

July 2021

Greenness of Stimulus Index

An assessment of COVID-19 stimulus
by G20 countries and other major economies
in relation to climate action and biodiversity goals

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Greenness of Stimulus Index

The Greenness of Stimulus Index (GSI) assesses the effectiveness of the COVID-19 stimulus efforts by G20 countries and ten other nations in ensuring an economic recovery that takes advantage of sustainable growth opportunities, and builds resilience through the protection of the climate and biodiversity.

It provides a method to gauge the current impact of the COVID-19 responses, to track countries' progress over time, and to identify and recommend measures for improving the effectiveness of those responses.

This assessment represents the final GSI update in its current form. The policies in this release are current as of 30 June 2021. The previous release was published in February 2021.

As the exceptional social support and stimulus spending from COVID-19 winds down and increasingly merges with regular government budgeting, this note concludes the GSI series that has appraised the economic stimulus responses to the pandemic. Moving forward, we will be expanding our focus of work to more broadly bring transparency to public finance and support governments to make public spending nature-positive and climate-positive.

If you have any questions or comments, please contact us at stimulus@vividconomics.com

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New to this release

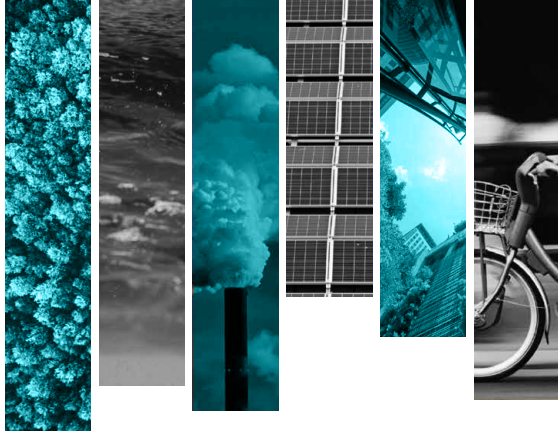
This update of the index incorporates significant new information that has become available since the previous release in February 2021, including the latest announcements on stimulus flows, deregulation and environmental policies. It also contains a special feature that examines the EU's National Resilience and Recovery Plans (NRRPs), which are the centrepiece of the bloc's integrated COVID-19 recovery spending.

Highlights in this edition include:

- **An increase in the total quantity of measured stimulus to US\$17.2 trillion from US\$14.9 trillion in February.** This increase is driven by the United States' US\$1.9 trillion American Rescue Plan Act. There were also increases in stimulus packages in the United Kingdom (US\$89 billion), Italy (US\$87 billion), Germany (US\$71 billion), Indonesia (US\$48 billion), and Japan (US\$45 billion).
- **Improvements to 17 countries' index scores and decreases in ten countries' scores.** Norway has dramatically improved, while Colombia, South Africa and the United States also leveraged greener policies resulting in a net increase in their scores. Denmark's score fell the furthest, but it still remains the overall leader by a significant margin.
- **Major new analysis that disaggregates 'greenness' into impacts upon climate and impacts upon nature.** Assessment of the €500 billion of National Resilience and Recovery Plan (NRRP) stimulus across ten European countries illustrates the importance of distinguishing between climate and nature, and uncovers a major missed opportunity to invest in a nature-positive recovery. A greater proportion of spending damages nature than enhances it, and the NRRPs largely fail to capitalise on the outsized jobs, economic and emissions benefits that nature-based solutions deliver.

Concluding observations regarding all stimulus released to date include:

- **Many countries made efforts to steer at least some of their stimulus spending toward green ends despite a very heavy focus on short-term 'emergency' spending.** In absolute terms, over US\$1.8 trillion went to green stimulus, as compared to roughly US\$650 billion (inflation-adjusted) in response to the 2008 financial crisis.
- **Only Canada and parts of Europe oriented their stimulus in a way that significantly shifted their trajectory,** thanks to a concerted effort from early on in the crisis.
- **Other large economies like the US, China and India have not to date managed to fundamentally reorient their trajectory,** despite channelling some stimulus toward a longer-term green and resilient transition.
- **In many other emerging markets – such as Indonesia, Mexico, the Philippines and Russia – stimulus has not taken on a significant green orientation,** and in many cases has only further reinforced high-carbon and low resilience economic activities.
- **Across the board, nature and biodiversity were almost entirely ignored.** Even in Europe's NRRPs, it appears that a greater proportion of spending damages nature than enhances it. The situation is even bleaker in the other countries examined.



Executive summary

Announced stimulus to date will have a net negative environmental impact in 15 of the G20 countries and economies, and in five of the ten other analysed countries. To date, the economic response to the COVID-19 crisis will reinforce negative environmental trends overall. Despite many positive examples of green stimulus, most governments have not used the COVID-19 stimulus to transform their economic trajectory in a way that enhances nature or responds to climate change at the scale required. There is, however, an opportunity to learn from what countries have done to date, and to move subsequent public finance decisions toward preventing continued damage to nature and to lower dramatically the cost of protecting the planet.

The world's three most populous countries – China, India and US – improved their GSI scores over time, but still remain in the negative overall. China's improvements were driven by the launch of the world's largest carbon market, 2025 and 2030 emission reduction targets, and the phase out of fossil fuel-only vehicles by 2035. India's score is bolstered by clean energy investments though ongoing support for coal continues to hamper its score. Nevertheless, these positive trends were outweighed by larger volumes of stimulus that reinforced existing dirtier trajectories – neither country managed to find definitive stimulus measures that supported the transformation of their environmentally intensive sectors.

The United States' \$1.9 trillion American Rescue Plan does not specifically target climate change and biodiversity issues, but contains several measures that result in an increase in the United States' index score, including \$30 billion investment in public transport, upgrades to water and sewer systems, and projects to improve energy efficiency. The United States' score remains negative, however, which shows that further, greener legislation and ambitious regulatory action needs to be coupled with an ever bigger low carbon investment package to move to a positive score.

Emerging economies most dependent on environmentally intensive sectors and without strong regulatory oversight had the biggest task to turn their stimulus green, and have so far failed to do so.

The worst-performing countries – Russia, Turkey, Saudi Arabia, Indonesia, Mexico, the Philippines and Argentina – have made little attempt to divert stimulus towards green initiatives. Their stimulus packages have exacerbated the poor underlying environmental performance of their economies, pushing environmentally damaging outcomes, by supporting high-carbon industry and energy, and unsustainable agriculture that destroys biodiverse habitats. A scattering of new climate policies, investments in sustainable cities, and support for electric vehicles had marginal positive impacts, but other action (like cuts in tax on petrol vehicles and reduced regulation) pushed in the opposite direction. Brazil, Colombia and South Africa made somewhat greater efforts at green stimulus, but like China and India, fell short of significantly turning their around their previous trajectory. To manage the COVID-19 crisis while protecting and rebuilding nature at the same time, these countries would need to better hardwire environmental actions into their public spending and regulatory measures.

Overall, only Canada and parts of Europe oriented their stimulus in a way that significantly shifted their trajectory, thanks to a concerted effort from early on in the crisis. Denmark and Canada made the largest overall efforts to reorient their economies through the stimulus spending, with the European Commission's spending, and national-level stimulus packages in the UK, France, Germany, Finland, Spain and Sweden achieving strongly positive outcomes. Other more advanced economies – such as Japan, South Korea, Italy and Australia – made some efforts but did not manage to achieve a transformational shift through their stimulus.

Even among leading countries, nature and biodiversity have been particularly neglected.

Where large green stimulus measures have been introduced, these have largely focused on reducing carbon emissions, with only occasional attention to preserving and enhancing nature and natural capital. The outcome of more nature-negative than nature-positive spending was even found in the EU National Resilience and Recovery Plans (NRRPs). Given the risks associated with degraded natural capital – including the virus spillover risk driving the current pandemic – it is hard to justify the scant attention paid to nature protection. Fewer than ten of the economies analysed have invested in so-called nature-based solutions (NBS), such as tree planting, forest protection and regenerative agriculture.

A special feature on the EU National Resilience and Recovery Plans (NRRPs) illustrates the importance of assessing the impact of spending upon climate and nature separately.

While 37% of the €672.5 billion Recovery and Resilience Facility was required to be invested in green initiatives, our analysis¹ of ten country plans representing €500 billion showed that the plans did more harm than good for nature, as outlined in this edition's special feature. We extended the GSI methodology to distinguish between climate and nature impacts, and found that 98% of climate-relevant spending would reduce emissions, but more than half of nature-relevant spending was harmful to nature. Moreover, a major imbalance between the size of spending affecting nature and climate significantly disadvantaged nature, and failed to holistically address the environmental ambitions of the recovery package set out by the European Commission. Those countries assessed invested only 1% in nature-based solutions, and in so doing missed a triple-win opportunity to deliver outsized benefits for jobs and the economy, emission reductions, and enhanced nature and biodiversity.

New appraisal methodologies and governance processes are needed to ensure that public spending is nature-positive.

Policy practitioners have a lot of experience assessing the impact of policies on greenhouse gas emissions, but the capability to appraise impacts upon nature are significantly less developed. There is a need and an opportunity to develop a nature-focused budgeting approach that directly links public finance to nature impacts. The approach must enable government decision-makers to connect policy levers with nature impacts, and make transparent the effects upon nature of finance decisions. Climate resilience and nature resilience go hand-in-hand, and the NRRPs' strong focus on climate change shows that without the right tools to measure the nature impacts of spending even so-called 'green' public finance risks missing the bigger, holistic environmental picture.

Across announcements to date, a clear set of tools has emerged to boost the economy in the short- and long-term, while also accelerating the transition to a more sustainable future.

These tools are familiar: attaching green conditions to bailouts, investing in nature-based solutions, providing loans and grants for green investments, providing tax breaks or subsidies for green products and R&D, removing subsidies for polluters, reinforcing environmental regulation, avoiding deregulation, and creating an enabling environment and fiscal framework that redirects investment away from environmentally damaging activities and towards those that support a sustainable transition. To enable a more sustainable long-run economic transition, greater action is needed now on these priorities, with global alignment to ensure both rich and poor countries can pursue climate-compatible and nature-positive developments.

The Greenness of Stimulus Index (GSI) has assessed the environmental impact of US\$17.2 trillion of economic stimulus from 30 countries since the start of COVID-19.

Understanding the environmental impact of public spending is critical to help governments connect spending decisions to climate and nature outcomes. The GSI has informed the global conversation on COVID-19 stimulus spending to date. Long-run impact requires a similar approach to help governments assess and improve public finance on an ongoing basis in relation to both climate and nature.

¹ Vivid Economics. (2021). Fund Nature, Fund the Future. <https://www.vivideconomics.com/wp-content/uploads/2021/06/Fund-Nature-Fund-the-Future.pdf>

Figure 1

Greenness of Stimulus Index

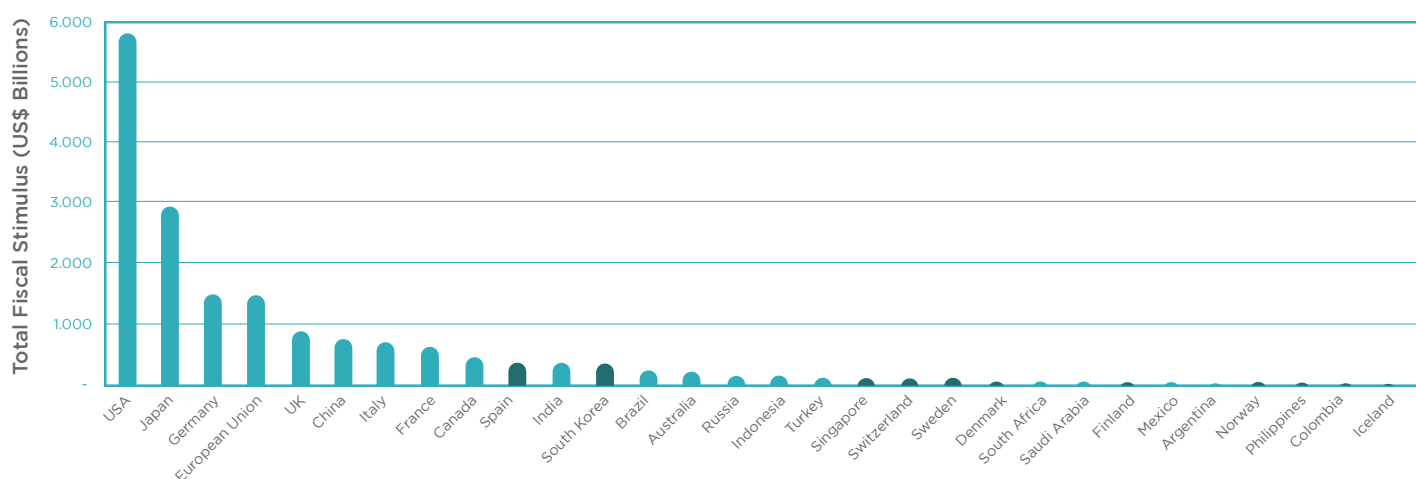


Source: Vivid Economics using a variety of sources, consult Annex II for the entire list of sources
 Note: Updated on 30 June 2021

Announced Stimulus Packages

The world has witnessed unprecedented government financial interventions in response to COVID-19. Stimulus packages announced to date include a range of fiscal mechanisms such as bailouts and loans. For the countries that we have analysed, current stimulus packages vary from US\$2 billion (Iceland) to US\$5.8 trillion (the United States).

Figure 2 | Announced COVID-19 response fiscal stimulus package



Source: Vivid Economics using IMF COVID-19 response tracker and other sources.

Note: Light green represents G20 countries and dark green represents countries outside of the G20. Updated on 30 June 2021.

Governments have rightly put people first in the immediate aftermath of the crisis – putting money directly into people’s pockets, and helping those on the frontline. Specifically, they have sought to secure employment; provide cash benefits to workers, households and the unemployed; and supply liquidity to businesses across economies.

At the same time, governments have the opportunity to use this massive stimulus to shift course towards a cleaner, greener, safer and fairer economy, to create jobs and start to reverse climate change and restore nature. For example, investment in clean energy and transport is preferable to supporting fossil fuel assets that are likely to be stranded in the near term as a result of climate action including rising carbon prices.

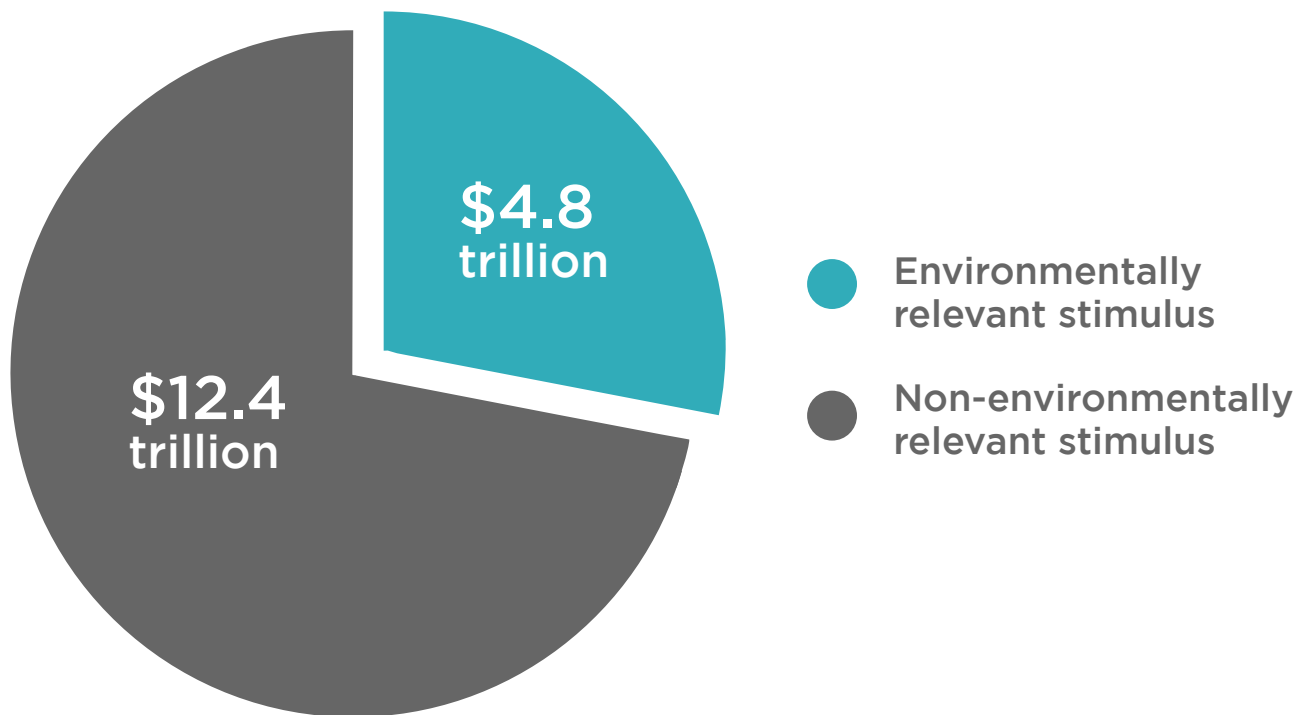
Meanwhile, green infrastructure projects such as tree planting are shovel-ready, easily scaled, and provide overwhelmingly local, socially distanced jobs at various skill levels.

Some US\$4.8 trillion of the announced stimulus to date, or 28% of the total, will flow into environmentally intensive sectors that impact climate change, biodiversity or local air quality.²

This massive funding can both address the COVID-19 crisis, by improving public health, job security and fiscal stability, and boost environmental sustainability. Transport and industry are two sectors that have been hit hard by the crisis, are receiving substantial government support, and also have a large environmental impact, where economic stimulus can be directed towards clean energy and low carbon development.

² In defining the amount of stimulus flowing through to sectors with a high environmental impact, the index has removed any measures which are purely devised to provide income support to workers (e.g. furlough or paycheck protection programmes). In some cases, insufficient information was available.

Figure 3 | Sum of global fiscal stimulus policies of countries considered in our analysis



Agriculture, industry, waste, energy and transport are the sectors considered to have most environmental relevance. This categorisation is based on environmental outcomes including carbon emissions.

Source: Vivid Economics using a variety of sources

Note: Agriculture includes forestry and fisheries. Industry includes manufacturing. Updated on 30 June 2021.

Green Stimulus Toolkit: Archetypal Green Measures

Hundreds of policies have been announced worldwide, but only some deliver both environmental and economic benefits. Below is a toolkit of measures that governments can use to shape the future environmental impact of their economic stimulus for the better, based on analysis of actual measures announced to date (more details are provided in Annex I).

- **Corporate bailouts with green strings attached:**

Some governments view bailouts as public investments that deliver public benefits. While these bailouts must clearly deliver immediate benefits in terms of stability of public services, employment and supply chains, they can also secure a transition to sustainable and resilient growth. Bailouts can achieve this by making public support contingent upon implementing specific environmental improvements to operations and procurement, such as reducing their carbon and biodiversity footprint, or by committing to high-integrity environmental offsets, enhanced nature-related financial disclosures, and increased supply chain transparency. The agreements with Austrian Airlines and Air France demonstrate how governments and corporations can meet on common ground.

- **Investment in nature-based solutions and sustainable agriculture:** Land use investments – such as afforestation of degraded land, sustainable agricultural practices, wildfire prevention infrastructure, urban greening infrastructure like parks, and efficient water irrigation systems – are ideally suited to tackle the ongoing crisis because they can be shovel-ready, are transitional, provide stimulus to particularly vulnerable and local populations, and are resilient to future lockdowns, i.e. can be socially distanced.

- **Loans and grants for green investments:** Direct investment, in the form of loans or grants, can be made to improve sustainable agriculture; build low-carbon energy including solar, wind, biofuels and hydrogen; in energy efficient retrofits in the construction sector; and in active transport infrastructure or electric vehicle infrastructure in the transport sector.

- **Subsidies or tax reductions for green products:** Tax reductions or rebates are available most broadly across countries in the transport sector, for example to boost electric vehicle (EV) adoption by offering consumer refunds, or subsidising

the cost of adoption upfront by expanding cash-for-clunker programmes, and ratcheting up or extending the period of funds available for rebates on EVs. Other transport sector subsidies could cover electric bicycles, regular bicycles and public mass transit passes. In the energy sector, rebates or subsidies can be made available to households that install solar panels or choose to purchase electricity from a renewable energy provider, including tariff adjustments, coverage of capital cost, or income-qualifying eligibility for residential solar. In the industry sector, products which meet voluntary performance standards could be made eligible for tax rebates, including home appliances and lighting.

- **Green R&D subsidies:** Government green R&D subsidies are most prevalent in the transport and energy sectors, to boost innovation in electric vehicle development and deployment, electric batteries, hydrogen vehicles, and low-carbon fuel alternatives. Government grants to research institutions or private R&D firms in the energy sector include investments in solar, wind, battery storage, and hydrogen technologies. R&D subsidies to industry and agriculture include grant funding for the development of low-water use and drought resistance crops, as well as carbon capture and storage (CCS) and energy efficiency technologies in chemicals, cement, and steel.

- **Reinforcing environmental regulation and avoiding deregulation:** Although not a traditional stimulus measure, regulation and deregulation have been a focus area for the COVID-19 response. Environmental deregulation has been used as a stimulus measure in some countries, on the basis that this relieves regulatory burdens for businesses. However, others have reinforced environmental regulation, for example introducing wildlife trading bans, and proposing to expand the coverage of the EU Emissions Trading Scheme (EU ETS) to other sectors.

The country notes in Annex II include a tracker of the positive and negative archetype policies that each country has implemented so far. These both highlight the key drivers of a country's index score, and identify gaps in current measures that can be used to pave the way for future stimulus measures.

The Greenness of Stimulus Index

The Greenness of Stimulus Index examines 30 economies to assess the environmental orientation of their stimulus funding based on:

the total stimulus funds flowing into environmentally intensive sectors;

the existing green orientation of those sectors, such as the share of renewables in the energy sector; and

the green orientation of new stimulus measures.

To date, much of this stimulus funding is set to flow into existing sectors with little attempt to look forward and support their medium- and long-term sustainability and resilience. There is therefore significant scope for governments to pivot towards a green recovery.

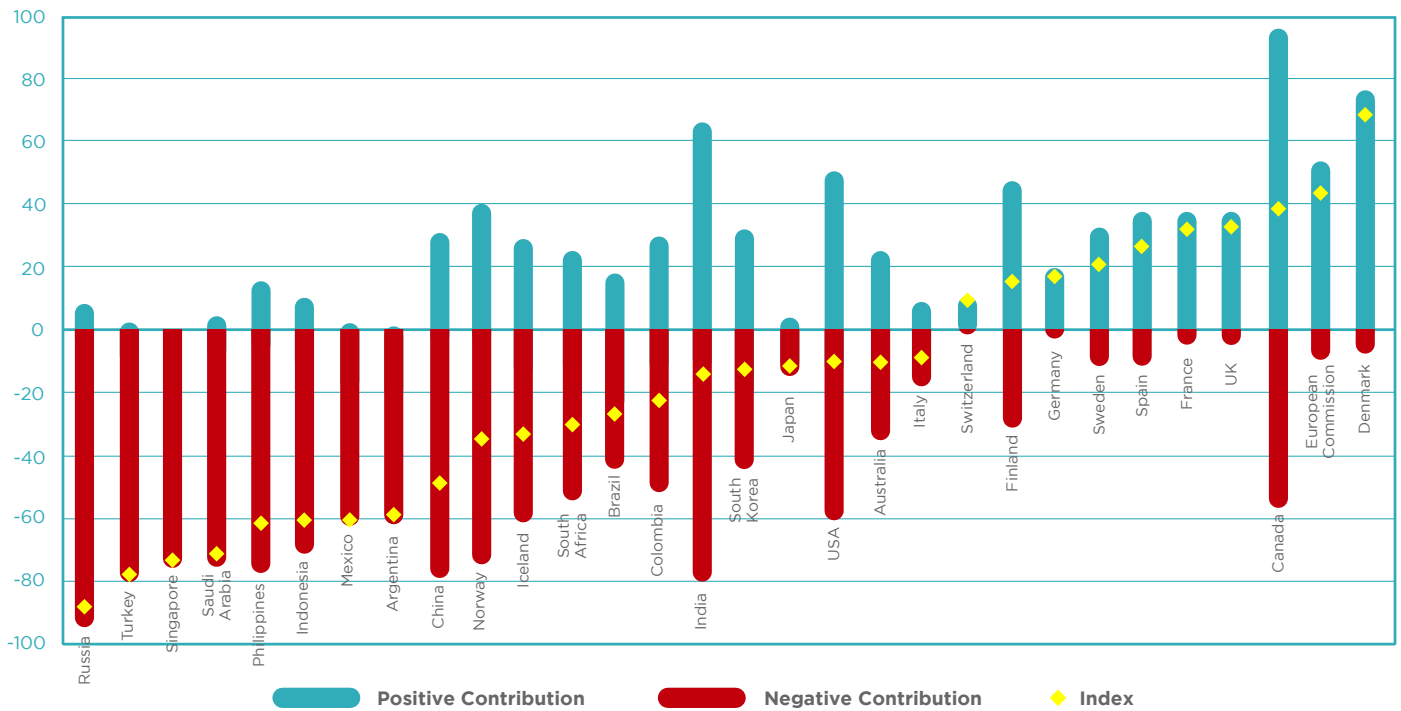
In countries with inadequate existing climate and biodiversity policies, stimulus flows are likely to reinforce unsustainable trajectories of high emissions and loss of nature. All countries have entered this crisis with large sectors of their economies still producing significant greenhouse gas emissions, air and water pollution, and causing loss of biodiversity. Many countries also lack concrete policies to facilitate a green transition in those sectors. As a result, current stimulus into those sectors risks reinforcing a status quo that is significantly tilted toward negative environmental outcomes, amplifying risks to people and planet in the near- and long-term.

Where targeted efforts have attempted to steer funding, these have more often tilted towards environmentally damaging outcomes, although a few have added green incentives. The most notable examples of COVID-19 response measures that target environmentally intensive sectors include significant deregulation, subsidies or tax cuts to activities likely to worsen environmental outcomes, including large bailouts for the aviation sector. Fewer efforts have been made to improve environmental sustainability, particularly in the initial COVID-19 rescue response. Where governments have looked to support green initiatives, they have tended to do so through infrastructure investments, particularly in the energy and transport sectors. We find that three of the G20 economies have no green aspect to their stimulus at all, namely Saudi Arabia, Russia and South Africa.

Overall, we note that the greenness of stimulus is improving slightly over time, especially in developed countries. The United States, Canada, China, Norway and India achieved substantial improvements in their index scores since the index began, with the United Kingdom, Australia, Brazil, Italy and Japan achieving modest improvements (see Figure 9). While most countries are yet to take the opportunity to use their stimulus packages to kick-start green recoveries, some countries made significant green announcements since the last GSI edition, resulting in substantial changes in index scores.

Figure 5

Greenness of Stimulus Index: G20 economies plus the Nordic countries, Colombia, Switzerland, Spain, Singapore and the Philippines



	CHN	IDN	USA	RUS	IND	MEX	ZAF	BRA	AUS	CAN	ITA	JAP	SPA	KOR	GER	GBR	FRA	EU	SGP	PHL	ARG	CHE	COL	FIN	NOR	DEN	ISL	SWE	
Agriculture	✓		✓		✓				✓	✓			✓		✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Energy	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓
Industry	✓		✓		✓	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓	✓
Transport	✓	✓	✓		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓
Waste			✓							✓		✓		✓			✓	✓								✓			
Agriculture			✓					✓	✓	✓						✓				✓	✓		✓					✓	
Energy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓								✓		✓		✓			
Industry	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓			✓		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	
Transport	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓				✓	✓	✓	✓	✓
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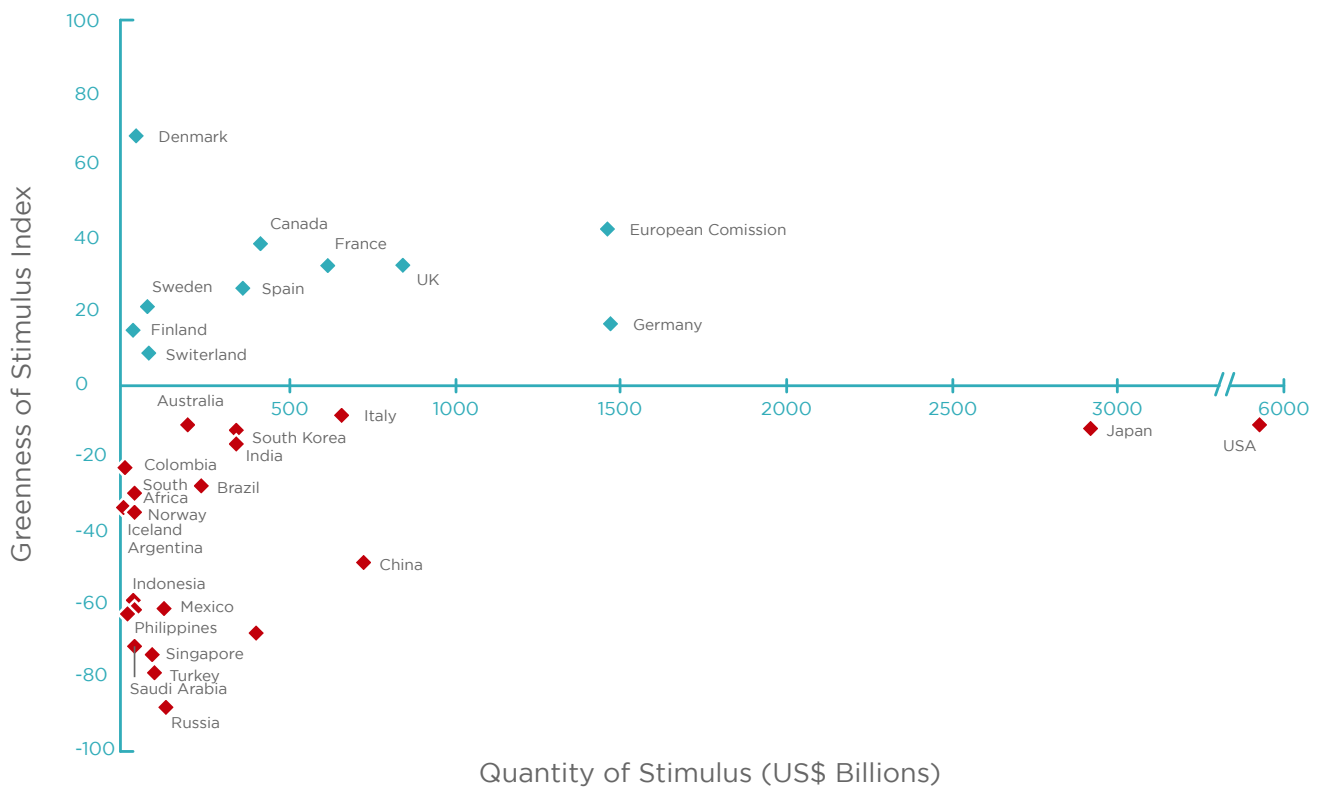
Source: Vivid Economics using a variety of sources. Consult Annex II for the entire list of sources.
Note: Updated on 30 June 2021.

Drilling down into individual countries, while the United States’ score significantly improved following the US\$900 billion December 2020 stimulus package, Biden’s Executive Order and the US\$1.9 trillion March 2021 American Rescue Plan, its score remains negative, meaning that its stimulus continues to do more harm than good. December’s green stimulus measures included US\$14 billion for public transit, over US\$10 billion in nuclear power, US\$7 billion in clean energy and solar solutions, US\$6.7 billion in carbon capture technologies and US\$1.7 billion in building efficiency improvements. But US\$17 billion in unconditional support for airlines and airports, plus environmental deregulation and unconditional support payments to the private sector interacted with the country’s negative baseline and weakened the bill’s impact. While the American Rescue Plan flows largely to non-environmentally relevant sectors, it does provide significant funds for public transportation but also sets aside US\$11 billion for airports and aviation manufacturers, which mitigates its positive impact.

