

# RECOVERING BETTER: A GREEN, EQUITABLE AND RESILIENT RECOVERY FROM CORONAVIRUS

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*This briefing note has been prepared for the European Climate Foundation to support policy, communications and advocacy initiatives aiming to promote a 'better recovery'. It is focused on industrialised countries. It attempts to set out a framework of analysis and argument, but does not claim to be a definitive or comprehensive statement. Some elements may quickly become out of date. It should be freely adapted for use in specific country and institutional contexts.*

## **1. The case for green, equitable and resilient recovery plans**

**1.1 We are living through an unprecedented health and economic emergency.** Countries where the coronavirus has taken hold are struggling to control transmission rates, to mobilise sufficient resources for their health services, to provide companies with sufficient liquidity to survive, and to ensure that workers and those on social security benefits have sufficient incomes on which to live. These are the overwhelming priorities today, and will remain critically important over the coming weeks. But this 'stabilisation' phase is unfortunately only Phase 1 of this crisis.

**1.2 It is clear, as the IMF has confirmed, that this has already turned into a global recession.**<sup>1</sup> The collapse of both supply and demand is leading to dramatically contracted national incomes. Even where measures are being taken to prevent workers being laid off, unemployment is already rising steeply. Many companies will go out of business. Stock markets and many commodity prices have already fallen a long way. Though some of the loss of output and jobs will be temporary, part will be permanent. Economic uncertainty is likely to persist for a long time.<sup>2</sup>

**1.3 Beyond current emergency measures, governments will have to introduce major fiscal stimulus and rescue packages.**<sup>3</sup> This is not the same kind of crisis as in 2008, and we do not yet know how it will play out,<sup>4</sup> but the recession will be of comparable scale, if not larger.<sup>5</sup> Some recent economic forecasts suggest a contraction of global GDP in 2020 of 4%, which would be twice as large as in 2009.<sup>6</sup> The fiscal stimulus packages introduced in the largest economies in 2008-10 averaged 3.4% of GDP.<sup>7</sup> At the same time it is clear that many major companies will need to be rescued; bailout plans are already being devised. Phase 2 of the crisis will therefore almost certainly comprise fiscal stimulus and rescue packages, likely supported by further unconventional monetary policy. This phase is also likely to see new accompanying policy measures to support the stimulus packages. Beyond this there could then be a Phase 3, in which long-term restructuring of institutions and policies may be undertaken.

**1.4 Many people, such as the UN Secretary General<sup>8</sup>, are already saying that we need to 'recover better': that the economy and society we rebuild after the crisis must be more resilient, more environmentally sustainable, and more socially just.** In its statement on 26 March, the European Council tasked the European Commission with preparing a Roadmap and Action Plan specifically

<sup>1</sup> <https://www.euronews.com/2020/03/28/imf-declares-global-recession-and-doubles-the-size-if-its-financial-war-chest>

<sup>2</sup> <https://voxeu.org/article/covid-19-europe-needs-catastrophe-relief-plan>

<sup>3</sup> <https://voxeu.org/content/mitigating-covid-economic-crisis-act-fast-and-do-whatever-it-takes>

<sup>4</sup> <https://hbr.org/2020/03/understanding-the-economic-shock-of-coronavirus>

<sup>5</sup> <https://www.reuters.com/article/us-health-coronavirus-global-economy/global-economy-already-in-recession-on-coronavirus-devastation-reuters-poll-idUSKBN21702Y>

<sup>6</sup> <https://cebr.com/reports/a-world-recession-is-now-almost-a-certainty-with-global-gdp-set-to-decline-twice-as-much-as-during-the-financial-crisis-the-challenge-now-is-to-prevent-the-recession-from-turning-into-a-1930s-style/>

<sup>7</sup> <https://www.imf.org/external/np/pp/eng/2009/020109.pdf>

<sup>8</sup> <https://news.un.org/en/story/2020/03/1059752>

aimed at ‘the measures necessary to get back to a normal functioning of our societies and economies and to sustainable growth, integrating inter alia the green transition and the digital transformation... this will require a coordinated exit strategy, a comprehensive recovery plan and unprecedented investment.’<sup>9</sup> Right now governments are rightly focused on the immediate emergency. But as they begin to plan for medium-term stimulus and rescue packages, and longer-term recovery, it is vital that they do not seek simply to go back to the status quo.<sup>10</sup>

