

February 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

:vivid**economics**



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 is updated regularly – please use the latest version. The policies in this release are current as of 1 February 2021. The previous release was published in December 2020.

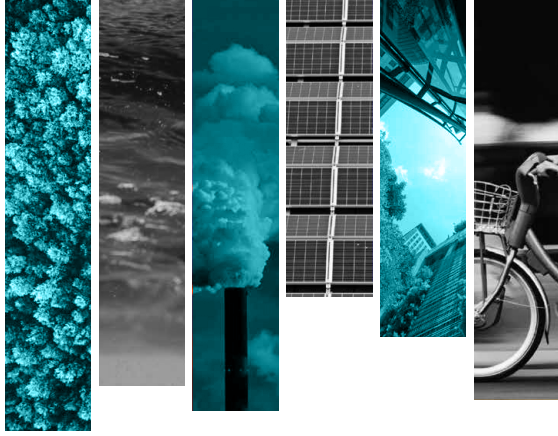
This note is part of a series looking at economic responses to COVID-19. Other notes relate to corporate bailouts, international assistance flows into developing countries and job-creating fiscal stimulus. This work was undertaken by Vivid Economics as part of the Finance for Biodiversity (F4B) initiative.

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

New to this release

This update of the index incorporates significant new information that has become available since the previous release in December 2020, including the latest announcements on stimulus flows, deregulation and environmental policies. It also contains two features that spotlight the United States, including an analysis of the potential impact of President Joe Biden's proposed \$1.7 trillion Climate Plan, and a review of the effect on nature and climate of the US Federal Reserve's activities to stabilise the economy. Altogether, this release includes the following highlights:

- Addition of the Nordic countries Denmark, Finland, Iceland, Norway and Sweden to the index.
- An increase in the total quantity of measured stimulus to US\$14.9 trillion, from US\$13.0 trillion. This increase is driven by the United States' US\$900 billion bipartisan stimulus bill signed into law in December, Japan's December US\$606 billion stimulus, and the United Kingdom's US\$71 billion new stimulus package. There were also increases in stimulus packages in France (US\$587 billion to US\$612 billion), Australia (US\$176 billion to US\$188 billion), Russia (US\$117 billion to US\$129 billion), Italy (US\$564 billion to US\$574 billion), Canada (from US\$391 billion to US\$400 billion), Germany (by US\$5 billion), India (by US\$2 billion), and Turkey (by US\$1 billion), plus the addition of the five new Nordic countries (US\$176 billion total).
- Improvements to some index scores. Notably, the United States and Canada have dramatically improved, with China and India also leveraging new packages and policies into increased scores. Overall, 17 countries improved their GSI scores in this edition, while only four countries' scores decreased. This reflects momentum towards greener stimulus as countries move from rescue to recovery, but it is also a function of the more positive underlying baselines of countries that released new stimulus since the December edition.
- Major new analysis of the United States. The country passed a US\$900 billion stimulus package in December and a sweeping set of Executive Orders since President Biden's inauguration. Currently, a US\$1.9 trillion package is making its way through Congress. Biden has also pledged to implement a US\$1.7 trillion Climate Plan. This report considers all of these developments. The legislation and directives already passed raise the GSI score from -53 to -17. Should the \$1.9 trillion Biden American Rescue Plan be signed into law in its form as of 8 February 2021, the GSI score would improve slightly to -15. Implementing the Biden Climate Plan would vault the United States' score to +58, launching the country from 15th to 2nd in our ranking (behind only Denmark and ahead of the EU) and serving as a model for how investment-driven growth and regulatory change can create jobs, improve productivity, reduce emissions and protect nature.
- Investigation of the United States Federal Reserve's corporate asset purchase programme reveals over US\$587 billion being directed towards companies at high risk of adversely affecting nature and climate, including through greenhouse gas (GHG) emissions, deforestation and plastic pollution – nearly 10% of its overall corporate bond purchases to date.



Executive summary

The world's leading economies have announced economic stimulus packages that will pump approximately US\$4.6 trillion directly into sectors that have a large and lasting impact on carbon emissions and nature, namely agriculture, industry, waste, energy and transport, but less than US\$1.8 trillion has been green. These flows compare with a total stimulus to date of US\$14.9 trillion, and present an opportunity to support these sectors through the COVID-19 crisis, while also boosting global resilience to mounting climate and biodiversity risks. **The Greenness of Stimulus Index (GSI) shows that governments to date have largely failed to harness this opportunity, though a select few are rising to meet the challenge.**

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. Despite achieving the largest increase in its score in this edition of the GSI, the United States continues to lag behind other wealthy nations. Australia, Italy and Japan join them on the net negative side, owing largely to the support they provide to existing environmentally-intensive sectors with negative environmental impact, even though their scores also improved in this edition due to actions to restore nature and mitigate climate change. The economies analysed comprised the G20 plus Colombia, Denmark, Finland, Iceland, Norway, the Philippines, Singapore, Spain, Sweden and Switzerland.

Emerging economies most dependent on environmentally-intensive sectors and without strong regulatory oversight have the biggest task to turn their stimulus green, and have so far failed to step up. China, India and Mexico have announced stimulus measures that will damage the environment, while stimulus funding announced by South Africa and Russia largely reinforces the existing damaging impacts of their environmentally-intensive sectors. Indonesia and Brazil are pushing environmentally damaging outcomes, by supporting high-carbon industry and energy, and unsustainable agriculture that destroys biodiverse habitats. To manage the COVID-19 crisis while protecting and rebuilding nature at the same time, these countries must instead hardwire environmental actions into their stimulus measures.

Argentina, Saudi Arabia and Turkey have made little attempt to divert stimulus towards green initiatives. Generally, their stimulus packages have underpinned existing poor environmental performance. Targeted measures have supported polluters in the Turkish transport sector, and non-renewable energy in both Argentina and Saudi Arabia.

The most recently added countries to the GSI – the five Nordic countries – have contrasting outcomes. Denmark leads the global league table with a score of 78 and Sweden ranks 7th with a score of 21. These scores are largely due to their strong underlying baselines, as well as stimulus measures that commit money to energy efficiency, green research and development (R&D), and a dedicated nature and biodiversity allocation. Finland performs well with a GSI score of 18, despite its underlying negative baseline, due in part to public transit measures, climate R&D investment and nature conservation. On the flip side, Iceland's score is -33, driven by a poor baseline and measures that prioritise unconditional industry support over environmental protection. Norway's position is 25th, with a score of -67. While Norway introduced a Green Transition plan and accompanying measures, these were outweighed by its unconditional airline bailouts, support for the fossil fuel industry without any green strings attached, and economic stimulus that perpetuated its negative underlying baseline score.

In the green stimulus to date, 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. Of the total quantified green stimulus to date, worth US\$667 billion, only US\$141 billion was related to improving biodiversity or preserving ecosystems. Such nature-positive funding was less than the US\$262 billion of stimulus associated with pollution or direct habitat destruction that is likely to have a negative impact on biodiversity.¹ Given the risks associated with degraded natural capital – including the virus spillover risk driving the current pandemic – it is hard to justify this 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. As shown in December's edition of the GSI, this means that most countries are missing out on stimulus opportunities that have outsized impacts in terms of job creation and fiscal multipliers.