China's score improved due to the launch of their carbon market for the power sector and ambitious 2030 and 2025 climate targets, but its overall negative score means that its stimulus does more harm than good, and sends negative signals across developing countries in Asia and further afield, not least through its 'Belt and Road Initiative'. China has a relatively poor environmental performance baseline, which means its stimulus efforts will largely reinforce a negative trajectory unless concerted effort is made to avoid this. In response to COVID-19, the government relaxed environmental reporting in key sectors such as transport and industry, streamlined permits for coal mining, and extended subsidies for fossil fuel vehicles. The government has, however, introduced a number of positive

measures, including substantial support for electric vehicles and EV infrastructure, a decision to ban trading of specific wildlife species, and support for China's Green Development Fund. China has also supported building renovation, and announced substantial support for railway infrastructure investment. Most recently, the country has set more precise targets and commitments for 2025 and 2030 to achieve net zero by 2060. In January 2021, China launched the world's largest carbon market for the power sector. While these investments and policies are a promising attempt by the Chinese government to divert stimulus towards green investments and stimulate a green transition, much further action is required to overcome the negative impact of unconditional stimulus support to China's existing, environmentally intensive industries.

Figure 8 | GSI score and total size of fiscal stimulus: G20 economies plus Spain, Philippines and Singapore



Source: Vivid Economics using IMF Policy Tracker and other sources
Note: Updated on 30 June 2021.

India's overall stimulus has supported a lot of both positive and negative measures, highlighting the need to find measures that support the transformation of existing polluting industries rather than their business-as-usual trajectory. India announced roughly US\$1.3 billion to support a hydropower project, as well as parking space reservation standards for EV charging points. Other announcements included support for battery development and solar energy, rail initiatives as well as some funding for afforestation. But India continues to be hostage to fossil fuels, with fresh investment for coal mining and oil refineries projects and a large proportion of total stimulus directed at environmentally intensive industries. A reduction in the stringency of environmental monitoring and the approval of environmentally harmful projects further undermines a green recovery.

Indonesia and Brazil are major agricultural commodity producers with a track record of lax environmental policies causing significant forest degradation, and negative biodiversity and ecosystem impacts.

Their agriculture sectors remain on a trajectory of high emissions intensity, and significant habitat and biodiversity destruction. Since the last update, Brazil held a large electricity auction with 11 lots offered. Since renewables make up the majority of the electricity supply in Brazil, this policy contributed to an improvement in Brazil's score in this edition, strengthened by the country's announcement of US\$80 million in loan for the construction of new wind farms. But the score remains negative, in part because Brazil has historically struggled to enforce forest and land use policies, a situation worsened under its COVID-19 response as a result of a Presidential decree relaxing land use permits and enforcement. Indonesia too initially loosened its permitting restrictions for timber producers, but has since reversed this measure. Most recently, Indonesia has earmarked US\$200 million to cut car sales tax in 2021. Given the predominance of internal combustion engine (ICE) vehicles on the Indonesian market, this decreased Indonesia's score. Other measures include the passing of an omnibus bill that critics warn caters to industrial and resource development at the expense of the environment, including recentralising permitting, limiting public participation in environmental assessments, and scrapping some environmental permitting altogether. This adds to other laws deregulating the mining industry, and subsidising state-owned oil and gas and electricity companies and airlines. While Indonesia's 2021 infrastructure budget says it will support sustainable, labour-intensive infrastructure developments, the overall impact on the environment is unclear.

Russia, Mexico and South Africa are major fossil fuel energy producers, and their response to COVID-19 has reinforced their historical negative environmental performance.

Russia relies heavily on its oil and gas sector for exports and overall economic output, and its response to COVID-19 has supported the sector further. Removing tax relief on fossil fuel extraction and refining pushed its score up slightly, though this measure is intended to raise revenues rather than reduce emissions. Russia continues to subsidise energy and industry without green conditions or targeted low carbon investments, resulting in a very low GSI ranking. The recent approval of a carbon neutrality roadmap for Sakhalin, however, contributes towards a small increase in score in this edition. Mexico has previously announced energy sector funding with unconditional support for the refining industry and various polluting energy and transport infrastructure projects. South Africa deferred carbon tax payments and relaxed environmental regulations in earlier measures, but has also made pledges to develop renewable energy, a strategic move in a country that has faced frequent energy shortages. Most recently, the country unveiled some liquified natural gas (LNG) emergency projects but also launched a new bid window for the procurement of new wind and solar infrastructure.

Similarly, Argentina, Saudi Arabia and Turkey are directing a significant proportion of their stimulus packages towards polluting industries. All three have a poor baseline environmental performance, and have made little attempt

to steer new funding towards 'green' initiatives, preferring more polluting energy companies, and failing to apply environmental conditions to such support. For example, since the last update, Turkey extended lease contracts and cancellation of lease payments for airport facilities. Saudi Arabia sees a small increase in score in this edition, however, by supporting a net-zero Red Sea tourism project, which exemplifies green growth opportunities.

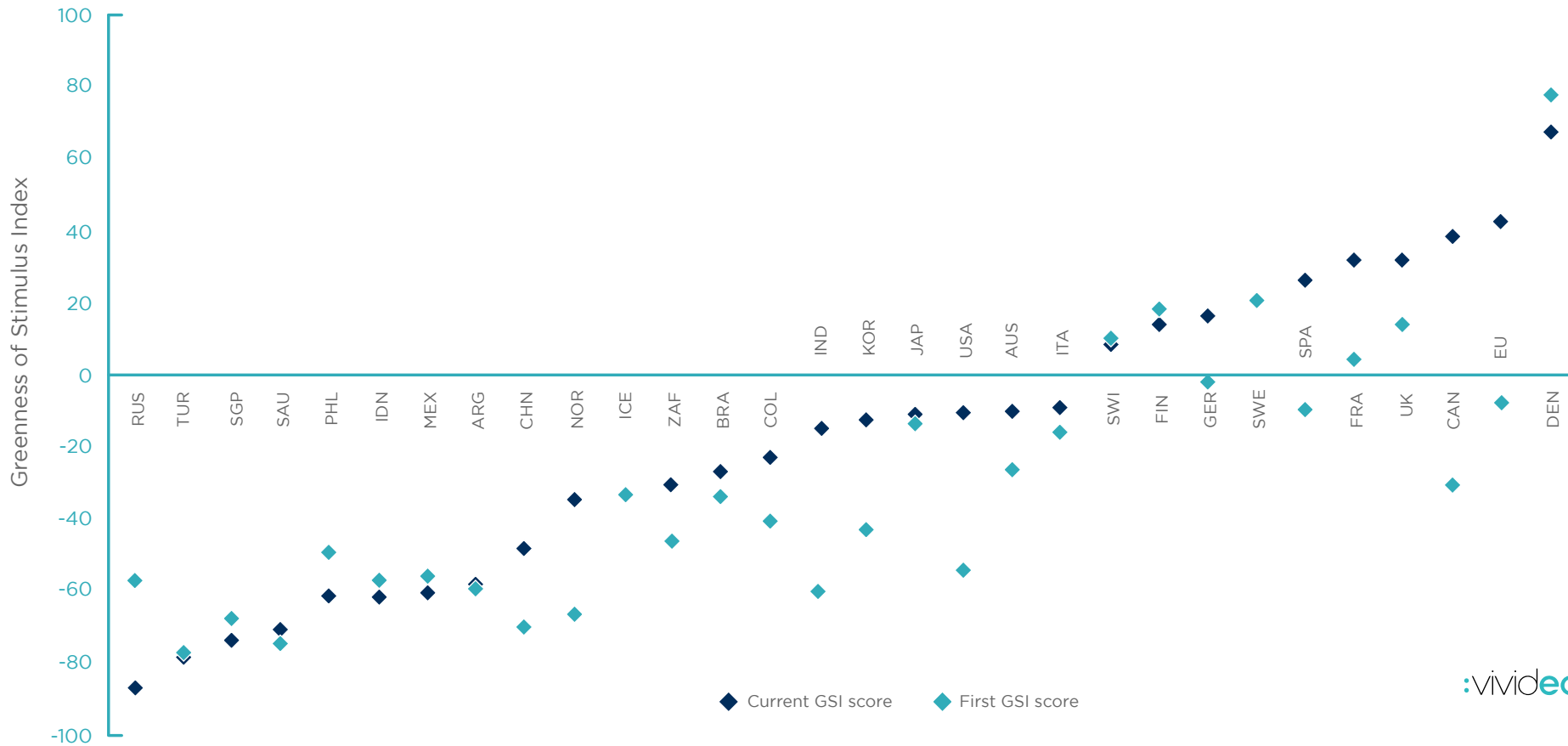
Italy, Australia, and Japan have slightly negative GSI scores, although recent activities have improved the scores of all three countries.

Australia announced a broad suite of relatively small policies around electric vehicles, renewable energy, energy efficiency and hydrogen production. Most recently, however, the country provided US\$200 million in support to major airlines. The country still sees an increase in score in this edition thanks to a large energy deal for the development of hydrogen and carbon capture and storage (CCS). Italy is supporting public transit and subsidies for efficient vehicles. Japan's package in December 2020 funded clean tech innovation, solar PV deployment, digitalisation and zero-emissions vehicle subsidies, though directed significant funding to the business-as-usual economy. These three countries benefit from a better historical (pre-COVID-19) environmental performance than some G20 economies, but are still channelling funds into polluting activities. They are yet to take robust measures to ensure that their stimulus will boost the long-term sustainability and resilience of their economies. More specifically, the recent stimulus packages passed by both Italy (US\$87 billion) and Japan (US\$45 billion) provide general relief to businesses and individuals without mainstreaming green growth throughout the measures.

Canada, the United Kingdom and France have consistently introduced green packages and attached 'green' conditions to bailouts of environmentally intensive industries, steadily raising their scores and landing them in third, fourth and fifth position respectively .

Canada's score improved dramatically in the previous update, second only to the United States. Canada announced a wide-ranging Healthy Environment and Healthy Economy Plan that covered energy efficiency, low- and zero-emission transport, clean energy transition, low carbon agriculture and nature initiatives. Together with the Fall Economic Statement, Canada has gone from a negative GSI score in October 2020 to third place, ranking just behind the European Union. This demonstrates that strong environmental stimulus measures can overcome even poor underlying baseline performance. Since the last update, Canada further pledged more than US\$12 billion over five years for public transport. However, it also provided significant funding for airport and airline support, which contributed to a slight decrease in score in this edition. Similarly, the United Kingdom also recently passed a mix of transport policies including investment in rail and public transport but also froze fuel duty. Combined with investment to boost energy efficiency, the balance of policies, contrary to Canada, resulted in small increase in the United Kingdom's score in this edition. France announced it will progressively exclude guarantees to projects involving dirty forms of oil and gas in the years 2021 to 2035, contributing to a very small increase in score in this edition.

Figure 9 | Current and first release (24th April 2020) GSI scores



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Source: Vivid Economics

Note: Since the GSI's first release in April 2020, the methodology for calculating a country's underlying environmental impact has been refined. This chart applies this updated methodology to calculate the current and initial GSI scores. 30 June 2021.

Germany, South Korea and Spain have also implemented specific green projects, but have not moved much recently. Germany's score marginally increases in this edition, as the country signed a declaration of intent to cooperate on green hydrogen with Saudi Arabia. It had previously announced a tax on fuels for heating and gas, which built on its earlier stimulus package worth around US\$45 billion for a variety of measures to support the green transition, particularly in the energy and transport sectors. South Korea's score is stable following the announcement of the 'New Deal' in the summer of 2020, which included substantial funding for electric and hydrogen vehicles, renewable energy and energy efficiency over the next five years. The US\$63 billion in green funding was equivalent to 19% of the country's total stimulus. Spain, however, sees a slightly more noticeable change in score in this edition. The country announced a variety of

programmes which support, for example, energy efficiency in agricultural holdings and energy diversification for businesses. In May 2021, the Spanish Parliament also approved legislation on climate change and energy transition, which will give a legal basis to the country's climate and energy transition commitments, contributing positively to Spain's index score in this update.

The European Union's stimulus package moved forward with the submission of all National Resilience and Recovery Plans, which Vivid Economics studied in depth and describe in the special feature below. Since the NRRPs have yet not been approved by the European Commission, their impact is not included in the GSI scores shown in this edition. The spending is assessed only in the special feature below and is disaggregated into climate and nature impacts.

Box 1

Can't see the wood nor the trees: Nature is largely ignored in the EU National Resilience and Recovery Plans

The EU National Resilience and Recovery Plans (NRRPs) are the centrepiece of the bloc's integrated stimulus response and are meant to help the EU build back better. The NRRPs aim to mitigate the economic and social impact of the COVID-19 pandemic. They outline how the €672.5 billion³ Resilience and Recovery Facility (RRF) will be invested to build a more sustainable, cohesive and competitive Europe-wide economy. They require Member States to dedicate specific proportions of the NRRP's value to advance different EU priorities, including spending at least 37% on climate and environment and 20% on digital transformation.

Vivid Economics assessed ten NRRPs using the GSI approach and extended the methodology to capture differential impacts upon both nature and climate. The GSI model normally considers the aggregate environmental impact of each stimulus measure, meaning that spending is classified as environmentally helpful or harmful, despite potentially disparate impacts between nature and climate. When analysing the NRRPs, however, another layer of granularity was added to differentiate between spending that impacts upon nature, spending that impacts upon climate, or spending that affects both nature and climate.

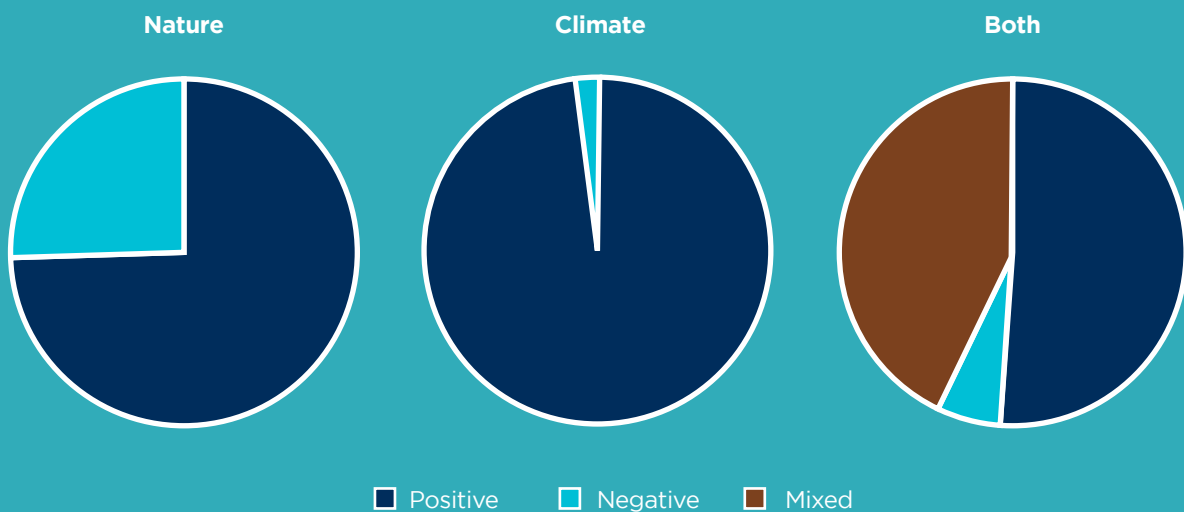
³ €672.5 billion in 2018 prices. This breaks down into €312.5 billion in grants and €360 billion in loans.

We found that climate-positive investments outweigh nature-positive investments by a factor of 6, while nature-negative investments outweigh climate-negative investments by a factor of 9. Figure 10 shows the proportion of positive and negative spending that affects only climate (e.g. electric vehicles or home insulation) and only nature (e.g. wastewater treatment or wildlife protection). It also shows spending affecting both climate and nature:

- Some measures are good for both, like reforestation, which sequesters carbon and generates habitats.
- Some measures are bad for both, like road building, which increases transport emissions and divides habitats.
- Some measures have a mixed impact, like hydroelectric dams and biofuels, which reduce emissions but harm ecosystems. Most measures with a mixed impact were climate-positive and nature-negative.

From the investments across ten NRRPs affecting the energy, transport, industry, waste and agriculture sectors, 98% of climate-relevant spending (€240 billion) will reduce emissions, while only 46% of nature-relevant spending (€40 billion) will strengthen nature. This means that the majority of nature-relevant spending – €47 billion – is likely to damage nature and biodiversity, showing a disproportionate neglect of nature.

Figure 10 | Breakdown of NRRPs by investment into measures positively and negatively affecting climate, nature or both



These investments translate into strong GSI scores for climate but poor GSI scores for nature, which illustrates the importance of distinguishing between the two. The average climate score of 75 is significantly stronger than typical stimulus tracked through the GSI. The nature score, however, averages just 5. This means that, despite hundreds of billions of euros being invested through the NRRPs, nature will see only marginal benefits, and in four of the 10 countries studied, it will be damaged. The green dots in the figure below show the mixed index score, which averages a healthy 54, but fails to capture the particular neglect of nature nor lopsided spending between climate- and nature-relevant investments.

Accounting for unbalanced spending between climate- and nature-relevant investments reduces the average allocation-adjusted GSI score to -7 and shows a lack of holistic coherence in the NRRPs. Investments that benefit nature and climate are both crucial since they are mutually reinforcing. Healthy ecosystems mitigate emissions, and a stable climate supports biodiversity, whereas negative impacts upon either one harms the other. We therefore considered the balance of spending between investments that impact upon climate and those that impact upon nature using a 50:50 split as the optimal allocation. Adjusting the GSI scores to account for balance saw the final allocation-adjusted GSI score fall to -7, with all NRRPs heavily disfavouring nature-relevant spending.

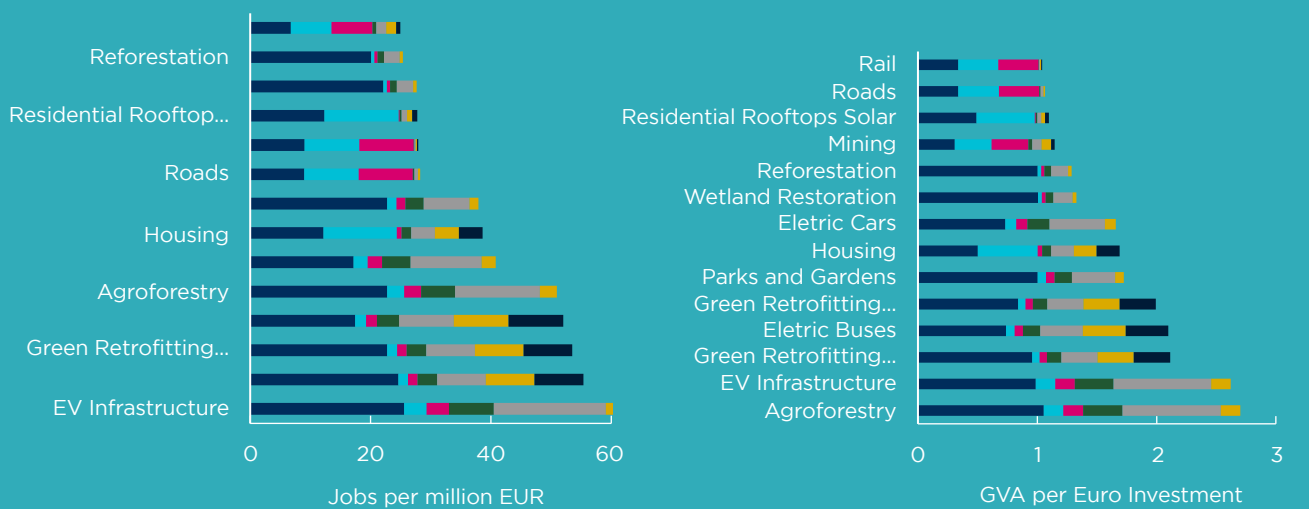
Figure 11 | Positive and negative contributions and index scores



We also assessed the impact of investment in nature-based solutions (NBS) and found that they delivered outsized returns in terms of jobs, economic activity and emission reductions, yet comprised only 1% of total spending. NBS are particularly effective stimulus measures by delivering impact early, when battered economies are most in need of a boost. In the first year of implementation, NBS deliver an average of 60% of both their lifetime jobs and economic impact (gross value-added, or GVA), compared to less than 40% of lifetime jobs and GVA in the first year of a set of typical NRRP investments.⁴ They also deliver more economic activity over their lifetime on average and competitive returns for jobs. Regarding climate benefits, NBS are the only interventions that reduce emissions in absolute terms, by removing carbon dioxide from the atmosphere, storing and sequestering it.

⁴ The reference set of investments was modelled as a proxy for other measures in the NRRPs and includes housing, green roofing retrofits, green window retrofits, rooftop solar, electric cars, electric buses, electric vehicle infrastructure, mining, roads, and rail.

Figure 12 | Breakdown of NRRPs by investment into measures positively and negatively affecting climate, nature or both



Years ■ 0 - 1 ■ 1 - 2 ■ 2 - 3 ■ 3 - 5 ■ 5 - 10 ■ 10 - 15 ■ 15 - 20

Average Jobs	Year 1	Total	Average GVA	Year 1	Total
NBS Basket	22	36	NBS Basket	1.02	1.76
Alternative Basket	16	41	Alternative Basket	0.62	1.65

As the world transitions from COVID-19 stimulus efforts towards regular budgeting, this analysis demonstrates the need for a rigorous appraisal of the impact of public finance upon both nature and climate. The NRRPs are governed by the Do No Significant Harm principal, which calls for spending to have no negative environmental impact. Our analysis shows that the NRRPs are largely successful in avoiding negative impacts upon the climate but leave much to be desired when it comes to nature. Practitioners have decades of experience assessing the single metric of carbon emissions, whereas the multifarious amalgam that represents nature is harder to measure. New methods that define, assess and make transparent both the nature and climate impacts of public spending are needed.

Source: Vivid Economics. (2021). Fund Nature, Fund the Future. <https://www.vivideconomics.com/wp-content/uploads/2021/06/Fund-Nature-Fund-the-Future.pdf>

While the COVID-19 pandemic is not over, the stimulus response appears to be tapering, and the lessons learned about the environmental impact of public finance must be applied to future spending.

As the GSI series concludes, we acknowledge that the index has provided governments and institutions with a means to measure the impact of spending choices upon the environment, and with information about how they might achieve a climate and nature positive recovery. Such approaches are critical to ensuring that public finance not only protects but also enhances nature, biodiversity and the climate on an ongoing basis. We will continue working with governments, institutions and civil society to analyse spending and link it to effects on climate and nature, improving the impact of public finance and in doing so, actively building the long-term health, sustainability, and resilience of society.

Annex I

Methodology

The index is constructed by combining the flow of stimulus into five key sectors with an indicator of each sector's environmental impact, the latter accounting for both historical trends and specific measures taken under the country's stimulus.

The impact indicator assigns a greenness value (positive or negative) to each sector for every country based on the methodology discussed below. The overall GSI is an indicator of the total fiscal spending in response to COVID-19 categorised as either a positive or negative impact on the environment. The final index for each country is an average of sectoral impact, normalised to a scale of -1 to 1. The five sectors are chosen for their historical impact on climate and environment: agriculture, energy, industry, waste and transport.

An estimated 30% of overall total G20 stimulus funding will flow through these sectors.⁵ Despite some targeted stimulus measures to support environmental improvements, overall flows into these sectors of interest remain harmful because of their historical performance. To date, a relatively small magnitude of stimulus measures contain clear pro-environmental conditions. A majority of fiscal stimulus measures currently passed and likely to flow to environmentally intensive sectors do not have an explicit focus on climate change and environmental goals.

Two components of the stimulus were analysed: the size of the fiscal flow (F value) to each environmentally intensive sector, and the overall impact of that stimulus on climate and environment (B value).

- **B is a scaled indicator from -1 to 1 which rates sectors by level of overall greenness from most pro-environmental at 1 to least environmental at -1. The B value differentiates between underlying sector context (b_1) and specific environmental measures (b_2). b_1 refers to our baseline evaluation of each country using 'off the shelf' environmental indicators.⁶ This captures the country's underlying environmental performance. This includes an evaluation of its rating on multiple environmental performance indicators, and the overall country's climate target progression. b_2 is a consideration of any COVID-19 response-specific data we have found that either supports or undermines the baseline value. It takes a negative value if stimulus support boosts harmful activities without regard to environmental targets or deregulates to roll back environmental conditions. It takes a positive value if stimulus support advances pro-environmental programmes or includes conditions on environmental performance (for more information on composition of b_2 , see further on in this Annex). Both quantified stimulus measures (e.g. an amount of funding designated for a certain project) and unquantified stimulus measures (e.g. rollbacks of environmental regulations that would theoretically reduce compliance costs for firms) can contribute to b_2 values (see specific b_2 section below for more detail).**

- **Each environment-specific stimulus measure is categorised against positive and negative archetype interventions.** Table 1 and Table 2 describe these policy archetypes respectively.

⁵ This figure comes from totalling all fiscal spending by countries in our analysis and categorising the flows by sector. This value is the percentage of estimated and actual flows going into the above environmentally-relevant sectors across all countries in our analysis. Our estimate is above recently published work, including Hepburn et. al's estimate of 8% of total funding having either a positive or negative environmental impact. [Hepburn, C. O'Callaghan, B., Stern, N., Stiglitz, J., Zenghelis, D. (2020). Will COVID-19 fiscal recovery packages accelerate or retard progress on climate change? Oxford Smith School of Enterprise and the Environment, Working Paper No. 20-02 ISSN 2732-4214]. We believe our figure is larger given our analysis is only of recovery stimulus and not long-term fiscal measures that may be introduced in the medium- and long-term.

⁶ Key indicators used for the construction of baseline performance are the Climate Action Tracker (<https://climateactiontracker.org/countries/>), Environmental Performance Index (<https://epi.yale.edu/>), and Germanwatch Climate Change Performance Index (<https://germanwatch.org/en/CCPI>).

Table 1 | Summary of **positive** policy archetypes

Sector	Archetype	Description
Agriculture	Bailouts with green strings attached	Requiring limits to emissions or waste in return for direct funding.
	Nature-based solutions	Afforestation and reforestation programmes, restoration of wetlands, or forest management investments.
	Loan and grants for green investments	Direct loans or tax rebates and subsidies, e.g. for high-efficiency water irrigation systems.
	Conservation and wildlife protection programmes	Making the sale of endangered animals illegal.
Energy	Bailouts with green strings attached	Direct loans and guarantees for oil, gas and coal with commitments for improvement on emissions or energy efficiency.
	Loan and grants for green investments	Direct investment in the form of loans or grants towards renewable energy including solar, wind, biofuels and hydrogen.
	Green R&D subsidies	Grants for research institutes, academic institutes, and private firms to develop new renewable energy technologies and systems.
	Subsidies or tax reductions for green products	Extending tax rebates to households for rooftop solar, or making green energy products including utility tariffs with renewable targets available at a subsidised cost.
Industry	Bailouts with green strings attached	Conditions on firms relating to emissions, pollution, supply chain requirements, or compliance with voluntary agreements or reporting standards.
	Loan and grants for green investments	Low carbon or low emissions public infrastructure including CCS projects for industry, energy efficiency programmes for existing buildings, investment in the hydrogen economy and electrification of industry.
	Green R&D subsidies	Direct grants or loans available to research institutions, academic institutions, and private firms to develop low-carbon industrial technologies such as CCS, hydrogen, and electrification.
	Subsidies or tax reductions for green products	Taxes for the use of primary materials in supply chain, subsidies offered to firms that ensure compliance in their supply chains.

Table 1 | Summary of positive policy archetypes (cont.)

Sector	Archetype	Description
Transport	Bailouts with green strings attached	Conditional bailouts to air carriers, car manufacturers, or shipping for emissions reduction pledges or commitment to use biofuel or renewable fuel standards in exchange for loans.
	Loan and grants for green investments	Building public infrastructure projects including cycleways, low-carbon rail or other mass transit, public walkways, and railroads with consideration towards climate mitigation and adaptation.
	Green R&D subsidies	Loans or research grants available to academic institutions, research centres, think tanks and private firms to develop electric vehicles, hydrogen vehicles, and low-carbon fuel alternatives for shipping, aviation and vehicle transport.
	Subsidies or tax reductions for green products	Tax rebates available to consumers for EVs, subsidies for low carbon transportation including light rail, developing HOV lanes or low-emission zones fees.
Waste	Bailouts with green strings attached	Tying bailouts to commitments to shift from waste incineration to more sustainable waste management strategies.
	Loan and grants for green investments	Direct investment in recycling, Municipal Solid Waste, waste-to-energy, or methane recapture on existing facilities or new waste management facilities.
	Green R&D subsidies	Loans or grants for academic institutions, research centres, think tanks, or private firms for the development of advanced waste management include waste-to-energy and methane recapture technologies.
	Subsidies or tax reductions for green products	Tax reductions or rebates for recycling, composting including buy-back programmes or subsidisation of environmental producer responsibility (EPR) programmes.

Source: Vivid Economics

Note: Definition includes examples but may include additional and alternative programmes.

Table 2 | Summary of **negative** policy archetypes

Sector	Archetype	Description
Agriculture	Subsidies or waived fees for environmentally harmful activities	Waiving, reducing, or directly subsidizing fees for point and non-point source pollution in agriculture, logging, and timber. Removal of conservation or preservation laws around forest management and access.
	Deregulation of environmental standards	Removing, repealing, increasing the quantity of pollutants allowed or extending the compliance period for pollution, emissions, or land use change in agriculture and forestry sectors.
	Environmentally related bailout without green strings	Removing, repealing, increasing the quantity of pollutants allowed or extending the compliance period for pollution, emissions, or land use change in agriculture and forestry sectors.
	Subsidies or tax reductions for environmentally harmful products	Introducing subsidies for high emissions agricultural products including cattle and sheep, reducing existing carbon taxes or environmental taxes on high-impact agriculture and harvested wood products.
Energy	Subsidies or waived fees for environmentally harmful activities	Subsidising utilities, producers, or developers of oil and gas or coal production plants, covering the cost of pollution taxes including carbon taxes, delaying the development or deployment of emissions taxes for energy producers.
	Environmentally harmful infrastructure investments	Direct investment in coal or oil and gas sector, or loans, grants and guarantees made available to private firms exclusively to build oil and gas or coal production plants.
	Deregulation of environmental standards	Removal or elimination of carbon trading schemes, increasing the cap on emissions or pollution trading schemes, decreasing the number of firms required to participate in emissions trading schemes, removing mandates for environmental reporting or disclosure, suspending enforcement of environmental regulation.
	Environmentally related bailout without green strings	Extending loans, grants, guarantees, or other financing to oil and gas or coal producers without conditions on emissions intensity, emissions output, or energy mix.
	Subsidies or tax reductions for environmentally harmful products	Subsidies for consumers or producers of oil and gas and coal including diesel, home electricity, and utilities and reducing existing fuel taxes or carbon taxes.
Industry	Subsidies or waived fees for environmentally harmful activities	Waiving permitting and environmentally-related fees for mining, construction or other heavy industrial sectors.
	Environmentally harmful infrastructure investments	Direct government investment in high emissions public infrastructure including factories, data centres, and non-energy efficient building stock or heating systems
	Deregulation of environmental standards	Removal of reporting or mandatory disclosure of environmental impacts by industrial firms, suspension of enforcement of environmental laws and regulations, removal of permit or use requirements for industry, fast-tracking of environmentally intensive industrial project development by removing environmental assessments.

