

Institute for Public Policy Research



# **TRANSFORMING THE ECONOMY AFTER COVID-19**

**A CLEAN, FAIR  
AND RESILIENT  
RECOVERY**

**Carsten Jung and  
Luke Murphy**

July 2020

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# SUMMARY

We're at a historic moment. The Covid-19 crisis could mark a turning point in the direction of the UK's economy and its efforts to address the climate and nature crisis. The economy is in need of significant intervention to halt rising and long-term unemployment, to protect and improve the quality of life of all citizens and protect and raise the living standards of low-income households and the vulnerable.

In responding, governments are presented with a choice: use this moment to build a stronger economy that is cleaner, fairer and more resilient, or further entrench an old-fashioned economy driven by fossil-fuels and debt-laden consumption. An economy which, at present, is failing to improve the quality of life and wellbeing for the majority, and which must be consigned to the past.

In this paper, we argue for the former: for an investment-led economic recovery focused on job-creation and creating opportunity across the country, decarbonisation and restoring nature, and tackling inequality. Too often, these goals, and that of building a strong economy, are presented as being in conflict with each other. But in reality, they can and must be achieved together – and this must begin with the economic recovery packages following Covid-19.

## KEY FINDINGS

- This recession will be fundamentally different to the recession of 2008/09 that arose as a result of the global financial crash when unemployment peaked at 8.5 per cent. **Unemployment could rise by more than 2.1 million, or 10 per cent.** The severity of the economic crisis – potentially the worst recession in three centuries and the worst jobs crisis for a generation – demands a bold response from the government.
- In responding to this crisis, the government has the opportunity not just to tackle the immediate economic problems but to transform the UK economy after Covid-19, creating jobs, addressing the climate and nature crisis and tackling inequality. It will require the government to take a bold approach, delivering an investment-led recovery and implementing a suite of bold measures. Such a programme **could together create 1.6 million jobs over the next decade.** This means **clean recovery investments could generate about three quarters of the jobs expected to be lost during the Covid-19 crisis.** **These jobs would be broadly equally distributed throughout the UK. They include the following areas:**
  - Low-carbon, home-related investments (energy efficiency, low-carbon heat and zero carbon social homebuilding) could generate more than 560,000 jobs.
  - Closing the huge gaps in social care and in health care could create up to 700,000 jobs by 2030. Jobs in these areas fulfil pressing social needs and at the same time are in line with a low-emission economy.
  - Investing in better public transport – such as rail and electric bus services – as well as sustainable urban transport can be a jobs locomotive. Investments in these areas could help generate more than 230,000 jobs.

- An investment-led recovery is both necessary and affordable. Interest rates are currently so low that even a doubling of the UK's debt would still mean the Treasury would pay *less* to service this debt, as a share of tax receipts, than at almost any other time since 1950. In the medium term, **after the recovery is achieved, public finances will need to be stabilised through a clear fiscal framework and fair taxation. Moreover, the risks of inaction far outweigh the risks of action. The climate and nature crisis is the largest existential threat to our way of life and must be a priority for investment.**
- Public investment must be accompanied by a package of policies including incentives and regulatory measures to provide market signals and help lever in private investment and spending. These include, for example, a firm commitment to phasing out petrol and diesel vehicles by 2030 or tighter energy efficiency standards for the nation's homes.

## RECOMMENDATIONS

We recommend that the UK government implements a range of bold measures to transform the economy after Covid-19, and deliver a clean, fair and resilient recovery. The proposals and recommendations outlined in this paper are for the UK government, but many could also be applied at the devolved level.

### *Priority investments and programmes*

- **Homes and buildings:** Deliver a **large-scale energy efficiency programme** to significantly raise the energy efficiency of the nation's homes and buildings and drive **an ambitious low-carbon heat programme** preparing every home and building for the transition to heat pumps, district heating or hydrogen. Investment must be targeted at fuel poor households and social homes first. **Embark upon a mass zero carbon social home building programme** delivering high energy efficient homes, creating jobs and tackling the shortage of affordable homes.
- **Nature restoration:** Invest in **tree planting and peatland restoration across the country.** This should include the expansion of green spaces including parklands, with a particular focus on deprived areas without current access to green space to ensure fairness and justice is at the heart of these schemes.
- **Transport infrastructure:** Invest in **electric vehicle uptake and charging infrastructure** to significantly ramp-up the uptake of low carbon travel. Support measures should be targeted at poorer households who are dependent on road travel but might not have the resources to switch. **Invest to significantly expand low carbon public transport infrastructure** by bringing forward investment in rail and electric buses and bus networks. Such investment, in buses in particular, will benefit poorer households who are disproportionately reliant on the bus network for their travel needs.
- **Industry: Provide financial support mechanisms for Carbon Capture and Storage (CCS) and hydrogen clusters** which will have a critical role in delivering a net zero economy. Upfront investment is required by government for the successful development of this industry and it will provide a boost to the local economies where these sectors are based.
- **Social infrastructure: Invest in adult social care which is an essential public service** and a growing part of our economy. **Invest in the National Health Service** which the Covid-19 crisis has already exposed as being under significant strain.

### Other areas for investment

- **Digital Infrastructure:** Invest in broadband to ensure there is adequate connectivity across the country and lock-in the positive behavioural changes seen since the onset of Covid-19.
- **Energy generation, storage, and distribution:** Invest in the extension and modernisation of the electricity grid. This will require investment in the production of zero carbon energy, energy storage infrastructure and interconnection.
- **Research and development:** Investment in research and development to driving innovation, supporting new start-ups and small and medium-sized enterprises, with consideration of equity stakes for government to share the proceeds of success.
- **Education, skills and training:** The recovery plan and shift to the zero-carbon economy will inevitably require new skills and widespread training initiatives. This will demand a number of particular initiatives including:
  - a **Right Start Guarantee** comprised of three bold measures i. the reform of welfare support for young people ii. Reform of the Apprenticeship Levy iii. the creation of Right Start Fund to support those young people that are not ready for the labour market or apprenticeships
  - a **Just Transition Fund** to be established as part of regional economic development funding to help the drive towards a net zero economy and to ensure those negatively disrupted are given the resources and support to succeed in the future. The UK government should capitalise the fund with an initial down-payment of £5 billion.

### Policy architecture

- **A Net Zero and Nature Rule:** The UK government, devolved nations and local government should adopt a new 'net zero and protection of nature rule' to ensure all projects, policies, investment and spending, taxation measures, regulations and legislation are in line with the UK's obligations under the Paris Agreement and net zero commitments, as well as broader environmental commitments that will be enshrined in the government's Environment Bill.
- **Conditions on Bailouts:** The UK government should apply conditions to any future bailouts including reporting requirements as part of their annual financial reports; commitments and business plans to meet climate and environmental targets; and linking management and executive pay to achieving firms' climate and nature targets.

### Institutions and plans

- **Net Zero and Just Transition Delivery Body and Plans:** To drive through the policy change required across the whole of the economy and to guarantee a just transition, the UK government should establish a Net Zero and Just Transition Delivery Body (NZJT). The NZJT should be responsible for developing a Net Zero and Just Transition Delivery Plan. This plan will integrate various departmental plans across government to ensure there is a coherent and fair approach to achieving decarbonisation. There should be a requirement to develop a roadmap for every sector across the economy.
- **A National Investment Bank:** The government should establish a National Investment Bank (NIB) with a remit centred on the transition to a net zero economy and the restoration of nature.

# 1. INTRODUCTION

## RECOVERING FROM COVID-19

We're at a historic moment. The Covid-19 crisis could mark a turning point in the direction of the UK's economy and its efforts to address the climate and nature crisis. The economy is in need of significant intervention to halt rising and long-term unemployment, to protect quality of life of all citizens and safeguard and improve the living standards of the vulnerable and those households which are struggling. In responding, governments are presented with a choice: use this moment to build a stronger, cleaner, fairer and more resilient economy, or further entrench an old-fashioned and fossil-fueled economy which is failing to improve quality of life and wellbeing for the majority, and which must be consigned to the past.

## IMPLICATIONS FOR THE CLIMATE AND NATURE CRISIS OF COVID-19

There has been a significant, albeit temporary, fall in greenhouse emissions (GHGs) both in the UK and around the world since the onset of Covid-19 as a result of the extensive lockdowns and reduction in economic activity. Indeed, some projections suggest that global CO<sub>2</sub> emissions are likely to fall by as much as 8 per cent this year – six times larger than the reduction seen following the global financial crash (IEA 2020). In the UK, there was a decline of about 31 per cent in CO<sub>2</sub> emissions during April and the lockdown has precipitated the longest period since the 1880s in which Great Britain has not generated any coal-powered electricity (Neate 2020). As of June 16, the run had lasted over 67 days (ibid).

However, while there has been a significant reduction in GHGs over the period and there have been other noticeable benefits such as cleaner air and less pollution, there is nothing to suggest the impact has been anything other than temporary. Global carbon emissions have started to rebound rapidly since the lockdowns across the globe have started to ease (Plumer and Popovich 2020). Moreover, the challenge facing the UK and other countries around the world is also more urgent than it was at the time of the global financial crash. The stock of GHGs in the atmosphere is considerably higher than it was over a decade ago and the need to significantly reduce emissions is therefore much greater. In addition, a lot more is known about the economic and societal opportunities of action on climate and nature, not least due to the fall in the costs of technologies in renewables and resource efficiency (Allan et al 2020).

Despite this urgency, it is apparent that the UK is not on course to either meet its net zero target or its commitments under the Paris agreement. The UK is presently set to miss its legally binding fourth and fifth carbon budgets and is also failing to make progress on international targets on halting and reversing biodiversity loss. The Scottish and Welsh governments also have their own targets (a 75 per cent reduction by 2030, 90 per cent by 2040, and net zero by 2045 in Scotland and a 95 per cent reduction by 2050 in Wales), as do hundreds of local authorities, but few have matched laudable ambition with the level of policy detail and commitment to turn rhetoric into reality. Without stronger and more rapid near-term action, the CCC has warned that it will quickly become infeasible to decarbonise sufficiently to reach net zero GHG emissions by 2050 without significant additional costs and greater disruption to people's lifestyles (CCC 2019). Every delay increases the speed at which policymakers must act.

## THE WORST JOBS CRISIS IN A GENERATION

The Office for National Statistics (ONS) has shown that the economic contraction in March and April alone was in excess of 25 per cent of GDP (ONS 2020a) and the Bank of England is predicting the worst recession in three centuries (Partington 2020). This contraction – though historically large – was to be expected, given the economy was deliberately placed under lockdown to protect public health. But the economic fallout of the coronavirus pandemic will have ramifications far beyond just a few months of this year, and beyond the headline GDP figure. The real-world impacts of the crisis are extremely severe, with an additional 1.8 million people making Universal Credit applications from the beginning of the pandemic to early May and the OBR forecasting that unemployment will rise from 1.3 million to 3.4 million people in Q3 reaching an unemployment rate of about 10 per cent (OBR 2020). Worryingly, analysis published by IPPR suggests it is possible that these estimates will turn out to be overly optimistic, with unemployment rising to significantly higher levels (Calvert and Michell 2020). Moreover, in a scenario where the UK has to enter a second lockdown, or a series of local lockdowns, then the economic contraction and levels of unemployment could again be much deeper than current projections suggest (see eg OECD 2020).

This recession will be fundamentally different to the recession of 2008/9 that arose as a result of the global financial crash when employment remained resilient. Notably, it could lead to a much sharper and more broad-based reduction of demand for firms' goods and services in the real economy, and therefore more adversely affect overall employment outcomes. Indeed, in addition to the rise in benefit claimants, almost 9 million workers have been furloughed since the start of the crisis – constituting about a third of paid employees (BBC News 2020b). If demand does not return to previous levels, firms are likely to lay off staff when the Job Retention Scheme ends. The impact of the crisis has varied across sectors, and this variation will continue as the lockdown is eased. For example, hospitality saw an 88 per cent drop in output in March and April, while construction and manufacturing saw (still large) declines, of 40 per cent and 24 per cent respectively (Romei 2020a).

In the aftermath of the immediate crisis, there is potential for medium to long-term 'scarring' of the UK economy, in which businesses may hold back from investing, households may reduce spending, and many jobs may not return at all. If this persists, the 'great lockdown' could turn into a 'Great Depression', with enduring high unemployment. In addition, while the UK, like many, is now easing out of lockdown there is significant uncertainty as to how the health crisis will be resolved in the medium to long term, and over what timescale. The response therefore will have to be tailored to this novel type of shock.

