

CBI response to the Net Zero Review: Call for evidence

The Confederation of British Industry (CBI) welcomes the opportunity to respond to the call for evidence on the review into the delivery of the government's net zero target. The CBI is the UK's leading business organisation, speaking for some 190,000 businesses that together employ around a third of the private sector workforce. With offices across the UK as well as representation in Brussels, Washington, Beijing, and Delhi, the CBI communicates the British business voice around the world.

Introduction

Delivering net zero is a huge economic prize for the UK – opening up new global markets, new job opportunities, spurring increased investment, innovation, and regional growth, whilst also reducing emissions. The UK has expertise to deliver the transition, setting us apart in a global race to decarbonise, and business is eager to invest in green technologies and infrastructure of the future. But to capture this opportunity and to deliver our climate and nature targets, the UK needs to move at pace and with long-term policy certainty. The alternative risks shaking investor confidence in the stability of the UK as a globally leading green economy, while other nations are taking bold steps, and jeopardising our early-mover advantage.

To fully seize the opportunities of a sustainable future, the UK needs to accelerate the development of new and emerging green markets and low carbon technologies. To do this requires business and government to work together to lay the policy foundations crucial for stimulating both catalytic public and private investment in the net zero transition. The new context that business finds itself in, post covid-19 pandemic and the war in Ukraine giving rise to a global energy crisis, has by no means shaken business commitment to the net zero transition. Instead, the message we consistently hear from business is that this only affirms the imperative of decarbonising, and the need to move faster than ever before.

For the UK to remain ahead in the race to net zero, this submission outlines that:

1. Business remains firmly committed to net zero and the opportunities it holds

- i. Businesses recognise the opportunities to save costs through decarbonising.
- ii. There is a pressure for businesses to decarbonise to meet the changing demands of customers.
- iii. Through decarbonising, businesses can access a wider pool of investors and a lower cost of capital.
- iv. The energy price shocks we have seen this year have underlined the importance of reducing exposure to fossil fuels to increase business resilience and improve their energy security.
- v. UK business can carve out a significant share of the \$1.4 trillion of additional investment needed to reach net zero, in fast growing green markets.
- vi. A decarbonised economy can deliver approximately 250,000 net new green jobs by 2030.

2. The UK holds competitive advantages over other nations – but needs to move fast to capitalise on this position

- i. Our legislative and institutional frameworks drive confidence for long-term investments and are highly regarded globally as a standard to follow.
- ii. The UK has a wealth of existing science and research capabilities, attracting global inward investment, while putting us ahead of the race to new IP critical for the transition.

3. The key technologies for the net zero transition are already known but must be delivered at scale and with greater pace

- i. The pace of delivery of key green technologies is not matching demand, across several areas. Four consistent themes emerge as barriers to progress:
 - Inconsistency in policy, and in some cases a rapid pace of policy change that does not give enough time for consultation or whole systems thinking.
 - Lag time to get projects up and running due to slow and inconsistent approaches to planning and consenting across technologies and regions.
 - Lack of clarity over clear delivery pathways and interim targets with key milestones for adoption.
 - A need for targeted public investment to unlock scale up of markets and attract further private investment.

4. Decisive government actions can enable a private sector-led green transition that delivers growth and opportunity for all.

In order to capture the green growth opportunity, the following principles should be adhered to:

- i. Deliver the needed public investment and policy levers to enable the growth of green markets.
- ii. Support businesses and households to weather the current energy crisis.
- iii. Make the UK the global financial centre for green finance to create an environment that attracts green investment in a credible and structured manner
- iv. Ensure the UK workforce is equipped with the skills needed to lead on the transition.
- v. Use trade and international investment as a tool to spur the net zero transition, while ensuring the development of new green export markets for UK business to explore.
- vi. Deliver a just transition to net zero.
- vii. Green the tax system.
- viii. Work to address the risk of carbon leakage and an imbalanced global playing field.
- ix. Economic and environmental regulators should be given a clear remit to contribute and report towards achieving the UK's net zero target.
- x. Continue to pursue an ambitious leadership position on climate and nature.

1. Business remains firmly committed to net zero and the opportunities it holds

UK businesses are already acting on their commitments to achieve net zero, matching the government's leadership in establishing our legally binding target. COP26 was a catalyst for action, with business affiliation to Race to Zero nearly doubling since September 2021.¹ Businesses across all sectors recognise the moral responsibility to act to limit the devastating effects of climate change and nature loss. But they also speak of net zero in terms of the economic opportunities it can bring: new markets, new investment, attraction, and retention of talent, and meeting the changing demands of consumers and investors, while improving their own resilience and reducing costs. Businesses in a growing net zero ecosystem already contribute an estimated £60 billion to the UK economy.²

Businesses recognise the opportunities to save costs through decarbonising.

- The transition to a low carbon economy will increasingly result in lowered costs, from operating costs, to supply chains, and to inputs. For example, recently it has paid back to transition internal combustion engine (ICE) light van fleets to electric vehicles (EVs) since the total cost of ownership has been lower for the latter since 2019.³ This cost advantage drives behaviour change with plug-ins accounting for more than one in six new car registrations in 2021.⁴ Investment is following these positive tailwinds, with more than £10.8 billion invested in UK EV and battery development and production over the past decade.
- Meanwhile for investment in renewables, such as wind and solar, the payback period has been shortened by the energy crisis making investment cases clearer.