Table 2 | Summary of **negative** policy archetypes (cont.)

Sector	Archetype	Description
Industry	Environmentally related bailout without green strings	Direct unconditional support through grants, loans, guarantees, or other financial mechanisms to high-emissions industrial sectors without requirements for efficiency, energy use, or reporting improvements.
	Subsidies or tax reductions for environmentally harmful products	Reducing taxes on environmentally intensive products including manufactured goods and chemicals which have a high environmental impact.
Transport	Subsidies or waived fees for environmentally harmful activities	Direct subsidisation of combustion engines made available to consumers or producers, removal or reduction of the fees related to tailpipe emissions or fuel taxes.
	Environmentally harmful infrastructure investments	Direct government investment into infrastructure supporting polluting transport, such as airports or roads.
	Deregulation of environmental standards	Removal of regulations governing the transport sector, such as for ships and aviation and largely relating to emissions.
	Environmentally related bailout without green strings	Direct unconditional support through grants, loans, guarantees, or other financial mechanisms to high emissions transport providers, such as airlines.
	Subsidies or tax reductions for environmentally harmful products	Reducing taxes on the sale of high-polluting products such as automobiles, with no preferential treatment of 'green' alternatives such as electric vehicles.
Waste	Subsidies or waived fees for environmentally harmful activities	The removal of fees relating to the environmentally harmful disposal or treatment of waste.
	Environmentally harmful infrastructure investments	Investments into waste infrastructure that does not improve the environmental impact of waste disposal or treatment.
	Deregulation of environmental standards	Removal of regulations governing the disposal and/or treatment of waste.
	Environmentally related bailout without green strings	Extending bailouts to waste industries which openly incinerate or do not use methane recapture, or other advanced waste management systems without requirements for meeting environmental reporting standards.

Source: Vivid Economics

Note: Definition includes examples but may include additional and alternative programmes.

The b_2 score is calculated based on the environmental impact of the policy archetype and a specific assessment of the stimulus measure, based on its intensity and coverage:

Intensity

Each measure is rated on intensity from 1 to 5, with one as the least intense and five as the most intense. The impacts on the environment may be intense in either positive or negative trajectories. Intensity depends on three components: the irreversibility of environmental damage or gain, the concentration or diffusion of impact on environmental and natural systems, and the level of lock-in to either positive or negative development resulting from the policy.

An example of an intense negative policy (5) is direct investment in new coal or oil/gas technologies. These projects directly emit carbon into the atmosphere, causing irreversible damage. Pollution from these projects disperses into the air becoming a global externality. Coal and oil and gas assets lock in countries to environmentally harmful trajectories and risk becoming stranded assets.

An example of a somewhat intense green policy (3) is a subsidy for electric vehicles. The avoided emissions by using EV reduce the amount of irreversible emissions in the atmosphere. Using electricity instead of oil avoids direct air pollution. EV uptake encourages increased adoption through positive externalities associated with a network of ownership, encouraging more uptake and subsequently a green lock-in effect.

An example of a less intense negative policy (1) is a temporary fee suspension for environmentally harmful activities, but subsequently resuming fee collection.

Coverage

The coverage of a quantified stimulus measure is determined by the monetary size of the policy, on a scale from 1 to 5, with 1 as the least amount of coverage and 5 the highest. For instance, if a country passed two policies with the same intensity score (for example one policy allocating funds to solar energy, and another to wind energy), then the policy with a larger budget would have a larger impact on the sector score and thus on the final index score. The coverage of an unquantified measure is rated by level of directness, the number of subsectors or individual firms in a sector that will be impacted, and the temporal coverage (how far into the future will this positive or negative policy exist).

An example of a high coverage negative policy (5) is the suspension of all environmental regulations on industry. Removing the monitoring, enforcement and compliance of environmental standards would extend coverage to all firms in the sector, having both direct effects and indirect effects.

An example of a moderate coverage green policy (3) is a ban on wildlife trade. A ban on wildlife trade is a permanent change in policy and is likely to have positive impacts on the specific species no longer traded, and indirectly on other species that share that habitat. The wildlife ban will not affect parts of the agriculture and forestry sector.

An example of a low coverage green policy (1) is a climate-related financial disclosure requirement for firms generating a certain quantity of revenue. Requiring firms that have revenue over US\$100 million or another equivalent excludes many small- and medium-sized firms, resulting in a policy with incomplete sectoral coverage.

Annex II

Country notes

These notes describe the underlying numbers that are driving the index score for each country. The notes and the index are updated regularly as more information on the recovery packages becomes available.

1.1 Argentina

Argentina has passed US\$32 billion in fiscal stimulus measures.⁷

Composition of stimulus: Argentina's stimulus package, equivalent to about 6% of the country's GDP, includes: increased health spending specifically to combat the virus; support for workers and vulnerable groups through cash transfers to poor families and minimum wage workers; unemployment and social security benefits; support for certain hard-hit sectors; government spending on public works; continued utility services to homes unable to pay for services; and various credit guarantees.

Argentina's index score is driven by poor underlying environmental performance, exacerbated by some environmentally damaging stimulus measures.

Table 3 | Archetype policies announced in Argentina

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached					
Green infrastructure investments	◆				
Green R&D subsidies					
Subsidies or tax reductions for green products					
Nature-Based Solutions					
Conservation and wildlife protection programmes					
Subsidies for environmentally harmful activities					
Environmentally harmful infrastructure investments					
Deregulation of environmental standards			◆		
Environmentally related bailout without green strings					
Subsidies or tax reductions for environmentally harmful products		◆	◆		

Source: Vivid Economics

Note: Green = positive archetype announced in sector, red = negative measure announced in sector, grey = archetype not applicable for sector.

⁷ IMF Policy Tracker (2021). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

• Underlying sector context (b₁)

Performance on key indicators is highly insufficient to achieve environmental targets.

• Specific environmental measures (b₂)

• Decree 488 provided support for oil producers by fixing the price of a barrel of oil, freezing internal taxes, cutting export taxes and prohibiting the import of foreign fossil fuels.⁹

• The government also made a small (US\$540,000) commitment to promote the use of solar energy technologies within agro-fishery activities.¹⁰

• The National Supplier Development Program provides a line of credit with non-reimbursable contributions for up to 70% of the project for suppliers in strategic energy and mining sectors.¹¹ While this programme will provide some funding for renewable energy projects, it has a negative impact overall due to the majority of the funds being made available for oil and gas, non-renewable energy and mining projects.¹²

⁸ Official Bulletin of Argentina (2020). <https://www.boletinoficial.gob.ar/detalleAviso/primera/229470/20200519>. Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/argentina/>

⁹ Argentinian Ministry of Agriculture, Livestock and Fisheries (2020). <https://www.magyp.gob.ar/fondosambientales/>. Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/argentina/>

¹⁰ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/argentina/>

¹¹ Boletín Oficial de la República Argentina (2020). <https://www.boletinoficial.gob.ar/detalleAviso/primera/234817/20200910>

1.2 Australia

Australia to date has passed US\$190 billion in total fiscal support.¹²

Composition of stimulus: Australia's fiscal package includes specific health spending, support for households and workers, and specific measures for businesses. A large proportion of the Australian stimulus package is directed at the 'JobKeeper' programme, which has been extended until March 2021. The Australian government has announced specific support for Australian airlines and airports. Other measures to protect businesses have been applied in the industry, transport, energy and agriculture sectors. Territorial governments have announced a number of measures that could have environmental impacts, particularly in the energy sector, although these tend to be relatively small compared with total fiscal spending. In March 2021, Australia released a tourism package further supporting airlines, the tourism industry and air travel.

Australia has announced a mix of policies, which, combined with its insufficient underlying environmental progress, results in a negative index score. Some investment in the clean energy sector by territorial governments had increased Australia's score in the previous update. In this edition, its support to the air travel industry is offset by a large joint energy deal for hydrogen and CCS, contributing to a slight net increase in score.

Table 4 | Archetype policies announced in Australia

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached					
Green infrastructure investments		◆	◆	◆	
Green R&D subsidies		◆		◆	
Subsidies or tax reductions for green products		◆			
Nature Based Solutions					
Conservation and wildlife protection programmes	◆				
Subsidies for environmentally harmful activities		◆	◆		
Environmentally harmful infrastructure investments		◆	◆	◆	
Deregulation of environmental standards	◆	◆			
Environmentally related bailout without green strings				◆	
Subsidies or tax reductions for environmentally harmful products				◆	

Source: Vivid Economics

¹² IMF Policy Tracker (20210). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>, Australian Treasury (2020). https://treasury.gov.au/sites/default/files/2020-05/Overview-Economic_Response_to_the_Coronavirus_3.pdf

• Underlying sector context (b₁)

Performance on key indicators is insufficient to achieve environmental targets.

• Specific environmental measures (b₂)

- A partial suspension of permitting and licensing fees was applied in the oil, gas and mining sectors in South Australia.¹³ The government announced in April 2020 that licensing fees and annual petroleum fees will not be due until December 2020.¹⁴ This is a harmful policy given it explicitly extends relief to fossil fuel firms without conditions for environmental performance. Given that this is only a regional measure, the policy rollback does not impose as large a negative weight as a national-level rollback. The subnational endorsement of these sectors without green conditions is in contradiction to Australia's pledge to reduce emissions.

- The Australian government is supporting the airline industry by extending US\$437 million in loans and tax deferrals without green conditions.¹⁵ In March 2021, the Australian government provided another US\$200 million in support to major airlines, along with a 50% subsidy on 800,000 plane tickets¹⁶. Because airlines are a high emissions subsector in transport, these policies impose a negative weight on the sector.

- The suspension of conservation laws in the logging industry for the next decade by the State of Victoria is a direct deregulatory measure in agriculture and forestry.¹⁷ While it is not a law imposed across the entire country, the repeal of this legislation places natural forests at risk of logging.¹⁸ This suspension is a part of the Regional Forestry Agreement that was reaffirmed during the COVID-19 crisis, which exempts loggers from compliance with certain federal conservation laws, including the Environmental Protection Biodiversity Conservation Act.¹⁹

- Other damaging measures include the opening up of 7,000 square km of land for coal and gas exploration,²⁰ and the introduction of exploration grants,²¹ both in Queensland, as well as the development of the onshore gas industry in the Northern Territory.²² In New South Wales, funding of an undisclosed amount has also been committed to provide a coal-fired power plant²³.

¹³ Climate Change News (2020). <https://www.climatechangenews.com/2020/04/20/coronavirus-governments-bail-airlines-oil-gas/>

¹⁴ APPEA (2020). https://www.appea.com.au/media_release/sa-supports-exploration-amid-covid-19-challenges/

¹⁵ Australian Treasury (2020). https://treasury.gov.au/sites/default/files/2020-05/Overview-Economic_Response_to_the_Coronavirus_3.pdf

¹⁶ Prime Minister of Australia (2021) <https://www.pm.gov.au/media/tourism-and-aviations-flight-path-recovery>

¹⁷ Drilled News (2020). <https://www.drillednews.com/post/the-climate-covid-19-policy-tracker>

¹⁸ Monga Bay (2020). <https://news.mongabay.com/2020/05/australias-logging-madness-fuels-more-fires-hastens-ecosystem-collapse/>

¹⁹ The Guardian (2020). <https://www.theguardian.com/environment/2020/apr/17/polluter-bailouts-and-lobbying-during-covid-19-pandemic>

²⁰ ABC (2020). <https://www.abc.net.au/news/2020-05-07/queensland-coal-and-gas-exploration-coronavirus/12220636>, Energy Policy Tracker (2020).

<https://www.energypolicytracker.org/country/australia>

²¹ Queensland Government (2020).

<https://www.business.qld.gov.au/industries/mining-energy-water/resources/geoscience-information/exploration-incentives/exploration-grants>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/australia>

²² Northern Territory Government (2020). <http://newsroom.nt.gov.au/mediaRelease/33259>, Energy Policy Tracker (2020,2021).

<https://www.energypolicytracker.org/country/australia>

²³ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/australia>

- However, some specific green support has been announced, particularly in the energy sector. Hydrogen has received funding through four channels. The Advanced Hydrogen Fund has committed US\$189 million,²⁴ the Australian Renewable Energy Agency is providing US\$44 million²⁵, the National Energy Resources Australia invested US\$1.85 million and the Tasmanian renewable hydrogen action plan commits to further support.²⁶ The Northern Territory government has announced the procurement of a large-scale battery energy storage system for the Darwin-Katherine power network.²⁷ Likewise, the Clean Energy Finance Corporation committed US\$110 million for Neoen lithium-ion batteries. In Queensland, more than US\$400 million has been invested into renewable energy zones²⁸, while around US\$70 million has been directed at renewable energy zones in New South Wales. In Western Australia, the 'Wheatbelt Recovery Plan' provides support for the Clean Energy Future Fund and the Native Vegetation Rehabilitation Scheme, while the Esperance recovery plan includes around US\$12 million for renewable technologies.²⁹ Most recently, a joint US\$ 500 million energy deal was agreed between National and South Australian Governments for the development of hydrogen, CCS, and an electricity interconnector. The deal also, however, included significant funding (US\$300 million) to unlock new gas reserves.

- Territorial governments have continued to lead the way on a green recovery, particularly in the energy sector. The government of Victoria has made a US\$523 million investment in energy efficiency measures for homes³⁰, and US\$371 to develop six renewable energy zones³¹. South Australia invested US\$60 million into energy efficiency for government buildings,³² and perhaps most impressively, New South Wales unveiled an 'Electricity Infrastructure Roadmap' that could attract up to US\$24 billion in private investment to replace ageing fossil infrastructure with a cleaner, more efficient system³³. South Australia and Victoria have invested in a green transportation sector, allocating, respectively, US\$12 million to an electric vehicle action plan³⁴ and US\$6.9 million to establish a hydrogen and clean energy vehicle research hub³⁵.

²⁴ Thomson Reuters Foundation (2020). <https://news.trust.org/item/20200504013347-5ffvz/> , Energy Policy Tracker (2020).

<https://www.energypolicytracker.org/country/australia>

²⁵ Renew Economy (2020). <https://reneweconomy.com.au/arena-opens-70-million-funding-round-to-fast-track-renewables-for-hydrogen-58600/> , Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/australia>

²⁶ Tasmanian Government (2020). http://www.premier.tas.gov.au/releases/reissued_becoming_the_nations_renewable_hydrogen_industry_epicentre , Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/australia>

²⁷ Northern Territory Government (2020). <http://newsroom.nt.gov.au/mediaRelease/33392> , Energy Policy Tracker (2020).

<https://www.energypolicytracker.org/country/australia>

²⁸ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/australia> , Queensland Government (2020).

https://www.covid19.qld.gov.au/__data/assets/pdf_file/0025/128194/economic-recovery-plan.pdf, <https://statements.qld.gov.au/statements/90683>

²⁹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/australia> , Western Australia Government (2020).

<https://www.wa.gov.au/sites/default/files/2020-08/Wheatbelt%20Recovery%20Plan.pdf>

³⁰ Government of Victoria (2020). <https://www.premier.vic.gov.au/helping-victorians-pay-their-power-bills>

³¹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/australia> ,

³² Energy Magazine (2020). <https://www.energymagazine.com.au/south-australia-invests-60-million-in-energy-efficient-government-buildings/>

³³ Renew Economy (2020). <https://reneweconomy.com.au/nsw-targets-12gw-of-renewables-and-storage-under-new-roadmap-that-includes-auctions-27022/>

³⁴ The Driven (2020). <https://thedriven.io/2020/11/06/south-australia-to-transition-car-fleet-and-boost-charging-network-in-big-ev-push/>

³⁵ Energy Policy Tracker (2021). <http://www.energypolicytracker.org/country/australia/>

1.3 Brazil

Brazil has passed a total of US\$232 billion in fiscal stimulus spending.³⁶

Composition of stimulus: The Brazilian government has introduced a number of measures to support businesses. A large proportion of the stimulus is directed at the industry and transport sectors, while some specific support has also been announced for agricultural producers. Other stimulus measures include health and medical equipment spending, income and employment support.

Brazil's negative score is driven by a combination of poor underlying performance, plus some environmentally harmful measures, particularly in the agriculture and transport sectors. Recent policies have both environmentally harmful and beneficial effects but contributed on balance to an increase in Brazil's score.

Table 5 | Archetype policies announced in Brazil

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached					
Green infrastructure investments		◆	◆		
Green R&D subsidies					
Subsidies or tax reductions for green products		◆			
Nature Based Solutions					
Conservation and wildlife protection programmes					
Subsidies for environmentally harmful activities					
Environmentally harmful infrastructure investments			◆		
Deregulation of environmental standards	◆	◆	◆		
Environmentally related bailout without green strings				◆	
Subsidies or tax reductions for environmentally harmful products					

Source: Vivid Economics

• Underlying sector context (b₁)

Performance on key indicators is highly insufficient to achieve environmental targets.

³⁶ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

• Specific environmental measures (b₂)

• Brazil has approved measures that support carbon-intensive activities, such as instituting a committee for the revitalisation of exploration and production activities for oil, natural gas and other hydrocarbon fluid. Further, Brazil also approved the potential extension of concession period for offshore oilfields³⁷. Most recently, the Ministry of Mines and Energy established the guidelines for conducting Auctions for the Purchase of Electricity from New Generation Projects, with a focus on enterprises using natural gas or national coal³⁸.

• The Brazilian government has, however, also announced some promising measures, for example through the country's creation of new financial mechanisms to issue green bonds for sustainable infrastructure. The National Bank for Economic and Social Development issued US\$203 million in green bonds in October 2020³⁹. These are expected to attract up to US\$34 billion by 2029.⁴⁰ Brazil has also announced the extension of a green credit line to support biofuel producers⁴¹ and authorised the import of raw materials for the manufacture of biofuels, to respond to the country high soy exports due to the COVID-19 pandemic, which created a drop in its availability in the domestic market⁴².

• Most significantly, the new National Energy Plan was approved in December 2020⁴³. The Brazilian government has set a renewable energy target of around 45% by 2030 under the new strategy⁴⁴. Support for renewable energy has also been provided through the Brazilian Development Bank (BNDES). This includes funding for wind energy infrastructure. The BNDES has approved funding for national wind blades manufacturers, as well as the expansion of wind complexes. Most recently, two loans amounting to US\$80 million for the construction of new wind farms were approved by the BNDES⁴⁵. Brazil has also provided support for energy efficiency improvements. Those policies contribute positively towards Brazil's index score.

³⁷ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/brazil/>

³⁸ Energy Policy Tracker (2021). <https://www.energypolicytracker.org/country/brazil/>

³⁹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/brazil/> ,

⁴⁰ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/brazil/> ,

⁴¹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/brazil/> ,

<https://epbr.com.br/linha-de-r-3-bi-do-bndes-para-o-etanol-estara-disponivel-nesta-quarta/>

⁴² Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/brazil/>

⁴³ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/brazil/> ,

⁴⁴ PV Magazine (2020). <https://www.pv-magazine.com/2020/12/23/brazil-hits-7-gw-mark-targets-45-renewables-by-2050/#:~:text=The%20Ministry%20of%20Mines%20and,2030%20under%20the%20new%20strategy.>

⁴⁵ Energy Policy Tracker (2021). <https://www.energypolicytracker.org/country/brazil/>

• Specific environmental measures (b₂)

• On the other hand, Brazil initially delayed electricity auctions which were expected in the spring of 2020.⁴⁶ It has been argued that the delay is likely to have given gas producers more time to improve their relative market share and attract additional private investment, harming the renewables sector. The postponement of energy auctions may have also imposed additional barriers to the development of renewable energy in the country. By giving natural gas a competitive edge, the country delayed the development of green energy projects. In December 2020, however, the National Electric Energy Agency held the largest electricity transmission auction in 2020, with 11 lots offered⁴⁷.

• Brazil followed the lead of many other countries and extended unconditional financial support to the airline industry.⁴⁸ This includes direct supports to airlines and aviation, as well as extending the deadline for repayment of airport concession contracts until December 2020.

• Since the start of the stimulus, Brazil has taken significant steps to deregulate land use in the Amazon, to stimulate economic activity in the region. This deregulation includes relaxation of restrictions on logging, mining and other development permits to boost growth in the agriculture, forestry and industrial sectors.⁴⁹

• One example is a recent bill introduced by President Bolsonaro allowing illegal occupants of land who have made it agriculturally productive to make a claim for legal title to the land.⁵⁰ Relaxing the enforcement of property rights for land use in the Amazon and creating a process for poachers to qualify for land deeds is predicted to increase illegal land poaching, directly harming indigenous communities and damaging biodiversity.⁵¹ The bill is explicitly designed to allow for over 9.8 million hectares of land that is currently under unrecognised indigenous use to be opened up for economic activity, effectively serving as a deregulatory measure for the mining and timber industries.⁵²

• Another environmentally damaging measure supporting the agriculture sector is reduced oversight of environmental monitoring in the Amazon. Because of the COVID-19 crisis, one third of enforcement agents were asked to stay home and isolate, reducing their availability to combat illegal deforestation and land poaching.⁵³ While this is not an explicit stimulus measure, this recommendation, coupled with the firing of two government supervisors in deforestation, and a decrease in funding for relevant equipment and labour has strained the ability to protect land.⁵⁴

⁴⁶ BN Americas (2020). <https://www.bnamericas.com/en/analysis/spotlight-the-impacts-of-brazils-decision-to-postpone-all-electricity-auctions>

PV Magazine (2020). <https://www.pv-magazine.com/2020/04/01/brazil-postpones-energy-auctions/>

⁴⁷ Energy Policy Tracker (2021). <https://www.energypolicytracker.org/country/brazil/>

⁴⁸ KPMG Insights (2020). <https://home.kpmg/xx/en/home/insights/2020/04/brazil-government-and-institution-measures-in-response-to-covid.html>

Business Wire (2020). <https://www.businesswire.com/news/home/20200521005773/en/Corporaci%C3%B3n-Am%C3%A9rica-Airports-Announces-1Q20-Results>

⁴⁹ Brazil government (2020). http://www.planalto.gov.br/ccivil_03/_ato2019-2022/2019/Mpv/mpv910.htm

⁵⁰ The Guardian (2020). <https://www.theguardian.com/environment/2020/may/28/studies-add-to-alarm-over-deforestation-in-brazil-under-bolsonaro-covid-19>

⁵¹ Financial Times (2020). <https://www.ft.com/content/ca84017c-94c5-48ca-80c6-2ac31ea20cd9>

⁵² Monga Bay (2020). <https://news.mongabay.com/2020/05/brazil-opens-38000-square-miles-of-indigenous-lands-to-outsiders/>

⁵³ Politico EU (2020). <https://www.politico.eu/article/climate-battle-shifts-to-once-in-a-generation-national-budgets/>

⁵⁴ The Rising (2020). <https://therising.co/2020/05/21/amazon-fires-may-be-worse-2020/>

1.4 Canada

Canada has passed US\$417 billion in fiscal stimulus measures.⁵⁵

Composition of stimulus: Alongside measures to fund the healthcare system and support households, Canada is providing a variety of measures to support businesses, such as wage subsidies, direct payments and tax deferrals. This has included some specific environment-related measures that provide support both to green and high-emitting industries. Green stimulus measures in Canada's agriculture, energy and transport sectors improve Canada's GSI, alongside a condition to report climate risk according to TCFD guidelines to qualify for financial support. Canada provided funding for several new green transportation and nature-based solution initiatives in November's Fall Economic Statement 2020. Canada's 2020 Throne Speech reinforced a commitment to a green and sustainable recovery. As a commitment to the Throne Speech, Canada released in December 2020 'A Healthy Environment and a Healthy Economy', its plan to build a better future, which considerably improved Canada's index score in the last release. In March 2021, the Canadian government pledged US\$12 billion over five years for public transit funding; however, it also recently provided more than \$US5 billion in funding for airport and airline support. Combined with a mix of road network development policies, this results in an overall small decrease in its index score in this update.

Table 6 | Archetype policies announced in Canada

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached	◆	◆	◆	◆	◆
Green infrastructure investments		◆	◆	◆	
Green R&D subsidies		◆			
Subsidies or tax reductions for green products		◆	◆	◆	
Nature Based Solutions	◆				
Conservation and wildlife protection programmes	◆				
Subsidies for environmentally harmful activities		◆	◆	◆	
Environmentally harmful infrastructure investments		◆		◆	
Deregulation of environmental standards		◆	◆		
Environmentally related bailout without green strings	◆	◆	◆	◆	
Subsidies or tax reductions for environmentally harmful products		◆			

Source: Vivid Economics

⁵⁵ Conversion from the Canadian dollar to US dollar are taken using the weekly average exchange using Morning Star

• Underlying sector context (b₁)

Performance on key indicators is highly insufficient to achieve environmental targets.

• Specific environmental measures (b₂)

• In December 2020, Canada published 'A Healthy Environment and a Healthy Economy', a plan which will be a cornerstone of the commitments made in the 2020 Speech from the Throne to create over one million jobs, restoring employment to pre-pandemic levels. The plan includes 64 new measures and CAD\$15 billion (US\$11.7 billion) in investments, in addition to the Canada Infrastructure Bank's CAD\$6 billion (US\$4.7 billion) for clean infrastructure announced last year as part of its growth plan. The December 2020 plan includes numerous environmentally beneficial policies such as: promoting the production and use of low-carbon and zero-emissions fuels, zero-emission vehicles incentives, funding for smart renewable energy and grid modernisation projects, and investments for green and inclusive communities. The funding for emissions reduction investments as well as numerous unquantified policies from the plan contributed to improving Canada's score in this edition.

• Canada has committed US\$1.22 billion to cleaning up abandoned and unused well sites as a part of the stimulus funding targeted at the provinces of British Columbia, Alberta, and Saskatchewan.⁵⁶ This funding is categorised as green infrastructure investment because it works to reduce the environmental impact of the oil and gas sector on the natural environment. Uncertainty concerning funding responsibilities has raised a question mark over whether the project is truly green, but we consider it will reduce the environmental impact of the energy sector.

• Additional funding to the energy sector amounting to US\$530 million was made available through the Emissions Reductions Fund to cover the cost of labour necessary to install upgraded methane monitoring and reduction technologies, in line with recently updated methane emissions standards.⁵⁷ This funding is a green infrastructure investment made to ensure long-term emissions reductions in the oil and gas sector in Canada.

• Despite the green measures passed in Canada's economic stimulus package, the extension of tax relief to the oil and gas sector provided to the Province of Alberta is a direct subsidy for polluting energy infrastructure.⁵⁸ In addition to the tax relief, the expanded export credit capacity in the Export Development Canada and Business Development Bank will benefit the oil and gas sector, without green conditions for better environmental performance.⁵⁹

• Loans provided to the fishing and agricultural industry in Canada have been enacted without conditions for improvement in environmental performance.⁶⁰ Given cattle are a high emissions agricultural product and fisheries require sustainable management practices to avoid ecosystem collapse or other environmental damage, providing unconditional support is categorised as a negative policy in our analysis.

⁵⁶ Canadian Government (2020). <https://pm.gc.ca/en/news/news-releases/2020/04/17/prime-minister-announces-new-support-protect-canadian-jobs>

⁵⁷ Canadian Broadcast Corporation (2020). <https://www.cbc.ca/news/politics/financial-aid-covid19-trudeau-1.5535629>

⁵⁸ Climate Change News (2020). <https://www.climatechangenews.com/2020/04/20/coronavirus-governments-bail-airlines-oil-gas/>

⁵⁹ EDC (2020) <https://www.edc.ca/en/about-us/newsroom/covid-19-oil-gas-support.html>

⁶⁰ Government of Canada (2020). <https://www.canada.ca/en/departement-finance/economic-response-plan.html>

- The Canadian government announced that recipients of support from the Large Employer Emergency Financing Facility (LEEFF) must commit to disclosing annual climate-related reports, including an assessment of the impact of their future operations on sustainability and climate goals.⁶¹ This counts as attaching green strings to bailout covering the energy, industry, agriculture, transport and waste sectors in Canada. Given the requirement to disclose climate-related risks, firms which are eligible for the funding will have to make permanent adjustments to financial reporting procedures.
- The rollback of some environmental regulations in Alberta is a potentially harmful policy that contributes towards Canada's overall negative index score. However, these are much less widespread and severe than the large-scale environmental deregulation that is occurring in the United States.⁶² Environmental regulations have also been rolled back in Saskatchewan,⁶³ Quebec,⁶⁴ British Columbia⁶⁵ and Nova Scotia,⁶⁶ largely in the form of deferred carbon tax payments and reduced enforcement of environmental rules.

- Canada's fossil fuel industries have also received a stimulus bump. Both Alberta⁶⁷ and Quebec⁶⁸ have made investments into their natural gas industries, with each province investing more than US\$50 million. This has been coupled with specific rollbacks in fossil fuel regulation, such as the loosening of oil exploration rules in Newfoundland and Labrador,⁶⁹ and coal pit protections in Alberta.⁷⁰ Countering this carbon-intensive investment, more than US\$260 million has been invested in smart grids, energy efficiency, wind energy and other renewable energy infrastructure, with the bulk of that package going into improving energy performance of homes and commercial buildings.⁷¹
- Investment made into transportation has affected Canada's index score both positively and negatively.⁷² The government announced in February 2021 a fund totalling more than US\$7 billion over several years for green transportation infrastructure. Yet, it also provided significant support to environmentally harmful activities in the transport sector. It set aside large funds for the development and maintenance of road networks, and had previously temporarily suspended airline docking fees, waiving this tax on a high-emissions industry.⁷³ Suspension of temporary ground lease rents are being expanded to large port cities across Canada. Providing economic relief to aviation and shipping without any conditions is categorised as a negative environmental measure, given zero conditionality on environmental requirements. Most recently, Canada announced relief fund worth more than US\$5 billion for airports and airlines. This contributed to the net decrease in Canada's score in this edition.

⁶¹ Prime Minister of Canada (2020). <https://pm.gc.ca/en/news/news-releases/2020/05/11/prime-minister-announces-additional-support-businesses-help-save>

⁶² Open Alberta (2020).

<https://open.alberta.ca/dataset/2deef631-4dad-4b47-a20f-d31dd2cbe343/resource/366a722d-630c-4ce8-9ea5-3a22f3696bfb/download/aep-ministerial-order-15-20-20.pdf>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/canada>

⁶³ Province of Saskatchewan (2020). <https://www.saskatchewan.ca/government/news-and-media/2020/april/14/oil-industry-support>. Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/canada>

⁶⁴ Province of Quebec (2020).

<https://www.quebec.ca/en/environment-and-natural-resources/covid-19-environnement/prioritization-environmental-monitoring-covid-19/> Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/canada>

⁶⁵ Province of British Columbia (2020). <https://www2.gov.bc.ca/assets/gov/taxes/sales-taxes/publications/notice-2020-002-covid-19-sales-tax-changes.pdf>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/canada>

⁶⁶ Province of Nova Scotia (2020) <https://novascotia.ca/coronavirus/fees>, Energy Policy Tracker (2020) <https://www.energypolicytracker.org/country/canada>

⁶⁷ Province of Alberta (2020). <https://www.alberta.ca/release.cfm?xID=728627405CE2F-953D-C71A-39908B074E8213CE>, Energy Policy Tracker (2020) <https://www.energypolicytracker.org/country/canada>

⁶⁸ Province of Quebec (2020). <https://mern.gouv.qc.ca/gouvernement-quebec-attribue-70-m-soutenir-gaz-naturel-renouvelable-2020-07-07>, Energy Policy Tracker (2020) <https://www.energypolicytracker.org/country/canada>

⁶⁹ Ministry of Natural Resources (2020)

<https://www.canada.ca/en/natural-resources-canada/news/2020/06/statement-by-the-minister-of-natural-resources-on-the-coming-into-force-of-a-regulation-to-improve-the-review-process-for-exploratory-drilling-in-t.html>, Energy Policy Tracker (2020) <https://www.energypolicytracker.org/country/canada>

⁷⁰ Province of Alberta (2020). <https://www.alberta.ca/coal-policy-guidelines.aspx>, Energy Policy Tracker (2020) <https://www.energypolicytracker.org/country/canada>

⁷¹ Government of Canada (2020).

