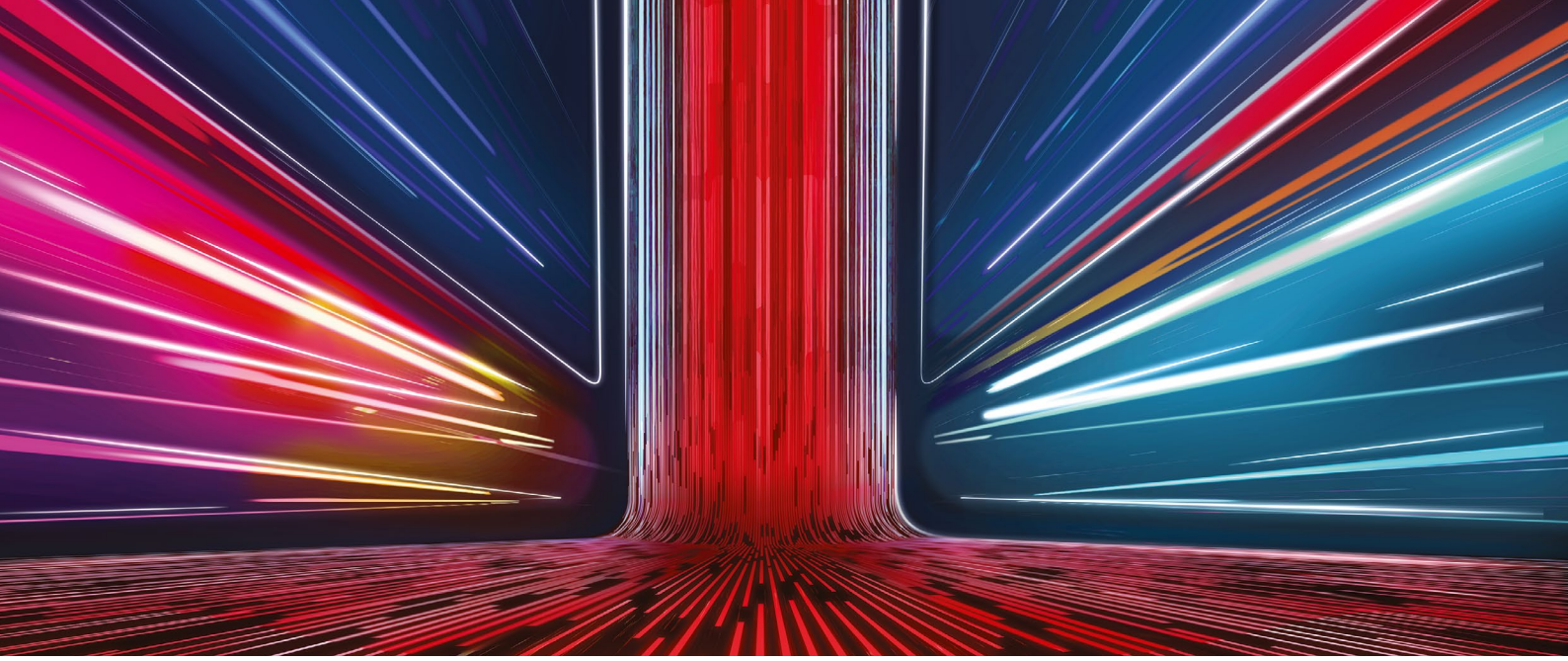

2. Ease, speed, and long-term stability for business

Government will work in partnership with industry, trade unions, and investors. As set out in Section 5.1 we have engaged widely with stakeholders to unlock investment and job creation. In this Sector Plan we deliver on the growth potential of Clean Energy Industries through:

- A clear mission to drive investment certainty.
- Catalytic public investment to support jobs, innovation, and growth.
- Breaking down the barriers to investment.
- Ensuring we have the skilled workforce we need, creating good jobs, and putting trade unions at the heart of the clean energy future.

We also set out our approach to building international partnerships to boost export opportunities and ensure we have secure, resilient supply chains. This cross-cutting package to support ease and stability is complemented by targeted policy interventions, set out in Section 3.

Through this Sector Plan, the Government is providing a world-class policy offer to ensure that clean energy supply chains are rooted in the UK. This will galvanise investment from industry, giving firms the confidence to boost domestic manufacturing capacity. Many sectors have already set industry-led local content targets, including 50% UK content for CCUS value chains from 2030[1], 50% UK content for Hydrogen value chains from 2030[2], and a target of 70% of total contract value from Sizewell C going to UK businesses.[3] Government welcomes these being met and exceeded, and ongoing industry-led work across sectors to set new, higher targets following this plan. We will work with industry to access and develop the necessary data to track local content, including mandatory reporting where appropriate.

2.1 A clear mission to drive investment certainty

Current picture

The Government's Clean Energy Superpower Mission sets a clear direction of travel to a diverse, low carbon energy system and net zero future. This mission, and associated deployment pathways, are vital to providing investors and manufacturers with the ability to plan, and the confidence to expand or establish supply chains within the UK. It addresses industry feedback that previous targets have not been set as part of a credible holistic plan to decarbonise the power system. In our engagement, stakeholders emphasised that long-term visibility on future deployment is an important driver of growth, and encouraged government to explore methods for providing market certainty.

Action Plan

Setting long term deployment pathways to provide certainty to industry:

- **The Clean Power 2030 Action Plan sets out how we will deliver a new era of clean electricity, unleashing around £40 billion of largely private investment on average per year to 2030, and reducing our reliance on volatile fossil fuel markets.**[4] It provides clarity on clean power deployment pathways out to 2030, and acts as a signal to investors to build strong domestic supply chains for our clean power system.
- **We are now setting out deployment commitments for each of our frontier industries - these can be found in Section 3.** This will be complemented by the Carbon Budget and Growth Delivery Plan, due by October 2025, which will outline the policies and proposals needed to deliver Carbon Budgets 4-6 and our international commitments.
- **The Strategic Spatial Energy Plan (SSEP), expected in late 2026, is intended to support a more actively planned approach to energy infrastructure across England, Scotland, and Wales' land and seas, between 2030 and 2050**. The SSEP will provide greater clarity on the shape of our future reformed energy system, achieving this by assessing the optimal locations, quantities, and types of energy infrastructure required to meet future energy demand.
- **The Government is fully committed to meeting its legally binding carbon budgets and to reaching net zero by 2050**. We will set out further details in the Carbon Budget and Growth Delivery Plan in October, including plans to decarbonise industry.

Reforming the Contracts for Difference (CfD) scheme to deliver greater pipeline clarity:

The Clean Power Action Plan set out significant reforms to the CfD scheme. In the Summer, the Government Response will confirm our position on:

- **Relaxing CfD eligibility criteria for fixed-bottom offshore wind projects** to permit projects that have not yet obtained planning consents to participate in near-term allocation rounds, awarding CfDs at an earlier stage in the development cycle.
- **Evolving our approach to fixed-bottom offshore wind budgets** to maximise the cost-effective volume of capacity that could be contracted from each round.
- **Providing an auction schedule for upcoming allocation rounds,** and signalling ambition to improve transparency and predictability of the CfD.

2.2 Catalytic public investment to support jobs, innovation, and growth

The Government's approach to catalytic public investment will unlock private investment, accelerate technological progress, and enable the delivery of clean energy projects. The UK has long suffered from underinvestment – both public and private – in innovation, supply chains, and vital infrastructure such as the electricity grid. The Government will use catalytic public investment to crowd in private sector finance, ensuring that global investors and companies invest here and build here. We have strong foundations: analysis of BloombergNEF data suggests that in 2024, low carbon investment in the UK totalled £51 billion, ranking fourth globally behind China, the US, and Germany.[5] The investment ecosystem in the UK is reinforced by London's status as a world-leading centre of green finance.[6]

Innovation is key to boosting productivity and is a significant opportunity for the UK. We have a strong base to build on: the UK has a world leading innovation ecosystem, ranked fifth out of 133 in the global innovation index.[7] 35% of emission reductions for net zero depend on technologies under development.[8] The UK is well placed to lead on such innovation, and reap the economic and energy security benefits, building on our status as a global crucible for research and innovation with three of the top ten global universities[9] and over 5,000 climate-tech companies.[10] This presents a significant opportunity for the UK to build sovereign R&D capabilities in designing and inventing the next generation of clean technologies. However, there are several challenges including high capital requirements, long timeframes for return, technological uncertainty, emerging business models, and barriers in regulation and planning.

Action Plan

Catalytic finance:

- **Establishing Great British Energy (GBE)** to develop, invest in, build and operate clean energy projects and supply chains across the UK. Great British Energy and Great British Energy – Nuclear (GBE-N) will invest more than £8.3 billion over this Parliament in homegrown clean power.
- **Leveraging private investment into clean energy sectors via GBE, including to supply chains via a new £1 billion Clean Energy Supply Chain fund aligned with the Clean Energy Industries Sector Plan.** The Fund will offer support to companies who have significant potential to grow supply chains. This fund demonstrates our commitment to supporting UK supply chains. It is intended to provide industry with the confidence to boost UK investment, will directly and indirectly catalyse billions in private investment, and support thousands of jobs.[11]
- **Empowering the National Wealth Fund (NWF) with a total £27.8 billion in capital, to enable it to take on higher-risk investments, including equity**. It will invest in capital intensive projects, businesses, and assets, with at least £5.8 billion targeting carbon capture, low carbon hydrogen, gigafactories, ports and green steel over this Parliament.[12] The NWF will explore concessional finance approaches to unlock transactions and drive growth.
- **Building on the success of the Contracts for Difference (CfD) Clean Industry Bonus (CIB)**. This initiative allows clean energy developers in fixed and floating offshore wind to access additional CfD revenue for increased investments in manufacturing in our coastal and energy communities and in cleaner, more sustainable supply chains. The first round was hugely successful with £544 million of investment allocated to support the offshore wind supply chain, leveraging up to £9 billion in private sector investment, subject to the Contracts for Difference process. Building on this success, we are considering expanding the CIB to hydrogen and onshore wind and will consult on any proposals.
- **Launching a £4 billion British Business Bank Industrial Strategy Growth Capital scale-up and start-up financing package** to deploy more capital to target the scale-up gap, including for climate tech. It will fund new specialist investors, who target high-potential companies from a pre-commercial stage with early private capital. It will double its investment in new fund managers, cornerstone funds that invest in the IS-8, and make direct investments of up to £60m in strategically important companies. Overall, British Business Bank's yearly investments will increase by two-thirds, bringing its total financial capacity to £25.6bn.

Strategic foundations:

- **Launching an expanded Office for Investment (OFI), as a proactive and empowered sales force to market the UK to investors around the world.** The OFI will coordinate investment promotion efforts across Government, work with devolved governments and mayors to identify and develop investment opportunities, and support and pursue best-in-class global investors to invest in our growth-driving sectors.
- **Cementing the UK's role as the sustainable finance capital of the world.**[13] We are ensuring decision-useful information is available to the market to support better capital allocation. We will work closely with industry and others to set out Government policy in a way that supports investment decisions, including via our Carbon Budget and Growth Delivery Plan. We will consult on transition plans and endorse the global corporate reporting baseline of IFRS Sustainability Disclosure Standards. In July, the Financial Services Growth and Competitiveness Strategy will set out additional steps that we are taking.

Innovation:

- **Turbocharging our fastest growing sectors via a transformative £86 million for R&D** announced in the Spending Review. This will deliver the priorities set out in the Plan for Change, including the Clean Energy Superpower Mission.
- **Continuing UK Research and Innovation-led (UKRI) support, including providing up to £20 million over 7 years through UKRI's Sustainable Industrial Futures programme** to draw cross-disciplinary research approaches to enable the transition of UK industrial manufacturing processes and operations to net zero. Successful bidders of this funding will be announced in summer 2025. In the previous Spending Review period, UKRI invested over £1 billion in their Energy Programme.[14] Subject to allocation decisions, UKRI anticipates continuing to invest ambitously across this Spending Review Period.
- **£500 'million' for the new multi-year R&D Missions Accelerator Programme** that will support roll-out of science, technology and innovation solutions to address the complex challenges of our national missions. Leveraging a further £1.5 billion of private and third sector investment to accelerate delivery of the Plan for Change milestones through a solution-driven approach.
- **Supporting companies to protect intellectual property and technology**, including through UKRI's trusted research and innovation principles; National Protective Security Authority (NPSA) security reviews; and The Intellectual Property Office's "green channel" for patent applications.
- **Announcing Lucy Yu (CEO and founder of the Centre for Net Zero) as the Clean Energy AI Champion**. As current chair of the AI for Decarbonisation's Virtual Centre of Excellence (ADViCE), she will act as a bridge between Government and industry, driving the development and adoption of AI across the UK Clean Energy Industries sector to accelerate the UK's net zero transition and enhance energy security.

- **Invest up to £12 million in UK Data Sharing Infrastructure initiatives from April 2026.** Learning from international practices, including the Common European Data Spaces, these will promote effective and more coordinated approaches to governance, legal considerations, regulations, data interoperability, security, and trust. Businesses will be able to adopt these approaches and receive guidance, lowering costs and improving their ability to harness data from different sectors.
- **Accepting the findings of the Technology Adoption Review for Clean Energy Industries**. Government will collaborate with the clean energy manufacturing industries to leverage the Made Smarter programme for digitalisation and efficiency improvements. We will work with Ofgem's Grid Adoption Fund towards enhancing grid capacity through cross-network collaboration and regulatory alignment. We will enable the use of AI to streamline local planning and accelerate the consenting of clean energy projects. By harnessing AI and energy data innovations, we will facilitate the adoption of low carbon technologies and help businesses and consumers optimise energy use to reduce costs.

Great British Energy (GBE)

Great British Energy (GBE) is the UK's publicly owned energy company. It will develop, invest in, build, and operate clean energy projects and their supply chains across the UK, putting energy back in the hands of the British public. GBE will support projects at all stages of their life cycle – from early development through to successful operation – accelerating clean energy deployment, creating jobs, and boosting energy independence. Great British Energy and Great British Energy – Nuclear will invest more than £8.3 billion over this Parliament in homegrown clean power, including allocating £1 billion to investment in clean energy supply chains. Building on the initial £300 million already announced by the Government in April, an additional £700 million will be allocated to support sectors aligned with this Industrial Strategy. This is critical funding to unblock supply chain constraints and support thousands of additional jobs. In March, the Government and GBE made its first £200 million[15] investment into local and community energy projects.[16]

The National Wealth Fund (NWF)

The NWF is the Government's principal investor and policy bank with a total £27.8 billion in capital and a mandate to catalyse private investment in capital-intensive projects, assets, and businesses, generally in later stage development. The NWF's priority sectors are clean energy, digital and technologies, advanced manufacturing, and transport sectors. The NWF will commit at least £5.8 billion over this Parliament to ports, hydrogen, carbon capture, gigafactories, and green steel. The NWF also supports regional and local government with commercial and financial advice, and is expanding its role to provide early-stage development support to help places develop viable projects and build investment pipelines.