Long-term unemployment is a serious risk. Considering the four broad economic contractions in the 1970s, 80s, early 90s and late 00s, we see that typically real GDP returned to levels seen prior to the contraction three to four years later<sup>1</sup>. At the same time, unemployment took longer to fall back to previous levels, if it did so – both the 1970s and 1980s recoveries failed to bring unemployment back down to previous levels.<sup>2</sup> Increased unemployment can lead to scarring effects, particularly for the young. For those who experience unemployment for a significant period of time, even after they find a job, they are more likely to experience negative effects such as on skills, progression and wages, which in turn can undermine the productivity of the economy (Bermingham 2020).

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1 IPPR analysis of (ONS 2020b)

2 IPPR analysis of (ONS 2020c)

## **RISING INEQUALITY**

It will be vital that the recovery package doesn't solely focus on headline economic indicators of income and employment, but how these – and measures to address them – are distributed.

Firstly, the economic risks and costs of the lockdown have hit those who were already financially vulnerable the hardest and will likely worsen income inequality in the UK (Romei 2020b). Analysis by IPPR suggests that households in the second highest income decile could be saving an extra £189 per week if earners are able to continue working from home, while households in the second lowest income decile could be in debt by an extra £12 a week if earners are furloughed on 80 per cent of salary (Berry et al 2020). More recent analysis by the Resolution Foundation found that during the lockdown, one-third of low-income households are saving less, while one-third of high-income households are saving more (Bangham 2020). Beyond the extensive hardship this is already causing, it is likely to have wider economic effects, with a debt overhang likely to prolong the recession in the same way as happened following the recession in 2008 (ibid).

Secondly, there are also questions of intergenerational fairness. There is strong evidence to suggest that young people are likely to hit by this crisis particularly hard, with employees aged under 25 more than twice as likely to work in a sector that has been shuttered as a result of the lockdown (Joyce 2020). The Resolution Foundation estimates that an additional 640,000 young people could be unemployed this year without any additional intervention by government (Henehan 2020). Of particular concern, are the circa 1 million young people set to leave education in the next few months. This is hugely problematic, as the evidence shows that youth unemployment has profound effects on both the individual and society with those from the poorest backgrounds and with the lowest qualifications likely to be the worst affected (ibid).

Thirdly, the crisis is likely to exacerbate other pre-existing inequalities in income, wealth, by ethnicity and across regions. For instance, those living in the poorest parts of the country with the lowest savings and insecure jobs will be particularly hard hit (Romei 2020b). These are areas which have already faced a disproportionate damaging impact from policy choices like austerity which in turn has further undermined their resilience and capacity to deal with the social and economic impacts of the Covid-19 pandemic (Johns 2020). This in a country which is already the most regionally unequal in the developed world (Raikes 2020).

Finally, there are considerable justice considerations across the board in relation to the extent to which the recovery also tackles the climate and nature crisis. The interim report of IPPR's Environmental Justice Commission (EJC) showed how the climate and nature crisis will exacerbate existing economic and social injustices much in the same way as the Covid-19 crisis has (IPPR 2020). Moreover, a focus on justice as part of the zero-carbon transition is not just a 'nice to have' but is in fact essential to securing public support for a transition at the pace and scale that is required.

## **A CLEAN, FAIR AND RESILIENT RECOVERY FOR A TRANSFORMED ECONOMY**

In this paper, we argue for an investment-led economic recovery focused on job-creation, decarbonisation and restoring nature, and tackling inequality. Too often, these goals, and that of building a strong economy, are presented as being in conflict with each other. But in reality, they can and must be achieved together - and this must begin with the economic recovery packages following Covid-19. There are already encouraging signs of a broad base of support for such an approach to the recovery. The prime minister has argued for investment in 'industries, infrastructure and jobs' that are climate safe:

***“Whilst we are all rightly focused on beating coronavirus, we cannot lose sight of the need to protect our people and our planet from the devastating threat of climate change and biodiversity loss if nothing is done. This period has undoubtedly increased our gratitude for and appreciation of the green spaces and nature around us – providing us with respite during such difficult times. As we come through this pandemic and begin to rebuild our economies, it’s time to invest in the industries, infrastructure and jobs that will endure any storm – or even another virus – so we bounce back stronger than before. We’re reminded...that nobody can do this alone. That’s why we must move towards a greener, cleaner, and more resilient future, and the UK looks forward to working with countries around the world in the run up to COP26 in Glasgow next year.”***

Boris Johnson, UK prime minister, June 2020<sup>3</sup>

The prime minister has not been alone in his call for a ‘green recovery’. The Scottish and Welsh governments have both committed to a green recovery (Scottish Government 2020; Welsh Government 2020). The Shadow Business Secretary, Ed Miliband, has called for the most ‘ambitious climate recovery plan’ in the world (Murray 2020); the Confederation of British Industry (CBI) and 200 leading investors and companies have called for a recovery aligned with net zero (CBI 2020; CLG 2020) as well as international institutions such as the International Monetary Fund (IMF 2020). Most importantly, the chancellor of the exchequer, Rishi Sunak, is reportedly preparing to respond to these calls next week by unveiling an emergency economic measures ‘to save the economy’ (Shipman 2020).

The broad support for an economic recovery that prioritises climate and nature also stems from the recognition that in light of the coronavirus, we must build resilience to such shocks in future. After all, there are several similarities between the Covid-19 emergency and the climate and nature emergency. Both represent significant systemic risks to human welfare and our economy; both are non-linear in that their socioeconomic impacts grow disproportionately once certain thresholds have been reached; and both are risk multipliers in that they highlight and exacerbate existing vulnerabilities (Laybourn-Langton et al 2020; Pinner et al 2020). In addition, both affect the most vulnerable disproportionately and in the case of the climate and nature crisis, those who are least responsible (ibid). And, neither of these events can be considered a ‘black swan’ – both have been consistently warned about by experts and scientists (ibid).

At this moment, if we’re to maximise the opportunities and minimise the risks, then the economic recovery packages planned by the UK government, devolved nations and at a local level must be designed in such a way as to usher in a transformation of the economy.

This transformation must set the UK clearly on the path to meet its net zero targets and climate commitments agreed at COP21 in Paris, as well as its wider environmental commitments. This paper outlines a programme of action for governments at Westminster, the devolved nations and at combined authority and local government level, to deliver on that basis.

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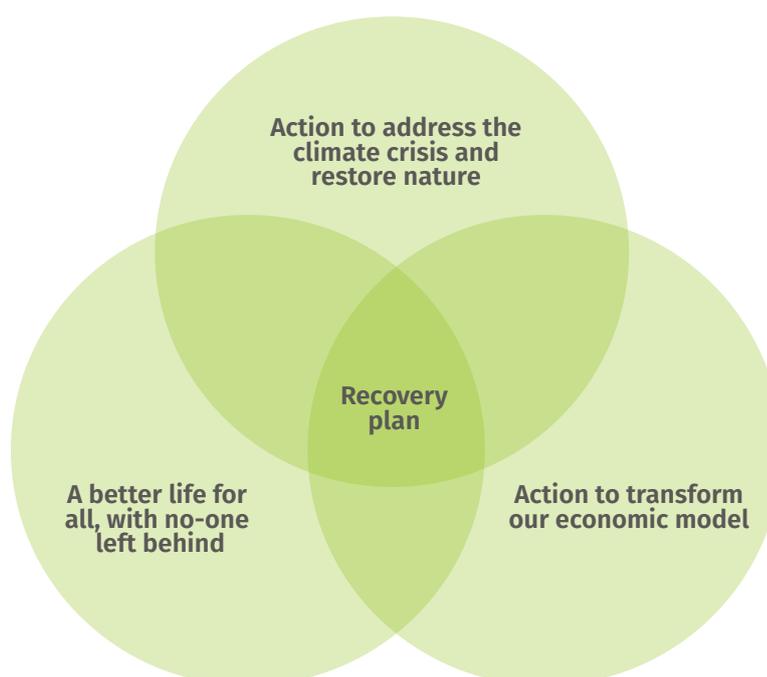
3 See: <https://www.facebook.com/borisjohnson/posts/10157532730206317>

## 2. A RECOVERY FOR ECONOMIC TRANSFORMATION

In building back after this crisis, the UK faces a number of significant challenges – broad economic challenges from shrunken demand and inhibited supply, huge labour market challenges with rapidly rising unemployment, huge challenges with regard to worsening inequality and the existential challenge of the climate and nature crisis. As the interim report of the EJC argued, these challenges can and must be tackled together and this must begin with the economic recovery packages following Covid-19 (IPPR 2020).

**FIGURE 2.1**

The overall programme must help transform the economy, offering rapid action to address the climate crisis and restore nature, whilst simultaneously increasing fairness.



Source: IPPR 2020

Enacting it in practice will require a comprehensive shift in the UK economic model from one that is driven by debt-fuelled household consumption to one marked by higher investment. This can be promoted through an economic recovery package using public investment to drive up aggregate demand, reduce business uncertainty, crowd-in private investment and support the private sector in generating high quality jobs. This will require further public borrowing. But this is the only way to ensure a sustainable recovery and to put public finances on a firm footing in the long-term.

Considering the UK and global evidence from recessions, when possible, an active fiscal policy that brings demand back and makes use of the productive capacity in the economy is key to avoiding the negative scarring effects outlined in the previous chapter. Government spending is especially effective during downturns and in times of low growth, when there is spare capacity in the economy, for example because of unemployment (IMF 2020).

Experience from previous recessions shows that timing is critical. In previous recessions, discretionary measures were usually undertaken too late and were, at times, not effective. For example, discretionary measures in the United States came late in half of previous recessions. And, often interventions were not well targeted to areas where the recession was more severe (Crucini and Vu 2017).

There is considerable scope to improve upon the recovery packages that were introduced in the wake of the 2008/09 global financial crisis where only 16 per cent of total public stimulus was allocated to green programmes by governments around the world (Robins 2010). Moreover, public investment can also go much further than 10 years ago the cost of renewable and resource efficient technologies has fallen significantly (Allan et al 2020). Matched with record low interest rates which will allow cheap borrowing by governments, the recovery from Covid-19 offers an unprecedented opportunity to bring about an economic transformation.

### RECOVERY PACKAGES SO FAR

Despite the positive rhetoric about a ‘green recovery’ and ‘building back better’ from governments all around the world, research by Bloomberg Green and BloombergNEF has shown that:

***“the governments of the world’s 50 largest economies have committed nearly \$12 trillion to the coronavirus recovery. Of that, only about \$18 billion has been targeted at post-carbon economic priorities such as developing renewable energy or incentivizing clean industry.”***

Bloomberg Green (2020)

As many have pointed out, the initial rescue packages have been designed and implemented to focus on protecting citizens’ livelihoods and keeping businesses afloat rather than addressing the climate and nature crisis. In the UK, more than £170 billion of support has been extended by the government in the forms of additional spending (eg on the Job Retention Scheme), tax reductions and subsidised loans (eg through the ‘Bounce Back Loan Scheme’), to support the economy. While under strict lockdown, projects such as green infrastructure building would have been premature. And, the necessity of acting quickly to prevent imminent job losses and business collapses meant that it would have been difficult to tie conditions to schemes such as the Job Retention Scheme – through which the government has supported up to 80 per cent of wages for employees.

Nevertheless, there is no doubt that some opportunities for a greener recovery have been missed. For instance, airlines EasyJet and Ryanair have received £600 million each in cheap loans through the Bank of England’s Corporate Covid Financing Facility (CCFF), Wizzair and British Airways have received £300 million a piece, while carmakers Honda, Nissan and Toyota have borrowed more than £1 billion in total. The oilfield service companies Baker and Hughes and Schlumberger have also received £750 million in total (BoE 2020). Yet all of these loans were made without any specific requirements for a viable plan to reduce GHG emissions or the environmental impact of these businesses in a way that is consistent with the UK’s net zero target, wider environmental targets, or the UK’s commitments under the Paris agreement.

Some other countries have taken a different approach. The Austrian government has placed conditions on a loan of €450 million to Austrian Airlines which include requirements to reduce total emissions by 30 per cent by 2030 and limiting flights where a train journey will take less than 3hrs. The French government has also applied conditions to its loan of €7 billion to Air France requiring the airline to halve its overall CO2 emissions by 2030, compared with 2005 levels, and a 50 per cent reduction in emissions for domestic flights by 2024 in a bid to encourage rail travel (Cirium 2020; Transport and Environment 2020). However, the approach taken in France and Austria have thus far proved to be the exception rather than rule: of €26.7 billion in government bailouts and loans given to airlines in the UK and the European Union only €7.45 billion have conditions, and in all cases the legally binding nature of the conditions are either unclear or non-existent (ibid).