<https://www.canada.ca/en/office-infrastructure/news/2020/06/new-initiative-to-help-homeowners-cut-their-energy-bills-and-emissions-and-keep-the-local-economy-moving.html>, Energy Policy Tracker (2020) <https://www.energypolicytracker.org/country/canada>

⁷² Ontario News (2020).

<https://news.ontario.ca/opo/en/2020/07/new-legislation-first-step-in-a-made-in-ontario-plan-for-growth-renewal-and-economic-recovery.html>, Energy Policy Tracker (2020) <https://www.energypolicytracker.org/country/canada>

⁷³ Government of Canada (2020). <https://www.canada.ca/en/department-finance/economic-response-plan.html>

- Canada's 2020 Throne Speech looks towards a green recovery with investments in green energy and transportation infrastructure, and nature and ocean protection through the Clean Power Fund, the Atlantic Loop project, and the creation of the new Canada Water Agency.⁷⁴ The Throne Speech Infrastructure Package includes an investment of US\$1.76 billion for clean power and renewable energy generation and storage, and US\$2.5 billion for large-scale energy efficient building retrofits, zero-emission buses, and charging infrastructure.⁷⁵

- Canada has committed to supporting Newfoundland and Labrador's off-shore oil industry with an investment of US\$238.6 million.⁷⁶ This investment will help fund maintenance projects as well as protect jobs amidst falling oil prices.

- Canada's Fall Economic Statement provides concrete funding for the nature-based commitments made in the Throne Speech. A total of US\$2.9 billion will be allocated over the next ten years to support the planting of two billion trees, and to enhance the carbon sequestration potential of Canada's wetland, peatland, grassland and agricultural areas.⁷⁷

- In further green stimulus, Natural Resources Canada will be allocated US\$2 billion over the next seven years to provide 700,000 grants of up to US\$5,000 for energy efficient home improvements. A further US\$113 million will be provided over the next three years to build more electric fuel stations; however, US\$750 million in unconditional support for the airline sector was also provided in the Fall Economic Statement.⁷⁸

- Quebec, Ontario and Alberta also implemented green stimulus and environmental regulations. Quebec allocated US\$2.7 billion of its provincial budget for green transportation investments in public transit, electric vehicles and the electrification of heavy duty vehicles.⁷⁹ Ontario became the first Canadian province to pass a regulation requiring that all regular-grade gasoline contain a minimum of 15% renewable content.⁸⁰ In Alberta, the US\$112 million Shovel-Ready Challenge will support industrial emissions reduction technologies, and the Low Carbon Economy Leadership Fund will provide US\$75 million in support for green initiatives including energy efficiency retrofits, green technology innovation, and industrial transformation.⁸¹

- An updated Greening Government Strategy was also published, wherein the Government of Canada committed to reducing its operational GHG emissions to net zero by 2050. This strategy will include the adoption of low-carbon solutions for government buildings and fleets, the increased purchasing of green power, and the reduction of single-use plastics.⁸²

⁷⁴ Government of Canada (2020). <https://www.canada.ca/en/privy-council/campaigns/speech-throne/2020/speech-from-the-throne.html>

⁷⁵ CBC News (2020). <https://www.cbc.ca/news/politics/trudeau-infrastructure-pandemic-recovery-mckenna-1.5746029>

⁷⁶ Offshore Technology (2020). <https://www.offshore-technology.com/news/canada-support-offshore-oil-industry/>

⁷⁷ Government of Canada (2020). <https://www.budget.gc.ca/fes-eea/2020/report-rapport/anx3-en.html#wb-cont>

⁷⁸ Maclean's (2020). <https://www.macleans.ca/news/five-takeaways-from-the-2020-fall-economic-statement/>

⁷⁹ Energy Policy Tracker (2021). <https://www.energypolicytracker.org/country/canada>

⁸⁰ Province of Ontario (2020). <https://news.ontario.ca/en/release/59352/ontario-to-be-national-leader-and-require-cleaner-and-greener-gasoline-1>

⁸¹ Government of Canada (2020).

<https://www.canada.ca/en/environment-climate-change/news/2020/11/government-of-canada-announces-over-100m-to-spur-job-creation-in-alberta-and-fight-climate-change.html>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/canada>

⁸² Government of Canada (2020).

<https://www.canada.ca/en/treasury-board-secretariat/news/2020/11/the-government-of-canada-is-leading-by-example-on-combatting-climate-change.html>

1.5 China

China has passed a total of US\$731 billion in fiscal stimulus.⁸³

Composition of stimulus: Alongside healthcare and welfare measures, the stimulus package includes substantial support for China's large and environmentally intensive industrial sector. Stimulus has been channelled through special purpose bonds for regions, special treasury bonds, and an increase in the budget deficit. Lines of credit have been extended to state-owned enterprises⁸⁴ and therefore are not publicly disclosed. The headline figure is based on estimates by the IMF, which should be treated as conservative. Infrastructure projects will receive a large proportion of Chinese stimulus. Future stimulus under China's 14th 'five-year plan' is also likely to be carbon-intensive.⁸⁵

China scores poorly on key indicators, and despite some positive policies, has a very low index score. China's launch of the world's largest carbon market for the power sector has, however, contributed to improving the country's score in this edition.

Table 7 | Archetype policies announced in China

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached					
Green infrastructure investments	◆	◆	◆	◆	
Green R&D subsidies					
Subsidies or tax reductions for green products		◆		◆	
Nature Based Solutions					
Conservation and wildlife protection programmes	◆				
Subsidies for environmentally harmful activities					
Environmentally harmful infrastructure investments		◆		◆	
Deregulation of environmental standards		◆	◆		
Environmentally related bailout without green strings				◆	
Subsidies or tax reductions for environmentally harmful products				◆	

Source: Vivid Economics

• Underlying sector context (b₁)

China's performance against key environmental indicators is critically insufficient to achieve environmental targets. Significant extra action is required to achieve Paris Agreement targets and environment-related sustainable development goals.

⁸³ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

⁸⁴ The Economist (2020). <https://www.economist.com/finance-and-economics/2020/04/16/why-has-chinas-stimulus-been-so-stingy>

⁸⁵ Carbon Brief (2020). <https://www.carbonbrief.org/analysis-chinas-covid-stimulus-plans-for-fossil-fuels-three-times-larger-than-low-carbon>

• Specific environmental measures (b₂)

- Part of the fiscal stimulus plan includes faster coal permit approvals, in contrast to the government's commitment to restrict coal to 58% of the national energy consumption by 2020.⁸⁶ In February and March 2020, China loosened labelling of provinces as over-capacity for coal power generation, making them available for new coal power plants and more permit approvals than in the same period in 2019.⁸⁷ During the post-2008 crisis China funded much of the coal capacity it has today, and a similar investment now could further lock the country in to high carbon infrastructure⁸⁸.

- As an initial response to COVID-19, the Chinese government dropped its commitment to key emissions intensity and energy targets for post-2020.⁸⁹ While China had already failed to achieve its targets for energy efficiency in 2019, the lack of a 2020 target indicated a delayed trajectory towards its climate change commitments.

- An unconditional US\$3.5 billion bailout of airline Cathay Pacific has been announced.⁹⁰

- Chinese provinces have rolled out car subsidies to support the general industry, encouraging uptake in traditional combustion engines in the transport sector.⁹¹ Only the province of Guangzhou has made explicit support available for EVs, but it is comparable to the subsidies offered for petrol vehicles. These subsidies are mostly in the form of cash transfers to buyers of vehicles, and certain regions are promoting higher subsidies for car manufacturers located in the province. Without specific stipulations on EVs, this should be considered as a negative environmental measure.

- In contrast, while local governments are extending subsidies for any vehicle, the Chinese government has extended its national EV subsidy programme through 2022.⁹² This extension of an existing subsidy, coupled with the government's recent announcement to reduce permitting requirements on new electric vehicles provides a green boost to the transport sector in China.⁹³ This extension will occur through 2022,⁹⁴ but decreased by 10% in December 2020 and excluded vehicles priced over US\$42,357.⁹⁵

- One specific measure that supports green infrastructure investment is the US\$379 million funding for EV charging infrastructure across China.⁹⁶ In tandem with the extension of the EV subsidy in March 2020, these projects aid the uptake of EVs. This type of explicit green infrastructure supported the transport sector's GSI score.

⁸⁶ Climate Action Tracker (2019); <https://climateactiontracker.org/countries/>

⁸⁷ Global Energy Monitor (2020). https://endcoal.org/wp-content/uploads/2020/03/BoomAndBust_2020_English.pdf

⁸⁸ Wong, Christine (2011), "The Fiscal Stimulus Programme and Public Governance Issues in China", OECD Journal on Budgeting, Vol. 11/3. <http://dx.doi.org/10.1787/budget-11-5kg3nhljqrj>

⁸⁹ Bloomberg (2020).

https://www.bloomberg.com/news/articles/2020-05-22/china-drops-key-environmental-target-as-coronavirus-hits-growth?cmpid=BBD052220_GREENDAILY&utm_medium=email&utm_source=url_link&utm_term=200522&utm_campaign=greendaily

⁹⁰ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/china/>, SCMP (2020).

<https://www.scmp.com/news/hong-kong/hong-kong-economy/article/3088130/trading-cathay-pacific-halted-hong-kong-stock>

⁹¹ Financial Times (2020). <https://www.ft.com/content/12cc8c6a-5f7a-11ea-b0ab-339c2307bcd4>

⁹² PR Newswire (2020).

<https://www.prnewswire.com/news-releases/china-extends-new-energy-vehicle-purchase-subsidies-and-purchase-tax-exemption-policy-for-two-years-301032549.html>

⁹³ IHS Market (2020). <https://ihsmarkit.com/research-analysis/china-steps-up-efforts-to-boost-auto-industry.html>

⁹⁴ Bloomberg (2020). <https://www.bloomberg.com/news/articles/2020-04-01/china-mulling-cutting-electric-car-subsidies-it-just-extended>

⁹⁵ The Driven (2020). <https://thedriven.io/2020/04/02/tesla-confusion-as-china-extends-electric-vehicle-subsidies-to-meet-covid-19-challenge/>

Reuters (2020). <https://uk.reuters.com/article/uk-china-autos-electric-subsidies/china-to-cut-new-energy-vehicle-subsidies-by-10-this-year-idUKKCN2251DT>

⁹⁶ China post-COVID Recovery Factsheet (2020).

- The Chinese Ministry of Finance has provided US\$4 billion towards a Green Development Fund (which totals around US\$12 billion, including contributions from the private sector) that will make green investments along the Yangtze River economic belt. The fund is expected to support a range of investments, including environmental protection, pollution control, ecological restoration, land and space greening, energy conservation, green transportation, clean energy and other fields.⁹⁷ However, this fund makes up only a tiny proportion of total Chinese stimulus, and so does not dramatically improve the country's index score.
- The Chinese government has invested in building renovation for older people within cities and towns, which includes energy efficiency improvements.⁹⁸
- Another measure that helps to improve China's index score is investment in railway infrastructure. The 100-billion-yuan investment (around US\$14 billion) forms part of a large infrastructure package announced by the Chinese government.⁹⁹
- China has also unveiled plans for a biomass power plant,¹⁰⁰ and the city of Beijing has implemented an incentive system for businesses to replace their light trucks with electric vehicles.¹⁰¹ Even more encouragingly, the national government has recently announced that by 2035, all vehicles sold in China must be powered by 'new energy', defined as electric, fuel cell, or hybrid.¹⁰²

- In a move that made international news, China pledged to become carbon neutral by 2060.¹⁰³ This commitment to long-term green action, however, is juxtaposed against a carbon-intensive, short-term agenda. Provincial plans analysed by Carbon Brief revealed intent to invest more than US\$300 billion in fossil fuel infrastructure, but less than US\$80 billion into nuclear and renewable energy infrastructure.¹⁰⁴ This is in addition to recent announcements that include allocating \$587 million for new coal plants.¹⁰⁵
- In December 2020, however, China filled in one piece of its 'carbon neutrality by 2060' puzzle by increasing significantly the ambition of its 2030 climate targets. The country vowed to lower emissions per unit of GDP by over 65% from the 2005 level, increase the share of non-fossil fuels in primary energy consumption to around 25%, increase forest stock volume by 6bn cubic metres from the 2005 level, and bring its total installed capacity of wind and solar power to over 1.2bn kilowatts¹⁰⁶. Analysis by Carbon Brief has highlighted the significance of those targets for clean electricity generation¹⁰⁷. Most recently, in March 2021, China further strengthened its commitment by precisising its targets by 2025 in its 14th Five Year Plan for Social and Economic Development.¹⁰⁸

In January 2021, China launched the world's largest carbon markets for the power sector, with a total of 2225 registered entities and operators. Pollution allowances will be handed retrospectively for the market's first compliance cycle which started on 1 January 2021 and covers CO₂ emitted during 2019-2020. Some experts have warned that, in the short term, generous allowances for coal plant operators could provide perverse incentives for new coal¹⁰⁹. Despite this, the market is seen as an important starting point towards China's pledge of carbon neutrality by 2060, hence it contributing to a slight increase in China's score in this edition.

⁹⁷ Line Today (2020). <https://today.line.me/hk/article/National+green+development+fund+company+established+in+Shanghai-5eYWgx>

⁹⁸ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/china>, China Government Network (2020). http://www.gov.cn/xinwen/2020-07/21/content_5528678.htm.

⁹⁹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/china>, Chinese Government (2020). http://english.www.gov.cn/premier/news/202005/30/content_WS5ed197f3c6d0b3f0e94990da.html.

¹⁰⁰ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/china>, https://www.ndrc.gov.cn/xxgk/zcfb/tz/202009/t20200916_1238868.html

¹⁰¹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/china>, http://jtwd.beijing.gov.cn/xxgk/zcjd/202008/t20200831_1994317.html

¹⁰² Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/china>, http://www.gov.cn/zhengce/content/2020-11/02/content_5556716.htm

¹⁰³ Climate Change News (2020). <https://www.climatechangenews.com/2020/09/22/xi-jinping-china-will-achieve-carbon-neutrality-2060/>

¹⁰⁴ Carbon Brief (2020). <https://www.carbonbrief.org/analysis-chinas-covid-stimulus-plans-for-fossil-fuels-three-times-larger-than-low-carbon>

¹⁰⁵ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/china>, <http://www.sxcoal.com/news/4615831/info/en>

¹⁰⁶ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/china/>

¹⁰⁷ Carbon Brief (2020) <https://www.carbonbrief.org/analysis-chinas-new-2030-targets-promise-more-low-carbon-power-than-meets-the-eye>

¹⁰⁸ Energy Policy Tracker (2021). <https://www.energypolicytracker.org/country/china>

¹⁰⁹ Climate Home News (2021). <https://www.climatechangenews.com/2021/01/07/china-launches-worlds-largest-carbon-market-power-sector/>

1.6 Colombia

Colombia has passed a total of US\$10 billion in COVID-19 fiscal stimulus.¹¹⁰

Composition of stimulus: Colombia's main stimulus package 'Fondo de mitigación de emergencias' (Decree 444) provided US\$8.06 billion in support for healthcare, business and employment, and featured credit lines for SMEs, public transportation, education, tourism and the coffee sector.¹¹¹ Colombia's subsequent US\$26 million stimulus package, 'Compromiso por el futuro de Colombia', outlines further recovery initiatives with an emphasis on sustainable growth, clean energy and the environment.¹¹² The 'Compromiso' features investments in renewable energy, afforestation measures, and initiatives to strengthen environmental regulations and nature conservation and protection. Colombia's recovery is also guided by two CONPES (Consejo Nacional de Política Económica y Social), which stress capacity building and development in households, industry and institutional frameworks to restart the economy and move towards a green recovery.¹¹³ In March 2021, the Inter-American Development Bank (IDB) provided US\$1.25 billion in loans to Colombia to, among other things, help the country in its sustainable development and digital transformation¹¹⁴.

Colombia's low index score is driven by its poor underlying performance across key indicators, which was unable to be compensated for by its green initiatives. The recent IDB loans as well as investment in energy efficiency and water protection by state-owned company Ecopetrol have, however, contributed to an increase in Colombia's score in this edition.

Table 8 | Archetype policies announced in Colombia

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached					
Green infrastructure investments		◆	◆	◆	
Green R&D subsidies					
Subsidies or tax reductions for green products					
Nature Based Solutions	◆				
Conservation and wildlife protection programmes	◆				
Subsidies for environmentally harmful activities					
Environmentally harmful infrastructure investments					
Deregulation of environmental standards					
Environmentally related bailout without green strings	◆		◆		
Subsidies or tax reductions for environmentally harmful products					

Source: Vivid Economics

¹¹⁰ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

¹¹¹ Government of Colombia (2020). http://www.urf.gov.co/webcenter/ShowProperty?model=/ConexionContent/WCC_CLUSTER-127220, World Bank (2020). <https://www.worldbank.org/en/country/colombia/overview>, KPMG Insights (2020).

<https://home.kpmg/xx/en/home/insights/2020/04/colombia-government-and-institution-measures-in-response-to-covid.html>

¹¹² Government of Colombia (2020).

<https://idm.presidencia.gov.co/prensa/Paginas/Con-el-nuevo-Compromiso-por-el-Futuro-de-Colombia-el-pais-esta-haciendo-las-grandes-apuestas-Duque-200820.aspx>, <https://id.presidencia.gov.co/Paginas/prensa/2020/Nace-el-nuevo-Compromiso-por-el-Futuro-de-Colombia-200807.aspx>

¹¹³ Government of Colombia (2020). <https://colaboracion.dnp.gov.co/CDT/Conpes/Econ%C3%B3micos/3999.pdf>

¹¹⁴ Latin American Herald Tribune (2021). <http://www.laht.com/article.asp?ArticleId=2500103&CategoryId=12393>

• Underlying sector context (b₁)

Performance on key indicators is highly insufficient to achieve environmental targets.¹¹⁵

• Specific environmental measures (b₂)

- The Ministry of Mines and Energy enabled economic aid to retail fuel distributors by providing nearly US\$0.16 million to those service stations that need resources to repair breakdowns as a result of the winter wave¹¹⁶. The policy is considered to be environmentally harmful but its very limited size prevents it from significantly impacting Colombia's score.

- The Government of Colombia will provide US\$4 million to fund 27 accelerated renewable energy projects. Of the 27 projects, nine are investments in wind, five in solar, three in geothermal and one in hydrogeneration. The remaining nine projects will develop energy transmission lines.¹¹⁷

- Colombia's 'Compromiso' will prioritise nature-based solutions, reforestation and nature conservation and protection. The plan will accelerate the planting of 180 million trees and incentivise communities to engage in and contribute to silvopastoral production and agroforestry measures. In addition, the government will work towards eradicating the illegal exploitation of minerals and implement initiatives to preserve ecosystems and protect water basins. These initiatives work towards the government's 2022 goal of increasing the transition and sustainability of the mining sector, and implementing circular economy principles.¹¹⁸

- On the one hand, the Government of Colombia's credit lines have provided green stimulus by supporting the public transportation sector. On the other hand, the majority of Colombia's credit lines provide unconditional support for SMEs, the coffee sector and the tourism industry, which results in an overall negative impact on the country's index score.¹¹⁹

- Most recently, US\$600 million from the US\$1.25 billion in IDB loans was earmarked for public policies aimed at promoting 'green' economic growth and sustainable development, contributing to a significant increase in Colombia's score¹²⁰. Further, the state-owned company Ecopetrol announced an investment of US\$720 million in an existing refinery to support water protection, emissions reduction and fuel improvement¹²¹.

¹¹⁵ The Climate Change Performance Index and Climate Action Tracker scores are not available for Colombia. Colombia's baseline score is determined by its EPI score.

¹¹⁶ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/colombia>

¹¹⁷ Government of Colombia (2020).

<https://id.presidencia.gov.co/Paginas/prensa/2020/Nace-el-nuevo-Compromiso-por-el-Futuro-de-Colombia-200807.aspx#:~:text=Al%20instalar%20las%20sesiones%20ordinarias,e%20impulso%20al%20campo%20y>

¹¹⁸ Government of Colombia (2020).

<https://id.presidencia.gov.co/Paginas/prensa/2020/Nace-el-nuevo-Compromiso-por-el-Futuro-de-Colombia-200807.aspx#:~:text=Al%20instalar%20las%20sesiones%20ordinarias,e%20impulso%20al%20campo%20y>

¹¹⁹ Government of Colombia (2020). http://www.urf.gov.co/webcenter/ShowProperty?nodeId=/ConexionContent/WCC_CLUSTER-127220

¹²⁰ Latin American Herald Tribune (2021). <http://www.laht.com/article.asp?ArticleId=2500103&CategoryId=12393>

¹²¹ Energy Policy Tracker (2021). <https://www.energypolicytracker.org/country/colombia>

1.7 Denmark

Denmark has passed a total of US\$44 billion in fiscal measures.¹²²

Composition of stimulus: The initial stimulus package released by the Danish government saw significant healthcare sector expenditures, financial support of SMEs, larger firms, and the tourism sector,¹²³ as well as an immediate commitment to energy efficiency, green research investments, and a dedicated nature and biodiversity allocation.¹²⁴ The 2021 Budget allocated significant funds as stimulus measures, aiding welfare improvements for the vulnerable, supporting the arts and entertainment sectors, and extending funding to SMEs where needed. The new budget also allocated US\$480 million to the phasing out of gas boilers, US\$101 million to pollution abatement and clean-up initiatives, and US\$83 million to promoting green mobility through a 'bicycle fund'.¹²⁵ Denmark also approved additional measure to support SMEs by providing interest free loans, and by paying a significant portion of the cost for those whose revenues fall by more than 25% during the coronavirus pandemic. In May 2021, the government agreed on a US\$260 million summer and business package, expected to boost tourism and the experience economy¹²⁶.

Green measures constitute a significant proportion of Denmark's overall spending throughout the pandemic, building on a strong positive baseline, resulting in a high final index score. The latest stimulus measures are focused on general business support in multiple sectors, therefore dragging Denmark's score towards its baseline and contributing to a decrease in the overall index score.

Table 9 | Archetype policies announced in Denmark

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached			◆	◆	
Green infrastructure investments		◆	◆	◆	
Green R&D subsidies			◆		
Subsidies or tax reductions for green products					
Nature Based Solutions	◆				
Conservation and wildlife protection programmes	◆				
Subsidies for environmentally harmful activities					
Environmentally harmful infrastructure investments					
Deregulation of environmental standards					
Environmentally related bailout without green strings			◆	◆	
Subsidies or tax reductions for environmentally harmful products					

Source: Vivid Economics

¹²² IMF Policy Tracker (2021). Policy Responses to COVID19 (imf.org)

¹²³ IMF Policy Tracker (2020). Policy Responses to COVID19 (imf.org)

¹²⁴ The Carbon Brief (2020). Coronavirus: Tracking how the world's 'green recovery' plans aim to cut emissions (carbonbrief.org)

¹²⁵ Copenhagen Post Online (2020). Government lands 2021 budget agreement - The Post (cphpost.dk)

¹²⁶ IMF Policy Tracker (2021). Policy Responses to COVID19 (imf.org)

• Underlying sector context (b₁)

Performance on key indicators is sufficient to achieve environmental targets, better than most countries included in the GSI.

• Specific environmental measures (b₂)

• The first Danish stimulus package saw an investment of US\$247 million in green research, typifying the nation's commitment to a successful environmentally friendly transition. Such funds were accompanied by a US\$32 million allocation towards nature and biodiversity initiatives, to be invested over four years.¹²⁷ Attention to green causes other than climate concerns is vital for an effective green recovery, leading such interventions to positively impact Denmark's final index score.

• The Danish government has contributed over US\$100 million to national pollution abatement and clean-up costs. The investment is not only targeted at GHG emissions, but water and land pollution abatement as well, affirming the country's commitment to nature-focused environmental policy.¹²⁸

• An expenditure targeting household energy consumption has dedicated US\$480 million to phasing out gas boilers, grants for green housing improvements, developing electric infrastructure, and improving the energy efficiency of public buildings.¹²⁹

¹²⁷ IMF Policy Tracker (2021). Policy Responses to COVID19 (imf.org)

¹²⁸ Copenhagen Post Online (2020). Government lands 2021 budget agreement – The Post (cphpost.dk)

¹²⁹ Copenhagen Post Online (2020). Government lands 2021 budget agreement – The Post (cphpost.dk)

1.8 European Union

The European Union (EU) has announced its own stimulus measures, in addition to the recovery packages of its member states. The EU stimulus package totals US\$1.47 trillion.¹³⁰

Composition of stimulus: On top of an initial package of rescue measures, the European Union has announced a large ‘Next Generation EU’ recovery stimulus package. The €750 billion (US\$830 billion) recovery plan is composed of €390 billion (US\$430 billion) in grants and €360 billion (US\$400 billion) in loans for member states. The package will support the European Green Deal through a variety of measures to improve progress towards environmental goals. The biodiversity and farm-to-fork strategies appear to be particularly relevant in terms of land use policies that enhance nature conservation efforts. The European Union has also increased the long-term EU budget from 2021-2027 by €1.1 trillion (US\$1.2 trillion), which will also include substantial support for green initiatives.¹³¹ In September 2020, the European Union adopted a revised set of EU Emission Trading System State Aid Guidelines.¹³² In October 2020, the EU’s new stimulus measures included nearly €1 billion in grants for new energy infrastructure investments¹³³ and the issuance of €17 billion (US\$18.75 billion) in social bonds under the EU SURE instrument.¹³⁴

The EU has positive scores across the board, based on the expected positive environmental impact of its ‘Next Generation EU’ recovery plan.

Table 10 | Archetype policies announced by the European Union

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached	◆	◆	◆	◆	◆
Green infrastructure investments		◆		◆	
Green R&D subsidies		◆			
Subsidies or tax reductions for green products				◆	
Nature Based Solutions	◆				
Conservation and wildlife protection programmes					
Subsidies for environmentally harmful activities					
Environmentally harmful infrastructure investments					
Deregulation of environmental standards					
Environmentally related bailout without green strings					
Subsidies or tax reductions for environmentally harmful products					

Source: Vivid Economics

¹³⁰ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#G>, European Commission (2020). https://ec.europa.eu/info/live-work-travel-eu/health/coronavirus-response/recovery-plan-europe_en

¹³¹ New York Times (2020). <https://www.nytimes.com/reuters/2020/07/21/us/21reuters-eu-summit-climate-change-factbox.html>

¹³² European Commission (2020). https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1712

¹³³ European Commission (2020). https://ec.europa.eu/commission/presscorner/detail/en/IP_20_1803

¹³⁴ European Commission (2020). https://ec.europa.eu/commission/presscorner/detail/en/IP_20_1954

• Underlying sector context (b₁)

Performance on key indicators is insufficient to achieve environmental targets, but better than most countries included in the GSI.¹³⁵

• Specific environmental measures (b₂)

- Recovery loans and grants to member states have 'do no harm' environmental conditions attached. These loans are conditional on pledges to align with EU goals for sustainable investment and climate risk.¹³⁶

- 37% of the €750bn 'Next Generation EU' package will be directed at specific green measures, which includes support for the following investments:¹³⁷

- An addition of €10 billion (US\$11 billion) to the Just Transition Fund, to reduce reliance on fossil fuels. The Just Transition Fund target regions which rely on fossil fuels, to reduce job and economic impacts resulting from a low-carbon transition. However, this figure is much smaller than the previously proposed €40 billion (\$44 billion), after negotiations between member states.¹³⁸

- Funding for sustainable infrastructure is also lower than proposed, with support for Invest-EU reduced to around €10 billion (US\$11 billion) from the originally proposed €20 billion (US\$22 billion).¹³⁹ The fund will include money for renewable energy and storage, clean hydrogen, batteries and carbon capture technologies.

- €7.5 billion (US\$8.3 billion) for a fund for rural development, which will support the decarbonisation of agriculture.

- The remaining earmarked green funding could support the following investments that were previously proposed by the European Commission:

- Support for home energy efficiency and green heating.¹⁴⁰

- Funding for natural capital and the circular economy.¹⁴¹

- Support for electric vehicle sales and charging infrastructure.¹⁴²

- €998 million in grants have been provided for ten key European energy infrastructure projects. The Baltic Synchronisation Project will receive the majority of the funding (€720 million) to improve the integration of Estonia, Latvia, Lithuania and Poland's electricity markets. The other projects will focus on improving electricity transmission, funding smart electricity grids, improving the CO₂ transport network, improving the security of supply and diversification of gas imports, and a study to support the development of offshore wind.¹⁴³

- In October and November 2020, the EU invested into its own member states as well as other countries. Internally, the European Investment Bank extended a €31 million loan to one of Spain's largest real estate groups to develop net-zero energy buildings in Madrid.¹⁴⁴ Outside of its borders, the EU has invested in both energy and transport, extending US\$72 million to the Philippines to increase access to sustainable energy¹⁴⁵ and US\$9 million to Norway through the Horizons 2020 programme for development of the green hydrogen ship 'Topeka'.¹⁴⁶

- In January 2021, the Commission approved, under EU state aid rules, an Important Project of Common European Interest (IPCEI) to support research and innovation in the battery value chain.¹⁴⁷ Twelve EU member states notified the project, committing up to US\$3.3 billion in funding, with the expectation of unlocking more than three times this amount in private investment. The project will have a strong focus on the circular economy and sustainability, contributing to a very slight increase in the EU's score in this edition.

¹³⁵ The Climate Action Tracker provides a score for the EU. The EPI score is calculated by taking an average of scores of member countries.

¹³⁶ KPMG Insights (2020). <https://home.kpmg/xx/en/home/insights/2020/04/russia-government-and-institution-measures-in-response-to-covid.html>

¹³⁷ New York Times (2020). <https://www.nytimes.com/reuters/2020/07/21/us/21reuters-eu-summit-climate-change-factbox.html>

¹³⁸ EURACTIV (2020). <https://www.euractiv.com/section/energy/news/eu-boosts-just-transition-fund-pledging-e40-billion-to-exit-fossil-fuels/>

¹³⁹ S&P Global (2020).

<https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/all-the-green-elements-of-the-eu-s-8364-750b-recovery-proposal-58822603>

¹⁴⁰ Guardian (2020). https://www.theguardian.com/environment/2020/may/28/eu-green-recovery-package-sets-a-marker-for-the-world?CMP=share_btn_tw

¹⁴¹ S&P Global (2020).

<https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/all-the-green-elements-of-the-eu-s-8364-750b-recovery-proposal-58822603>

¹⁴² Bloomberg (2020).

https://www.bloomberg.com/news/articles/2020-05-20/eu-to-unveil-world-s-greenest-virus-recovery-package?cmpid=BBDO52120_GREENDAILY&utm_medium=email&utm_source=newsletter&utm_term=200521&utm_campaign=greendaily

¹⁴³ European Commission (2020). https://ec.europa.eu/commission/presscorner/detail/en/IP_20_1803

¹⁴⁴ European Commission (2020). <https://www.cnn.com/2020/11/19/eu-gentiloni-worried-after-hungary-and-poland-veto-stimulus.html>

¹⁴⁵ Manila Bulletin (2020). <https://mb.com.ph/2020/10/26/eu-allots-p3-76-b-for-ph-green-financing/>

¹⁴⁶ Euractiv (2020). <https://www.euractiv.com/section/shipping/news/norways-green-hydrogen-ship-granted-e8m-in-eu-funding/>

¹⁴⁷ Energy Policy Tracker (2021). <https://www.energypolicytracker.org/country/european-institutions/>

1.9 Finland

Finland has passed a total of US\$34 billion in fiscal measures¹⁴⁸

Composition of stimulus: The Finnish stimulus successfully addresses both pressing economic welfare issues and longer-term climate and environmental concerns across a series of well-balanced investments. Initial fiscal commitments supported public health, employment, and welfare,¹⁴⁹ while subsequent supplementary budgets have diversified the country's spending throughout a range of environmental and climate conscious initiatives. Public transport infrastructure has been secured through US\$122 million of government funding, alongside impressive commitments to climate change research (US\$331 million) and nature conservation efforts (US\$16 million).¹⁵⁰ Similarly to its initial packages, the latest supplementary budget (first supplementary budget for 2021) focuses on public health, welfare, and the operating cost of the public sector, but also include measures to support the operation of cargo and shipping companies¹⁵¹. The recapitalisation scheme of Finnair, early in the pandemic, and the recent capitalisation of Finavia, a Finnish airport company, works against the country's index score.^{152, 153}

Despite a negative baseline value, Finland's commitment to ensure a sustainable and climate-friendly response to the crisis results in a strong positive index score. The latest measures passed by Finland aimed at safeguarding transport connections include support for non-climate friendly transportation modes and so contribute to Finland's slight decrease in score in this edition.