There is pressure for businesses to decarbonise to meet the changing demands of customers.

- By shifting their strategy towards the green economy, businesses capture a new sector of B2B and B2C customers, attracting them with more sustainable products. This impact has become more pronounced since the covid-19 pandemic, with latest research showing that a high proportion of consumers are willing to pay reasonable premiums (approximately 10%-25%) for sustainability.⁵ This desire is even stronger for B2B procurement, with a 2019 survey finding that 81% of organisations surveyed stating that their commitment to sustainable procurement had increased moderately or significantly.⁶
- Pressure from larger corporates, having set emissions reduction and sustainability targets, is driving change throughout their supply chains in order to keep up with market demand – e.g. Walmart's pledge to reduce emissions in the value chain by 1 gigaton by 2030 has already resulted in reduced supplier greenhouse gas emissions by 93 million metric tonnes. Sustainability market segments, particularly consumer products, are also outgrowing conventional products. In a study carried out by NYU Stern, between 2013 and 2018

¹ Race to Zero progress report, September 2022

² CBI Economics, Analysis of the UK Net Zero Ecosystem, July 2022

³ CBI, Seize the Moment, May 2021

⁴ Department for Transport, Quick off the spark: electric vehicle sales continue to soar in green revolution, May 2022

⁵ Bain & Company, Purpose-Led Brands Can Reshape the Consumer Goods Industry if They Can Scale, October 2022

⁶ Ecovadis, Sustainable procurement barometer: from compliance to performance, July 2019

sustainability marketed products grew 5.6 times faster than conventionally marketed products.⁷

- Businesses are enacting rapid change in response to this new external environment, in many cases outpacing and going further than any regulatory requirements - regardless of policy environments, businesses have an incentive to decarbonise.

Through decarbonising, businesses can access a wider pool of investors and a lower cost of capital.

- Companies that fail to decarbonise and demonstrate strong sustainability credentials will restrict their potential investor pool, as climate and nature impacts become increasingly important investment criteria. This is not just a moral consideration from investors who see value in positive ESG ratings, but there is a recognition of the financial risks of investments that are not climate or transition resilient. The return on investment in the green economy is also markedly strong – recent research by Imperial College London and the IEA found that investments in green energy generated returns of 75.4% compared to just 8.8% for fossil fuels.⁸
- By improving business management of ESG risks, in response to both mandatory requirements and voluntary initiatives, businesses may be able to unlock new investment opportunities and access capital at a lower cost.⁹
- While much of this is happening at a global level and driving changes in capital allocation, ambitious plans being brought forth in the UK like the mandatory disclosures of Transition Plans for listed companies and financial institutions, a new framework for Sustainability Disclosure Requirements and the forthcoming sustainable finance taxonomy are collectively sending strong signals that the market is responding to.

The energy price shocks we have seen this year have underlined the importance of reducing exposure to fossil fuels to increase business resilience and improve energy security.

- The war in Ukraine has exacerbated an energy crisis in the UK that was already heaping enormous pressure on households and firms, with wholesale gas prices rising 11-fold since 2019 driving dozens of energy companies out of business.¹⁰ The current energy cost crisis has uncovered vulnerabilities across the energy system and increased the urgency to accelerate the energy transition. Businesses now recognise the importance of resilience to protect themselves and consumers against future price shocks beyond the current cost-crisis. Although they must take steps themselves such as improving their energy efficiency and securing low carbon sources of power, significant investment and transformation of the national energy system is required.
- Building a resilient, secure electricity system will reduce the UK's reliance on fossil-fuel derived generation, thus reducing the UK's exposure to volatile wholesale gas prices. A low carbon system built from homegrown generation will not only be more secure but will also deliver low-cost generation that will support more affordable business and consumer bills in the future. The publication of an energy security strategy earlier this year was therefore

⁷ NYU Stern CSB Sustainable Share Index, March 2019

⁸ Energy Investing: Exploring Risk and Return in the Capital Markets, Imperial College Business School, IEA, June 2020

⁹ Nuttall, R. 2020. "Why is ESG here to stay." McKinsey & Company. May 26, 2020.

¹⁰ Carbon Brief analysis of UK NBP gas price, August 2022

welcomed by the business community, however placing big bets must be matched with clear action on delivery.¹¹

UK business can carve out a significant share of the \$1.4 trillion of additional investment needed to reach net zero, in fast growing green markets.

The UK can be an early mover in tapping into rapidly growing export markets, driven by intensifying global political will for climate and nature action. The below table sets out a non-exhaustive list of green markets in which the UK has the potential to compete and win.

