



# Maximising the benefits:

Economic, employment and emissions impacts of a Green Recovery Plan in Europe

In partnership with



# The University of Cambridge Institute for Sustainability Leadership

The University of Cambridge Institute for Sustainability Leadership (CISL) is a globally influential Institute developing leadership and solutions for a sustainable economy. We believe the economy can be 'rewired', through focused collaboration between business, government and finance institutions, to deliver positive outcomes for people and environment. For over three decades we have built the leadership capacity and capabilities of individuals and organisations, and created industry-leading collaborations, to catalyse change and accelerate the path to a sustainable economy. Our interdisciplinary research engagement builds the evidence base for practical action.

The analysis presented in this report is based on modelling carried out by Cambridge Econometrics for the We Mean Business Coalition. The original report, *Assessment of Green Recovery Plans after Covid-19*, authored by Hector Pollitt (Cambridge Econometrics), is available in full from <u>https://www.wemeanbusinesscoalition.org/wp-content/uploads/2020/10/Green-</u> <u>Recovery-Assessment.pdf</u>

#### **CLG Europe**

CLG Europe develops credible, ambitious positions amongst its membership and deploys effective strategic communications to engage with the highest levels of policy audiences. CLG Europe is diverse in its membership and representative of Europe in both geography and sector, welcoming the innovative talent of SMEs as well as leading established companies. The group works closely with policymakers – particularly the Green Growth Group of EU climate and environment ministers, and supportive Members of the European Parliament through its Green Growth Partnership.

The group also maintains a network of sister groups across the EU and works in partnership with some of the largest business-focused organisations in support of climate action as one of the founders of the We Mean Business coalition, for which it provides the EU policy lead.

#### **Authors**

This Technical Report was authored by Sanna Markkanen, with input from Hector Pollitt, Pascale Palmer, Eliot Whittington, Ursula Woodburn, Romain Pardo, Janaina Topley Lira and Isabelle Cross.

#### **Citing this report**

Please cite this report as: University of Cambridge Institute for Sustainability Leadership (CISL). (2020). *Maximising the benefits: Economic, employment and emissions impacts of a Green Recovery Plan in Europe*. Technical Report. Cambridge, UK: CLG Europe.

# **Executive summary and key findings**

During the course of 2020, it has become clear that Covid-19 is going to result in a substantial economic cost, in terms of both gross domestic product (GDP) and lost jobs. In most countries, the economic recovery will not be immediate and much of the lost output will never be made up. In this challenging context, it is imperative for policymakers to both head off the worst economic impacts of the crisis with stimulus spending and also consider how the benefits from economic recovery spending can be directed at actions and activities that not only boost the economy, but also create long-term employment opportunities, reduce social inequalities and address the climate change challenge.

Pursuing a socially and environmentally responsible economic recovery can make a difference between failing and achieving global climate objectives set out in the Paris Agreement. Supporting activities that lock us into a high emission pathway for the next 20 to 30 years could push the Paris objectives out of reach forever. Moreover, it could result in countries and regions failing to meet their self-imposed climate commitments, including the growing number of net zero targets such as the EU's 2050 goal.

In this report, we contribute to the growing evidence base of what green recovery policies can achieve in Europe by drawing on Cambridge Econometrics' E3ME modelling results.<sup>1</sup> These results clearly show the identified Green Recovery Plan as consistently more favourable than other options – boosting GDP and employment, as well as contributing to additional reduction in CO<sub>2</sub> emissions. Indeed, at EU level, this effect increases over time with significantly better outcomes shown in 2030 if Green Recovery packages are pursued. However, it is also clear from the results that in some countries there will be a need for longer-term support beyond the two-year period that most countries have announced for economic stimulus packages and as modelled in the packages here.

The modelling assesses two recovery plans that could both boost GDP and protect jobs. The first plan follows a 'return to normal' approach by reducing VAT rates and to encourage households to resume spending. The second plan is a Green Recovery Plan that aims to boost economic activity while simultaneously reducing CO<sub>2</sub> emissions.

Both plans have the same cost to government. The Green Recovery Plan includes a smaller reduction in VAT, in addition to public investment in energy efficiency and in upgrading electricity grids, subsidies for wind and solar power, a tree-planting programme and a car scrappage scheme in which subsidies are only provided to electric vehicles (EVs).

Some of the key findings across all locations are summarised below:

- Although Covid-19 may reduce global CO<sub>2</sub> emissions substantially in 2020, this effect declines to around 2 per cent by 2030. Without Green Recovery Plans, emissions bounce back faster in some countries, such as the UK and Poland, than others.
- Without support, a prolonged slump in employment to 2023 is possible at both global and EU level. The VAT recovery scenario and Green Recovery Plan are effective at

stopping the slump getting worse, but neither provides a quick fix, and some of the lost output will not be made up by 2030.

- Both recovery plans provide immediate boosts to GDP and employment, but the impact is consistently larger in the Green Recovery Plan. However, the extent to which the results from the two recovery plans differ from one another varies between countries.
- The VAT recovery scenario is effective at increasing consumer spending but does not increase investment by much. The broader set of policies included in the Green Recovery Plan is more effective at increasing production and jobs across the whole economy.
- In every country included in the analysis, the impact of the Green Recovery Plan on CO<sub>2</sub> emissions is considerably better than in the VAT recovery scenario or the Covid-19 baseline scenario.
- Overall, the car scrappage scheme has the largest impact on GDP and employment up to 2030. However, it does not always provide the largest reduction in emissions, especially in countries that still use coal to generate electricity. At the global level (which is not covered in detail in this report), tree planting makes the most significant contribution to employment.
- The largest contribution to CO<sub>2</sub> emissions in 2021–30 comes from renewables subsidies that help bring forward investment decisions on these technologies and therefore boost uptake. This impact is particularly large for countries that currently use coal in electricity generation, such as Poland and Germany.
- Energy efficiency measures make a substantial contribution to CO<sub>2</sub> emissions reductions but their GDP and employment impacts over a longer period (2021–23) are muted as the modelling assumes they are implemented only during 2021–23.
- The results overall suggest that, while the benefits of a package including various types of green policies are evident, some tailoring of policies and policy packages may be needed at national level to maximise the economic, employment and environmental benefits from green recovery spending.

The full report<sup>1</sup> on which this analysis draws presents the model results at global level, EU level and for six countries. Across the world, the results are consistently more favourable for the Green Recovery Plan than the VAT recovery scenario, and there is a strong case for including the policies listed above (or variations of them) in national responses to Covid-19.

In this report, we focus on an overall view of the EU, the UK and specific EU economies including Poland, Germany and Spain, but seek to provide slightly more detailed analysis for each of these countries than is available in the full report. However, the same main conclusion remains unchanged: focusing on the green recovery provides multiple benefits. The modelling in this report illustrates some of the options for how countries can achieve maximum impact at a national level, taking into consideration the contextual factors that may restrict the benefits from specific green recovery measures. Most importantly, the results show the substantial climate benefits that can be derived from channelling some of the recovery spending to actions and activities that also facilitate progress towards the 2030 and 2050 climate targets.