Table 11 | Archetype policies announced in Finland

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached					
Green infrastructure investments		◆	◆	◆	
Green R&D subsidies		◆	◆		
Subsidies or tax reductions for green products		◆	◆	◆	
Nature Based Solutions	◆				
Conservation and wildlife protection programmes	◆				
Subsidies for environmentally harmful activities					
Environmentally harmful infrastructure investments			◆	◆	
Deregulation of environmental standards					
Environmentally related bailout without green strings			◆	◆	
Subsidies or tax reductions for environmentally harmful products					

Source: Vivid Economics

¹⁴⁸ KPMG Covid-19 Policy Responses (2021). Finland - Measures in response to COVID-19 - KPMG Global (home.kpmg)

¹⁴⁹ KPMG Covid-19 Response Measures (2020). Finland - Measures in response to COVID-19 - KPMG Global (home.kpmg)

¹⁵⁰ Finnish Government (2020). Government reaches agreement on seventh supplementary budget proposal for 2020 (valtioneuvosto.fi)

¹⁵¹ Finnish Government (2021). <https://valtioneuvosto.fi/en/-/10616/government-submits-supplementary-budget-proposal-to-parliament>

¹⁵² KPMG Covid-19 Policy Responses (2020). Finland - Measures in response to COVID-19 - KPMG Global (home.kpmg)

¹⁵³ Energy Policy Tracker (2021). <https://www.energypolicytracker.org/country/Finland/>

• Underlying sector context (b₁)

Performance across key indicators is mixed, resulting in a negative baseline score, close to zero.

• Specific environmental measures (b₂)

- The Finnish government has dedicated US\$331 million to the capitalisation of climate change research funds.¹⁵⁴ Such an investment is indicative of the country's approach to the crisis, committing to the development and discovery of alternative energy sources, industrial processes, and consumer choices in light of environmental needs.

- Most of the negative contribution to Finland's score come from the transportation sector. This includes the capitalisation and state guarantees for Finnair (totalling US\$1.3 billion) early in the pandemic, as well as the recent capitalisation of Finavia (US\$400 million)¹⁵⁵, which served to lower the country's score in this edition. Likewise, fiscal expenditure on highway infrastructure and road development between some of the country's largest cities impact negatively the score too, although the possibility of low emissions or electric vehicles using these roads in the future somewhat mitigates the severity of this impact.¹⁵⁶ Most recently, the government approved measures to support cargo and passenger operations, which are expected to have a negative effect on climate¹⁵⁷.

- The Finnish government has, however, supported projects which enhance walking, cycling or public transport. Similarly, a scrapping scheme for old cars has been introduced to provide an incentive for Finnish road users to abandon outdated, climate damaging technology in favour of modern, low emissions vehicles.¹⁵⁸ This policy is successfully complemented by government investment to secure the viability of public transport post-Covid, helping to shape a smooth transition to low-carbon travel for the entire country.

- Likewise, several energy policies also contributed positively to Finland's score. The government has, for example, provided funds to support green energy projects. Measures were also passed to increase taxation of heavy machinery fuels and heating fuels and, most recently, to phase out oil heating in households and municipal buildings.

¹⁵⁴ Finnish Government (2020). Government reaches agreement on seventh supplementary budget proposal for 2020 (valtioneuvosto.fi)

¹⁵⁵ Energy Policy Tracker (2021). <https://www.energypolicytracker.org/country/Finland/>

¹⁵⁶ Finnish Government (2020). Government reaches agreement on seventh supplementary budget proposal for 2020 (valtioneuvosto.fi)

¹⁵⁷ Finnish Government (2021). <https://valtioneuvosto.fi/en/-/10616/government-submits-supplementary-budget-proposal-to-parliament>

¹⁵⁸ Finnish Government (2020). Government reaches agreement on seventh supplementary budget proposal for 2020 (valtioneuvosto.fi)

1.10 France

France has passed a total of US\$612 billion in fiscal measures.¹⁵⁹

Composition of stimulus: The French stimulus package includes €315 billion (US\$347 billion) in loan guarantees and credit reinsurance schemes for businesses, which will extend substantial support for environmentally relevant sectors. France has also announced specific measures to support the transport sector, including a €7 billion (US\$7.7 billion) conditional bailout of airline Air France¹⁶⁰ and €8 billion (US\$8.8 billion) for the auto industry.¹⁶¹ A further stimulus package of €100 billion (US\$110 billion) was confirmed at the start of September 2020, which included €30 billion (US\$33 billion) for an 'Ecological Plan' to support environmental targets, including energy efficient building renovations, decarbonisation of industry, agricultural transition, green energy and green transport.¹⁶² At the end of October, the country approved additional stimulus worth US\$24 billion to help SMEs and sectors disproportionately hit by the pandemic¹⁶³.

France has been one of the most successful countries in attaching green conditions to bailouts and in allocating stimulus funds directly to environmental improvement. Combined with other positive environmental measures and a relatively good underlying environmental performance, France achieves one of the highest scores on the index.

Table 12 | Archetype policies introduced in France

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached			◆	◆	◆
Green infrastructure investments	◆	◆	◆	◆	◆
Green R&D subsidies				◆	
Subsidies or tax reductions for green products		◆		◆	
Nature Based Solutions					
Conservation and wildlife protection programmes					
Subsidies for environmentally harmful activities			◆		
Environmentally harmful infrastructure investments					
Deregulation of environmental standards			◆		
Environmentally related bailout without green strings					
Subsidies or tax reductions for environmentally harmful products					

Source: Vivid Economics

¹⁵⁹ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

¹⁶⁰ New York Times (2020). <https://www.nytimes.com/2020/04/25/business/air-france-klm-bailout.html>

¹⁶¹ Government of France (2020). <https://www.economie.gouv.fr/covid19-soutien-entreprises/mesures-plan-soutien-automobile>

¹⁶² Government of France (2020). <https://www.gouvernement.fr/france-relance>

¹⁶³ Politico (2020). <https://www.politico.eu/article/france-plans-new-e20b-stimulus-package-ahead-of-second-lockdown/>

• Underlying sector context (b₁)

Performance on key indicators is relatively good to achieve environmental targets, but much more action is required to achieve environmental goals.

• Specific environmental measures (b₂)

- France has successfully attached conditions to bailouts in environmentally intensive sectors:

- France has extended a US\$7.7 billion deal to Air France, as part of an EU-approved deal between the Netherlands and France to bail out the airline.¹⁶⁴ The extension of the funding includes US\$4 billion in a loan and the remaining amount available in guarantees. The French government has introduced two major environmental conditions: the reduction of emissions by 50% by 2030, and a minimum standard of 2% renewable fuel by the same time period.¹⁶⁵ While the specifics of how this will be affirmed or enforced have still not been released, this is a positive example of transport funding being made conditional on future environmental performance, and is therefore seen as a green response measure. Air France has also announced it will reduce its domestic flights as requested by the government to ease competition with train routes.¹⁶⁶

- Other examples of conditional bailouts include US\$5.4 billion for car manufacturer Renault and aerospace manufacturer Airbus (US\$8.9 billion).

- Although these are all positive departures from 'business-as-usual', the stringency of French conditional bailouts has been questioned, which could threaten their effectiveness in promoting positive environmental outcomes.¹⁶⁷

- The French government has supported the development of electric vehicles and EV infrastructure in line with its target to ban the sale of combustion engine vehicles by 2040.¹⁶⁸ Key features of the US\$8.9 billion stimulus to the transport sector include subsidies for electric vehicles, accelerating the deployment of electric charging stations, and investing more than \$390 million in green R&D across vehicle manufacturer supply chains.¹⁶⁹ Efforts have also been made at the municipal level. The Ile-de-France region, which includes Paris and its extensive transit network, has allocated more than US\$1.5 billion to greening its bus network via biogas and electric models.¹⁷⁰

- France has extended its rooftop solar PV subsidy to households - originally to be phased out in spring 2020.¹⁷¹ This extension, coupled with fast-tracking of wind and solar projects, is providing a regulatory boost for green energy projects during the crisis. This boost is enhanced by regulation against environmentally unfriendly resources. For example, the government passed a regulation banning gas heating in new houses¹⁷². Most recently, France announced it will exclude guarantees to projects involving dirty forms of oil such as shale from 2021, following by all types of oil by 2025 and gas from 2035¹⁷³, contributing to France's slight increase in score in this edition.

- However, the French government has announced some potentially harmful support for environmentally intensive producers by allowing the exemption of certain firms from particular environmental regulations¹⁷⁴, and extending tax breaks for off-road diesel use.¹⁷⁵

- France's new stimulus package 'France Relance' includes several green stimulus measures. They consist of US\$7.4 billion for the renovation of buildings for energy efficiency, US\$350 million for land use transition and urban densification, US\$1.4 billion for industry decarbonization, US\$264 million for circular economy efforts, US\$470 million for agricultural transitions, US\$9.6 billion for green transport infrastructure, and US\$6.1 billion for green energy infrastructure. This new stimulus package boosts France's index score significantly.¹⁷⁶

¹⁶⁴ New York Times (2020). <https://www.nytimes.com/2020/04/25/business/air-france-klm-bailout.html>

¹⁶⁵ Routes Online (2020). <https://www.routesonline.com/news/29/breaking-news/291047/air-france-told-by-government-to-drastically-cut-domestic-flying/>

¹⁶⁶ RFI (2020) <http://www.rfi.fr/en/wires/20200527-air-france-cut-40-domestic-flights-after-bailout>

¹⁶⁷ Transport Environment (2020) <https://www.transportenvironment.org/publications/air-frances-bailout-climate-conditions-explained>

¹⁶⁸ Europe Auto News (2020). <https://europe.autonews.com/automakers/france-help-auto-sector-measures-worth-88b>

¹⁶⁹ French Economic Ministry (2020). <https://www.economie.gouv.fr/covid19-soutien-entreprises/mesures-plan-soutien-automobile>

¹⁷⁰ Le Monde (2020).

https://www.lemonde.fr/planete/article/2020/10/21/ile-de-france-veut-se-debarrasser-de-tous-ses-bus-diesel-d-ici-a-dix-ans_6056867_3244.html

¹⁷¹ The Guardian (2020). <https://www.theguardian.com/environment/2020/apr/17/polluter-bailouts-and-lobbying-during-covid-19-pandemic>

¹⁷² Energy Policy Tracker (2021). <http://www.energypolicytracker.org/country/france/>

¹⁷³ Energy Policy Tracker (2021). <http://www.energypolicytracker.org/country/france/>

¹⁷⁴ Legifrance (2020).

https://www.legifrance.gouv.fr/affichTexte.do;jsessionid=80CDCAC7FA81B36CA4F682A1EC712CA9.tplgfr42s_1?cidTexte=JORFTEXT000041789766&dateTexte=&IdAction=rechJO&categorieLien=id&idJO=JORFCONT000041789298

¹⁷⁵ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/france>, Les Echos (2020).

<https://www.lesechos.fr/industrie-services/immobilier-btp/taxation-du-gazole-nouveau-sursis-pour-les-travaux-publics-1216578>

¹⁷⁶ Government of France (2020). <https://www.gouvernement.fr/france-relance>

1.11 Germany

Germany has passed a total of US\$1.5 trillion in fiscal stimulus.¹⁷⁷

Composition of stimulus: Germany has announced a number of measures to support businesses, including US\$835 billion in loan guarantees from the Economic Stabilisation Fund (WSF) and the public sector development bank KfW. Other measures, including healthcare equipment, hospital capacity and vaccine R&D spending, as well as welfare measures, are excluded from our sectoral stimulus analysis. Substantial support for businesses has also been granted by state governments. Additional stimulus includes the US\$45 billion 'Package for the Future', which will provide substantial support for green initiatives. However, in relative terms, this represents a small proportion of the total fiscal package. In contrast to other European governments, the German government has announced that furlough wage subsidies will be extended until the end of 2021.¹⁷⁸ Most recently, the government approved in March a supplementary 2021 budget amounting to US\$71 billion, including support for vaccine procurement and distribution, COVID-19 testing and corporate aid.

Germany's 'Package for the Future' counteracts large unconditional airline bailouts to result in a positive index score.

Table 13 | Archetype policies announced in Germany

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached		◆			
Green infrastructure investments	◆	◆		◆	
Green R&D subsidies		◆		◆	
Subsidies or tax reductions for green products		◆		◆	
Nature Based Solutions	◆				
Conservation and wildlife protection programmes					
Subsidies for environmentally harmful activities					
Environmentally harmful infrastructure investments					
Deregulation of environmental standards					
Environmentally related bailout without green strings				◆	
Subsidies or tax reductions for environmentally harmful products					

Source: Vivid Economics

• Underlying sector context (b₁)

Performance on key indicators is insufficient to achieve environmental targets, but better than most other countries included in the GSI. Substantial improvements are required in order to achieve environmental targets.

¹⁷⁷ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

¹⁷⁸ Wall Street Journal (2020). <https://www.wsj.com/articles/germany-boosts-already-hefty-coronavirus-stimulus-11598440184>

• Specific environmental measures (b₂)

Only the transport sector has received targeted funding under Germany's broader economic stimulus.

- The German government has bailed out three airlines, TUI Fly (US\$1.98 billion), Lufthansa (US\$9.9 billion) and Condor (US\$600 million), without environmental conditions.¹⁷⁹ The Lufthansa bailout includes ceding a 20% equity stake to the German government.¹⁸⁰ While the equity stake could yield green outcomes in the future through its membership of the board, at this time there are no explicit commitments to climate or environmental goals. For the purposes of the GSI, Germany is still providing a bailout without any green strings attached.
- At the start of June 2020, Germany announced an additional stimulus including a 'Package for the Future' which will provide support specifically to green initiatives totalling US\$45 billion. A number of measures have been announced to support the green transition in the energy and transport sectors, as well as some support for green agriculture and industry. Specific measures include support for renewable electricity, funding for hydrogen and investment in rail modernisation, among other measures.¹⁸¹ Aside from the EU's proposed stimulus, this package is the first example of a large-scale green recovery package. Nevertheless, green stimulus measures still represent a relatively small proportion of Germany's total fiscal stimulus.
- In July, Germany passed the 'Coal Phase Out Act', which will provide funding for the phase out of coal-fired power plants in Germany by 2038. The law allocates funding to coal workers and companies as well as to the regions where coal is relied upon for transformation of the economy. Although this act does allocate funds to fossil fuel producers, we have decided to label the act as a 'bailout with green strings attached', with the 'strings' being the ultimate closure of coal plants.¹⁸²
- In October, Germany announced that the government would pay a subsidy to lower the country's 'renewable supplement', an additional charge that consumers pay on their energy bills to finance renewable energy expansion, as a result of the COVID-19 crisis¹⁸³. Further, Germany's lower house of parliament approved a tax on greenhouses gas emissions which will raise retail prices of car fuels such as gasoline and diesel, heating oil and natural gas. The move, which entails alterations to a law on fuel emissions trading, envisages a tax of 25 euros (\$29.41) per tonne of carbon dioxide equivalent in 2021, rising to 55 euros per tonne in 2025¹⁸⁴.
- In November, Germany budgeted €3 billion to support the auto-sector in a green recovery. €1 billion was earmarked for innovation and industry transformation, €1 billion to extend a customer rebate for EVs to 2025, and a final €1 billion for a scrappage scheme for older trucks to help private logistics companies and municipalities modernise their fleets.¹⁸⁵
- In 2021, the government approved a number of unquantified climate-friendly policies. For example, Berlin passed Germany's first pedestrian law at the end of January 2021, and the country also signed with Saudi Arabia in March a Declaration of Intent to cooperate on green hydrogen. Those policies contributed to a very slight increase in Germany's index score in this edition.

¹⁷⁹ Transport & Environment (2020). https://www.transportenvironment.org/sites/te/files/Airline-bailout-tracker_8_May_2020.pdf

¹⁸⁰ DW (2020). <https://www.dw.com/en/lufthansa-accepts-terms-of-eu-germany-rescue-deal/a-53650294>

Euractiv (2020) <https://www.euractiv.com/section/aviation/news/lufthansa-board-gives-green-light-to-e9bn-bailout/>

¹⁸¹ Carbon Brief (2020). <https://www.carbonbrief.org/coronavirus-tracking-how-the-worlds-green-recovery-plans-aim-to-cut-emissions>

¹⁸² Energy Policy Tracker (2020). <http://www.energypolicytracker.org/country/germany/>, <https://www.bundesrat.de/SharedDocs/beratungsvorgaenge/2020/0301-0400/0392-20.html>

¹⁸³ Recharge News (2020). <https://www.rechargenews.com/transition/germany-lowers-renewables-surcharge-to-cushion-covid-impact-on-consumers/2-1-894231>

¹⁸⁴ Energy Policy Tracker (2020). <http://www.energypolicytracker.org/country/germany/>

¹⁸⁵ Reuters (2020). <https://de.reuters.com/article/us-germany-autos/germany-to-up-financial-aid-for-cars-sector-government-sources-idUSKBN27XIS7>

1.12 Iceland

Iceland has passed US\$2 billion in total fiscal stimulus packages in response to COVID-19¹⁸⁶.

Composition of stimulus: Iceland's stimulus measures prioritise employment-focused initiatives, with the government taking on up to 75% of salaries, investing heavily in the tourism sector, and deferring tax payments in its first stimulus package.¹⁸⁷ Subsequent investments maintained this theme, offering sizeable loans for SMEs, supporting students, and abolishing hotel taxes.¹⁸⁸ An '8 Point Stability Package' saw US\$58 million invested in reimbursing VAT on labour, US\$29 million in temporary payroll tax deduction, and a further US\$43 million offered to businesses to cover losses due to Covid-19.¹⁸⁹ A rise in car tax of 2.5% that came into force in January 2021 contributed positively to Iceland's index score.¹⁹⁰

Iceland's negative index score is driven by prioritising employment and industry above environmental and climate protection. The country's negative baseline score is exacerbated by policies which encourage 'business-as-usual'.

Table 14 | Archetype policies announced in Iceland

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached					
Green infrastructure investments		◆	◆		
Green R&D subsidies			◆		
Subsidies or tax reductions for green products				◆	
Nature Based Solutions					
Conservation and wildlife protection programmes					
Subsidies for environmentally harmful activities			◆		
Environmentally harmful infrastructure investments					
Deregulation of environmental standards					
Environmentally related bailout without green strings				◆	
Subsidies or tax reductions for environmentally harmful products			◆		

Source: Vivid Economics

¹⁸⁶ IMF Policy Tracker (2021). Policy Responses to COVID19 (imf.org)

¹⁸⁷ Government of Iceland (2020). Government of Iceland | Icelandic Government announces 1.6bn USD response package to the COVID-19 crisis

¹⁸⁸ Government of Iceland (2020).

<https://www.government.is/news/article/2020/04/21/Government-of-Iceland-Announces-Second-Phase-of-Economic-Response-Package-to-the-COVID-19-Crisis/>

¹⁸⁹ Government of Iceland (2020), Government of Iceland | Eight stability measures

¹⁹⁰ Reg Follower (2020). Iceland: Parliament approves a bill to implement tax measures under 2021 budget (regfollower.com)

• Underlying sector context (b₁)

Performance on key indicators is insufficient to achieve environmental targets.

• Specific environmental measures (b₂)

• Financial support to the tourism sector is typified in its guaranteed credit facility for IcelandAir Group, totalling US\$117.86 million¹⁹¹. Such investments cause poor index performance by allowing the unconditional continuation of climate damaging sectoral activities, such as the burning of non-renewable fuel sources.

• Funding has been dedicated to sustaining innovation, companies investing in growth, and research activities, which positively influences Iceland's index score¹⁹².

• The increase in car tax by 2.5% from January 2021¹⁹³ is a successful green policy, as it aims to reduce the attractiveness of unnecessary personal transit employing the use of fossil fuels. Such a policy benefits Iceland's index score, but would be more successful if accompanied by measures offering climate-friendly alternatives, such as investment in low emissions public transport.

¹⁹¹ Government of Iceland (2020).

<https://www.government.is/news/article/2020/08/18/Icelandair-Group-hf.-Government-Guaranteed-Credit-Facility-Approved-by-the-Icelandic-Government/>

¹⁹² Government of Iceland (2020). Government of Iceland | Eight stability measures

¹⁹³ Reg Follower (2020). Iceland: Parliament approves a bill to implement tax measures under 2021 budget (regfollower.com)

1.13 India

India has passed US\$345 billion in total fiscal stimulus packages in response to COVID-19.¹⁹⁴

Composition of stimulus: India's initial package focused on support for healthcare and welfare, but further measures have included substantial support for businesses, and targeted support for the agriculture sector. Its most recent stimulus package, worth roughly US\$10 billion, includes support for government workers and for infrastructure investments.¹⁹⁵ India's November 2020 package features US\$35 billion in stimulus to increase production, attract investments in ten key sectors, fund the development of a COVID-19 vaccine, and boost consumer demand and manufacturing.¹⁹⁶ Most recently, the government provided free food grains worth US\$3.5 billion to the population, and extended a scheme providing interest-free loans to states for capital expenditure worth US\$2 billion.

India's negative index score is driven by poor underlying environmental performance, and specific harmful stimulus measures including substantial support for coal. The government has, however, announced some green stimulus measures, which includes a US\$26.5 billion investment in biogas and cleaner fuels. In this edition, India sees its score slightly improving due to a variety of policies having a net positive impact, including measures to support climate-friendly transport and energy sectors.

Table 15 | Archetype policies announced in India

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached		◆			
Green infrastructure investments		◆		◆	
Green R&D subsidies					
Subsidies or tax reductions for green products		◆	◆	◆	
Nature Based Solutions	◆				
Conservation and wildlife protection programmes					
Subsidies for environmentally harmful activities		◆	◆		
Environmentally harmful infrastructure investments		◆	◆	◆	
Deregulation of environmental standards		◆	◆		
Environmentally related bailout without green strings					
Subsidies or tax reductions for environmentally harmful products		◆			

Source: Vivid Economics

¹⁹⁴ <https://www.ft.com/content/5734f333-e4d7-4ebf-9de2-220e537da3f0>

¹⁹⁵ CNBC (2020). <https://www.cnbc.com/2020/10/13/india-economy-economists-not-impressed-by-latest-fiscal-stimulus.html>

¹⁹⁶ AP News (2020). <https://apnews.com/article/india-coronavirus-pandemic-economic-stimulus-narendra-modi-economy-899af3f2eaf32e4f9deb7b535b1ee03c>

• Underlying sector context (b₁)

Performance on key indicators is highly insufficient to achieve environmental targets.

• Specific environmental measures (b₂)

- The coal plan in India is coupled with a revenue share arrangement between the government and private companies to promote the mining and gasification of coal. This reform and rebate in revenue share is a tax incentive for polluting energy producers. Further support for coal includes rebates on coal extraction,¹⁹⁷ and the removal of coal washing regulations for supply to thermal power plants.¹⁹⁸ At the end of November 2020, US\$1.15 billion was secured as a loan for the development of a project of power generation using coal in Bihar¹⁹⁹. The government has also sought to replace imported coal with Indian coal to boost the domestic sector.²⁰⁰ Most recently, since February 2021, the government has provided support for various large coal and oil projects²⁰¹, negatively affecting the country's score.
- India has also allocated US\$6.6 million for transport infrastructure to help bring coal from India's state-run mines to market.²⁰² This direct investment into infrastructure for a polluting energy source is in direct opposition to environmental commitments, as mining has a large and irreversible impact on the environment.

- Other potentially damaging measures in the Indian energy sector include the use of a domestic price regime to reduce the price of natural gas²⁰³, and taking advantage of low oil prices to secure a strategic reserve.²⁰⁴ While this is not a directly damaging policy, this is a lock-in for the energy and residential sector as it ensures that it has enough oil when the future US embargo on Iran is enacted.²⁰⁵ India also approved US\$620 million towards raising ethanol production capacity to suck out surplus sugar as well as cut oil imports²⁰⁶.
- India has also fast-tracked environmental impact assessments, to increase the speed of project development.²⁰⁷ This fast-tracking is a driver of the negative score for India's industrial sector.
- India has channelled US\$780 million towards an afforestation programme, however, designed to stimulate the rural and semi-urban economy while providing essential ecosystem benefits.²⁰⁸ This funding is provided through the Compensatory Afforestation Management and Planning Authority (CAMPA) fund.²⁰⁹ The specific jobs created through this fund include plantation work, forest management and wildlife protection. These jobs will be available for tribal communities.²¹⁰ This programme both provides income to vulnerable members of society through a nature-based solution, and contributes to the small green aspect of India's stimulus.

¹⁹⁷ Indian Press Information Bureau (2020). <https://pib.gov.in/PressReleasePage.aspx?PRID=1625305>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>

¹⁹⁸ The Wire (2020). <https://thewire.in/environment/coal-washing-environment-ministry-changing-rules>

¹⁹⁹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>,

²⁰⁰ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, Coal India (2020). <https://www.coalindia.in/ourbusiness/specialspote-auction-scheme2020forimportsubstitution.aspx>.

²⁰¹ Energy Policy Tracker (2021). <https://www.energypolicytracker.org/country/india>

²⁰² LiveMint (2020). <https://www.livemint.com/news/india/fm-sitharaman-fast-tracks-industrial-reforms-to-aid-growth-recovery-11589639649764.html>

²⁰³ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, Live Mint (2020). <https://www.livemint.com/industry/energy/amid-coronavirus-outbreak-india-reduces-natural-gas-price-to-record-low-11585673501734.html>.

²⁰⁴ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, Bloomberg (2020). <https://www.bloomberg.com/news/articles/2020-04-08/india-to-buy-up-middle-eastern-oil-for-its-strategic-reserves>.

²⁰⁵ Livemint (2020). <https://www.livemint.com/news/india/india-has-secured-additional-oil-supplies-to-tide-over-iran-sanctions-1556806947754.html> Recovering Better (2020) The Case for a Sustainable and Resilient Recovery in India

²⁰⁶ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>

²⁰⁷ QZ (2020) <https://qz.com/india/1851634/india-fast-tracks-green-clearance-to-spur-coronavirus-hit-economy/>

²⁰⁸ India TV (2020). <https://www.indiatvnews.com/business/news-nirmala-sitharaman-final-phase-of-announcement-economic-stimulus-package-11-am-live-updates-617884>

²⁰⁹ Jagran (2020). <https://english.jagran.com/business/economic-package-tranche-2-mnrega-support-free-foodgrains-for-migrants-rs-30000-crore-additional-credit-support-for-farmers-10011841>

²¹⁰ Economic Times (2020). <https://bfsi.economictimes.indiatimes.com/news/policy/key-highlights-of-the-finance-ministers-whole-economic-package/75797903>

- The Indian government has introduced some measures to support renewable energy. In particular, it has waived charges for interstate transmission of wind and solar power until December 2022²¹¹. Several states have also announced new renewable policies. The government of Andhra Pradesh has announced a Renewable Energy Export Policy, which establishes renewable energy equipment manufacturing facilities.²¹² The State of Maharashtra proposed to deploy 17,385MW of renewable power by 2025, and the government of Gujarat announced a new solar policy²¹³. Most recently, India has made investments totalling close to US\$1.3 billion in hydropower²¹⁴, contributing positively to India's slight increase in score in this edition.

- Other green stimulus measures include support for electric vehicles in Delhi, where the government is aiming to increase electric vehicles to 25% of all new vehicle registrations by 2024.²¹⁵ In March 2021, the government also announced mandatory parking space reserving standards for EV charging points at malls, hotels and others.²¹⁶

- India's significant (roughly US\$800 million) investments into coal machinery²¹⁷ are slightly offset by roughly US\$100 million in financing extended to Sri Lanka to build solar infrastructure.²¹⁸ India's improving score has been powered by unquantified measures including a 'Green Railway Initiative' which will increase electrification of trains,²¹⁹ minimum thresholds for solar production from generators and bidders in the utility sector,²²⁰ loans to farmers to implement solar technologies on farms,²²¹ incentives for solar panel and LED light manufacturing²²² and the commissioning of new electric bus charging stations.²²³ The power ministry also made it mandatory for all discoms to comply with Energy Conservation Act to decrease energy losses and increase profitability²²⁴.

- India's manufacturing sector received US\$19.8 billion in new stimulus to boost production, attract foreign investments, and increase exports and employment. The ten sectors prioritised by the production linked incentive (PLI) schemes include electronics, pharma, textile, food products, telecom and speciality steel. The automobile and auto component sectors received the largest share of funding (US\$7.7 billion) to increase production and promote exports.²²⁵ Incentives were also dedicated to the development of renewable energy. For example, incentives for the production of high efficiency solar PV totalled roughly US\$607 million²²⁶. The Cabinet also approved US\$2.4 billion in incentives for manufacturers to produce Advanced Chemistry Cell batteries. Those incentives contributed to India's improved score.

- India's Sustainable Alternative Towards Affordable Transportation (SATAT) initiative features US\$26.5 billion to set up 5,000 compressed biogas plants to boost the availability of affordable and cleaner transport fuels. Currently, 1,500 of these plants have been approved and are at various stages of execution.²²⁷ India also committed to setting up 1,000 liquefied natural gas stations in the next three years.²²⁸ While liquefied natural gas generates less emissions than petroleum, it is not a renewable fuel.

²¹¹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, The Economic Times (2020). <https://energy.economicstimes.india-times.com/news/renewable/govt-grants-ists-waiver-extension-for-solar-wind-projects-until-june-2023/77390466>.