- 1.5 The coronavirus crisis comes on top of a climate and environmental crisis which governments have not been doing anything like enough to tackle.** The Intergovernmental Panel on Climate Change (IPPC) has warned that global greenhouse gas emissions must be approximately halved over the next ten years if the goal of the Paris Climate Agreement, to limit the average global temperature rise to no more than 1.5C, is to remain achievable. And they need to be reduced to ‘net zero’ by around mid-century.<sup>11</sup> Under the Agreement, countries are required to bring forward enhanced emissions reduction, adaptation and finance plans this year, at the UN climate conference COP26 due to be held in Glasgow in November. Yet few seem likely at present to announce plans commensurate with the scale of emissions reductions or finance required.<sup>12</sup> New national and international plans to combat accelerating biodiversity loss are also meant to be agreed at COP15 of the Convention on Biological Diversity, due to be held in Kunming, China, in October. Again, there is little sign that current intentions are on anything like the necessary scale.<sup>13</sup>
- 1.6 Many countries also face acute conditions of economic and social inequality.**<sup>14</sup> Over recent decades, and particularly since the financial crisis, economic growth has tended to be skewed towards the richest groups in society. Average wages have stagnated or grown very slowly. Work has become more precarious for many people. Austerity policies have cut back public services and welfare systems, with many of the most vulnerable people, including women, ethnic minorities and the elderly, particularly hard hit. Wealth inequalities have grown starkly, and in some countries also those between central and peripheral regions. Many societies have seen a growth in mental ill-health. The rise of racist and xenophobic views in public life has contributed to a widespread sense of social fragmentation. This is also part of the context of the current crisis.
- 1.7 The coronavirus crisis has exposed a profound problem of resilience in modern societies and economies, and a lack of preparedness for major shocks.** Health experts, including the World Health Organisation, had warned of the risk and potential consequences of a global pandemic, yet few countries, if any, had made adequate preparation.<sup>15</sup> It is evident that the risks from climate and environmental breakdown are rising, as recent extreme events such as forest fires and flooding have shown. Yet our societies have not properly acknowledged the danger. Our economies are now dependent on complex and interconnected global supply chains and financial systems which are highly vulnerable. Resilience – in production and trade, finance and public services – needs to become a much stronger goal of public policy. If COVID-19 has shown the importance of understanding and preparing for risk, it is imperative that this lesson is applied to the climate and environmental crisis, where the risks are even larger and preparedness less.
- 1.8 In drawing up stimulus and recovery plans to respond to the coronavirus crisis, there is therefore both opportunity and necessity for climate and environmental breakdown, social inequalities and resilience to be addressed at the same time.** In all countries there are a wide variety of options for

<sup>9</sup> <https://www.consilium.europa.eu/en/press/press-releases/2020/03/26/joint-statement-of-the-members-of-the-european-council-26-march-2020/>

<sup>10</sup> The case for stimulus packages to support the clean energy transition has also been made by IEA Executive Director Fatih Birol, <https://www.iea.org/commentaries/put-clean-energy-at-the-heart-of-stimulus-plans-to-counter-the-coronavirus-crisis>

<sup>11</sup> <https://www.ipcc.ch/sr15/>

<sup>12</sup> <https://climateactiontracker.org/publications/governments-still-not-acting-on-climate-crisis/>

<sup>13</sup> <https://www.cbd.int/nbsap/>

<sup>14</sup> <https://www.un.org/development/desa/dspd/world-social-report/2020-2.html>;

<http://hdr.undp.org/sites/default/files/hdr2019.pdf>; <https://wir2018.wid.world/>

<sup>15</sup> <https://www.theguardian.com/global-development/2019/sep/18/a-deadly-virus-could-kill-80-million-people-in-hours-experts-warn>

public spending, investment and policy which can simultaneously create jobs and raise incomes – particularly in disadvantaged areas and for those on lower and more precarious incomes – while reducing greenhouse gas emissions and environmental damage and increasing resilience. It is vital that we ‘recover better’, directing stimulus and rescue plans and accompanying policies towards the major challenges our societies face: climate and environmental breakdown, improving health, wellbeing and social care, improving education and skills, raising productivity and earnings, and accelerating digitalisation. The case for prioritising measures which are consistent with sustainable development – which contribute to net zero emissions trajectories, are environmentally sustainable, help reduce inequalities, and improve social cohesion and system resilience – is overwhelming.

**1.9 Badly designed, there is a real risk that stimulus and rescue measures could instead exacerbate environmental crisis and social inequalities.** Some voices are already claiming that the crisis requires the weakening of environmental regulations and the abandonment of decarbonisation plans.<sup>16</sup> This would be fatal error. Unconditionally bailing out high carbon businesses, particularly those investing in fossil fuel extraction and use, and increasing investments in high carbon infrastructure, would lock in significant greenhouse gas emissions for the long term; it could potentially destroy global efforts to avoid catastrophic climate change. Inflating the value of assets held largely by the wealthy and reinforcing the power to capture economic rents of advantaged sectors, such as financial institutions and large landowners, would worsen existing inequalities. The response measures which followed the 2008 financial crisis included in many countries substantial green stimulus packages; but they also had negative environmental and structural impacts of these kinds.<sup>17</sup> It will be important to learn the lessons from that period.<sup>18</sup>

**1.10 The green measures included in the fiscal stimulus packages implemented in the wake of the 2008 financial crisis were largely successful in themselves, but did not lead to a significant greening of the economy.** Globally, it is estimated that green measures and investments amounted to around 16% of total fiscal stimulus spending in 2008-09.<sup>19</sup> The proportion varied between countries: nearly 80% in South Korea, nearly 60% (of a small total) in the EU, around a third in China, 16% in the UK, 12% in the US. Most of these measures achieved their goals of generating jobs and incomes while boosting renewable energy and energy efficiency investment, restoring natural environments and so on.<sup>20</sup> However most countries left in place prevailing economic incentives to emissions generation and environmental degradation, including fossil fuel subsidies of various kinds, no or minimal carbon and environmental taxation, and inadequate regulatory regimes, for example over air and marine ocean pollution. The stimulus packages – many of which were quickly withdrawn – did not therefore have a significant lasting impact.<sup>21</sup>

**1.11 Today there is not just much greater public concern about climate change than in 2008; we also understand its criticality to the global financial system.** As former Bank of England Mark Carney has warned, the financial sector is exposed to significant risk, both from the impacts of climate change on the value of its assets – for example, as a result of rising insurance claims – and from the potential of more stringent climate policy to cause a significant devaluation of fossil fuel and high carbon assets.<sup>22</sup> There is now a major need to shift finance away from high carbon assets and into sectors and technologies sustainable in the long term.

