

Seize the moment: building a thriving, inclusive and resilient economy in the aftermath of COVID-19

Policy briefing
June 2020

Executive Summary

The significant social and economic impact of the coronavirus crisis has elicited strong responses from governments across the world, with rescue packages totalling trillions. With many countries now slowly lifting restrictions, a growing focus for many governments will be to support the recovery and ensure societies and economies are better prepared to withstand future crises.

The recovery from the COVID-19 crisis offers a historical opportunity to address key public interest concerns and accelerate the transition to a low carbon and environmentally resilient economy. Putting the UK on track for net zero emissions by 2050 and investing in the natural environment offer both short-term benefits in terms of increased economic activity, job creation and tackling regional inequalities, and long-term benefits such as increased competitiveness, greater physical resilience and reduced likelihood of severe environmental shocks, as well as a more stable financial system.

An ambitious environmental and climate agenda can also deliver critical and much needed public goods ranging from clean air to better health. Using this very challenging but unique time to support and influence a shift to low carbon business models and to grow the cornerstone sectors of a net zero emissions economy will be key to ensure that the UK economy emerges from this crisis more competitive, inclusive and resilient.

Lessons from the 2008 global financial crisis show that expansionary policies and investment in growth are more effective at restarting the economy than austerity-based ones.¹ Furthermore, green stimulus packages introduced after the crisis (such as those supporting clean energy, transport or infrastructure projects) have been shown to be more effective than traditional ones at supporting increased economic activity, generating higher numbers of jobs and long-run cost savings.²

Importantly, **putting the UK on track for net zero emissions and reversing the decline of the environment within a generation need not be overly reliant on public money.** Whilst targeted public investment will be important to support early stage innovation in sectors that are hard to decarbonise and to support vulnerable parts of society during the transition, a lot of the heavy lifting can be done through the introduction of clear public policy signals to attract, grow and reduce the cost of private investment in low carbon infrastructure and industries.

¹ Oxford Smith School of Enterprise and the Environment (May 2020) *A net zero emissions economic recovery from COVID-19*

² *Ibid.*

This is why an effective recovery package should introduce a balanced mix of targeted public investment commitments and policy interventions to accelerate the roll-out of low carbon infrastructure and solutions, speed up innovation, invest in the natural environment and ensure the existing and future workforce are provided with the right skills to meet the demands of a low carbon economy.

This briefing sets out the benefits of putting an ambitious environmental and climate agenda at the core of an economic recovery plan, and provides examples of shovel-ready projects, types of investments and policy interventions which will help deliver these benefits. **This briefing argues that an economic recovery plan with climate and environmental criteria at its core can deliver key public interest benefits, including:**

1. **Tackling regional inequality and unemployment.**
2. **Strengthening the UK's economic competitiveness and productivity** through investment in the sectors and technologies of the future.
3. **Delivering critical public goods**, including clean air, better health and improved resilience to future environmental shocks. This will require natural capital improvements, which will also reduce the likelihood and severity of climate shocks.
4. **Building a more resilient financial system**, which is fit to withstand future climate shocks.
5. **Helping deliver the Global Britain agenda**, by strengthening the UK government's influence ahead of the G7 and COP26 summits that it will be presiding over in 2021 and enabling UK businesses to be competitive providers of low carbon goods and services.

The examples and proposed policy interventions set out in this briefing are by no means exhaustive. Their purpose is to highlight how and why an ambitious environmental and climate agenda sitting at the heart of the economic recovery effort can be a key part of the solution to address some of today's most pressing public interest concerns.

This briefing will shortly be followed by an in-depth economic analysis report commissioned by the Aldersgate Group, setting out what should be the key pillars of the UK's economic recovery plan.

	Policy intervention	Outcome	Case studies / Investment examples
<u>Tackle inequality & unemployment</u>	Roll out a nationwide retrofit programme , by introducing minimum energy efficiency standards to bring new and existing buildings to EPC band C by 2035 (2025 for low-income households) and removing the VAT charged on retrofits to existing homes.	Quickly creates jobs rooted in local supply chains and provides rapid social benefits. Job creation across the country. Lower energy bills and help for fuel poor homes. Save costs to the NHS arising from cold homes: around £1.36bn per year. ³	Case study: <u>National Grid</u> estimates that the clean energy transformation can create 400,000 jobs across the country. Case study: <u>Scottish Power's</u> strategic partnership approach to deliver charging infrastructure and better connect all communities across Scotland.
	Invest in public transport and active travel infrastructure , as per the commitments made in the Transport Decarbonisation Plan policy paper.	Labour-intensive, localised job creation. Avoiding overcrowding on public transport as the lockdown is eased, providing reliable options for people to travel into work. Better connectivity can lead to long-term job creation: a 10% increase in accessibility of a region leads to 3% increase in the number of businesses and employment. ⁴	
	Develop a national skills strategy that introduces sustainability training at all levels of the educational system.	Reskill those affected by the pandemic so that they can seize employment opportunities in the low carbon economy. Ensure an adequate pipeline of skills for businesses. Help businesses save yearly costs of £6.3bn associated with skills shortages. ⁵	

³ Age UK (October 2009) *The cost of cold*

⁴ UKRI (December 2013) *Road networks and local employment*

⁵ Open University blog: <http://www.open.ac.uk/business/apprenticeships/blog/uk-skills-shortage-costing-organisations-%C2%A363-billion>

<p><u>Increase economic competitiveness and productivity</u></p>	<p>Set a robust carbon price trajectory in the 2020s to send a clear market signal for low carbon innovation whilst taking advantage of the drop in oil prices.</p>	<p>Cut the cost of low carbon investment.</p> <p>Extra revenue for the Treasury to offset some spending.</p> <p>Market mechanism to accelerate development and deployment of carbon storing / carbon negative technologies.</p>	<p>Case study: Teeside Collective: over 6,000 jobs could be created by investment in CCS and CCS-equipped plants, with significant gains in productivity.</p> <p>Case study: Johnson Matthey's hydrogen trials could create 5,000 jobs, deliver clean electricity for industry and heat around 2m homes.</p> <p>Case study: BT Green Tech Innovation Platform uncovers UK-based tech scale-ups that could support BT and its public sector customers transition to net zero.</p>
	<p>Accelerate innovation and emission cuts by supporting at-scale trials for key low carbon technologies such as carbon capture and hydrogen.</p>	<p>Boost competitiveness of British industries by creating a strong market for low carbon industrial products.</p> <p>Drive down the cost of innovation.</p> <p>Regenerate core UK industries and create new employment opportunities by making these net zero compatible.</p>	
	<p>Prioritise broadband investment to ensure adequate connectivity across the country and work with businesses in this sector to better target investment and policy interventions.</p>	<p>Limit productivity impacts as social distancing measures remain in place.</p> <p>ICT investment could reduce the UK's carbon emissions by 24% a year, whilst generating over £5.5bn in revenue in 2019 - 2020.⁶</p>	
	<p>Introduce regulations to drive more resource efficient product design across critical product types such as batteries, tyres and electronic goods.</p>	<p>Pricing more adequately reflects the longer-term environmental and economic benefits of using more resource efficient methods of production.</p>	

⁶ BT (May 2020) *Digital impact & sustainability*

	<p>Increase resource efficiency by introducing pricing / tax adjustments measures where resource efficient products struggle to compete on upfront cost (e.g. VAT rebates, Landfill Tax escalator or EPR schemes).</p> <p>Adjust public procurement rules to increase the size of the market for resource efficient goods.</p>	<p>Greater resource efficiency in production and consumption.</p> <p>UK businesses could realise resource efficiency savings of at least £3bn per year at low or no cost.⁷</p> <p>A more circular economy could create over 200,000 gross jobs and reduce unemployment by about 54,000 jobs by 2030.⁸</p>	<p>Case study: The economic, social and environmental <u>benefits of introducing the Landfill Tax</u></p>
<p><u>Deliver critical public goods</u></p>	<p>Bring forward the phaseout date for petrol, diesel and hybrid vehicles to 2030 or soon thereafter to lock in the gains in air quality and improve quality of life in communities.</p> <p>Support public and private investment in the natural environment by finalising the passage of the Environment Bill and Agriculture Bill, publishing an England</p>	<p>Cleaner air and better health.</p> <p>Avoid health and social care costs from excessive pollution, which could reach £5.3 billion by 2035.⁹</p> <p>Potential to create 200,000 permanent jobs, with 57% of these coming from the installation, operation and maintenance of charging points.¹⁰</p> <p>Increased physical resilience to flooding or landslides.</p> <p>Rapid job creation across the country as projects are low-tech and require minimal training.</p> <p>Deliver savings in other sectors: the value provided by coastal wetlands in terms of buffering the effects of storms and flood control</p>	<p>Case study: <u>Triodos Bank UK</u> - using public and private sector expertise and investment to build resilience in areas including Lancashire, the Pennines, Poole and Devon.</p> <p>Case study: <u>Anglian Water's</u> £5.9 bn investment in community and natural capital projects to boost climate resilience.</p>

⁷ Oakdene Hollins for Defra (May 2017) *Business resource efficiency quantification of the no cost/low cost resource efficiency opportunities in the UK economy in 2014*

⁸ WRAP & Green Alliance (January 2015) *Employment and the circular economy: job creation in a more resource efficient Britain*

⁹ Public Health England (22 May 2018) "New tool calculates NHS and social care costs of air pollution"