²¹² Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, The Economic Times (2020). <https://energy.economicstimes.india-times.com/news/renewable/andhra-pradesh-govt-announces-renewable-energy-export-policy/77028959>

²¹³ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>

²¹⁴ Energy Policy Tracker (2021). <https://www.energypolicytracker.org/country/india>

²¹⁵ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, The Hindu (2020). <https://www.thehindu.com/news/cities/Delhi/kejriwal-announces-notification-of-delhi-electric-vehicle-policy/article32293392.ece>

²¹⁶ Energy Policy Tracker (2021). <https://www.energypolicytracker.org/country/india>

²¹⁷ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, https://www.business-standard.com/article/companies/cil-finalises-rs-5-900-cr-heavy-machinery-contracts-to-bolster-production-120092300988_1.html

²¹⁸ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, <https://energy.economicstimes.indiatimes.com/news/renewable/india-offers-100-million-line-of-credit-to-lanka-for-solar-projects/78327563>

²¹⁹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, <https://www.pib.gov.in/PressReleaseDetail.aspx?PRID=1638269>

²²⁰ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, <https://economicstimes.indiatimes.com/industry/energy/power/round-the-clock-power-supply-discoms-can-now-bundle-thermal-solar-power-for-24x7-distribution/articleshow/77210961.cms?from=mdr>

²²¹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, https://www.rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=50310

²²² Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, <https://mercomindia.com/tamil-nadu-new-electronics-hard-ware-manufacturing-policy/>

²²³ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, <https://energy.economicstimes.indiatimes.com/news/power/govt-sanctions-670-electric-buses-241-charging-stations-under-fame-scheme/78312963>

²²⁴ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>,

²²⁵ Business Insider (2020). <https://www.businessinsider.in/policy/economy/news/indian-govt-approves-the-pli-scheme-for-10-sectors/articleshow/79172901.cms>

²²⁶ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>

²²⁷ Government of India (2020). <https://pib.gov.in/PressReleasePage.aspx?PRID=1674428>

²²⁸ Government of India (2020). <https://pib.gov.in/PressReleasePage.aspx?PRID=1673998>

1.14 Indonesia

Indonesia has passed US\$123 billion in fiscal stimulus measures.²²⁹

Composition of stimulus: Indonesia's initial stimulus package focused largely on support for healthcare and welfare. More recent measures involve substantial support for businesses including tax incentives, loans and guarantees – with a large proportion expected to be directed towards industry and agriculture. Additionally, some support has been given to citizens and businesses in the form of subsidies for electricity generation and fuel prices. The Indonesian Government's 2021 infrastructure budget allocates US\$28.5 billion towards sustainable, labour-intensive infrastructure developments. The infrastructure projects will strengthen digital infrastructure and support infrastructure developments in industry, tourism, water, sanitation, housing and national health. In the energy and electricity sector, projects will include the construction of a natural gas network for households and support for rooftop solar.²³⁰ In February 2021, Indonesia raised its 2021 budget for the National Economic Recovery Program to US\$49 billion, with spending focused in five areas: health, social protection, priority programmes, business incentives, and support for SMEs and corporate financing.^{231, 232}

Indonesia has implemented a mix of positive and negative policies, resulting in a negative index score that continues to be largely driven by poor underlying environmental performance. The slight decrease in Indonesia's score in this edition is driven by the changes in car sales tax policies.

Table 16 | Archetype policies announced in Indonesia

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached					
Green infrastructure investments		◆		◆	
Green R&D subsidies		◆			
Subsidies or tax reductions for green products		◆		◆	
Nature Based Solutions					
Conservation and wildlife protection programmes					
Subsidies for environmentally harmful activities					
Environmentally harmful infrastructure investments					
Deregulation of environmental standards			◆		
Environmentally related bailout without green strings		◆	◆	◆	
Subsidies or tax reductions for environmentally harmful products		◆	◆	◆	

Source: Vivid Economics

²²⁹ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

²³⁰ Indonesia Ministry of Finance (2020).

<https://www.kemenkeu.go.id/publikasi/berita/pemerintah-siapkan-anggaran-infrastruktur-rp417-8-triliun-untuk-tahun-2021/>

²³¹ AntaraNews (2021). <https://en.antaranews.com/news/168663/govt-highlights-increased-2021-pen-budget-to-reach-rp69943-trillion>

²³² Reuters (2021). <https://www.reuters.com/article/indonesia-economy-idUKL4N2KL20U>

• Underlying sector context (b₁)

Performance on key indicators is highly insufficient to achieve environmental targets.

• Specific environmental measures (b₂)

• In November 2020 the Indonesian government passed into law the Omnibus Bill. Criticised for the potentially far-reaching consequences for nature and climate alike, the bill appears to serve business interests at the expense of social and environmental welfare requirements. Inciting activism both domestically and from foreign investors, the bill weakens existing environmental compliance mechanisms, with the potential to encourage devastating deforestation. The new legislation requires developers only to self-declare cooperation with environmental standards, and thus severely weakens the country's infrastructure of accountability for nature and climate damaging activity. As such, the bill works against the index score of Indonesia, which suffers a fall in this edition.²³³

• A mining law announced in early May 2020 expanded the land area available to miners, designed to stimulate more value-added production of mined coal and minerals.²³⁴ This law has required mining companies to allocate exploration funds and to increase exploration each year.²³⁵ The law also extends royalty rates for large miners. The new law has very few provisions to reduce environmental impact, except the requirement to complete land restoration projects. The purpose of the bill is to develop downstream mining industries, and to centralise the permitting process, but this involves continuing investment in a polluting industry, and encouraging its expansion.

• The Indonesian fiscal stimulus package has also included potentially damaging financial support to polluting, state-owned enterprises in the energy, industry and transport sectors. The latter includes public transport, which we define as green.²³⁶

• However, some positive measures have been announced, including subsidies for use of biodiesel fuels. The Indonesian government has also reduced VAT and income tax for various renewable energy projects.²³⁷ It has also eliminated some financial penalties for Independent Power Producers, to spur renewable energy production.²³⁸

• After initially announcing the relaxation of regulations for land use and forestry, which risked causing significant damage to Indonesia's remaining forest, this proposed policy was repealed.

• Indonesia's negative environmental performance is exacerbated by subsidies that will lower the cost of largely fossil fuel generated electricity,²³⁹ and the price of industrial gas.²⁴⁰

• Most recently, Indonesia passed a new regulation in March 2021 which cuts tax breaks on hybrid cars to boost the sale of fully electric vehicles²⁴¹. Since this policy was passed alongside an earmarking of US\$200 million to cut car sales tax in 2021²⁴² and given that internal combustion engine (ICE) vehicles largely dominate the car market in Indonesia, the overall impact of those recent policies on Indonesia's index score in this edition is negative.

²³³ Mongabay (2020).

²³⁴ Reuters (2020). <https://www.reuters.com/article/indonesia-mining/indonesia-passes-new-mining-law-revisions-met-with-praise-and-protest-idUSL4N2CU2Q4>, Detik Finance (2020). <https://finance.detik.com/energi/d-5011570/pasal-pasal-mencurigakan-dalam-ruu-minerba>

²³⁵ Jakarta Post (2020). <https://www.thejakartapost.com/news/2020/05/14/explainer-new-rules-in-revised-mining-law.html>

²³⁶ Database Peraturan (2020). <https://peraturan.bpk.go.id/Home/Details/136615/pp-no-23-tahun-2020>, Energy Policy Tracker (2020).

<https://www.energypolicytracker.org/country/indonesia>

²³⁷ Indonesian Ministry of Energy and Mineral Resources (2020).

<https://www.esdm.go.id/id/media-center/arsip-berita/petakan-dampak-covid-19-di-bisnis-ebt-pemerintah-prioritaskan-proyek-padat-karya>, Energy Policy Tracker

(2020). <https://www.energypolicytracker.org/country/indonesia>

²³⁸ Ibid.

²³⁹ CNBC Indonesia (2020). <https://www.cnbcindonesia.com/news/20200405125902-4-149854/mau-bebas-tagihan-pln-3-bulan-caranya-bisa-lewat-whatsapp>,

Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/indonesia>

²⁴⁰ Indonesian Ministry of Energy and Mineral Resources (2020).

https://jdih.esdm.go.id/storage/document/PERMEN%20ESDM%20No%208%20Tahun%202020_SALINAN.pdf, Energy Policy Tracker (2020).

<https://www.energypolicytracker.org/country/indonesia>

²⁴¹ Bangkok Post (2021). <https://www.bangkokpost.com/business/2084215/indonesia-offers-tax-perks-for-ev-makers>

²⁴² MENA (2021). <https://menafn.com/1101770840/Indonesias-car-sales-tax-cut-may-harm-the-environment-requiring-another-policy-to-reduce-emissions>

1.15 Italy

Italy has passed US\$658 billion in fiscal stimulus measures.²⁴³

Composition of stimulus:²⁴⁴ Italy's initial 'Cura Italia' package was largely directed at healthcare, welfare and emergency support for businesses. The 'Liquidity Decree' is providing €400 billion (US\$441 billion) in state loan guarantees to businesses, and the 'Relaunch' package includes additional measures both for families and for businesses. These measures include the €3 billion (US\$3.3 billion) bailout of airline Alitalia²⁴⁵, with Italy's industrial sector also receiving a substantial share of stimulus. In August 2020, the Italian government announced an additional €25 billion (US\$28 billion) package to provide labour and social support alongside further measures for businesses. In late October, a smaller package of €5.4 billion was passed to support businesses affected by new lockdown measures. December saw the announcement of the Ristori Quarter Decree, dominated by tax relief and internationalisation support for businesses.²⁴⁶ In March and May 2021, the government adopted new stimulus packages worth US\$87 billion combined, which focus on supporting hard-hit businesses and workers, financing for the leath service, as well as kickstarting the economy.^{247, 248}

Italy has a slightly negative score, which is mainly driven by its baseline environmental performance. Few specific environmental measures have been announced, and as such, Italy performs worse than its European peers. While the government has recently announced several climate-friendly policies, the large amount of stimulus flowing to businesses affected by the pandemic contributes to maintaining the status quo, thereby limiting the country's increase in score in this edition.

Table 17 | Archetype policies announced in Italy

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached					
Green infrastructure investments		◆		◆	
Green R&D subsidies					
Subsidies or tax reductions for green products		◆		◆	
Nature Based Solutions					
Conservation and wildlife protection programmes					
Subsidies for environmentally harmful activities			◆		
Environmentally harmful infrastructure investments					
Deregulation of environmental standards					
Environmentally related bailout without green strings				◆	
Subsidies or tax reductions for environmentally harmful products		◆		◆	

Source: Vivid Economics

²⁴³ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

²⁴⁴ IMF Policy Tracker (2020), Forbes (2020) <https://www.forbes.com/sites/irenedominioni/2020/04/07/italy-unveils-unprecedented-435-billion-plan-to-support-coronavirus-hit-economy/#6d0c387f7214>

²⁴⁵ https://www.transportenvironment.org/sites/te/files/Airline-bailout-tracker_8_May_2020.pdf

²⁴⁶ Italian Ministry of Economic Development (2020).

²⁴⁷ Euronews (2021). <https://www.euronews.com/2021/03/19/italy-adopts-covid-19-stimulus-measures-worth-32-billion>

²⁴⁸ Reuters (2021). <https://www.reuters.com/article/italy-budget-stimulus-idUKL8N2LG5XY>

• Underlying sector context (b₁)

Performance on key indicators is insufficient to achieve environmental targets.

• Specific environmental measures (b₂)

• Italy has extended a US\$3.3 billion bailout to Alitalia, provided it does not lay off employees. The Italian government has also planned to take full ownership of the airline since the bailout, and is considering injecting further spending over the coming months. The airline has had no green conditions imposed upon its operations. Given the Italian government is looking for a buyer for the airline, there is little belief that nationalisation will bring it under stricter climate or environmental targets.

• The Italian government has introduced the 'Econbonus' scheme, which gives 110% tax deductions for the private installation of energy efficiency retrofits (such as heat pumps), solar PV and electric vehicle charging points.²⁴⁹ For solar PV, this has increased from 50%.²⁵⁰

• US\$41.3 million has been allocated to Italian municipalities with fewer than 1,000 residents for the implementation of public energy efficiency projects and sustainable territorial development.²⁵¹ The government has also provided support for active transport by supporting a bike and scooter scheme²⁵², investing in active transport infrastructure in a number of cities, and by incentivising walking and cycling.²⁵³

• Resources were also dedicated to support local public transport systems in August 2020.²⁵⁴ Stimulus has included support for electric vehicles, including a subsidy of up to €10,000 that lasted from August until the end of 2020.²⁵⁵ Most recently, several other policies were passed in December and February to support the decarbonisation of transport, including incentives for energy efficient vehicles, electric vehicles (EVs), plug-in hybrid electric vehicles (PHEVs), and electric outlets²⁵⁶, contributing to Italy's increase in index score in this edition.

• Subsidies have, however, also been announced for conventional vehicles, although these are smaller than those available for electric vehicles.²⁵⁷

• The Italian government has eliminated the 'safeguard clauses' on VAT and excise duties. These safeguard clauses automatically increased the rates of the VAT and excise duties on certain fuel products.²⁵⁸

²⁴⁹ Carbon Brief (2020). <https://www.carbonbrief.org/coronavirus-tracking-how-the-worlds-green-recovery-plans-aim-to-cut-emissions> , Italian Ministry of Economy and Finance (2020). <https://www.mef.gov.it/focus/Decreto-Rilancio-le-misure-per-rimettere-in-moto-il-Paese/#cont4>

²⁵⁰ PV Magazine (2020). <https://www.pv-magazine.com/2020/05/27/covid-19-weekly-round-up-residential-systems-in-italy-will-get-a-110-tax-rebate-and-uk-consumers-are-being-paid-to-turn-appliances-on-as-coronavirus-turns-the-energy-world-upside-down/>

²⁵¹ Italian Ministry of Economic Progress (2020).

<https://www.mise.gov.it/index.php/it/incentivi/energia/comuni-progetti-di-efficientamento-energetico-e-sviluppo-territoriale-sotto-ai-mille-abitanti>

²⁵² Carbon Brief (2020). <https://www.carbonbrief.org/coronavirus-tracking-how-the-worlds-green-recovery-plans-aim-to-cut-emissions> , Italian Government (2020). <http://www.governo.it/articolo/comunicato-stampa-del-consiglio-dei-ministri-n-45/14602> .

²⁵³ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/italy>.

²⁵⁴ Energy Policy Tracker (2021). Italy - Energy Policy Tracker

²⁵⁵ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/italy> ,

Italian Senate of the Republic (2020). <http://www.senato.it/japp/bgt/showdoc/18/DDLPRES/0/1157541/index.html?part=>

²⁵⁶ Energy Policy Tracker (2021). <http://www.energypolicytracker.org/country/italy/>

²⁵⁷ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/italy> , Italian Government (2020).

<https://www.mise.gov.it/index.php/it/incentivi/energia/comuni-progetti-di-efficientamento-energetico-e-sviluppo-territoriale-sotto-ai-mille-abitanti>

²⁵⁸ Italian Ministry of Environment and Finance (2020).

<https://www.mef.gov.it/focus/Decreto-Rilancio-le-misure-per-rimettere-in-moto-il-Paese/#cont4%20Accessed%2011%20June%202020>

1.16 Japan

Japan has passed a total of US\$2.9 trillion in fiscal measures in response to COVID-19.²⁵⁹

Composition of stimulus: The first two stimulus packages by Japan amounted to ¥117.1 trillion each (US\$1.08 trillion), with measures including funding for health, welfare and employment protection. In addition to Japan's airline sector guarantee, a large share of the support for businesses is directed at Japan's industry and transport sectors. In December 2020, Japan announced a third stimulus package, totalling US\$606 billion. This package consists of three pillars: structural reforms, measures to prevent the spread of COVID-19, and increased funding for natural disaster resilience. Most recently, Japan set aside a US\$45 billion COVID-19 contingency fund for emergency spending related to the pandemic.

Japan had initially announced little in the way of specific environmental measures, so its slightly negative index score is driven mostly by its underlying environmental performance. Some measures in the December 2020 stimulus package aimed at promoting carbon neutrality to 2050 did contribute towards an increase in Japan's score.

Table 18 | Archetype policies announced in Japan

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached					
Green infrastructure investments		◆	◆	◆	◆
Green R&D subsidies		◆			
Subsidies or tax reductions for green products					
Nature Based Solutions					
Conservation and wildlife protection programmes					
Subsidies for environmentally harmful activities					
Environmentally harmful infrastructure investments					
Deregulation of environmental standards					
Environmentally related bailout without green strings					
Subsidies or tax reductions for environmentally harmful products				◆	

Source: Vivid Economics

²⁵⁹ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

• Underlying sector context (b₁)

Performance on key indicators is somewhat insufficient in achieving environmental targets.

• Specific environmental measures (b₂)

• Although it held an online event to discuss shifting the future economic recovery towards green stimulus, the so-called 'June Momentum',²⁶⁰ Japan had announced little in the way of specific environmental measures until end of November 2020. Some small measures to support a zero-carbon society (US\$46 million), such as for solar power generation facilities, have been announced, but this is a tiny fraction of Japan's total stimulus package. Additionally, Japan has passed measures that contribute to support a carbon-intensive economy, such as a reduction of environmental performance taxes on certain automobiles.²⁶¹

• However, in December, Japan released a stimulus package with US\$19.2 billion towards the promotion of carbon neutrality by 2050, of which US\$18.4 was dedicated to funding for the development of innovative technologies for carbon neutrality. Other policies included funds for the promotion of effective use of sewerage resources to realise a green society and subsidies for clean energy cars. Japan also approved US\$16.5 million for the acceleration of the construction of the technological basis for a fusion DEMO reactor. Beyond policies with direct environmental effects, US\$9.6 billion was also set aside to accelerate digitalisation in public schools²⁶². The allocation of the December stimulus towards projects with beneficial environmental effects contributed positively to Japan's score.

• The Japan Bank for International Cooperation has issued a US\$791 million guarantee for Japan Airlines. This guarantee will finance the import of eight aircrafts with the goal of improving the international competitiveness of the Japanese aviation industry.²⁶³

²⁶⁰ Climate Change News (2020). <https://www.climatechangenews.com/2020/06/01/japan-launch-green-recovery-platform-ministerial-meeting/>

²⁶¹ Cabinet Office of Japan (2020). https://www5.cao.go.jp/keizai/keizaitaisaku/2020/20200420_economic_measures_all.pdf, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/japan>

²⁶² Focus Economics (2020).

<https://www.focus-economics.com/countries/japan/news/fiscal/government-announces-third-stimulus-package-to-bolster-economic-recovery>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/japan>

²⁶³ Japan Bank for International Cooperation (2020). <https://www.jbic.go.jp/en/information/press/press-2020/0609-013422.html>

1.17 Mexico

Mexico has passed a total of US\$32 billion in fiscal stimulus measures.²⁶⁴

Composition of stimulus: Alongside health and social programmes, Mexico's stimulus package includes support for businesses through micro-loans of up to 25,000 Mexican Pesos (around US\$1,000). A large proportion of the stimulus package is, however, directed towards infrastructure investments that are likely to reinforce Mexico's environmentally intensive trajectory. Since the previous release, the Mexican Government has not approved or announced any further stimulus packages.

Support for its polluting energy sector is a significant driver of Mexico's negative index score; however, the issuance of sustainable sovereign bonds retrospectively contributed to an increase in Mexico's score in this edition.

Table 19 | Archetype policies announced in Mexico

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached					
Green infrastructure investments			◆	◆	
Green R&D subsidies					
Subsidies or tax reductions for green products					
Nature Based Solutions					
Conservation and wildlife protection programmes					
Subsidies for environmentally harmful activities					
Environmentally harmful infrastructure investments		◆		◆	
Deregulation of environmental standards		◆			
Environmentally related bailout without green strings					
Subsidies or tax reductions for environmentally harmful products					

Source: Vivid Economics

²⁶⁴ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>, Reuters (2020). <https://www.reuters.com/article/us-health-coronavirus-mexico-budget/too-little-too-late-mexico-unveils-26-billion-coronavirus-spending-shift-idUSKCN22423Q>

• Underlying sector context (b₁)

Performance on key indicators is insufficient to achieve environmental targets.

• Specific environmental measures (b₂)

Mexico has introduced specific measures in environmentally relevant sectors. These included:

- The Mexican government has committed part of its US\$28 billion spending package to a flagship oil refinery and new airport development.²⁶⁴ Both major projects will receive funding under the COVID-19 stimulus package, and are a further investment in environmentally intensive infrastructure. Further harmful support for the energy sector includes tax breaks for Pemex, Mexico's state-owned oil company.²⁶⁵

- The Mexican government has invested in active transport infrastructure in response to COVID-19, however, by investing in the expansion of Mexico City's cycling network, with 54km in new routes.²⁶⁶

- In September 2020, Mexico became the first country in the world to issue sustainable sovereign bonds linked to the Sustainable Development Goals (SDGs) promoted by the United Nations (UN). The bonds amounted to US\$916 million and the resources will be used to finance programmes from the UN's Agenda 2030. The sales of these bonds will promote sustainability and productivity in economic and industrial activities, as well as a reduction of emissions and social inclusion.²⁶⁷ This contributed retrospectively to Mexico's increase in score in this edition.

²⁶⁴ Mexican Government (2020).

<https://lopezobrador.org.mx/2020/04/05/presidente-anuncia-acciones-para-la-reactivacion-economica-ante-covid-19-en-primer-informe-del-ano-al-pueblo-de-mexico-2/>

²⁶⁵ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/mexico> ,

<https://lopezobrador.org.mx/2020/04/05/discurso-del-presidente-andres-manuel-lopez-obrador-en-su-informe-al-pueblo-de-mexico/>

²⁶⁶ Financial Times (2020). <https://www.ft.com/content/989be646-90ef-43a0-b17a-7ab191e6bec9> ,

Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/mexico>

²⁶⁷ Energy Policy Tracker (2021). <https://www.energypolicytracker.org/country/mexico>

1.18 Norway

Norway has passed US\$31 billion in fiscal stimulus measures.²⁶⁸

Composition of stimulus: Norway's stimulus measures perform relatively poorly in comparison to its Nordic peers. An initial stimulus package focused on supporting the transport sector through bailouts and carbon tax relief²⁶⁹, among other mechanisms, has exacerbated Norway's negative baseline index value. Large sums committed to the fossil fuel industry, without accompanying 'green strings', are largely responsible for the country's index behaviour. A 'Green Transition' package somewhat offsets this negative score, through stimulus measures designed to encourage environmental research, promote green shipping, and increase offshore wind capacity.²⁷⁰ Norway has also financially supported a renewable energy advocacy organisation for losses suffered throughout the pandemic.²⁷¹ Most recently, in the revised national budget, Norway increased by US\$58 million its current municipal relief scheme for affected businesses²⁷².

Norway's weak index performance stems from its negative baseline score and its failure to include green conditions on support given to the fossil fuel industry, though increasingly diverse green policies serve to partly mitigate the negative score. Most recently, the publication of a 'Comprehensive Climate Plan' leads to a large increase in Norway's index score in this update.

Table 20 | Archetype policies announced in Norway

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached					
Green infrastructure investments	◆	◆	◆	◆	
Green R&D subsidies		◆	◆	◆	◆
Subsidies or tax reductions for green products				◆	
Nature Based Solutions	◆				
Conservation and wildlife protection programmes					
Subsidies for environmentally harmful activities					
Environmentally harmful infrastructure investments		◆			
Deregulation of environmental standards					
Environmentally related bailout without green strings			◆	◆	
Subsidies or tax reductions for environmentally harmful products		◆	◆	◆	

Source: Vivid Economics

²⁶⁸ IMF Policy Tracker (2021). Policy Responses to COVID19 (imf.org)

²⁶⁹ ADB Covid Policy Database (2020).

²⁷⁰ Government Norway (2020). Package of measures to support the oil and gas industry and the supply industry - regjeringen.no

²⁷¹ Energy Policy Tracker (2021). Norway - Energy Policy Tracker

²⁷² IMF Policy Tracker (2021). Policy Responses to COVID19 (imf.org)

• Underlying sector context (b₁)

The baseline performance in Norway is marginally below that required to meet targets across key sectors.

• Specific environmental measures (b₂)

Norway has introduced a variety of measures in environmentally relevant sectors, including:

- The introduction of a 'Green Transition' plan which includes measures to promote a circular economy, increase the budgetary capacity of local authorities to support green change, and boost offshore wind and low-emissions technology research.²⁷³

- Airline bailouts covering losses due to Covid-19 have perpetuated 'business-as-usual' environmental patterns, though measures have since been introduced which will exempt low or zero-emissions aircraft from passenger tax in the future.²⁷⁴

- Resilience and agricultural measures include funds dedicated to avalanche and landslide protection, and improved coastal monitoring through investment in the Institute of Marine Research.²⁷⁵

- Norway announced it will press ahead with North Sea wind power in 2021, awarding its first development licences as it spurs the transition of its oil and gas industry.²⁷⁶ In March 2021, the government also provided a US\$3 million grant to researchers from the Association of Southeast Asian Nations (ASEAN) researchers to reduce plastic waste in the ASEAN region.²⁷⁷

- Most significantly, Norway unveiled a 'Comprehensive Climate Action Plan'. The plan includes, among others, measures such as a gradual raise of GHG taxes (to US\$226 per tonne CO₂ equivalent by 2030), a higher carbon price for the petroleum industry, the phase-in of low- and zero-emission technologies, and a variety of land-use and forestry measures.^{278, 279} The plan leads to a large increase in Norway's score in this edition.

²⁷³ Government Norway (2020). Package of measures to support the oil and gas industry and the supply industry - regjeringen.no

²⁷⁴ Government Norway (2020). Statsbudsjettet 2021: A til Å - regjeringen.no

²⁷⁵ Government Norway (2020). Statsbudsjettet 2021: A til Å - regjeringen.no

²⁷⁶ OffshoreEngineer (2021). <https://www.oedigital.com/news/486423-norway-pressing-ahead-with-offshore-wind-prepares-first-tenders>

²⁷⁷ ScandAsia (2021). <https://scandasia.com/norway-provides-grants-for-asean-researchers-reducing-plastic-waste-in-the-region/>

²⁷⁸ Government Norway (2021).

[https://www.regjeringen.no/en/aktuelt/heilskapeleg-plan-for-a-na-klimamalet/id2827600/#:~:text=The%20Norwegian%20Government%20proposes%20to,CO2%2Dequivalents%20\(ca.](https://www.regjeringen.no/en/aktuelt/heilskapeleg-plan-for-a-na-klimamalet/id2827600/#:~:text=The%20Norwegian%20Government%20proposes%20to,CO2%2Dequivalents%20(ca.)

²⁷⁹ Government Will-point Overview (2021). Oversikt over alle regjeringa vil-punkta i meldinga

1.19 The Philippines

The Philippines has passed US\$17 billion in fiscal stimulus measures.

Composition of stimulus: The Philippines' stimulus package includes support to several sectors of the economy, including the healthcare, agriculture and tourism sectors. Support for the healthcare sector involved the purchase of medical equipment, the production of test kits, support for medical professionals, as well as increases in health system capacity and the development of a standby fund for government purchases of COVID-19 vaccines. The government has also extended welfare measures, including wage subsidies for small businesses and low-income households, assistance for overseas Filipino workers, and support for a programme to up-skill workers. Further support was granted to the agriculture, aquaculture and tourism sectors, including a rice programme to boost buffer stocks, as well as loan assistance for smallholder farmers and small enterprises engaged in agriculture and fishing. Since the previous release, the Philippines has not passed or announced any further stimulus measures. This update notes the Philippines recently released its 2021 Budget, though does not consider this programme to be a direct COVID-19 stimulus package.

The Philippines has implemented a mix of positive and negative policies, resulting in a negative index score that is largely driven by poor performance in agriculture, industry and transport.

Table 21 | Archetype policies announced by Philippines

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached					
Green infrastructure investments					
Green R&D subsidies					
Subsidies or tax reductions for green products		◆			
Nature Based Solutions					
Conservation and wildlife protection programmes					
Subsidies for environmentally harmful activities	◆			◆	
Environmentally harmful infrastructure investments			◆		
Deregulation of environmental standards					
Environmentally related bailout without green strings					
Subsidies or tax reductions for environmentally harmful products			◆		

Source: Vivid Economics

• Underlying sector context (b₁)

Performance on key indicators is highly insufficient to achieve environmental targets.²⁸⁰

• Specific environmental measures (b₂)

The Philippines has introduced specific measures in environmentally relevant sectors, including:

- The government has imposed a 10% import duty on crude oil and refined petroleum products to augment government funds to address COVID-19.²⁸¹

- In an effort to provide economic relief for households during the pandemic, the Energy Regulator Commission (ERC) suspended the pass-on of the feed-in-tariff allowance (FiT-All) charge in electric bills for one month. This enables a PHP 0.04/kWh reduction in the electricity bill for 19.16 million electricity consumers in Luzon. However, this will not affect the economic viability of renewable energy developers, as the FiT fund administrator, the National Transmission Corporation (TransCo) is ordered to continue with the payment of FiT obligations to FiT-eligible renewable energy developers and ensure the sustainability of their operations.²⁸²

- In the aviation sector, the Department of Transportation (DOTr) instructed the Manila International Airport Authority (MIAA) and the Civil Aviation Authority of the Philippines (CAAP) to extend the airport concessionaires rental holidays for one month, and defer rental charges in the succeeding month, to cover the enhanced community quarantine period. This provides a cushion for the economic impact of COVID-19 on the environmentally intensive aviation industry.²⁸³

- The government's plan to help the economy recover includes a plan to increase government spending on infrastructure in order to stimulate the economy through job creation and enhanced connectivity.²⁸⁴ The government of the Philippines already increased its infrastructure spending in the 2020 budget by 12%, which includes an initiative that seeks to modernise highways and urban rail projects as well as to upgrade airports and seaports.²⁸⁵

- The government also approved in December 2020 a US\$10 million stimulus for the aquaculture sector which will support farming of certain fish and aquatic species, as well as provide funds for the construction of multi-species hatcheries.

²⁸⁰ The Philippines is not included in the Germanwatch Climate Change Performance Index (<https://germanwatch.org/en/CCPI>). To account for this, we adjusted its baseline weighting to only incorporate its Environmental Performance Index score and Climate Action Tracker score.

²⁸¹ Philippine News Agency (2020). <https://www.pna.gov.ph/articles/1102775>

²⁸² Energy Regulatory Commission of Republic of Philippines (2020).

[https://www.erc.gov.ph/ContentPage/61946#:~:text=The%20Energy%20Regulatory%20Commission%20\(ERC,in%20the%20country%20and%20the](https://www.erc.gov.ph/ContentPage/61946#:~:text=The%20Energy%20Regulatory%20Commission%20(ERC,in%20the%20country%20and%20the)

²⁸³ Department of Transportation of Republic of Philippines (2020).

<https://www.dotr.gov.ph/55-dotrnews/1101-dotr-readies-contingency-actions-for-ph-aviation-sector-amid-covid-19-quarantine-instructs-implementation-of-rental-holidays-and-deferred-payment-of-rental-charges-for-airport-concessionaires.html>

²⁸⁴ The Philippine Star (2020). <https://www.philstar.com/business/2020/04/06/2005680/government-boost-infrastructure-spending-cushion-covid-impact>

²⁸⁵ Reuters (2020). <https://uk.reuters.com/article/philippines-budget/philippines-plans-to-build-up-infrastructure-spending-in-2020-budget-idINKN1VA0P7>

1.20 Russia

Russia has passed a total of US\$129 billion in fiscal stimulus measures.²⁸⁶

Composition of stimulus: Alongside healthcare and welfare measures, Russia has included support for businesses in its stimulus package. These include loan guarantees, interest rate subsidies, tax deferrals and delays in social contributions for SMEs in affected industries. Additional data and a more granular breakdown of previously announced stimulus flows has since been added, showing that a large part of the previously announced stimulus is flowing into environmentally relevant sectors, which resulted in a further drop of Russia's GSI score. This update results in a slight increase in the Russian index score (retrospectively), primarily driven by the approval of a carbon neutrality roadmap for Sakhalin which envisages the development of an ETS that may be scaled out to the rest of the country.²⁸⁷

Russia has large negative scores in industry and transport, which are receiving a large proportion of stimulus support. Reliance on fossil fuels further worsens the country's index performance.

Table 22 | Archetype policies announced in Russia

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached					
Green infrastructure investments					
Green R&D subsidies		◆			
Subsidies or tax reductions for green products		◆			
Nature Based Solutions					
Conservation and wildlife protection programmes					
Subsidies for environmentally harmful activities		◆	◆	◆	
Environmentally harmful infrastructure investments					
Deregulation of environmental standards					
Environmentally related bailout without green strings				◆	
Subsidies or tax reductions for environmentally harmful products		◆	◆	◆	

Source: Vivid Economics

²⁸⁶ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

²⁸⁷ Energy Policy Tracker (2021). Russia - Energy Policy Tracker

• Underlying sector context (b₁)

Performance on key indicators is highly insufficient to achieve environmental targets.