The substantial support being used to large businesses may well be justified in order to underpin the jobs of workers, livelihoods of their families and local communities as well as the wider economy. However, given the threat that the climate and nature crisis present and the legal commitments to reduce GHG emissions, an approach which does not also seek to leverage greater commitments and action to reduce emissions is a significant missed opportunity. It also points to the need not just to review the degree of government support flowing to the zero-carbon economy as part of government rescue packages but also that which is helping to support and lock-in high carbon infrastructure and jobs into the future. It is tempting to believe that these challenges cannot or should not be tackled together. But these are systemic problems and require systemic solutions.

### **PRINCIPLES FOR A CLEAN, FAIR AND RESILIENT RECOVERY**

To tackle the multiple and concurrent crises and challenges that the UK faces will require decisive intervention. In the case of the climate and nature crisis: “decisive state interventions are...required to stabilise the climate, by tipping energy and industrial systems towards newer, cleaner, and ultimately cheaper modes of production that become impossible to outcompete” (Hepbern et al 2020). There is now a huge opportunity for the state to take on this role to address the climate and nature crisis, while at the same time ensuring the needs of rebuilding post-Covid-19 are met.

The overall recovery will likely come in three phases (figure 2.2). The first one began shortly after the initial lockdown was implemented and has taken the form of a ‘stabilisation and rescue’ phase. As outlined above, this phase has primarily been about providing urgent support to underpin the jobs and livelihoods of people across the country and ensuring that businesses are kept afloat. The second phase, the one we are now entering, is the economic recovery phase and will have a significant impact on the future direction of the UK economy, its future prosperity and progress towards its goals on climate and nature.

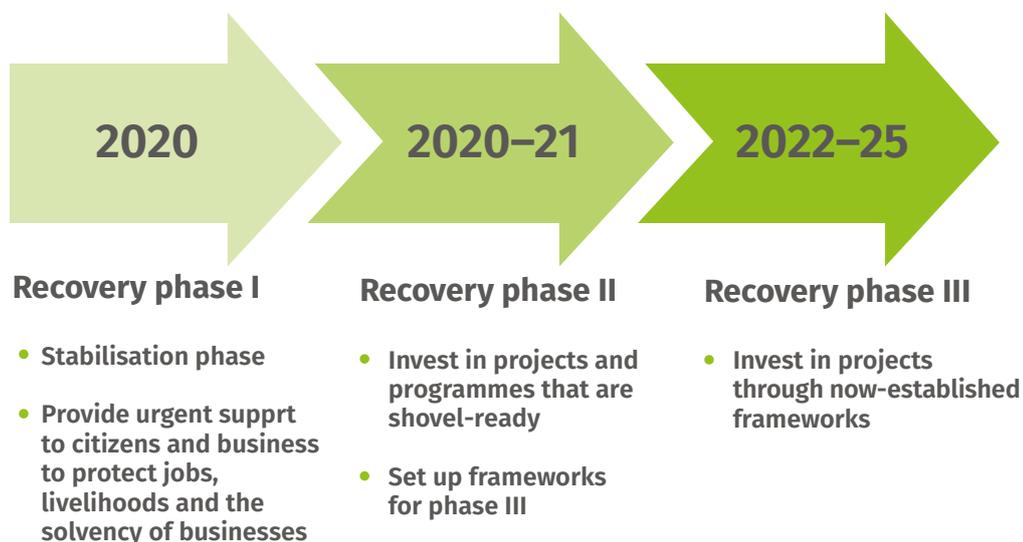
The goal must not be to keep the old economy on life-support indefinitely until it might or might not recover. Instead, the recovery must look to the future economy. At this juncture, we face two potential future paths and which the UK takes will be defined by the public policy approach taken by government at all levels. Either the recovery packages can set the UK on an accelerated path towards a transformed economy, decarbonising and restoring nature and tackling inequality, or if policy focuses on more of the same, it could lock us in even further to a fossil fuel economy which also doesn’t work for the vast majority of people across the UK.

The second phase will require a focus on public investment to kick-start projects that are job-rich, reduce emissions and restore nature, and help tackle wider inequalities. Crucially, funds will need to be dispatched quickly and directed at projects that can be readied swiftly. There is also a need to create the appropriate

frameworks for the third phase, helping to leverage greater private finance and to secure more far-reaching structural and institutional reform. This final phase will stretch over at least the next half decade or more.

**FIGURE 2.2**

There are three phases for policy responses to Covid-19 and the recovery



Source: Authors' analysis

### PRINCIPLES FOR SELECTING PROJECTS AND PROGRAMMES

We propose nine criteria to prioritise the types of investment projects for the second phase of the recovery:

- Sufficient scale.** Investment in a green recovery will need to be big enough to reverse the scarring effect left by the Covid-19 crisis and stimulate substantial job opportunities for people who have been made unemployed because of the crisis.
- Environmental benefits.** The investment package overall must put the UK on a path to net zero and the restoration of nature. All judgements on investment should be grounded in the environmental benefits and emissions savings they can achieve.
- Job creation.** There must be investment in projects with the potential for high-quality, well-paid jobs. This should consider both the 'core' workers needed to deliver a project, but also jobs created through second round effects, such as suppliers and distributors, planners and administrators.
- Promote local sustainable production and consumption.** Projects which shift to more localised production can make consumption less resource-intensive, reduce commuting and increase overall wellbeing. A community wealth building approach may help deliver this shift in practice.
- Resilience benefits.** Investment should prioritise projects that have a clear benefit to both mitigation and adaptation efforts to ensure the UK is well prepared for future threats, including from global heating such as extreme weather events.
- Targeted investments.** The investment should be targeted at workers and businesses that have been hardest hit by Covid-19. The pandemic is no fault of any worker who has lost their job or seen their hours reduced. From a fairness

perspective, it is imperative that investments provide workers with job security by stimulating demand for skills and decent work in high-demand low-carbon products, services and new industries.

7. **Timeliness and feasibility.** For the first phase of the recovery, the focus should be on projects that have short set up times. Often these will be projects that are well established (such as home insulation) or those that already have some government schemes in place which can be scaled up.
8. **Trigger a transformational second phase of the recovery.** In the second phase of recovery, investments must target projects essential for the transition with longer lead-in times. For instance, these could be areas that require concerted investment in research & development first (such as hydrogen infrastructure), before deployment can occur.
9. **Fair distribution of costs and opportunities.** The costs of policy measures must be fairly shared and those with the broadest shoulders should bear the greatest burden. The poorest communities and households, who are least responsible for the climate and nature crisis, must not pay disproportionately or at all. Moreover, it will be important to ensure that the opportunities of the recovery are also fairly shared.

### 3.

## PRIORITY PROJECTS AND PROGRAMMES FOR A CLEAN, FAIR AND RESILIENT RECOVERY

Based on the principles set out in chapter 2, we conducted a ranking of types of investment projects, drawing on estimates by the Committee on Climate Change (CCC) and a wide range of literature. We find that there are multiple areas that present opportunities to help transform the UK economy and deliver a clean, fair and resilient recovery.

These are summarised in figure 3.1. The chart indicates ‘environmental benefits’ which reflect emissions saving potential and co-benefits, such as reduced air pollution and natural resilience. The size of the bubbles shows job creation potential over the next decade. Jobs estimates are all ‘direct’ in the sense that they emerge in the targeted sectors. We do not estimate second round effects, such as increased demand for adjacent sectors, supplier businesses or service providers. The overall jobs creation impact could thus be bigger than the ones outlined below.

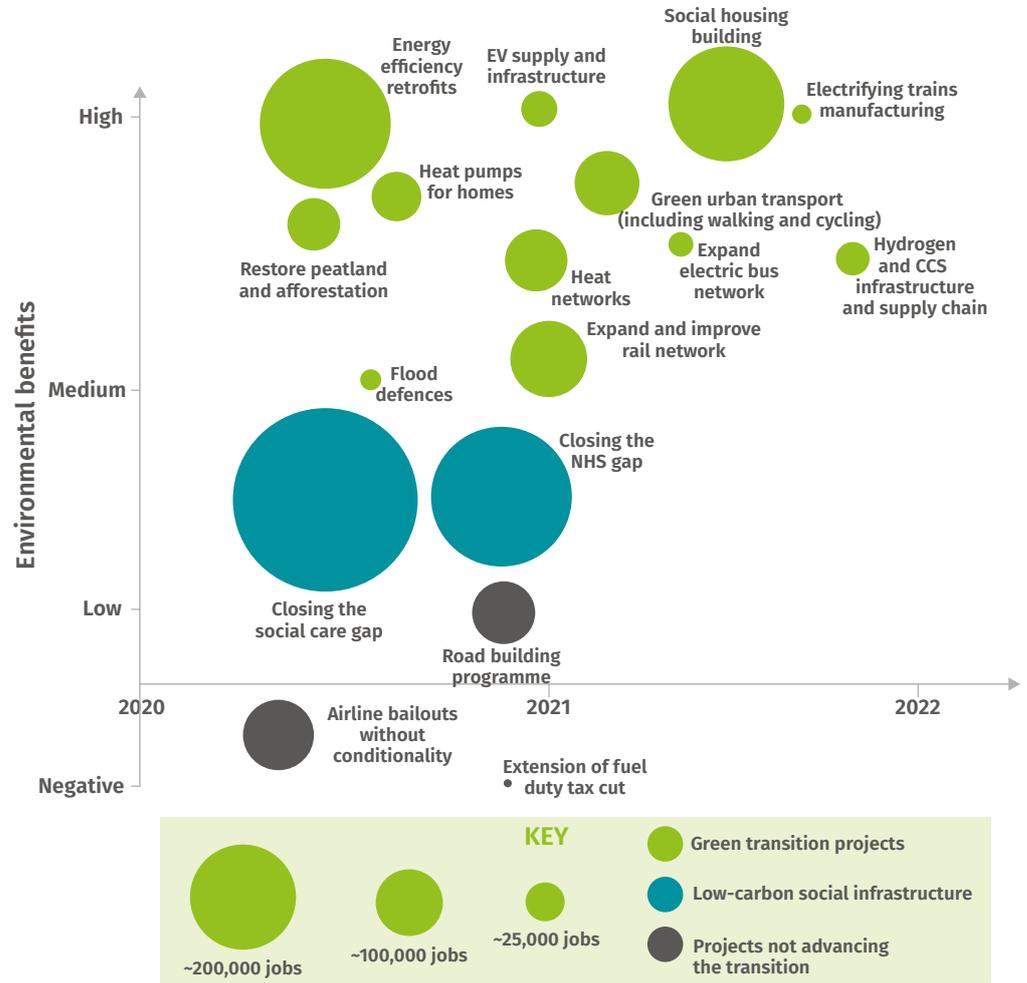
Three findings stand out.

- First, energy efficiency retrofits for homes have high environmental benefits (eg buildings are amongst the largest emitting sectors), significant co-benefits (eg addressing fuel poverty) and generate a large amount of jobs. Similarly, social housing building – when using high energy efficiency standards – can generate a large number of jobs while at the same time addressing the huge crisis in affordable housing. In total, the housing-related investments in figure 3.1 could generate more than 560,000 jobs.
- Second, there are huge gaps in social care and in health care. Current staffing gaps are expected to grow to almost 700,000 in these sectors, by 2030. Jobs in these areas fulfil huge social needs and at the same time are in line with a low-emission economy.
- Third, investing in better public transport – such as rail and electric bus services – as well as sustainable urban transport can be a jobs locomotive while lowering transport emissions. Investments in these areas could help generate more than 230,00 jobs.

We detail these investment areas further below.

**FIGURE 3.1**

Over 1.6 million jobs could be created through investing in low-carbon projects and programmes over the next decade



Notes: The figure is based on a number of assumptions and should thus be treated as providing estimates for orders of magnitude. The environmental benefits ranking is based largely on total sectoral emission saving potential. These are adjusted based on whether they are direct emission savings (eg through electrifying transport) or indirect (eg through incentivising people to change modes of transport). Co-benefits such as adaptation, environmental restoration and air quality benefits are also factored in. The number of jobs is represents those that could be created up to 2030.

Source: CCC 2019c; National Grid 2020; Emden et al 2017; Regeneris Consulting 2009; Environment Agency 2019c; Gov.uk 2018; ARM 2019; Pendleton et al 2019; DfT 2020; Innovate UK 2015; Greenpeace 2019; Garrett-Peltier 2011; Baltac and Durusut 2019; Pek et al 2019; EAMA 2018; BRES 2019; Heat Pump Association 2019; The Health Foundation 2019; IPPR 2018; AIE 2019

**PRIORITY AREAS**

The projects in figure 3.1 fall into four categories: low-carbon homes, nature restoration, social infrastructure and transport infrastructure.