To date, the economic response to the COVID-19 crisis will reinforce negative environmental trends. In other words, it will fail to build back better: most governments have chosen not to use economic stimulus to enhance nature or tackle climate change. However, there is an opportunity to learn from countries that have taken the lead, and act decisively now to prevent irreversible damage to nature and to lower dramatically the cost of protecting the planet. In solving one crisis, we should not ignore another.

The stimulus and policy announcements in Canada, Western Europe and some Nordic countries offer promise, with at least a portion of spending likely to be nature-friendly, coupled with green infrastructure investments in energy and transport. Canada's Healthy Environment and Healthy Economy Plan includes 64 new measures that redraw its stimulus efforts and boost its GSI score by 20 points. This increase is second only to the United States and vaults Canada to third place in the Index, just behind the European Union. Japan's December package funded clean tech innovation, solar PV deployment, digitalisation and zero-emissions vehicle subsidies, though most

stimulus went to the business-as-usual economy. New announcements from the United Kingdom include an end to fossil fuel support overseas, strengthened emission reduction targets for 2030 and accelerated net-zero pledges to 2045 by regions representing about 30% of the country's population.

The world's three most populous countries – China, India and US – improved their GSI scores considerably, but still remain in the negative.

China's higher score is driven by a dramatic planned increase in solar and wind capacity to 1,200 GW (roughly equivalent to Europe's entire electricity system), and major forest restoration plans as part of its strengthened pledge to reduce its emissions intensity by 65% over 2005 levels by 2030. India announced battery production, renewable energy and energy efficiency schemes, though it continues to support coal and gas initiatives. The United States' US\$900 billion stimulus that was passed in December 2020 strengthened its GSI score, but the majority of the spending was still dedicated to the business-as-usual economy. It is President Biden's signature on the Executive Order for Tackling the Climate Crisis at Home and Abroad that supercharged the country's score. It signalled strong action on nearly all environmentally relevant sectors and shows the power that even unquantified regulatory measures can have on the GSI. The United States' score remains negative, however, which shows that further, greener legislation and ambitious regulatory action needs to be coupled with an even bigger low carbon investment package to move to a positive score.

The 'Next Generation EU' recovery package is the most environmentally friendly stimulus package.

Of the €750 billion (US\$830 billion) package, 37% will be directed towards green initiatives, including targeted measures to reduce dependence on fossil fuels, enhance energy efficiency, and invest in preserving and restoring natural capital. Furthermore, all recovery loans and grants to member states will have attached 'do no harm' environmental safeguards. The new French and Spanish recovery plans both partly draw from this funding pool, and as a result are among the most environmentally friendly yet.

¹ The \$667 billion quantified green stimulus to date appears is bigger than the \$262 billion quantified negative stimulus associated with pollution or direct habitat destruction. But this is partly because the negative measures are coming in the form of deregulation or other unquantified measures, which have large impacts but do not have a \$ value attached to them.

This GSI includes three special features on the United States, including an analysis of bond-buying actions taken by the US Federal Reserve, the potential impact of the Biden Climate Plan and the impact of the Biden American Rescue Plan, which is making its way through Congress at the time of publication. December's stimulus and January's Executive Orders raise the United States' GSI score significantly. Biden's \$1.9 trillion American Rescue Plan would only slightly improve further the score, as tackling climate change is not its focus. However, analysis of Biden's \$1.7 trillion Climate Plan would substantially strengthen the country's score. On the other hand, the United States Federal Reserve's corporate bond purchase programme has allocated significant capital to companies with high risk of contributing to climate change, deforestation and plastic pollution. New analysis shows that the Fed has acquired more than US\$587 million in corporate bonds from such companies, compared to overall corporate bond purchases of approximately US\$6 billion to date. Though less visible than government fiscal stimulus, central bank actions like these have meaningful capacity to reinforce negative trends – or pave the way for greener recoveries.

Regardless of economic structure or past environmental performance, each country has the opportunity to steer its stimulus package to support nature and the climate. Across announcements to date, a clear set of tools is emerging to boost the economy in the short- and long-term, while also accelerating the transition to a more sustainable future. These tools fall into the following broad categories:

- Corporate bailouts with green strings attached
- Investment in nature-based solutions, such as tropical rainforest conservation and sustainable agriculture
- Loans and grants for green investments
- Subsidies or tax reductions for green products, and the removal of subsidies for polluters
- Green R&D subsidies
- Reinforcing environmental regulation, and avoiding deregulation

Figure 1

Greenness of Stimulus Index

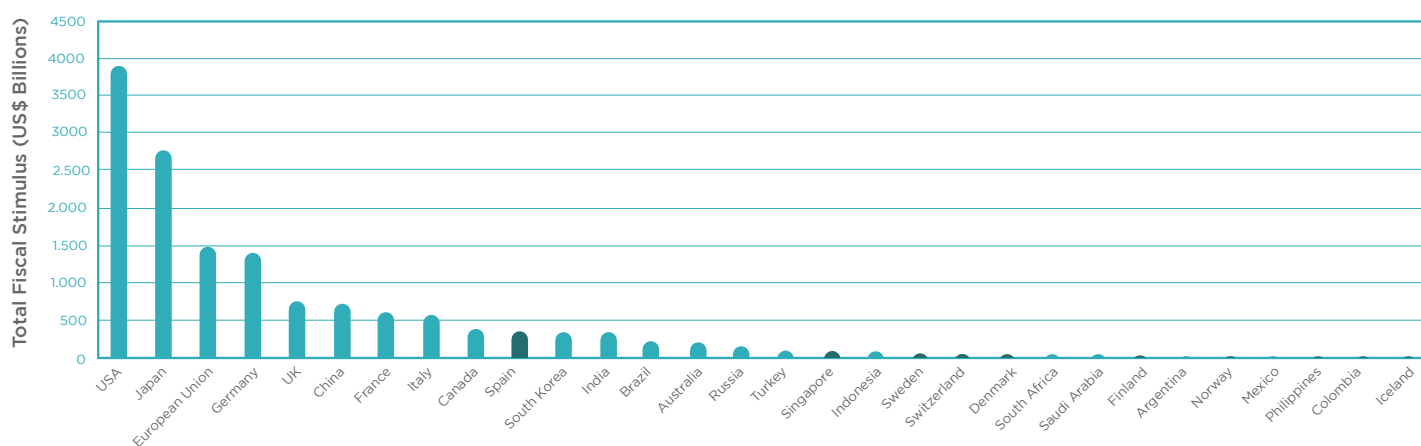


Source: Vivid Economics using a variety of sources, consult Annex II for the entire list of sources
 Note: Updated on 1 February 2021

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\$8 billion (Colombia) to US\$3.9 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: Dark blue represents G20 countries and light blue represents countries outside of the G20. Updated on 1 February 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