Market	UK advantages	Size of the prize
Offshore Wind	<ul style="list-style-type: none"> Contracts for Difference (CfD) model Legacy of leading in offshore wind deployment Domestic engineering and technical expertise 	Offshore wind alone (together with related services) could present an additional £2 billion export opportunity to just the EU.
Hydrogen	<ul style="list-style-type: none"> Opportunity for growth in emerging renewable and CCUS-enabled hydrogen value chains (e.g. electrolyser production and CCUS infrastructure development) with the right enabling hydrogen business models and transport and storage policy frameworks. 	The UK low-carbon hydrogen investment opportunity has been estimated at £23 billion by 2030 ¹² .
Nuclear	<ul style="list-style-type: none"> Regulated Asset Base (RAB) financing model in place ready to drive private investment into the UK nuclear industry Leading research base on new, cheaper, and more efficient nuclear technologies including small modular reactors (SMRs) 	The wider nuclear industry (including sub-sectors such as decommissioning and R&D) is a vehicle for regional growth. Hinkley Point C and Sizewell C are both estimated to add between £3.4 billion and £4 billion to their respective regional economies in the construction phase alone. ¹³ Nuclear also has greater potential to sustain high quality jobs than other low carbon technologies. ¹⁴
Carbon Capture Utilisation and Storage (CCUS)	<ul style="list-style-type: none"> Storage capacity (26% of Europe’s geological storage sites) Strong base of academic research, business expertise and skills through industrial clusters Globally leading business models to direct investment Close position to biggest industrial sectors in Northern Europe like Germany and Norway. 	Potential £4.3 billion a year from CCUS exports by 2050 ¹⁵ Businesses also recognise the need for CCUS as a short- and medium-term measures to support reduction of emissions.

¹¹ CBI response to the Government’s Energy Security Strategy, April 2022

¹² Cornwall Insight, October 2021

¹³ The Economic Impact of UK Nuclear, Prospect, July 2021

¹⁴ ONS (2021) Low Carbon & Renewable Energy Economy (<https://www.ons.gov.uk/economy/environmentalaccounts/bulletins/finalestimates/2019>)

¹⁵ BEIS (2019). Energy innovation needs assessment: Sub-theme report: carbon, capture, utilisation and storage

Zero Emission Vehicles (ZEV)	<ul style="list-style-type: none"> ▪ Legacy of automotive manufacturing ▪ Pool of talent and scientific/research institutions ▪ Standard setting policy of phasing out sale of new internal combustion engines (ICE) vehicles by 2030, with hybrids set to follow by 2035. Meanwhile from 2040 all new HGVs sold in the UK must be zero emission. 	<p>Batteries and ZEV markets present an additional £17 billion export opportunity to the EU alone.¹⁶</p> <p>By manufacturing cells in the UK, we can future proof a dynamic automotive sector, shorten ZEV supply chains, make effective use of available mineral resources, and accelerate the transition.</p>
Sustainable Aviation Fuels (SAF)	<ul style="list-style-type: none"> ▪ Publication of a Jet Zero Strategy to facilitate strong domestic demand ▪ Domestic aviation sector is on board with decarbonisation goals, with independent net zero targets set at major airports and airlines ▪ UK is seen as a leader in international aviation using its role at the International Civil Aviation Organisation to push for higher ambition to tackle aviation’s climate impacts. 	<p>The UK still has a chance to be the European leader in SAF, creating up to 5200 UK jobs and a GVA of up to £2.7 billion from production and global exports.</p>
Carbon markets	<ul style="list-style-type: none"> ▪ Established credibility in developing frameworks for carbon offset trading via the Taskforce for Scaling Voluntary Carbon Markets (TSVCM), COP26 Presidency during Article 6 negotiations, and Voluntary Carbon Markets Integrity Initiative (VCMII). ▪ The launch of the London Stock Exchange’s voluntary carbon market connects VCMs to London’s green finance leadership. 	<p>It is estimated that the global market could be worth \$10-180 billion, at a global level.</p> <p>If the UK captured 20% market share (based on existing expertise and investment patterns), the UK could generate ~£100M from offset issuance.</p>
Green Finance	<ul style="list-style-type: none"> ▪ The UK inaugural green gilt issuance in September 2021, raised £10bn to fund projects and was the largest inaugural green bond issuance undertaken by a sovereign. ▪ The UK is the first major economy to fully require mandatory reporting on climate-related risks and opportunities across the economy, in line with TCFD reporting. It is also developing the gold standard for private sector transition plans through the Transition Plan Taskforce. 	<p>The Climate Change Committee estimate that the potential global market size for low carbon financial services alone could reach £280billion per year in 2030 and £460 billion by 2050.¹⁷</p>
Green services	<ul style="list-style-type: none"> ▪ The UK’s existing strength of its service sector and higher education levels provides an already large existing skilled workforce to deliver on the transition – ahead of other markets.¹⁸ 	<p>The UK’s low carbon and environmental goods and services sector (LCEGS) is estimated be worth more than £200 billion already, almost four times the size of the manufacturing sector. ¹⁹ This will only grow further.</p>