## PRIORITY AREA 1: LOW-CARBON HOUSING

Buildings are the third largest emitting sector in the UK, contributing 17 per cent of total emissions (CCC 2019a). Heating and hot water for homes using fossil fuels (mainly oil and gas) account for the vast majority of this (15 per cent of total emissions) (CCC 2019b). Significantly adding to the problem is the fact that many buildings are not well insulated, requiring more energy for heating. Emissions from this sector in 2018 were higher than in 2015, due to the lack of significant policy action (CCC 2019a). We outline three example investment areas that could significantly lower emissions, create jobs, and tackle fuel poverty whilst lowering energy bills for all.

### Example 1: Energy efficiency retrofits of homes

- **What's needed:** 71 per cent of UK homes currently don't meet EPC standard 'C', which is considered the minimum necessary to bring buildings in line with a net zero pathway (Green Alliance 2019). The government's ambition is to close this gap by 2035 (ibid). Doing so would require wide-ranging improvements to homes, such as insulation of walls and windows.
- **How to operationalise it:** Technologies like insulation and energy-saving lighting are already being deployed, but at nowhere near the sufficient scale. A range of skills backgrounds are needed in this area, and some such as construction skills, like brickwork for example, are transferable. Jobs created could include, for instance, general builders, insulation specialists and joinery installers. There should be a multi-pronged approach to scaling up energy efficiency. This should include providing favourable loans or grants to homeowners and landlords and the provision of grants for social housing providers. A clear framework will need to be in place for both funding and delivery. Emden et al (forthcoming) outline a new 'Clean Heat Plan' for delivering low carbon heating solutions. The government must introduce new home and building standards through regulation in order to drive change. This should include a new higher statutory target for the private rented sector of EPC Band C by 2030. A new rule that all homes being bought meet a higher minimum energy performance rating should also be introduced and the level of this could be ratcheted up over time. The government should also raise its ambition for new buildings, potentially requiring that all new homes and commercial buildings are built to Passivhaus standards (or their equivalent) by 2023.
- **Fairness at the heart of change:** For many lower-income households, footing the upfront costs is out of reach. Therefore, using grants to ensure that those on low-incomes can benefit from low-carbon heating and the potential savings in energy bills will be essential. It will also be vital to ensure that the 2.53 million households across England (BEIS 2019) who suffer from fuel poverty are targeted as part of any programme as early as possible.
- **Job creation potential:** 234,000 jobs. This is based on calculations by National Grid (2019), turned into annualised figures by Parity Projects (2019).

### Example 2: social housing expansion

- **What's needed?:** There is a lack of affordable housing across the UK. A third of English local authorities failed to meet housing demand in 2019 (The Planner 2020). Most recent estimates are that social housing supply growth falls short by at least 100,000 homes per year across the UK (Blamley 2018). The government now has the chance to address this shortfall, while at same time delivering low emission homes. To do so, new social homes should be well insulated and equipped with low carbon heating, following high energy efficiency standards.
- **How to operationalise it:** Support a large-scale council house and social home building programme led by local authorities and housing associations.

The funding could be directed through the government's existing affordable homes programme, but there is also a clear argument for devolving funding to combined authorities or their equivalents and local authorities.

- **Fairness at the heart of change:** The large shortfall of affordable housing is a crucial contributor to inequality in the UK. It prices lower-income households out of cities and out of communities.
- **Approximate job creation potential:** Using the jobs creation multiplier from the Home Builders Federation (2015) and the annual social housing shortfall (Blamley 2018), we estimate an average jobs creation potential of 240,000.

### **Example 3: Investing in low carbon heating**

- **What's needed?:** Heating of homes, businesses and industry is responsible for a third of the UK's greenhouse gas emissions (BEIS 2018).
- **How to operationalise it:** Policy around heat networks is already well established. It is currently supported by a national body, the Heat Network Delivery Unit, alongside the Heat Network Investment Programme (HNIP). HNIP is investing £320 million between 2019 and 2022 to support the construction of heat networks and accelerate the growth of the market. In 2019, further projects were announced, but this could be scaled up further still. Additional resources can be committed to the HNIP in order to bring delivery and job creation forward (BEIS 2020b). The deployment of heat pumps is lagging behind significantly there is a need to deploy over 628,000 heat pumps every year but in the last six years, less than 2 per cent of that number were installed. Similar to insulation, low-interest loans and grants for low-income households should be put in place.<sup>4</sup>
- **Fairness at the heart of change:** For the households in the lowest decile, installing a heat pump can cost up to two thirds of the household's annual income (Emden et al, forthcoming). For many households, generous government grant schemes will be needed to make the transition affordable.
- **Job creation potential:** For heat networks, using a multiplier produced by the Office for National Statistics for jobs created in construction, we estimate that the annual jobs supported during construction of the heat networks to meet the CCC scenarios would be 60,000 by 2030 (Emden, Aldridge and Orme 2017). For heat pumps installation, we use the Heat Pump Association (2019) estimates of 44,000 jobs creation potential (by 2035) which we judge can be significantly brought forward further through immediate government support.

## **PRIORITY AREA 2: NATURE RESTORATION**

Too often treated as an afterthought, restoring nature is in fact a crucial pillar of the UK's strategy for reaching net zero emissions. Without significant restoration of nature, it will be all but impossible to achieve the UK's climate ambitions. Nature restoration can increase quality of life for people, improving air quality and providing a wealth of new spaces for recreation.

### **Example 1: Extend and improve woodland, restore peatland**

- **What's needed?:** The CCC (2020) highlights that tree planting rates must at least quadruple to ensure total tree cover increases from 13 per cent now to 17-19 per cent by 2050. This would absorb carbon of about 28 MTCO<sub>2e</sub> by 2050, removing a significant share of the UK's residual emissions. In the last decade, UK-wide afforestation has fluctuated around 10,000 hectares a year (Forestry Commission 2019). This contrasts with the 40,000 to 50,000 hectares per year needed according to the CCC. These schemes need to go beyond the mere planting of trees. If combined with better management of woodlands

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<sup>4</sup> This is based on IPPR analysis of CCC (2019b).

and natural habitats as well as ensuring their accessibility they can produce co-benefits of improved air quality, higher wellbeing as well as increased biodiversity. To improve accessibility, some nature restoration should take place in the vicinity of and within cities. As well as benefitting wellbeing and nature, these measures can ensure the creation of high-quality jobs such as landscape architectural activities, nature reserve work and other support services in addition to forestry jobs. In addition, restoring peatlands is a central way for reducing carbon emissions from land use (by up to 5 MtCO<sub>2</sub>e) and restoring natural habitats. Under the CCC's (2020) further ambition scenario, the share of peatlands that are in 'good condition' needs to be more than doubled by 2050.

- **How to operationalise it:** As suggested by the CCC, a funding mechanism for afforestation could be established, similar to a feed-in-tariff for renewables. In the beginning, in the absence of a carbon pricing scheme that could fund this, the government could establish a minimum price for afforestation immediately while designing a carbon pricing scheme to provide this funding in the future. Such a funding mechanism is key for incentivising the myriad different owners of land in the UK to start afforestation.<sup>5</sup> Land owned by public bodies should also begin implementing initiatives immediately that include afforestation in combination with recreational objectives. For farmers, the environmental land management (ELM) scheme development - currently on pause due to Covid-19 - could be fast tracked to provide funding investment in public goods as soon as 2021. As figure 3.2 outlines, there is sufficient suitable land available to achieve afforestation targets.
- **Fairness at the heart of change:** It is important to ensure that nature restoration goes beyond 'planting trees' and also reaps co-benefits for biodiversity and the local population. This can be achieved through improving management of woodlands and making them more accessible. Improving nature in and around urban regions will require particular attention in order to ensure air quality is improved and access is improved, especially for lower income and BAME households who have been found to have lower rates of access (Nature England 2016).
- **Approximate job creation potential:** Given CCC planting targets and existing jobs in forestry, we estimate there is about 46,000 jobs creation potential.<sup>6</sup> This estimate does not include jobs creation in wood processing sectors (eg processing wood for use in buildings and bio energy) nor does it include jobs creation in peatland restoration and other nature restoration activities.

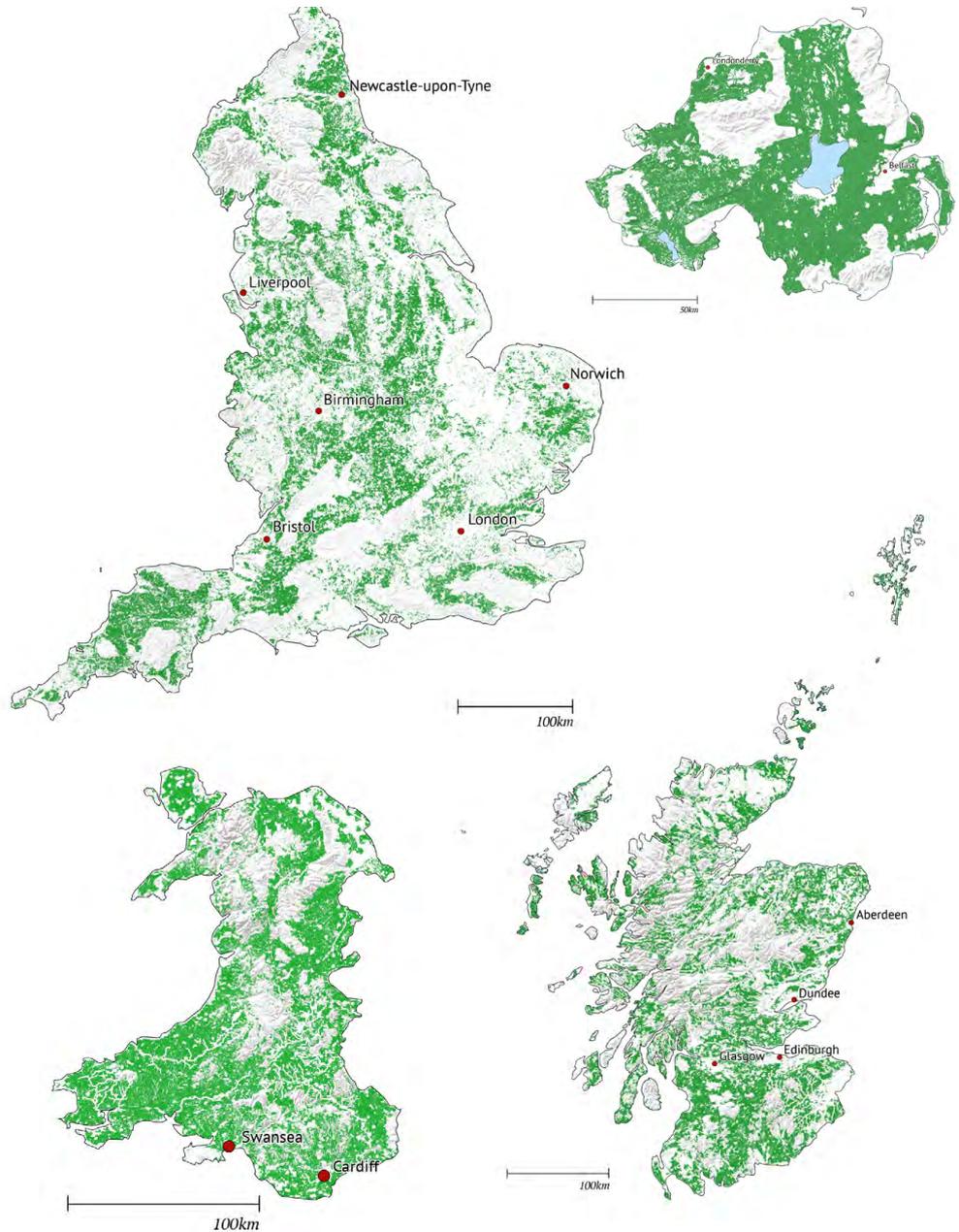
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5 More than two-thirds of existing woodland (3.2 million hectares) is owned privately. And half of land in the UK by area is owned by 1 per cent of the population (CCC 2020).

6 This is calculated as follows: according to the Annual Business Survey (2020) there are currently 28,000 people working in forestry-related jobs. We make the simplifying assumption that most of these are in planting and restocking and given the average planting and restocking rate was 25,000 hectares per year over the last five years (Forestry Research UK 2020). This would imply about 1,140 jobs to managing and planting a thousand hectares of woodland. This together with the needed 40,000 hectares afforestation per year yields about 46,000 created.