The British Business Bank (BBB)

The BBB is significantly ramping up its equity investments, including in Clean Energy Industries, through the new £4 billion British Business Bank Industrial Strategy Growth Capital - crowding in £12 billion of private sector capital. This will support climate tech companies scaling up using tools such as greater venture capital fund investments, enhanced direct investment programs with increased ticket sizes (e.g. £8 million into Tokamak Energy in 2024),[17] and a greater focus on large strategic investments in historically hard to finance deep tech sectors.[18] The Bank will scale its Enterprise Capital Funds programme and invest in specialist fund managers who will understand the commercialisation of emerging technologies.

2.3 Breaking down the barriers to investment

Our stakeholder engagement has highlighted three priority barriers to growth for the Clean Energy Industries. Unblocking these will benefit the growth of Clean Energy Industries directly – delivering increased confidence in deployment pipelines and supply chain investments – and will drive growth across the whole economy. These are:

- **Planning.** Lengthy paperwork and processes for infrastructure projects increase costs across the system and deter investment. Making our planning system smoother and more predictable will boost investor confidence in our deployment pipelines and incentivise investment into associated supply chains.
- **Infrastructure.** Infrastructure underpins all economic activity by connecting people, goods, services, energy, and ideas. The electricity grid and ports are both fundamental to Clean Energy Industries. Existing constraints prevent the rapid scaling needed to meet future demand, and port infrastructure needs significant upgrades to support clean energy deployment.
- **Industrial Energy Prices.** High electricity costs relative to competitor countries has had a damaging impact on UK competitiveness. Additionally, the UK's dependence on fossil fuels has left us vulnerable to unstable energy prices.

Action Plan

Planning:

Since July 2024, we have ended the de facto ban on new onshore wind in England; commissioned the Strategic Spatial Energy Plan (SSEP); revised the National Planning Policy Framework; and published an ambitious package of reforms in the Clean Power 2030 Action Plan. Now we are delivering even further reform, to unblock bureaucratic processes that have put the brakes on growth for too long:

- **Speeding up building critical infrastructure, via our Planning & Infrastructure Bill**. Introduced on 11 March 2025, it includes reforms to make it faster to build the critical infrastructure the UK needs.
- **Reforming electricity infrastructure consenting in Scotland** to deliver a streamlined and efficient framework that is fit for purpose. Reforms include enabling the introduction of a pre-application process, to make the application process clearer and more consistent, and introducing a new reporter-led process to examine an application when the relevant planning authority has objected to the application.

- **Providing certainty to industry via updated relevant National Policy Statements** – the documents that underpin major infrastructure planning decisions – in 2025.[19] We will legislate to ensure they are updated at least every five years.
- **Ensuring benefits are delivered directly to local areas to drive growth, via community benefit funds**. We have published a working paper setting out the initial proposals for a scheme which would require developers of energy infrastructure to provide a community benefit fund associated with their projects.
- **Taking forward two community benefits initiatives specifically for electricity transmission network infrastructure**: the publication of guidance for community funds[20] and an Electricity Bill Discount Scheme.

Infrastructure:

- **Transforming the electricity network at a scale and pace not seen since the 1960s**, so the grid can be an enabler not just for investment in clean power infrastructure but also across all sectors of the economy. This requires action to both build new grid capacity faster, investing strategically ahead of need, and to reform the outdated grid connection process, re-ordering the queue to prioritise projects that are ready to connect and strategically important. See Section 2.6.
- **Mobilising investment into ports,** a foundational industry for Clean Energy Industries, by working across government and Public Financial Institutions to develop bespoke solutions, including through innovative use of financing. As part of this, ports are one of the five sectors which the National Wealth Fund has committed at least £5.8 billion of its capital to. This will unlock significant economic potential across sectors such as offshore wind, to be complemented by direct support for specific ports, with £55 million already awarded to the Port of Cromarty Firth, and up to £80 million made available through the Spending Review to support investment in the Future Port Talbot project, subject to due diligence.

Industrial Energy Prices:

- Reduce electricity costs for IS-8 manufacturing industries and foundational industries and increase support for our most energy-intensive industries, through:
  - From 2027, a new British Industrial Competitiveness Scheme will reduce electricity costs by c.£35-40/MWh up to 2030 and support thousands of businesses. The scheme will benefit manufacturing electricity-intensive frontier industries in the IS-8, and foundational manufacturing industries in their supply chains, such as chemicals. Eligible businesses will be exempt from paying the costs of the Renewables Obligation, Feed-in Tariffs and the Capacity Market. The scheme will bring GB electricity costs more in line with other major economies in Europe, and level the playing field for British businesses. Eligibility will be determined following consultation, which will open shortly, with a review point in 2030.
  - An increase in support for our most energy-intensive industries eligible for the British Industry Supercharger package, with an uplift of the Network Charging Compensation (NCC) scheme from 60% to 90%. This will provide additional price relief from 2026 for around 500 eligible businesses, further reducing the competitive gap with comparable neighbouring countries.
  - The Government will continue support for the Energy Intensive Industries Compensation Scheme to support energy efficiency, decarbonisation, and technological innovation. We will conduct a review of the scheme by the end of this year that will set out how we plan to continue supporting energy intensive industries when the UK CBAM is implemented in 2027.
- These measures will be funded by bearing down on levies and other costs in the energy system. The government also intends to use additional funds from the strengthening of UK carbon pricing, including as a result of linking with the EU carbon market.

Case Study: ABP / Siemens Energy Green Port Hull

Associated British Ports (ABP) and Siemens Energy[21] have developed Green Port Hull (GPH) as the UK's leading offshore wind turbine blade manufacturing facility. A unique collaboration between several developers, Government, and industry enabled the certainty required for ABP and Siemens Energy to jointly invest £310 million in the initial phase of development.[22] The blade facility, which commenced operations in 2016, has since produced over 2,500 blades and grown considerably, unlocking a further £186 million of private investment.[23] In addition to the c1,300 high quality direct jobs at the blade factory,[24] there are also indirect jobs associated with offshore wind farm construction.

2.4 Ensuring we have the skilled workforce we need, creating good jobs, and putting trade unions at the heart of the clean energy future

The scale up of Clean Energy Industries will play an important part in stimulating a wealth of new jobs and economic opportunities across the country. In 2022, there were 450,000 full time equivalent employees working either directly in the low carbon and renewable energy jobs economy or in the wider supply chain,[25] and hundreds of thousands of jobs could be supported in net zero economy by 2030.[26] These jobs tend to pay higher wages than the national average, especially for middle and lower skilled workers.[27]

There are existing workforce gaps across a range of skill levels and occupations, which are expected to increase without intervention. Key occupations include technical engineers at levels 4–7 (and particularly 6+ including roles in civil, mechanical, electrical and design), along with electrical, welding, and mechanical trades at levels 2–7, and managerial roles including project and delivery managers at levels 4–7.[28]

Many of the skills needed to deliver the Clean Energy Superpower Mission and associated manufacturing and wider growth opportunities are in high demand across other sectors, including engineering and skilled construction. The skills and expertise of workers from the oil and gas sector are crucial to the success of our Clean Energy Superpower Mission.

We will not secure a clean energy future if we do not grow and access the best talent. Women are under-represented in the energy and utilities sector, making up 28% of the workforce.[29] Those from ethnic minority backgrounds are also under-represented at 8.9%.[30] The Government is committed to advancing equality.

Action Plan

The Industrial Strategy sets out Government's wider approach to ensuring that the skills system and employment support is aligned to national economic priorities and meets the needs of growth-driving sectors including Clean Energy Industries. This will enable us to harness all parts of the system to create a talent pipeline for key occupations, from our work experience schemes and apprenticeships to our universities and technical colleges to our network of Jobcentres in Britain, which provide employment support to millions of people (many holding degree-level qualifications)[31]. Government will also deliver the reforms set out in the Get Britain Working White Paper[32], including creating a new Jobs and Careers Service that will enable everyone to access support to find good, meaningful work. We are also creating Technical Excellence Colleges informed by the Industrial Strategy priority clusters, to increase specialist and practical skills.

The Office for Clean Energy Jobs will publish a full Clean Energy Workforce Strategy in the summer setting out further actions to ensure delivery of the clean energy workforce, and that the jobs created across the country are high quality. The Strategy will be centred around the key barriers to achieving the skilled workforce. As part of this, the Government is driving action to improve the reskilling and transferability of the workforce:

- **Providing investment of over £100m over three years to support engineering skills in England, working with Skills England to determine how this can increase the pipeline of skills through further and higher education and apprenticeships.** With capital funding provided via the Skills Mission Fund, this will include launching Technical Excellence Colleges to address shortages in engineering, which is critical to the skills needed in priority sectors including Advanced Manufacturing, Clean Energy Industries and Digital and Technologies. Skills England will ensure that training and qualifications remain aligned with shifting workforce needs, including looking at funding bands to ensure they reflect delivery (working with key partners like Make UK). We will work with the sector to ensure the maximum impact of this package, including opportunities for industry co-investment or other contributions.
- **The UK's Clean Energy Superpower Mission must be underpinned by high-quality jobs and ethical supply chains that reflect our global leadership and values.** Forced labour in supply chains is unacceptable. The Department for Energy Security and Net Zero is working to embed high labour standards into the clean energy supply chain through policy design, funding conditionality, and ethical procurement approaches.
- **Working with trade unions is vital to ensure clean energy jobs are high quality jobs with fair pay, favourable terms, and good working conditions.** Progress has been made on trade union recognition, such as EDF Renewables signing one of the first renewables industry recognition agreements.[33]

- **Industry-led Energy Skills Passport,** which is a digital tool to help oil and gas workers move into several roles in offshore wind. The Passport is led by Renewables UK and Offshore Energies UK and supported by the UK and Scottish Governments. In 2023, the oil and gas sector supported 120,000 direct and indirect jobs,[34] and research suggests that 90% of workers have transferable skills for offshore renewable jobs.[35] The Government is committed to investing in Clean Energy Industries that will shape the future of the North Sea to ensure opportunities are created for oil and gas workers to transition.
- **Regional Skills Pilots in Aberdeen, Cheshire, Lincolnshire and Pembrokeshire.** Local partners are receiving funding to identify the skills support that is needed in their area to deliver clean power by 2030.
- **Leveraging industry investment into skills.** The Department for Energy Security and Net Zero will ensure fair work, skills, and sustainable supply chain requirements are considered in commercial contracts and grants, where appropriate. We are exploring how to introduce job quality measures in the Clean Industry Bonus. This could help accelerate investments in quality jobs, skills, and sustainable supply chains as part of wider Government efforts to meet our 2030 targets.
- **Ensuring that clean energy jobs are inclusive for workers of all backgrounds, including through the industry-led Social Inclusion Forum.** The Forum is chaired by Energy and Utility Skills Partnership, with support from POWERful Women and Government, and is assessing the impact of, and enabling coordination between, Equality, Diversity, and Inclusion and social mobility initiatives.
- **Working with Skills England to understand the skills needed to support emerging roles in AI** and to ensure the skills system is flexible enough to respond to changes in job roles driven by technological change.
- **Ensuring there are sufficient courses to support an additional 65,000 16–19- year-olds in England by 2028-29, including providing key pathways into priority occupations in the IS-8.** Through High Value Course Premia we will deliver funding uplifts to priority courses that support key IS sectors, such as engineering and digital. These areas address critical skills shortages that underpin multiple sectors in the IS.
- **Introducing short courses in England, funded through the Growth and Skills Levy, in areas such as digital, artificial intelligence and engineering.** These will support Industrial Strategy sectors from April 2026. We will work with Skills England to determine the courses which will be prioritised in the first wave of rollout and subsequent waves, and how those sit alongside apprenticeships and other training routes. We will work with Skills England to introduce these short courses and consider how to prioritise investment across the programme.

Case Study: Regional Nuclear Skills Hubs

The Regional Nuclear Skills Hubs are a collaboration between employers and education and training providers, helping to deliver the Nuclear Skills Plan. The pilot phase of the Regional Skills Hubs (North West, South West, Midlands, Scotland) has seen:

- **Enhanced regional representation:** Through engagement with Destination Nuclear (national nuclear communications campaign), the North West Hub has ensured regional nuclear roles receive appropriate focus in national campaigns.
- **Building engineering and nuclear skills:** The South West Hub, in partnership with City College Plymouth, has launched the Engineering and Nuclear Skills Building to enhance workforce capabilities by developing new talent and upskilling workers.
- **Addressing educational needs:** The South West Hub has developed initiatives with the University of Plymouth to address the supply and demand gap for nuclear Suitably Qualified and Experienced Personnel (SQEP).

2.5 Building Resilience

Current picture

The Clean Energy Superpower Mission is a significant economic and trading opportunity, and the UK is in a strong position to help lead the global clean energy transition and take advantage of the growth opportunities through encouraging market opportunities. The Industrial Strategy has prioritised sectors which have experienced robust growth in worldwide demand, and where UK businesses have a comparative advantage in global trade.

The international trading landscape is undergoing a rapid transformation. Geopolitical shocks are reshaping the international order and changing the way that nations trade. Rising protectionism and distortive trading practices pose challenges to an open and trade-orientated economy like the UK. Global value chains have enabled specialisation, promoting greater efficiency gains, but in some cases this has resulted in complex and interdependent supply chains. Such supply chains are vulnerable to disruption, especially where supply of critical inputs are concentrated in one or a few supplier countries.

We must both diversify our supply chains and build up domestic manufacturing capacity to increase our economic security and resilience. It is imperative that the UK maintains its leadership and increases our competitiveness in a targeted fashion, growing capacity where we have strengths, and building international partnerships to secure access to critical imports and technologies.

Action Plan

Boosting international cooperation and supporting economic security and resilience:

- **Working internationally through diplomatic engagements and dialogues to support the global transition and UK interests.** In addition to leadership at the G7, G20 and COP, we work strategically with bilateral partners to open up markets, strengthen supply chains, and promote UK companies for global exports. We have reached understandings with other countries on energy cooperation and hold regular dialogues with them, bolstered through our Industrial Strategy partnerships.
- **Leading the Global Clean Power Alliance's (GCPA) new "Supply Chain Mission",** announced by the Prime Minister at the Future of Energy Security Summit in London in April, to address issues such as improving data transparency, addressing particular supply chain bottlenecks to priority clean energy technologies, and circularity, among other areas.