¹⁶ CBI, Seize the Moment analysis, May 2019

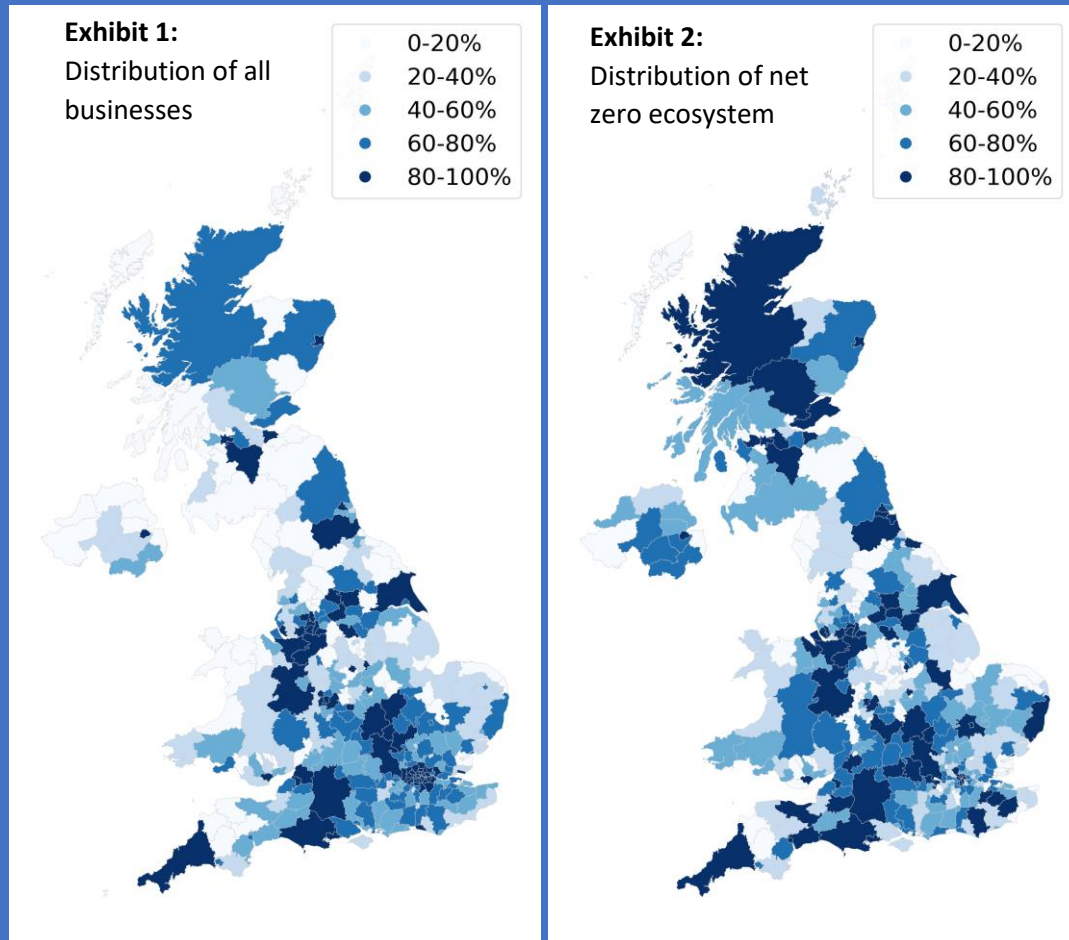
¹⁷ Ricardo Energy & Environment for the Committee on Climate Change, UK business opportunities of moving to a low carbon economy

¹⁸ See “Exhibit 4” - Opportunities for UK businesses in the net-zero transition, McKinsey, October 2021

¹⁹ Low Carbon Environmental Goods and Services “Where we were, where we are, and where we’re going” - Matrix Data Services Ltd, May 2021

A decarbonised economy can deliver approximately 250,000 net new green jobs by 2030.

Regional growth opportunities of net zero



Source: CBI Economics & The Data City (2022), Analysis of the UK Net Zero Ecosystem

The Humber Cluster is a prime example of how the UK can seize the opportunities of net zero – transitioning the industrial cluster currently emitting more CO₂ than any other in the country to net zero, and in the process acting as a proving ground for new technologies, job creation, and a world leading model for decarbonisation that can be replicated around the world. There is a £15 billion pipeline of investment ready to be unleashed to deliver carbon capture and storage, low carbon hydrogen, new supporting infrastructure and the training facilities needed to ensure local people can take on the new high-skilled, green jobs.¹ The cluster model is an example of the opportunities that a well-managed transition can unlock– delivering a consistent pipeline of private investment while safeguarding jobs and regional growth.