**1.12 In responding to both the coronavirus and environmental crises, the risks of inaction far outweigh the risks of action.** Already in response to the crisis, governments have shown that they can act much more swiftly and on a larger scale than they previously believed possible. The same urgency

<sup>16</sup> <https://www.euractiv.com/section/energy-environment/news/czech-pm-urges-eu-to-ditch-green-deal-amid-virus/>

<sup>17</sup> <http://www.lse.ac.uk/GranthamInstitute/publication/the-climate-impact-of-quantitative-easing/>

<sup>18</sup> <https://www.cbpp.org/research/economy/the-financial-crisis-lessons-for-the-next-one>

<sup>19</sup> <https://voxeu.org/article/urgently-needed-global-green-new-deal>; [https://www.ilo.org/wcmsp5/groups/public/---dgreports/---inst/documents/publication/wcms\\_194185.pdf](https://www.ilo.org/wcmsp5/groups/public/---dgreports/---inst/documents/publication/wcms_194185.pdf)

<sup>20</sup> See, for example, <https://www.sciencedirect.com/science/article/pii/S1364032114008855>

<sup>21</sup> <https://voxeu.org/article/urgently-needed-global-green-new-deal>

<sup>22</sup> <https://www.imf.org/external/pubs/ft/fandd/2019/12/a-new-sustainable-financial-system-to-stop-climate-change-carney.htm>

needs to be applied to the climate and environmental emergency. As Harvard economist Jason Furman notes: “the likelihood that history judges the economic response to coronavirus as too little and too late is much higher than the converse. If the economic shock is small and stimulus proves to be unnecessary, its negative effects are likely to be small. But if the shock is bigger and policy makers fail to act now, it will be harder to reverse the economic damage.”<sup>23</sup> Similarly, Oxford economist Simon Wren-Lewis observes: “No one in a 100 years’ time who suffers the catastrophic and (for them) irreversible impact of climate change is going to console themselves that at least they did not increase the national debt.”<sup>24</sup>

**1.13 The stimulus and recovery plans needed to tackle the economic impact of the coronavirus should therefore mark a turn towards a new, more sustainable, inclusive and resilient economic model, supporting a ‘just transition’ from our current patterns of economic activity.** They should align private and public financial flows towards profitable investment opportunities that both realise rapid emissions reductions and support job and income generation, while addressing the financial and social risks exposed by both the climate and coronavirus crises. Such plans would represent a first-best response to the global economic downturn, offering a ‘win-win’ for economies and societies across the world.

**1.14 As well as focusing on their domestic recovery plans, developed countries must also respond to the needs of low-income countries.** Many developing countries are only just beginning to see the effects of the coronavirus. It threatens a devastating humanitarian crisis in places where health systems are already weak. Low-income countries will require both immediate and medium-term assistance. There is a real risk that the drive for subsequent recovery will lead to the consolidation of fossil fuel based energy systems and to the further destruction of natural resources such as forests, agricultural land and oceans. New and innovative forms of international cooperation – between individual countries and multilateral institutions – will be required to ensure that the path out of the crisis in all countries is sustainable, equitable and resilient.

## **2. The components of a green, equitable and resilient recovery plan**

**2.1 Recovery plans will mainly start being put into place once the current health and stabilisation emergency is more under control and economies can reopen, but corporate rescue schemes (bailouts) are already being devised, and it is vital that these are not simply aimed at preserving business as usual.** Where firms or sectors have a major role to play in decarbonisation (including aviation, fossil fuel, energy and automotive sectors), any rescue schemes should be subject to conditionalities aimed at accelerating their transition towards net zero trajectories. Such conditionalities need to be built in from the start, to give greater certainty and allow companies to plan effectively. In the aviation and airports sector, for example, any bailouts should include the future payment of fuel taxes from which the industry is currently exempt – though this will need international coordination, at least on a European scale.<sup>25</sup> They should also reflect the likely reduction in future demand for air travel resulting from the present crisis.<sup>26</sup> The automotive sector could be supported, for example, through public procurement of electric vehicles. More widely, bailouts might be effected through equity stakes rather than simply grants or loans, which would allow stronger direction of decarbonisation and business diversification plans (as well as sharing in future profits). Other conditionalities, such as ending share buybacks, might also be applied.<sup>27</sup>

**2.2 Recovery plans will need to comprise two kinds of measures: fiscal stimulus packages of public spending and investment; and a set of accompanying policies to incentivise private sector output and investment.** The aim of this second phase of the crisis response will be to raise economic activity