- **Considering economic security and resilience objectives in programme development,** to ensure funding is directed at projects that strengthen supply-chain resilience, for example, by developing UK strategic capabilities, supporting businesses to diversify imports and exports and enhancing business crisis readiness. We will monitor contributions to this objective through clear metrics.
- **Providing dynamic expert analysis on the critical minerals needed to power economic growth via the Critical Minerals Intelligence Centre.** To reinforce our supply chains for the long term and support green industries of the future, the Government is publishing an upcoming 2025 Critical Minerals Strategy. The Critical Minerals Strategy aims to secure a steady supply of critical minerals, and harness the UK's competitive advantage in midstream and recycling, by optimising domestic production and through strategic international collaboration.
- **Boosting resilience by making it a significant part of our public finance offer,** including through the National Wealth Fund, which will invest in our critical supply chains and foundational industries, and British Business Bank, which will invest in high-growth scale-up businesses across the sector that will be the future cornerstone of the UK's supply chains and security.

Enhancing energy cooperation with the EU:

- **Deepening our energy cooperation with the EU, to cut costs and boost renewable-led growth**. We have secured long-term security for industry by reaching an agreement with the EU to extend energy cooperation under the TCA's Energy Chapter on a continuous basis. This includes exploring UK participation in EU electricity trading platforms to cut costs and boost renewables and enhancing cooperation on clean technologies like hydrogen and carbon capture to support jobs and net zero goals.
- **Working towards linking our Emissions Trading Scheme with the EU to create a more stable, liquid market.** This move will lower decarbonisation costs, encourage investment, and help reduce the impact of EU carbon border measures on UK trade.

Foundational Industries

Foundational industries, including steel, critical minerals and composites provide important inputs to enable growth in the Clean Energy Industries. The overall approach to foundational industries is set out in the Industrial Strategy. In this Sector Plan we focus on electricity networks, given their fundamental role in resilience and growth across Clean Energy Industries. To support foundational industries, we are:

- **Developing a Steel Strategy with industry and trade unions to set a long-term vision for a sustainable steel sector**, including how we will meet demand across clean energy industries.

- **Publishing a consultation on a framework of polices to build the market for low carbon products alongside this Sector Plan**. These policies will help buyers identify and compare lower carbon industrial products, and give producers confidence that there will be demand for their lower carbon products, with an initial focus on the steel, cement, and concrete sectors.
- **Continuing to support innovation and R&D to reduce our reliance on overseas critical minerals.** The UK's strengths in innovation and R&D provide opportunities for global leadership and economic growth. For example, sustainable lithium mining and refining in Cornwall[33] and the North East England,[34] nickel refining in Wales;[35] rare earth magnet recycling in Birmingham[36] and Belfast;[37] and the development of new technologies, such as diamond battery powered (lithium-free) batteries in Oxfordshire.[38]
- **Publishing the upcoming 2025 Critical Minerals Strategy**, which aims to secure a steady supply of minerals, optimising domestic resources and enhancing international collaboration.
- **Publishing a Circular Economy Strategy later this year** to support growth in innovative systems to recycle composite materials, leveraging the UK's strengths in materials sciences and design. In line with this, we will also develop a circular economy roadmap for Clean Energy Industries. This will be published in 2026 and will support the sector to decarbonise and reduce dependence on international supply chains for critical components.
- **The Government is investing £625 million in skills to train thousands of new construction workers**, including sustainable skills to support the skilled workforce we need to support our Clean Energy Industries.

Electricity Networks

Electricity networks are essential enablers for economic growth as well important to ensuring that we meet our Clean Power 2030 and Net Zero commitments. The Clean Power 2030 Action Plan identifies the need to deliver around twice as much new transmission network infrastructure in Great Britain by 2030 as has been built in the past decade.[39] There is a strong opportunity to boost domestic production in the networks supply chain, and supporting it is a key Government priority.

A suite of reforms to accelerate transmission network build are already underway enabling a generational expansion of the grid to support increasing demand. We also need to upgrade local distribution networks as demand grows with electrification. Grid connections reform will deprioritise up to 500GW of unready or unneeded generation and storage projects from the connections 'queue', freeing up space for viable projects including new demand.[40] We are going further to support grid connections for strategic demand projects crucial for economic growth.

Supply chain and skills for electricity networks are important enablers for transmission network expansion. Domestically we will need transformers, switchgear, cables, convertors and substations, steel towers, protection and control technology and overhead line components, as well the associated installation and maintenance services. We already have domestic manufacturing strengths in the equipment and services needed –

particularly in transformers and switchgears[41] – while future manufacturing will also capture HVDC cables.[42] These will serve the network and other industries such as offshore wind.

Alongside building resilience, the UK will capitalise on a thriving domestic supply chain to create jobs and capture both domestic and global opportunities. Onshore domestic network investment alone to meet net zero could directly support an additional 50,000–130,000 FTE jobs by 2050, contributing an estimated £4-11 billion of GVA to the UK economy.[43]

Our plan fundamentally reforms the connections process and speeds up the build of new network infrastructure. To overcome the issue of derisking capital to drive investment into the UK supply chain, we will ensure network projects are eligible for the comprehensive Public Financial Institutions offer set out in Section 2.2, and exploring a new Market Demand Guarantee.

Action Plan

A clear mission to drive investment certainty:

- **Engaging with the electricity networks sector to develop an industry growth plan that will** unlock domestic supply chain opportunities and develop the skilled workforce needed. By assessing current UK capabilities and identifying promising growth areas, this will enable greater collaboration to establish coordinated actions.
- **Working closely with NESO, Ofgem and industry to encourage greater sharing of data and early estimates of future demand for equipment and services**, to provide the supply chain with confidence to invest in the UK.
- **We are collaborating with Ofgem, network operators and wider industry to maximise the value of the electricity networks sector to the economy**. This will include the development of an Industry Growth Plan during 2025 to set out the future priorities for the health and success of electricity networks sector - incorporating elements such as the growth in the supply chain, in local jobs and considering industry led domestic content ambitions.

Catalytic public investment:

- **Ensuring the sector benefits from the comprehensive Public Finance Institutions offer set out in Section 2.2**, which will crowd private investment into sustainable supply chains in the UK. The NWF will invest in the development of low-carbon power generation, flexibility and storage technologies and their supply chains, creating high quality jobs throughout the UK.
- **Supporting Ofgem's new Advanced Procurement Mechanism**, which will enable Transmission Owners to access constrained equipment by allowing them to secure supplier capacity and factory slots earlier in the project development cycle. Government will also continue to work with Ofgem to ensure that the wider regulatory environment will support growth of the domestic market.
- **Exploring a new Market Demand Guarantee** to stimulate the domestic production of key electricity network equipment, by providing certainty to the supply chain regarding the size of the future market opportunity.

Breaking down the barriers to investment by:

- **Launching a 'Connections Accelerator Service'** which will boost support for demand projects including prioritising those that guarantee high quality jobs and bring the greatest economic value. This will build on work undertaken by the Government, which has secured £30 billion of investment by supporting key strategic demand investors and working intensively with electricity network companies to secure timely grid connections.[44] We will work closely with representatives from the energy sector, local authorities, Welsh and Scottish Governments, trade unions, and industry to design this service, which we expect to begin operating at the end of 2025.

- **Taking forward new powers in the Planning and Infrastructure Bill**, to amend regulatory processes and accelerate connections for strategically important projects. This will include a power to designate strategic documents, including this Industrial Strategy, to inform allocation of connections, and will enable the Government to reserve future capacity on the grid, dramatically reducing waiting times for business with major investments in the UK.
- **Ofgem is conducting an End-to-End Review of the connection process.** A consultation was published in November 2024 and firmer proposals are expected later this year. This will strengthen the incentives and obligations for network companies to deliver timely connections, better customer service and more accessible connections data.
- **Accelerating build times for new grid infrastructure.** We will continue to work closely with Ofgem and industry to mobilise the major investment required. Transmission Owner business plans for the next five-year price control period (2026 to 2031), subject to Ofgem final decisions, set out over £60 billion in proposed investment.
- **Publishing a positive Government Response that largely agrees with the National Infrastructure Commissions recommendations** on strategic investment in the distribution network in summer.
- **Working with electricity network operators and the supply chain to standardise equipment requirements.** Simplifying procurement across different networks to streamline manufacturing and commercial processes.
- **Exploring routes to drive forward the phase out of SF6 gas from switchgear in electricity network infrastructure,** to help UK manufacturers to capture an emerging market and capitalise on the UK's position at the forefront of developing SF6 switchgear alternatives. The Government will look to align with the EU process where appropriate.

Ensuring we have the skilled workforce we need, creating good jobs, and putting trade unions at the heart of the clean energy future:

- **Boosting skills collaboration by working with electricity network operators, Ofgem and the supply chain to identify actions as part of an industry growth plan, that highlights the critical role of skills in the supply chain.** This includes identifying opportunities for sector-wide initiatives and raising the profile of the sector to attract talent in a competitive labour market.

Supporting Exports

The UK's clean energy exports have grown by 158% since 2015.[45] Our growing export industry serves diverse global markets, particularly the European Union and the United States. Our fastest growing export markets include Germany, France, and Italy, with exports to Belgium, Spain, and Turkey also having increased since 2018.[46] Supplying the goods and services to enable the global clean energy transition could be worth £1 trillion to UK businesses to 2030.[47]

Supporting UK businesses to export across the globe:

- **Publishing a new Trade Strategy**, which sets out the cross-cutting domestic and international trade and investment frameworks to increase trade by productive British businesses across the economy. It supports supply chain resilience, growth of UK exports, investment in clean energy and uptake of green goods and services. It outlines the UK's policy response to the changing global trade landscape and geopolitical challenges and how the UK will use the range of multilateral, bilateral and plurilateral trade instruments to address market access barriers faced by British businesses, and ensure secure and resilient trade.
- **Targeted Department for Energy Security and Net Zero support for clean energy exports,** including backing domestic SMRs for European deployment, and supporting UK manufacturers to capitalise on the opportunities of the global clean energy transition through exports of world leading hydrogen and CCUS technologies and services into new and established markets, in particular by increasing the visibility of UK capabilities to projects and investors, and unlocking greater participation in international supply chains.
- **UK Export Finance (UKEF)[48] has up to £80 billion of finance capacity available to support UK exporters, including in our growth-driving sectors and is aiming to support £10 billion of clean growth finance between 2024 and 2029.**[49] This will help us gain a competitive advantage in clean energy exports, ensuring that no viable export fails through lack of finance and insurance.
- **Providing enhanced support for Clean Energy Industries, UKEF now has up to £13 billion of direct lending available to stimulate overseas demand in our growth-driving sectors** and also offers longer loan tenors for clean growth finance (up to 10 years for export working capital facilities and up to 22 years for overseas projects) to provide additional flexibility to address the complexity of clean energy projects, ensuring that UK exporters can win competitive international contracts[50]. UKEF also recently introduced its Critical Minerals Supply Finance which helps exporters de-risk and secure their overseas critical minerals supply chains, a key input into clean energy technologies.

- **Launching a new UKEF Critical Goods Guarantee product for domestic suppliers selling critical minerals products to UK exporters**, complementing UKEF's existing critical minerals offering and enabling suppliers to access working capital, helping them to secure long-term import contracts and invest in domestic capacity building, protecting them from geopolitical risks and bolstering supply chain resilience.
- **Introducing additional flexibility to UKEF's financing criteria** for projects that support and de-risk our growth-driving sectors, aiming to begin piloting an approach over the next year, initially focusing on Clean Energy Industries.

Case Study: UKEF support for offshore wind

UKEF have supported UK exports into six major offshore wind farms in Asia, totalling £1.2 billion in support.[51] In April 2025, UKEF supported a guarantee for the construction of the 495 MW Fengmiao 1 offshore windfarm in Taiwan, securing £55 million worth of contracts for British suppliers, including Cadeler – a company with operations based in East Anglia – who will be contracted to supply an installation vessel together with crew, sea-fastening services, and crane operators.[52]

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46 Internal Department for Energy Security and Net Zero analysis of published HMRC trade data. Based on 2023 and 2018 export values. Department for Energy Security and Net Zero analysis using published HMRC trade data of export values (£) in 2023 vs 2018 for the following 8 clean tech commodities: solar panels (HS 854143), wind turbines (HS 850231), permanent magnets (HS 850511), nuclear reactors (HS 840110), electrolysers (HS 854330), lithium batteries (HS 850650), electric vehicles (HS 870380), and heat pumps (841861).

47 McKinsey (2021) Opportunities for UK businesses in the net-zero transition.

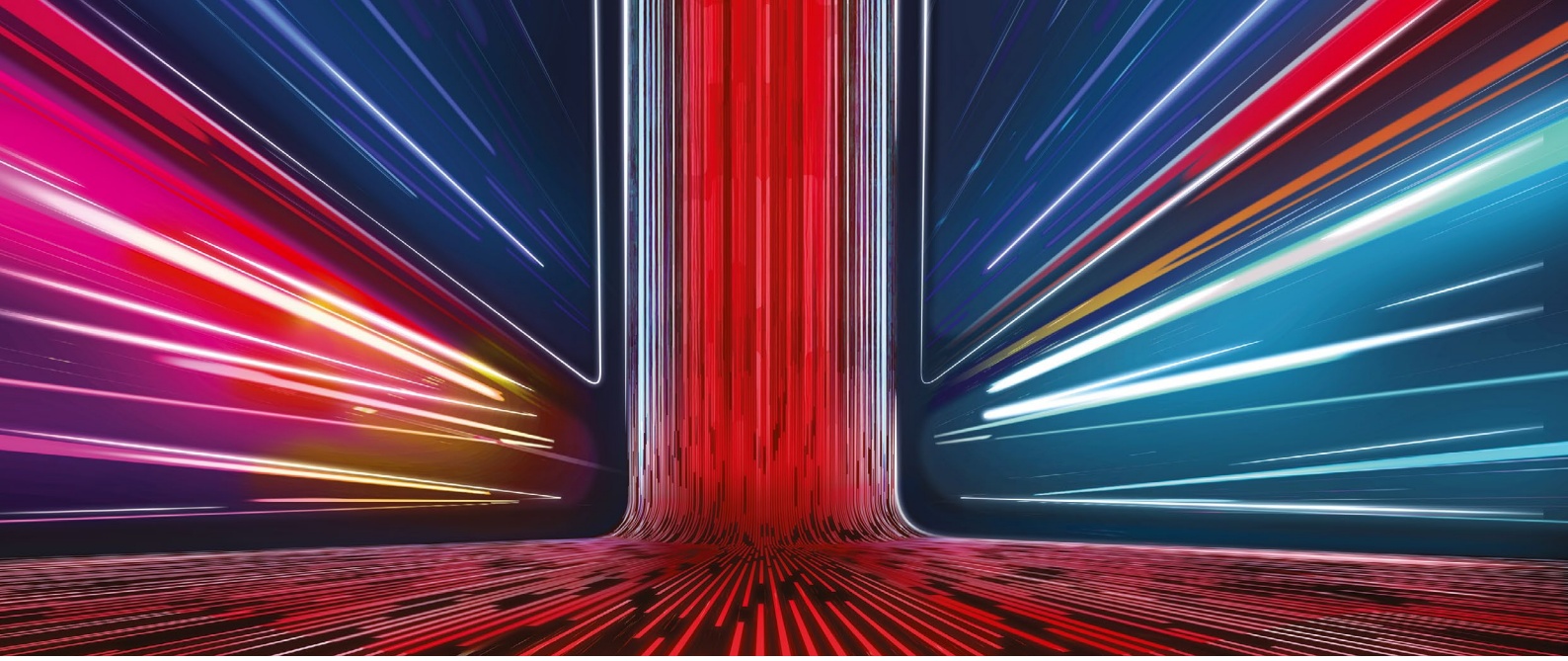
48 UKEF is the UK's export credit agency and a government department (reporting to the Secretary of State for Business and Trade) with a mission (to ensure that no viable export fails for lack of finance and insurance, doing that sustainably and at no net cost to the taxpayer.