### **Specific conclusions:**

- The Green Recovery Plan could <u>save 2 million jobs</u> in the EU in the more immediate recovery period and generates longer-term employment gains<sup>1</sup>, while reducing CO<sub>2</sub> emissions by more than 15 per cent compared to a no-Covid baseline, providing the EU with a platform for action to meet its 2030 and 2050 climate targets.
- **Germany** has managed the impacts of Covid-19 relatively well, but the German labour market is likely to need longer term support to fully recover from the crisis. The modelling suggests that a car scrappage scheme to increase the uptake of EVs could boost the economy while simultaneously creating jobs. Combined with measures to increase energy efficiency and the use of renewables, the scheme could reduce CO<sub>2</sub> emissions by 12–14 per cent compared to a no-Covid baseline.
- Spain has so far been one of the countries worst hit by Covid-19 and economic recovery could take several years. The model results show that a green recovery could save 400,000 jobs in the next three years, with longer-term labour market benefits. Measures to boost the use of renewables and EVs could reduce Spain's CO<sub>2</sub> emissions by nearly 20 per cent by 2030, compared to a no-Covid baseline.
- The **Polish** economy has so far coped well with the effects of Covid-19. However, Poland's continued use of coal-fired power plants means that its CO<sub>2</sub> emissions remain high. As other countries use stimulus measures to restart their economies, this is a chance for Poland to begin the transition away from coal, while offering support to local communities.
- The combination of Covid-19 and Brexit make future economic outcomes in the **UK** highly uncertain. Understandably, businesses are cautious about investing and there is a call for the public sector to fill the gap. The modelling results suggest that a green economic recovery plan that includes energy efficiency and subsidies for renewables and EVs could boost investment, while simultaneously reducing the UK's CO<sub>2</sub> emissions by around 20 per cent compared to a no-Covid baseline.

# Introduction

In its January 2020 World Economic Outlook report,<sup>2</sup> the IMF projected the global economy to grow by 3.3 per cent in 2020. By April, the rapid spread of Covid-19 had resulted in this projection being revised downwards, to -3 per cent. Towards the end of June, the figure was down to -4.9 per cent, and the IMF was describing the situation as "a crisis like no other", with uncertain recovery.<sup>3</sup>

These figures highlight the unexpected and unprecedented severity of the impact of Covid-19 on economies and labour markets, in addition to health and wellbeing. While some countries are emerging out of the pandemic with few casualties, the detrimental effect on economic growth and employment has been largely unavoidable, and the scale and nature of the impacts has meant that no sector has been left unaffected.

Measures to stop the spread of the virus – such as the closure of schools, factories and services – have forced businesses across all sectors of the economy to close down or downsize, leaving hundreds of thousands of people without work, and many others in precarious employment situations.<sup>4</sup> The negative effects were initially heavily concentrated in sectors that serve consumers, especially 'social' sectors such as hospitality, but they have since spread wider as a result of declining investment. Around the world, millions of people have come to rely on government support mechanisms.

As we enter the last quarter of 2020, the focus has shifted from assessing and estimating the full extent of the damage to developing plans to support the economic recovery. The desired nature, structure and priorities of these plans are subject to debate at national, European and global levels. Widespread calls – whether by business and economists or from the public – for 'Building back better' and 'Building back greener' express the increasing awareness among the general public of the inequalities that the pandemic has highlighted,<sup>5,6</sup> as well as a growing concern over the full extent of damage that natural degradation can inflict.

At the same time, millions of workers are simply worried about losing their jobs and feeding their families when emergency support schemes are wound down. Getting things 'right' in the economic recovery planning and policy implementation is important, as the impacts of the recovery spending will shape the scale of our economy, its competitiveness, sustainability and its effectiveness in providing inclusive prosperity in the years to come. The impacts will likely last well beyond the current short-term timeframe that policymakers are currently focusing on.

The pressure is mounting on policymakers to implement socially and environmentally responsible recovery packages that avoid repeating the mistakes made in the aftermath of the 2008 financial crisis. This is a pressure that many politicians and policymakers understand and support. In Europe, national governments and the EU administration are increasingly recognising the need to ensure that decisions taken now will support both on the economic recovery and progress towards a prosperous and climate neutral economy by 2050, with strong backing also for raising intermediate emissions reduction targets to better support this long-term target. As we have previously set out in *The Green Deal and Europe's recovery: Building a prosperous, resilient and climate neutral EU through business and political action*,<sup>7</sup> the European Green Deal provides a template for how Europe's economic recovery can be achieved and green investments can create

jobs and kick-start economic activity in the short term, while leading to a more productive, resilient and climate-friendly European economy.

In this report, we draw on Cambridge Econometrics' E3ME modelling<sup>i,ii</sup> results to analyse the potential benefits of a Green Recovery Plan. The modelling assesses the economic, employment and environmental impacts of three different scenarios, including two recovery plans that could both boost GDP and protect jobs:

- A **Covid-19 baseline scenario**, which shows the impacts of Covid-19, and how these impacts are likely to play out in 2020–30 if no recovery plans are put in place. This scenario was developed by Cambridge Econometrics in mid-2020, but has since been updated to take in more recent information, with the macro-level outcomes for each country remaining similar to those predicted by the IMF.
- A **VAT recovery scenario**, which follows a 'return to normal' approach by reducing VAT rates by 5 percentage points to encourage households to resume spending.
- A **Green Recovery Plan**, which aims to boost economic activity while simultaneously reducing CO<sub>2</sub> emissions.

The modelling results show the impacts of these three scenarios in graphical format compared to a no-Covid baseline, illustrating the impact of each recovery scenario in relation to what the situation would have been if Covid-19 had not happened (no-Covid baseline).

The Green Recovery Plan consists of the following policies, which are all implemented for a twoyear period (2021–23) and the cost of which is covered by the governments. These measures are combined with a lower VAT reduction rate so they come out at the same cost to government as a VAT reduction alone. The policies in the Green Recovery package are described below, with more detailed information available from the full report <u>Assessment of Green Recovery Plans after</u> <u>Covid-19</u>.

- Energy efficiency in buildings is improved to reduce energy consumption in this sector by 8 per cent, primarily through the implementation of energy efficiency measures in 2021–23. This is ambitious but achievable, and would put the EU, for example, on a path that would be consistent with achieving the current 2030 target for building energy efficiency.
- Boosting the uptake of **renewable energy** technologies by offering a capital subsidy of 50 per cent on new wind and solar equipment to incentivise investment during the immediate recovery period.
- Accelerated **electricity grid improvements** through additional government investment.
- Subsidy to cover 20 per cent of the cost of new **electric vehicles** (EVs) for households that scrap their old internal combustion engine vehicles.

<sup>&</sup>lt;sup>i</sup> For a more detailed overview of E3ME, see Mercure et al. (2018) or the E3ME model manual. Mercure, J-F., Pollitt, H., Edwards, N. P., Holden, P. B., Chewpreecha, U., Salas, P., et al. (2018). Environmental impact assessment for climate change policy with the simulation-based integrated assessment model E3ME-FTT-GENIE.

*Energy Strategy Reviews, 20,* 195–208. doi: https://doi.org/10.1016/j.esr.2018.03.003 <sup>ii</sup> Cambridge Econometrics. (2020). *What is E3ME? Our Global Macro-econometric Model*. Retrieved from:

https://www.e3me.com/what/e3me/

• A **tree-planting** initiative to plant 10 billion trees worldwide over 2021–23, allocated to countries based on a combination of land mass and the size of the current forestry sector.

The Green Recovery Plan is a stylised version of what a financially, economically and politically feasible recovery package with a green focus might look like, rather than a true reflection of an existing or proposed recovery spending plan. It includes a selection of policy measures that have been either already implemented or proposed in various countries, and that could realistically be implemented.

The results presented in this report provide much needed evidence of the multiple benefits of green recovery spending. They clearly show that spending on sectors that support decarbonisation and the transition to a climate neutral economy can have additional benefits, including positive impacts on economic growth and employment. Moreover, they illustrate how these policies work to generate mutually reinforcing positive outcomes, and how the impacts of specific types of green recovery spending may vary between countries depending on contextual factors.

The policy package is a hypothetical construct but the modelling results can help governments to make informed decisions regarding the nature and structure of recovery spending by demonstrating the multiple benefits that can be derived from a mixture of several different green policy measures. By showing the contribution that each green policy measure can have on GDP, employment and CO<sub>2</sub> emissions in various types of national contexts, the results will also allow policymakers to identify specific green recovery spending options that might be most appropriate in their specific national context or build on extending existing programmes.