<sup>23</sup> <https://www.wsj.com/articles/the-case-for-a-big-coronavirus-stimulus-11583448500>

<sup>24</sup> <https://www.newstatesman.com/politics/economy/2019/02/case-funding-green-new-deal-through-government-debt>

<sup>25</sup> [https://www.transportenvironment.org/sites/te/files/publications/2019\\_02\\_Taxing\\_kerosene\\_intra\\_EU.pdf](https://www.transportenvironment.org/sites/te/files/publications/2019_02_Taxing_kerosene_intra_EU.pdf)

<sup>26</sup> <https://about.bnef.com/blog/covid-19-the-low-carbon-crisis/>

<sup>27</sup> <https://www.ippr.org/research/publications/beyond-bailouts>

and restore confidence after the immediate public health crisis has subsided and infection rates drop sufficiently for businesses to reopen. Fiscal stimulus packages should include both *capital investment* – such as on energy, transport and digital infrastructure and lending to businesses – and *current expenditure*, in areas such as health and social care, sustainable land management and building energy efficiency programmes. Though stimulus plans are often thought of in terms of infrastructure investment, current expenditure is much easier to deliver quickly and creates jobs faster. *Public procurement* could also play a major role, for example to provide markets for low carbon goods and services such as electric vehicles and the products of research and innovation.

- 2.3 Accompanying policies will often be needed alongside fiscal stimulus packages to provide the market signals which will incentivise private sector investment and spending.** There is little value in increasing spending on nature conservation programmes, for example, if agricultural subsidies still incentivise farming practices which reduce biodiversity. Investing in electric vehicle charging points requires continued consumer purchase subsidies and tightening of air pollution limits. The range of such accompanying policies is familiar: they include renewable energy mandates and demand management incentives; carbon and environmental taxation of various kinds and reduction of fossil fuel subsidies; urban and transport planning policies; performance standards for products, buildings and industrial processes; waste management and circular economy incentives; environmental protections, particularly to support biodiversity conservation; adaptation and resilience measures; and public procurement.<sup>28</sup> The aim must be to ensure that, while the stimulus gives the economy a short-term boost, the market signals give it long-term direction. This is critical to ensure that the environmental impacts of the recovery plan are sustained over time. As economist Mariana Mazzucato has argued in relation to ‘mission-oriented’ innovation strategies, clear signalling of economic direction builds business confidence in future demand.<sup>29</sup>
- 2.4 In designing their recovery packages, governments should take a coherent approach across the board, aiming clearly at achieving a green, equitable and resilient recovery.** Seeing the package as a whole, with a clear directionality, will be vital to building political, social and business support for the measures. Carefully communicated, there is the potential for widespread public acceptance that recovery from the COVID-19 crisis should go along with addressing the many other challenges our societies face: for building a better economy, aimed not only at raising incomes but improving social and environmental wellbeing. There is a clear opportunity in this to design recovery packages which are fully integrated with the measures that many governments were already developing in advance of the crisis, such as the European Green Deal, national energy and climate plans, and the ‘Nationally Determined Contributions’ being prepared for COP26, and to be informed by the best available evidence on decarbonisation options.<sup>30</sup>
- 2.5 The recovery should be designed to promote a just transition, ensuring costs are distributed fairly.** Plans should ensure that sectors, workers and communities are supported to make the transition from high carbon to sustainable economic activities.<sup>31</sup> Governments should avoid compensating firms while leaving employees to bear the costs of adjustment: job transfer, compensation and skills training packages are vital. Such ‘just transition’ plans should be drawn up in participative processes between businesses, governments (including local governments), trade unions and civil society organisations. Disadvantaged and marginalised groups must be properly involved and listened to. Maximising both multiplier effects and social, environmental and economic benefits while sharing the costs fairly will ensure the effects of the recovery plan are visible and tangible to citizens and businesses, providing certainty, boosting confidence and maintaining popular support.
- 2.6 Stimulus measures should be targeted at the most effective fields and projects.** Spending during the recovery phase should be focused on projects that can be easily and quickly delivered, which

<sup>28</sup> <https://www.oecd.org/environment/accelerating-climate-action-2f4c8c9a-en.htm>

<sup>29</sup> [https://www.ucl.ac.uk/bartlett/public-purpose/sites/public-purpose/files/iipp-pb-04-the-green-new-deal-17-12-2018\\_0.pdf](https://www.ucl.ac.uk/bartlett/public-purpose/sites/public-purpose/files/iipp-pb-04-the-green-new-deal-17-12-2018_0.pdf)

<sup>30</sup> See for example <https://exponentialroadmap.org/exponential-roadmap-2-0/>; <http://deepdecarbonization.org/>; <http://www.energy-transitions.org/mission-possible>

<sup>31</sup> <https://www.ituc-csi.org/just-transition-centre>



have the largest employment and multiplier effects; which support the most disadvantaged communities and regions; and which provide the widest range of economic, social and health co-benefits. If recovery plans are implemented while social distancing restrictions are still in place, it will be necessary to identify measures compatible with this. Stimulus packages should also include measures which can raise incomes directly, such as reductions in income tax for poorer households, reductions in VAT, and increases in social security benefits. The following paragraphs set out eleven fields of expenditure that can contribute to multiple goals: environmental improvement, social equity and well-being, economic productivity, and better health outcomes. In all these fields investment and current spending will generate significant employment and incomes, and therefore short- and medium-term multipliers.<sup>32</sup>

**2.7 Public services.** Health services, childcare and social care and education are labour-intensive sectors where higher spending can generate both immediate and long-term economic benefits. Many countries have seen under-investment in these services over recent years, and it is likely that following the crisis there will be particular public support for continued higher spending on health and social care.