¹⁰ AIE (November 2018) *Powering a new value chain in the automotive sector: the job potential of transport electrification*

	<p>Tree Strategy which focuses on tackling the nature and climate crises together and rapidly introducing a range of natural environment improvement targets under the Environment Bill.</p>	<p>has been estimated at £1.5bn annually.¹¹</p>	<p>Case study: <u>RSPB's Wallasea Island Wild Coast Project</u> – creating jobs and improving physical resilience.</p>
<p><u>Build a more stable financial system</u></p>	<p>Introduce mandatory TCFD-aligned climate risk disclosure by 2022 for all companies reporting to the Streamlined Energy and Carbon Reporting regime.</p> <p>Work with Bank of England and implement key lessons from the stress testing exercise for financial institutions.</p> <p>Introduce a brown penalising factor to tilt investment towards green projects.</p> <p>Collaborate with the Green Finance Institute to identify key market barriers and gaps in investment in emerging green infrastructure projects and technologies.</p>	<p>Better understand the potential impact of climate shocks on the financial system and accelerate behavioural and structural changes that will improve the resilience of the financial system.</p> <p>Avoid losses from stranded assets estimated at \$1tn-\$4tn when considering fossil fuels alone, or up to \$20tn when looking at a broader range of sectors.¹²</p> <p>Accelerate the shift of financial flows towards low carbon and environmental projects and industries and reduce the cost of these investments.</p>	<p>Case study: <u>TLT, Triodos Bank UK and Tesco</u> – funding models to deliver supermarket EV charging points, with hundreds of charge points at 600 Tesco stores, allowing customers to charge their electric vehicles for free while they shop.</p> <p>Case study: <u>The role of climate disclosures in guiding investor behaviour</u>, with average shareholder support for climate resolutions 23% up to 20 May, relative to 16% during all of 2019.⁸⁹</p>

¹¹ HM Government (June 2011) *The Natural Choice: securing the value of nature*

¹² Network for Greening the Financial System (April 2020) *A call for action – climate change as a source of financial risk*

<p><u>Support an ambitious Global Britain agenda</u></p>	<p>Maximise low carbon trading opportunities in areas where the UK has, or could develop, a competitive advantage.</p>	<p>Increased export opportunities for low carbon industries and services where the UK has a competitive advantage.</p>	<p>A shift to low carbon, resilient economies could create over 65 million net new jobs globally out to 2030.¹³</p> <p>UK low carbon services have the potential to grow at annual rates of 12% - 15% up to 2030,¹⁴ providing a great export opportunity for the UK, with four-fifths of UK GDP coming from services, catering to both domestic and global markets.¹⁵</p>
	<p>UK's trade policy should promote high environmental standards and be consistent with the UK's climate and environmental targets.</p>	<p>Drive the market for zero carbon infrastructure (such as buildings), goods and services and bring emissions down in line with the UK's net zero target.</p>	
	<p>Utilise climate diplomacy and the UK COP26 and G7 presidencies in 2021 to encourage other countries to adopt more ambitious pledges under the Paris Agreement and lead by example.</p>	<p>Ensure innovative UK businesses are not undercut by imports which do not abide by similar environmental and low carbon standards.</p>	

¹³ World Bank: <https://www.worldbank.org/en/topic/climatefinance>

¹⁴ Ricardo AEA (2017) *UK business opportunities of moving to a low carbon economy*

¹⁵ Maria Carvalho & Sam Frankhauser (April 2017) *UK export opportunities in the low-carbon economy*

Introduction: Rebuilding the economy in the aftermath of COVID-19

The consequences of a slowdown in economic activity, amplified by the uncertainty over its endpoint, have exposed the fragility of certain sectors and jobs with significant social impacts. Beyond protecting the population from the immediate health, social and economic consequences of the pandemic, government has a crucial role to play in managing the recovery. This needs to consider how to rebuild the economy for the better, rather than simply facilitating a return to business as usual.

With a net zero emissions target in place and a wide range of businesses from across the sectors firmly behind it,¹⁶ an accelerated transition to a low carbon economy provides the key to economic recovery after COVID-19, as well as future resilience. Looking at lessons learnt from previous crises, climate-aligned recovery packages tend to lead to higher numbers of jobs created when compared to traditional stimulus packages. Projects such as mass-scale retrofits, natural capital improvements or clean energy infrastructure are highly labour intensive and less susceptible to offshoring, creating multiplier effects above one as new jobs stimulate demand and crowd in spare resources.¹⁷ At the same time, getting on with these projects is necessary for reaching the net zero emissions target.

Through targeted and ambitious innovation policies, stable regulations and market creation mechanisms, a low carbon recovery package will support industrial competitiveness, local growth and generate significant employment opportunities. We have already seen this in the offshore wind sector. The sector has 7,200 people employed across the country,¹⁸ and the number is set to increase to 27,000 over the next 10 years as capacity increases, according to the Offshore Wind Sector Deal projections.¹⁹ With policy stability and effective market mechanisms bringing costs down, similar gains could be seen across many economic sectors.

Indeed, we have already seen the important role that well-designed environmental regulations can have in boosting business competitiveness in sectors, such as transport, waste or finance. The costs of compliance – be they taxes or increased design fees – are more than offset by gains in innovation, improved quality, performance and competitiveness.²⁰ Robust and properly enforced regulatory frameworks also lead to sustainable job creation, which can be attributed to additional expenditure on production and R&D, as well as to the diversification of supply chains. In the waste sector, environmental regulation has led to job creation through the development of entire new business models and markets related to material recovery and recycling. It is vital that the benefits of policy and regulatory certainty are at the core of future policy making to support a sustainable economic recovery.

¹⁶ Aldersgate Group (31 May 2019) "[More than 130 leading businesses urge UK Government to legislate for 2050 net zero economy](#)"

¹⁷ Oxford Smith School of Enterprise and the Environment (May 2020) *A net zero emissions economic recovery from COVID-19*

¹⁸ <https://www.gov.uk/government/publications/offshore-wind-sector-deal/offshore-wind-sector-deal> [accessed 19 May 2020]

¹⁹ Offshore Wind Sector Deal: Written statement – HCWS1382

²⁰ BuroHappold (December 2017) *Help or hindrance? Environmental regulations and competitiveness*

The economic and social impact of COVID-19

The economic implications of the health crisis and the lockdown will become much clearer in the coming months, with exact figures impossible to pin down when 'going back to normal' still looks like an uncertain prospect. However, a series of reliable estimates show the serious economic toll the pandemic has taken: according to the Bank of England, the UK weighted world GDP declined by around 4% in Q1 and could fall by over 20% in Q2.²¹ World trade has already declined significantly, and is expected to contract by around twice as much as global GDP in 2020.²² Universal Credit applicants now total 1.4 million since the crisis started, which is more than twice as many as the worst period of the financial crisis.²³ More than 140,000 firms applied for financial help to pay the salaries of furloughed workers under the government's job retention scheme.²⁴

The ongoing COVID-19 crisis has also exacerbated existing inequalities. The decline in economic output is estimated to reach close to 50% in parts of the Midlands and the North West in the second quarter of this year, whilst in other parts of the country, the hit to the local economy may be half that.²⁵

Trying to contain some of these impacts has already cost government £400bn, equivalent to 20% of GDP, in financial support to firms and individuals.²⁶ On top of this, the Bank of England has cut interest rates to an all-time low of 0.1%,²⁷ purchased government debt and corporate bonds to finance the deficit.

Beyond these immediate rescue measures to contain economic damage, government will have to consider how job creation and economic growth can be sustained in the long term and how measures taken now can make the UK economy more competitive and more resilient to climate and economic shocks.

Firstly, government should balance the need to ensure fiscal sustainability with the need to restore demand for goods and services. This can require fast tracking key infrastructure projects, investing in public services, supporting innovation and boosting exports for instance. Secondly, the level of investment needed for economic recovery means that targeted public funding will need to be accompanied by significant private sector investment, which is why developing the right policy and regulatory framework will be essential to mobilise private capital.

²¹ Bank of England (May 2020) *Monetary Policy Report and Interim Financial Stability Report - May 2020*

²² *Ibid.*

²³ Resolution Foundation (April 2020) *The economic impacts of coronavirus in the UK*

²⁴ BBC (20 April 2020) "Coronavirus: more than 140,000 firms claim wage bill help"

²⁵ Centre for Progressive Policy (16 April 2020) "Which local authorities face the biggest immediate economic hit?"

²⁶ Resolution Foundation (April 2020) *Doing more of what it takes: Next steps in the economic response to coronavirus*

²⁷ <https://www.bankofengland.co.uk/boeapps/iadb/Repo.asp>

According to the World Bank, the principles governing a good economic recovery package need to be based on two carefully balanced pillars, based on short-term needs and medium to long-term considerations.²⁸

In the short term, measures should generate immediate benefits such as job creation and increased economic activity, and should be durable in the eventuality of the re-imposition of localised quarantine measures.

Job creation and increased economic activity right across the country will be particularly important in the UK as one of the most unequal countries in the developed world, with considerable variations in population health, productivity and disposable income across different regions.²⁹ The opportunities created by measures such as a nationwide retrofit programme or building public transport and EV infrastructure will deliver these short term benefits across the UK, contributing to the regeneration of less affluent areas.