# EU

The EU has expressed a strong intention to make Europe's economic recovery consistent with the achievement of the bloc's longer-term climate objectives. On 21 July, Heads of States and governments approved the European Commission's recovery plan, which aims to mobilise €1.85 trillion through a revamped EU 2021–27 budget of €1.1 trillion and a Next Generation EU fund of €750 billion.<sup>8,9</sup> The recovery plan places the Green Deal, which was announced in December 2019, at its core and aims to make financing instruments and investments consistent with the green and digital transitions. It identifies flagship areas, which have the potential to contribute to the economic recovery and accelerate the transition in key sectors for achieving Europe's climate neutrality objective. In order to benefit from these funds, Member States will need to follow these guiding principles when developing their national resilience and recovery plans, which are due to be submitted by April 2021.

The EU's determination to achieve net zero emissions by 2050 has prevailed through the challenges presented by Covid-19, as evidenced by ongoing support for a more ambitious interim emissions reduction target for 2030. On 17 September, the European Commission proposed to raise this interim target from 40 per cent to at least 55 per cent, heralding a victory to those who have repeatedly underscored the economic benefits of urgent and ambitious policy action on climate.<sup>10</sup>

The modelling results show that a Green Recovery Plan could save 2 million jobs in the EU, while reducing CO<sub>2</sub> emissions by more than 15 per cent. It provides more favourable economic, employment and environmental outcomes than VAT reduction only at the EU level, and these relatively simple measures would give the EU a platform for action to meet its 2030 and 2050 climate targets.

However, because national contextual factors influence the pathways to positive overall impacts, we also provide analysis for individual Member States to highlight some of the variance at the national level. National analysis is available in separate chapters for Germany, Spain and Poland. The results show considerable benefits can be obtained from green recovery policies at both national and EU level.

#### Socio-economic impacts

The Covid-19 pandemic is expected to cost the EU between 8 and 9 per cent of GDP. Only around half of this loss will be made up by 2030 (see Figure 1).

Both of the recovery packages modelled here (VAT only and Green Recovery) have immediate benefits to GDP in 2021. However, the impacts on GDP are slightly better for the Green Recovery Plan in the short term, and much better by 2030. This is in part driven by reductions in fuel imports to Europe as a result of lower demand for motor fuels (due to greater uptake of EVs) and natural gas for domestic heating (due to improved building energy efficiency), as well as increased renewable electricity generation capacity. The positive economic impact of reduced dependence on fuel imports outlasts the initial investment stimulus.



#### Figure 1: GDP impacts in the EU (% difference from no-Covid baseline)

Figure 2 shows the impacts on employment. Without support, a prolonged slump in employment to 2023 is possible (Covid-19 baseline scenario). The VAT recovery scenario and Green Recovery Plan are both effective at stopping the slump getting worse, but the Green Recovery Plan achieves better employment outcomes than the VAT scenario. The Green Recovery Plan also has long-term benefits for employment levels in the EU, with the potential to save two million jobs, and the employment impacts gap between the two recovery policy options widens towards 2030.





#### Sectoral impacts

Table 1 shows the impacts of Covid-19 and the recovery plans on each sector in 2024. Consumer services were initially severely affected by the pandemic, but a loss of investment means that manufacturing and construction have also been hit hard.

The VAT recovery scenario largely benefits the consumer services sector (which can lower prices if VAT is reduced). However, the results for most sectors are better for the Green Recovery Plan, because this also brings back lost output in manufacturing and construction, for example driven by renewables construction and purchases of EVs. Improved energy efficiency does somewhat negatively impact the energy and utilities sector under the Green Recovery Plan.

	Covid-19	VAT recovery	Green
	baseline	scenario	Recovery Plan
Agriculture	-3.2	-1.9	-0.9
Energy and Utilities	-4.8	-3.6	-6.3
Basic Manufacturing	-7.1	-5.8	-4.5
Advanced Manufacturing	-11.8	-11.0	-9.6
Construction	-9.8	-9.3	-8.0
Consumer Services	-6.7	-4.6	-4.1
Transport and Comms.	-4.6	-3.4	-4.8
Business Services	-4.6	-3.2	-2.7
Public Services	-1.1	-0.6	-0.3

#### Table 1: Sectoral output impacts in the EU (2024), % difference from no-Covid baseline

The energy and utilities sector includes a range of different types of companies, some of which focus more heavily on renewable energy than others. Our view is some power generators with a strong presence in renewables would significantly benefit from a Green Recovery Plan. The emissions reductions figures presented in Figure 3 would support an assumption that reduced demand for energy (for example as a result of improved energy efficiency) would result in fossil fuels are replaced by renewables.

#### **Emissions impacts**

Figure 3 shows the impact of the scenarios on CO<sub>2</sub> emissions. The estimated reduction from Covid-19 (Covid-19 baseline) in this graph presents a conservative estimate and disappears almost entirely by 2030. Moreover, it does not include the early closure of some coal plants.

The Green Recovery Plan shows a large reduction in emissions, exceeding 15 per cent by 2030. All of the green policy measures contribute to this reduction (see Figure 4), although some more than others. It is noticeable that reductions in emissions continue after 2021–23, indicating the long-term benefits of establishing low carbon technologies in the European market.





#### **Contributions of each policy**

Figure 4 shows the relative contribution of each environmental policy to the aggregate outcomes in the Green Recovery Plan across 2021–30.

The largest contribution to GDP comes from the car scrappage scheme that promotes EVs. The extent of this impact is influenced by the fact that EVs are still at a relatively early stage of development in the EU, and thus even a relatively minor increase in the early uptake of EVs as a result of the subsidies has a substantial impact on the long-term trajectory of EV uptake in Europe even after the subsidies are phased out.

The impact of renewables subsidies on GDP and employment is less pronounced, largely because renewables are already well established in Europe. While the subsidies would mean that more renewables are built in 2021–23 than would otherwise have been the case, the employment and GDP impact is short-lived.

Energy efficiency investment creates activity over the crucial period 2021–23 (during which time the measures are implemented) but less thereafter, resulting in its impact on employment and GDP being less pronounced over a longer observation period shown in Figure 4.

Overall, at the EU level, the contribution of each policy to jobs is similar to that for GDP, apart from the more pronounced employment impact of the tree-planting programme. This discrepancy emerges because the jobs related to tree planting are lower skilled than those related to EVs, which means that the same amount of funding can create more jobs in tree planting.

The right-hand bar on the figure shows that the biggest contribution to reducing emissions comes from the renewables subsidies, which push large amounts of coal power in Europe out of the market, resulting in substantial reductions in total emissions. The energy efficiency and EV promotion also make a large contribution to the total, with tree planting accounting for the remaining 14 per cent of emission reductions.



#### Figure 4: Contribution of each Green Recovery policy in the EU (2021–30)

<sup>44</sup>The buildings we live and work in are Europe's largest source of emissions. That's why we need to at least double building renovation rates this decade if we are to meet a 55% emissions reduction goal. The good news is the EU is on the right track. Hundreds of billions of euros are being made available for a sustainable green recovery, and ROCKWOOL is active at European and national levels to ensure a fair share of the funds is allocated to renovation. Per euro invested, nothing beats buildings for climate and economic impact: closing the finance gap needed to double renovation rates would support over 3 million new local jobs per year. That makes buildings a linchpin of climate action and the green recovery.<sup>31</sup>

#### **Mirella Vitale**

Senior Vice President, ROCKWOOL Group

<sup>44</sup>When a greater part of the world is committing to becoming net-zero in the middle of this century, this is the opportunity, perhaps the clearest we have ever had, to create a true industrial competitive advantage for Europe. A differential value for success in the global economy in the coming years.<sup>33</sup>

#### José Luis Blasco

Global Sustainability Director, ACCIONA

## Germany

Germany was one of the first countries to unveil its Covid-19 economic recovery plans in early June 2020 – and the plan it put forward was both ambitious and unambiguously green. In addition to more conventional measures – such as loans for small businesses, increased investment in research and development (R&D) and digital infrastructure, and a VAT rate reduction from 19 to 16 per cent – 'at least' €40 billion of the €130 billion stimulus package for 2020–21 will be allocated to climate-related spending. These green plans include measures to boost EV sales, building energy efficiency upgrades, a green public transport programme and funding for improved forest management and hydrogen infrastructure.<sup>11</sup> In fact, the German recovery package contains many of the elements that are also included in the Green Recovery Plan used for the modelling in this report, although some important differences remain.