**2.8 Digital infrastructure.** An accelerated roll-out of high-speed digital infrastructure will have multiple economic and social benefits, particularly in rural and disadvantaged regions.<sup>33</sup> Improving digital infrastructure is already a high priority in most countries to raise productivity. It can also support wider decarbonisation goals, for example by reducing travel demand. It has been projected that working from home and videoconferencing will be sustained at higher levels following the crisis.<sup>34</sup>

**2.9 Building insulation and energy efficiency.** Insulating homes and commercial buildings to improve their energy efficiency is labour-intensive and can provide jobs in all regions, both urban and rural. The construction sector is likely to be particularly hard hit by the current crisis, with high unemployment rates. Energy efficiency measures have multiple economic and social benefits, reducing energy costs and fuel poverty.<sup>35</sup> Most countries in temperate climates require major investment programmes to bring their housing stock up to the highest energy efficient standards. But lower oil prices are reducing the economic incentive. Stimulus packages and accompanying policies can therefore play a critical role, and will pay for themselves in reduced energy costs.<sup>36</sup> In countries with acute problems of homelessness and poor housing, there is also significant scope to increase the rate at which affordable homes are built and homes renovated.

**2.10 Transport.** Investment in sustainable transport modes will raise productivity and reduce congestion and air pollution. Most industrialised and many emerging economies have begun the transition from internal combustion engines to electric vehicles (EVs), but their uptake is constrained by inadequate charging networks. Most towns and cities would benefit from a major investment to increase the number of EV charging points. A range of accompanying policy measures are available to incentivise deployment and accelerate cost reduction: the aim should be to bring forward the tipping point of mass market cost parity to the early 2020s.<sup>37</sup> In most towns and cities investment in green public transport, particularly electric and hydrogen-powered buses and tram and light rail systems, would contribute to a reduction in air pollution and congestion as well as greenhouse gas emissions. Cycleways and pedestrianisation schemes can have similar impacts.<sup>38</sup> In many countries there is significant scope for building and upgrading railway lines and the replacement of old rolling stock.

<sup>32</sup> For specific proposals in the UK and US, based on the idea of a 'Green New Deal', see <https://neweconomics.org/2020/01/recession-ready>; [https://medium.com/@green\\_stimulus\\_now/a-green-stimulus-to-rebuild-our-economy-1e7030a1d9ee](https://medium.com/@green_stimulus_now/a-green-stimulus-to-rebuild-our-economy-1e7030a1d9ee)

<sup>33</sup> <https://www.oecd.org/going-digital/going-digital-shaping-policies-improving-lives-9789264312012-en.htm>

<sup>34</sup> <https://about.bnef.com/blog/covid-19-the-low-carbon-crisis/>

<sup>35</sup> <https://www.iea.org/reports/multiple-benefits-of-energy-efficiency>

<sup>36</sup> Ibid.

<sup>37</sup> <https://www.iea.org/reports/global-ev-outlook-2019>

<sup>38</sup> <https://urbantransitions.global/en/publication/national-transport-policy-and-cities-key-policy-interventions-to-drive-compact-and-connected-urban-growth/>