In the medium to long term, measures should have potential for lasting growth when considering their impact on human, physical and natural capital.

They should also shape an economy that is resilient to future shocks like pandemics, natural disasters, and climate change impacts. As one of the most nature-depleted countries in the world,³⁰ with widespread fuel poverty (an estimate of 11% in England and up to 25% in Scotland)³¹ and high levels of exposure to floods and droughts, a focus on the long-term benefits and avoided risks from a good economic recovery package will be paramount. This is exactly what measures such as investment in natural capital or nationwide improvements to building energy efficiency can accomplish.

²⁸ World Bank (14 April 2020) "Planning for the economic recovery from COVID-19: a sustainability checklist for policymakers"

²⁹ FT (27 November 2019) "UK's regional inequality one of the worst in the developed world"

³⁰ State of Nature 2016: <http://bit.ly/2fNREx3>

³¹ House of Commons Library (13 March 2020) *Fuel poverty briefing paper no 8730*

Building back better: putting climate and environmental action at the heart of the recovery

In response to the coronavirus pandemic, people and countries across the world are already considering what role the recovery to COVID-19 can play in helping us tackle climate change and environmental degradation, with a view to making us more resilient to crises of even greater magnitude that will be precipitated by a changing climate.

According to a poll by Ipsos Mori, 58% of British people think that climate change should be prioritised in the economic recovery after the pandemic.³² Globally, this figure stands even higher at 65%. The South Korean Democratic Party has recently been re-elected after promising to press ahead with the country's Green New Deal to transform the economy in the aftermath of the crisis, becoming the first country in East Asia to commit to carbon neutrality.³³ Some of the most polluted cities in countries including Italy³⁴ and France³⁵ are also considering how best to preserve some of the gains in air quality once the lockdown is lifted by encouraging active travel or offering conditional state aid for high emitters.

Furthermore, delivering against the UK's net zero target and its environmental improvement objectives has always presented clear economic and social opportunities. In the post-COVID-19 world, maximising these opportunities will be more urgent than ever, as will the need to prepare our social and economic structures to withstand the future challenges posed by climate change. It is essential that in the rush to help the economy bounce back, the response improves the long-term competitiveness of the UK economy and its resilience to future shocks.

Below we highlight some of the key benefits that a recovery aligned with climate and environmental goals can have, as well as measures and shovel-ready projects that should be prioritised in order for these benefits to come to fruition.

³² <https://www.ipsos.com/ipsos-mori/en-uk/two-thirds-britons-believe-climate-change-serious-coronavirus-and-majority-want-climate-prioritised>

³³ Climate Change News (16 April 2020) "South Korea to implement Green New Deal after ruling party election win"

³⁴ The Guardian (21 April 2020) "Milan announces ambitious scheme to reduce car use after lockdown"

³⁵ Forbes (22 April 2020) "Paris to create 650 kilometres of post-lockdown cycleways"; BBC (4 May 2020) "Coronavirus aid: Air France must cut domestic flights to get state loan"

1. Tackling regional inequality and unemployment

The surge in unemployment and the uncertain future of many businesses and sectors of the economy in the aftermath of the COVID-19 crisis make the core principles of the just transition agenda³⁶ more relevant than ever: creating employment opportunities, ensuring these are fairly distributed across the country, and supporting workers from declining sectors by equipping them with the necessary skills to enable them to integrate in the low carbon economy.

Getting to a net zero emissions economy was already raising questions around how best to manage this transition. Looking only at the energy sector, it was estimated that the transition to a 100% renewable energy system by 2050 could create 52 million full-time jobs globally and result in the loss of 27 million jobs across non-renewable and carbon-based energy options.³⁷ We were already witnessing a change in business models towards low carbon, even before the COVID-19 crisis. For example, Ørsted, formerly DONG Energy, made the transition to a 100% renewable energy business model by divesting its upstream oil and gas business in 2017 and growing its offshore wind and bioenergy portfolio and increasingly investing in other renewable technologies.³⁸

More recently, oil giants Shell³⁹ and BP⁴⁰ have taken on net zero targets, in support of which renewable energy will become a larger part of their portfolio and, in the case of BP, the upstream oil and gas business will gradually wind down over the years. Compounded by the effects of historically low oil prices, these trends will only accelerate.

Given all this, the just transition agenda in the context of a low carbon economy holds important lessons for managing the transition to a post-COVID-19 economy. Moreover, through the right policy framework and investment in the low carbon economies, we have already seen industries like offshore wind taking off and creating employment opportunities in deindustrialised areas. The industrial clusters mission is another example of this, with significant opportunities for levelling up and reducing emissions in clusters including Teeside (see case study in the next section) or Humberside (with regeneration, investment in skills and job creation driven by the offshore wind industry). The location of the UK's future industrial clusters, which are very regionally spread out,⁴¹ provides a concrete example of how investment in decarbonising industries can contribute to tackling regional inequality. We have already seen successful examples of such industrial transformations opening up new employment opportunities for the current workforce, with over one third of marine engineers working in offshore renewables transitioning from the oil and gas sector.⁴²

³⁶ Nick Robins et al (June 2018) *Investing in a just transition*

³⁷ *Ibid.*

³⁸ <https://orsted.co.uk/About-us/Our-company/Our-name-change>

³⁹ <https://www.shell.com/energy-and-innovation/the-energy-future/shells-ambition-to-be-a-net-zero-emissions-energy-business.html>

⁴⁰ BP (12 February 2020) "BP sets ambition for net zero by 2050, fundamentally changing organisation to deliver"

⁴¹ Industrial Clusters Mission infographic:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/803086/industrial-clusters-mission-infographic-2019.pdf

⁴² The Telegraph (11 September 2016) "Former North Sea oil workers are finding a second wind in renewables"

Growth and employment opportunities in the clean energy transformation⁴³

The energy sector alone will have to go through important transformations to cut emissions sufficiently to reach net zero emissions by 2050. National Grid estimates that the following goals will need to be achieved in this decade:

- Increase low carbon electricity generation by around 50%
- Install low carbon heating in around 2.8m homes
- Develop carbon capture and storage technology and hydrogen networks
- Install around 60,000 charging points to power around 11m EVs

This level of infrastructure development will not only contribute to emissions reductions from high emitting sectors, it will also create jobs across the UK, including in deindustrialised areas that were already seeing higher levels of unemployment and deprivation.

Research commissioned by National Grid from Development Economics shows that to achieve these objectives, **the energy sector alone will need to recruit 400,000 people, with 117,000 needed within this decade.** The analysis shows a distribution on employment opportunities that could have important contributions to the levelling up agenda:

- Many of these employment opportunities will be in the North of England, with around 100,000 jobs estimated to become available
- Over 50,000 jobs in the Midlands
- An estimate of 90,000 jobs created across the devolved nations

The scope for job creation extends beyond the energy sector. The construction sector could see the creation of 108,000 net new jobs annually between 2020 and 2030 if an EPC band C target was set for 2035,⁴⁴ as recommended to put the housing sector in line with the net zero target. The switch to EVs is estimated to have a potential to create from 7,000 to 19,000 jobs, depending on the levels of domestic production and imports.⁴⁵

A more circular economy, more focused on recycling, remanufacturing, repairing and reusing could create more than 200,000 jobs in the UK.⁴⁶ These jobs would be distributed right across the country and are less susceptible to offshoring, thereby creating real opportunities for levelling up all regions of the UK.

⁴³ National Grid (January 2020) *Building the net zero energy workforce*

⁴⁴ Cambridge Econometrics & Verco for Customer Focus (October 2012) *Jobs, growth and warmer homes: evaluating the economic stimulus of investing in energy efficiency measures in fuel poor homes*

⁴⁵ Energy & Climate Intelligence Unit: <https://eciu.net/briefings/net-zero/net-zero-why>

⁴⁶ *Ibid.*

The urgency of boosting employment opportunities needs to be accompanied by a clear understanding of what skills will be needed in the workforce to seize these opportunities. Even before the crisis, skills shortages were affecting an estimate of 91% of UK organisations,⁴⁷ with costs of £6.3bn to businesses needing to cover additional recruitment fees, training or temporary staffing.⁴⁸ These skills shortages have also led to organisations being less agile and less able to adapt to a changing political, economic and technological climate.

However, research shows that 78% of UK adults want to play a part in reaching the UK's net zero goal and 57% want to work for an organisation that helps get us there.⁴⁹ This is why we ask government to **develop a national low carbon skills strategy, which integrates sustainability at all levels of the educational system in the national curriculum – apprenticeship programmes, higher education and particularly through lifelong learning.**

This will ensure that the sectors with significant growth and employment potential, which are also at the forefront of the net zero transition, have an attractive pipeline of skilled workers in the long run. More widely, everyone entering the workforce, irrespective of their sector, should be equipped with skills for the low carbon economy and core knowledge of sustainability issues, as all job roles will require this knowledge to deliver the step change needed by employers to get to net zero and accelerate economic recovery.⁵⁰

Generating growth will also require government to send the right policy and regulatory signals to enable businesses to undergo this transition in the most cost-effective way possible, accelerating innovation, growing supply chains and creating employment opportunities as soon as possible. This involves taking concrete steps to decarbonise 'low regret' sectors like housing, transport or power, where there are also some of the most significant job creation opportunities.