49 UK Export Finance (2024) UK Export Finance Business Plan 2024-2029.

50 UK Export Finance (2025) Clean Growth Direct Lending Facility.

51 UK Export Finance (2023) UKEF backs major Taiwan offshore wind project, creating over £130 million in UK exports.

52 UK Export Finance (2025) Landmark Taiwan offshore wind deal receives UK backing, unlocking £55 million in contracts for British exporters.



3. Supporting our frontier industries

3.1 Wind

Offshore wind

The UK is a world leader in offshore wind, with the highest deployment in Europe and the second highest in the world after China.[1] We have a strong project pipeline, and The Crown Estate aims to bring up to 20-30 GW of extra seabed leases to the market by 2030.[2] This deployment contributes directly to growth, with industry estimating that the sector contributes around £2-3 billion of GVA to the UK per gigawatt installed.[3]

The UK has existing supply chain strengths, with offshore wind exports already worth over £2 billion a year.[4] There is a huge opportunity to go further in domestic manufacturing to match our world-leading deployment. Overall, we estimate the offshore wind industry could support up to 100,000 jobs across Great Britain by 2030[5] and as deployment shifts towards floating offshore wind over time, the technology could play an important role. Driven by deployment, the industry estimates significant potential for long-term economic value to the UK.[6]

The sector's Industrial Growth Plan (IGP)[7] sets out the UK's opportunities to be a global technology leader in advanced turbine technology, industrialised foundations and substructures, electrical systems and cables, smart environmental services and next generation installation and operations and maintenance. Government activity will focus on capitalising on the UK's strengths. In floating offshore wind, the UK can leverage its existing expertise in the deployment of floating substructures, including in fabrication and mooring and anchoring, gained from the oil and gas sector, as well as dynamic cables.[8]

Investment in the offshore wind supply chain is held back by a lack of certainty on demand and the need for catalytic capital. Our plan addresses these market failures with a reformed CfD process, supported by the Clean Energy Supply Chain Fund established under Great British Energy, of which £300 million has already been announced for offshore wind, and a half-billion-pound Clean Industry Bonus steering additional investment into disadvantaged communities and clean supply chains.

Action Plan

A clear mission to drive investment certainty:

- **Setting out target capacity ranges via the Clean Power Action Plan,**[9] with 43-50 GW of offshore wind by 2030 and an aim of at least 12 GW of projects securing a CfD across AR7, AR8 and, depending on the speed at which projects deploy, AR9.[10] We will look to set longer term deployment pathways to provide certainty to industry.
- **Working with The Crown Estate to develop future leasing proposals set out in their Future of Offshore Wind report.** This includes aiming to bring up to 20-30 GW of new offshore wind seabed rights to market by 2030, for projects to be built by 2040.[11]
- **Reforming the Contracts for Difference scheme** to deliver greater pipeline clarity and market certainty, as set out in Section 2.1. Following consultation, we will confirm the Government position on improving predictability and transparency of the CfD scheme. We will also publish an auction schedule for the CfD ahead of the round opening to support our deployment ambitions leveraging up to £9 billion in private sector investment, subject to the Contracts for Difference process.
- **Supporting the Offshore Wind Industry Council's (OWIC) and The Crown Estate's Regional Growth Prospectuses,**[12] **which build on the IGP.** This showcases current and future capabilities across offshore wind clusters, and how ports can support growth priorities.
- **Working with the Offshore Wind Industry Council (OWIC) and Industrial Growth Plan (IGP) Strategy Board to introduce new metrics by the end of 2025 to determine the health and success of the supply chain,** based on the detailed supply chain analysis conducted for the IGP. Building on the industry's previous work to develop a UK-content methodology, these metrics can provide the underpinning for industry-led UK local content goals for the offshore wind sector.
- **Co-ordinating with devolved governments to maximise investment opportunities,** including for priorities in the Scottish Government's Strategic Investment Model and FLOW facilities in the Celtic Sea, and working with The Crown Estate and Crown Estate Scotland to ensure there is a strong future pipeline of projects in England, Wales and Scotland - giving investors confidence in opportunities in the longer term

Catalytic public investment:

- **Ensuring the sector benefits from the catalytic public finance offer set out in Section 2.2.** This includes the Clean Energy Supply Chain Fund established under Great British Energy, of which £300 million has already been announced for offshore wind.
- **Supporting coordinated developer investments into supply chain projects** with up to £300 million of private sector funding. The Offshore Wind Innovation Development & Demonstration (WInDD) Hub, including the Advanced Turbine Technology Institute (ATTI), will foster and commercialise innovation.
- **Enabling The Crown Estate to use increased investment powers created through The Crown Estate Act 2025 to support supply chain and port infrastructure.** This will support £400 million of capital to the sector: £50 million through the Supply Chain Accelerator Programme[13] supporting early-stage project development, and up to £350 million of capital funding in the medium term through the Supply Chain Investment Programme.
- **Introducing the Clean Industry Bonus for AR7**, which rewards offshore wind developers who invest in the UK's poorest communities, or in cleaner manufacturing facilities, with funding reserved for investments in the floating offshore wind supply chain. The first round was highly successful with £544 million of investment allocated to support the offshore wind supply chain.[14]

Breaking down the barriers to investment by:

- **Implementing measures through the Offshore Wind Environmental Improvement Package (OWEIP) to address barriers to deployment and accelerate the planning process for offshore wind**. We are considering options for harmonising the offshore wind environmental data and modelling used for assessing impacts to provide consistency in assessments. This builds on the wider planning reforms in Section 2.3.

Ensuring we have the skilled workforce we need, creating good jobs, and putting trade unions at the heart of the clean energy future:

- **Following the CIB pilot round in Allocation Round 7, we are exploring expanding to include new criteria on workforce protection and skills in any future investment rounds.** This would complement wider measures to be set out in the Clean Energy Workforce Strategy to secure the skilled workforce needed for the sector, as set out in Section 2.4.

Spotlight on floating offshore wind – a leading growth opportunity

Floating offshore wind can unlock access to wind energy from areas of deeper water. The Floating Offshore Wind Taskforce estimates that the global market could be worth £1 trillion by 2050.[15] Key UK deployment zones in the North and Celtic Seas, alongside the UK's existing expertise in the fabrication of floating structures, also brings significant opportunities for the transition of skilled workers from carbon intensive sectors.[16] The Crown Estate's Celtic Sea Blueprint identifies that the deployment of 4.5 GW of floating offshore wind could support over 5,000 jobs.[17]

To provide long term certainty we are:

- **Securing test and demonstration scale capacity in different geographic regions** to help facilitate early investment in the development of the infrastructure and manufacturing capacity required to support the scale-up of the sector across the UK. To enable this, we intend to support multiple projects in CfD AR7 that represent value for money.
- **Providing long term visibility of Government strategy to enable the sustainable development of the sector**, by setting out longer-term deployment trajectories. We will work with industry including on the role of 'stepping stone' projects to enable industrialisation and further cost reduction ahead of commercial scale deployment.
- **Utilising CIB funding to specifically support the Floating Offshore Wind sector** with funding reserved for the floating offshore wind supply chain.
- **Supporting port facilities,** with £55 million already awarded to the Port of Cromarty Firth, up to £80 million made available through the Spending Review to support investment in the Future Port Talbot project, subject to due diligence, and working with the NWF which will provide at least £5.8 billion to five priority sectors, including ports.
- **Working with industry to consider the potential role for alternative solutions to installing offshore wind turbines in deeper UK waters,** and how best to support new or innovative foundation technologies, including through the CfD scheme.

Onshore wind

The onshore wind supply chain sector is comparatively underdeveloped in the UK compared to offshore wind – this is a missed opportunity. The onshore wind sector directly supported 6,600 full-time equivalent (FTE) jobs, supported a further 13,100 FTE indirectly,[18] and generated £191 million in exports, in 2022.[19] The Government estimates that the onshore wind sector could support up to 45,000 direct and indirect jobs in Great Britain by 2030. [20]

Government removed the de facto ban on onshore wind in England in July 2024 and is currently legislating to reintroduce large onshore wind projects into the Nationally Significant Infrastructure Project regime. Our approach to supply chains learns lessons from offshore wind, including the Industrial Growth Plan.

Installed capacity is planned to almost double by 2030[21]. Given the future growth in this sector, there is significant economic opportunity for the UK, particularly in areas of existing strengths: development, balance of plant and operations in the onshore wind sector.

Increasing investment in the onshore wind supply chain depends on clear deployment plans and a better understanding of opportunities, after a long de facto ban. Our action plan builds on the Government's first specific onshore wind strategy with supply chain investment via Great British Energy.

Action Plan

A clear mission to drive investment certainty:

- **Publishing our Onshore Wind Strategy, the first time the Government has published a strategy specifically for onshore wind.** The Strategy will set out over 40 actions to unlock onshore wind deployment, tackling key barriers such as planning, aviation and defence. Government is committed to deploying 27-29GW of onshore wind by 2030 in GB, building on the over 16GW of onshore wind of current UK capacity.[22]
- **Establishing a new joint Government-industry forum to implement the upcoming Onshore Wind Strategy** and identify any further challenges projects face. This will support Government in recognising and responding to key barriers to deployment, and improve investor certainty.
- **Building on the success of the Contracts for Difference Clean Industry Bonus, we are considering expanding to onshore wind.** The CfD Clean Industry Bonus allows clean energy developers in fixed and floating offshore wind to access additional CfD revenue for investments in manufacturing in our coastal and energy communities and in cleaner, more sustainable supply chains. We are considering expanding the Clean Industry Bonus to onshore wind and will consult on any proposals.
- **Working with RenewableUK to conduct a supply chain capability analysis for onshore wind this year**. This will increase the evidence base relating to the onshore wind supply chains, with a view to using this to inform policy interventions to support the UK onshore wind supply chain sector in the future - including setting an industry-led UK local content goal covering the whole lifecycle of a project for the onshore wind sector by the end of 2025, informed by this analysis. The local content goal would be developed and led by industry, via the successor forum that will follow the conclusion of the Onshore Wind Taskforce.

Catalytic public investment:

- **Ensuring the sector benefits from the comprehensive Public Financial Institution offer set out in Section 2.2.**
- **Delivering regional communications campaigns** that provide accurate, information on economic investment and development impacts, led by industry.

Breaking down barriers to deployment and boosting investment by:

- **Implementing ambitious new reforms to decrease the rate of attrition in the planning system and ensure streamlined consenting.** This includes updating planning policy in England, to ensure that planning decisions are based on up-to-date technical information and evidence; and includes reintroducing onshore wind into the Nationally Significant Infrastructure Projects regime.
- **Tackling interference issues with civil aviation and military systems,** which can prevent onshore wind projects from progressing to construction. This will include a programme of new trials to test potential solutions to ONW turbine interference with MoD air traffic control radars.

Ensuring we have the skilled workforce we need, creating good jobs, and putting trade unions at the heart of the clean energy future:

- **Exploring whether the 'skills passport' could be extended to onshore wind** which would help mobilise a flexible and highly skilled workforce into the sector. This will be complemented by cross-cutting actions across clean energy sectors led by the Office for Clean Energy Jobs to be set out in the Clean Energy Workforce Strategy.
- **Industry conducting new workforce monitoring to provide demographic data for the onshore wind sector.** The acceleration of onshore wind deployment to meet 2030 targets needs to be supported by a fair and inclusive expansion of the workforce. Currently, the onshore wind workforce data is limited, particularly in England. The onshore wind industry will conduct a survey to monitor demographic workforce data, including diversity and inclusion, on a biannual basis.

3.2 Nuclear Fission

As one of the first nuclear nations, we have a thriving sector which is well placed to capitalise on the opportunities created by our civil nuclear programme. Nuclear is already supporting many well-paid jobs, often in the most deprived parts of the country. Industry estimate that the civil and defence nuclear fission sector could support up to 120,000 direct and indirect jobs across Great Britain by 2030, up from 96,000 in 2024.[23] EDF estimates that the current Hinkley Point C project spends 64% of construction value with British businesses, with £5.3 billion having been spent with local businesses so far.[24] The Sizewell C Company's plans have a target of 70% of construction value going to UK companies.[25]

The UK has strengths across the fission life cycle including fuel production, new build, decommissioning, professional services, and specialised equipment manufacturing.[26] The UK is well positioned to build upon existing strengths and seize opportunities provided by new technologies.[27]

Over the next 10 to 15 years we will drive a revival of the civil nuclear sector through our investments, the scale of which hasn't been seen in the UK in more than half a century. Beyond delivering Hinkley Point C and Sizewell C, we will seize the opportunities presented by Small Modular Reactors (SMRs) and Advanced Modular Reactors (AMRs). With many of the components fabricated in a factory environment and then transported to site, these technologies create significant R&D, manufacturing and logistical opportunities, and skilled jobs across the UK.