- 2.11 Renewable energy.** Investment in renewable energy, along with smart energy networks designed for large-scale renewable demand, will support the goal of net zero decarbonisation and reduce air pollution. With the price of electricity produced by wind and solar now at or close to parity with average wholesale prices,<sup>39</sup> most countries have begun the ‘energy transition’ from fossil fuels to renewables-based systems.<sup>40</sup> Given these cost parities, stimulus spending on renewables will not in most places be needed. Rather, such spending could focus on buying down the closure of aging fossil fuel plants – on condition that they are replaced with renewable-plus-battery combinations (which could be supported through concessional debt or debt guarantees).<sup>41</sup> By contrast with renewable electricity, the shift to renewable heating and cooling – potentially utilising hydrogen and carbon capture and storage – is proceeding much more slowly in most countries and could be given a significant boost by public investment and private sector incentive schemes.<sup>42</sup> The widespread use of electricity for transport and heating will also require a major expansion of the smart electricity network, including demand management and storage systems.<sup>43</sup>
- 2.12 Adaptation measures.** The present crisis may also raise public concern about preparedness for the impacts of accelerating climate change. Many countries need much higher investment in flood and coastal defences, in upland land management to reduce flooding risk, and in making drainage and sewerage systems resilient to changing patterns of rainfall.<sup>44</sup>
- 2.13 Nature conservation and land management.** Habitat and nature conservation programmes aimed both at enhancing biodiversity and enhancing public access can provide major sources of employment in both rural and urban areas. In many countries deforestation and land degradation are major contributors to food insecurity and poverty as well as emissions. Agroforestry, soil conservation and land restoration programmes can support livelihoods and incomes, particularly for poorer communities and households, and as part of the just transition in agriculture.<sup>45</sup> Better land management and habitat restoration programmes will support absorption of carbon dioxide, the recovery of biodiversity, and protect against the economic and social impacts of extreme weather events. This could include tree-planting, forest regeneration and wetland restoration.<sup>46</sup>
- 2.14 Waste management.** ‘Zero waste’ strategies can save costs and create jobs. Many cities in Europe and elsewhere have demonstrated the multiple benefits of prevention, reuse and recycling of waste.<sup>47</sup> Waste clean-up programmes, including land decontamination and in waterways and oceans, also offer scope for job creation and quality of life improvement.
- 2.15 Industrial processes.** Stimulus measures could boost efforts to reduce the environmental impact of energy-intensive industries. Shifting to a net-zero emissions trajectory requires significant investments in industrial processes and techniques, particularly in ‘hard-to-abate’ sectors such as plastics, cement, steel and heavy duty road transport.<sup>48</sup> There is particular scope for investment in ‘circular economy’ processes seeking to reutilise resources and eliminate waste, as outlined in the EU’s new Circular Economy Plan,<sup>49</sup> and in the introduction of carbon capture, use and storage (CCUS) technologies.<sup>50</sup>

<sup>39</sup> <https://www.ft.com/content/6a0f89a4-e37a-11e9-b8e0-026e07cbe5b4>

<sup>40</sup> <https://www.iea.org/reports/world-energy-outlook-2019/renewables>; [https://rmi.org/wp-content/uploads/dlm\\_uploads/2019/11/rmi\\_seven\\_challenges\\_for\\_energy\\_transformation-1.pdf](https://rmi.org/wp-content/uploads/dlm_uploads/2019/11/rmi_seven_challenges_for_energy_transformation-1.pdf); <http://www.energy-transitions.org/the-challenge>

<sup>41</sup> <https://about.bnef.com/blog/covid-19-the-low-carbon-crisis/>

<sup>42</sup> <https://www.iea.org/reports/renewables-2019/heat>

<sup>43</sup> [https://rmi.org/wp-content/uploads/dlm\\_uploads/2019/11/rmi\\_seven\\_challenges\\_for\\_energy\\_transformation-1.pdf](https://rmi.org/wp-content/uploads/dlm_uploads/2019/11/rmi_seven_challenges_for_energy_transformation-1.pdf);

<sup>44</sup> <https://www.eea.europa.eu/airs/2018/environment-and-health/climate-change-adaptation-strategies>

<sup>45</sup> <https://www.unenvironment.org/explore-topics/green-economy/what-we-do/economic-and-fiscal-policy/fiscal-policy/policy-analysis-6>

<sup>46</sup> <https://nature4climate.org/about/what-are-ncs/>

<sup>47</sup> <https://zerowasteurope.eu/case-studies/>

<sup>48</sup> <http://www.energy-transitions.org/mission-possible>

<sup>49</sup> <https://ec.europa.eu/environment/circular-economy/>

<sup>50</sup> <https://www.iea.org/fuels-and-technologies/carbon-capture-utilisation-and-storage>

**2.16 Research and innovation.** There is now increasing recognition of the value of directing research and innovation expenditure to meeting key social challenges, including decarbonisation and environmental degradation, ageing and health care, and digitalisation.<sup>51</sup> While many of the technologies required to reduce emissions and environmental degradation and enhance nature conservation are already available, there remains a significant need for governments to invest in R&I to improve these in the future, and to reduce their cost. The Mission Innovation initiative announced at Paris in 2015 identified key areas in the energy field: long-duration energy storage, high efficiency heat exchangers, synthetic fuels, electrochemical carbon capture technologies, and alternative building materials like structural carbon fibre.<sup>52</sup>

**2.17 Training and skills.** To ensure there are sufficient workers to take up the jobs created by recovery plans, and to enable a ‘just transition’, there will need to be significant investment in skills development and training.<sup>53</sup> This can contribute to stimulus packages in its own right.

### 3. Financing a green recovery plan

**3.1 With interest rates close to zero, fiscal policy will be needed to stimulate the economy.** While central banks will continue to play a vital role in the short-term response to COVID-19 through easing credit conditions, monetary policy in these conditions has little stimulatory effect.<sup>54</sup> There is now widespread consensus among economists and central bankers that fiscal policy must be deployed.<sup>55</sup>

**3.2 Although levels of public debt are still historically high, today’s extremely low interest rates make higher borrowing levels financially sustainable.** In many countries yields on 20-year bonds are now negative in real terms (taking account of inflation), indicating that financial markets expect near zero interest rates to last a long time. With future interest payments therefore extremely low, debt dynamics – the relationship between the GDP growth rate and bond yields – are highly favourable. As long as the rate of nominal GDP growth is higher than the nominal rate of interest, the ratio of debt to GDP will fall. This allows room for a larger primary deficit while maintaining a stable debt-to-GDP ratio.<sup>56</sup>

**3.3 There is a strong case for spending and investment which stimulates growth, even when this would incur a short-term rise in the debt-to-GDP ratio and necessitate the relaxing of fiscal rules.** If borrowing is used to fund well-directed investment, the effect will ultimately be to raise national income and reduce debt as a proportion of GDP. Former IMF Chief Economist Olivier Blanchard argues: “We should not hesitate to spend even 5-10 per cent more of gross domestic product and that should not create any worries about debt sustainability, providing it is spent sensibly.”<sup>57</sup> It is economically rational to spread the cost of investments which have long-lasting economic impact over the generations which will benefit from them; this is what borrowing does.