¹ Humber 2030 Vision: Jobs, Growth, Decarbonisation, October 2022
https://www.cbi.org.uk/media/yvulac20/final_humber_2030_vision.pdf

All UK regions are expected to have net new direct green jobs in 2020 resulting from fulfilling domestic demands for decarbonisation solutions. Importantly, CBI research shows, around 90% of

the value of this work can be captured by SMEs, with 52% in low carbon heating and retrofitting work.²⁰

- Decarbonisation can also be a powerful levelling up enabler by rejuvenating historically industrial areas with new technologies like hydrogen and CCUS – for example, the HyNet low carbon hydrogen and CCUS project will bring 6,000 permanent jobs to its local North West and North Wales region.²¹
- Harnessing the opportunities of the energy transition will also unleash investment and job opportunities from traditional sectors such as oil and gas. Industry and government have already partnered to unlock £16bn of investment and secure 40,000 jobs by supporting the transfer of skilled labour as well as new entrants.²² Scotland, and in particular Aberdeen, is a global hub for the sector, and many of the opportunities of the transition will be felt here and right down the UK’s east coast across supply chain clusters.
- Overall, the impact on jobs will be net positive at the national level in terms of employment and salary growth.²³ Some regional disparities will occur as some sectors and regions grow faster than others in the transition (*see Figures 1 and 2*), and so work must be done at the national and sub-national level to ensure opportunities are captured across the UK without leaving some regions behind.
- From a business point of view, businesses can better attract, motivate, or retain employees by addressing sustainability. 60% of employees agree that sustainability is a must, not a “nice to have” for companies²⁴, while 84% of employees are more “loyal” to a company that helps them contribute to social and environmental issues²⁵.

2. The UK holds competitive advantages over other nations – but needs to move fast to capitalise on this position

The UK is ahead of the curve in many ways – with our track record on emissions reductions, being the first nation to commit a net zero target into law, and a strong renewables pipeline. Our government has taken a leading global position in catalysing private investment into the transition, spurring innovation and adoption of low carbon technologies. The UK is considered one of the most attractive clean energy investment markets globally, on a par with China and the US who are funnelling significant fiscal power behind their transition. By continuing with our market led and innovation focused transition, bounded by clear and stable policy trajectories, we can continue to channel investment and private finance into green growth.

Our legislative and institutional frameworks drive confidence for long-term investments and are highly regarded globally as a standard to follow.

- Since the establishment of the Climate Change Act, the UK’s approach to meeting its net zero targets has favoured a market-led approach. Our ambitious targets, through the setting of carbon budgets, send a strong signal globally that there will be a long-term demand for

²⁰ CBI, Seize the Moment analysis, May 2019

²¹ Unlocking our low carbon future, Hynet North West

²² North Sea Transition Deal, UK Government & OEUK, March 2021

²³ Analysis of the UK Net Zero Ecosystem, CBI Economics, July 2022

²⁴ HP Workforce Survey

²⁵ 2020 Edelman Trust Barometer

green technologies in the UK. These “right targets” are followed up further with the independent oversight of the Climate Change Committee – another structure that is being adopted across the world, with the EU most recently recognising the value of this for setting the UK out ahead of the pack. To enable businesses to invest and reap the benefits of the net zero transition, long-term and credible delivery plans must now underpin these ambitious targets.

- The establishment of the UK Infrastructure Bank (UKIB) is a key part of the Government’s National Infrastructure Strategy and will help to unlock investment in low carbon infrastructure, with the delivery of the net zero target a strategic priority of the Bank. The UKIB has £22 billion of financial capacity to invest in infrastructure, including support for local authority investment, which will help unlock more than £40 billion of overall investment. And progress is already being made - within its first year, the Bank catalysed over £500 million investment for the UK’s largest operational solar farm at Llanwern in south Wales.²⁶
- The CfD mechanism is a genuinely world leading policy framework that has established one of the most robust renewables pipelines globally. The value of it for setting strategic direction and investment certainty is demonstrated by the adoption of similar structures by other jurisdictions globally, including Germany. Offshore wind’s significant growth in the UK has been a success story, leaving us ranked as the second country globally in terms of installed capacity, behind only China, and with the biggest pipeline prior even to the CfD allocation rounds this summer.²⁷ In rapidly expanding generating capacity for offshore wind, the UK has shown that bold ambition and innovative policy can promote competition and investment, as well as ultimately cutting costs for consumers, with costs falling from £119/MWh in 2015 to £37.75 in the 2022 allocation round.²⁸ Replicating our successful models for driving investment in offshore wind and nuclear for newer technologies such as hydrogen, is a priority for business and investors. With other nations frontloading public money such as the EU’s €3bn hydrogen “bank” and the US’ \$7 billion funding for regional climate hubs, it is crucial that the UK continues to move at pace in cultivating markets for green technologies.
- It is not just the CfD framework that has spurred confidence and investment in the UK as a green market. Other examples such as the proposals for business models for hydrogen and CCUS, and the decision to relax planning rules for battery energy storage projects were cited in EY’s most recent Renewable Energy Country Attractiveness Index (RECAI) as making the UK a more attractive market for energy storage investors.²⁹

The UK has a wealth of existing science and research capabilities, attracting global inward investment, while putting us ahead of the race to new IP critical for the transition.

- The UK is ranked third in the world for published scientific research³⁰ – the amount of investment and existing work into the technologies needed for the net zero transition means

²⁶ UK Infrastructure Bank, May 2022

²⁷ Energy Monitor, Weekly data: The number of countries generating offshore wind power is set to double, April 2022

²⁸ Contracts for Difference Allocation Round 4: results, BEIS, July 2022

²⁹ EY, Renewable Energy Country Attractiveness Index, 59th Edition May 2022.