German Chancellor Angela Merkel has also so far refused to extend the car scrappage scheme to new petrol and diesel vehicles. Instead, the government moved to double the subsidy for EVs to  $\in 6,000$ .<sup>10</sup> Given that funds were also allocated specifically to support green auto innovations, EV charging infrastructure, and to cut electricity prices for consumers, the recovery stimulus package seems to be sending a message to consumers and the car industry alike that the future of Germany is electric. As the modelling in this report shows, the economic and employment benefits of recovery spending to boost EV uptake in Germany could be considerable and longlasting while simultaneously reducing emissions. Combined with measures to increase energy efficiency and the use of renewables, the scheme could reduce CO<sub>2</sub> emissions by 14 per cent compared to a no-Covid baseline.

The positive impacts on future competitiveness and emissions reductions that could be achieved with decarbonisation of the electricity supply would also provide additional benefits that are not included in the analysis here.

However, there is no certainty over the direction that longer-term recovery plans may take and the extent to which they continue to prioritise environmental and climate objectives. Chancellor Merkel has announced that she will not be seeking another term as chancellor at next year's election, fuelling speculation over her successor and the future composition of the German government.<sup>12,13</sup> Some possible outcomes, such as a coalition of the currently ruling Christian Democrats and resurgent Greens,<sup>12</sup> could have a significant impact on future German policy.<sup>14,15</sup>

#### Socio-economic impacts

Figure 1 and Figure 2 show the impacts of the Green Recovery Plan, VAT recovery scenario and Covid-19 baseline scenario on GDP and employment. Although Germany has handled the Covid-19 crisis relatively well, its economy has been weakened by a global fall in demand for the high-value machinery that it exports. Without support, the German economy is not expected to rebound quickly.

Both the VAT recovery scenario and Green Recovery Plan have an immediate effect on stimulating the economy and preventing further job losses. Although the relatively smaller size of the services sector in Germany (as opposed to countries such as Spain and the UK) has helped to limit the negative impact of Covid-19 on employment, the model results suggest that some further longerterm support could be required to avoid job losses after the short-term measures included in this modelling exercise are phased out.

The results from the Green Recovery Plan are consistently better than those from the VAT recovery scenario, both in terms of GDP and employment. Although the impact of both recovery spending scenarios is short-lived, the outcomes are consistently more favourable for the Green Recovery Plan than the VAT recovery scenario, and this gap widens further towards the late 2020s.



#### Figure 1: GDP impacts in Germany (% difference from no-Covid baseline)





#### Sectoral impacts

Table 1 shows the impacts of the different recovery options on each sector in 2024. The impact of Covid-19 has been most severe in construction, the manufacturing sectors that supply investment goods, and consumer services.

The VAT recovery scenario and Green Recovery Plan are both effective at boosting activity in most sectors. Results for the Green Recovery Plan are better, particularly in the services sectors. The only sectors that fare worse under the Green Recovery Plan are energy and utilities, which see reduced demand from the energy efficiency measures.

	Covid-19	VAT recovery	Green
	baseline	scenario	Recovery Plan
Agriculture	-6.0	2.5	2.1
Energy and Utilities	-6.0	-4.4	-6.8
Basic Manufacturing	-10.2	-7.8	-7.1
Advanced Manufacturing	-13.4	-13.1	-12.0
Construction	-11.5	-10.8	-9.1
Consumer Services	-8.2	-5.1	-3.8
Transport and Comms.	-7.2	-4.8	-3.8
Business Services	-5.9	-3.8	-2.9
Public Services	-1.3	-0.7	-0.2

#### Table 1: Sectoral output impacts in Germany (2024), % difference from no-Covid baseline

The energy and utilities sector includes a range of different types of companies, some of which focus more heavily on renewable energy than others. Our view is some power generators with a strong presence in renewables would significantly benefit from a Green Recovery Plan. The emissions reductions figures presented in Figure 3 would support an assumption that reduced demand for energy (for example as a result of improved energy efficiency) would result in fossil fuels are replaced by renewables.

#### **Emissions impacts**

Figure 3 shows the impact of the scenarios on  $CO_2$  emissions. In the Covid-19 baseline scenario and VAT recovery scenario, emissions return close to the no-Covid baseline by 2030. However, the Green Recovery Plan could lead to a large and sustained reduction in emissions, with a fall of 12 per cent – 14 per cent by 2023 compared to a no-Covid baseline, and then remaining largely unchanged up to 2030.



#### Figure 3: Emissions impacts in Germany

#### **Contributions of each policy**

Figure 4 shows the percentage contribution of each of the policy measures included in the Green Recovery Plan, aggregated across 2021–30. For both GDP and employment, around 80 per cent of the benefits come from the car scrappage scheme and EV promotion. This result reflects both the

potential of building the EV market share in Germany, as well as the impact of exporting EVs to other countries. The tree-planting scheme makes a small additional contribution to both GDP and employment.

The impact of EVs on CO<sub>2</sub> emissions is limited up to 2030, largely due to the use of coal in electricity generation. The greatest emissions reductions arise from the renewables subsidies, followed by the energy efficiency measures. However, it should be noted that there is an additional benefit from the interaction of having more EVs and increased renewables to power them, which is not shown in the chart.





Germany needs to set a positive example for an ambitious and clear green recovery path. Recovery funds must be used to trigger investments in the transformation needed for achieving ambitious climate targets. This includes the

market roll-out of electric vehicles, boosting renewable energies, upscaling lowcarbon industry processes and doubling the building refurbishment rates.

#### **Sabine Nallinger**

"

Managing Director of Foundation 2°

# Poland

Unlike most other EU countries, Poland has experienced steady economic growth for the past 30 years, including throughout the 2008 global financial crisis and the post-crisis period. The country was therefore better placed to face the Covid-19 pandemic than most of its European neighbours and has not suffered as severe economic damage.

Since March 2020, the Polish government has provided support to employees and companies across all sectors of the economy through the EUR 69 billion "Anti-crisis Shield". However, the scale and structure of the Shield's financial flows supporting low carbon transformation remain unclear, and some estimates suggest that only 10 per cent of the Shield's budget will be allocated to support the energy transition and environmental protection, while around 80 per cent of the Shield's budget has not been subject to climate or sustainability conditionalities.<sup>16</sup>

Poland is also due to receive EUR 23.1 billion in grants (in addition to a possible EUR 34.2 billion in loans) from the EU Recovery and Resilience Facility to be allocated to various projects through a competitive process under the National Recovery and Resilience Plan. So far, the Polish government has announced its intention to allocate a substantial proportion of the European Recovery Fund to the buildings sector, with the primary objectives of generating jobs and improving air quality rather than to reduce emissions. In addition to this, the Green Investment Package introduced by the Ministry of Climate is expected to allocate around EUR 186 million to support development of e-mobility and low-emission transport.<sup>15</sup>

This takes place in a context where Poland has traditionally opposed EU climate goals and where coal currently provides 80 per cent of the country's power needs – but is the only key sector severely hit by the Covid-19 crisis. On 25 September, Poland announced a landmark agreement to phase out coal mines by 2049. This will not be an easy task but it strengthens Poland's claim to some of the €750 billion economic stimulus funds that the European Commission has proposed linking to the bloc's climate goals, potentially leading to better outcomes for the EU's long-term climate objectives as well as the Polish economy.<sup>17</sup> The stimulus is therefore a chance for Poland to begin the transition away from coal, while offering support to local communities. As Poland's Prime Minister Mateusz Morawiecki was quoted saying, "once, we could not afford to develop renewable sources of energy [...] but now we cannot afford not to develop them".<sup>18</sup>

In our overview below, we highlight how modelling the potential impacts of economic recovery plans on the economic, employment and emissions outcomes in Poland provides unambiguous evidence of the potential benefits of a Green Recovery Plan compared to other options.