**3.4 Fiscal considerations reinforce the value of ‘green’ investment.** From a fiscal perspective alone, it is important that new investments do not lock in high-carbon infrastructure, since this is likely to reduce their yield over the long-term as climate policy tightens and climate risks increase. Investment projects in mitigation and adaptation of the kinds listed above represent attractive opportunities for stimulus, as many of these are ‘shovel-ready’, labour-intensive, redistributive and yield long-term economic and social benefits.<sup>58</sup>

<sup>51</sup> <https://www.ucl.ac.uk/bartlett/public-purpose/research/mission-oriented-innovation-policy>

<sup>52</sup> <http://mission-innovation.net/>

<sup>53</sup> [https://www.ilo.org/skills/pubs/WCMS\\_716075/lang--en/index.htm](https://www.ilo.org/skills/pubs/WCMS_716075/lang--en/index.htm)

<sup>54</sup> <https://www.ft.com/content/0f511530-64cd-11ea-a6cd-df28cc3c6a68>

<sup>55</sup> <https://www.ft.com/content/606f1c8c-5f96-11ea-8033-fa40a0d65a98>

<sup>56</sup> <https://www.lombardodier.com/contents/corporate-news/responsible-capital/2020/march/the-case-for-a-clean-stimulus-in.html>

<sup>57</sup> <https://www.ft.com/content/606f1c8c-5f96-11ea-8033-fa40a0d65a98>

<sup>58</sup> [http://eprints.lse.ac.uk/24345/1/An\\_outline\\_of\\_the\\_case\\_for\\_a\\_green\\_stimulus.pdf](http://eprints.lse.ac.uk/24345/1/An_outline_of_the_case_for_a_green_stimulus.pdf)



- 3.5 Sovereign bonds will provide a home for surplus capital.** Very low interest rates indicate a surplus of desired saving over desired investment. Many financial institutions are looking for safe assets to hold. Investment in green infrastructure and research and development can direct such desired savings into growth. There is clear potential for ‘green bonds’ (or ‘corona bonds’) to be used to finance a green stimulus.<sup>59</sup> They could be issued either directly by central governments, or through national investment banks and multilateral development banks. There have already been calls for the European Central Bank to issue a ‘corona bond’ to support stimulus packages in member states, and to use its power of Outright Monetary Transactions, under which it can buy unlimited amounts of shorter term bonds.<sup>60</sup> This may also require protective measures against speculative attacks on weaker member states.<sup>61</sup>
- 3.6 Given high existing sovereign debt levels, one option policymakers can consider is the ‘monetary financing’ of green stimulus measures.** Monetary financing (sometimes called ‘printing money’) is the permanent financing of government expenditure by the central bank. This is most easily done by the government issuing sovereign debt which is then purchased by the central bank and converted to a non-interest-bearing and non-redeemable ‘asset due from government’.<sup>62</sup> Such a process provides the government with additional spending power without an increase in overall debt levels or interest repayments. In recent decades monetary financing of this kind has been widely regarded as inflationary and a ‘moral hazard’ for governments, but it was widely used during the second world war and in the post-war period when government debt was high and demand constrained, without excessive inflationary consequences.<sup>63</sup> In practice, the ‘quantitative easing’ (QE) used by central banks since the financial crisis, if made permanent, would constitute a form of monetary financing. Given the economic and public debt conditions which will prevail after the coronavirus crisis there is a strong case for serious consideration of this option. It is unlikely that inflation would be a problem: current inflation expectations are anchored well below central bank targets, oil prices are low, and fiscal stimulus packages will be temporary.<sup>64</sup> It would require clear rules for the coordination of fiscal and monetary policy: the Blackrock Investment Institute has suggested the establishment of a ‘standing emergency fiscal facility’ with defined activation criteria as a means of controlled monetary financing of sovereign debt.<sup>65</sup>
- 3.7 Another option would be ‘green QE’, the specific purchase of green bonds by central banks.** In many cases at present (including the ECB), a substantial part of central banks’ QE bond portfolios is geared towards the most carbon intensive sectors of the economy.<sup>66</sup> By unwinding these holdings in favour of green bonds, central banks could ensure that their activities do not run counter to climate and environmental commitments. ‘Brown’ assets financing high carbon activities should then be excluded from corporate bond purchases. This would utilise the EU’s Green Taxonomy and Green Bond Standard and build on the proposals made by former Bank of England Governor Mark Carney to make climate-related financial disclosure mandatory.<sup>67</sup>
- 3.8 In the long-term, higher public spending and debt are likely to require higher levels of taxation; in these circumstances environmental and carbon taxes and the reduction of fossil fuel subsidies can provide an important source of fiscal revenue.** Carbon prices are extremely variable across countries and sectors, and with current low oil prices there is clear scope for carbon taxes to be raised.<sup>68</sup> To avoid regressive impacts this would need to be accompanied by measures to protect low-income