³⁰ International comparison of the UK research base, 2022, BEIS

the emerging industries are well supplied with the expertise needed to move from concept to commercialisation.

- A good example of this is in the future EV battery development pipeline. The UK has a world class start up ecosystem (e.g. Faraday Institute, battery innovation centre) which benefits start-ups in 2 ways: saving time and money by not having to develop new facilities; and they can leverage IP that has already been developed in the UK. If this was combined with the right investment incentives, the UK could be a globally competitive player in the development of gigafactories.
- Businesses are equally investing in delivering more innovation in their operations and workforce, drawing on the expertise we have in the UK. This includes actions such as developing new digital tools and management systems to reduce their carbon emissions or revisiting innovation investments in light of changing external environments – see more case studies of how businesses have prioritised investment in innovation for decarbonisation and how they made the business case [here](#).³¹

3. Many of the key technologies for the net zero transition are already known but must now be delivered at greater pace and scale

The pace of delivery of key green technologies is not matching demand, across several areas.

Four consistent themes emerge as barriers to progress:

- Inconsistency in policy, and in some cases a rapid pace of policy change that does not give enough time for consultation or whole systems thinking
- Lag time to get projects up and running due to slow and inconsistent approaches to planning and consenting across technologies and regions
- Lack of clarity over clear delivery pathways and interim targets with key milestones for adoption
- A need for targeted public investment to unlock scale up of markets and attract further private investment

Combined, these issues weigh heavy on investor confidence in the UK as a competitive policy environment to invest in the green transition. In recent times important legislative measures have been pushed back and delayed without clear timelines or clarity on their eventual fate (e.g. Energy Bill or), while other government decisions have happened at pace, without much industry consultation. Businesses reflect on how challenging it is to make medium and long-term decisions currently, but these problems are not unsolvable. Appetite for potential investment remains, and stability in market mechanisms can bring it to fruition and deliver growth.

Sector	Examples of pressing challenges
Power	<ul style="list-style-type: none"> ▪ Pace and uncertainty of planning and consenting regimes, in particular the lengthy consenting process for offshore wind and effective planning ban of onshore wind – the cheapest forms of low carbon generation. ▪ Upgrades to grid functioning such as flexibility platforms and automated demand-side response (DSR) need to be brought in to support the future low carbon energy system. ▪ Higher average energy costs relative to other nations. ▪ Lack of clarity around funding models is acting as a blocker for investment.

³¹ CBI, Be More Green: the business story, June 2022

	<ul style="list-style-type: none"> ▪ Uncertain policy response to the current energy crisis.
Transport	<ul style="list-style-type: none"> ▪ Absence of a framework for how EV charge point rollout will be achieved for home and on-street charging, as well as for commercial premises.³² ▪ Lack of clarity on future funding models for Sustainable Aviation Fuels (SAFs). ▪ Lack of compelling holistic offer to attract inward investment in gigafactories compared to other markets. ▪ Uncertainty about the future of transport taxation, with no clear plan to replace fuel duty revenue. ▪ No clear plan for a rolling programme of rail electrification to support the target of removing all diesel-only locomotives by 2040 and reaching net zero rail by 2050. ▪ Slow development of a low carbon fuels strategy, including the use of hydrogen, hindering investment in hard to decarbonise parts of the transport sector such as HGVs and shipping.
Built environment	<ul style="list-style-type: none"> ▪ Inconsistent policy has lowered business and investor confidence in certain areas, while hindering the ability of others to plan ahead, e.g. on heat pumps. Uptake has been relatively low for the boiler upgrade scheme to date due to lack of long-term strategy and framework which supports electrification of heat. This causes uncertainty for domestic manufacturers regarding the level of ambition in the UK. ▪ Some retrofits require major investments and disruptions, such as overhauling heating and cooling systems, intelligent monitoring systems, insulation, and windows. Unsurprisingly, the higher the initial cost and the longer the wait for returns, the less likely a project is to be approved. The lack of a comprehensive national retrofit strategy only adds further to this challenge. ▪ Lack of skills in the sector risk the ability to deliver installations at the pace that the market demands. Meanwhile supply chain issues continue to disrupt raw materials imports which are essential to the production of certain energy efficiency products.
Cross-cutting issues	
Energy Costs	<ul style="list-style-type: none"> ▪ The energy crisis has put domestic and non-domestic energy users under significant cost pressure. ▪ For households, a cost of living crisis is unravelling as household incomes are squeezed and spending powers are hit. Bank of England forecasts show that energy prices will contribute c.40% to CPI inflation in both 2022 and 2023. ▪ For businesses, exponential increases in energy bills are even putting pressure on viable businesses, with many pushing substantial green investment to the side due to weakened balance sheets. CBI survey data conducted over summer 2022 found that 30% of firms see energy price rises as likely to negatively impact current or planned investment in net zero measures.³³ ▪ The UK government has acted decisively to meet the challenge and support all energy consumers this winter. But high energy costs are predicted to persist beyond March 2023, so households and business need support to manage energy use through investment in energy efficiency.
Supply chains	<ul style="list-style-type: none"> ▪ Patchy transparency of data in capturing the full supply chain value and local growth opportunities of key technologies, e.g. offshore wind.