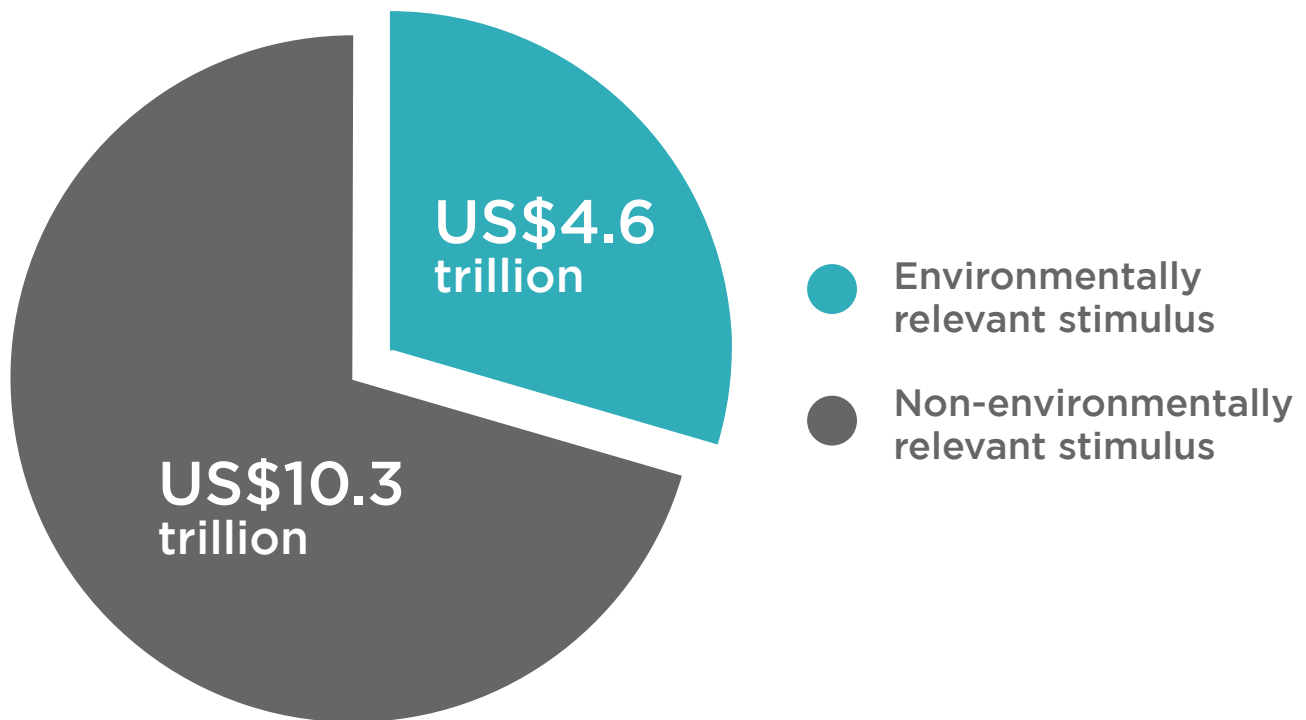
projects such as tree planting are shovel-ready, easily scaled, and provide overwhelmingly local, socially distanced jobs at various skill levels.

Some US\$4.6 trillion of the announced stimulus to date, or 31% of the total, will flow into environmentally-intensive sectors that impact climate change, biodiversity or local air quality.²

This proportion will likely increase as stimulus efforts shift towards targets for long-term recovery. 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.

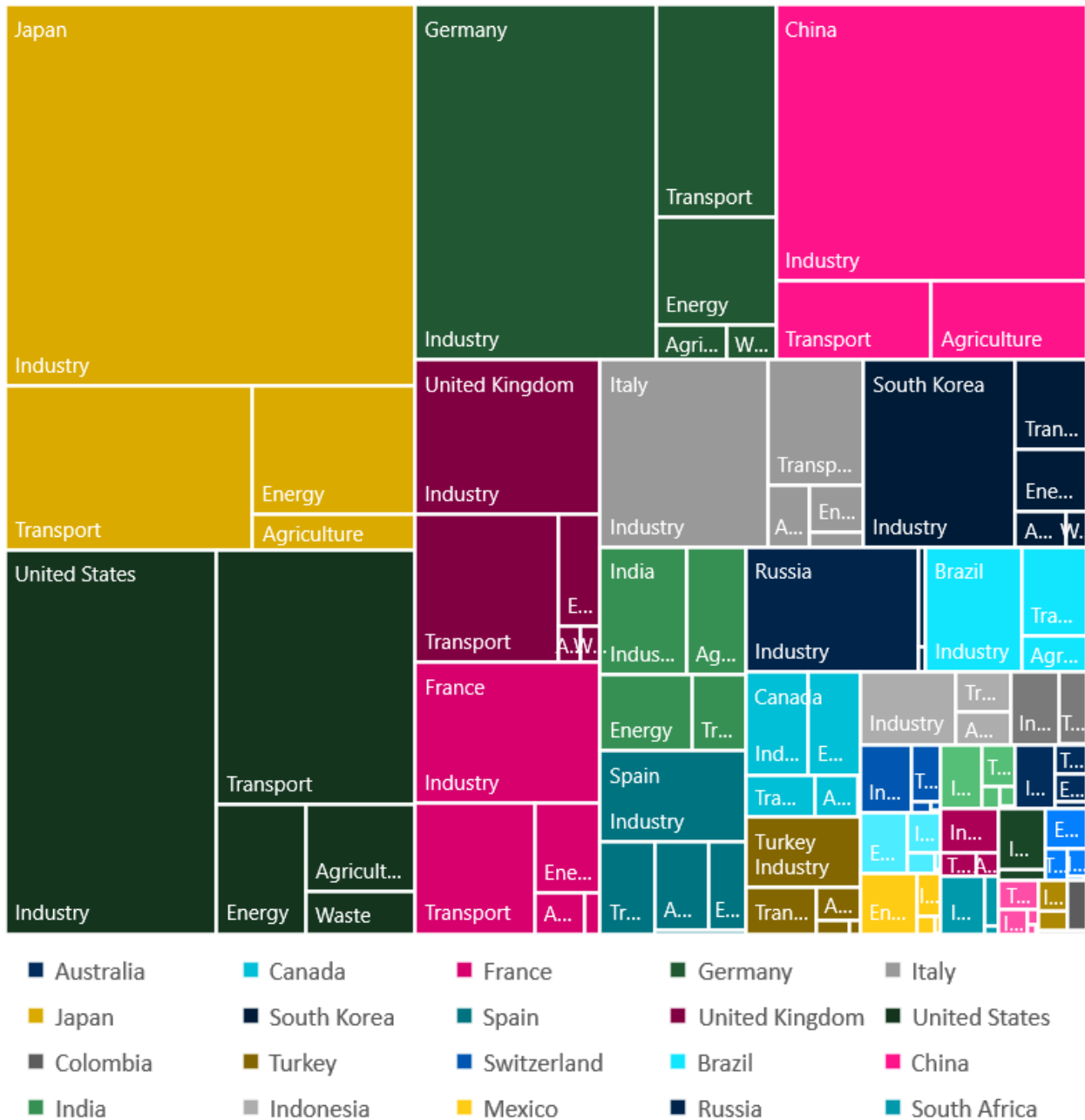
Source: Vivid Economics using a variety of sources

Note: Environmentally relevant total in dark blue. Agriculture includes forestry and fisheries. Industry includes manufacturing. Updated on 1 February 2021.

The sectoral breakdown of environmentally relevant stimulus shows that industry gets the most support from governments, among these five sectors, followed by transport and energy.

This breakdown has remained relatively constant over time, and reflects the relative sizes of the sectors and the COVID-19 crisis impact.