There are significant opportunities to be unlocked in nuclear decommissioning and radioactive waste management with our programme spanning over 100 years of work. Led by the Nuclear Decommissioning Authority (NDA), these activities make a substantial contribution to the UK economy.[28]

While championing our thriving sector, we recognise that there are challenges to overcome.

The lack of new build projects between Sizewell B in the nineties and Hinkley Point C has resulted in a decline in skills and domestic supply chains. SMRs are an emerging industry, where the UK has the potential to take the lead. Government is taking an active role, with a comprehensive package of measures that will promote private investment, encourage new market entrants, reduce costs and timelines, and support exports. As we deploy new nuclear projects, we will look to ensure we have robust and secure UK supply chains.

Action Plan

A clear mission to drive investment certainty:

- **Providing significant investment in the nuclear sector, with £14.2 billion for Sizewell C,** the first state-funded nuclear power station since Sizewell B began construction in 1988. Sizewell C will support around 10,000 jobs at peak construction and thousands more nationwide.[29] It will (subject to approvals) create 1,500 apprenticeships over the construction period and when operational it will generate power for the equivalent of around 6 million of today's homes for 60 years.
- **Enabling SMRs in the UK:** The Government is pledging over £2.5 billion for the overall SMR programme across the Spending Review period. Great British Energy – Nuclear (GBE-N) has selected Rolls-Royce SMR as its preferred bidder to partner with to develop small modular reactors in the UK, subject to final government approvals and contract signature. An SMR project could support up to 3,000 jobs at peak construction and power the equivalent of around 3 million of today's homes.[30]
- **Providing a pathway for privately-led advanced nuclear projects**. Great British Energy – Nuclear has been tasked with a new role in assessing proposals within a new framework, to be published later this year, with National Wealth Fund exploring potential investment opportunities and the Department for Energy Security and Net Zero exploring revenue support for viable projects.

- **Delivering our shared nuclear vision by seeking to align civil and defence nuclear activities and capabilities in areas where there are clear benefits**, such as R&D and nuclear legacy management.
- **Welcoming industry's uptake of UK content in recent major projects:** EDF estimates that 64% of construction value of Hinkley Point C is currently with British businesses[31] (against an original target of 57%)[32], and a target of 70% of construction value going to UK business for Sizewell C.[33]

Catalytic public investment:

- **Investing £300 million in the High Assay Low Enriched Uranium (HALEU) fuel programme** which will establish the UK as a leading global advanced fuel supplier and will help attract AMRs vendors to our shores. We will continue to support the uranium conversion factory at the Springfields site near Preston which will unlock private investment and allow us to manufacture fuel end-to-end entirely within the UK and ensure we are not dependent on Russian-origin fuels.

Breaking down the barriers to investment by:

- **Streamlining planning by designating a new National Policy Statement for new nuclear energy generation, EN-7**, to provide a clear and supportive framework for industry-led site selection for large scale nuclear and ANTs. We are also supporting wider planning reforms led by Ministry of Housing, Communities and Local Government (MHCLG) that will reduce the complexity of securing consents and permissions and streamline the process for new nuclear projects.
- **Improving regulation by establishing an independent Nuclear Regulatory Taskforce**, which will make recommendations to improve the systems of regulation for civil and defence nuclear with the objective of improving the speed of delivery and reducing the overall cost without compromising fundamental standards. The scope includes nuclear, safety, environmental, and planning regulation, and a final report is expected to be published in autumn 2025.

Ensuring we have the skilled workforce we need, creating good jobs, and putting trade unions at the heart of the clean energy future:

- **Expanding our skilled workforce** by continuing the delivery of the Skills Plan. This will provide the investment and coordination required to ensure that the UK has the skilled workforce to remain at the forefront of nuclear innovation, able to seize domestic opportunities provided by new technologies and take advantage of growing export opportunities. This will be complemented by cross-cutting actions across clean energy sectors to be set out in the Clean Energy Workforce Strategy.

3.3 Fusion Energy

The UK's world-leading fusion energy programme is an exemplar of how the UK can turn exceptional R&D into real economic growth. Recent successes include a fusion fuels partnership between UK Atomic Energy Authority (UKAEA) and the energy company ENI at H3AT[34], and a cornerstone government investment in Starmaker One in April 2025, which is expected to leverage £100 million in investment into the UK fusion sector.[35]

The UKAEA's fusion science campus is a key part of the Oxford-Cambridge corridor, while the STEP programme at West Burton will bring new jobs to our industrial heartlands. The UK fusion sector provides thousands of high-quality jobs, inward investment and innovation in commercially valuable technologies relevant to renewable energy, transport and medicine.[36] Global private sector fusion investment currently stands over $7 billion.[37]

UK technological excellence spans fusion technologies, including remote maintenance, fusion diagnostics and sensing, high-temperature superconducting (HTS) magnets, spherical tokamak design, divertor design, advanced materials, systems integration[38] and tritium handling/storage. This is already producing spillover benefits with potential applications[39] including HTS magnets for defence, transport, medicine and offshore wind; AI for aerospace, manufacturing and power sectors; robotics for mining, space and nuclear; advanced materials for aerospace and defence; and neutrons for medicine.[40]

We will advance a holistic UK Fusion programme which seeks to capitalise on UKAEA's unique capabilities to address the remaining technical barriers to fusion, while building private sector capacity, capability and skills, and supply chains. This approach will continue to attract global companies, inward investment and jobs, and tackle technical challenges.

Fusion is an emerging but fast-growing technology. Our action plan provides confidence to industry and investors, generating near-term economic benefits whilst addressing remaining barriers and supporting the STEP prototype programme so the UK can lead on commercialisation.

Action Plan

Catalytic public investment:

- **Delivering record investment in R&D for fusion energy, investing over £2.5 billion over 5 years, including progressing the Spherical Tokamak for Energy Production (STEP) programme** – supporting thousands of jobs. STEP will design and build a prototype fusion power station at the site of an old coal fired power plant in West Burton. It will be delivered by an integrated partnership led by UK Industrial Fusion Solutions, a subsidiary of UKAEA, and industrial engineering and construction partners in the private sector. STEP is designed to boost economic security through UK supply chain growth and development of industrial capability, with spillover benefits to other sectors and the wider economy.
- **Setting out, later in 2025, the Government's updated plan for the development and deployment of fusion energy.** We will also engage with industry and investors during this Parliament on the approach to developing a fusion market framework. As the fusion sector matures, we will engage with industry to discuss supply chain metrics.
- **Supporting new technologies and skills development via the Fusion Futures programme**. This will support world-leading innovation and international collaboration.
- **Capitalising on our new Ministerial Fusion Industry Forum by launching a UK Fusion Prospectus**, clearly setting out the UK's comprehensive offer to global fusion firms and investors. The Fusion Industry Forum brings representatives from the UK fusion industry together with ministers to drive sector growth.

Breaking down the barriers to investment by:

- **Developing a fusion-specific National Policy Statement** to streamline the planning process and give more certainty to investors.
- **Continuing to lead the global conversation on regulation**, working with the G7, International Atomic Energy Agency, and other partners. The UK was the first country to legislate for a proportionate, safe, pro-innovation approach to fusion regulation.
- **Exploring ways to offer insurance for fusion energy plants at a competitive and fair price** – supporting creation of a proportionate and cost-effective market to support innovation.

Ensuring we have the skilled workforce we need, creating good jobs, and putting trade unions at the heart of the clean energy future:

- **Supporting skills and jobs throughout the UK Fusion programme.** This will be complemented by cross-cutting actions across clean energy sectors led by the Office for Clean Energy Jobs to be set out in the Clean Energy Workforce Strategy.

STEP Case Study: delivering a prototype fusion power plant

STEP (Spherical Tokamak for Energy Production) is the UK's flagship fusion programme, aiming to deliver a prototype fusion power plant by 2040 at West Burton, Nottinghamshire, the site of a former coal power station. UK Industrial Fusion Solutions is the delivery body and will partner with UKAEA and private Engineering and Construction partners. This approach will catalyse development of fusion technology and its supply chain, supporting thousands of jobs, and putting the UK in the best position for the future global fusion market.[41] The innovation generated will also lead to the creation of technologies that can be immediately commercialised in adjacent sectors. For example, advanced robotics developed for remote fusion plant maintenance has significant applications in manufacturing and nuclear decommissioning.

3.4 Hydrogen

Hydrogen plays an important role in achieving the UK's clean energy and net zero transition, and in securing the UK's energy independence. As a source of flexible low-carbon power generation, hydrogen can provide resilience, cleaner energy and savings to the wider power system, and very long duration energy storage. It is vital for the decarbonisation of hard-to-electrify industrial sectors and heavy transport. The hydrogen industry will create investment and jobs across the UK's industrial heartlands, with projects from the first Hydrogen Allocation Round set to commit over £400 million of private capital investment between 2024-26 and create over 700 direct jobs in construction and operation.[42]

Hydrogen is also a pathway to securing existing, and creating new, critical jobs in the UK's domestic industrial base. Sectors likely to require hydrogen, like refining, glass, chemicals, and ceramics, are mostly located around industrial clusters. These sectors currently support 194,000 jobs and contribute £18 billion in GVA.[43] The future global hydrogen market size is likely to be in excess of $1 trillion by 2050.[44]

The export market for UK manufacturers in CCUS-enabled and electrolytic hydrogen production equipment and fuel cells could range between £800 million and £2.2 billion to 2030, potentially increasing to between £5.8 billion and £9.8 billion by 2050.[45]

The UK is well placed to be a global leader in both hydrogen deployment and supply chains, given the shared skills and infrastructure from the oil and gas sector, existing strengths in innovation, and our supportive policy environment. We have internationally recognised capability in electrolysis technologies and significant cavern capacity for hydrogen storage.[46]

Hydrogen is an emerging sector with high upfront costs and uncertainty. Our plan will provide that certainty, seek to drive down costs whilst maximising growth opportunities. It will enable the UK to capitalise on a first-mover advantage with clear deployment plans and a strong offer for domestic manufacturing including our comprehensive Public Finance Institution support and exploring extending the Clean Industry Bonus to the sector.

Action Plan

A clear mission to drive investment certainty:

- **Providing further deployment certainty via the Hydrogen Allocation Rounds (HARs)**, which allocate revenue support to non-CCUS enabled hydrogen production projects. We have shortlisted 27 projects for HAR2 due diligence and aim to confirm which projects are successful in this round by early 2026.
  - **Future HARs:** We are aiming to launch HAR3 by 2026 and HAR4 from 2028.
  - **HAR streamlining:** We are assessing how we could streamline the HAR process, to shorten the time between application and award, based on lessons from HAR1/2. This will support any potential future transition to a price-based competitive allocation model. A review of allocation rounds will be published later this year, which could include the use of an independent allocation body and price-based competitive allocation from 2030.
  - **New investment rounds:** We will aim to launch the first transport and storage allocation rounds in 2026, and our new Hydrogen to Power business model will be launched in 2026.

- **Publishing a revised Hydrogen Strategy in 2025.** This will be a key mechanism for delivering our deployment commitments and optimising job creation and economic benefits coming from the UK hydrogen economy and supply chain, maximising international opportunities. It builds on the progress since the last Hydrogen Strategy four years ago, drawing on the latest evidence to set out the deployment needed to deliver our ambitions.
- **Establishing the UK's first regional hydrogen network from 2031,** supported by over £500 million of government support for hydrogen infrastructure. This network will facilitate the production, storage and transportation of low-carbon hydrogen to support its use in key sectors locally. We will announce further details of the allocation process in the Hydrogen Strategy. Starting with supporting a single network now sets industry up to succeed and will allow for lessons to be learnt for future deployment.
- **Supporting developers to be aware of the suppliers available when making procurement decisions for critical components**, including working with projects to deliver "Meet the Specifier" and "Meet the Buyer" events to stimulate supply chain competitiveness. These events will be complemented by the North Sea Transition Authority's online supply chain matchmaking tool.
- **Welcoming the industry-led voluntary ambition of 50% UK local content for hydrogen across the value chain from 2030.** We will work with industry to introduce monitoring and evaluation to determine the health and success of the supply chain in relation to the existing industry voluntary content ambition, which could include exploring stronger incentives around reporting.

Catalytic public investment:

- **Ensuring the sector benefits from the comprehensive Public Financial Institution offer set out in Section 2.2** to crowd private investment into sustainable supply chains in the UK.
- **Building on the success of the CfD Clean Industry Bonus, we are considering expanding to hydrogen.** The CfD Clean Industry Bonus allows clean energy developers in fixed and floating offshore wind to access additional CfD revenue for increased investments in manufacturing in our coastal and energy communities and in cleaner, more sustainable supply chains. We are considering expanding the Clean Industry Bonus to hydrogen and will consult on any proposals.

Breaking down the barriers to investment by:

- **Driving down cost and ensuring hydrogen is affordable**. Through our HAR2 Cost Challenge guidance, published in April 2025, we have set clear expectations for projects to be cost competitive. We are exploring options to update the Low Carbon Hydrogen Agreement and Low Carbon Hydrogen Standard to better support future hydrogen projects and our objectives. We are aiming to publish a market engagement exercise on HAR 3 in autumn which will also include an update on our work on cost reductions.

- **Removing the Climate Change Levy Liability on the electricity used in electrolysis to make hydrogen**, as set out in Spring Statement 2025. This will improve the economics of fuel-switching away from natural gas in favour of green hydrogen.
- **Assessing the case for hydrogen blending into the existing GB gas distribution and transmission networks** which in certain circumstances could have strategic value in reducing risks and financing costs. We intend to consult on transmission blending in summer 2025. This will gather evidence to help inform the case for whether blending should be enabled in the gas transmission network.

Ensuring we have the skilled workforce we need, creating good jobs, and putting trade unions at the heart of the clean energy future:

- **Working with industry to design a comprehensive hydrogen and CCUS curriculum**, while building a robust network of provider expertise to support workforce development and drive sector growth, with government committing seed funding. This will be complemented by cross-cutting actions across clean energy sectors to be set out in the Clean Energy Workforce Strategy.

3.5 Carbon Capture, Usage & Storage, including Greenhouse Gas Removals

Carbon Capture, Usage and Storage (CCUS) is critical to meeting our climate commitments and delivering energy security. CCUS is essential to decarbonising our energy intensive industries, such as cement, refining and enabling the decarbonisation of sectors such as aviation. It will help both protect vital jobs and create new opportunities in our industrial heartlands. In October 2024, the Government announced up to £21.7 billion of available funding over 25 years to launch the UK's ambitious CCUS industry.[47] We have reached financial close with East Coast Cluster (ECC) and Liverpool Bay CCS, securing around £8 billion of private sector investment.[48] The Government is providing increased backing to CCUS by allocating £9.4bn in capital budgets over the Spending Review period. This will maximise deployment to fill the storage capacity of the East Coast Cluster and HyNet Cluster. The Government has announced its support for the Acorn project in Aberdeenshire and Viking project in the Humber by providing the development funding to advance their delivery. A final investment decision will be taken later this Parliament, subject to project readiness and affordability.