• Specific environmental measures (b₂)

- Russia has introduced a deferral of loan payments for 'hard hit' sectors which are classified as small and medium enterprises (SMEs).²⁸⁸ This loan deferral for SMEs will include any extended cash received by these businesses. The 'hard hit' sectors include leisure, services, transportation, travel and aviation. By offering loan deferral for these firms it is a continuation of business-as-usual investment into polluting industries. No conditions or additional funding has been available to green sectors.

- Specific support for airports and airlines totals around US\$500 million with no green strings attached.²⁸⁹ Unconditional support (US\$360 million) has also been provided to the automotive industry.²⁹⁰

- Further harmful environmental measures include tax incentives for oil and gas exploration in the Arctic,²⁹¹ and an increase in the subsidy for converting vehicles from petrol to gas from 30% to 60% of conversion costs.²⁹² Gazprom's US\$8 billion commitment to 'gassify' the country also negatively impacts Russia's score.

- Along with health and social welfare stimulus measure updates, this update incorporates additional granularity of the fiscal flows, showing more flow into environmentally relevant sectors.²⁹³ Russia has provided US\$4.4 billion to support systematic companies with interest-free loans, subsidies and tax deferrals, of which US\$145 million was allocated to interest rate subsidies and US\$930 to tax deferrals.

- Removing tax relief for mineral extraction and fossil fuel refining processes, though motivated by a desire to raise revenue, has contributed to the increase in Russia's score in this update. A declaration to investigate the potential of hydrogen fuel sources, though low in ambition and commitment, also serves to raise the score slightly.²⁹⁴

- A few unquantified environmentally beneficial policies contribute positively to Russia's score in this edition. For example, in November 2020, Vladimir Putin signed a decree for the reduction of greenhouse gas (GHG) emissions, which specifies the development of a strategy to reduce GHG emissions by 70% by 2030 compared to 1990 levels and increase absorption²⁹⁵. Likewise, in December, the government approved a carbon neutrality roadmap for Sakhalin which envisages the development of an ETS that may be scaled out to the rest of the country if the pilot is a success.²⁹⁶

²⁸⁸ KPMG Insights (2020). <https://home.kpmg/xx/en/home/insights/2020/04/russia-government-and-institution-measures-in-response-to-covid.html>

²⁸⁹ Russian Government (2020). <http://government.ru/en/docs/39681/>, Kommersant (2020). <https://www.kommersant.ru/doc/4363810>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/russia>

²⁹⁰ Russian Government (2020). <http://government.ru/news/39724/>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/russia/>

²⁹¹ Reuters (2020). <https://www.reuters.com/article/us-russia-gas-arctic-idUSKBN21537F>, Energy Policy Tracker (2020).

<https://www.energypolicytracker.org/country/russia>

²⁹² Russian Government (2020). <http://government.ru/news/39909/>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/russia>

²⁹³ Russian Government (2020), Plan economic impact new coronavirus infections (План преодоления экономических последствий COVID-19),

http://government.ru/support_measures/

²⁹⁴ Energy Policy Tracker (2021). Russia - Energy Policy Tracker

²⁹⁵ Energy Policy Tracker (2021). Russia - Energy Policy Tracker

²⁹⁶ Energy Policy Tracker (2021). Russia - Energy Policy Tracker

1.21 Saudi Arabia

Saudi Arabia has passed US\$35 billion in fiscal stimulus measures.²⁹⁷

Composition of stimulus: Saudi Arabia's stimulus package includes the suspension of some government taxes to increase private sector liquidity, increased health spending, expansion of unemployment funds to private companies to encourage retention of workers, electricity subsidies to commercial, industrial and agricultural sectors, increased duties on imported goods, a new tourism fund, and a programme to help businesses defer impending loan payments. Since the last report, no new stimulus measures have been announced or implemented.

Saudi Arabia's index score continues to be driven almost entirely by its poor underlying environmental performance, which is representative of the Kingdom's reliance on fossil fuel production.

Table 23 | Archetype policies announced in Saudi Arabia

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached					
Green infrastructure investments			◆		
Green R&D subsidies		◆			
Subsidies or tax reductions for green products					
Nature Based Solutions					
Conservation and wildlife protection programmes					
Subsidies for environmentally harmful activities		◆			
Environmentally harmful infrastructure investments					
Deregulation of environmental standards					
Environmentally related bailout without green strings					
Subsidies or tax reductions for environmentally harmful products		◆			

Source: Vivid Economics

• Underlying sector context (b₁)

Performance on key indicators is critically insufficient to achieve environmental targets.

• Specific environmental measures (b₂)

- To encourage economic activity, the government cut electricity payments for businesses in the commercial, industrial and agricultural sectors by as much as 50%. The programme cost US\$240 million. Saudi Arabia's electricity is generated almost entirely using fossil fuels.²⁹⁸ Additionally, the government halved the price of petroleum domestically "to adjust domestic fuel prices according to changes in export prices of crude oil."²⁹⁹

- In 2021, the government approved a few unquantified climate-friendly policies. For example, the country signed with Germany in March 2021 a Declaration of Intent to cooperate on green hydrogen.³⁰⁰ In April, the government announced that its new investment programme will support funding for a tourism project at the Red Sea, which Saudi Arabia committed will be net zero.^{301, 302} These policies contributed to a very slight increase in Saudi Arabia's index score in this edition.

²⁹⁷ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

²⁹⁸ Saudi Press Agency (2020). <https://www.spa.gov.sa/viewfullstory.php?lang=en&newsid=2075121>. Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/saudi-arabia/>

²⁹⁹ Saudi Press Agency (2020). <https://www.spa.gov.sa/viewfullstory.php?lang=en&newsid=2084858>. Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/saudi-arabia/>

³⁰⁰ Energy Policy Tracker (2021). <https://energypolicytracker.org/country/germany>

³⁰¹ Aljazeera (2021). <https://www.aljazeera.com/economy/2021/3/31/saudi-launches-1-3-trillion-private-sector-investment-push>

³⁰² Gulf News (2021).

<https://gulfnews.com/business/analysis/saudi-arabias-new-investment-programme-could-be-a-big-leap-for-the-economy-1.161772442564>

1.22 Singapore

Singapore has passed US\$89 billion in fiscal stimulus measures.

Composition of stimulus: Singapore's stimulus package includes healthcare support, as well as a stabilisation and support initiative to provide a cushion for local businesses and workers under the Job Support Scheme. Welfare measures are provided in the form of a cash payout for households, wage support for workers, training support for the self-employed, cash grants for SME's tenants, and financing support for start-ups. Specific sector measures include a US\$396 million aviation support package, a US\$302 million tourism support package, and a US\$409 million package to support arts, culture and businesses in digital transformation. In February 2021, Singapore announced that US\$8 billion will be set aside in the Budget 2021 for the COVID-19 Resilience Package.^{303, 304} The package includes measures to support public health, workers and businesses under stress, and funds for sectors particularly hit by the pandemic such as transport and the arts. In May 2021, the government announced further temporary measures worth US\$600 million to support workers, businesses and individuals.³⁰⁵

Singapore's index score continues to be driven by a critically insufficient environmental baseline performance coupled with potentially harmful stimulus measures. Support for the aviation sector as well tax and private car drivers contribute to a slight decrease in Singapore's score in this edition.

Table 24 | Archetype policies announced by Singapore

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached					
Green infrastructure investments					
Green R&D subsidies					
Subsidies or tax reductions for green products					
Nature Based Solutions					
Conservation and wildlife protection programmes					
Subsidies for environmentally harmful activities	◆		◆	◆	
Environmentally harmful infrastructure investments					
Deregulation of environmental standards					
Environmentally related bailout without green strings				◆	
Subsidies or tax reductions for environmentally harmful products			◆	◆	

Source: Vivid Economics

³⁰³ Singapore Government (2021). <https://www.gov.sg/article/budget-2021-covid-19-resilience-package>

³⁰⁴ ASEAN Briefing (2021). <https://www.aseanbriefing.com/news/singapores-resilience-package-support-for-businesses-and-jobs-in-2021/>

³⁰⁵ IMF Policy Tracker (2021). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

• Underlying sector context (b₁)

Performance on key indicators is critically insufficient to achieve environmental targets.³⁰⁶

• Specific environmental measures (b₂)

• As part of the Resilience Budget announced in March 2020, the Singaporean government provided US\$258 million of aviation support, which included measures such as rebates on landing and parking charges, as well as rental relief for airlines³⁰⁷. Additionally, the government announced in August 2020 an allocation of US\$138 million to the Enhanced Aviation Support Package to extend support for the environmentally intensive aviation sector from November 2020 to March 2021³⁰⁸. In February 2021, another US\$648 million was allocated to preserve critical capabilities and extend cost relief of the aviation sector,³⁰⁹ which negatively impacted Singapore's index score in this edition.

• The government allocated US\$70 million of point-to-point (P2P) support packages, which allowed taxi and private hire car drivers to receive special relief fund payments of SG\$300 (US\$220) per vehicle per month until September 2020. To help private bus owners, the government allocated US\$17 million to provide a one-year road tax rebate and six-month waiver of parking charges at government-managed parking facilities³¹⁰. Most recently, in February 2021, the government allocated a further US\$99 million for the relief of taxis and private car drivers, contributing to a decrease in the country's score.³¹¹

• Under a Property Tax Rebate, qualifying commercial properties that have been affected by COVID-19, including hotels, serviced apartments, tourist attractions, shops, and restaurants, will pay no property tax in 2020. Meanwhile, businesses in other non-residential properties such as offices and industrial properties were granted a 30% tax rebate for the year 2020³¹². This measure has cost the government US\$1.47 billion.

• As part of the Fortitude Budget announced in May 2020, the government increased the level of wage support to 75% (from 25%) for firms in the aerospace sector until August 2020 or until when they are allowed to re-open³¹³.

³⁰⁶ The most recent CCPI score (used to construct the baseline score) available for Singapore is from 2017. To account for this, we adjusted Singapore's baseline weighting to only incorporate its Environmental Performance Index score and Climate Action Tracker score.

³⁰⁷ Singapore Government Agency (2020). https://www.singaporebudget.gov.sg/budget_2020/resilience-budget/supplementary-budget-statement

³⁰⁸ Ministry of Transport Singapore (2020). <https://www.mot.gov.sg/news-centre/news/detail/extension-of-support-to-the-aviation-sector>

³⁰⁹ Singapore Government (2021). <https://www.gov.sg/article/budget-2021-covid-19-resilience-package>; ASEAN Briefing (2021).

<https://www.aseanbriefing.com/news/singapores-resilience-package-support-for-businesses-and-jobs-in-2021/>

³¹⁰ Ministry of Transport Singapore (2020). <https://www.mot.gov.sg/news-centre/news/detail/extension-of-support-to-the-aviation-sector>

³¹¹ Singapore Government (2021). <https://www.gov.sg/article/budget-2021-covid-19-resilience-package>; ASEAN Briefing (2021).

<https://www.aseanbriefing.com/news/singapores-resilience-package-support-for-businesses-and-jobs-in-2021/>

³¹² Ministry of Transport Singapore (2020). <https://www.mot.gov.sg/news-centre/news/detail/extension-of-support-to-the-aviation-sector>

³¹³ Singapore Government Agency (2020). https://www.singaporebudget.gov.sg/budget_2020/fortitude-budget/fortitude-budget-statement

1.23 South Africa

South Africa has passed US\$38 billion in fiscal stimulus measures.³¹⁴

Composition of stimulus: South Africa's stimulus package includes support for the immediate response to the crisis in healthcare and welfare measures, alongside specific support for businesses. The government has extended welfare measures as well as loan guarantees and tax measures to businesses. Specific support has been granted for businesses in the tourism and hospitality sectors, as well as in the agriculture sector, which includes direct payments to small farmers. The October 2020 'Economic Reconstruction and Recovery Plan' includes provisions for infrastructure, job creation, and energy security. In January 2021, the government announced a US\$84 million Tourism Equity Fund.

South Africa continues to score poorly on key indicators, having previously introduced potentially damaging measures. Renewable energy goals from October's stimulus plan have improved the country's score in the past. In this update, South Africa's score sees a slight increase due to policies on climate transition and renewable energy procurement.

Table 25 | Archetype policies announced in South Africa

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached					
Green infrastructure investments		◆			
Green R&D subsidies					
Subsidies or tax reductions for green products					
Nature Based Solutions					
Conservation and wildlife protection programmes					
Subsidies for environmentally harmful activities					
Environmentally harmful infrastructure investments		◆			
Deregulation of environmental standards		◆	◆		
Environmentally related bailout without green strings		◆	◆	◆	
Subsidies or tax reductions for environmentally harmful products		◆			

Source: Vivid Economics

³¹⁴ <https://mg.co.za/article/2020-04-21-ramaphosa-announces-r500-billion-covid-19-package-for-south-africa/>

• Underlying sector context (b₁)

Performance on key indicators is critically insufficient to achieve environmental targets.

• Specific environmental measures (b₂)

• The South African government has provided a bailout to an unnamed polluting energy provider. This is in the form of an overpayment of approximately US\$300 million.³¹⁵ It has also been announced that variable sources of energy such as wind power are being reduced in response to reduced demand for energy during COVID-19.³¹⁶ Further measures to support South Africa's polluting energy and industry sectors include a relaxation of some environmental regulations³¹⁷ and the delay of carbon tax payments.³¹⁸ Relaxation of environmental standards has included some environmental justice concerns as well, such as a provision that undermines the rights of affected communities to protest against mining projects.³¹⁹ Additionally, October's medium-term budget plan included an unconditional bailout to South African Airways.³²⁰

• Recent stimulus measures, such as procurement of new generation capacity to boost the utility sector and provide for South Africa's future energy needs, contain both positive and negative aspects. Although 6,800 MW are designated to come from renewable sources, 4,500 MW are also designated to come from coal and gas.³²¹

• South Africa's newest stimulus package titled the 'Economic Reconstruction and Recovery Plan' has a mostly positive effect on the country's index score. A hefty investment in general infrastructure is likely to contribute negatively, but is counter-balanced by a commitment to greater investment in renewable energy to secure South Africa's energy future.³²²

• Most recently, the government unveiled some liquefied natural gas (LNG) 'emergency' projects,³²³ but it also launched a new bid window for the procurement of new wind and solar infrastructure.³²⁴

³¹⁵ News 24 (2020). <https://www.news24.com/citypress/business/eskom-dodges-question-on-company-that-got-r5bn-overpayment-20200531> , Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/south-africa>

³¹⁶ Eskom (2020). <http://www.eskom.co.za/news/Pages/2020Apr1.aspx> , Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/south-africa>

³¹⁷ IOL (2020). <https://www.iol.co.za/saturday-star/news/government-locks-sa-into-deadly-air-pollution-amid-covid-19-pandemic-45895850> , Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/south-africa>

³¹⁸ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/south-africa> , <https://www.sars.gov.za/AllDocs/LegalDoclib/Drafts/LAPD-LPrep-Draft-2020-22%20-%20Explanatory%20Notes%20on%20Further%20COVID-%2019%20Tax%20measures.pdf>

³¹⁹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/south-africa> , <https://www.dailymaverick.co.za/opinionista/2020-03-30-mantashe-uses-state-of-disaster-to-escape-accountability/>

³²⁰ Government of South Africa (2020). <https://www.gov.za/speeches/minister-tito-mboweni-medium-term-budget-policy-statement-28-oct-2020-0000>

³²¹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/south-africa> ,

<http://www.dmr.gov.za/news-room/post/1866/minister-mantashe-welcomes-nersa-concurrence-to-ministerial-determination-for-the-procurement-of-11-813-mw-of-power>

³²² Government of South Africa (2020).

<https://www.gov.za/speeches/president-cyril-ramaphosa-south-africa%E2%80%99s-economic-reconstruction-and-recovery-plan-15-oct>

³²³ Energy Policy Tracker (2021). <https://www.energypolicytracker.org/country/south-africa>

³²⁴ Energy Policy Tracker (2021). <https://www.energypolicytracker.org/country/south-africa>



1.24 South Korea

South Korea has passed fiscal stimulus equal to US\$341 billion.

Composition of stimulus:³²⁵ South Korea's fiscal stimulus includes a variety of measures including loans and guarantees for business operations, an employment retention support scheme, and wage and rent support for small business operations. An additional 'Key Industries' fund was also introduced, extending KRW 40 trillion (US\$33 billion) in loans to industries most affected by COVID-19.³²⁶ In July 2020, the Korean government announced substantial support for a 'New Deal', which includes specific funding for digital and green initiatives. The package, for US\$130 billion, includes US\$17 billion to be provided by the private sector, which we exclude from the analysis. South Korea 2021 Budget included stimulus measures to support SMEs, employee retention and low-income earners. These measures were extended and increased in the 2021 Supplementary Budget which was passed in March 2021, which also includes funding for the rollout of the vaccine.³²⁷

South Korea's index performance continues to be driven by support for the 'New Deal', which has improved a score that previously struggled due to poor underlying environmental performance.³²⁸

Table 26 | Archetype policies announced in South Korea

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached					
Green infrastructure investments		◆	◆	◆	◆
Green R&D subsidies		◆	◆	◆	
Subsidies or tax reductions for green products				◆	
Nature Based Solutions					
Conservation and wildlife protection programmes					
Subsidies for environmentally harmful activities				◆	
Environmentally harmful infrastructure investments					
Deregulation of environmental standards					
Environmentally related bailout without green strings			◆	◆	
Subsidies or tax reductions for environmentally harmful products				◆	

Source: Vivid Economics

³²⁵ IMF Policy tracker (2020) <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>, Pulse News (2020)

³²⁶ Financial Service Commissions (2020). https://www.fsc.go.kr/eng/new_press/releases.jsp?menu=01&bbsid=BBS0048&selYear=&sch1=&sword=&nxPage=1

³²⁷ Korean Government (2021). <https://m.korea.net/english/Government/Briefing-Room/Press-Releases/view?articleId=5080&type=N>

³²⁸ South Korea's index score decreased slightly since the last update of this report; this is not due to any new negative policies but instead due to a more detailed review of the Korean New Deal's allocation by sector.

• Underlying sector context (b₁)

Performance on key indicators is highly insufficient to achieve environmental targets.

• Specific environmental measures (b₂)

• On July 14 2020, South Korea announced a further stimulus package of US\$130 billion to provide funding for the Korean 'New Deal' and to support jobs. Alongside funding for digitalisation projects, the 'New Deal' focuses on a variety of initiatives to support a sustainable transition, including funding for renewables, support for electric and hydrogen vehicles, and energy efficiency in buildings. The government has committed to a total of US\$63 billion in green funding before 2025, which is a large proportion of total Korean stimulus and drives a substantial improvement in the country's index score.³²⁹ The 'New Deal' also includes investments from the private sector into green and digital infrastructure projects, excluded from the country's GSI. The Korean New Deal mentions that South Korea will aim for a net-zero emissions society, but critically does not include a net-zero timeframe, nor a new greenhouse emissions target for 2030. According to the Korean Government, the 'New Deal' is expected to reduce approximately 12.3 million tons of greenhouse gas emissions up to 2025.³³⁰

• In contrast to the government's long-term green goals, South Korea increased tax relief for the car manufacturing industries from March to June 2020, and provided additional aid to the industry.³³¹ The tax deduction for carmakers of 30%, which was supposed to end in 2020, has been extended in an effort to boost export sales.³³² This tax deduction does not offer any conditions or additional incentives for electric or hydrogen vehicles. Furthermore, the car sales tax of 5% on new vehicles has been lowered to 1.5% for consumers, to stimulate demand and is similarly without a green conditional component.

• Other environmentally damaging measures include support for airlines, at almost US\$2.5 billion³³³, as well as the bailout in early April 2020 of Doosan Heavy Industry, the country's largest producer of coal plants, by the Korean Development Bank and the Import-Export Bank of Korea. The company has received a total of US\$3 billion.³³⁴

³²⁹ Vivid Economics estimate excluding contributions by the private sector. Base on YNA (2020). <https://en.yna.co.kr/view/AEN20200714004851320>.

³³⁰ Korea Ministry of Environment (2020).

<http://eng.me.go.kr/eng/web/board/read.do;jsessionid=X2JozeG+9RDy+FdW5W+N3NRz.oardCategoryId=&decorator=&firstItemIndex=>

³³¹ Pulse News Korea (2020) <https://pulsenews.co.kr/view.php?year=2020&no=217288>

³³² KPMG Insights (2020). <https://home.kpmg/xx/en/home/insights/2020/04/south-korea-tax-developments-in-response-to-covid-19.html>

³³³ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/republic-of-korea>, Nikkei (2020).

<https://asia.nikkei.com/Business/Transportation/Virus-hit-Korean-Air-and-Asiana-offered-2bn-bailout>.

³³⁴ Climate Change News (2020).

<https://www.climatechangenews.com/2020/05/06/south-korean-government-backs-2-billion-bailout-coal-company-despite-green-finance-pledge/>

Pulse News Korea (2020) <https://pulsenews.co.kr/view.php?year=2020&no=439931>

Reuters (2020)

<https://www.reuters.com/article/us-column-russell-renewables-coal/column-do-renewables-hold-the-upper-hand-against-coal-in-post-coronavirus-world-russell-idUSKBN22Q0W1>

1.25 Spain

Spain has passed a total of US\$358 billion in fiscal measures as a response to COVID-19.³³⁵

Composition of stimulus: Spain's fiscal stimulus includes a variety of measures to support households and businesses. Alongside announced health and welfare measures, Spain's package includes loan guarantees of US\$126 billion and other smaller measures to support businesses. There is substantial support for environmentally related sectors, including the US\$1.1 billion bailout of Iberia and Vueling airlines.³³⁶ Spain has recently outlined its plan (the 'Recovery, Transformation and Resilience Plan') to utilise a large share of support from the EU to support more specific green stimulus measures, which has radically improved Spain's index score.³³⁷ In March 2021, Spain approved a package worth US\$13 billion mostly directed towards supporting SMEs and self-employed workers.³³⁸ Most recently, a 2021 fund to finance the extraordinary deficit of public transport services of local entities was announced, totaling close to US\$500 million.

Spain's positive score is driven largely by its Recovery, Transformation and Resilience Plan, despite poor underlying environmental performance. Spain's recent support for SMEs enhances this status quo of poor underlying environmental performance. Climate positive initiatives such as support for public transport do, however, contribute to a net increase in Spain's index score in this update.

Table 27 | Archetype policies announced in Spain

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached					
Green infrastructure investments	◆	◆	◆	◆	
Green R&D subsidies					
Subsidies or tax reductions for green products				◆	
Nature Based Solutions					
Conservation and wildlife protection programmes					
Subsidies for environmentally harmful activities					
Environmentally harmful infrastructure investments					
Deregulation of environmental standards					
Environmentally related bailout without green strings				◆	
Subsidies or tax reductions for environmentally harmful products					

Source: Vivid Economics

³³⁵ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

³³⁶ Reuters (2020).

<https://www.reuters.com/article/us-health-coronavirus-iag-debt/iags-spanish-airlines-secure-1-1-billion-of-state-backed-loans-idUSKBN22D56D>

³³⁷ Government of Spain (2020). https://www.lamoncloa.gob.es/presidente/actividades/Paginas/2020/071020-sanchez_plan.aspx

³³⁸ AA (2021). <https://www.aa.com.tr/en/europe/covid-19-spain-s-parliament-passes-13b-relief-package/2188461>

• Underlying sector context (b₁)

Performance on key indicators is insufficient to achieve environmental targets, but better than most other countries included in the GSI.

• Specific environmental measures (b₂)

- Spain has announced specific support for airlines, with bailouts to Iberia and Vueling airlines totaling US\$1.1 billion, without attachment of green conditions.³³⁹ Air Europa was also supported by investments totaling US\$523 million in November 2020.³⁴⁰

- The Spanish government has, however, provided support for green transport.³⁴¹ This includes a variety of infrastructure investments to support the development of green transport networks, as well as funding for R&D into sustainable transport, including hydrogen-fuelled public transport, and professional training for jobs in sustainable transport.³⁴² Spain also passed a Royal Decree supporting the viability of public transport and promoting the use of biofuels. Most recently, the government has approved an extension of the initial aid for the MOVES II Plan as well as the MOVES III Plan, both of which are aimed at renewing the vehicle fleet towards a more modern and efficient one.³⁴³ In June 2021, a US\$500 million fund was created to finance the deficit of 273 local public transport entities, contributing to an increase in Spain's score in this update.

- Spain's most notable green stimulus measures come from the 'Recovery, Transformation and Resilience Plan for the Spanish Economy', a US\$85 billion plan that draws from European Union resources via the 'Next Generation' instrument. Of that larger plan, 37% is earmarked for environmentally beneficial purposes. It includes US\$13.5 billion for sustainable agriculture and urban development, US\$10 billion for resilient and low emissions infrastructure in transport, industry and energy, and US\$7.6 billion for renewable energy development. These large measures radically improve Spain's overall index performance.

- Additionally, in September 2020, Spain allocated US\$225 million to five autonomous communities (Aragon, Cantabria, the Valencian Community, La Rioja and Melilla) for the construction of renewable energy facilities.³⁴⁴

- Several measures were also passed to improve energy efficiency and security. For example, a Royal Decree was passed to reduce barriers to national grid energy provision for renewable energy plants.³⁴⁵ Most recently, the government funded a variety of programmes which supports, for example, energy efficiency in agricultural holdings and energy diversification for businesses.³⁴⁶ Spain also provided additional aid for its Building Energy Rehabilitation Program.³⁴⁷

- In May 2021, the Spanish Parliament approved legislation on climate change and energy transition. The Climate Change Law allows for an established and strong framework in the fight against climate change, following the legal and policy framework of the Paris Agreement. The law will give a legal basis to the country's climate and energy transition commitments, and contributed positively to Spanish's index score in this update.

³³⁹ Reuters (2020).

<https://www.reuters.com/article/us-health-coronavirus-iag-debt/iags-spanish-airlines-secure-1-1-billion-of-state-backed-loans-idUSKBN2D56D>

³⁴⁰ Government of Spain (2020). <https://www.lamoncloa.gob.es/consejodeministros/Paginas/enlaces/210720-fondo-empresas.aspx>

³⁴¹ Bloomberg (2020). <https://www.bloomberg.com/news/articles/2020-06-15/spain-s-auto-industry-to-get-4-2-billion-in-government-stimulus>

³⁴² Carbon Brief (2020). <https://www.carbonbrief.org/coronavirus-tracking-how-the-worlds-green-recovery-plans-aim-to-cut-emissions>, Spanish Government (2020). https://www.lamoncloa.gob.es/serviciosdeprensa/notasprensa/transportes/Documents/2020/15062020_PlanAutomocion2.pdf.

³⁴³ Energy Policy Tracker (2021). Spain - Energy Policy Tracker

³⁴⁴ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/spain/>,

<https://www.miteco.gob.es/es/prensa/ultimas-noticias/el-idae-destina-24-millones-de-euros-en-la-segunda-tanda-de-convocatorias-para-financiarc%C3%B3n-d-e-proyectos-renovables-innovadores-en-cinco-comunid/tcm:30-512142>

³⁴⁵ Energy Policy Tracker (2021). Spain - Energy Policy Tracker

³⁴⁶ Energy Policy Tracker (2021). Spain - Energy Policy Tracker

³⁴⁷ Energy Policy Tracker (2021). Spain - Energy Policy Tracker

1.26 Sweden

Sweden has passed a total of US\$72 billion in COVID-19 fiscal stimulus measures.³⁴⁸

Composition of stimulus: Sweden's index constitutes an array of tax deferrals, private sector bailouts, and credit guarantees, coupled with energy efficiency investments, green transition encouragement and support for a circular economy.³⁴⁹ As elsewhere, sizeable supports to existing healthcare infrastructure (US\$5.3 billion) dominated the first stimulus release, however, funds directed to the protection of natural areas, emissions reduction initiatives, and public transport development increasingly characterise this successfully green stimulus.³⁵⁰ In April 2021, the government proposed stimulus totalling about US\$ 5 billion in extended compensation in the area of health insurance, support for companies, culture and sport, and other measures on account of the COVID-19 virus.

Sweden's positive index score is driven by a positive baseline score, coupled with targeted investment to environmentally relevant sectors.

Table 28 | Archetype policies announced in Sweden

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached				◆	
Green infrastructure investments	◆	◆	◆	◆	
Green R&D subsidies				◆	
Subsidies or tax reductions for green products		◆			
Nature Based Solutions	◆				
Conservation and wildlife protection programmes	◆				
Subsidies for environmentally harmful activities	◆				
Environmentally harmful infrastructure investments					
Deregulation of environmental standards					
Environmentally related bailout without green strings	◆			◆	
Subsidies or tax reductions for environmentally harmful products			◆		

Source: Vivid Economics

³⁴⁸ ADB Covid-19 Policy Database (2021). Sweden | ADB COVID-19 Policy Database

³⁴⁹ Government Offices of Sweden (2020). Government.se - Government.se

³⁵⁰ Government Offices of Sweden (2020). Government.se - Government.se

• Underlying sector context (b₁)

Performance on key indicators is fairly sufficient to achieve environmental targets.

• Specific environmental measures (b₂)

• Sweden's focus on ensuring a green transition post-Covid sees the country perform admirably in this update. US\$17 billion is dedicated to the national green jobs initiative, championing the role of nature-based solutions in economic recovery through forestry and nature conservation.³⁵¹

• The Swedish energy sector has received sizeable investments throughout the crisis to improve efficiency of dwellings and reduce emissions, with US\$830 million dedicated to such programmes.³⁵²

• Sweden's final score is negatively influenced by the commitment of nearly US\$800 million in tax reductions³⁵³ to promote investment without accompanying green conditions. In addition, funds have been directed towards rural development initiatives³⁵⁴, which act against wider conservation principals.

• Sweden allocated US\$33 million to the post-Covid industrial transition, further boosting the country's index score.³⁵⁵ Over three years, the government will invest this sum in accordance with accelerated net-zero targets, phasing out fossil fuel use in industry and throughout the value chain.

• If approved, the government's 2021 Spring Amending Budget proposal includes some measures supporting public and rail transport, forestry, and the green economy in general, which are expected to lead to a slight positive increase in Sweden's index score.

³⁵¹ Government Offices of Sweden (2020). Green jobs important measure to tackle unemployment during COVID-19 crisis - Government.se

³⁵² Government Offices of Sweden (2020). The Budget for 2021 in five minutes - Government.se

³⁵³ Government Offices of Sweden (2020). The Budget for 2021 in five minutes - Government.se

³⁵⁴ RDP Key Facts and Figures (2015). PowerPoint Presentation (europa.eu)

³⁵⁵ Government Offices of Sweden (2020). Sweden supports programme for climate transition of energy-intensive industries in developing countries - Government.se

1.27 Switzerland

Switzerland has passed a total of US\$80 billion in COVID-19 fiscal stimulus measures.³⁵⁶

Composition of stimulus: Switzerland's first package provided US\$11 billion in immediate aid to businesses and workers, through loan guarantees and financial aid for SMEs and partial unemployment compensation.³⁵⁷ Its second package extended the partial unemployment compensations, and provided additional social support and US\$2.2 billion in bridging loans to SMEs.³⁵⁸ A number of additional measures were implemented throughout April, July and August 2020, including several green initiatives such as the conditional bailout of Lufthansa, and funding for the development of renewable energies. The Swiss Parliament is also currently working on strengthening Swiss CO₂ legislation.³⁵⁹ December 2020 there was a US\$1.7 billion extension to the national hardship support programme³⁶⁰ which was further extended in the January and February 2021 stimulus packages, along with funding for public health and individuals.³⁶¹ In March 2021, the Federal Council adopted an Addendum to the 2021 Budget which includes US\$2.5 billion mainly for COVID-19 testing.³⁶² In April 2021, a US\$670 million addition to the first supplementary budget was adopted, focusing on providing support for the health and entertainment sectors, as well as for the Access to Covid-19 Tools Accelerator global initiative. Switzerland also announced a strategy to orient the transition of economic policies as the situation improves. The strategy is organised around 3 pillars: normalization, support for structural change, and revitalization.