Figure 4 | Breakdown of environmentally relevant stimulus of the 30 countries tracked (EU not included)



Source: Vivid Economics

Note: For developing countries, support for energy and waste is included within industry. The European Union is excluded from this chart. Singapore and the Philippines are omitted due to sizing constraints. Updated 1 February 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 no 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 and 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.

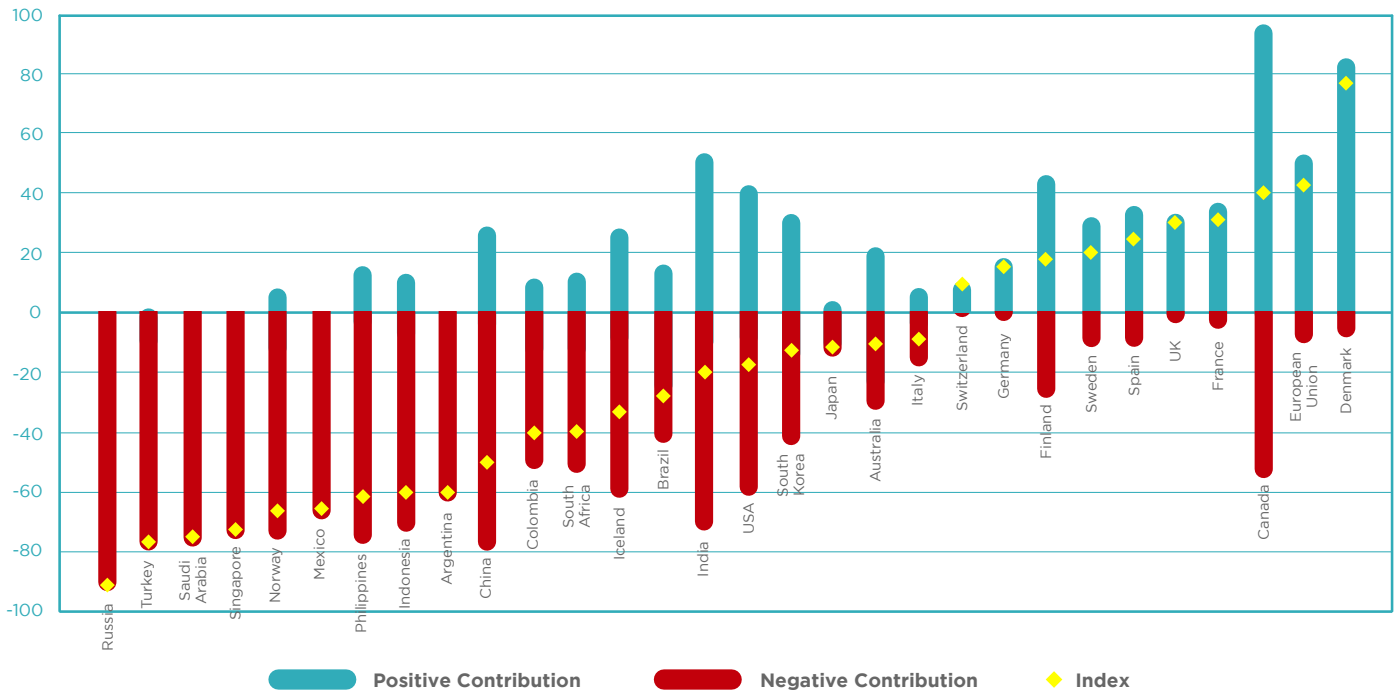
The most notable examples of COVID-19 response measures that target environmentally-intensive sectors include significant deregulation, subsidies or tax cuts to activities likely to worsen environmental outcomes, including large bailouts for the aviation sector.

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 and India achieved substantial improvements in their index scores, with the United Kingdom, Australia, Brazil, Italy and Japan achieving modest improvements (see Figure 8). 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	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓				✓	✓	✓	✓	✓
Waste			✓													✓													

Source: Vivid Economics using a variety of sources. Consult Annex II for the entire list of sources.
Note: Updated on 1 February 2021.

The historic election of President Joe Biden signals major change in the geopolitics of climate change and the likely orientation of the United States’ future stimulus. This edition of the GSI integrates the latest changes in the country’s spending and policy, including the US\$900 billion spending bill signed by former President Donald Trump in December 2020, and the impact of the sweeping Executive Orders passed in January 2021 by the new President Joe Biden. It also features an analysis of transformative potential impact of Biden’s US\$1.7 trillion Climate Plan (see Box 1 below), Biden’s US\$1.9 trillion American Rescue Plan (see Box 2 below), as well as the negative impacts of measures being taken by the United States Federal Reserve (see Box 3).

Box 1

Biden's \$1.7 trillion Climate Plan would supercharge the United States' already strengthened position

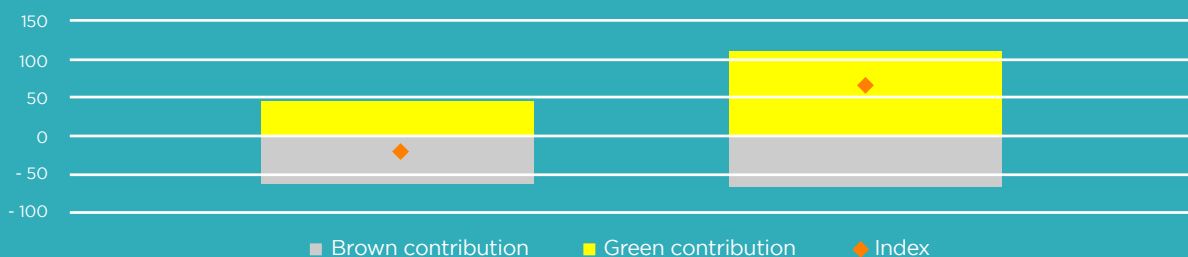
Joe Biden was inaugurated in January 2021 as the 46th President of the United States following a pivotal election that included a promise to invest \$1.7 trillion in a *Climate Plan for Clean Energy and Environmental Justice*. The Democrats now control both Houses of Congress following their successful Senate runoff races in Georgia, meaning that the Climate Plan is guaranteed to get legislative attention and has a better chance of mustering enough support to be passed into law.

This signals a major change from the previous administration as the United States renews its international engagement through the Paris Accord and brings more muscular spending power. The change of administration represents a monumental shift in the geopolitics of climate change and potentially challenges the European Union's diplomatic dominance. It also strengthens the United States' competitive position in clean tech innovation and could reshape the international league table, which has been led by China and the European Union for the past four years. John Kerry, the new United States envoy on climate change and a leading architect of the Paris Accord under President Obama, described climate action as an "unprecedented wealth creation opportunity."

Biden's proposed US\$1.7 trillion Climate Plan would build on the sweeping Executive Order signed on 27th January. The Executive Order *Tackling the Climate Crisis at Home and Abroad* sets the policy and institutional frameworks for future action. It puts the climate crisis at the heart of the United States' foreign policy and national security, creating a Special Presidential Envoy for Climate and pledging to integrate climate considerations into all leading international fora, including the G7, G20, and bodies for energy, aviation, shipping and sustainable development. Domestically, it implements global best practice by establishing an intra-governmental National Climate Task Force to coordinate a government-wide response to the climate crisis. The Order leverages the power of public procurement to facilitate a carbon-free electricity sector by 2035 and zero-emissions vehicles. It includes action on climate-smart agriculture, fisheries, and reforestation to protect biodiversity, and aims to conserve 30% of the country's land and water by 2030. It removes federal subsidies for fossil fuels and directs agencies to identify opportunities to spur innovation, commercialisation, and deployment of clean energy technologies and infrastructure. The Executive Order underpins all action with a focus on well-paying jobs, and commits to a just transition that supports economic opportunity for disadvantaged communities.