#### Socio-economic impacts

Compared to many other EU countries, the Polish economy has been less severely affected by Covid-19 and is expected to rebound back to strong growth in 2021 (illustrated by the recovery scenario lines in Figure 1 running parallel to the no-Covid baseline scenario).

Figure 1 shows the impacts of the three scenarios on GDP. The VAT recovery scenario could get the Polish economy almost back to baseline, nearly neutralising the effects of Covid-19. However, the Green Recovery Plan could lead to even better outcomes, offsetting all the negative effects of Covid-19 on GDP.





The results for employment (Figure 2) follow a similar pattern to GDP, although with a slightly longer time lag. Although the results for both recovery plans are better for Poland than most other economies, the Green Recovery Plan still results in more favourable outcomes than the VAT recovery scenario, creating enough jobs to erase the Covid-19 overall net change in employment close to zero.





#### **Sectoral impacts**

Table 1 shows the impacts of the pandemic and recovery plans on different sectors of the economy in 2024. As the numbers clearly indicate, the negative impacts of Covid-19 on most sectors are much smaller than in the other countries presented in this report (e.g. Germany). Even in the Covid-19 baseline scenario, Poland is in recovery by 2024. However, the Green Recovery Plan provides an additional boost to all sectors. A Green Recovery Plan could effectively result in several of the sectors ending up with output above no-Covid baseline levels – even consumer services, which has been severely affected by Covid-19.

	Covid-19	VAT recovery	Green
	baseline	scenario	Recovery Plan
Agriculture	-1.2	0.0	1.3
Energy and Utilities	-0.7	-0.3	-4.4
Basic Manufacturing	-2.6	-1.4	0.6
Advanced Manufacturing	-3.6	-2.9	-1.9
Construction	-6.6	-5.9	-5.0
Consumer Services	-4.6	-2.5	1.4
Transport and Comms.	-1.2	-0.7	-0.3
Business Services	-3.7	-1.9	-0.5
Public Services	-0.8	-0.2	0.6

#### Table 1: Sectoral output impacts in Poland (2024), % difference from no-Covid baseline

The energy and utilities sector includes a range of different types of companies, some of which focus more heavily on renewable energy than others. Our view is some power generators with a strong presence in renewables would significantly benefit from a Green Recovery Plan. The emissions reductions figures presented in Figure 3 would support an assumption that reduced demand for energy (for example as a result of improved energy efficiency) would result in fossil fuels are replaced by renewables.

#### **Emissions impacts**

The impact of the pandemic on emissions in Poland has been much lower than in the other countries included in this report, and will remain close to zero throughout the period up to 2030 (see Figure 3) in the Covid-19 baseline scenario as well as the VAT recovery scenario. However, the Green Recovery Plan has the potential to reduce Poland's emissions by up to 10 per cent by (compared to a no-Covid baseline) 2024, bringing emissions reductions significantly forward. While emissions from vehicles keep decreasing after 2024, the ending of renewables subsidies is too soon for renewables to displace conventional power sources in Poland, so some of the initial reductions in emissions are offset. More sustained support for renewables would be needed to maintain the emissions reduction benefits arising from the Green Recovery Plan in 2021–23 over a longer time period.





#### **Contributions of each policy**

Figure 4 shows the percentage contribution of each environmental policy to the aggregate outcomes in the Green Recovery Plan, aggregated across 2021–30. For GDP and employment, the results are similar to those for Germany, with 70–80 per cent of the benefits accruing through the car scrappage scheme that promotes EVs. As in Germany, this result reflects a combination of domestic uptake of EVs and exports of cars or components.

The tree-planting programme also makes a notable contribution, including around a quarter of the jobs that are created.

In contrast, the reductions in emissions can be attributed largely to the renewables subsidies and the energy efficiency measures. This outcome reflects the carbon-intensive nature of Poland's power sector, which limits the positive impact of increasing EV uptake on CO<sub>2</sub> emissions. On the other hand, it allows for large potential emission reductions from renewables and energy efficiency measures that reduce household energy consumption.



#### Figure 4: Contribution of each Green Recovery policy in Poland (2021–30)

<sup>44</sup>I think we all know the saying 'never to waste a good crisis'. This has never been truer in our lifetime than it is today when we are confronted with the triple corona – economic – and climate crisis. Yet, this also offers us the opportunity to make a decisive turn towards a better and brighter future, a future in which this and the next generations can prosper in a more inclusive manner in a carbon neutral world. At Signify, we have become carbon-neutral across our global operations last month, and our Polish facilities, which are responsible for more than 25% of our global electricity footprint, are now 100% powered by clean electricity through a 10-year deal with Green Investment Group's (GIGs) Kisielice onshore wind farm. Taking bold climate action has unlocked employee engagement, creativity and innovation, as well as new green and digital jobs. Most of all it embedded a passion to collaborate for a better future. Let's now do this at scale for Europe and by doing so inspire the world at large to follow suit.<sup>3</sup>

#### Harry Verhaar

Head of Global Public & Government Affairs, Signify, and Chair of CLG Europe

# Spain

Spain was one of the first countries to be hit by the Covid-19 pandemic in Europe, and one of the worst hit.<sup>19</sup> Having not yet fully recovered from the 2008 global financial crisis, the Spanish economy was ill-equipped to handle another major blow. Although the government has attempted to reduce redundancies and support workers and employers through the crisis, recent estimates suggest that unemployment in Spain could exceed 20 per cent before the end of 2020. Even after the lockdown was eased, the recovery has been fragile and fraught with hurdles, including localised outbreaks that have further deteriorated the already negative outlook for the economically vital tourism sector.<sup>20</sup>

However, the Spanish government has remained supportive of the EU's ambitious climate objectives, endorsing both the EU's 2050 climate neutrality target and a more ambitious emissions reduction target for 2030. The national Covid-19 recovery plan, unveiled on 8 October 2020, sets out a plan to reshape the country's economy with the help of €140 billion of EU coronavirus recovery aid. Transition to green energy and a digital economy are at the forefront of these plans, along with a proposal to invest €72 billion of the country's share of the EU Recovery Fund to create 800,000 jobs over the next three years.<sup>18</sup>

While there is an enormous challenge ahead, Spain is drafting plans to use the Recovery Fund to address the chronic weaknesses of its labour market, and to improve future resilience by adopting best practices from other EU countries.<sup>21</sup> In this context, there is a reason to be optimistic that green spending will be a contributor to economic recovery in Spain, helping the country to boost its economy and labour market while cutting CO<sub>2</sub> emissions.

The modelling used to assess the economic, environmental and emissions impacts of two different types of economic recovery packages presented in this report strongly supports this view. The results show that a green recovery could save 400,000 jobs in the next three years, with longer-term labour market benefits. Measures to boost the use of renewables and EVs could reduce CO<sub>2</sub> emissions by 20 per cent, compared to a no-Covid baseline.

#### Socio-economic impacts

The model results suggest that the Spanish economy will be hit hard by Covid-19, with a long road to recovery. As shown in Figure 1 and Figure 2, the upwards slope mapping the recovery trajectories for GDP and employment is shorter and less steep than the EU average. A similar pattern is evident for all three scenarios, but the recovery plans are successful in reducing the severity of the short-term negative effects of Covid-19 and increasing GDP in the long run.

Although both recovery plans show considerable benefits compared to the Covid-19 baseline scenario, these benefits are consistently larger (by around 1 per cent of GDP) for the Green Recovery Plan.





The recovery packages are also able to reduce the loss of jobs in Spain (by around 400,000 people in the Green Recovery Plan). However, in all scenarios the employment losses continue to 2022, after which the recovery is slow. The persistent nature of reduced employment levels in Spain suggests that some longer-term measures to boost employment would likely be required in addition to short-term economic recovery spending in 2021–23.