³² CBI and KPMG, Greener Miles, April 2021

³³ CBI, No time to lose: new government must act decisively to grip energy cost crisis, August 2022

	<ul style="list-style-type: none"> Overreliance on increasingly unstable and extended supply chains vulnerable to political intervention e.g. the established risks of human rights abuses in the solar supply chain.
Skills	<ul style="list-style-type: none"> Lack of long-term certainty makes business reluctant to invest in skills needed for the transition.³⁴ The skills needed will not directly map onto those that will be lost and will not necessarily map into the same regions or workforces without concerted effort. For example, the average skill requirement for a job in a carbon-intensive industry is 46% lower than the average net zero-related job.³⁵ Even with upskilling and retraining, the large net increase in the numbers of positions needed to be filled raises questions of where to find this additional labour force from, at a time of record low unemployment. The nature of the jobs will also likely result in fluctuating, or surge need for workforce to support in up-front construction, tapering off to a more stable baseline need for engineering and green services.
Carbon leakage	<ul style="list-style-type: none"> More stringent environmental regulation without requirements on other nations can make other markets more attractive as ambition on climate widens between countries – this is particularly pertinent for carbon pricing policies. Since Brexit, the UK’s ETS has operated at a consistently higher carbon price than the EU’s due to lower liquidity. The energy crisis has also demonstrated the need to develop the UK ETS to effectively respond to unexpected shocks whilst also adapting to varying sector transition plans. There is a need for consistent approaches to measuring carbon emissions for global mitigation policies and to understand the extent of carbon leakage risks.
Scaling clean tech start-ups	<ul style="list-style-type: none"> Venture funding into the UK net zero economy has rapidly grown – now standing at around £1.1 billion annually, compared to less than £50 million in 2015.³⁶ Despite this, compared to other countries the UK’s share of venture capital investment going into net zero companies is actually much lower than many peers, e.g., Canada, Switzerland, China, and Germany. This has been attributed to perceived challenges in scaling or moving past early-stage financing in the UK.
Procurement	<ul style="list-style-type: none"> More consistency in the application of net zero principles in government procurement, such as the Carbon Reduction Plan requirements (PPN06-21) and the implementation of the Social Value Plan, would mitigate new costs for suppliers or other unintended consequences that could result from distorting market signals. It is key to also ensure consistency across devolved nations on procurement principles, to avoid an increased burden for businesses operating across the UK.

³⁴ CBI, Skills and training for the green economy, April 2021

³⁵ Onward, Qualifying for the race to net zero, July 2021

³⁶ CBI Economics, Data City Report, July 2022

4. Decisive government actions can enable a private sector-led green transition that delivers growth and opportunity for all.

The UK is now in a critical period for the transition to net zero. Business, regulators, and government must work together to secure the necessary investment and innovation to deliver on our targets. Many of the technologies and solutions to decarbonise the economy are known, and with the right regulatory frameworks in place, this gives us a real opportunity to jointly address energy security whilst meeting our net zero ambitions.

Only the business community can deliver the investment and innovation required to decarbonise at pace and scale, as well as support the cost reduction of emerging technologies and solutions. However, to do this, they require an independent and stable regulatory environment. In order to achieve this it is recommended that the government should focus on the following areas in the next stage in our trajectory to achieve net zero:

- i. **Deliver the needed public investment and policy levers to enable the growth of green markets.** Through the British Energy Security Strategy, the government has signalled its intention to increase the UK's energy independence, rightly backing key technologies like hydrogen and nuclear power, and committing to speed up the roll-out of renewables. Further short-term government support to supercharge the demand side and scale the markets and technologies at earlier stages of commercialisation like CCUS will enable firms to establish a UK market where our expertise, technology and skills can be exported globally, enabling private capital to take the place of public investment.
 - Investors need clarity on the policy frameworks and the sectoral pathways that will help to steer capital where it is needed and support the transformation of the UK economy. The UK government must build on the 2021 Net Zero Strategy and its sectoral approach by continuing to set out clear delivery plans, underpinned by the nearer term policies and milestones needed to shift financial flows towards net zero.
 - A clear example of this is the case of hydrogen. There is a pipeline of investment ready to support 13GW of CCUS-enabled hydrogen projects alone from the private sector³⁷, but delays in publishing of the business model and lack of clarity over the draft budget allocation prevents the sector from moving forward.
- ii. **Support businesses and households to weather the current energy crisis.** The government's quick and decisive action to support households and hard-pressed businesses has been hugely welcomed, however this is a substantial short-term fix to a long-term problem. Looking ahead targeted energy bill support will be important for those most vulnerable in society and those businesses most exposed. The long run solution will be to double down on energy security and to incentivise firms to push ahead with ambitious energy efficiency programmes to lower demand.
- iii. **Make the UK the global financial centre for green finance to create an environment that attracts green investment in a credible and structured manner.** The UK already has a wealth of technical and professional expertise in green finance, as well as leading on global