Priorities for government include:

- 1. Introduce binding energy efficiency standards of EPC band C by 2035 for new and existing buildings (2025 for low income homes) to kick start a nationwide retrofit roll-out programme.**

This should be done in parallel with a **campaign to replace gas boilers** with heat pumps and solar panels where appropriate, cutting emissions from houses and providing occupants with tangible benefits including warmer homes and lower bills.

A nationwide retrofitting programme could create jobs right across the country, which are less susceptible to offshoring. It would also contribute to the recovery of the construction sector, which has been one of the hardest hit by the pandemic. Support for this sector and for the contractors could have beneficial ripple effects across the economy, as it supports big supply chains from multi-nationals, SMEs to self-employed workers.

⁴⁷ Open University blog: <http://www.open.ac.uk/business/apprenticeships/blog/uk-skills-shortage-costing-organisations-%C2%A363-billion>

⁴⁸ *Ibid.*

⁴⁹ National Grid (January 2020) *Building the net zero energy workforce*

⁵⁰ Aldersgate Group will publish a more detailed briefing on the role of skills in a low carbon economy in the summer.

Energy efficiency retrofits are a good example of shovel-ready projects, being labour-intensive, rooted in local supply chains and providing rapid social benefits. There is also potential to scale up these projects rapidly as skills develop and innovation brings down costs.⁵¹

In addition, these projects could deliver emission savings, reduced bills for customers and alleviate fuel poverty. Warmer homes could also deliver savings for the health and social care systems, much needed in these times: it is estimated that the cost to the NHS arising from cold homes is around £1.36bn per year.⁵²

To incentivise the take-up of retrofits for existing homes, government should consider the **removal of the 20% VAT rate on building projects to existing homes** that are based on a demonstrable deep, low carbon retrofit, which would act as a major stimulus to the market with the potential of achieving significant reductions in carbon emissions.

With a number of ways available to mobilise private capital providing that the policy and regulatory signals are in place, this is a low regret option for promoting economic recovery. For example, the GFI's Coalition for the Energy Efficiency of Buildings (CEEB) has designed, developed and launched a portfolio of scalable demonstrators of new financial solutions that unlock investment into the low carbon and resilient building sectors.⁵³ Other mechanisms for attracting private investment into this market include Energy Service Companies (ESCOs) for home retrofits or Energiesprong UK for social housing.

With the right signals from government, these projects could scale up and deliver significant employment opportunities. However, it will be key to use some key announcements planned for this year, including the **National Infrastructure Strategy, the Spending Review and the Heat Strategy to provide a clear policy trajectory to enable effective mobilisation of private capital.**

2. Improve public transport by investing in rail, bus and active travel networks, as committed in the Transport Decarbonisation Plan (TDP) policy paper.

The TDP commits to increase active travel, which will be an essential instrument in the government's COVID-19 exit strategy, minimising use of public transport networks and ensuring these do not become overwhelmed.⁵⁴ The recent announcement of a £2bn package to improve walking and cycling infrastructure is a welcome step in this direction and government should work with local authorities to identify priority areas for investment and ensure that no area of the UK is left behind during implementation. The reliability and even distribution of active travel options and infrastructure will be essential to restart the economy in the short term, providing reliable alternatives to public transport for workers.

⁵¹ UK Green Building Council (May 2020) *Green recovery position paper*

⁵² Age UK (October 2009) *The cost of cold*

⁵³ Green Finance Institute (May 2020) *Financing energy efficient buildings: the path to retrofit at scale*

⁵⁴ BBC (30 April 2020) "Coronavirus: Tube may become overwhelmed when lockdown is lifted, report warns"

In addition, the TDP puts forward an interesting set of proposals to cut emissions in the transport sector whilst taking an integrated view of it and considering all transport modes. Commitments to drive a switch to EVs, increase active travel and improve bus and rail services will be essential to decarbonise one of the key emitting sectors, and at the same time improve connectivity across the country

and level up regions where public transport infrastructure has had an impact on mobility and employment opportunities. For example, **according to UKRI research, a 10% increase in accessibility of a region leads to a 3% increase in the number of businesses and employment,**⁵¹ which is why projects increasing the connectivity of all communities across the country should be a priority for the economic recovery strategy.

Scottish Power and the strategic partnership approach to delivering charging infrastructure in Scotland

A £7.5m Strategic Partnership between the Scottish Government, Scottish Power Energy Networks and Scottish and Southern Electricity Networks will support the shift to electric vehicles we need to make sure that **every community has equal access to charging points which are connected into Scotland's electricity networks.**

The Strategic Partnership will develop, demonstrate and trial **a new joined up model for delivering infrastructure** – a model reflecting Scotland's ambition to lead the UK in the decarbonisation of transport, and in a way that delivers access to everyone, no matter their circumstances or where they are in Scotland.

As part of this Partnership, Scottish Power Energy Networks is taking forward a pilot study with North and South Lanarkshire Councils which will provide case studies for Scottish Power Energy Networks in rural, suburban and urban corridor locations and will deliver solutions where the commercial market will not deliver, ensuring no areas are left behind.

Expected benefits include:

- Fill in the gaps where commercial charging points will not be placed and align areas of potential demand.
- New sites will take into account existing electricity infrastructure location and capacity, available land and the need to provide public access.
- Demonstrate the efficiencies of DNO delivery of such public charging by identifying the best locations to minimise cost for customers.
- Help communities to benefit from cleaner air through access to EV infrastructure.

The strategic partnership will facilitate the decarbonisation of Scotland's transportation through supporting the increasing uptake of electric vehicles which will use Scotland's growing renewable energy resources. It will be developed in Scotland, but will be a model that can guide developments across the UK. This Partnership will inform and influence the low carbon transition, positioning Scotland as a leader in this area.

⁵¹ UKRI (December 2013) *Road networks and local employment*

2. Strengthening long-term economic competitiveness and productivity

Incorporating climate and environmental pillars in the economic recovery package will be essential to maintain the UK's long-term economic competitiveness, by supporting the growth of key sectors and industries with growing international markets. In addition, through blended investment in technologies and infrastructure, the UK will be able to tackle its productivity challenge, a defining feature of the economic landscape since the financial crisis, given limited investment in growth by businesses and government alike. Since 2008, business investment has been far below the recoveries the UK experienced after the 1979 and 1990 recessions.⁵⁶ This is why prioritising investment in key areas of growth in the aftermath of this crisis is more compelling than ever.

As the COVID-19 crisis has shown, **an economic recovery package needs to include a clear plan for rolling out broadband infrastructure more effectively across the country.** This will be necessary to limit, as much as possible, the effects on productivity from social distancing measures and remote working. The crisis has exposed the inequalities in broadband coverage, with 6.6% of homes in England and Wales still not having a decent fixed internet connection, and an estimated 5m Britons not using the internet at all.⁵⁷

In the longer term, the nationwide roll-out of adequate broadband infrastructure offers additional benefits, including benefits to consumers of being able to access new innovative services or cost savings in the delivery of public services. In addition, digital connectivity can have spillover effect when considering better access to online education (which can lead to increased productivity in the longer term) or online health access (which can also help prevent the spread of epidemics or pandemics).⁵⁸

Investment in broadband infrastructure and ICT more widely can also help reduce emissions whilst driving growth: BT estimates that ICT could reduce the UK's carbon emissions by an estimated 24% a year in 2030, through services like broadband and teleconferencing, but also through newer technologies like the Internet of Things.⁵⁹ These carbon-saving products and services help their customers cut energy, fuel and emissions, and at the same time generated over £5.5bn in revenue in 2019 - 2020.⁶⁰

⁵⁶ Speech given by Dave Ramsden, Deputy Governor for Markets and Banking, Bank of England, 23 February 2018. Available at: <https://www.bankofengland.co.uk/-/media/boe/files/speech/2018/the-uks-productivity-growth-challenge>

⁵⁷ Oxford University Faculty of Law (14 April 2020) "Covid-19 is increasing digital inequality: We need human connectivity to close the digital divide"

⁵⁸ National Infrastructure Commission & Frontier Economics (December 2017) *Future benefits of broadband networks*

⁵⁹ BT (May 2020) *Digital impact & sustainability*

⁶⁰ *Ibid.*

1. Government should prioritise broadband investment to ensure these benefits are maximised and continue working

with businesses in this sector to be able to better target investments and policy interventions.

BT's Green Tech Innovation Platform

BT recently launched the Green Tech Innovation Platform. Working with Plug and Play, the world's leading innovation platform headquartered in Silicon Valley, BT aims to uncover the latest technologies from UK-based tech scale-ups that could support BT and its public sector customers transition to net zero.

The partnership marks Plug and Play's entry to the UK market and will explore three areas:

- **Smart Streets:** Insights from environmental monitoring and traffic optimisation sensors which can be easily integrated into 'street furniture' like the next generation of BT Street Hub units.
- **Smart Buildings:** Internet of Things capable solutions supporting energy and water management in social housing and other public sector buildings.
- **Remote Working:** Uncover ways 5G can be used to support innovative products and solutions that will reduce travel, e.g. using video, augmented reality or virtual reality to carry out remote repair and diagnostics by health and other public sector workers.

BT plans to announce scale-ups chosen through the platform in the autumn and they will have the opportunity to partner and work collaboratively with BT and their customers. Partnerships will range from BT using its expertise to find a cheaper, faster initial route to market through to new revenue share models or even taking a stake in the business.