#### Sectoral impacts

Table 1 shows the impacts on sectoral production in Spain. Although the Spanish economy has been heavily affected by a loss of tourism during the pandemic, the modelling results suggest that consumer services will have started to recover by 2024. However, with output levels well below capacity, investment remains weak and recovery is much slower in the advanced manufacturing (e.g. engineering) and construction sectors.

The VAT recovery scenario provides a boost to household expenditure and therefore the consumer services sectors, but the impact on investment sectors like construction is more noticeable in the Green Recovery Plan. Overall, with the exception of energy and utilities, all sectors see a smaller reduction in output in the Green Recovery Plan than in the other scenarios.

	Covid-19	VAT recovery	Green
	baseline	scenario	Recovery Plan
Agriculture	-5.5	-3.8	-2.1
Energy and Utilities	-6.8	-5.1	-7.1
Basic Manufacturing	-8.4	-7.0	-6.1
Advanced Manufacturing	-14.9	-13.4	-11.6
Construction	-8.8	-8.4	-7.2
Consumer Services	-6.1	-4.4	-3.3
Transport and Comms.	-4.6	-3.4	-3.2
Business Services	-3.7	-2.7	-2.2
Public Services	-1.6	-1.0	-0.4

#### Table 1: Sectoral impacts in Spain (2024), % difference from no-Covid baseline

The energy and utilities sector includes a range of different types of companies, some of which focus more heavily on renewable energy than others. Our view is some power generators with a strong presence in renewables would significantly benefit from a Green Recovery Plan. The emissions reductions figures presented in Figure 3 would support an assumption that reduced demand for energy (for example as a result of improved energy efficiency) would result in fossil fuels are replaced by renewables.

#### **Emissions impacts**

The prolonged loss of production in the Spanish economy due to Covid-19 means that CO<sub>2</sub> emissions are still 5 per cent below the no-Covid baseline in the Covid-19 scenario (see Figure 3). The VAT recovery scenario has little impact on emissions. The Green Recovery Plan, on the other hand, shows substantial emissions reductions. Driven by uptake of renewables and EVs (see Figure 4), Spanish emissions could be reduced by nearly 20 per cent by 2030, compared to a no-Covid baseline.





#### **Contributions of each policy**

Figure 4 shows how each of the five policies included in the Green Recovery Plan contributes to economic recovery and emissions in Spain in 2021–30. Like the other European countries, the largest benefits to GDP in Spain come from the vehicle scrappage scheme that promotes EVs; this accounts for around 60 per cent of the GDP increase and 50 per cent of the employment increase. The tree-planting programme contributes 20–30 per cent of the economic and employment benefits, with the rest being made up by the other policies.

The CO<sub>2</sub> reductions in Spain come mostly from the increase in renewables near the beginning of the period (the subsidies are available for two years, in 2021–23), and the increasing penetration of EVs. These two measures account for just over 80 per cent of the total emissions reduction.



Figure 4: Contribution of each Green Recovery policy in Spain (2021–30)

<sup>66</sup>Robust alignment between the Spanish Recovery Plan and deep decarbonisation pathways towards climate neutrality will create new opportunities for growth and increased sustainability. Adequate policy frameworks will be key to harness the socio-economic benefits of a green recovery. Iberdrola supports an ambitious approach to climate action within the Spanish Recovery Plan, and has proactively proposed projects, plans and action programs that are fully aligned with the European Green Deal.<sup>39</sup>

#### Gonzalo Sáenz de Miera

Director of Climate Change, Iberdrola

Salesforce is committed to bold climate action. By conserving, restoring, and planting 1 trillion trees by 2030, we can help slow the planet's rising temperatures, as well as stimulate biodiversity and restore some of the planet's ecosystem. That's why Salesforce is proud to support 1t.org, an initiative that aims to do just that, by contributing our technology and achieving our own goal to support and mobilize the conservation and restoration of 100 million trees over the next decade. Planting trees on a large scale creates valuable jobs and economic prosperity. The Green Recovery can and must create quality employment and build a more sustainable, inclusive and resilient future."

#### **Gavin Patterson**

President and Chief Revenue Officer, Salesforce

# **United Kingdom (UK)**

The Covid-19 pandemic emerged as a global threat to health and economies only a few months after the UK formally left the EU on 1 January 2020. At the time of writing this report, the UK economy is officially in recession. In a move that has limited the scale of unemployment increases, more than 9 million workers have had the bulk of their wages subsidised by government under the furlough scheme designed to avoid redundancies, costing the Treasury some £27 billion.<sup>22</sup> Self-employed people have likewise been eligible for government support while lockdown measures forced them to temporarily cease operations. Support continues to be made available for businesses that need to be shut down because of local lockdown measures to control a second wave of the virus. These initiatives have sought to prevent "the record fall in output translating into a corresponding fall in unemployment".<sup>23</sup>

The UK government has been working on various Covid-19 recovery plans, with a strong intention to 'build back greener'<sup>24</sup> and to direct a large chunk of the recovery spending to support progress towards the UK's 2050 net zero carbon target. Although the exact details of the various policy initiatives are still being finalised, there is some indication of green recovery measures forming at least a part of the recovery package, including a commitment of £350 million to cut emissions in industry and construction sectors,<sup>25</sup> a £40 million Green Recovery Challenge Fund to create jobs in nature recovery and conservation,<sup>26</sup> and £2 billion in grants for home insulation.<sup>21</sup> These measures will be supported by various employment initiatives, tax cuts (such as temporary exemptions to Stamp Duty to fuel the property markets and a VAT reduction to hospitality services) and direct subsidies, such as the 'Eat Out to Help Out' scheme.

At the time of writing, the effectiveness of the various existing measures remains to be seen. Just as in many other countries, the UK is facing the rise of a second wave of Covid-19. Unlike other countries the UK has significant economic uncertainty connected to its trade relationships, as a trade deal with the EU remains elusive and the significant risk of a no-deal Brexit remains. The combination of Covid-19 and Brexit make future economic outcomes in the UK highly uncertain.

Understandably, businesses are cautious about investing and there is a call for the public sector to fill the gap. The modelling results suggest that a green economic recovery plan that includes energy efficiency and subsidies for renewables and EVs could boost investment, while simultaneously reducing the UK's CO<sub>2</sub> emissions by 20 per cent compared to a no-Covid baseline – equivalent to nearly 60 Mt CO<sub>2</sub> or roughly 10 per cent of our 1990 emissions.

#### Socio-economic impacts

As shown in Figure 1, the UK economy has been severely affected by Covid-19 and is likely to recover slowly. The effects on employment have so far been smaller (see Figure 2) but remain uncertain going forward, as further job losses may occur once existing support schemes are phased out. The impact of Brexit on the recovery is likewise impossible to estimate at present while trade deal negotiations are ongoing.

The VAT recovery scenario and Green Recovery Plan both help to boost GDP and employment for the UK over the period 2021–24, but have limited long-term impact. The Green Recovery Plan again shows better outcomes for GDP and jobs in both the short and long runs, but the difference

is less pronounced than in other countries and takes longer to materialise. One explanation for this is that the VAT reductions are particularly effective in the UK's service-oriented economy, and much of the Green Recovery Plan's positive impact on consumption arises from the VAT reductions (with the additional impact leading to overall favourable outcomes arising from the positive effect that the green policy measures have on investment). Also, the baselines for this analysis were calculated in the summer of 2020 – when the UK's furlough scheme was in full effect. Its withdrawal would change the likely predicted baseline and potentially would make recovery efforts more important.



#### Figure 1: GDP impacts in the UK (% difference from no-Covid baseline)





#### Sectoral impacts

Table 1 shows the impacts on sector-level output in the UK. Following the same pattern as Germany and Spain, the impact of Covid-19 by 2024 will be most evident on manufacturing and construction. This is because of the negative effects of the pandemic on investment. Consumer services, which was initially the most negatively affected sector in the UK, will have nearly recovered by 2024.