Biden's Climate Plan would see America's GSI score leap from -17 to +58. Its GSI score was already strengthened following the passage of the US\$900 billion bipartisan stimulus bill in late December 2020. That stimulus included US\$35 billion in clean energy, building energy efficiency measures, investments in electric vehicle infrastructure and support for carbon capture and storage technologies. The score was further strengthened by the Executive Order outlined above. But the huge proposed green stimulus investment would push the GSI score to +58, ahead of the European Union and behind only the small country of Denmark. These investments would be directed into renewable energy, public transit, electric vehicles and reforestation, upgrading and increasing climate resiliency for millions of homes over four years, investing in clean tech innovation, public transit, electric vehicle infrastructure, agriculture and conservation. The change in score from full implementation of the Climate Plan is shown below.

Figure 6 | Change in United States score associated with the Climate Plan



Note: Updated on 8 February 2021.

Source: Vivid Economics using a variety of sources. Consult Annex II for the entire list of sources.

The Biden Plan proposes to invest US\$1.7 trillion over ten years. The GSI focuses on near-term stimulus measures, so the expenditure has been scaled to thirty percent of its original value, reflecting three years of investment to remain consistent with the timelines of other included stimulus measures. As the Plan is translated into quantified policies, the index will be updated accordingly.

The plan is bold and well-funded. It serves as a model for how COVID-19 stimulus can be used to radically improve a country's environmental trajectory.

Box 2 | Biden's \$1.9 trillion American Rescue Plan does not target climate change and biodiversity issues, but would still slightly improve the US score

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 reopen schools, supporting struggling communities and delivering immediate relief to working families.

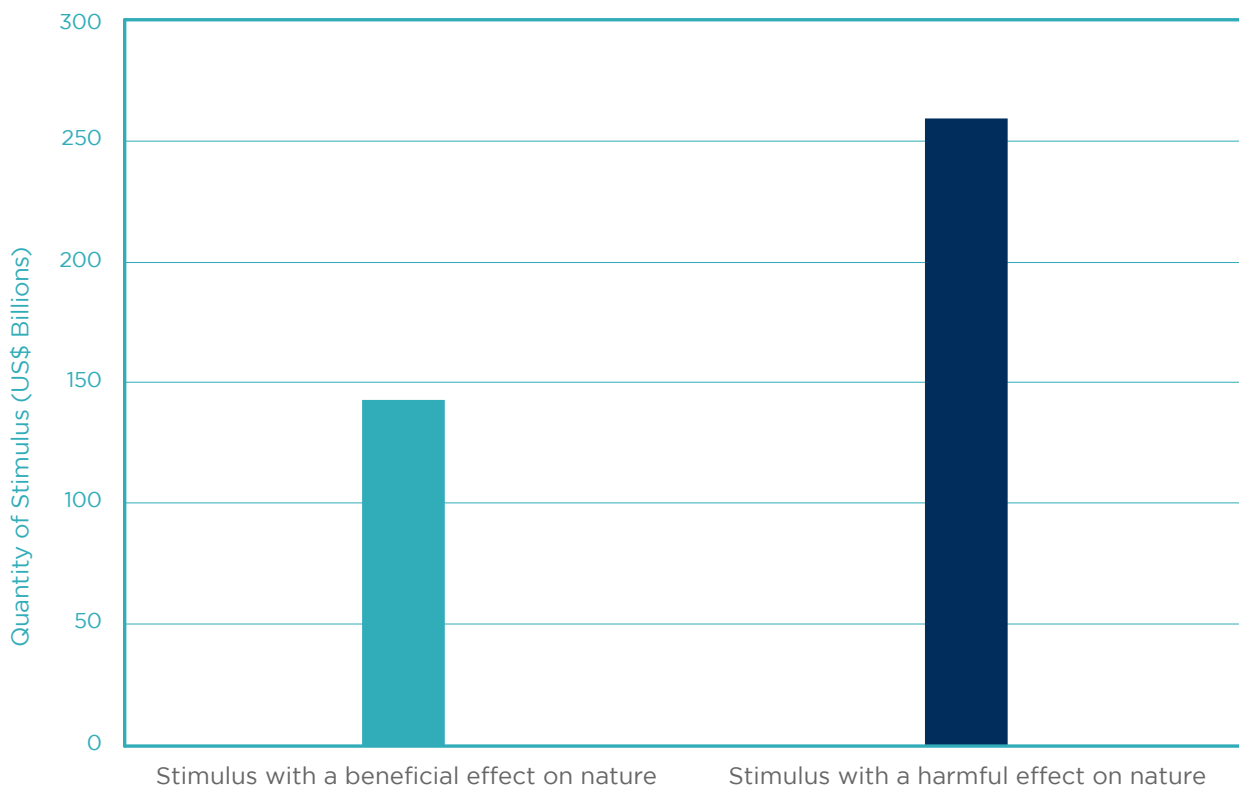
However, some funding within the plan is found to be environmentally beneficial.

For example, it includes a \$20 billion investment in public transport and the creation of a set-aside fund for states to invest in projects to improve energy efficiency.

If fully implemented in its form as of 8 February 2021, the plan would slightly improve the United States GSI score from -17 to -15.

Nature has been particularly neglected in stimulus funding. Of the 31% of all stimulus that we consider to be environmentally relevant, more than US\$262 billion of specific (quantified) stimulus measures will likely have an adverse effect on nature, compared with only US\$141 billion that will likely have a directly positive effect (see Figure 6). This is before taking into account non-quantified stimulus measures, of which the vast majority are negative, such as environmental deregulation and reduced fees for polluters. Examples of nature-positive stimulus measures include India's afforestation programme, the conservation component of South Korea's New Deal, China's wildlife trade ban, and the announced Great American Outdoors Act. These are outweighed by policies such as Brazil's decreased oversight of Amazon deforestation, Canada's rollback of environmental protection regulations for oil and gas exploration, and China's approval of new coal mine projects.