The global CCUS sector investment could reach £135 billion annually by 2035.[49] The UK has an estimated 78 billion tonnes of theoretical CO_2 storage capacity, one of the largest potential CO_2 storage capacities in Europe.[50] The CCUS sector offers significant opportunities for the UK manufacturing supply chain and world-leading services. The UK also has existing strengths in the manufacture of measuring, monitoring, and verification equipment, and has identified high value opportunities in the production of including column vessels, column internals, and heat exchangers.[51]

Demand for Greenhouse Gas Removals (GGRs) will also rise rapidly, particularly as some sectors, such as aviation, are likely to retain some residual emissions. The National Infrastructure Commission (NIC)[52] notes that GGRs could become "a major new infrastructure sector for the UK worth billions per year by 2050".[53]

Investment in the CCUS supply chain is constrained by high up-front costs, uncertain demand, and complex delivery. The Government is providing further certainty by increasing backing to UK CCUS in this Spending Review, supporting the Acorn and Viking Clusters - and delivering the UK growth opportunities from these investments. We are implementing a strong offer to build sustainable supply chains, including via the comprehensive Public Finance Institutions offer set out in Section 2.2.

Action Plan

Using our clarity of mission to drive investment certainty by:

- **Providing increased backing to UK Carbon Capture, Usage and Storage (CCUS) by allocating £9.4 billion in capital budgets over the Spending Review period** - and delivering the growth opportunities of these investments. This will maximise deployment to fill the storage capacity of the East Coast Cluster and HyNet Cluster. The Government's support will attract private investment and support thousands of jobs across the supply chain.
- **Announcing support for the Acorn and Viking clusters and providing the development funding to advance their delivery.** A final investment decision will be taken later this Parliament, subject to project readiness and affordability.
- **Welcoming the industry-led voluntary ambition of 50% UK local content for CCUS across the value chain from 2030:** we will work with industry to deliver a monitoring and evaluation framework to determine the health and success of the supply chain in relation to that ambition, including exploring mandating public reporting from our deployment projects on local content.

Targeting catalytic public investment to drive innovation and growth by:

- **Ensuring the sector benefits from the comprehensive Public Financial Institution offer set out in Section 2.2,** to target supply chain components for capture and transport and storage projects. The National Wealth Fund is actively engaged on supporting investment across the full CCUS value chain, including development financing. It is working closely with projects, showing how public and private sector financing can work together to support the decarbonisation of hard-to-abate industries ensuring security of vital industry and jobs as the UK accelerates to net zero.

Breaking down the barriers to investment by:

- **Working with our partners in the European Union to agree a regulatory framework for enabling cross-border CO_2 transport and storage networks.** Cross-border CO_2 transport and storage networks in the North Sea can support the UK and EU to maximise economic benefits and achieve better value-for-money from CCUS projects.
- **Consulting on amendments to regulations governing access to CO_2 transport and storage infrastructure in 2025.** CO_2 pipeline transport and storage operators are subject to existing regulations regarding third party access to infrastructure. This work will ensure that they remain appropriate and enable CO_2 transport networks and storage sites to operate effectively with the new regulatory framework.
- **Consulting on bringing GGR technologies into the UK Emissions Trading Scheme.** This will ensure businesses invest in low-carbon technologies by providing long-term policy certainty. Government will respond to this consultation shortly.
- **Publishing a consultation on Non-Pipeline Transport (NPT) in 2025.** NPT, including the transportation of CO_2 via road, rail and ship, increases the geographic scope where CCUS and GGRs are viable.
- **Consulting on carbon usage** to drive innovation and investment into the repurposing of captured carbon for usage in sectors such as construction, chemicals, food and drink, agricultural technology, and more.

Ensuring we have the skilled workforce we need, creating good jobs and putting trade unions at the heart of the clean energy future:

- **Supporting the development of a Hydrogen & CCUS Skills Curriculum,** while building a robust network of provider expertise to support workforce development and drive sector growth, with government committing seed funding. This will be complemented by cross-cutting actions across clean energy sectors to be set out in the Clean Energy Workforce Strategy

Case study: Low-carbon cement

Padeswood is an operational cement plant owned by Heidelberg Materials, located in North Wales and forming part of the HyNet cluster. Padeswood is one of 10 cement production plants across the UK that together meet 70% of the UK's cement demand.[54] Due to high process emissions (~60% of total emissions),[55] the cement industry cannot fully decarbonise without CCUS. This is critical to our economy because, as a sector, we estimate that cement contributes around £340 million in Gross Value Added (GVA)[56] per year to the UK and directly provides 1,500 jobs.[57] The Padeswood plant has been operating since 1949, and, subject to a final investment decision, Heidelberg anticipate that the Padeswood CCS project will create around 50 new full-time jobs at Padeswood and up to 500 additional jobs during construction of the capture plant.[58]

3.6 Heat Pumps

The UK's heating and cooling industry could generate £4.8 billion in GVA annually by 2050, with £3.9 billion from domestic markets and £900 million from exports.[59] Heat pump sales are growing rapidly in the UK, from around 26,000 in 2019 to over 98,000 in 2024, including an increase in heat pump sales of around 50% in 2024 compared to 2023.[60] Heat network deployment will drive additional growth for large-scale heat pumps - the pipeline of heat network growth can potentially be expected to add up to 9 - 12TWh to the heat demand that will be supplied by heat pumps by 2035 (equivalent to 2.5 - 3GW of heat pump capacity).[61] Alongside heat pumps, there are further growth opportunities from other electric heating technologies.

The UK is the largest producer of residential gas boilers in Europe and the fourth largest producer of air conditioning systems, which have technological similarities to heat pumps.[62] By repurposing facilities and retraining workers, manufacturing of heat pumps and ancillaries (such as compatible thermal storage and controls) can also offer a just transition to low carbon heating. The UK should seize the opportunity to produce heat pump compressors and refrigerants at a component-level[63] and capitalise on the need for design flexibility and customisation to produce mid-range commercial and non-domestic heat pumps suitable for the UK context. Evidence suggests that manufacturers that produce their own components can benefit from economies of scale, achieving a strong competitive advantage, and tailor the product to local standards and regulations.[64]

To invest in UK production, companies need greater confidence in demand for heat pumps. The Government recently announced £13.2 billion of public investment for the Warm Homes Plan over the Spending Review Period, including £5 billion of financial transactions. This investment will be allocated across schemes that support the roll out of heat pumps, alongside energy efficiency measures and other low-carbon technologies, such as solar and batteries. The Government will work with the UK's expert public finance institutions, including the NWF, to support the delivery of the Warm Homes Plan. This will provide industry with greater market certainty and support investment. We will also use some of this public investment to crowd-in private finance to boost supply chains. Further details on each policy will be set out in the Warm Homes Plan in October.

Action Plan

A clear mission to drive investment certainty:

- **Launching the Clean Heat Market Mechanism from 1 April 2025** to provide the UK heating industry with the strategic confidence and incentive to invest in aligning their businesses with the transition to clean heat.
- **Boosting domestic demand through the Boiler Upgrade scheme** by providing up to £7,500 grant per home for heat pump installations less than 45kW.
- **Ongoing work to consider how to address the price disparity between electricity and gas** to make it more attractive for consumers to install clean technologies like heat pumps.
- **Delivering the Warm Homes Social Housing Fund for the social-rented sector**, which supports heat pump deployment via grant funding for those installing low carbon heating.
- **Driving demand for larger commercial and industrial heat pumps**. Heat network zoning will provide certainty in England on where heat networks are expected to be deployed, driving associated investment. The Green Heat Network Fund already has a pipeline of 36 heat pump projects and is continuing to grow.

Catalytic public investment:

- **Confirming a new Heat Pump Investment Accelerator Competition (HPIAC),** which will provide grant support to manufacturers to invest in new or expanding capacity. This will help bring forward industry investment to boost UK manufacturing capacity and supply chain security.
- **As the heat pump market grows, there are significant opportunities to expand heat pump manufacturing in the UK.** The Government welcomes the Heat Pump Association's support in exploring ways to maximise opportunities for domestic manufacturing as demand increases, and its efforts to develop data to help track progress.

Breaking down the barriers to investment by:

- **Introducing the Future Homes and Buildings Standard so that all new buildings are 'zero-carbon ready'.** This will make low-carbon heating like heat pumps and heat networks the default for new homes in England, expanding the domestic market.
- **Reducing planning barriers**. In May 2025, Government removed the requirement that air source heat pumps must be at least one metre from the property boundary and increased the permissible size of a heat pump in certain circumstances.

Ensuring we have the skilled workforce we need, creating good jobs, and putting trade unions at the heart of the clean energy future:

- **Extending the Heat Training Grant**. This subsidises training for both heat pumps and heat networks, and so far has provided training for over 10,650 trainees. The scheme has been extended, enabling around 5,500 heat pump professionals and 3,500 heat network professionals to be trained to March 2026.[65]

Deploying digital to deliver smarter growth: Smart Energy Systems

The adoption of digitalisation and smart data technologies will ensure that the decarbonised energy system is modern and efficient, making it more stable. This includes increasing the capacity of flexibility technologies such as consumer-led flexibility (including smart charging of Electric Vehicles), and electricity storage, as well as advancing broader enabling policies such as the digitalised exchange of data.

As set out in the Digital and Technologies Sector Plan, the UK is an international leader in digitalisation and smart data across the economy, and the digital sector is a strong contributor to economic growth. By 2050, the domestic market for smart systems and flexibility solutions, including EV smart chargers and smart network equipment, could contribute almost £1.3 billion to the nation's economy, with exports adding a further £2.7 billion.[66]

The Clean Flexibility Roadmap, to be published later this year, will outline government, Ofgem, and NESO's ambition for a smarter, more flexible energy system. Several industry-led data sharing initiatives already demonstrate the potential for smart data to deliver customer benefits, including NESO's data sharing infrastructure and the government-funded Automatic Asset Registration programme. The Government is also exploring the potential for an energy smart data scheme to allow consumers to access innovative products and services to help them make informed decisions about their energy needs.

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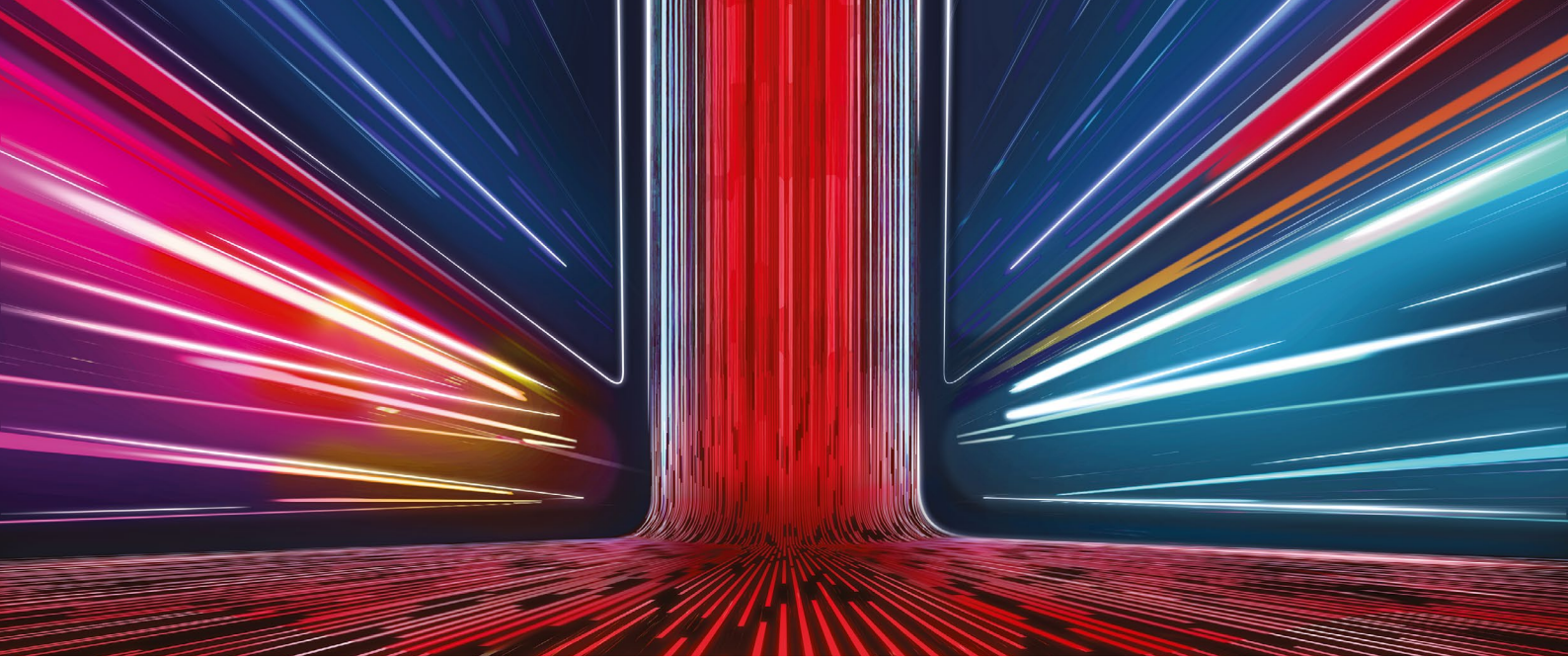

4. Supporting our cities, nations and clusters

Unleashing the full potential of our cities, nations and regions is a core objective of our Industrial Strategy. The growth potential of clean energy innovation, supply chain scale-up, and deployment means that the economic benefits across the UK can be sizeable. Our sector map demonstrates this potential, across existing and emerging high-potential clusters, where groundwork has already been laid for their growth and whose examples can be replicated across the UK.