The Green Recovery Plan lessens the effects of Covid-19 primarily on manufacturing through a small increase in the demand for investment goods (e.g. EVs). However, the positive effects of the Green Recovery Plan are more concentrated in this one sector than is the case in countries such as Spain and Germany. This also limits the overall benefits from the Green Recovery Plan in the UK, compared to the VAT recovery scenario and Covid-19 baseline.

	Covid-19	VAT recovery	Green
	baseline	scenario	Recovery Plan
Agriculture	-0.3	-0.3	-0.3
Energy and Utilities	-5.2	-4.9	-9.4
Basic Manufacturing	-10.3	-10.0	-8.9
Advanced Manufacturing	-13.1	-12.9	-10.0
Construction	-7.8	-8.0	-7.6
Consumer Services	-2.6	-2.6	-2.8
Transport and Comms.	-4.7	-4.5	-4.7
Business Services	-2.7	-2.6	-2.6
Public Services	-0.5	-0.5	-0.3

#### Table 1: Sectoral impacts in the UK (2024), % difference from no-Covid baseline

The energy and utilities sector includes a range of different types of companies, some of which focus more heavily on renewable energy than others. Our view is some power generators with a strong presence in renewables would significantly benefit from a Green Recovery Plan. The emissions reductions figures presented in Figure 3 would support an assumption that reduced demand for energy (for example as a result of improved energy efficiency) would result in fossil fuels are replaced by renewables.

#### **Emissions impacts**

Figure 3 shows the impact of the scenarios on emissions. Although Covid-19 has a large short-term impact on UK emissions, by 2030 the difference is reduced to around 2 per cent.

The VAT recovery scenario does not have any considerable impact on  $CO_2$  emissions in the UK. However, the Green Recovery Plan leads to a persistent fall in emissions, which continues well beyond the end of the stimulus period. This long-term impact is the result of two developments:

- 1) The support for renewables in 2021–23 provides additional stimulus to a growing sector, resulting in a permanent reduction in conventional (carbon intensive) capacity;
- 2) The car scrappage scheme speeds up the uptake of EVs, leading to them becoming established as a mainstream technology, supporting faster transition of the vehicle fleet into EVs than would have otherwise been the case.

Some long-term emissions reduction also arises from the declined demand for gas for domestic heating as a result of energy efficiency improvements (see Figure 4). These reductions could reach 20 per cent (compared to a no-Covid baseline) by 2030.





#### **Contributions of each policy**

Figure 4 shows the percentage contribution of each environmental policy to the aggregate outcomes in the Green Recovery Plan across 2021–30. As with the results for the EU, the shift to EVs through a car scrappage scheme makes the largest contribution to the GDP and employment impacts. However, the UK sees a much larger contribution from the renewables subsidies and grid improvements (around 30 per cent combined) than is the case in other European countries.

The renewables subsidies make the largest contribution to emission reductions in the UK (around 50 per cent), with a further 20 per cent coming from energy efficiency. Most of the remaining emission reductions come from the uptake of EVs.



#### Figure 4: Contribution of each Green Recovery policy in the UK (2021–30)

<sup>44</sup>The green recovery measures set out will require urgent action and meaningful collaboration across sectors. However, I am confident that by working together and making bold choices, these actions will boost not only natural capital, through reduced emissions, but human and financial capital too.

"At Anglian Water we are already making huge strides towards our 2030 net zero carbon goal through measures including rapid adoption of renewable energy to power our sites, such as the installation of a 42,000-panel 11.6MWp solar array at Grafham Water in Huntingdonshire."

#### **Peter Simpson**

CEO Anglian Water Group and Co-Chair of CLG UK

# **Closing comments**

Although there are many differences between the economies assessed in this report, the modelling results also reveal some consistent themes. Most notably, Covid-19 is going to result in a substantial economic cost, in terms of both GDP and lost jobs, in the first half of the 2020s and possibly beyond. In most countries, the recovery will not be immediate, and the nature, structure and priorities of the recovery plans will have a substantial impact on how quickly – and how sustainably – the economies recover. The content of these plans will most likely also affect the progress that will be made towards longer-term climate objectives in the coming years.

Two types of support were assessed in this report, both at the EU level and at national level for a selection of European countries. The report that includes the full modelling results from this study also provides global-level results, and national-level outcomes for major economies such as Japan, India and the US.<sup>1</sup>

Some of the key takeaways from the analysis presented in this report are summarised below:

**The VAT recovery scenario** reduces VAT by five percentage points and is effective at boosting household spending and production of consumer services. However, it has no environmental benefits and may even increase CO<sub>2</sub> emissions over the next decade.

The Green Recovery Plan also includes VAT reductions, but combines them with measures to promote energy efficiency, renewable electricity generation, the take-up of EVs and tree planting. It costs government the same amount as the VAT reduction scenario but provides a bigger initial stimulus to jobs and employment, and has more positive long-lasting economic benefits as well as significantly advancing efforts to reduce emissions. The Green Recovery Plan also benefits a broader group of sectors.

- At the global level the Green Recovery Plan could lead to CO<sub>2</sub> emission reductions of 7 per cent compared to no-Covid baseline by 2030, on top of the 2 per cent reduction from Covid-19 itself. At the EU level this emissions reduction potential is even greater. All five of the individual policies contribute substantially to the reduction in emissions, although it is not possible to attribute directly the effects of grid improvements to lower CO<sub>2</sub>.
- At national level, contextual factors influence the outcomes of the different Green Recovery policies. A more tailored policy mix may present a more suitable option for certain countries than the standard package used in this modelling exercise.
- The car scrappage schemes tend to be the most beneficial policy in terms of GDP and employment. This is consistent with the finding from analysis of the recovery measures implemented after the financial crisis in 2008. The EV subsidies create a lot of jobs in car manufacturing but also sales. The long-term benefits arise from the boost that the subsidy gives to kick-starting the transition to EVs. Once the uptake reaches a certain level, the transition continues at a faster pace. In reality, the increased uptake of EVs would need to be supplemented with investment in charging infrastructure, which would create additional jobs. However, these impacts are not included in the modelling here.
- The environmental benefits of EVs will only be realised if the power sector fuel mix moves away from coal (and, to a lesser extent, gas). As illustrated by some national examples in this report, the CO<sub>2</sub> emissions reductions from EVs are less substantial in countries such as

Poland and Germany, where coal is still widely used in electricity generation. However, there are still longer-term benefits of electrifying transport, and larger CO<sub>2</sub> emission reductions will emerge eventually as the electricity sector is decarbonised.

- Tree-planting initiatives can create lots of jobs during the immediate recovery period, especially in countries where labour costs for this kind of work are low and land availability makes an ambitious tree-planting scheme possible. However, the number of jobs in tree planting declines after the initiative is phased out, explaining why the relative contribution of this policy measure on GDP, employment and emissions over a longer period (2021–30) is less pronounced than that of many of the other policies, such as EV and renewable energy source (RES) subsidies.
- Like tree planting, energy efficiency improvements can create plenty of jobs while the subsidies are available, but the positive impact on employment peters out after 2023 if the subsidy programmes are not extended. In the modelling results here, such extensions are not included, reducing the visible contribution of energy efficiency policies in GDP and employment during the 2020–30 period. However, energy efficiency improvements will contribute to permanent emissions reductions, especially in countries where heating is largely powered by fossil fuels, such as coal, oil or gas. Energy efficiency is also a major factor contributing to less favourable sectoral outcomes for energy and utilities in the Green Recovery scenario.
- Renewables subsidies are responsible for the greatest CO<sub>2</sub> emissions reductions, especially where the impact of the short-term subsidies is sufficient to result in permanent closure of more carbon-intensive electricity-generation technologies.