Figure 6 | Allocation of stimulus to nature



Source: Vivid Economics

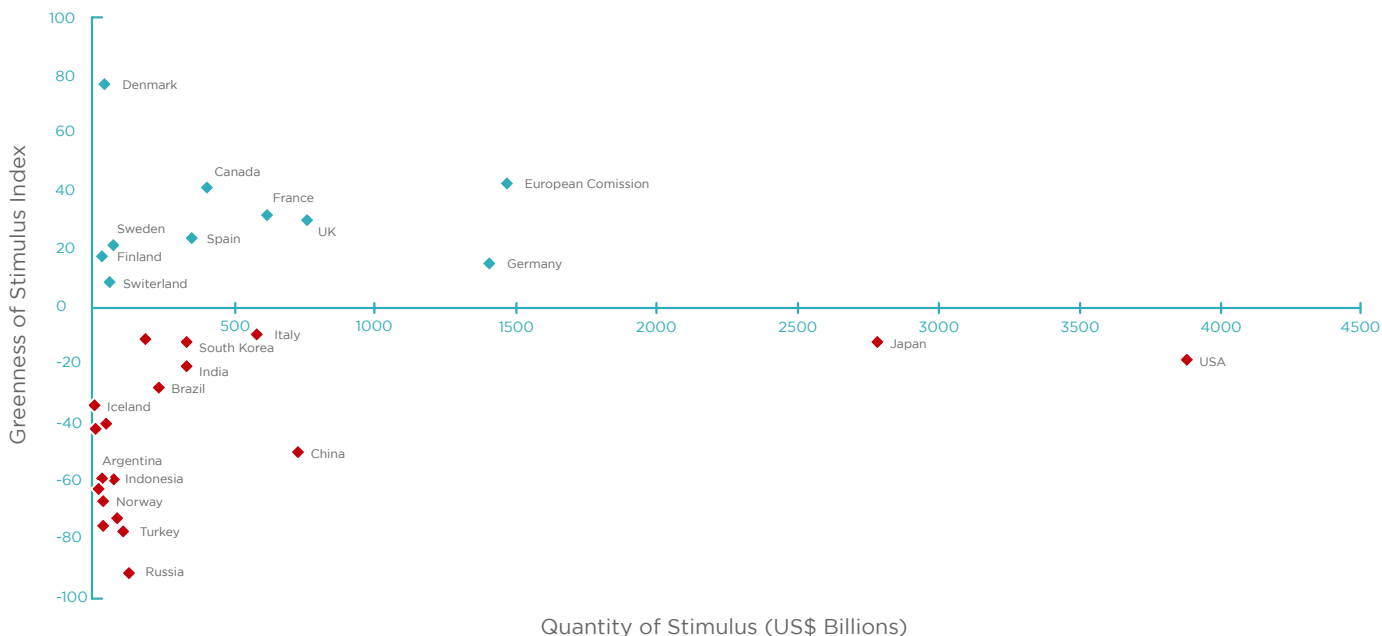
Note: Updated 1 February 2021

Drilling down into individual countries, while the United States' score significantly improved following the US\$900 billion December 2020 stimulus package and Biden's Executive Order, 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.

China's score improved due to stricter emission reduction targets and ambitions for massive renewable energy deployment, 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. While these investments are a promising attempt by the Chinese government to divert stimulus towards green investments, much further action is required to overcome the negative impact of unconditional stimulus support to China's existing, environmentally-intensive industries. Additionally, future plans to build new fossil fuel infrastructure as part of China's upcoming 'five-year plan' will not help China raise its score nor achieve its recent pledge of carbon neutrality by 2060.

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 1 February 2021

India's overall stimulus mainly supports environmentally-intensive industry and energy activities, but its most recent stimulus measures were two-thirds green, pushing up its GSI score. India announced roughly US\$3 billion in battery development and solar PV. Previous announcements included funding for afforestation and some support for solar power. But India continues to be hostage to coal, with fresh loans to a number of thermal power producers 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. Some hope for a greener recovery has come, however, in the form of rail initiatives and investments into solar energy.

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 announced a major green bond issuance and financing for wind projects and wind blade manufacturing sites, boosting its score. But it 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 passed 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. These changes decreased Indonesia's GSI score. This adds to previous laws deregulating the mining industry, and subsidising state-owned oil and gas and electricity companies and airlines. While Indonesia's recent 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. 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

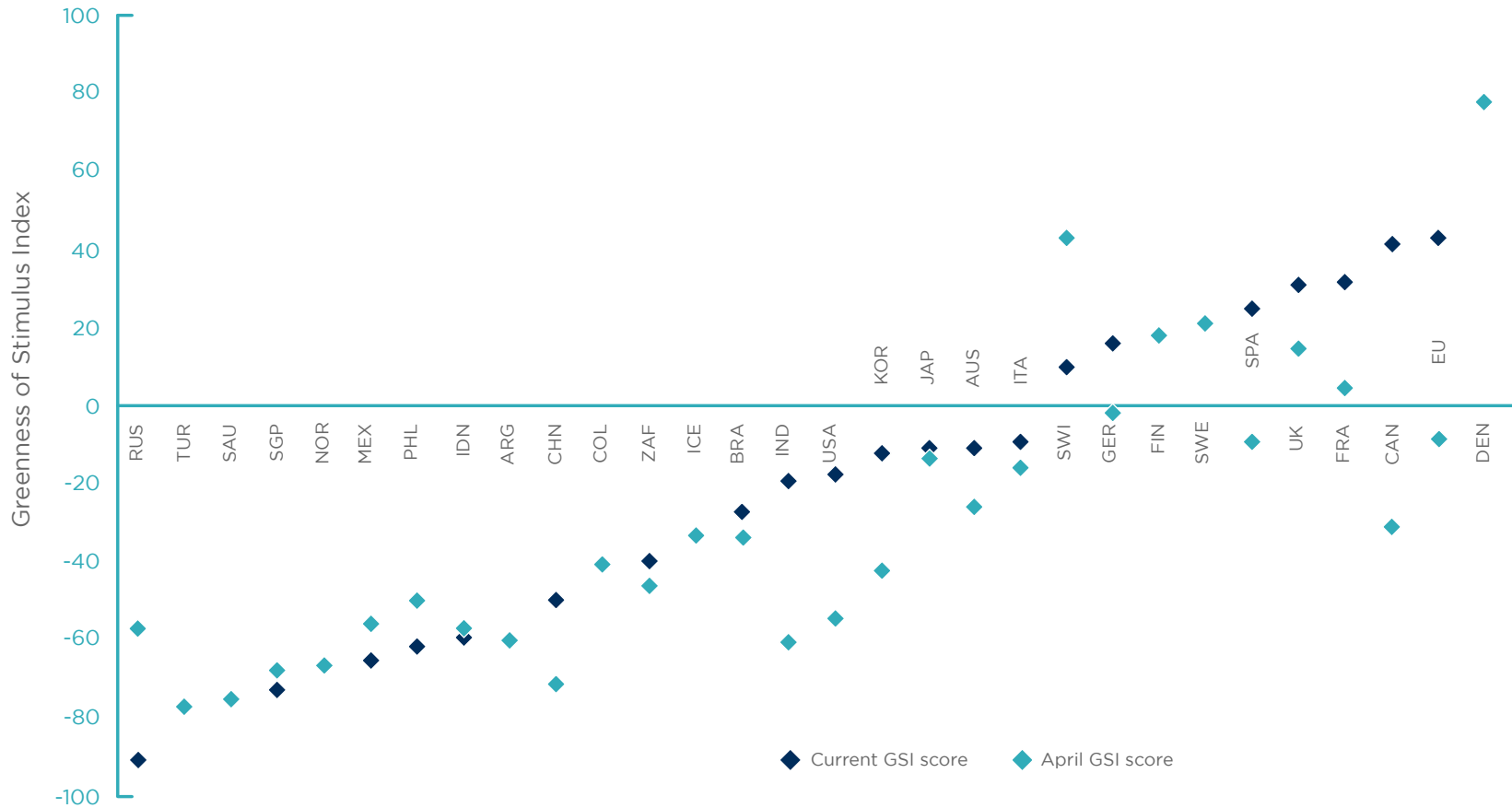
earlier measures, but has also made pledges to develop renewable energy, a strategic move in a country that has faced frequent energy shortages.