**FIGURE 3.2**

**Possible areas for woodland creation across the UK**



Note: For England, the map shows 'low risk area for woodland creation'. As the Forestry Commission highlights: "a site being in a low risk area does not imply consent to plant will be granted; likewise, a site being outside the low risk map does not imply that a site is inappropriate for woodland creation". For Scotland, the map shows area 'most likely to have potential for woodland expansion'. For Wales, the map shows 'potential opportunities for afforestation and reforestation'. Unlike the data for England and Scotland, in the original dataset (which can be viewed here) the green area includes a range of suitabilities for tree planting, with darker tones indicating greater suitability. The map does not constitute a statement of where Welsh Government will be planting. For Northern Ireland, the map shows 'land suitable for woodland creation'.

Source: Graphics by Carbon Brief 2020, source data from Forestry Commission, Centre for Ecology and Hydrology, Woodland Expansion Advisory Group (Scotland), Welsh Government, Northern Ireland Forest Service.

### Example 2: Improve flood defences

- **What's needed?** Given that 1.1 degrees of global warming are already locked in, floods and coastal erosion will continue to increase over the coming years. One in ten homes built in England since 2013 is on ground that is at high risk of flooding. To adapt to this challenge, better flood defences will be needed. Building better flood defences can partly be integrated with other initiatives. For instance, afforestation can help alleviate flood risk.
- **How to operationalise it:** The March 2020 budget doubled funding for flood defences to £5.2 billion over the next six years.<sup>7</sup> This could be brought forward. A further doubling of DEFRA funding to the Environment Agency for flood defences could achieve this, scaling up existing schemes (DEFRA 2019). This would be in line with the National Infrastructure Commission (2018) estimates of what would be needed to ensure resilience in a 'high population, high climate' scenario.
- **Fairness at the heart of change:** Flood risk management resources have been hit by austerity as cuts to local councils have been implemented. This has disproportionately affected poorer regions and created new inequalities (Begg, Walker and Kuhlicke 2015). Reversing these trends and ensuring that councils across the country have sufficient funding to protect citizens will be essential.
- **Job creation potential:** Assuming a doubling in funding leads to doubling in flood-related jobs, points to a job creation potential of 6,500.

## PRIORITY AREA 3: SOCIAL INFRASTRUCTURE

An important aspect of transition to a net zero emissions economy is encouraging low emission ways of producing value. Shifting away from resource-intensive growth towards localised service sector growth can lead to less overall energy demand, reducing emissions. Therefore, a net zero emission strategy is in line with addressing profound social issues through funding social care, health care, education and promoting other work with social benefits. These activities can generate large numbers of jobs and increase living standards while also reducing emissions.

### Example 1: Fill the social care gap

- **What's needed?:** Adult social care is an essential public service and a growing part of our economy. However, the social care system in England faces a workforce crisis which is set to grow in the coming years; by 2028, we estimate there will be a shortage of over 400,000 workers in social care.
- **Operationalising it and putting fairness at the heart of change:** The sector needs to both retain existing staff and recruit new staff. The challenges of doing so are inextricably linked to low pay and poor working conditions (IPPR 2018). There is an emerging consensus on this; in a recent poll by IPPR and Policy Exchange, 80 per cent of respondents said they were in favour of increasing pay in the care sector, given additional funding (Quilter-Pinner and Sloggett 2020). Putting in place social care reform – including through improving pay and working conditions – could attract workers currently working in other service sector jobs that have been affected by the Covid crisis.<sup>8</sup>
- **Job creation potential:** Following current trends, by 2028, we estimate there will be a shortage of over 400,000 workers in social care (IPPR 2018). Addressing this could therefore result in 400,000 more people in care jobs than in a scenario without intervention.

<sup>7</sup> See: <https://www.gov.uk/government/news/building-flood-defences-fit-for-the-future>

<sup>8</sup> According to the Health Foundation (2019b): "Restoring access to 2010/11 levels of service, and investing to stabilise the social care workforce, would require an increase of £12.2 billion compared to estimates of funding available in 2023/24 for councils to spend on social care."

### Example 2: Fill the NHS gap

- **What's needed?:** Even prior to the Covid crisis, the NHS was under significant strain. NHS hospitals and mental health and community providers are currently reporting a shortage of staff. Financial commitments, training schemes for nurses and other health workers could help close this gap.
- **Job creation potential:** On current trends, in 10 years' time the NHS will have a shortfall of more than 250,000 staff (The Health Foundation 2019). By far the biggest source of vacancies are in nursing.
- **How to operationalise it:** This could be changed by increasing the number of nurses, GPs and others to join the NHS from training. The Health Foundation (2019b) argues that a larger, more efficient and better funded training pipeline is needed for this. In addition, funding and availability of placements will need to be ensured.<sup>9</sup> This will have to be complemented by a recovery of capital investment in the NHS, which has fallen significantly below the level of international peers over the last decade (Thomas 2019).

## PRIORITY AREA 4: TRANSPORT INFRASTRUCTURE

Transport is the largest emitting sector in the UK, accounting for 34 per cent in 2019 (DfT 2019). While emissions in the UK are down by about 43 per cent since 1990, transport emissions have fallen by only about 3 per cent in the same time period (BEIS 2020a). 90 per cent of transport emissions are from road transport (DfT 2019). To be compatible with a net zero pathway, road transport needs to be decarbonised fully, through an electric vehicle revolution, a decisive shift to public transport and a robust strategy to increase active travel in the form of walking and cycling.

### Example 1: Electric vehicle (EV) supply and infrastructure

- **What's needed?:** The CCC has outlined the need for 100 per cent of new vehicles to be electric from 2030 onwards. An estimated 2.5 per cent of light duty vehicle sales were electric in 2018, below the 3.4 per cent target set by the CCC to meet the current carbon budget (CCC 2019c). To make this feasible, charging infrastructure needs to be in place by then. The government has outlined its vision 'for current and prospective electric vehicle drivers to be able to easily locate and access charging infrastructure that is affordable, efficient and reliable' (DfT 2019).
- **How to operationalise it:** The Government has started moving on this, having provided £200 million towards a £400 million match-funded and privately managed Charging Infrastructure Investment Fund. Government support is needed because, according to Deloitte (2019), EV charging is not profitable at present, which should change once EVs make up at least five per cent of vehicles in circulation, which could be reached by the mid-2020s. The government could further increase the match-funded grants for scaling up infrastructure, and set incentives for EV rollout in any covid-related automobile industry bailout schemes. The government should commit to a 2030 date for phasing out the sale of new petrol and diesel vehicles.
- **Fairness at the heart of change:** Target grants at poor households who are dependent on road travel, enabling them to switch to electric vehicles, for instance by offering subsidies, favourable loans or a scrappage scheme that encourages a switch to EVs. This could be coordinated with a rise in fuel duty, ensuring that poorer households face no additional costs from switching to

<sup>9</sup> According to the Health Foundation (2019c): "Maintaining current standards of care will require funding for these areas to increase by at least 3.4 per cent a year – £3 billion of funding in 2023/24 above current announcements. Investing in and modernising the health service as set out in the NHS long term plan requires around 4.1 per cent a year – a further £4 billion above that figure."

clean transportation. In fact, such support programs could be funded with the tax receipts from fuel duty increases.

- **Job creation potential:** Using AIE (2019) estimates for EV jobs creation potential for Europe and adjusting it by the size of the UK auto market we find a jobs creation potential for the UK of 27,000. This jobs creation potential is in installation and maintenance of chargers and battery cell manufacturing.

### **Example 2: Expand public transport infrastructure through bus and rail**

- **What's needed?:** Public transport currently makes up only a fifth of passenger miles travelled in the UK (DfT 2019). Rail however has somewhat increased its share since the 1990s, while bus travel is in decline mainly as a result of budget cuts. By comparison, overall public transport trips per person are between two and four-times higher in Germany and Austria (Sloman 2019).<sup>10</sup> In order to make travel less resource and carbon intensive, a public transport revolution will be needed. Making public transport services more frequent, cheaper and higher quality can be achieved through a decisive investment in the underlying infrastructure, expanding rail networks and reviving bus travel. Meanwhile a third of the UK's trains are still running on diesel, the phase-out of which needs to be accelerated (Powley 2018). While trains are most critical when looking at distance travelled on public transport, buses account for 60 per cent of the *number* of journeys. In fact, many people – often those on low incomes – never take the train and are instead heavily reliant on buses. Cuts to local bus services have thus had a severe effect on a large part of the population and increased transport inequality (Campaign for Better Transport 2019).
- **How to operationalise it:** The government has pledged investment in rail of £48 billion over the next four years. These include expanding the rail network to improve rail connectivity for under-served regions (DfT 2019), funding projects for accelerating diesel-phase out as well as £ 1.7 billion for intra-city transport settlements. These projects could be brought forward and expanded. Following detailed calculations by the New Economics Foundation (2019) for improvements of rail, public transport could receive a £5.5 billion annual boost for rail over 10 years, and £1.5 billion for restoring local bus services with electric buses.
- **Fairness at the heart of change:** Much focus and funding has been given to large-scale infrastructure projects such as HS2. Such projects, while having their merits, tend to benefit the well off. Train lines across the country have been underfunded and require upscaling to benefit a wider range of citizens. Figure 4.6 in the next chapter shows a breakdown of where funding needs to go across the country. And, as highlighted above, bus infrastructure is often the key means of public transport for poorer households and should therefore be a priority to address the inequality of access to transport.
- **Approximate job creation potential:** Building on the government's jobs creation figures for HS2 (DfT 2018) and also including an estimate for apprenticeships created (ARM 2019), we estimate that jobs in the order of 129,000 could be created through the above described rail scale up. In addition, investment in electric bus services could restore employment in bus services back to its 2008 level, creating 12,000 jobs.

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<sup>10</sup> The analysis compares per capita public transport trips between cities with comparable population densities between Germany, Austria and the UK.

## 4.

# CREATING JOBS AND LEVELLING-UP

As part of their 2019 Election Manifesto, the Conservative Party argued for a “levelling up” of all parts of the UK (Conservatives 2019). But whilst the phrase has been used by Boris Johnson in most of his major speeches since taking office, it has been critiqued for lack of clarity on what it means (Tomaney and Pike 2020). The UK is one of the most regionally unequal countries in the developed world (Raikes 2020) with significant variation in economic and social outcomes. These inequalities have made the UK particularly vulnerable to the economic and social crisis of Covid-19. In this section we show how a recovery package could be a big step in addressing these inequalities, by creating new jobs opportunities across the country.

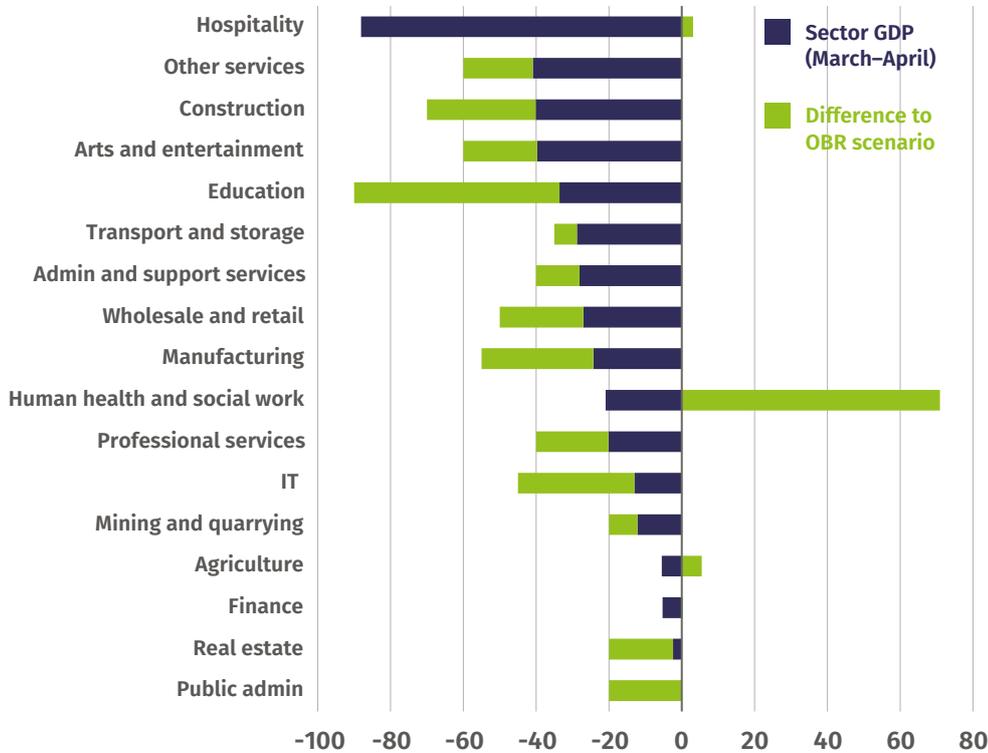
### THE RISK OF LARGE INCREASES IN UNEMPLOYMENT

The risk of a large increase in unemployment, however, is looming large. The OBR (2020) expects annual GDP to fall by 12 per cent in 2020. In their scenario, many sectors are expected to see output declines of more than 30 per cent over the second quarter of this year. The hospitality sector in April already contracted by more than 80 per cent (figure 4.1), and the construction sector by 40 per cent.