³⁷ Westwood Global Energy Group, Current pipeline of blue hydrogen projects projected to exceed 2030 targets in the UK, September 2022

standard setting bodies like the Green Finance Institute, Global Financial Alliance for Net Zero (GFANZ), and the development of the Taskforce for Nature-related Financial Disclosure (TNFD). To fully realise this potential we should propose an ambitious updated Green Finance Strategy with:

- Clear and holistic plan for net zero investments with effective sectoral plans and plans for mechanisms that can unlock critical sustainable finance flows;
- Further details on key policy frameworks for investors like the UK Taxonomy, Sustainability Disclosure Requirements and Transition Plans;
- Clear ambition to further promote international convergence on sustainable finance policy frameworks internationally to scale up ESG investment
- Greening measures for the tax system to bring forward private investment in green technologies and markets

- iv. Ensure the UK workforce is equipped with the skills needed to lead on the transition.** What is often lost in the projected numbers of green jobs is there will be very few direct skills transfers, and not all of these will be permanent. We need a more flexible and agile approach to addressing skills training throughout the economy, that facilitates re-training. This can be addressed through overhauling the Apprenticeship Levy into a Skills Challenge Fund to let firms spend their money on the accredited and regulated training they need and remove the need for government to fund other skills training like bootcamps. In addition, this will require industry, government, and education to work together to implement recommendations from the Green Jobs Taskforce.
- v. Use trade and international investment as a tool to spur the net zero transition, while ensuring the development of new green export markets for UK business to explore.** Supporting international agreement and regulatory harmonisation on common definitions for environmental goods can enable trade levers to be more effectively used to spur growth of green markets, such as removing tariffs on environmental goods, and including minimum environmental standards in new Free Trade Agreements.
- vi. Deliver a just transition to net zero.** The decarbonisation of the UK economy must be achieved in a way that not only doesn't deepen existing inequality but supports consumers and businesses less able to act or negatively impacted by the transition. The government should plan and implement a transition to environmentally and socially sustainable jobs, sectors and economies as well as creating approaches to manage social justice and support fuel poor consumers. For example, The Scottish Just Transition Commission is one such example that supports a just societal transition including job creation and retention.³⁸
- vii. Green the tax system.** The scale of the climate and nature challenge call for innovative ways to use the tax system, along with regulatory signals, to change behaviours and scale up market opportunities. They can work to discourage damaging environmental activities and assist with the internalisation of externalities e.g., emissions taxation or incentivise investment and uptake of low carbon technologies e.g., Benefit in Kind, R&D tax credits, reduced VAT rates or capital allowances. However, it is crucial that tax and regulatory

³⁸ Scottish Government, Making the Future- Just Transition Commission initial report, July 2022

systems are considered holistically, and that there is a clear roadmap of how taxes will develop over time to provide business and consumers with certainty and ability to adapt.³⁹

- viii. Work to address the risk of carbon leakage and an imbalanced global playing field.** Publishing the consultation on a carbon border adjustment mechanism and other measures to address carbon leakage is crucial, particularly given rising energy costs and the knock-on impacts to competitiveness. Other important steps to take include accelerating the efforts to link the UK Emissions Trading Scheme with the EU's scheme to provide greater liquidity for participants and limit the risk of carbon leakage. The government should also continue to explore other measures outside of carbon pricing that drive an even global transition, such as the G7 Climate Club, the standardisation of environmental financial disclosures, and pressure on ambitious target setting at fora like UNFCCC COPs.
- ix. Economic and environmental regulators should be given a clear remit to contribute and report towards achieving the UK's net zero target.** A net zero economy will require collaboration across sectors and between government, regulators, and businesses. Business investment and innovation will be at the heart of delivering the technologies and solutions needed to decarbonise across sectors, whilst also making significant contributions to the volume of investment needed for net zero. To unlock this investment, business will require economic and environmental regulators that operate in a way that is consistent with delivering net zero.

Specifically, delivering a secure and low carbon energy system will require the deployment of significant volumes of low carbon generation. These technologies require investment in grid infrastructure to enable the integration into the system. However, under current arrangements Ofgem requires network companies to maintain and upgrade their assets where necessary but does not incentivise upgrades beyond this scope in order to minimise any additional costs being passed onto consumer bills – delays to grid upgrades are a barrier to investment and could ultimately lead to higher delivery costs in the future. To enable Ofgem to take an anticipatory approach to investment in grid infrastructure, Ofgem's role should be strengthened by implementing a statutory duty to achieve the UK's net zero target.

- x. Continue to pursue an ambitious leadership position on climate and nature.** The energy crisis has once again demonstrated how interconnected economies are through their demand for energy and supply chains. It has made clear the importance of acting together as an international community in the face of global threats and highlighted how coordinated international action will continue to be critical to building the resilience needed to respond to further shocks. As well-regarded leaders in climate action and setting of standards, the UK has an opportunity to focus multilateral efforts on decarbonisation. This also stands to place UK businesses at the forefront of the global net zero transition with access to global markets for their goods and services.

CBI Decarbonisation Programme, October 2022

³⁹ CBI, Greening the Tax System, March 2021