Beyond improved productivity, **competitiveness and capturing the first-mover advantage in rapidly developing sectors and technologies will be key to a successful recovery.** Countries across the world continue to show their commitment to reduce emissions and embrace more sustainable economic models in the aftermath of the pandemic. In the EU, 18 member states have signed a pledge for a 'green recovery'.⁶¹ Around the world, countries including China or South Korea are continuing to support the growth of their low carbon sectors, getting ahead other countries in the technology race.⁶²

It is important that the UK government responds to the crisis in a way which supports the technologies and sectors of the future, to capture as large a share as possible of a growing market. **It is estimated that by 2030 the market for low carbon goods will be worth more than £1 trillion a year⁶³ – an increase of seven to 12 times on pre-2008 levels.** Markets for low carbon services will grow in tandem, which is an important opportunity for the UK as the second largest global exporter of services.

⁶¹ <https://agenceurope.eu/en/bulletin/article/12479/33>

⁶² Financial Times (24 April 2020) "The green road to post-crisis recovery"

⁶³ Maria Carvalho & Sam Frankhauser (April 2017) *UK export opportunities in the low-carbon economy*

The UK is already an effective innovator in the low carbon sector, for instance in appliances, electric vehicles or energy distribution, as suggested by data on clean-tech patents.⁶⁴ Given ongoing government investment in key low carbon technologies

like Carbon Capture and Storage (CCS) and hydrogen, which are critical for meeting the net zero emissions target, fast tracking these kind of innovation projects in industrial clusters will provide great contributions to job creation across the country, local growth and emission reductions.

Accelerating growth in industrial clusters – Teesside Collective⁶⁵

Teesside Collective is a cluster of energy-intensive industries, aiming to establish Teesside as the go-to location for future clean industrial development by creating a Carbon Capture and Storage (CCS) equipped industrial zone.

The project offers an opportunity to progress the UK's industrial and environmental interests simultaneously. Teesside Collective can play a significant role in the UK's Industrial Strategy of a low carbon Northern Powerhouse, helping to retain the UK's industrial base, attract new investment and jobs, and meet the UK's climate change targets.

Investment in the Teesside Collective cluster can offer a range of economic benefits:

- developing a CCS network could create over 1,000 direct and indirect short-term jobs in the UK during the four-year construction period (2021-2024 inclusive), and a further 350 long-term jobs, directly and indirectly associated with the operation and maintenance of the CCS network.
- deliver an increase of around £85m in GVA in the UK over 2021-2024. This includes a £30m annual increase in direct value added to the region, a further £20m annual increase in direct value added to the rest of the UK, and an additional £35m increase in value added in the UK due to indirect effects.
- deliver local benefits: directly employ 2,400 people, support an additional 3,500 jobs in its UK-based supply chains, and hence directly contribute around £290m to GVA and indirectly contribute around £400m to GVA in its associated supply chains.
- building new CCS-equipped industrial plants could lead to a £450m increase in direct and indirect GVA and the creation of around 5,000 additional direct and indirect jobs in 2029, a peak construction year. The plants themselves could support further employment opportunities in the local area. In this illustrative scenario, new CCS-equipped plants that might be attracted to the site could directly support 1,100 jobs by 2035 and an additional 1,500 jobs in their supply chains.

⁶⁴ Maria Carvalho & Sam Frankhauser (April 2017) *UK export opportunities in the low-carbon economy*

⁶⁵ Teesside Collective (June 2015) *Blueprint for industrial CCS in the UK*

Strengthening and growing the UK low carbon economy will require a set of policy priorities, including:

2. Setting a robust carbon price trajectory to reflect the real value of low carbon innovation whilst taking advantage of the drop in oil prices.

A significant drop in the price of oil compounded by the urgent need to save jobs and get back to normal means that there is a possibility that carbon intensive business models may become artificially cheap in the near term, thereby delaying investment in low carbon solutions and technologies. This would not reflect the true cost of emitting carbon, so these externalities need to be adequately priced in. We welcome the recent government announcement on aligning the future UK Emissions Trading System (ETS) with the net zero emissions target, but more clarity on the price trajectory is urgently needed.

Given the low price of oil, expanding the applicability and level of carbon pricing would have a limited fiscal impact.⁶⁶ Moreover, a more predictable and increasing carbon price trajectory would provide a welcome boost of income for government, helping to balance some of the unprecedented spending seen in recent months.

According to the Stern-Stiglitz High-Level Commission on Carbon Prices, an appropriate range would be \$40 to \$80 per tCO₂ for 2020 and \$50 to \$100 per tCO₂ for 2030, whilst other sources suggest that the social cost of carbon is already well over \$100 per tCO₂.⁶⁷

Importantly, incentives to store carbon emissions also have an important role to play alongside a carbon price trajectory in accelerating innovation and supporting the competitiveness of industry. For example, a price on stored carbon could accelerate the take-up of CCS and create a market for industrial outputs with CCS. An example of best practice in market creation is the 45Q policy in the United States, which pays a credit of \$50 per tonne of carbon dioxide permanently sequestered to help establish a market for CCS and allow the cost to come down as the market matures.⁶⁸ A price on carbon could also incentivise the take-up of low carbon technologies which the government is already investing in (e.g. hydrogen) or negative emissions technologies, which are essential for reaching net zero (e.g. Direct Air Capture).

⁶⁶ The Telegraph (30 April 2020) "The six pro-market ways to ensure our recovery from COVID-19 is clean and green"

⁶⁷ The Royal Society & Royal Academy of Engineering (September 2018) *Greenhouse gas removal*

⁶⁸ Congressional Research Service (August 2018) *Carbon Capture and Sequestration (CCS) in the United States*

3. Accelerate and support progress of at-scale trials for key low carbon technologies.

Government has already taken steps in making funding available for key technologies such as hydrogen, including through the Clean Steel Fund or the Industrial Energy Transformation Fund. However, many of these innovation funding pots have historically been too small, fragmented, regularly subject to change and often operating on different timescales. Accelerating, consolidating and simplifying these schemes to make them more coherent would be one way of helping industries accelerate innovation and recover in a climate-friendly manner.

At the same time, **aligning the UK's innovation policy with market mechanisms that grow the demand for new ultra-low carbon goods and services will be key to drive down costs.**

This could include incentives aimed at accelerating the take-up of technologies like CCS, for example by rewarding industry for capturing and storing carbon emissions. Clarity on the development of long-term market creation measures, such as power-CCS CfD, regulated asset based financing, or revenue for stored carbon for industrial CCS, is essential to increase private sector appetite for investment.

Market mechanisms that include measures at the product level could also be an important tool. For example, product standards driving down embodied carbon in building materials, such as steel and cement, could help grow the market for ultra-low carbon industrial goods whilst also protecting UK businesses from high carbon imports. Government should update its procurement rules with mandates for investing in infrastructure to buy low carbon steel or cement from plants using CCS, thereby attracting more investment in this technology from the private sector.

Creating jobs in the North West – supporting ongoing hydrogen trials

Aldersgate Group members Johnson Matthey are involved in a number of large scale **hydrogen projects which have potential to create at least 5,000 jobs, deliver clean electricity for industry and heat around 2m homes**. The long-term ambition is to use the low carbon hydrogen to also fuel trains, lorries and buses. These projects will be essential to transition areas currently reliant on natural gas to low carbon power. The most developed, HyNet, will be shovel-ready by March 2021. The emissions reductions expected from the HyNet project alone are estimated at one million tonnes every year, or the equivalent of taking 600,000 cars off the road.

The government's £90m funding package announced in February includes funding to advance development of Europe's first large scale low carbon hydrogen plants. In addition to support for capital spend, fast tracking these projects and making low carbon hydrogen competitive requires a business model to support them. Funding for capital costs will help, but what will be most important to realising these initial deployments will be support for operational costs.

A way to ensure that low carbon innovation is competitive on price and sustainable for businesses is through robust carbon pricing, as neither industry nor consumers currently pay the real costs of emitting CO₂. However, existing carbon taxes in most countries are much lower than what would be required to support new low carbon technologies. This is why a robust carbon price trajectory and supportive business models are essential.

In addition, accelerating, consolidating and simplifying existing funding schemes to make them more coherent would be one route to accelerating a post COVID-19 recovery with climate at the core.