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.

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. 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.

Canada, France and the United Kingdom 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, second only to the United States, and following another major improvement in the December edition of the GSI. Canada announced a wide-ranging Healthy Environment and Healthy Economy Plan that covered energy efficiency investments in homes and large buildings, incentives for zero-emissions vehicles, investments in electric vehicle charging infrastructure and public transit, and investments in smart grids and clean energy. It commits to raising the price of carbon, investing in net zero innovation, zero-emissions fuels, and commits to reducing methane emissions from the oil and gas sector. It seeks emissions reductions from agriculture and fertilisers, and announces a major tree planting investments and nature restoration 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. The United Kingdom strengthened domestic GHG reduction targets and withdrew financial support for overseas fossil fuel sectors, boosting its score. France introduced new regulation banning gas heating in new homes, and previously introduced measures directly supporting a green transition through its new recovery act.

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



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. 1 February 2021.

:vivid economics



Germany, South Korea and Spain have also implemented specific green projects, but have not moved much recently. Germany 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 announced a pair of Royal decrees to guarantee the viability of public transport and ease access to grid connection permits for renewables.

The European Union's stimulus package has the most promising prospective environmental impact, and is already leading to member state improvements. The US\$830 billion (€750 billion) 'Next Generation EU' recovery package includes a variety of green measures aimed at supporting the 'European Green Deal'. Specific measures include steps to improve the sustainability of agriculture, funding for renewable energy, and support for electric vehicle sales and infrastructure. Financial support to member states is also expected to be accompanied by 'do no harm' environmental conditions.

Spain and France have already taken advantage of this package, allocating their shares of it towards recovery acts with significantly positive environmental targets. Although approved support for the EU's Just Transition Fund, Rural Development and Sustainable Infrastructure Fund (InvestEU) was smaller than initially proposed, targeted environmental support is much larger than that announced by individual governments. As a result, the European Union achieves the highest index score. It is critical that EU member states fulfil the aims of the stimulus, by using these grants and loans to achieve the dual purpose of economic recovery and environmental sustainability.

Finally, the role of central banks in COVID-19 recovery, and the (potential) impact of their operations on a green recovery has been largely neglected, but could be substantial.

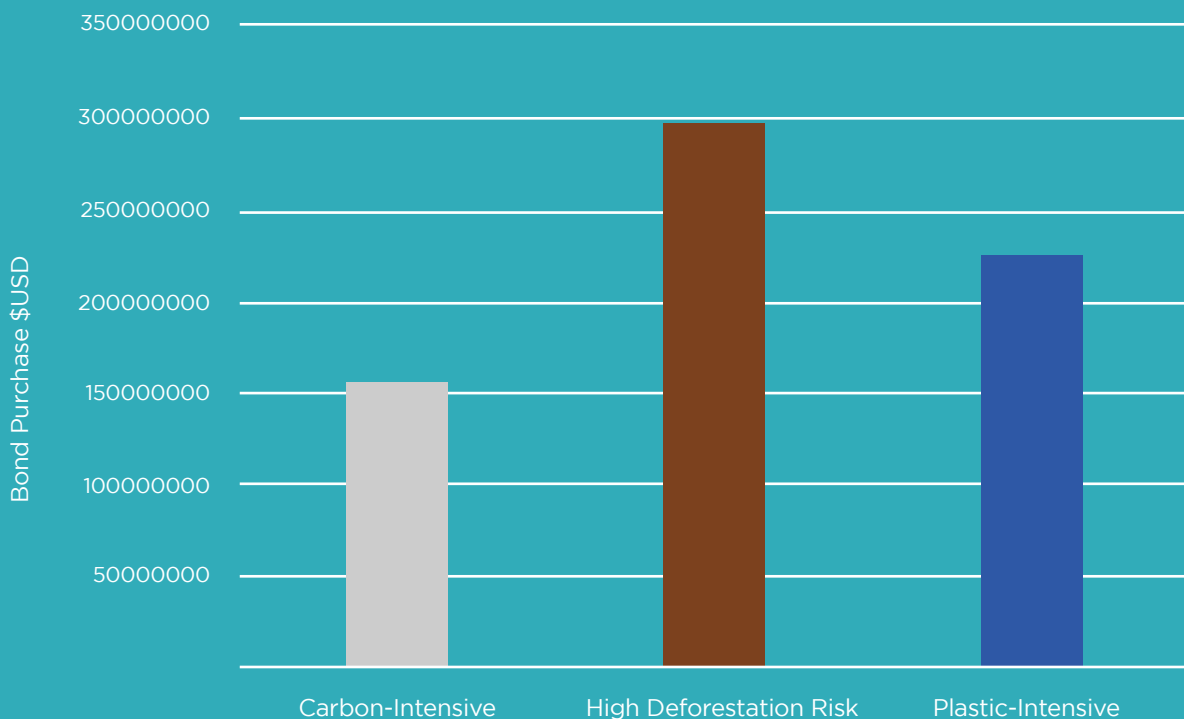
Box 3 | Fed purchases revealed to have adverse environmental impact

Though the fiscal response to COVID-19 has consumed the lion's share of attention and scrutiny, central banks have also played a significant role in response to the crisis. Following their core mandates of maintaining monetary and financial stability, central banks have propped up faltering investment and demand through a variety of tools. They have lowered interest rates, extended credit to commercial banks and businesses, and in many cases established new corporate asset purchase programmes. The latter, as a form of quantitative easing, purchases corporate bonds to improve liquidity in the market and lower the cost of borrowing. Much like fiscal stimulus programmes, central bank asset purchases are likely to have sizeable indirect impacts on climate and nature. By purchasing corporate bonds from companies that have an adverse effect on climate and nature, central banks are indirectly

financing those activities and lowering the cost of capital for the companies that undertake them. In this fresh analysis, we examine the environmental impact of the response by the United States Federal Reserve through its Secondary Market Corporate Credit Facility (SMCCF).

Through the SMCCF, the Fed purchased corporate bonds for the first time, 10% of which were issued by companies at high risk of adversely affecting nature and climate. We cross-reference the corporate asset purchases reported by the Fed with databases identifying the worst corporate offenders in terms of GHG emissions, risk of tropical deforestation, and plastic pollution. To the end of 2020, roughly US\$587 million in corporate bonds have been purchased from these high-risk companies, or around 10% of all transactions made through the SMCCF.

Figure 10 | Secondary Market Corporate Credit Facility Purchases



Note: Updated on 8 February 2021.

Note: Vivid Economics using a variety of sources. Consult Annex II for the entire list of sources.

10 of the world's 100 largest emitters have received US\$154 million in funding through the SMCCF, or about 3% of all purchases. The 10 companies - Apache, Chevron, ConocoPhillips, EOG Resources, ExxonMobil, Glencore, Hess, Marathon Petroleum, Noble Energy and British Petroleum - emitted roughly 60,000 MtCO₂e from 1988 to 2015, or 6.7% of global industrial GHG for that time period.