Switzerland's positive score is driven by its positive baseline score and significant green stimulus measures in the transportation sector. The recent stimulus measures reinforce the status quo, and lead to a small decrease in the index in this update, as Switzerland is dragged towards its baseline score, which is lower than its current index score. Anticipated measures from the National Energy Commission³⁶³ to encourage the adoption of climate-friendly energy may see Switzerland's score restored in the near future.

Table 29 | Archetype policies announced in Switzerland

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached				◆	
Green infrastructure investments	◆	◆		◆	
Green R&D subsidies					
Subsidies or tax reductions for green products					
Nature Based Solutions					
Conservation and wildlife protection programmes	◆				
Subsidies for environmentally harmful activities					
Environmentally harmful infrastructure investments					
Deregulation of environmental standards					
Environmentally related bailout without green strings			◆		
Subsidies or tax reductions for environmentally harmful products					

Source: Vivid Economics

³⁵⁶ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

³⁵⁷ The Federal Council (2020). <https://www.admin.ch/gov/de/start/dokumentation/medienmitteilungen/bundesrat.msg-id-78437.html>

³⁵⁸ The Federal Council (2020). <https://www.admin.ch/gov/de/start/dokumentation/medienmitteilungen/bundesrat.msg-id-78515.html>

³⁵⁹ Federal Office for the Environment (2020). <https://www.bafu.admin.ch/bafu/fr/home/themes/climat/droit/totalrevision-co2-gesetz.html>

³⁶⁰ IMF Policy Tracker (2021). Policy Responses to COVID19 (imf.org)

³⁶¹ IMF Policy Tracker (2021). Policy Responses to COVID19 (imf.org)

³⁶² IMF Policy Tracker (2021). Policy Responses to COVID19 (imf.org)

³⁶³ The Federal Assembly - The Swiss Parliament (2020). Erneuerbare Energien weiter fördern (parlament.ch)

• Underlying sector context (b₁)

Performance on key indicators is relatively good to achieve environmental targets.³⁶⁴

• Specific environmental measures (b₂)

- Switzerland's conditional bailout of Lufthansa, support for public transportation and new levy on air tickets are significant green transportation initiatives which contribute to Switzerland's positive score. The US\$1.4 billion loan guarantee for Lufthansa was provided on condition that the airline develops climate objectives in cooperation with the country's Federal Council. The non-binding environmental regulations imposed on the airlines are a step in the right direction, though many environmentalists feel that stronger, binding conditions are required.³⁶⁵

- Green energy investments have focused most on solar energy and photovoltaic installations. US\$47.8 million was provided by the Federal Department of Environment, Transport, Energy and Communications to shorten the waiting times for one-off incentives for large and small photovoltaic installations, and assure the continued development of renewable energies.³⁶⁶

- Switzerland's score is negatively affected, however, by its large unconditional industry bailouts. Its first stimulus package provided US\$1.68 billion in unconditional financial aid to particularly affected firms, and subsequent packages added US\$44 billion in total loan guarantees.³⁶⁷

- Switzerland will increase its contributions to the Green Climate Fund by 50%, providing US\$150 million over the next three years. The Green Climate Fund supports developing countries in implementing the UN Framework Convention on Climate Change by funding investments in sustainable agriculture, forest protection, and clean energy.³⁶⁸

- The Swiss Parliament is currently working on strengthening Swiss CO₂ legislation. Half of revenues from the new levy on air tickets will be allocated to the new Climate Fund, which will support innovation and investments in emissions reduction. The Climate Fund will also provide cantons and communes with financial support for projects aimed at reducing GHG emissions.³⁶⁹

- In January 2021, Switzerland fulfilled one of its Paris Agreement terms by adopting a long-term climate strategy for the country, and approving the submission of the strategy to the UN Climate Change Secretariat.³⁷⁰

³⁶⁴ As Switzerland is landlocked, the nature component of their score is determined solely by their 'life above land' score.

³⁶⁵ The Swiss Parliament (2020). <https://www.parlament.ch/press-releases/Pages/mm-fk-n-s-2020-05-02.aspx?lang=1033>, Platform 2020 Redesign (2020). <https://platform2020redesign.org/countries/switzerland/>, The Economic Times (2020).

<https://energy.economictimes.indiatimes.com/news/renewable/swiss-environmentalists-demand-green-recovery-after-coronavirus/75535506>

³⁶⁶ Federal Office of Energy (2020). <https://www.bfe.admin.ch/bfe/fr/home/actualites-et-medias/communiqués-de-presse/mm-test.msg-id-78836.html>

³⁶⁷ The Federal Council (2020). <https://www.admin.ch/gov/de/start/dokumentation/medienmitteilungen.msg-id-78684.html>,

<https://www.admin.ch/gov/de/start/dokumentation/medienmitteilungen/bundesrat.msg-id-78515.html>,

<https://www.admin.ch/gov/de/start/dokumentation/medienmitteilungen/bundesrat.msg-id-78437.html>

³⁶⁸ SWI Swissinfo (2020).

<https://www.swissinfo.ch/eng/switzerland-to-substantially-boost-funding-of-green-climate-fund/45977814#:~:text=Switzerland%20will%20commit%20%24150%20million,and%20adapt%20to%20climate%20change.&text=The%20Alpine%20nation's%20contribution%20will,for%20the%202020%2D2023%20period.>

³⁶⁹ Platform 2020 Redesign (2020). <https://platform2020redesign.org/countries/switzerland/>

³⁷⁰ Federal Office for the Environment (2021).

<https://www.bafu.admin.ch/bafu/en/home/topics/climate/info-specialists/emission-reduction/reduction-targets/2050-target/climate-strategy-2050.html>

1.28 Turkey

Turkey has passed US\$102 billion in fiscal stimulus measures.³⁷¹

Composition of stimulus: Following an initial package of around US\$14 billion, Turkey announced a larger, second package of measures in June 2020 to support the economic response to COVID-19. Since the previous releases, additional specificity and policy information has been added, including the recently announced new subsidy scheme for tradesmen³⁷². Most recently, Turkey approved a stimulus measure worth US\$3.2 billion, which extends lease contracts and cancellation of lease payments for airport facilities³⁷³ and is the primary driver behind the slight decrease in Turkey's index score in this edition.

Turkey's index score is driven largely by its poor performance across the baseline environmental indicators and a lack of targeted green stimulus measures.

Table 30 | Archetype policies announced in Turkey

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached					
Green infrastructure investments		◆			
Green R&D subsidies					
Subsidies or tax reductions for green products		◆		◆	
Nature Based Solutions					
Conservation and wildlife protection programmes					
Subsidies for environmentally harmful activities				◆	
Environmentally harmful infrastructure investments					
Deregulation of environmental standards		◆		◆	
Environmentally related bailout without green strings		◆		◆	
Subsidies or tax reductions for environmentally harmful products		◆		◆	

Source: Vivid Economics

³⁷¹ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

³⁷² IMF Policy Tracker (2021). Policy Responses to COVID19 (imf.org)

³⁷³ Energy Policy Tracker (2021). <https://www.energypolicytracker.org/country/turkey/>

• Underlying sector context (b₁)

Performance on key indicators is critically insufficient to achieve environmental targets.

• Specific environmental measures (b₂)

- Turkey's stimulus package includes unconditional support for Turkish Airlines,³⁷⁴ and bailouts to the underground mining sector.³⁷⁵ Most recently, the government announced a stimulus measure worth US\$3.2 billion, which extends lease contracts and cancellation of lease payments for airport facilities.³⁷⁶ This policy is the main driver behind Turkey's decrease in score in this edition.

- Turkey's Ministry of Energy and Natural resources has committed to covering the financial costs resulting from the postponement of accrued electricity and/or natural gas bill.³⁷⁶⁷ This negatively impacts Turkey's index score, because more than 70% of Turkey's energy is derived from fossil fuels.³⁷⁸ Further support for the energy sector comes in the form of price support. The price of gas sold to natural gas power plants was reduced by 12.5% and a discount of 9.5% was given to industrial and commercial subscribers.³⁷⁹ The reduction and postponement of regulations relating to the oil sector also contribute negatively to Turkey's index score.³⁸⁰

- Other measures negatively impacting Turkey's score include the approval in February 2021 of an increased special consumption tax for electric vehicles.³⁸¹

- The Turkish government has announced some positive measures, however, including the introduction of a 'Green Tariff' for power derived from renewable energy, and support for solar power.³⁸² In addition, Turkey has extended the Renewable Energy Support Scheme in September 2020,³⁸³ -and also provided new feed-in tariff rates for the Scheme in January 2021.³⁸⁴ The government has also committed to increasing solar energy production capacity by 1 GW.³⁸⁵ Most recently, the government provided a US\$7 million incentive towards the establishment of a new battery and EVs production facility.³⁸⁶

³⁷⁴ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

³⁷⁵ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/turkey>, <https://www.resmigazete.gov.tr/eskiler/2020/03/20200325-2.pdf>

³⁷⁶ Energy Policy Tracker (2021). <https://www.energypolicytracker.org/country/turkey/>

³⁷⁷ Ministry of Energy and Natural Resources (2020). <https://www.resmigazete.gov.tr/eskiler/2020/06/20200610-10.htm>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/turkey>

³⁷⁸ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/turkey>

³⁷⁹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/turkey>, Botas (2020). <https://www.botas.gov.tr/>

³⁸⁰ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/turkey>, MAPEG (2020). http://www.mapeg.gov.tr/Duyurular/2904_duyuru.aspx.

³⁸¹ Energy Policy Tracker (2021). <https://www.energypolicytracker.org/country/turkey/>; Bianet (2021).

<https://m.bianet.org/english/environment/238551-turkey-increases-special-consumption-tax-on-electric-vehicles>

³⁸² Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/turkey>, Daily Sabah (2020).

<https://www.dailysabah.com/business/energy/turkey-to-offer-green-only-power-tariff-as-of-august>

³⁸³ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/turkey/>, <https://www.resmigazete.gov.tr/eskiler/2020/09/20200918-8.pdf>

³⁸⁴ Energy Policy Tracker (2021). <https://www.energypolicytracker.org/country/turkey/>

³⁸⁵ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/turkey/>

³⁸⁶ Energy Policy Tracker (2021). <https://www.energypolicytracker.org/country/turkey/>

1.29 United Kingdom

The United Kingdom has passed US\$847 billion in fiscal measures in response to COVID-19.³⁸⁷

Composition of stimulus: The recent release of the United Kingdom's annual spending review allocated more than US\$67 billion to COVID-19 related expenditures throughout the coming financial year, notably including US\$7.4 billion dedicated to the development and procurement of vaccines, and US\$18.4 billion targeted at improving the country's existing 'test and trace' infrastructure.³⁸⁸ Such recent investments are complemented by several environmentally relevant policy commitments, seeing the UK's overall index score climb to a position of strong competitiveness alongside its European peers. The United Kingdom's earlier stimulus packages included a range of measures to fund healthcare, to support workers, and provide specific support for businesses. There has been substantial support for the transport sector, including a US\$2 billion bailout for London's transport authority TfL,³⁸⁹ a US\$6.1 billion investment in transport infrastructure,³⁹⁰ and support for airlines. In November 2020, the UK released the much anticipated 'Ten Point Plan for a Green Industrial Revolution' which increased clean stimulus by nearly US\$12 billion, and increased the country's GSI score significantly, pushing the United Kingdom to third place and overtaking Spain. The National Infrastructure Strategy, released shortly thereafter, reiterated those positive plans, but also committed to some investments that are neutral at best, such as road building. In March 2021, an additional fiscal stimulus package of US\$81 billion was announced, split between virus-related measures and measures to boost recovery.³⁹¹

The UK scores relatively well on baseline indicators, and has several specific green stimulus measures, resulting in a positive index score. Its Ten Point Plan places it as one of Europe's best performers. Despite a recent freeze in fuel duty worth \$US1 billion, a mix of environmentally-positive transport and energy policies, contained in the March 2021 fiscal package, result in a slight net increase in index score.

Table 31 | Archetype policies announced in UK

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached			◆	◆	
Green infrastructure investments		◆	◆	◆	
Green R&D subsidies			◆	◆	
Subsidies or tax reductions for green products		◆		◆	
Nature Based Solutions	◆				
Conservation and wildlife protection programmes	◆				
Subsidies for environmentally harmful activities				◆	
Environmentally harmful infrastructure investments				◆	
Deregulation of environmental standards	◆				◆
Environmentally related bailout without green strings			◆	◆	
Subsidies or tax reductions for environmentally harmful products				◆	

Source: Vivid Economics

³⁸⁷ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>, OBR (2020). <https://obr.uk/coronavirus-analysis/>

³⁸⁸ IMF Policy Tracker (2021). Policy Responses to COVID19 (imf.org)

³⁸⁹ BBC (2020). <https://www.bbc.co.uk/news/uk-england-london-52670539>

³⁹⁰ Forbes (2020). <https://www.forbes.com/sites/carltonreid/2020/05/09/uk-gov-ernment-boosts-bicycling-and-walking-with-ambitious-2-billion-post-pandemic-plan/#3a5ce00a3d7c>

³⁹¹ IMF Policy Tracker (2021). Policy Responses to COVID19 (imf.org)

• Underlying sector context (b₁)

Performance on key indicators is relatively good, but much more action is required to achieve environmental targets.

• Specific environmental measures (b₂)

The United Kingdom has seen a mix of positive and negative environmental measures, providing substantial support for green initiatives, but also relaxing some environmental regulations and providing support to polluters. Green measures still make up a small proportion of the total stimulus, and are much smaller in absolute value than those in Germany.

- The UK has withdrawn financial support for overseas fossil fuel sectors, while increasing domestic GHG reduction targets. Such action is reinforced locally, with 38 sub-national authorities (representing roughly a third of the UK's population) now committed to reaching net-zero emissions five years faster than central government. Such actions are echoed in Scotland, where annual interim targets have been adopted to accelerate progress towards net-zero.³⁹²

- A slight easing of permitting requirements in the agriculture and waste sectors in the UK has taken place.³⁹³ In agriculture, slurry from dairy farming may be used without limit, despite concerns of run-off pollution. Additionally, medical waste is allowed to be incinerated at registered municipal solid waste processing plants. This deregulation is minor, but still negative. The agriculture sector has also received a US\$49 million grant programme targeted towards cattle farmers in Scotland.³⁹⁴ While minor, this policy extends direct fiscal aid to high emission agricultural producers without environmental conditions.

- In the transport sector, a total of US\$2.2 billion has been provided in bailouts to airlines Easyjet, Ryanair, British Airways and Wizz Air. Airbus, Honda and Nissan have also received support from the COVID-19 Corporate Financing Facility.³⁹⁵ With no attachment of green conditions, these loans are providing direct support to highly environmentally intensive industries, and are thus considered damaging. In March 2021, the government also announced a freeze on fuel duty worth US\$ 1 billion, contributing negatively to the country's score in this update.

- On the other hand, the UK government has extended a US\$2 billion bailout to Transport for London (TfL) to cover the public transportation company's losses from decreased ridership.³⁹⁶ The loan is considered a green bailout given it preserves public transport. Additionally, the loan to TfL will also be accompanied by an increased congestion charge in the ultra-low emissions zone (ULEZ) in London to £15 per day. Additional funding of US\$2.5 billion has been earmarked in the government's investment in public infrastructure for cycling and pedestrian infrastructure.³⁹⁷ This investment in green infrastructure is designed for local authorities to complete cycling and walking projects during lockdown. Most recently, the government launched a new bus strategy totalling almost US\$3.9 billion, as well as a US\$1 billion investment to boost rail links.³⁹⁸ These policies have contributed to a positive increase in the score in this edition.

³⁹² Energy Policy Tracker (2021). United Kingdom - Energy Policy Tracker

³⁹³ UK Government (2020). <https://www.gov.uk/government/collections/covid-19-regulatory-position-statements#water-industry>

³⁹⁴ TMF Group (2020). <https://www.tmf-group.com/en/news-insights/coronavirus/government-support-schemes/#B>

³⁹⁵ Bank of England (2020). <https://www.bankofengland.co.uk/markets/bank-of-england-market-operations-guide/results-and-usage-data>

³⁹⁶ BBC (2020) <https://www.bbc.co.uk/news/uk-england-london-52670539>

³⁹⁷ Forbes (2020).

<https://www.forbes.com/sites/carltonreid/2020/05/09/uk-government-boosts-bicycling-and-walking-with-ambitious-2-billion-post-pandemic-plan/#3a5ce00a3d7c>

³⁹⁸ Energy Policy Tracker (2021). <https://www.energypolicytracker.org/country/united-kingdom>

- Around US\$250 million has been provided to support green research and development in aerospace.³⁹⁹

- In July 2020, the government announced US\$3.7 billion in support for energy efficiency improvements. These include the Green Homes Grant scheme, which provides subsidies to homeowners and landlords to fit measures that make their homes more energy efficient. The support also includes funding for energy efficiency and low carbon heat upgrades in public sector buildings.⁴⁰⁰ In January 2021, the government confirmed that 'radical' Future Homes Standard will apply to new homes built from 2025 and in March 2021, a further US\$720 million to boost energy efficiency funding was announced. These policies have contributed to the positive increase in the United Kingdom's score in this update.

- Various other green investments have been announced. Around US\$450 million in funding has been provided for emissions reductions in heavy industry, including CCS and clean hydrogen, materials, new technologies, and efficient construction.⁴⁰¹ A green infrastructure plan for London, worth almost US\$2 billion has been announced, which involves working with utility providers to support projects such as improved water efficiency and electric vehicle charging.⁴⁰²

- Support for wind energy has also been announced, with specific funding for a Dogger Bank offshore wind farm – expected to become the world's largest.⁴⁰³

- September and October saw further commitments and investments in the renewable energy sector. In September, the government of Scotland committed to increasing allocation of energy efficiency spending to £398 million per year by 2025, totalling more than US\$2 billion over the next half-decade. Additionally, in Scotland, roughly US\$77 million was allocated towards a low carbon fund for decarbonisation of industry and manufacturing.⁴⁰⁴ And in October, the national government allocated around US\$50 million to nuclear energy development⁴⁰⁵ and US\$210 million for offshore wind energy development.⁴⁰⁶

- The United Kingdom made significant commitments to a green recovery in November 2020 via its 'Ten Point Plan for a Green Industrial Revolution.' The plan commits nearly US\$12 billion to a variety of areas, including hydrogen energy, transport and industry, nuclear energy, electric vehicle infrastructure, subsidies and battery production, green maritime practices, carbon capture and sequestration, flood and coastal protection and nature-based solutions.⁴⁰⁷ The plan is embedded within the larger National Infrastructure Strategy which does make funds available for road building, although it is, for the most part, environmentally-neutral. In light of the Ten Point Plan's commitment to ending sales of petrol vehicles in England by 2030, this investment is treated as neutral.⁴⁰⁸

³⁹⁹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/united-kingdom>, UK Government (2020). <https://www.gov.uk/government/news/uk-aerospace-sector-to-benefit-from-400-million-funding-to-go-green>

⁴⁰⁰ UK Government (2020). <https://www.gov.uk/government/publications/a-plan-for-jobs-documents/a-plan-for-jobs-2020>

⁴⁰¹ UK Government (2020). <https://www.gov.uk/government/news/pm-commits-350-million-to-fuel-green-recovery>

⁴⁰² Business Green (2020). <https://www.businessgreen.com/news/4018369/ev-charging-water-efficiency-projects-unveiled-london-recovery-plan>

⁴⁰³ Business Green (2020).

<https://www.businessgreen.com/news/4015133/government-moves-shore-clean-energy-contract-regime-wave-renewables-projects-progresses>

⁴⁰⁴ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/united-kingdom>,

<https://www.gov.scot/publications/protecting-scotland-renewing-scotland-governments-programme-scotland-2020-2021/pages/5/#page-top>

⁴⁰⁵ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/united-kingdom>,

<https://www.gov.uk/government/news/40-million-to-kick-start-next-gen-nuclear-technology>

⁴⁰⁶ Carbon Brief (2020). <https://www.carbonbrief.org/coronavirus-tracking-how-the-worlds-green-recovery-plans-aim-to-cut-emissions>,

<https://www.gov.uk/government/news/new-plans-to-make-uk-world-leader-in-green-energy>

⁴⁰⁷ UK Government (2020). <https://www.gov.uk/government/news/pm-outlines-his-ten-point-plan-for-a-green-industrial-revolution-for-250000-jobs>

⁴⁰⁸ UK Government (2020).

<https://www.gov.uk/government/publications/national-infrastructure-strategy#:~:text=The%20National%20Infrastructure%20Strategy%20sets%20out%20the%20gov%20plans%20to,zero%20emissions%20target%20by%202050>.

1.30 United States

The US has passed US\$5.8 trillion in spending packages.

Composition of stimulus: In December 2020, Congress passed a US\$900 billion bipartisan stimulus package to stabilise the United States' economy.⁴⁰⁹ Direct aid, unemployment benefit, healthcare measures such as vaccine procurement, and business loans dominated the package, alongside US\$17 billion of specific support for the aviation industry. This stimulus also included a US\$35 billion commitment to clean energy, diversified across a range of quantified policies.⁴¹⁰

The inauguration of President Biden in January 2021 marked a turning point for American climate policy. After re-entering the Paris Accord on his first day in office, Biden signed an expansive Executive Order a week later that seeks to transform the federal government's approach to climate and nature.⁴¹¹ While financially unquantifiable as discrete interventions, the breadth and scope of the measures in the Executive Order significantly raise the United States' index score. Biden signalled his intentions before the election by releasing the Biden Climate Plan (detailed above in Box 1), and this analysis has been careful not to double count any measures. Most recently, Biden's American Rescue Plan was approved, a stimulus package of US\$1.9 trillion to support the country's economic recovery. The package focuses on mounting a national vaccination programme, containing COVID-19, safely reopening schools, supporting struggling communities, and delivering immediate relief to working families.

While poor underlying environmental performance and an initial stimulus which included widespread environmental deregulation drove the country's poor performance in the past, recent commitments to clean energy and renewed focus on climate change mitigation have improved the United States' index score. In this edition, the score is further increase due to environmentally positive measures contained in the American Rescue Plan, though the absence of renewable energy investment in the bi-partisan infrastructure bill means the spending needed to catalyse a green recovery has yet to materialise..

Earlier stimulus packages included substantial healthcare and welfare measures, payroll protection and direct support for businesses. Funding for environmentally relevant sectors included support for the aviation sector, funding for transport infrastructure, shipping, and trucking, and allocations for the agriculture sector.

Table 32 | Archetype policies announced in United States

Policy Measure	Agriculture	Energy	Industry	Transport	Waste
Bailouts with green strings attached				◆	
Green infrastructure investments	◆	◆	◆	◆	◆
Green R&D subsidies		◆	◆		
Subsidies or tax reductions for green products		◆			
Nature Based Solutions	◆				
Conservation and wildlife protection programmes	◆				
Subsidies for environmentally harmful activities		◆	◆		
Environmentally harmful infrastructure investments		◆	◆	◆	
Deregulation of environmental standards	◆	◆	◆	◆	◆
Environmentally related bailout without green strings				◆	
Subsidies or tax reductions for environmentally harmful products		◆			

Source: Vivid Economics

⁴⁰⁹ IMF Policy Tracker (2021). Policy Responses to COVID19 (imf.org)

⁴¹⁰ Washington Post (2020). <https://www.washingtonpost.com/business/2020/12/20/stimulus-package-details/>

⁴¹¹ WhiteHouse.gov (2021). Executive Order on Tackling the Climate Crisis at Home and Abroad | The White House

• Underlying sector context (b₁)

Performance on key indicators is highly insufficient to achieve environmental targets.

• Specific environmental measures (b₂)

In the United States, deregulation across all sectors coupled with a lack of environmental conditions on transportation funding have added negative weights to our baseline, though this update includes several improvements on previous editions. Key policies include:

- An initial total of US\$60 billion in bailout funding was made available to ten airlines in the United States. The stimulus was provided without any green conditions, although conditions on employee retention and equity stakes have been introduced for some carriers depending on firm financials.⁴¹²

The United States government has warrants on up to 1.9% of shares for any airline receiving grants or loans.⁴¹³ But given the current administration, we do not anticipate these equity stakes, if taken, would be used to drive compliance of environmental standards set by the federal government. Additionally, US\$10 billion in bailout funding was provided separately to airports.⁴¹⁴ December's announcement saw a further US\$17 billion dedicated to the aviation industry, still lacking green conditions.⁴¹⁵

- Across the country, announcements of new environmental rules have been rolled back indefinitely. The EPA will be exercising "enforcement discretion" indefinitely through the pandemic. All firms that discharge pollutants or emissions are not required to monitor or report to the Environmental Protection Agency (EPA) at this time. On May 15th 2020, then President Trump passed an Executive Order instructing agencies to prioritise the economic recovery of the United States by waiving or exempting polluters from any regulations or requirements "which may inhibit economic recovery."⁴¹⁶ This deregulatory regime is across all key sectors and is a major driver of the country's negative index score.

- The Department of Agriculture has introduced the Higher Blends Infrastructure Incentive Programme (HIIBP) to provide grants to agricultural producers which undertake the production of renewable or bio-fuels.⁴¹⁷ This funding amounts to US\$100 million and is a green measure as it encourages generating supply for biofuel production, but is a very small share of total fiscal stimulus.

- The US Senate has approved the 'Great American Outdoors Act', which is set to provide funding of up to US\$1.9 billion per year for maintenance projects administered by the National Park Service, the Forest Service, the US Fish and Wildlife Service, the Bureau of Land Management, and the Bureau of Indian Education. The bill also includes permanent funding for the Land and Water Conservation Fund.⁴¹⁸ As the draft legislation is yet to be approved by the House of Representatives, it is not currently included in the United States' index score.

- Funding and tax breaks for environmentally harmful activities have also been announced. In Pennsylvania, natural gas manufacturing facilities were made eligible for US\$667 million of tax credits,⁴¹⁹ and US\$122 million of funding for 'coal innovation centres' was made available through the Department of Energy.⁴²⁰

- The United States Paycheck Protection Program's environmentally beneficial effects were outweighed by environmentally negative ones. While around US\$250 million went to clean energy industries, more than US\$3.5 billion went to fossil fuel and carbon-intensive industries.⁴²¹

⁴¹² US Treasury (2020). <https://home.treasury.gov/system/files/136/Payroll-Support-Procedures-Form-FINAL.pdf>

⁴¹³ Financial Times (2020) <https://www.ft.com/content/fb8ef5a9-2e42-4b6a-acd0-078a1faa0d01>

⁴¹⁴ US Congress (2020). <https://www.congress.gov/bill/116th-congress/house-bill/748/text>

⁴¹⁵ Washington Post (2020). <https://www.washingtonpost.com/business/2020/12/20/stimulus-package-details/>

⁴¹⁶ Columbia Climate Law (2020). <https://climate.law.columbia.edu/climate-deregulation-tracker>

⁴¹⁷ TMF Group (2020). <https://www.tmf-group.com/en/news-insights/coronavirus/government-support-schemes/#B>

⁴¹⁸ United States Government (2020). <https://www.congress.gov/bill/116th-congress/senate-bill/3422>

⁴¹⁹ State of Pennsylvania (2020). <https://www.legis.state.pa.us/cfdocs/billinfo/billinfo.cfm?sYear=2019&slnd=0&body=H&type=B&bn=732>

⁴²⁰ US Department of Energy (2020). <https://www.energy.gov/articles/doe-announces-intent-provide-122m-establish-coal-products-innovation-centers>

⁴²¹ US Treasury (2020). <https://home.treasury.gov/policy-issues/cares-act/assistance-for-small-businesses/sba-paycheck-protection-program-loan-level-data>, Energy

Policy Tracker (2020). <https://www.enerypolicytracker.org/country/united-states>

- Environment and climate negative interventions persist in the most recent stimulus package. Investments in national highway infrastructure rose by US\$10 billion in December 2020 and while such commitments do provide the opportunity to populate the roads with low or zero-emissions vehicles, this increase in funding serves to lower the country's index score overall.⁴²²

- December's US\$35 billion clean energy stimulus included a near-US\$1 billion commitment to marine and hydroelectric energy research, US\$1.5 billion dedicated to new solar energy and photovoltaic cell initiatives, and US\$4.7 billion of funding towards nuclear fusion research.

- President Biden's environmentally relevant executive orders have significantly boosted the United States' index score, by:

- Realigning the country's climate change mitigation ambitions with Paris Accord targets. The order quotes a "nationally determined contribution" to reaching irreversible net zero emissions by mid-century.⁴²³

- Committing to the conservation of at least 30% of United States' lands and oceans by 2030.⁴²⁴

- A nationwide pause on entering into new oil and gas leases on public lands or offshore waters "where possible".⁴²⁵

- The requirement of federal agencies to procure carbon pollution-free electricity and zero-emissions vehicles.⁴²⁶

- The direction to re-establish stricter fuel efficiency standards for consumer vehicles and strengthening regulation surrounding methane and greenhouse gas emission alongside the Environmental Protection Agency.⁴²⁷

- In addition to the interventions mentioned above, President Biden has also established several agencies which will aid the nation's concerted push to address climate change by maintaining accountability and improving inter-agency cooperation. These include the National Climate Task Force and the White House Office of Domestic Climate Policy, to be chaired by the newly appointed National Climate Advisor.⁴²⁸

- The \$1.9 trillion American Rescue Plan does not target specifically climate change and biodiversity issues, but contains several measures that result in an increase in the United States' index score.⁴²⁹

- The US\$1.9 trillion American Rescue Plan is targeted towards general economic recovery. The stimulus package focuses on mounting a national vaccination programme, containing COVID-19, safely reopening schools, supporting struggling communities and delivering immediate relief to working families.

- Some funding within the plan is, however, found to be environmentally beneficial. For example, it includes (non-exhaustively) a \$30 billion investment in public transport as well as funding for States and local governments to upgrade their water and sewer systems. The plan also allocates funding to environmentally-relevant agencies, such as the U.S. Fish and Wildlife Service and creates a set-aside fund for States to invest in projects to improve energy efficiency.

- While the plan has an overall largely positive impact on the US score, some policies nevertheless contribute negatively. For example, the plan includes a US\$8 billion fund to support airports.

⁴²² Washington Post (2020). <https://www.washingtonpost.com/business/2020/12/20/stimulus-package-details/>

⁴²³ WhiteHouse.gov (2021). Executive Order on Tackling the Climate Crisis at Home and Abroad | The White House

⁴²⁴ WhiteHouse.gov (2021). FACT SHEET: President Biden Takes Executive Actions to Tackle the Climate Crisis at Home and Abroad, Create Jobs, and Restore Scientific Integrity Across Federal Government | The White House

⁴²⁵ WhiteHouse.gov (2021). Pause on entering into new oil and gas leases on public lands or offshore waters "where possible"

⁴²⁶ WhiteHouse.gov (2021). FACT SHEET: President Biden Takes Executive Actions to Tackle the Climate Crisis at Home and Abroad, Create Jobs, and Restore Scientific Integrity Across Federal Government | The White House

⁴²⁷ WhiteHouse.gov (2021). Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis | The White House

⁴²⁸ WhiteHouse.gov (2021) FACT SHEET: President Biden Takes Executive Actions to Tackle the Climate Crisis at Home and Abroad, Create Jobs, and Restore Scientific Integrity Across Federal Government | The White House

⁴²⁹ Holland & Knight (2021). <https://www.hklaw.com/-/media/files/insights/publications/2021/03/americanrescueplankeyprovisions.pdf?la=en> ;

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