Another key driver for improving business competitiveness and increasing productivity is **moving to more circular methods of production and consumption**. This would mean relying less on complex supply chains from across the world which can cause major supply issues as we have seen in this pandemic, making UK businesses more resilient in the face of disruptions. We have also witnessed during this pandemic the need for shorter producer-to-consumer models, which have seen a sudden rise in uptake, especially in the food sector.⁶⁹

More emphasis on a circular economy would also create a market for remanufacturing in the UK, not only saving natural resources but also creating local quality jobs across the country. There is evidence that UK businesses could realise resource efficiency savings of at least £3bn per year at low or no cost.⁷⁰ In addition, business trials that the Aldersgate Group was recently involved in as part of the REBus programme show that the move to a more resource efficient economy can have significant positive impacts on the UK economy and could deliver an increase of up to £76bn in Gross Value Added by 2030, whilst also improving resource security.⁷¹

⁶⁹ Ellen MacArthur Foundation (7 May 2020) "The Covid-19 recovery requires a resilient circular economy"

⁷⁰ Oakdene Hollins for Defra (May 2017) "Business resource efficiency quantification of the no cost/low cost resource efficiency opportunities in the UK economy in 2014"

⁷¹ Aldersgate Group (19 June 2018) "No Time to Waste: the government must use Brexit to make the UK a world leader in resource efficiency"

Further evidence shows that resource efficiency also creates new job opportunities. For example, it has been estimated that implementing existing EU legislation on waste prevention and management could create more than 400,000 new jobs and the review of the waste legislation by the Commission could create an estimated further 180,000 jobs.⁷² In the UK, it has been estimated that a move to a more circular economy could create over 200,000 gross jobs and reduce unemployment by about 54,000 jobs by 2030. It could also offset 7% of the expected decline in skilled employment to 2022.⁷³

For these benefits to materialise and to overcome the obstacles that businesses have historically faced in driving resource efficiency – such as regulatory barriers (e.g. rigid interpretations of the definition of ‘waste’), lack of supportive market signals (e.g. resource efficiency product standards and fiscal incentives) and lack of technical support needed to drive innovation – government should focus on **implementing the Resources and Waste Strategy in detail to provide a sense of direction for businesses and policy makers**. Priorities include:

4. Introducing regulations to drive greater resource efficiency in product design.

This is essential, as 80% of a product’s environmental impact is determined at the design stage.⁷⁴ The role of policy is to create incentives for producing goods with lower levels of embedded carbon, that require less water to produce and are durable, repairable and recyclable.

The government should build on the commitments in the Environment Bill to bring forward legal powers to introduce resource efficiency product standards and focus on rolling these out across critical product types such as batteries, tyres and electronic goods.

5. Introduce mutually compatible pricing / tax adjustments where resource efficient products, or products made with secondary materials, struggle to compete on upfront cost.

Pricing mechanisms need to be adjusted to reflect the longer-term environmental and economic benefits derived from using more resource efficient methods of production. These should include:

- **VAT and other tax rebates** for resource efficient products. This could help make more durable products with a higher upfront cost more appealing and accessible to consumers.⁷⁵
- Resuming the **Landfill Tax escalator** to continue diverting waste from landfill. With the landfill tax already quite high and alternative, more cost-effective waste treatment options available, an escalator of £5/tonne over a ten year period would send a clear signal that diverting waste to landfill should only be adopted as a last resort. In addition, government should ensure that the police, local authorities and the Environment Agency have adequate resources to tackle waste crime.

⁷² European Commission (July 2014) *Green employment initiative: tapping into the job creation potential of the green economy COM (2014) 446 final*

⁷³ WRAP & Green Alliance (January 2015) *Employment and the circular economy: job creation in a more resource efficient Britain*

⁷⁴ Aldersgate Group (June 2018) *No time to waste: an effective resources and waste strategy*

⁷⁵ BuroHappold (December 2017) *Help or hindrance? Environmental regulations and competitiveness*

The role of the Landfill Tax in driving job creation, skills and innovation⁷⁶

The UK Landfill Tax (LFT) was introduced in 1996 when as much as 90% of all UK household waste was landfilled. The purpose of the tax was to prevent waste generation and 'to recover value from more of the waste that is produced.' The tax is in addition to existing landfill entry (gate) fees, thus creating an incentive to reduce the waste sent to landfill.

Today, the UK has a combination of recycling targets and an increasing Landfill Tax, which together significantly reduce the amount of waste sent to landfill and generated additional benefits.

Since the LFT has been implemented, along with other regulations aimed at reducing waste, the waste sector has seen a growth in the number and kinds of jobs created with the implementation of new infrastructure. While landfills require few highly skilled staff, new facilities such as recycling facilities require a higher and better educated workforce. This is also applicable in the overall value chain of material recycling:

"Landfill sites employ few operational staff (often less than 15 people on even the largest sites) and, as the number of operational sites have declined, so have the on-site staff. However, managing equivalent volumes of materials through an energy from waste facility requires at least double this number of people, whilst the staff employed in our recycling facilities to handle similar throughputs would be 4 or 5 times this. And that doesn't include any of the additional jobs created and supported through larger material supply chains." **Dr Adam Read, Director of External Affairs, SUEZ Recycling and Recovery UK**

The LFT does not only impact the waste sector, but also the business operations of companies generating the waste. Many grocery chains have moved from single use transport packaging to reusable packaging, which not only reduces waste, but also helps with the challenge of improved logistics. This example shows that an end-of-pipe regulation such as the LFT can also have a positive economic and environmental impact on the upstream parts of the supply and value chain of products and materials.

Although it is not possible to compare the exact number of jobs involved in the recycling and disposal pathways, the long value chain of the recycling pathway suggests that many more jobs are created and maintained when waste is recycled rather than when it is consigned to landfill. The LFT and related environmental regulations have been an essential factor in establishing these new sectors, as well as ensuring valuable materials are recovered for use in a whole new life cycle.

- The inclusion of powers to introduce **Extended Producer Responsibility (EPR) schemes** in the Environment Bill is a step in the right direction. Government should now finalise the work on the development of an EPR scheme for packaging and then focus on rolling out similar schemes to other critical types of products such as batteries, tyres, vehicles and electronic products. EPR schemes with fee modulation have an important role to play, ensuring that producers of items that are easier to re-use or recycle pay less towards end of life treatment costs compared to producers of goods that are harder to recycle and treat.
- Adjusting **public procurement rules to increase the size of the market for resource efficient goods**. With public procurement market valued at £284bn in 2017/18,⁷⁶ there is real scope for government to drive demand for more resource efficient infrastructure, goods and services and lead by example. To this end, government policy should embed sustainability factors and resource efficiency in procurement and commissioning guidelines and ensure that procurement teams have the necessary expertise to be able to identify more resource efficient business practices and assess their long-term benefits.

⁷⁶ The Institute for Government & Gowling WLG (December 2018) *Government Procurement: The scale and nature of contracting in the UK*

3. Delivering essential public goods such as air quality, better health and improved physical resilience

The improvement in environmental conditions was an unexpected consequence of the lockdown, which captured headlines across the world. From the significant drop in pollution and increased air quality in some of the biggest cities in the world, to cleaner water and beaches, as well as better prospects for local wildlife, these are significant gains that many will want preserved in the aftermath of the crisis. Preserving these gains is equivalent to improving our environment and building physical resilience to disasters including floods, droughts and other phenomena associated with a changing climate.

Evidence from our members in the engineering sector shows that, based on their client engagement, the pandemic has heightened people's awareness of what constitutes 'quality of life', which is expected to have a major impact on demand for local regeneration projects and improving liveability in local communities, either through better investment in local green spaces or better preservation of greenbelts around cities.

Investment in public goods tends to be expected after crises that require significant sacrifices on behalf of the public, and the COVID-19 pandemic will be no exception.

To deliver this while also speeding up the economic recovery and building in resilience for the future, public goods could come in the form of a healthier environment, stronger communities and better housing, representing a great way to support economic growth.

As mentioned above, investment in a nationwide housing retrofit campaign could transform the construction sector and help it overcome the impact from the COVID-19 crisis, whilst at the same time delivering better housing for the public. Investment in public transport could provide the same win-win situation, as per the recommendations above.

Delivering against environmental goods can be done through a range of measures, including:

- 1. Bringing forward the phaseout date for petrol, diesel and hybrid vehicles to 2030 or soon thereafter.**

We welcome the government consultation on this proposal, which could lock in the gains in air quality and improve quality of life in communities.

At present, transport emissions are the biggest contributors to poor air quality in some regions of the UK,⁷⁷ which is considered the biggest environmental risk to public health. According to a Public Health England estimate, the health and social care costs of air pollution in England could reach £5.3 billion by 2035 for diseases strongly associated with air pollution.⁷⁸

⁷⁷ HM Government (July 2018) *The road to zero*

⁷⁸ Public Health England (22 May 2018) "New tool calculates NHS and social care costs of air pollution"

Moreover, a decrease in emissions from transport and industry have significantly improved air quality during the lockdown, leading to an estimate of 11,000 fewer deaths from pollution in the UK and in Europe.⁷⁹

An earlier phaseout of petrol, diesel and hybrid vehicles would deliver long-lasting improvements in air quality. Evidence from our business members suggests that companies are supportive of an earlier phaseout that should be accomplished by 2030 ideally or 2035 at the very latest. With an increase in the number of available models and the drop in the prices of low carbon power and batteries, this transition could be managed smoothly, with reduced impacts on mobility and cost.

The phaseout and subsequent investment in EVs presents additional economic opportunities. **Even a moderate uptake of around 35% new car sales being EVs by 2030 could create 200,000 permanent jobs, with 57% of these coming from the installation, operation and maintenance of charging points.**⁸⁰ These could be amplified by an electrification programmes targeted at vans, trucks and buses.

2. Growing public and private investment in natural capital projects

by passing an ambitious Agriculture Bill and Environment Bill and publishing an England Tree Strategy, which focuses on tackling the nature and climate crises together.

Having these clear milestones in place will be key to attract private investment in natural capital projects and building resilience. This will be achieved by setting ambitious long-term environmental targets under the Environment Bill that can guide future policy making, and strengthening interim targets to incentivise progress in the short term.