<sup>59</sup> <https://www.climatebonds.net/market/explaining-green-bonds>

<sup>60</sup> <https://www.ft.com/content/a7496c30-6ab7-11ea-800d-da70cff6e4d3>

<sup>61</sup> [https://institutdelors.eu/wp-content/uploads/2020/03/20200313\\_Corona\\_Guttenberg.pdf](https://institutdelors.eu/wp-content/uploads/2020/03/20200313_Corona_Guttenberg.pdf)

<sup>62</sup> <https://www.imf.org/external/np/res/seminars/2015/arc/pdf/adair.pdf>

<sup>63</sup> <https://www.ucl.ac.uk/bartlett/public-purpose/sites/public-purpose/files/iipp-wp-2018-08.pdf>

<sup>64</sup> <https://www.ft.com/content/0f289d20-6e97-11ea-89df-41bea055720b?shareType=nongift>

<sup>65</sup> <https://www.suerf.org/policynotes/8209/dealing-with-the-next-downturn-from-unconventional-monetary-policy-to-unprecedented-policy-coordination/html>

<sup>66</sup> <https://ftalphaville.ft.com/2019/12/17/1576593138000/Green-QE-is-about-more-than-buying-climate-friendly-bonds/>

<sup>67</sup> <https://www.bankofengland.co.uk/-/media/boe/files/speech/2019/remarks-given-during-the-un-secretary-generals-climate-actions-summit-2019-mark-carney.pdf>

<sup>68</sup> <http://oecdinsights.org/2017/11/13/carbon-prices-are-still-far-too-low-to-prevent-climate-change/>

consumers and vulnerable businesses and to boost energy efficiency investment. Fossil fuel subsidies, which largely benefit incumbent producers and richer consumers, were estimated at \$400bn globally in 2018, with EU subsidies in 2014-16 at over €100bn.<sup>69</sup> Reducing them would have multiple benefits.<sup>70</sup> More widely, there is a strong general case on grounds of progressivity for any higher rates of taxation to focus on higher incomes and wealth.

## 4. An internationally coordinated effort

- 4.1 Further special meetings of the G20 should be convened to coordinate a global recovery plan.** In April 2009 the G20 conference meeting in London was critical to coordinate the recovery after the financial crisis. Multilateral cooperation will be vital to restore economic confidence and to support developing and emerging economies.
- 4.2 Low-income and some emerging economies need international support now to cope with the health emergency, and will need further assistance for their subsequent recovery plans.** A coordinated strategy needs to be put in place by the International Monetary Fund, the World Bank and multilateral development banks, utilising the full range of instruments and concessionary lending facilities at their disposal. Given the high levels of debt already experienced by many low-income and emerging economies, there is a strong case for the IMF to consider a new issuance of Special Drawing Rights aimed at providing liquidity for low-income countries.<sup>71</sup>
- 4.3 International cooperation should be geared towards helping developing countries generate pipelines of sustainable and equitable projects that can mobilise both public and private finance and enable economies to move away from unsustainable development models.** This will require innovative approaches to resource mobilisation and cooperation between national, regional, and multilateral institutions, including enhanced project development funds and commitments to technology and knowledge transfer.<sup>72</sup>
- 4.4 Though the coronavirus crisis will reduce international mobility and lead to a degree of ‘deglobalisation’, it needs to increase international cooperation.** It is likely that the crisis will cause a long-term reduction in international travel, and to temporary restrictions on movement of people. Supply chains may be restructured and future production ‘onshored’. The crisis will almost certainly result in a degree of ‘de-globalisation’. But this should not lead countries or communities to retreat into solely national perspectives. The suffering and damage caused by the virus will be very substantial; international solidarity and cooperation are vital to ensure a response that leads to a more sustainable and inclusive outcome in the long run.

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*Commissioned by the International Climate Politics Hub and the European Climate Foundation, this briefing has been written by Michael Jacobs, Laurie Laybourn-Langton and Michael Davies of the Economic Change Unit, a not-for-profit organisation that seeks to support those working to build more sustainable, just and resilient economies; and by Ronan Palmer of E3G, an independent climate change think tank accelerating the transition to a climate safe world. The briefing can and should be freely used and adapted by anyone working for such goals.*

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<sup>69</sup> <https://www.iea.org/topics/energy-subsidies>; <https://www.odi.org/publications/10939-phase-out-2020-monitoring-europes-fossil-fuel-subsidies>

<sup>70</sup> <https://www.iisd.org/gsi/news-events/reforming-subsidies-could-help-pay-clean-energy-revolution-report>

<sup>71</sup> <https://ftalphaville.ft.com/2020/03/20/1584709367000/it-s-time-for-a-major-issuance-of-the-IMF-s-Special-Drawing-Rights/>

<sup>72</sup> <https://newclimateeconomy.report/2018/>