While the economy is expected to begin its recovery as lockdown and social distancing measures are eased (Bank of England 2020), demand in many sectors is likely to remain subdued. Cancelled contracts, lower demand for products, higher uncertainty, continued social distancing requirements and the risk of a second lockdown will mean that – left to its own devices – the economy will not recreate all the employment that has been lost. Overall, unemployment could rise by more than 2.1 million, up to almost 10 per cent according to the OBR 2020.

**FIGURE 4.1: A BROAD RANGE OF SECTORS COULD SEE A MORE THAN 30 PER CENT SLUMP IN OUTPUT IN Q2**

Output by sector for Q2 2020



Note: The total number of job losses sum to 2.1 million, which is the number in the OBR's coronavirus reference scenario. The sectoral distribution is based on the OBR sectoral impact.

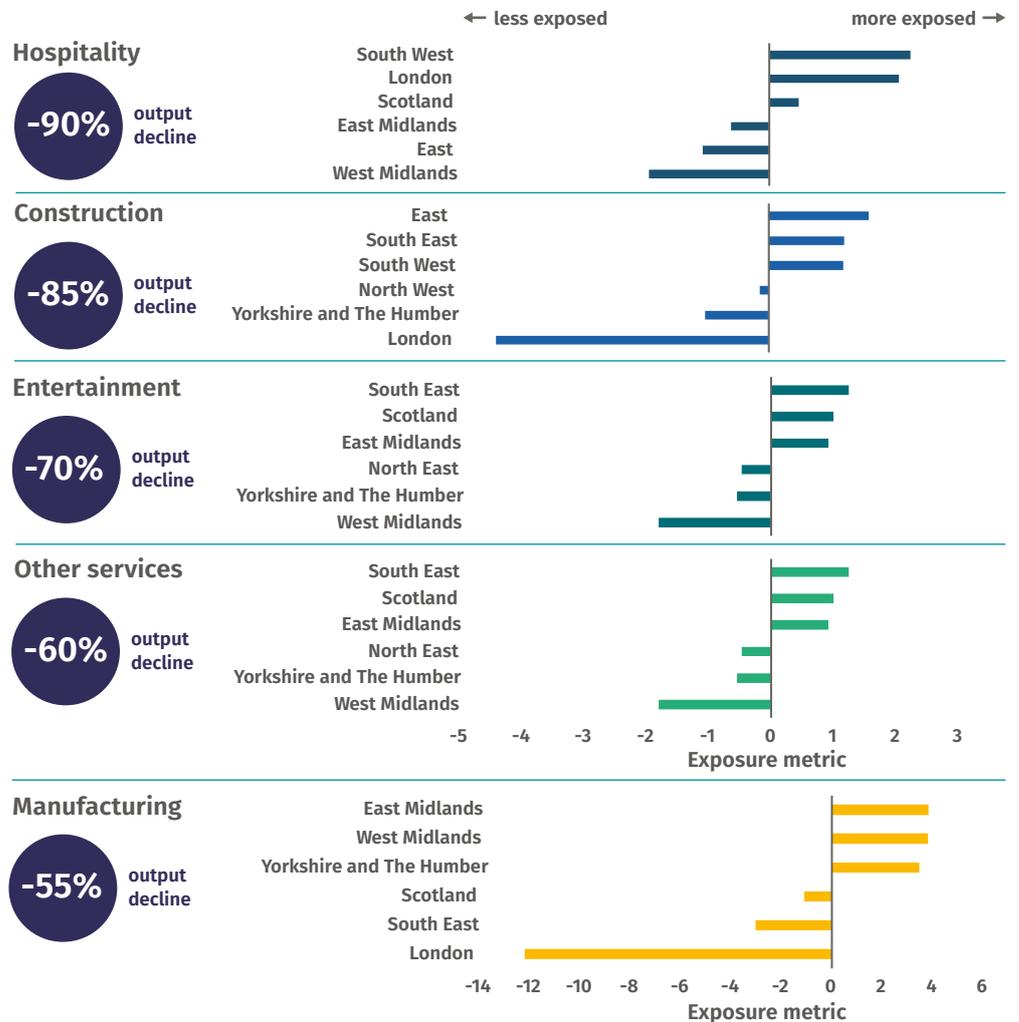
Source: IPPR analysis of OBR 2020 and ONS 2020a

How will this impact differ across countries and regions of the UK? To answer this, figure 4.2 shows the hardest hit sectors (following the OBR scenario), led by hospitality, construction and entertainment. Alongside, it shows the nations and regions in the UK where these sectors are most and least prevalent as a share of the particular nation or region's labour market. For instance, it highlights that the South West and London have a larger share of the hospitality industry than one would expect based on the size of the regional labour markets only. Accordingly, these regions can be expected to be relatively more affected by the economic hit in the hospitality sector.

The chart highlights that with respect to hospitality, construction and entertainment regions in the south (including London) are likely to be relatively harder hit, with the Midlands somewhat less exposed. When it comes to construction and manufacturing, it is the Midlands and the North that are relatively harder hit.

**FIGURE 4.2: THE SHOCK TO DIFFERENT SECTORS IS LIKELY TO IMPACT NATIONS AND REGIONS DIFFERENTLY**

The three most and least disproportionately exposed nations and regions (full list of regional exposures in annex)



Note: Output decline is taken from the OBR coronavirus reference scenario. The exposure metric is the percentage point difference in sector share in a region compared to the region’s overall employment share. This indicates whether a region has more a relatively higher or lower share of a certain industry than would be expected purely based on the size of its labour market.

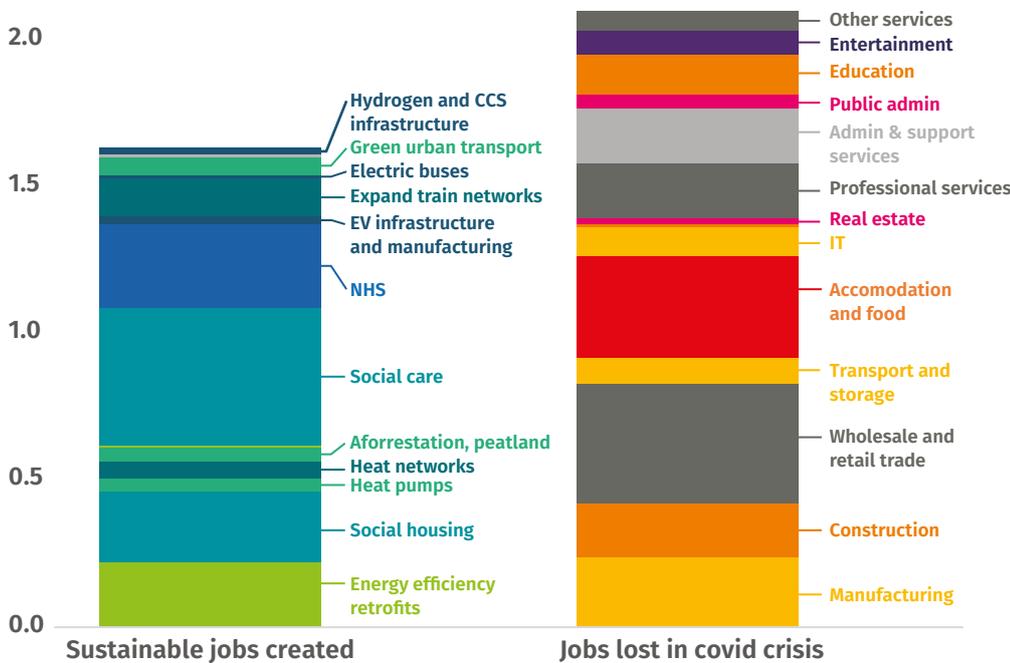
Source: IPPR analysis of ONS 2019 and OBR 2020

**HOW A CLEAN AND RESILIENT RECOVERY CAN ADDRESS RISING UNEMPLOYMENT AND SUPPORT THE LEVELLING-UP AGENDA**

This section outlines how many jobs could be generated while addressing social needs and delivering the UK’s climate targets. Considering the priority areas outlined above and the example projects described, we estimate that more than 1.6 million jobs could be created if supported through concerted government action and private investment. This means clean recovery investments could generate about three-quarters of the jobs expected to be lost during the covid crisis (figure 4.3).

**FIGURE 4.3: A CLEAN RECOVERY CAN CREATE MANY OF THE JOBS LOST THROUGH THE COVID-19 CRISIS**

Potential sustainable jobs created by sector compared with potential jobs lost as a result of the Covid-19 crisis (millions)



Note: 'Jobs lost in covid crisis' sums to the 2.1 million additional unemployed workers in the OBR scenario.

Source: IPPR analysis of the sources in figure 3.3, ONS 2019 and OBR 2020

Next, we consider the geographical distribution of clean recovery jobs. These estimates are based on the needs across the UK. For instance, the distribution of jobs in energy efficiency retrofitting is based on the regional distribution of homes that do not have retrofits as well as incidence of fuel poverty.

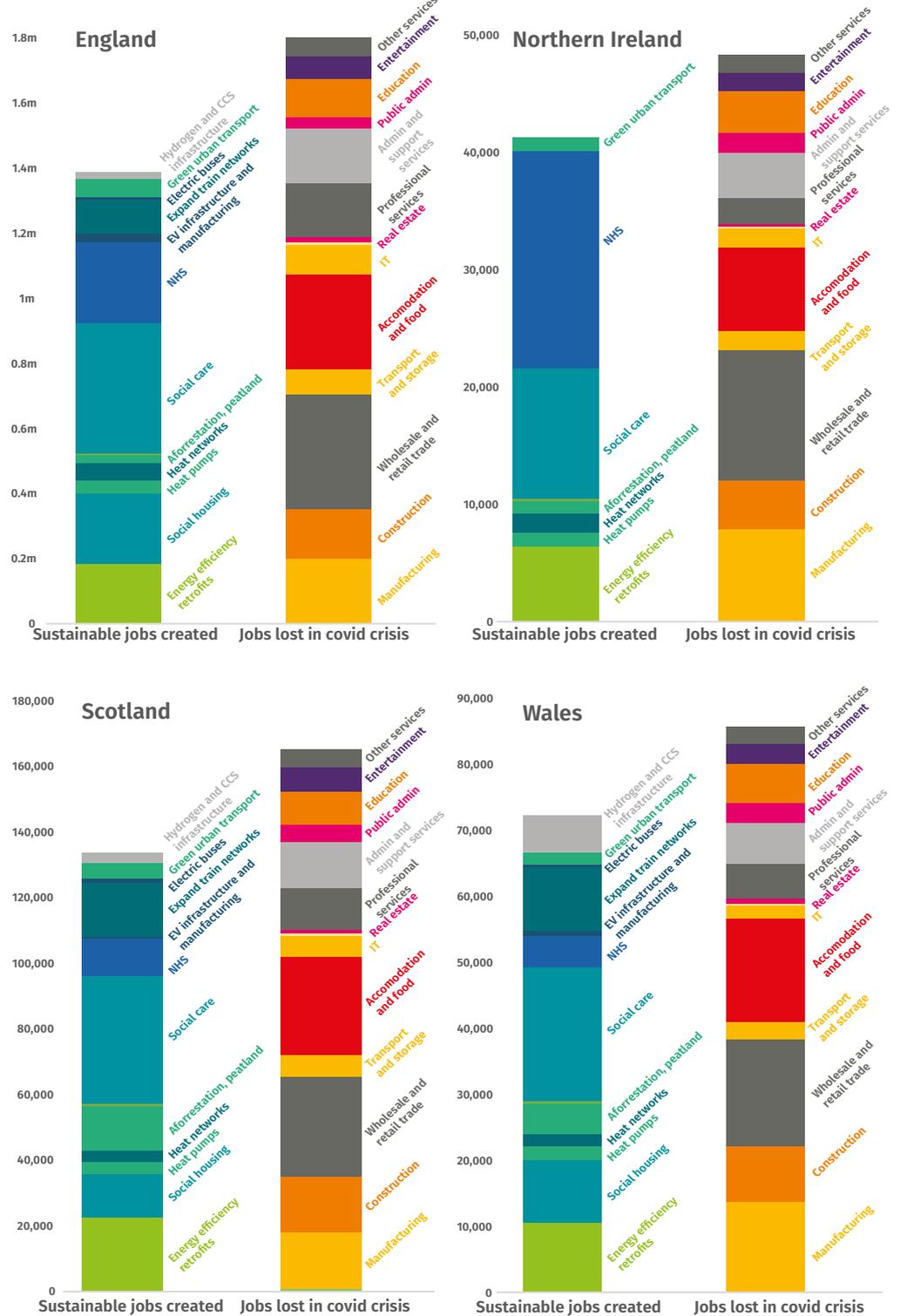
The findings for jobs in the UK as a whole also hold true for the UK's countries. Figure 4.4 shows this, outlining the jobs at risk from Covid-19 across England, Wales, Scotland, and Northern Ireland, and how clean recovery investments could help fill this gap. Three aspects are worth highlighting.