Government is also launching a live tool, the Clean Energy Map, that plots a range of active clean energy projects supported by Government since July 2024, to showcase the jobs and investment benefits of the Clean Energy Mission across the UK. The map can be viewed at https://clean-energy-map.energysecurity.gov.uk/

Unleashing the potential of our cities and regions

1 South West

Fusion, Wind (offshore), Heat Pumps, Fission

- Hinkley Point C has spent £5.3bn with businesses in the South West, trained 14,000+, and supported 26,000 direct and indirect jobs in Great Britain. Plymouth & South Devon Freeport has allocated £5.7m to prepare Langage site for a green hydrogen hub.[1,2,3]

2 South East

Wind (offshore), Fusion

- OWIC Regional Growth Prospectus estimates £287-630m investment is needed in SE to meet demand, expansion and disruptive targets for OFW.[4]
- UKAEA in Culham, Oxfordshire, leads on Fusion R&D with a new fuels partnership with ENI.[5]
- Project Brunel invested £14.6m in hydrogen engines.[6]

3 Greater London

Clean Energy Finance & R&D

- A hub for green finance, climate tech and research. Recent projects include CEME's business campus, securing £29m for a Hydrogen Living Lab with Thames Estuary Growth Board and Ikigai Capital. Imperial College London also hosts the $70m Qatar Carbonates and Carbon Storage Research Centre.[7,8]

4 East of England

Wind (offshore), Fission, Fusion

- Freeport East: Offshore Wind and Hydrogen developments, with consent for a new quay and creation of a green hydrogen hub, e.g. Scottish Power aim to invest £150m in a green hydrogen facility in Felixstowe.[9]
- £4.4bn investment for Sizewell C with a third of the peak construction workforce (total of 7,900) to come from the local area.[10]

5 West Midlands

Heat Pumps, Wind (offshore), Smart Energy Systems

- Smart Energy Systems cluster for innovation assets (Energy Systems Catapult, Tyseley Energy Park) and tech scale-ups; major players (Octopus, Cadent, National Grid, EON & Hitachi).[11]
- GE Verona Stafford expansion projected to deliver 600 jobs, providing facilities for production of critical components including HVDC transformers.[12]

6 East Midlands

Heat Pumps, Fission, Fusion

- East Midlands Freeport is investing over £25m seed funding, £11.35m from universities for Zero Carbon Innovation Centre and £2m for the Future Energy Skills Hub. The Freeport aims to add £9bn GVA and 28,000 direct & indirect jobs. STEP fusion cluster, West Burton, could create 6,500 local jobs. Vaillant's £40m Belper factory could add 200 jobs.[13,14,15]

7 Yorkshire and the Humber

Wind (onshore & offshore), CCUS, Hydrogen, Heat Pumps, Fission, Fusion

- UKAEA advanced manufacturing fusion capability and fusion skills training.[16]
- High concentration of CCUS, hydrogen suppliers and tech developers e.g. ITM, Carbon Clean, Chesterfield Special Cylinders, Nuada.
- HPIAC supported Ideal Heating's £12m investment into heat pump production, (200+ jobs).[17]

8 North West

Wind (onshore & offshore), CCUS, Hydrogen, Fission, Fusion

- Nuclear Fission cluster: Springfields, Capenhurst, and Sellafield which employs ~12,000 employees & spends £1.7bn annually on supply chains.[18,19]
- HyNet CCUS cluster projected to support thousands of jobs.[20]
- Home to a high Fusion concentration & spillover expertise such as UKAEA Race AI Robotic Collaboration.[21]

9 North East

Wind (onshore & offshore), CCUS, Hydrogen, Heat Pumps

- Investments from SeAH (£900m) and Smulders (£120m) created collectively +2,500 jobs.[22,23]
- JDR Cable Systems £130m investment into offshore cable manufacturing in Cambois, Northumberland.[24]
- ECC CCUS cluster projected to create ~2000 jobs.[25]
- Schneider Electric invested £42m to expand critical switchgear production in Scarborough.[26]

10 Scotland

Wind (onshore & offshore), CCUS, Hydrogen, Heat Pumps

- North East and Moray received £8.5m of Just Transition Funding into supply chain and energy transition projects.[27]
- Port of Cromarty Firth is a major hub for floating offshore wind, receiving £55m funding for expansion, and Port of Nigg £350m Sumitomo Electric cable factory to create ~330 jobs. Scottish ports could further benefit from the National Wealth Fund's £5.8bn funding to priority sectors, driving investment and jobs across the country.[28,29,30]
- Aberdeen Hydrogen Hub could add 700+ jobs by 2030.[31]
- The £544m Clean Industry Bonus and £300m Great British Energy supply chain fund could drive jobs and investment across Scotland as it employs over one quarter of the UK's offshore wind sector.[32,33]
- Reform of legislative framework for electricity infrastructure consenting in Scotland will accelerate deployment and help deliver energy security for local communities.

11 Wales

Wind (offshore & onshore), CCUS, Hydrogen, Nuclear Fission

- Crown Estate research found that upcoming offshore wind schemes in the Celtic Sea could unlock up to 4.5GW of floating offshore wind capacity and support 5,000+ jobs.[34]
- HyNet CCUS cluster spans North Wales and the North West of England, with the potential to generate thousands of jobs and billions in investment. The HyNet carbon storage project alone is expected to unlock supply chain contracts worth £2bn.[35,36]
- The National Wealth Fund will be empowered with additional funding to take on higher risk investments. They have committed over £5.8bn into sectors such as carbon capture and green steel, helping to drive jobs and investment across Wales.[37]

12 Northern Ireland

Heat Pumps, Hydrogen, Wind (offshore & onshore)

- Northern Ireland's Maritime & Offshore Cluster boasts supply chain capability including turbine installation, operations and maintenance in Belfast and eastern counties.[38]
- Investment in heat pump production from Octopus Energy and Copeland. Copeland awarded £4.6m under the HPIAC, which provides grant support to manufacturers to invest in new or expanding capacity, boosting supply chains and supporting jobs and growth in local communities.[39]
- Leading research centres for developing efficient, clean technology e.g. Catagen.

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4.1 Realising the economic potential of Clean Energy clusters

The interventions already set out in this Plan break down the barriers to growth in Clean Energy clusters across the UK, with nationwide measures supported by targeted local measures. This includes programmes such as local funding partnerships via NWF Strategic Partnerships and GBE Local, regional skills pilots (Aberdeen, Cheshire, Lincolnshire, & Pembrokeshire) and a sector-specific regional nuclear skills hub (North West, South West, The Midlands & Scotland).

We will build on the foundations set by HyNet across the North West of England & Wales and by the East Coast Cluster in England. The Spending Review announced support for the Acorn and Viking clusters in Aberdeenshire and the Humber, providing development funding to advance their delivery. A final investment decision will be taken later this Parliament, subject to project readiness and affordability.

Net Zero Network for Industrial Strategy Zones

Our Industrial Strategy Zones (Freeports and Investment Zones) boast some of the UK's best sites for clean energy investments. We are launching a new 'Net Zero network' for Industrial Strategy Zones to drive sub-regional collaboration across the UK, connecting industrial clean energy consumers, innovators, manufacturers, energy generation & port infrastructure across IZs and Freeports. This forum is an important part of the Industrial Strategy Zones Action Plan, launched alongside the Industrial Strategy.

Freeports play a key role in attracting investment into core UK infrastructure and accessing nationwide clean energy clusters, as set out in the UK Freeports Programme Report.[1]

The Humber, Solent, Celtic, Anglesey, East Midlands, and Liverpool City Region Freeports, Freeport East and Forth Green Freeport have all committed to prioritising clean energy industries. Other Freeports directly supporting clean energy industries include Teesside Freeport where SEaH Wind UK invested £950 million into one of the world's largest offshore wind technology factories[2]; the Humber Freeport where the expansion of Siemens Gamesa's successful blade factory in Hull by a further 41,600 square metres, more than doubling the size of the manufacturing facility, represents an investment of £186 million in the local area;[3] and Inverness and Cromarty Firth Green Freeport where Sumitomo Electric has invested £350 million to build a high voltage cable factory.[4]

Backed by £160 million funding over 10 years,[5] Investment Zones focus on clean energy industries to support the conditions for investment through tax reliefs, planning mechanisms and innovation, skills and business support. The Zones are already attracting high levels of investment. The West Midlands Investment Zone boasts the Coventry & Warwick Gigapark[6]. The East Midlands Investment Zone will create jobs and drive growth in the advanced manufacturing and clean energy sectors. The North-East Scotland Investment Zone drives research and innovation linked to floating offshore wind and green

hydrogen. The North-East England Investment Zone supports offshore wind through a range of interventions, including the Energy Central Campus in Blyth. The South Yorkshire Investment Zone is growing the region's clean energy ecosystem with investments including £270,000 into Suiso, a scaling pyrolysis technology company which decarbonises hydrocarbon gases[7].

The Strategic Industrial Sites Accelerator

The new Strategic Sites Accelerator will identify and prepare strategically significant industrial sites in the Industrial Strategy's growth-driving sectors such as Clean Energy Industries to attract major investments. It addresses specific barriers to these sites through support on land remediation, grid connections, transport, and planning.

The North Sea's Energy Future

Extending along the coastline of Scotland and east coast of England, the development of the North Sea oil and gas industry over the last sixty years has been a world-leading example of highly skilled workforce in innovation and deployment of large-scale energy infrastructure.[8]

As set out in the "North Sea's Energy Future" consultation,[9] continuing to use oil and gas from the North Sea from existing fields for their lifetime and grasping the opportunities of the clean energy transition can help ensure that the North Sea and its network of clusters continues to play a central role in the country's energy story. The Government's strategy for the North Sea will leverage important aspects of the Clean Energy Industries Sector Plan and forthcoming Clean Energy Workforce Strategy to deliver the growth opportunities that can come from transitioning the UK's wealth of engineering skills and infrastructure developed from our proud history in oil and gas. It will foster an internationally leading offshore clean energy industry, ensuring good, long-term jobs, growth and investment in communities across the North Sea.

4.2 How we are working with regional leaders

Mayoral Strategic Authorities (MSAs) in England will deliver ambitious 10-year Local Growth Plans (LGPs). These statutory, locally-owned, long-term plans will set how each MSA will use their powers and funding to drive growth in their region. Clean Energy Industries are central to many of these. We will work with relevant MSAs to maximise the synergies between the initiatives in this plan and local action to create the right conditions for the sector to flourish.

The Department for Energy Security and Net Zero will engage with MSAs on clean energy issues in Local Growth Plans through the Government's Local Net Zero Delivery Group, the new Strategic Industrial Clusters Net Zero Network, and Ministerial Mayoral Roundtables. Similar attention will be given to aligning Government's overarching industrial decarbonisation plans and North Sea Energy Future, Regional Spatial Plans, and using GBE Local and NWF Partnerships to deliver local-growth via Public Financial Institutions.

4.3 How we are working with devolved governments

Working in partnership with the devolved governments, we will drive growth in Scotland, Wales and Northern Ireland by breaking down barriers in Clean Energy. We will focus on driving investment into clean energy deployment and growing our supply chains by sharing best practice on devolved responsibilities (e.g. skills, planning and consenting) and delivering UK-wide connectivity.

The Interministerial Group for Net Zero, Energy and Climate Change will be a key lever for coordinating and knowledge sharing amongst UK, Northern Irish, Scottish and Welsh Governments. Similar attention will be given to aligning with Government's overarching industrial decarbonisation plans, Connections Accelerator, and North Sea Energy Future, Scottish Government's Green Industrial Strategy and NI Energy Strategy Action Plan, Regional Spatial Plans, and using GBE Local and NWF Strategic Partnerships to deliver local growth via Public Financial Institutions.

Scotland

Clean Energy is the beating heart of Scotland, with notable strengths in wind, hydrogen and CCUS, as described in the Scottish Government's Green Industrial Strategy.[10] The existing oil and gas sector is serviced by a highly experienced skilled workforce and a robust, internationally competitive supply chain including professional and other services.

These are well placed to transition, with the right support, to supporting clean energy sectors. The Acorn CCUS cluster is a prime example of how the infrastructure, skills and wider assets of the North Sea can be part of Scotland leading the world in building a clean energy future.

Case Study: Aberdeen Energy Transition Zone project

The Energy Transition Zone (ETZ) project aims to transform North East Scotland into a globally integrated energy cluster - accelerating progress to net zero through energy transition activities. It aims to generate 2,500 new jobs[11] in Aberdeen and realise as much as £400 million GVA[12]. ETZ Ltd receives Scottish Government funding via the Energy Transition Fund and the Just Transition Fund. The project is also now being funded by UK Government and seeks to leverage significant private sector investment.

Wales

Wales has significant growth opportunities for both clean energy generation (offshore and onshore wind, tidal and nuclear) and industrial clusters, thanks to its coastal geography, existing port infrastructure, including the Celtic Freeport, and their connection to world-leading Welsh energy intensive industries and manufacturing facilities. There are significant growth opportunities for scaling up generation and strengthening connections with local off-takers to the benefit of securing local, long-term jobs for local communities.

Case Study: Local Supply Chains: sub-regional collaboration

The Crown Estate's Leasing Round 5 will establish a new commercial-scale floating wind sector in the Celtic Sea, with identified spatial potential for up to 16.5GW in the region.[13] Alongside the deployment of FLOW Test and Demonstration projects already in development, this is an exciting opportunity to galvanise the Celtic Sea Cluster across South Wales and the South West of England, acting as a springboard for new social and economic opportunities.

The cluster's founding members (Welsh Government, Marine Energy Wales, Cornwall Council, Celtic Sea Power and ORE Catapult) are working closely with industry, local supply chains and stakeholders to deliver opportunities for businesses and communities.

Northern Ireland

Northern Ireland excels in clean energy with strong resources in offshore and onshore wind, heat pump manufacturing, and hydrogen innovation and technology deployment. Northern Ireland has a generous offshore wind opportunity, and is well-positioned in terms of ports, fabrication yards, pre-assembly, cable protection, work boats to support the UK and island of Ireland's offshore wind ambitions. High wind speeds and new renewable energy schemes being developed enhance the region's natural resource potential, making it a great test bed for future clean energy innovation.

Case study: Northern Ireland's Hydrogen Innovation

CATAGEN provides patented green emissions testing services to global automotive manufacturers. Its expertise in the mobility sector and global emissions standards has led the company to commercialise a suite of clean technology 'ClimaHtech'. Originating as a spin-out from Ulster University, CATAGEN has since capitalised on the wealth of local and UK-wide labour, skills and materials into their R&D and builds. Since receiving Government funding, CATAGEN has doubled in size with 70 employees, expanded its headquarters in Belfast Harbour, and is further expanding as it builds a net zero campus as a demo site in 2025.[14]

Endnotes

1 Ministry of Housing, Communities and Local Government (2025) UK Freeports Programme Report.

2 UK Export Finance (2024) UK government seals further £225 million investment in Teesside renewables industry with financing deal.