⁷⁹ The Guardian (30 April 2020) "Clean air in Europe during lockdown leads to 11,000 fewer deaths"

⁸⁰ AIE (November 2018) *Powering a new value chain in the automotive sector: the job potential of transport electrification*

Partnership using public and private sector expertise and investment to tackle climate change and restore nature

Defra, the Environment Agency (EA), Esmée Fairbairn Foundation (EFF) and Triodos Bank UK have formed an innovative collaboration to support environmental projects to create sustainable funding models.

Four initial projects, which will protect and restore valuable habitats, have been selected to receive funding in a pilot scheme to encourage sustainable private sector investment in our natural environment.

Having been sourced and evaluated by Triodos Bank UK, the projects will receive grant funding from Defra, the EA and EFF to support their development, complete business plans to attract private sector investment, deliver long-term environmental benefits and sustainable financial returns:

- The Devon Wildlife Trust's restoration of the Caen wetlands
- The Rivers Trust's work on natural flood management in the Wyre catchment in Lancashire
- The NFU's work to reduce nitrate pollution in Poole Harbour
- The Moors for the Future Partnership's restoration and conservation of peatlands in the Pennines.

Government's 25 Year Environment Plan made clear that while the public sector will continue to be an important source of funding for the natural environment, it is critical that this is alongside more private sector investment to protect and enhance our environment.

Dr Bevis Watts, Chief Executive of Triodos Bank UK, said:

"We have invested over two years of our resources and expertise into finding viable financial projects in this new area and were delighted to bring these first UK investments together. We believe that connecting economic outcomes to investment in environmental restoration is possible and can deliver benefits, in terms of carbon storage, air quality, flood management and human health, as well as enhancing biodiversity and wildlife habitats."

With the restrictions on mobility imposed due to the pandemic, people are placing increasing emphasis on the health of their surrounding environment and the quality of green spaces in their area.

Investing in the natural environment will deliver an additional range of benefits, including healthier communities, an improved ability to adapt to climate change and more resilient infrastructure and businesses.

More investment in climate resilience – Anglian Water’s net zero and nature restoration projects

Anglian Water’s business plan for the 2020-2025 period proposes a step change in both investment and service levels while still delivering a 1.1% real-terms reduction in customer bills. The plan represents a **£5.9 billion investment in the east of England to tackle the acute pressures on the environment arising from climate change and population growth.**

Key priorities for investment, strongly supported by Anglian Water’s customers, include:

- **Reducing abstraction of water from the natural environment:** by further improving upon their industry-leading leakage performance, investing £180 million to roll out 750,000 smart water meters to help customers better understand and reduce their consumption, and delivering up to 500km of interconnecting pipelines and associated infrastructure to allow movement of water from areas of surplus in the region to areas of deficit.
- **Improving river water quality:** with an environmental programme that has almost twice as many commitments than during the last five year period, using natural capital solutions where possible. For example, they propose to install many new water treatment wetlands over the next five years like the company’s flagship site at Ingoldisthorpe in Norfolk. These gravity-fed lagoons and reedbeds recycle wastewater safely back to the local chalk stream instead of using carbon-intensive concrete holding tanks and chemical dosing.
- **Supporting sustainable housing growth:** a whole series of investments are planned to reinforce networks and increase capacity to accommodate new housing and commercial development. Local authority plans include a pipeline of 200,000 new homes to be built in the east of England by 2025.

Anglian Water is also looking to accelerate its plans to achieve net zero greenhouse gas emissions by 2030. Options include increasing its solar PV programme, pursuing onshore wind projects, integrating energy storage at its sites, more onsite production of biogas, and switching its fleet to electric cars and vans.

The benefits of natural capital projects include workforce readiness, the fact that they are low-tech and have minimal skilling requirements. Studies done in the US show that a **\$4bn investment can create over 150,000 jobs per year just in the reforestation and sustainable forest management sector, seven times as many as the same amount of money could create in the oil and gas sector.** The same level of federal investment could generate \$6-12bn of economic growth per year⁸¹ and deliver significant co-benefits in helping to tackle climate change. Beyond employment, investment in natural capital can contribute to important savings in other sectors of the economy.

In the UK, it is estimated that adequate tree cover saved London more than £5bn in 2014-2018 through air cooling and prevented productivity losses of around £11bn by preventing overheating in the summer.⁸² The value of benefits delivered by UK trees is estimated at £270bn.⁸³ Moreover, the value provided by coastal wetlands in terms of buffering the effects of storms and flood control has been estimated at £1.5bn annually.⁸⁴ According to calculations by the Natural Capital Committee, if woodland was planted on the periphery of major towns and cities it would deliver net economic benefits of nearly £550m per annum once a range of non-market values such as recreation and impacts on greenhouse gases had been taken into account.⁸⁵

RSPB's Wallasea Island Wild Coast Project

Made possible through a unique collaboration between the RSPB and Crossrail, more than three million tonnes of earth tunnelled from beneath London's streets has been used to help transform Wallasea Island into the largest habitat creation project of its type in Europe. Now complete, Wallasea provides a wetland haven for thousands of migratory birds, with a peak count of 32,000 waterbirds during winter 2019 - 2020. It already supports the largest number of breeding Avocets of any site in Britain.

There are also other benefits from this landmark conservation and engineering scheme. The wetland reduces pressure on sea walls elsewhere on the estuary, compared to if there was an unmanaged breach. Its saltmarsh also sequesters carbon at a rate of about 4 tonnes of carbon per ha per year and provides nursery areas for commercially important fish species.

Rochford District Council now see Wallasea Island as a key green space within their district and have worked with the RSPB to promote it as a place for people to visit. The site is already attracting large number of visitors to its 12 km of newly created trails.

⁸¹ World Resources Institute (6 April 2020) "Want to help the US economy? Rethink the trillion trees act"

⁸² UK Green Building Council (May 2020) *Green recovery position paper*

⁸³ Woodland Trust (January 2017) *The economic benefits of woodland*

⁸⁴ HM Government (June 2011) *The Natural Choice: securing the value of nature*

⁸⁵ Natural Capital Committee (2015) *The State of Natural Capital: Protecting and improving natural capital for prosperity and wellbeing*

The Agriculture Bill and the Environmental Land Management (ELM) schemes, as well as the long-term targets in the Environment Bill could provide a blueprint for developing such nationwide natural capital projects, that could create employment, contribute towards environmental targets and generate a range of public goods (e.g. more sustainable farming practices and a secure food supply, ecosystem restoration or flood resilience).

4. Build a more resilient financial system

Beyond building physical resilience, a key question for the recovery will be around creating a policy framework that puts resilience at the very heart of how long-term decisions are made, either around investment or infrastructure and development.

The ripple effects of the COVID-19 crisis through the economy have clearly shown that we need to become better at building resilience into our economic models, supply chains and infrastructure. The risks from pandemics figured on the risk registers of big institutions well before 2020, and yet many of these institutions have been severely affected by it. By comparison, the risks from climate change are much harder to quantify given that, as opposed to risks from pandemics, they entail a new type of systemic risk that involves interacting, nonlinear, fundamentally unpredictable, environmental, social, economic and geopolitical dynamics – what economists call ‘green swans’.⁸⁶

If insufficient action is taken to reduce carbon emissions, the risks to the global economy will dwarf those posed by the COVID-19 pandemic, as seen by trends to date. Since the 1980s, the number of registered weather-related loss events has tripled. Inflation-adjusted insurance losses have increased from an annual average of around US\$10bn in the 1980s, to around US\$55bn over the past decade.⁸⁷ Without swift action on emissions, these trends will only accelerate and the average global incomes could be significantly reduced, perhaps by as much as one quarter by the end of the century.⁸⁸

The first step toward mitigating risk is understanding it. The green finance agenda was and will be central to the COP26 discussions, with voices from major private sector institutions as well as central banks asking for the finance sector to play a central role in facilitating the transition to a low carbon economy. An important plank of this strategy is reporting climate risk. A good understanding of risk and potential impacts on the financial system and the economy at large has become even more critical in the light of the COVID-19 crisis. This is why a key priority for government should be to:

- 1. Make TCFD-aligned reporting mandatory on a ‘comply and explain’ basis by 2022.**

The Green Finance Strategy (GFS) took an important step forward by setting the expectation that all listed companies and large asset owners should disclose their climate-related risks and opportunities in line with the TCFD recommendations by 2022.

⁸⁶ Bank of International Settlements & Banque de France (January 2020) *The green swan: central banking and financial stability in the age of climate change*

⁸⁷ Speech given by Mark Carney, Governor of the Bank of England, 6 April 2018, available at: <https://www.bankofengland.co.uk/-/media/boe/files/speech/2018/a-transition-in-thinking-and-action-speech-by-mark-carney.pdf>

⁸⁸ Speech given by Sarah Breeden, Executive Director, International Banks Supervision on 15 April 2019, available at: <https://www.bankofengland.co.uk/-/media/boe/files/speech/2019/avoiding-the-storm-climate-changeand-the-financial-system-speech-by-sarah-breedden.pdf>

However, to ensure a level playing field, meaningful and comparable information for investors and improved decision-making, it should be made mandatory for all companies reporting to the Streamlined Energy and Carbon Reporting regime, with a view to making disclosures mandatory for all market players in the medium term. In parallel, government should support quality disclosures

by providing economy-wide guidance and creating a safe forum for businesses and trade groups to develop the necessary sector specific guidance.⁸⁹ **Government should establish a Corporate Reporting Lab to help industries pilot approaches and identify best practice**, which can gather input from trade associations and industry while remaining independent in producing sectoral guidance.⁹⁰

The role of climate disclosures in guiding investor behaviour

Investors are using their influence to obtain better climate disclosure from investee companies: according to the Financial Times, average shareholder support for climate resolutions is 23% up to 20 May, relative to 16% during all of 2019.⁹¹

And where companies' announced strategies are seen as falling short, some have begun to take investment action. In 2019, for example, **Legal & General Investment Management announced it would be removing 11 companies, including ExxonMobil from a range of its funds, due to insufficient ambition and transparency around climate risks.**

- 2. Government should work closely with the Bank of England and support their stress-testing exercise when this is resumed**, assessing the impact of climate-related risk on the UK financial system.