- First, we find that the unemployment impact could be broadly proportional to the size of a country's (and region's) labour markets.<sup>11</sup>
- Second, we find that jobs creation potential is broadly equally distributed throughout the UK. That is, the types jobs opportunities highlighted in figure 4.3 are broadly present across countries of the UK.
- Third, there are some differences in clean jobs creation opportunities. For instance, as a share of its labour market, Wales has a relatively bigger role for CCS and hydrogen jobs creation, thanks to an industrial cluster in South Wales. Scotland has a relatively larger jobs share in nature restoration due to ambitious afforestation targets. Wales and Scotland have a relatively larger share in rail expansion jobs. And England has a relatively higher share in social housing jobs creation opportunities, due to the large shortfall of social housing there.

<sup>11</sup> However, as shown above, the sectoral impact of this can vary.

**FIGURE 4.4: ACROSS THE UK, A CLEAN RECOVERY COULD MAKE UP FOR MOST OF THE JOBS LOST DUE TO COVID-19**

Potential sustainable jobs created by sector compared with potential jobs lost as a result of the Covid-19 crisis, for England, Scotland, Wales and Northern Ireland



Note: for Northern Ireland data limitations meant that a regional breakdown was not possible for all clean recovery policies.

Source: IPPR analysis of the sources in figure 3.3, ONS 2019, OBR 2020, BEIS 2020c, MHCLG 2020 and ONS 2020a

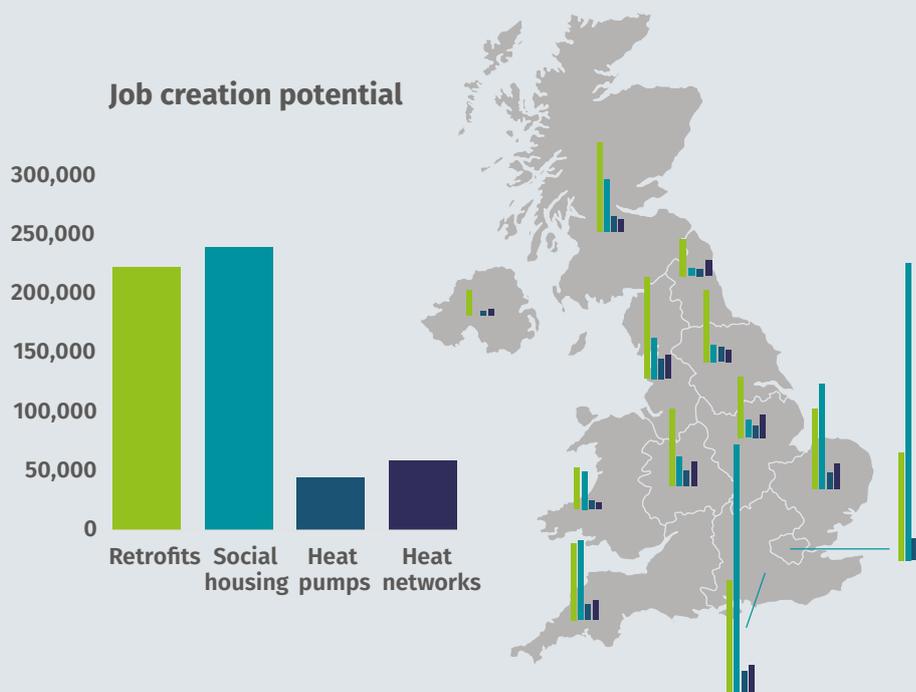
## IN FOCUS: HOMES AND TRAVEL

In figure 4.5 we break the jobs generation figures related to housing down further for England's regions, Scotland, Wales and Northern Ireland. We distinguish between jobs in retrofits, new build social housing, heat pumps and heat networks.

Overall, this data confirms the large potential for job creation in low-emission housing across all nations and regions of the UK. Within this, retrofits and social housing clearly have the largest jobs creation potential. But their relative importance varies. In the South East, London and East, social housing is the dominant jobs driver. In all other regions and countries, it is retrofits that have the most jobs creation potential. Importantly, there is consistent potential for heat pump installations across the UK. Heat networks can be better deployed in more densely populated areas, but our analysis finds they have jobs potential across the UK.

**FIGURE 4.5**

**Job opportunities in low carbon housing are evenly spread across the UK**



Note: The distribution of heat pump jobs is calculated based on the geographical distribution of the housing stock. Retrofit jobs distribution is calculated based on the geographical distribution of fuel poverty needs and the housing stock. Heat networks distribution is calculated in proportion to the population density of the top 5 most dense areas in each region / country. This is because building heat networks is more economical in more dense areas.

Source: Emden, Aldridge and Orme 2017, Heat Pump Association 2019, Blamley 2018, Parity Projects 2019, BEIS 2020c, MHCLG 2020 and ONS 2020e

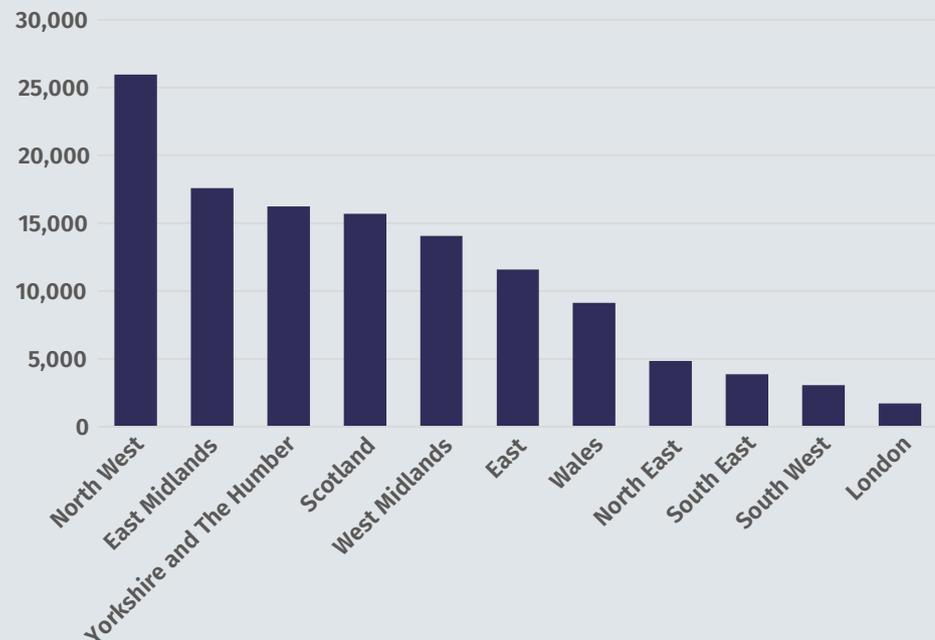
As with housing, there is a large potential for jobs creation in rail expansion and electrification. Over the last decade, investment in rail has fallen short to address the mobility needs across the UK (NEF 2019). And uneven investment in transport has significantly exacerbated regional inequalities.

According to one estimate, London has received 2.4 times more transport investment per capita than the North of England (IPPR North 2019).

These trends can be reversed by concerted investment and rail and electrification across the UK. Figure 4.6 shows how the according jobs creation potential is geographically distributed, based on the NEF (2019) investment proposals. It shows that the potential is highest in regions such as North West, the East Midlands and Yorkshire and the Humber. In other words, there is an opportunity to deliver the governments targets to achieve zero emissions in transport while at the same time 'levelling up' regions across the UK.

**FIGURE 4.6: INVESTMENTS ACROSS THE COUNTRY ARE NEEDED TO ENSURE EQUAL ACCESS TO TRAIN TRANSPORT**

**Jobs creation potential**



Note: The classification of projects to regions was done by IPPR. Given tracks are running across borders the exact regional classification can be ambiguous.

Source: IPPR analysis of NEF 2019, DfT 2018 and ARM 2019

## 5.

# RECOMMENDATIONS – MAKING IT HAPPEN

In the previous chapters, we set out the framework we believe should be adopted by government which should guide all policy in relation to climate and nature; the principles for selecting projects and programmes and those which the government should prioritise for investment; and how these priority projects and programmes could create jobs across the country. In this chapter, we bring these proposals together with the recommendations that are necessary to make it happen.

### AN INVESTMENT-LED RECOVERY

The UK government now has an opportunity to set out an ambitious recovery package directing the largest possible investment in the projects and programmes which meet the principles for a clean, fair and resilient recovery.

Estimates by IPPR have shown that there is currently a £30 billion annual public investment gap between the UK government's planned investments and its stated goals for decarbonisation and the restoration of nature. This must be the minimum ambition for investment in climate and nature as part of the recovery package but to deliver the needed boost to our social infrastructure, digital infrastructure and increase in affordable homes will require additional public investment through new commitments or investment brought forward. Although as we set out in this paper, investment must be accompanied by policies and regulatory measures to send market signals and guide private investment.

We recommend that the government prioritise its investment in the projects and programmes set out in this paper, as follows.

- 1. Homes and buildings:** Invest in a large-scale energy efficiency programme, deliver an ambitious low-carbon heat programme preparing and embark upon a mass zero carbon social home building programme.
- 2. Nature restoration:** Invest in tree planting and peatland restoration across the country.
- 3. Transport infrastructure:** Invest in electric vehicle supply and charging infrastructure to significantly ramp-up the uptake of low carbon travel. The government should also invest to significantly expand low carbon public transport infrastructure by bringing forward investment in rail and bus (electric) networks.
- 4. Industry:** Bring forward financial support mechanisms for Carbon Capture and Storage and hydrogen clusters which will have a critical role in delivering a net zero economy. Such investment will also boost the local economies where these sectors are based. Such upfront investment is required by government for the successful development of this industry. The benefits of these investments will include driving down the cost of innovation as well as boosting the competitiveness of UK industries by driving the market for low carbon industrial products (Aldersgate 2020).

5. **Social infrastructure:** Invest in adult social care which is an essential public service and a growing part of our economy. The Covid-19 crisis has exposed the low pay and poor working conditions in this sector which can be addressed through social care reform and attract many more prospective employees to the sector. Investing in the National Health Service which the Covid-19 crisis has already exposed as being under significant strain.

#### **Other areas for investment**

6. **Digital infrastructure:** There is an opportunity after Covid-19 to embed some of the behaviours that could help reduce emissions in the future. Investing in broadband to ensure there is adequate connectivity across the country (for instance by increasing the full fibre coverage well above the less than 10 per cent of homes across the UK that currently have access) (Allan et al 2020). Estimates suggest that investment in ICT could reduce the UK's carbon emissions by 24 per cent a year (Aldersgate 2020).
7. **Energy generation, storage, and distribution:** To support the electrification of heat and transport there will need to be a considerable extension and modernisation of the electricity grid. This will require investment in the production of zero carbon energy, energy storage infrastructure and interconnection (Allan et al 2020).
8. **Research and development:** Investment in research and development will be essential to driving innovation. There should be a particular focus on new start-ups and small and medium-sized enterprises, with consideration of equity stakes for government to share the proceeds of success.
9. **Education, skills and training:** The recovery plan and shift to the zero-carbon economy will inevitably require new skills and widespread training initiatives. This should include both the reskilling and retooling of the existing workforce, particularly those who have been displaced as a result of the Covid-19 crisis, and those working in carbon intensive industries who are either currently being displaced or soon-to-be in that position. There should also be a particular focus on the young for whom the scarring effect of unemployment can be significant. This will demand a number of particular initiatives:
  - **A Right Start Guarantee:** Young people will be particularly hard hit by what is set to be the worst jobs crisis in a generation. The government should unveil bold policy interventions to prevent youth unemployment. This should include the creation of a **Right Start Guarantee** that ensures every young person is either in education or work. The Right Start Guarantee should be comprised of three bold measures i. the reform of welfare support for young people ii. Reform of the Apprenticeship Levy to create 200,000 new apprenticeships iii. the creation of a Right Start Fund to support those young people that are not ready for the labour market or apprenticeships. Further details on this proposal will be set out in a forthcoming IPPR report (Quilter-Pinner et al 2020) but the measures on apprenticeships and jobs should be directed towards supporting the necessary skills for the zero-carbon economy.
  - **Just Transition Fund:** As recommended by IPPR's Environmental Justice Commission, a national Just Transition Fund should be established as part of regional economic development funding to help the drive towards a net zero economy and to ensure those negatively disrupted are given the resources and support to succeed in the future. The UK government should capitalise the fund with an initial down-payment of £5 billion. Funds should flow to the areas of the UK with the greatest need for just transition and should be – where applicable – transferred to the devolved administrations and where possible, passed down from there to local authorities and communities.