To maximise the potential benefits of a Green Recovery Plan, a mixture of policies is needed. The Green Recovery Plan in this report provides an example of such a mixture. Even though this example is not the best mix of policies for every country covered, it still provides economic and environmental benefits in every country, over and above those in the VAT recovery scenario that was used for comparison. More tailoring of policies could improve results further, but the results here provide strong support for greening the response to Covid-19.

# References

<sup>1</sup> We Mean Business Coalition. (2020). *Assessment of Green Recovery Plans after Covid-19*. Retrieved from <u>https://www.wemeanbusinesscoalition.org/wp-content/uploads/2020/10/Green-Recovery-Assessment.pdf</u>

<sup>2</sup> IMF World Economic Outlook. (2020, January). *Tentative Stabilization, Sluggish Recovery?* Retrieved from: <u>https://www.imf.org/en/Publications/WEO/Issues/2020/01/20/weo-update-january2020#:~:text=For%20the%20emerging%20market%20and,estimated%203.7%20percent%</u> 20in%202019

<sup>3</sup> IMF World Economic Outlook. (2020, June). *A Crisis Like No Other, An Uncertain Recovery*. Retrieved from:

https://www.imf.org/en/Publications/WEO/Issues/2020/06/24/WEOUpdateJune2020

<sup>4</sup> ILO Monitor. (2020, June 30). *COVID-19 and the world of work. Fifth edition. Updated estimates and analysis.* Retrieved from:

https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/briefingnote/wcm s 749399.pdf

<sup>5</sup> Carbon Brief. (2020, June 16). *Coronavirus: Tracking how the world's 'green recovery' plans aim to cut emissions.* Retrieved from: <u>https://www.carbonbrief.org/coronavirus-tracking-how-the-worlds-green-recovery-plans-aim-to-cut-emissions</u>

<sup>6</sup> Chamier, P., Nendirmwa, N., & Angell, E. (2020, May). *Public Opinion, Trust, and the COVID-19 Pandemic*. Center on International Cooperation. Retrieved from:

https://cic.nyu.edu/sites/default/files/public-opinion-trust-and-covid19.pdf

<sup>7</sup> University of Cambridge Institute for Sustainability Leadership (CISL). (2020). *The Green Deal and Europe's recovery: Building a prosperous, resilient and climate neutral EU through business and political action,* Cambridge, UK: CLG Europe. Retrieved from:

https://www.corporateleadersgroup.com/reports-evidence-and-insights/the-green-deal-andeuropean-recovery

<sup>8</sup> European Council. (2020, July). *Special meeting of the European Council (17, 18, 19, 20 and 21 July 2020) – Conclusions*. Retrieved from:

https://www.consilium.europa.eu/media/45109/210720-euco-final-conclusions-en.pdf <sup>9</sup> European Commission. (2020). *Recovery plan for Europe*. Retrieved from:

https://ec.europa.eu/info/live-work-travel-eu/health/coronavirus-response/recovery-planeurope en

<sup>10</sup> European Commission. (2020). *2030 Climate Target Plan*. Retrieved from: <u>https://ec.europa.eu/clima/policies/eu-climate-action/2030\_ctp\_en</u>

<sup>11</sup> Murray, S. J. (2020, June 4). *Green Recovery: Germany unveils plans for €40bn climate spending surge*. Business Green. Retrieved from: <u>https://www.businessgreen.com/news/4016109/green-recovery-germany-unveils-plans-eur40bn-climate-spending-surge</u>

<sup>12</sup> Karnitschnig, M. (2020, July 20). *Everybody loves Merkel. Her likely successors? Not so much*. POLITCO. Retrieved from: <u>https://www.politico.eu/article/germany-angela-merkel-complex-approval/</u>

<sup>13</sup> Karnitschnig, M. (2020, August 8). *German SPD picks Scholz in race to succeed Merkel*. POLTICO. Retrieved from: <u>https://www.politico.eu/article/germanys-social-democrats-spd-taps-olaf-scholz-to-replace-chancellor-angela-merkel/</u>

<sup>14</sup> Colson, T. (2020, September 4). *Germany is under pressure to abandon a giant gas pipeline from Russia after Putin's government was accused of poisoning Kremlin critic Alexei Navalny*. Business Insider. Retrieved from: <u>https://www.businessinsider.com/germany-under-pressure-abandon-nord-stream-2-pipeline-from-russia-2020-9?r=US&IR=T</u>

<sup>15</sup> Karnitschnig, M. (2020, September 10). *Why Germany can't say no to Nord Stream*. POLTICO. Retrieved from: <u>https://www.politico.eu/article/why-germany-cant-say-no-to-nord-stream/</u>

<sup>16</sup> WiseEuropa. (2020, September). *Polish Sustainable Recovery Monitor*. Retrieved from: <u>http://wise-europa.eu/wp-content/uploads/2020/09/Polish-Sustainable-Recovery-Monitor-</u>%E2%80%93-September-2020-Issue.pdf

<sup>17</sup> EURACTIV.com with AFP. (2020, September 26). *Reference Poland agrees to shut coal mines by 2049*. EURACTIV. Retrieved from: <u>https://www.euractiv.com/section/electricity/news/poland-agrees-to-shut-coal-mines-by-2049/</u>

<sup>18</sup> Harper, J. (2020, July 29). *Poland shelves major coal sector restructuring plans*. Deutsche Welle. Retrieved from: <u>https://www.dw.com/en/poland-shelves-major-coal-sector-restructuring-plans/a-54363275?</u>

<sup>19</sup> Pavlovska, E. (2020, October 8). *Spain unveils economic recovery plan*. New Europe. Retrieved from: <u>https://www.neweurope.eu/article/spain-unveils-economic-recovery-plan/</u>

<sup>20</sup> Neumann, J. (2020, July 28). *Spanish Unemployment Rises Above 15%, With Worse to Come*. Bloomberg. Retrieved from: <u>https://www.bloomberg.com/news/articles/2020-07-28/spanish-unemployment-rises-above-15-with-worse-to-come</u>

<sup>21</sup> Doménech, R. (2020, September 11). *Spain | The recovery of employment after COVID-19*. BBVA Research. Retrieved from: <u>https://www.bbvaresearch.com/en/publicaciones/spain-the-recovery-of-employment-after-covid-19/</u>

<sup>22</sup> Cooper, C. (2020, July 8). *4 takeaways from UK's coronavirus recovery plan*. POLITICO. Retrieved from: <u>https://www.politico.eu/article/uk-chancellor-rishi-sunak-wants-to-buy-you-lunch-coronavirus-recovery/</u>

<sup>23</sup> PWC. (2020, September 30). *UK Economic Update*. Retrieved from:

https://www.pwc.co.uk/services/economics/insights/uk-economic-update-covid-19.html

<sup>24</sup> Prime Minister's Office, 10 Downing Street, Department for Transport, Department for Business, Energy & Industrial Strategy, The Rt Hon Boris Johnson MP, The Rt Hon Grant Shapps MP, & The Rt Hon Alok Sharma MP. (2020, July 22). *PM commits £350 million to fuel green recovery*. GOV.UK [Press release]. Retrieved from: <u>https://www.gov.uk/government/news/pmcommits-350-million-to-fuel-green-recovery</u>

<sup>25</sup> Prime Minister's Office, 10 Downing Street, Department for Transport, Department for Business, Energy & Industrial Strategy, The Rt Hon Boris Johnson MP, The Rt Hon Grant Shapps MP, & The Rt Hon Alok Sharma MP. (2020, July 22). *PM commits £350 million to fuel green recovery*. GOV.UK [Press release]. Retrieved from: <u>https://www.gov.uk/government/news/pmcommits-350-million-to-fuel-green-recovery</u>

<sup>26</sup> Department for Environment, Food & Rural Affairs, Natural England, Environment Agency, & Rebecca Pow MP (2020, September 14). *Government's £40 million Green Recovery Challenge Fund opens for applications*. GOV.UK [Press release]. Retrieved from:

https://www.gov.uk/government/news/governments-40-million-green-recovery-challenge-fundopens-for-applications