Government should also play a key role in collaborating with the Bank of England to explore how to best reflect the findings of the stress testing in future policy making and review of financial regulations. In the longer term, adjusting fiscal rules and regulations

to tilt the investment balance from brown to green will avoid considerable economic losses and contribute to avoiding increased levels of warming. Undeterred investment in brown projects and infrastructure will leave businesses and investors with assets on their balance sheets which are worth less than the amount initially invested – probably close to zero in the case of unburnable carbon. The losses from these stranded assets are estimated at \$1tn-\$4tn when considering fossil fuels alone, or up to \$20tn when looking at a broader range of sectors.⁹²

⁸⁹ The Aldersgate Group published a detailed briefing on how government action can best support the take-up of TCFD-aligned reporting on 10 October. Aldersgate Group (October 2019) *Using TCFDs to manage climate risk: next steps for UK government, investors and businesses*

⁹⁰ *Ibid.*

⁹¹ Financial Times (30 May 2020) "Shareholder climate rebellions surge despite coronavirus crisis"

⁹² Network for Greening the Financial System (April 2020) *A call for action – climate change as a source of financial risk*

Conversely, businesses and investors with a low carbon portfolio will be in a better position to withstand future climate shocks. We have already seen climate solution providers and high-ESG rated stocks outperform⁹³ during the COVID-19 crisis: companies with at least 10% of their revenue from climate themes have outperformed the average stock by 7.6% since 10 December 2019, while since 24 February 2020 when volatility increased dramatically, outperformance has been 3%. High ESG-Rating Stocks, (i.e. the top third of companies in terms of higher ESG scores) have outperformed global equities by around 7% since 10 December 2019 and by a similar amount since 24 February 2020.⁹⁴

Whilst a comprehensive analysis of the outperformance is difficult at this point, the key tenet of ESG and climate funds is to deliver long-term value for shareholder returns when creating value for all stakeholders – employees, customers, suppliers, the environment, and wider society, which is bound to make them more resilient in the face of disruption. There is a growing body of evidence showing that sustainable investment tends to fare better during volatile periods, not only during the COVID-19 pandemic.⁹⁵

“While there was already a trend towards ESG-aligned investment prior to COVID-19, the pandemic has without a doubt rightly focused attention. Not only have ESG-aligned investments performed better during recent months but awareness of ESG, and its role in achieving net zero, has been heightened. This has very much been reflected in investor appetite, there may be increased scrutiny around project modelling and risk mitigation but the overall message to the market from banks and investors continues to be - we’re open for business.

If, going forward sustained emphasis is placed on lending against ESG criteria then this is likely to positively impact the sectors’ ability to access funding - channelling funds into the development of clean energy projects could be seen to be an easy win which supports carbon reduction, job creation and local supply chains,”

Maria Connolly, Head of Clean Energy & Real Estate, TLT LLP.

⁹³ Companies registering higher ESG scores, via ESG-Research provider *Refinitiv Eikon*

⁹⁴ HSBC (25 March 2020) “ESG matters: climate and ESG outperforming during COVID-19”

⁹⁵ Morgan Stanley (August 2019) *Sustainable investing’s competitive advantage*

This is why adjusting financial rules to make them more attune to the long-term implications of investments is key, and a priority for government should be:

- 3. Introduce measures, such as a brown penalising factor, that require banks to back up any lending to carbon-intensive projects and infrastructure with additional capital.** This will make brown loans more expensive, with a view to discourage companies from investing in carbon-intensive projects and infrastructure and limit their exposure to climate-related risks from these investments.

- 4. Work closely with the Green Finance Institute (GFI) and the recently launched Clean Growth Fund to identify key market barriers and gaps to investment in emerging green infrastructure and technologies.** Building on the GFI's recent recommendation on financing energy efficiency in buildings, this should lead to introducing a range of targeted financial instruments to catalyse private sector investment in complex technologies or projects. This could include the creation of a National Investment Bank as part of this process.

TLT, Triodos Bank UK and Tesco on funding for supermarket EV charge points

Three Aldersgate Group members recently collaborated to develop solutions for funding more EV charge points. TLT advised Triodos Bank UK on its first finance to support the development of electric vehicle charging infrastructure (EVCI) with a loan to Pod Point, one of the largest providers of EVCI in the UK.

Alongside funding from Tesco and Volkswagen, Triodos' debt facility will help Pod Point supply, operate and maintain **hundreds of charge points at 600 Tesco stores, allowing customers to charge their electric vehicles for free while they shop.** In some locations, customers will be able to pay for a rapid charging service, adding convenience for those on shorter shopping trips.

The Pod Point partnership with Tesco and Volkswagen, announced in 2018, effectively created a new, sponsorship-based business model for EV charging. This lending from Triodos, Europe's leading sustainable bank, is firmly aligned to the bank's mission to deliver positive environmental impact and address the climate emergency.

Gary Roscoe, Partner at TLT said:

"To date, funding for the roll out of electric vehicle charge points has primarily been from public and private investment, but this innovative approach adopted by Triodos sets a precedent for debt funding, and paves the way for developers and retailers looking to explore other funding avenues and adopt a similar model."

5. Support an ambitious Global Britain agenda

On top of the measures to speed up the domestic economic recovery, there is a pressing need for a coordinated international response to the pandemic, to ensure that the global negative economic impacts are minimised and new growth opportunities through trade and innovation are fast tracked. The UK plays a particularly important role here, particularly in virtue of its position as president of both COP26 and G7 in 2021, with ample scope to influence other countries to put climate and environment provisions at the heart of the economic recovery agenda.

Moreover, by developing its own trade policy for the first time in forty years, the UK has a great opportunity to maximise trade in low carbon goods and services and import its own high climate and environmental standards to trading partners. Through these measures, global economic recovery can be accelerated in a way that makes countries more resilient to future climate shocks.

With exports of UK goods and services contributing 30.01% of GDP,⁹⁶ trade will play a role alongside monetary and fiscal policies in driving economic recovery in the aftermath of the COVID-19 pandemic. This is why alignment between the UK's trade policy and its climate and environmental targets is essential.⁹⁷ We ask government to:

1. Use trade policy to maximise low carbon trading opportunities for UK businesses.

Today, close to half a million people are employed in the UK's low carbon economy, with much of the growth driven by existing UK and EU environmental standards. **Far from being a barrier to growth, high environmental standards represent an opportunity to promote growing trade in low carbon environmental goods and services.** It is estimated that the UK market size for this sector could grow by almost 15% every year to 2030. The UK has competitive advantages in several sectors of the low carbon economy such as climate finance, law and accountancy, with further strengths in IT and telecommunication services, engineering consulting and the development of environmental and green finance standards. All of these skills are vital to supporting the low carbon transition and have an important export potential.

⁹⁶ <https://tradingeconomics.com/united-kingdom/exports-of-goods-and-services-percent-of-gdp-wb-data.html>

⁹⁷ Aldersgate Group will publish a policy briefing on best practice around aligning the UK's climate policy with its own climate and environmental goals in June 2020.

2. Ensure that the UK’s future trade policy and FTAs promote the adoption of high environmental standards and that terms are consistent with the UK’s net zero target and other environmental policy goals.

In particular, it will be essential that future FTAs provide the UK with the flexibility needed to tighten its environmental standards over time to deliver on its national targets. Gradually tightening standards will be crucial to drive the market for zero carbon infrastructure (such as buildings), goods and services and bring emissions down in line with the UK’s net zero target.

In addition to gradually tightening domestic targets, government should adopt product standards for any goods entering the UK market to regulate the level of embodied carbon or the product’s resource efficiency. Otherwise, UK businesses leading the way in the low carbon transition risk being undercut by foreign competitors that do not have to abide by the same standards, damaging the domestic prospects for a clean recovery.

If the UK is to successfully deliver positive outcomes through trade policy and promote the interests of its growing environmental and low carbon economy, environmental terms in trade agreements will need to be as enforceable as economic terms – and not simply an expression of intentions or non-binding aims as has been the precedent so far.

3. Utilise the UK’s diplomatic network of climate attachés and its position as host of COP26 and president of the G7 in 2021 to encourage other emitters to press ahead with climate-aligned recovery packages, take on net zero targets and agree to more ambitious pledges under the Paris Agreement.

A successful outcome for COP26 negotiations in 2021 means utilising UK diplomacy to make progress against key objectives, including:

- Getting agreement on a viable mechanism to support vulnerable countries when they are impacted by climate-related events.
- Reaching agreement on a rulebook for the contentious international cooperation and carbon market mechanism under Article 6 of the Paris Agreement.
- Demonstrating how greater take-up of low carbon technologies and more demanding emissions reductions targets can be aligned to the economic interests of big emitters such as China or India.