## Policy architecture

- 10. Net zero and nature rule:** The recent decision by the High Court which found the UK government had failed to consider whether the Heathrow expansion was consistent with its commitments under the Paris Agreement (Court of Appeal 2020) has profound implications for all government policy at every level. The UK government, devolved nations and local government should review and audit all projects, policy, investment and spending, taxation measures, regulations and legislation to ensure they are in line with the UK's obligations under the Paris Agreement and net zero commitments, as well as broader environmental commitments that will be enshrined in the government's Environment Bill.
- 11. Conditions on bailouts:** As set out in chapter 3, a number of opportunities to lock-in a clean recovery with firms who have significant negative impacts on our climate and nature has been missed with these companies securing bailouts and cheap loans without any conditions. Going forwards the UK government should apply conditions to any future bailouts<sup>12</sup> to ensure they help meet its commitments on climate and the restoration of nature. These should include the following.
- A requirement that the firms report in line with the recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD) in their annual reports.<sup>13</sup>
  - Commitments to achieving net zero emissions by 2050 at the latest depending on the sector and to lower their environmental footprint in line with the government's environment bill, supported by interim reduction targets. These targets should be supported by an accompanying climate and nature business plan setting out the roadmap to achieve the targets with commitments to annual reports on progress made and measures in place.<sup>14</sup>
  - Putting the environment, taxpayers and workers first by (i) linking management and executive pay and bonuses to achieving targets as set out in the firms climate and nature business plan (ii) imposing restrictions on executive pay and bonuses, share buybacks and dividends until such time as government support has come to an end.

## Institutions and plans

- 12. Net Zero and Just Transition Delivery Body:** To drive through the policy change required across the whole of the economy will require a coordinated approach across government at every level. Moreover, a fair transition must be put at the very heart of government policy not just to mitigate risks, but to make the most of the substantial opportunities the transformation brings to address underlying economic and social inequalities. To drive through the policy change required across the whole of the economy, we recommend that the UK government should establish a Net Zero and Just Transition Delivery Body (NZJT). The body will be responsible for developing and delivering a national Net Zero Delivery Plan (see below) which must be centred around a just transition.<sup>15</sup>

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12 The government may want to apply criteria. For instance, Client Earth propose that all companies that are listed in the UK (or where the company receiving the support is a subsidiary, one of (i) the subsidiary, (ii) its parent company or (iii) another group entity that will benefit from the support) meets the criteria or have an annual turnover greater than £45 million that receive support under the recovery package. See here for more information: <https://www.documents.clientearth.org/wp-content/uploads/library/2020-06-03-position-statement-resilient-recovery-conditions-ce-en.pdf>

13 See <https://www.fsb-tcfid.org/>

14 Without reliance on offsetting.

15 See: <https://www.ippr.org/files/2020-05/faster-further-fairer-ejc-interim-may20.pdf>

13. **Net Zero and Just Transition Delivery Plan:** We recommend that the NZJT should be responsible for developing a Net Zero and Just Transition Delivery Plan. This plan will integrate various departmental plans across government to ensure there is a coherent and fair approach to achieving decarbonisation. Moreover, learning from the approach taken in Sweden through the ‘Fossil Free Sweden’ initiative, we recommend that there should be a requirement to develop a roadmap for every sector with each containing the timelines, proposals and commitments for how each sector will achieve net zero in a fair way with mitigation and transition plans. We recommend that the devolved nations should follow the same approach.
14. **A National Investment Bank:** The government should establish a National Investment Bank (NIB). As with the Scottish National Investment Bank (SNIB) the remit of the NIB should be centred around the transition to a net zero economy. The NIB would help support investment in infrastructure, innovation and new start-ups and SME businesses across the country with a high priority on investments that help the drive to a decarbonised economy and the restoration of nature. A key function of the NIB would be to help ‘crowd-in’ private investment.

## FINANCING THE RECOVERY

Though far from the only indicator to consider GDP fell 25 per cent in March and April 2020, the largest drop in peacetime. A third of the labour force has been furloughed and the return to their old jobs for many people remains uncertain. Unemployment could rise above 10 per cent. In this time of crisis, the central tool to reigniting the economy and helping the private sector to generate jobs is debt-financed spending.

The government can afford to borrow and increase its debt level, because interest rates are close to zero – the lowest they have ever been. This means that, even with more borrowing, only a limited share of annual tax revenues would need to be spent on servicing the debt each year. In fact, interest rates are currently so low that even a doubling of the UK’s debt would still mean the Treasury would pay *less* to service this debt, as a share of tax receipts, than at almost any other time since 1950 (Resolution Foundation 2020).

Therefore, as long as borrowing costs remain low, a high level of government debt remains affordable.<sup>16</sup> In the medium term, after the recovery is achieved, public finances will need to be stabilised through a clear fiscal framework and fair taxation (Jung 2020). Moreover, the risks of inaction far outweigh the risks of action. The climate and nature crisis is the largest existential threat to our way of life and must be a priority for investment.

That said, not all funding of the recovery package should – in the medium-term – come from borrowing, because not all parts of the recovery package are investment. Investment is loosely defined as spending today that brings social and economic benefits in the future. For instance, investing in expanding railways will benefit future generations by enabling better transport, supporting the economy and reducing emissions. It should thus mostly be regarded as investment. Health and social care, while also benefitting society and economy in the future, is mostly valued for the

<sup>16</sup> The reason for ultra-low borrowing cost is partly because the Bank of England is buying up a lot of government debt. This calms financial markets and allows the government to borrow large sums of money at cheap rates. It is an essential support measure for the government’s COVID-19 response, and it should go on until the economy has recovered. But the government cannot rely on the central bank buying ever more of its debt, forever. Ultimately, this would undermine the credibility of public finances. An approach that continuously relies on the central bank financing large government deficits could eventually lead to financial bubbles or runaway inflation. Therefore, a sensible strategy for putting the public finances on a firm footing is needed.

benefits it has concurrently. It is therefore referred to as ‘current spending’. In the medium term, this type of spending will need to be paid for by taxes. But this should only be in the medium term once the recovery is well underway.

Table 5.1 outlines our initial assessment of what types of spending the different projects constitute. Closing the gaps in social infrastructure are mostly current spending. Most other projects tend to be either investment spending or a mix of the two, featuring both concurrent and future benefits.

### Financing mechanisms

In all of the four priority areas, government funding should be complemented with private finance (table 5.1).

In transport, with regards to electric vehicles, a relatively high share can be private financed as electric transport is close to the point at which it pays for itself due to lower lifetime energy costs. On the other hand, expansion of rail, restoring of bus services and the establishment of green urban transport schemes (including better public transport, cycling and walking) will to a significant degree be reliant on public funding, as their economic benefits are harder to monetise for private players. Yet, the private sector will play a significant role in various projects within this sector – eg the electrification of rail can largely be carried out via existing private providers.

Regarding industry, depending on application the public funding share will remain fairly high. For instance, CCS deployment has been stagnant mainly because carbon price expectations have not provided a sufficiently strong incentive for industry to invest in this, and because of competitiveness concerns (CCC 2019c). Therefore, public money will be required to deliver the rollout of infrastructure that is needed to make this operational by the end of the 2030s. The story is similar for hydrogen. The industry and private sector share in contributing to this should gradually increase over time.

Nature restoration will need a number of tools given the myriad structures in which land is owned in the UK. In the short term, the government needs to provide clear monetary incentives for landowners, and farmers to transform their land to contribute to afforestation and nature restoration goals. Part of this could involve changing the subsidy around farming practices. In the medium term, carbon pricing should force industry, aviation and other private sectors with outsized emissions to pay for the land use transformation. Changing planning restrictions and land reform will play an important enabling role in doing so.

Finally, low carbon housing will require a mix of public and private tools to deliver decarbonisation over the next decade. The government will need to support cheap financing to home-owners and potentially landlords too, for instance through cheap loans. For low-income households and the social housing sector, it should deliver grants through councils.

**TABLE 5.1: PRIORITY PROJECTS AND HOW THEY COULD BE FUNDED**

Priority project area	Project	Type of spending	Funding source	Private funding share	Public funding	Private funding
<b>Transport</b>	Electric vehicles	Investment and current spending	Borrowing, private finance and taxation	High, as low-carbon transport is close to competitive	Increase match-funding for EV infrastructure, subsidies for take purchase of EV	Provide loans of for purchases of new vehicles, private matched-funding for charging infrastructure
<b>Transport</b>	Public transport & green urban transport	Investment and current spending	Borrowing, private finance and taxation	Low, given infrastructure investments	Provide upfront funding for expansion of rail, implementation of urban strategies	Electrification and some rail expansion projects run by private providers
<b>Industry</b>	Hydrogen & CCS infrastructure and supply chain	Mostly investment	Borrowing & private finance	Medium, as technology & infrastructure change need to be incentivised.	Subsidies for CCS and hydrogen clusters. Upfront investment into infrastructure, could be recouped later from industry	Ultimately paid for by polluting sectors via UK carbon pricing scheme.
<b>Social infrastructure</b>	NHS & social care	Mostly current spending	In the medium term: taxation	Low to medium	State-funded current spending for NHS and social care.	Funding for scaling up of care and health facilities.
<b>Nature restoration</b>	Peatland & afforestation	Investment and current spending	Borrowing, private finance and taxation	Medium, through carbon pricing scheme	Feed-in tariff payment for afforestation schemes, via	Loans for organisation implementing the restoration. Ultimately paid for by polluting sectors via UK carbon pricing scheme.
<b>Zero-carbon homes</b>	Energy efficiency, low carbon heat and social home building	Mostly investment	Borrowing & private finance	Medium, as in many cases it is cost effective	Subsidies and grants for incentivising uptake of insulation and low-carbon heating solutions. Grant subsidies to build social homes.	Loans for households to implement insulation and installing heat pumps. These could be run in gov't vehicles taking amortisation and risks off households, incentivising uptake.

Source: Authors' analysis

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# ANNEX

**FIGURE A1: SECTORAL EXPOSURE BY COUNTRY/REGION**

Difference between sector share and share labour market share in labour market, 2018

	Sector growth OBR	East	East Midlands	London	North East	North West	South East	South West	West Midlands	Yorkshire and the Humber	Wales	Northern Ireland	Scotland
<b>P : Education</b>	-90	0.4	0.2	-2.5	0.2	-0.4	1.8	-0.2	0.6	0.8	0.0	0.2	-1.1
<b>I : Accommodation and food service activities</b>	-85	-1.1	-0.6	2.1	-0.1	-0.5	-0.3	2.2	-1.9	-0.2	0.2	-0.3	0.5
<b>F : Construction</b>	-70	1.6	-0.1	-4.4	0.2	-0.1	1.2	1.2	0.1	-1.0	0.3	-0.1	1.1
<b>R : Arts, entertainment and recreation</b>	-60	-0.2	0.9	0.3	-0.5	-0.2	1.2	0.7	-1.8	-0.5	-0.4	-0.4	1.0
<b>S : Other service activities</b>	-60	-1.1	-0.1	2.5	0.3	-0.6	0.7	-0.4	1.8	-2.5	-0.5	-0.1	0.0
<b>C : Manufacturing</b>	-55	-0.6	3.8	-12.2	1.1	1.8	-3.0	0.3	3.8	3.5	1.4	1.0	-1.1
<b>G : Wholesale and retail trade; repair of motor vehicles and motorcycles</b>	-50	0.8	0.7	-3.5	-0.2	1.2	1.1	0.2	0.7	-0.1	-0.4	0.4	-0.9
<b>Share in UK labour market</b>		9.1	6.8	16.7	3.4	10.9	13.6	8.2	8.4	7.9	4.3	2.4	8.3

Source: ONS 2019

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