3 Humber Freeport (2025) Case Study: Siemens Gamesa.

4 Offshore Wind Scotland (2024) £350m investment by Sumitomo Electric for new Highland cable facility.

5 Ministry of Housing, Communities and Local Government (2025) Investment Zones in England.

6 West Midlands Combined Authority Covertry and Warwick Gigapark.

7 South Yorkshire Mayoral Combined Authority (2022) Full approval of Suiso and award of £270,000.

8 Department for Energy Security and Net Zero (2025) Building the North Sea's Energy Future.

9 Department for Energy Security and Net Zero (2025) Building the North Sea's Energy Future.

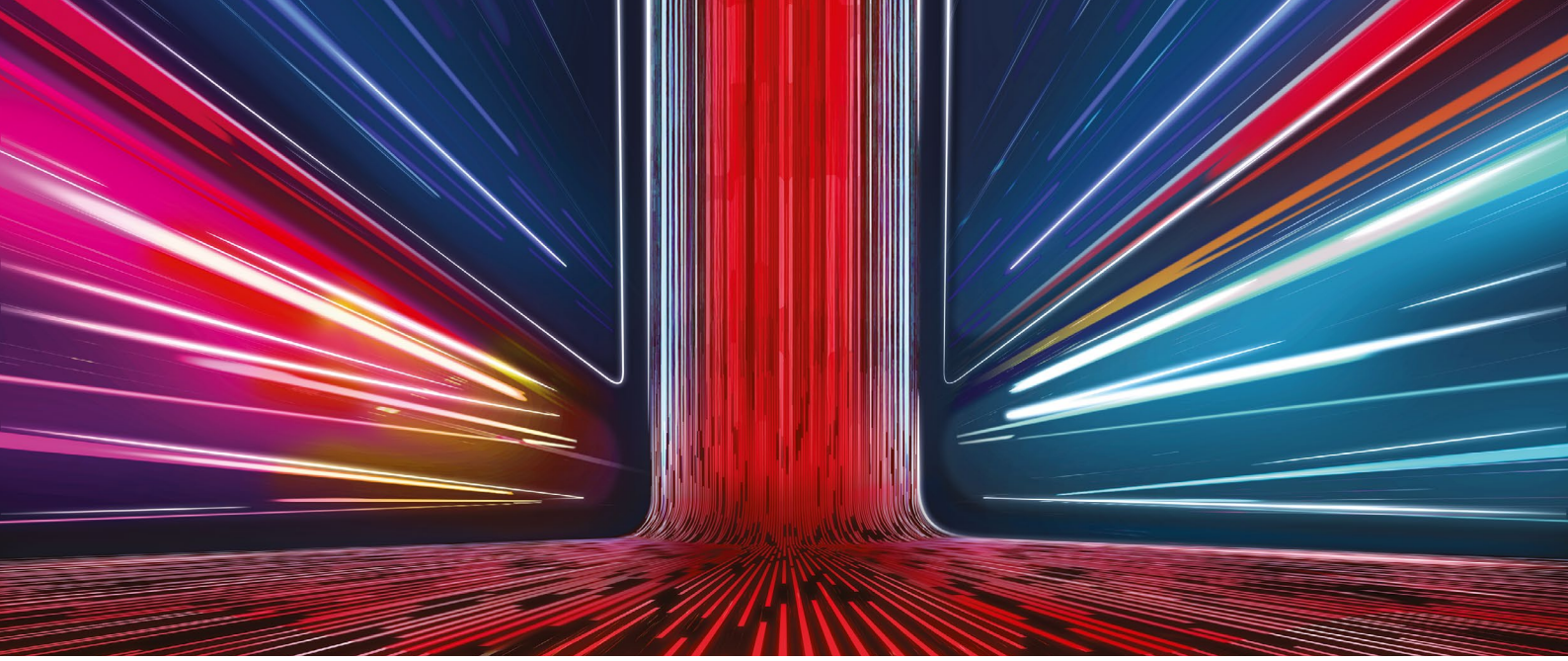
10 Scottish Government (2024) Green Industrial Strategy.

11 Energy Transition Zone, Delivering Sustainable Jobs and Growth for Scotland and the UK.

12 Aberdeen City Council (2023) Energy Transition Zone Jobs and Skills Plan.

13 The Crown Estate (2025) Future of Offshore Wind.

14 CATAGEN (2025) How NZIP Funding Fast-Tracked CATAGEN's Net-Zero Breakthroughs.



5. Creating an enduring partnership with business

5.1 How we have worked with stakeholders to develop this plan

The Clean Energy Industries Sector Plan has been designed in partnership with industry, trade unions, devolved governments, regions and other stakeholders. This has involved individual meetings, sector specific roundtables, a Clean Energy Sector Council chaired by the Secretary of State for Energy Security and Net Zero, and analysis of Invest 2035 consultation responses. This Clean Energy Industries Sector Plan showcases our joint working, highlighting numerous co-developed solutions to growth challenges and industry-led commitments.

Government has established the Industrial Strategy Advisory Council (ISAC) which has brought together experts from across the UK to help develop the Industrial Strategy. We have also created the Clean Energy Sector Council (CESC) chaired by the Secretary of State for Energy Security and Net Zero, to develop the Sector Plan with industry and trade union leaders.

5.2 How we will work with stakeholders going forward

We recognise that continued partnership with industry, trade unions and investors will be key to delivery of our Growth and Clean Energy Superpower missions.

The Industrial Strategy Advisory Council (ISAC) will continue to review progress of the Industrial Strategy. ISAC will make recommendations to the government and advise on how it can successfully deliver the Industrial Strategy. Government will continue to engage with stakeholders through bilateral meetings and via vehicles such as the Net Zero Council, which is also supporting sector decarbonisation roadmaps, and other relevant sector councils and delivery forums the Department for Energy Security and Net Zero participates in.

We will continue to use the Clean Energy Sector Council to engage on implementation of the Clean Energy Industries Sector Plan. This will be a forum for policy development and to help co-ordinate further collaboration between government, businesses and unions.

Government will also continue to work in collaboration with stakeholders such as NESO, Ofgem, The Crown Estate, NWF and Public Financial Institutions. Through engagement with these groups, Government will work to identify issues and remove blockers to drive forward the actions set out in the Clean Energy Industries Sector Plan and Industrial Strategy more widely.

5.3 Implementation strategy

A comprehensive monitoring and evaluation (M&E) framework will be developed to measure the success of the Clean Energy Industries Sector Plan. ISAC will develop measures to assess the Industrial Strategy as a whole. The Department for Energy Security and Net Zero will work with ISAC to collate relevant government data, including evaluation documents, enabling it to monitor the delivery progress and impact of individual policies across the Sector Plan and the Industrial Strategy as a whole. They will also monitor a range of microeconomic and macroeconomic metrics at the economy-wide, place, and sector level: business investment, GVA, trade exports, labour market outcomes including employment and wages, productivity, and the number of large new 'home grown' businesses. These indicators will be informed through a theory of change, which sets out the blueprint for how policies will result in the desired outcomes.

The projects, programmes, and activities supporting the Industrial Strategy will be supported by comprehensive programmes of analysis, research, and evaluation. All programmes and policies have evaluation plans already in place or being developed. M&E

plans for programmes are required to have clear objectives, and track progress against scheme ambitions. The specific methodologies and approaches taken will vary across programmes and will encompass both quantitative and qualitative approaches.

5.4 Implementation metrics

Our vision is that by 2035 the UK will be a global leader in clean energy industries, creating hundreds of thousands of good jobs at good wages across the country, supported by strong trade union recognition. We will become a world-leading exporter of low-carbon products, services and innovation. As a global leader, by 2035 the UK will:

- **Be the most attractive place in Europe to invest in clean energy industries.** This will be assessed by tracking BloombergNEF data on deployment investment[1] at a subsector level and EY data on Foreign Direct Investment attractiveness[2] and EY's Renewable Energy Country Attractiveness Index[3] at a sector level. We will commit to include BloombergNEF supply chain investment data when it becomes available and will explore further metrics to enable the full monitoring of investment into the Frontier Industries supply chains.
- **Have grown exports in all priority clean energy subsectors.** This will be assessed by tracking ONS LCREE[4] and HMRC customs data5 on exports at a Frontier Industry level.
- **Have created hundreds of thousands of good quality jobs across the country.** This will be assessed by tracking ONS LCREE[6] data on job numbers and online job advertisement data on average salaries[7] at a Frontier Industry level.
- **Have driven higher domestic commercialisation of evolving clean energy technologies.** This will be assessed by tracking IPO data on green patents[8] at a sector level and IEA data on public R&D spending,[9] Department for Energy Security and Net Zero data on deployment[10] and IEA data on Technology Readiness Levels[11] at a Frontier Industry level.
- **Have secured more resilient and robust supply chains.** This will be assessed by identifying Clean Energy Industries' strategic inputs and, building on analysis by the Supply Chain Centre, assessing the UK's import dependence and manufacturing capabilities at a Frontier Industry level.

These core metrics create a robust set of indicators that will capture the multi-faceted impact of the policies within this Sector Plan. Where possible, objectives will be tracked at a subsector level and aggregated across the frontier industries. However, unlike other sectors in the Industrial Strategy, Clean Energy Industries are not covered by Standard Industrial Classification (SIC) codes, resulting in significant limitations to data availability.

PLAN THROUGH TO 2035

2024

- Clean Power: March 2024: CfD Allocation Round 6 Launch with £1.555 billion budget.
- Heat Pumps: Clean heat market mechanism.
- Clean power 2030 action plan published.
- Onshore wind ban overturned.
- Heat Pumps: Warm Homes - Social Housing Fund wave 3 Launch, running through to september 2028 with £1.29 billion budget.
- Heat Pumps: Warm Homes: Local Grant Launch, running 3.5 years with £500 million budget. Running through to March 2028.
- Nuclear: £300m for HALEU announced.

2025

- Contracts for Difference allocation round 7 to run.
- Great British Energy established.
- Offshore Wind: £300m Great Britigh Energy supply chain funding.
- Expansion of the Clean Industry Bonus.
- Onshore Wind Strategy to be published.
- Establishment of the onshore wind council.
- Heat Pump Investment Accelerator Competition - Round 1 Launch, worth up to £30 million in total.
- Publication of Updated Carbon Budget and Growth Delivery Plan.
- Offshore Wind: Celtic Sea Leasing Round 5 for Floating Offshore Wind.
- Revised Hydrogen Strategy to be published.
- Fusion energy: Starmaker One Fusion investment fund Launch with £20m initial funding.
- Fusion energy: Government plan for fusion deployment.
- Nuclear Fission: Final Investment decision to be made for Sizewell C.

2026

- Contracts for Difference allocation round 8 to run.
- Hydrogen Allocation Round 3 to run.
- Hydrogen to Power business model to be launched.
- Hydrogen: Transport and storage allocations Round 1 to run.
- Fusion: STEP industrial partners announced.
- Fusion: National Policy Statement designated.

2027

- Contracts for Difference allocation round 9 to run.

2028

- Contracts for Difference allocation round 10 to run.
- Hydrogen: Transport and storage allocations round 2 to run.
- Hydrogen Allocation Round 4 to run.

2029

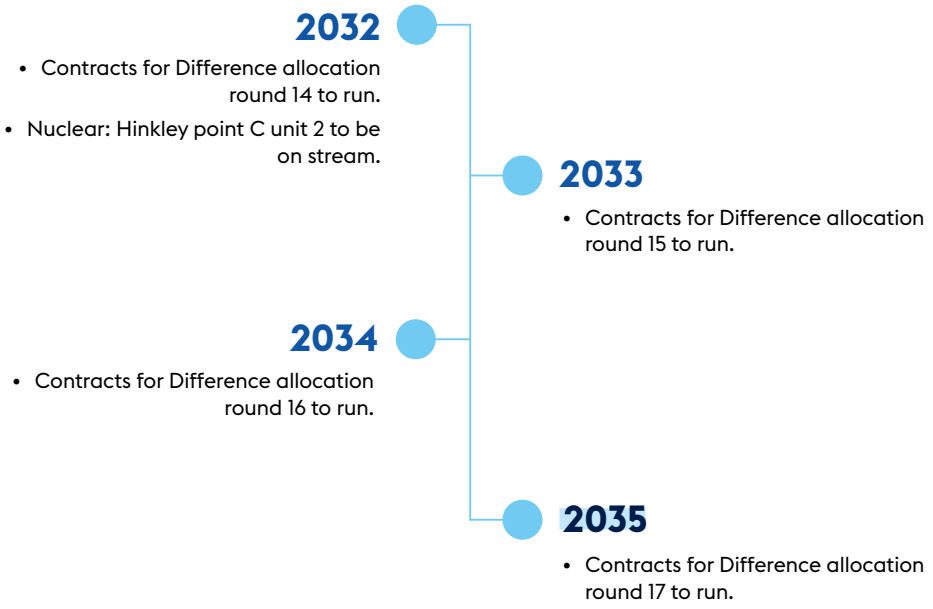
- CfD allocation round 11 run.
- Two Carbon Capture, Utilisation, and Storage Clusters to be online.

2030

- 95% GB power generation coming from clean sources.
- 43-50GW of Offshore wind operation.
- Contracts for Difference allocation round 12 to run.

2031

- First UK regional Hydrogen Network to be launched.
- Nuclear: Hinkley point C unit 1 to be on stream.
- Nuclear: HALEU operations to begin.


2032
• Contracts for Difference allocation round 14 to run.
• Nuclear: Hinkley point C unit 2 to be on stream.
2033
• Contracts for Difference allocation round 15 to run.
2034
• Contracts for Difference allocation round 16 to run.
2035
• Contracts for Difference allocation round 17 to run.

Endnotes

1 BloombergNEF (2025) Energy Transition Investment Trends.

2 Ernst & Young (2025) Attractiveness surveys.

3 Ernst & Young (2024) Renewable Energy Country Attractiveness Index.

4 Office for National Statistics (2024) Low carbon and renewable energy economy estimates.

5 HM Revenues & Customs (2025) UK Trade Info.

6 Office for National Statistics (2024) Low carbon and renewable energy economy estimates.

7 Department for Energy Security and Net Zero (2025) Clean Power 2030: Clean Energy Job Ads Analysis Charts Methodology Annex.

8 Intellectual Property Office (2024) Facts and figures: patents, trade marks, designs and hearings: 2023.

9 International Energy Agency (2025) Energy Technology RD&D Budgets.

10 Department for Energy Security and Net Zero (2025) Energy Trends
Heat Pump Association (2025) Statistics.

11 International Energy Agency (2025) ETP Clean Energy Technology Guide.

UK Government