The companies and their emissions were identified through CDP's Carbon Majors report, which details the cumulative Scope 1 and Scope 3 emissions of the world's 100 biggest emitters from 1988 to 2015.³ Even beyond the top 100, numerous oil and gas companies not in the CDP majors list received funding from the Fed, indicating that our reported figure is an underestimate of the total carbon-intensive purchases made by the Fed.

23 companies at high risk of contributing to tropical deforestation received a total of US\$306 million from the SMCCF, roughly 5% of total purchases. These include well-known brands such as Home Depot, Hershey and Walmart. The companies were identified through the Forest 500, which "identifies and ranks the most influential companies and financial institutions in forest risk commodity supply chains." Companies are selected for inclusion in the list based on two criteria: risk of being linked to tropical deforestation, and influence within the political economy of tropical deforestation. After inclusion, companies are scored out of 100, based on "overarching cross-commodity zero deforestation commitments, commodity-specific policies, as well as the scope of commitments and whether progress is reported transparently." For this analysis, we designated companies with scores below 50 as having high deforestation risk (lower scores represent higher risk).⁴

11 of the 200 largest plastic polluters received a total of US\$241 million from the Fed, which is just shy of 5% of all SMCCF purchases. This includes brands like Starbucks, Coca Cola, Philip Morris and PepsiCo.

The companies were identified based on waste data from Break Free From Plastic's Brand Audit. The Audit took a global sample of plastic waste in over 50 countries and analysed which companies were responsible for the largest shares of waste.⁵ The 11 companies identified in the Fed's asset purchases accounted for more than 10% of the total plastic collected that could be attributed to a brand. This suggests this group is likely to be responsible for a significant portion of the world's plastic waste.

Overall, much more is required to kick-start a truly green recovery. Progress has been made through the United States' stimulus and policy ambition, Canada's detailed and wide-ranging investments and policies, China's significant policy announcements, India's green-tinted stimulus spending, Japan's support for clean energy and digitalisation, and the European Union's strong stimulus package. Nevertheless, specific green measures comprise only a small proportion of stimulus to date in the countries analysed. Even Germany's US\$45 billion 'Package for the Future' only accounts for around 3% of its total fiscal stimulus. Governments are expected to continue to announce substantial recovery packages in the coming months, which will present ongoing and critical opportunities to support a 'green' recovery.

³ CDP (2017). <https://www.cdp.net/en/articles/media/new-report-shows-just-100-companies-are-source-of-over-70-of-emissions>

⁴ Forest 500 (2020). <https://forest500.org/about/how-do-we-rank-500>

⁵ Break Free From Plastic (2019). <https://www.breakfreefromplastic.org/wp-content/uploads/2020/07/branded-2019.pdf>

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.⁶ 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.⁷ 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.

⁶ 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.

⁷ 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.⁸

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.

⁸ 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 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

⁹ Official Bulletin of Argentina (2020). <https://www.boletinoficial.gob.ar/detalleAviso/primera/229470/20200519>. Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/argentina/>

¹⁰ Argentinian Ministry of Agriculture, Livestock and Fisheries (2020). <https://www.magyp.gob.ar/fondosambientales/>. Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/argentina/>

¹¹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/argentina/>

¹² 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\$188 billion in total fiscal support.¹³

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.

Australia has announced a mix of policies, which, combined with its insufficient underlying environmental progress, results in a negative index score. However, continued investment in the clean energy sector by territorial governments has increased Australia's score in this update as well as the previous one.

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

¹³ 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.¹⁴ The government announced in April 2020 that licensing fees and annual petroleum fees will not be due until December 2020.¹⁵ 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.¹⁶ Because airlines are a high emissions subsector in transport, this policy imposes 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.

- However, some specific green support has been announced, particularly in the energy sector. Hydrogen has received funding through three channels. The Advanced Hydrogen Fund has committed US\$189 million,²⁴ the Australian Renewable Energy Agency is providing US\$44 million,²⁵ 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 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

- 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 million 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 system.³³ South Australia has invested in a green transportation sector, allocating US\$12 million to an electric vehicle action plan.³⁴

¹⁴ Climate Change News (2020). <https://www.climatechangenews.com/2020/04/20/coronavirus-governments-bail-airlines-oil-gas/>

¹⁵ APPEA (2020). https://www.appea.com.au/media_release/sa-supports-exploration-amid-covid-19-challenges/

¹⁶ Australian Treasury (2020). https://treasury.gov.au/sites/default/files/2020-05/Overview-Economic_Response_to_the_Coronavirus_3.pdf

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>

²¹ Queensland Government (2020).

<https://www.business.qld.gov.au/industries/mining-energy-water/resources/geoscience-information/exploration-incentives/exploration-grants>

²² Northern Territory Government (2020). <http://newsroom.nt.gov.au/mediaRelease/33259>

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

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

²⁵ Renew Economy (2020). <https://reneweconomy.com.au/arena-opens-70-million-funding-round-to-fast-track-renewables-for-hydrogen-58600/>

²⁶ Tasmanian Government (2020). http://www.premier.tas.gov.au/releases/re-issued_becoming_the_nations_renewable_hydrogen_industry_epicentre

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

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

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/>

1.3 Brazil

Brazil has passed a total of US\$224 billion in fiscal stimulus spending.³⁵

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. Since the previous release, Brazil has not implemented any new stimulus measures.

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.

³⁵ 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 oilfields³⁶.

- On the other hand, the Brazilian government has 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 2020³⁷. These are expected to attract up to US\$34 billion by 2029.³⁸ Brazil has also announced the extension of a green credit line to support biofuel producers³⁹ 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 market⁴⁰.

- The new National Energy Plan was approved in December 2020⁴¹. The Brazilian government has set a renewable energy target of around 45% by 2030 under the new strategy⁴². Support for renewable energy has also been provided through 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. Brazil has also provided support for energy efficiency improvements. Those policies contribute positively towards Brazil's index score.

- On the other hand, Brazil has delayed electricity auctions which were expected in the spring of 2020.⁴³ The delay is likely to give 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 impose additional barriers to the development of renewable energy in the country. By giving natural gas a competitive edge, the country is delaying the development of green energy projects.

- Brazil followed the lead of many other countries and extended unconditional financial support to the airline industry.⁴⁴ 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.⁴⁵

- 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.⁴⁶ 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.⁴⁷ 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.⁴⁸

- 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.⁴⁹ 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.⁵⁰

³⁶ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/brazil/>

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

³⁸ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/brazil/> ,

³⁹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/brazil/> , <https://epbr.com.br/linha-de-r-3-bi-do-bndes-para-o-etanol-es-tara-disponivel-nesta-quarta/>

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

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

⁴² 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%202030%20under%20the%20new%20strategy.>

⁴³ 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/>

⁴⁴ 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>

⁴⁵ Brazil government (2020). http://www.planalto.gov.br/ccivil_03/_ato2019-2022/2019/Mpv/mpv910.htm

⁴⁶ The Guardian (2020). <https://www.theguardian.com/environment/2020/may/28/studies-add-to-alarm-over-deforestation-in-brazil-under-bolsonaro-covid-19>

⁴⁷ Financial Times (2020). <https://www.ft.com/content/ca84017c-94c5-48ca-80c6-2ac31ea20cd9>

⁴⁸ Monga Bay (2020). <https://news.mongabay.com/2020/05/brazil-opens-38000-square-miles-of-indigenous-lands-to-outsiders/>

⁴⁹ Politico EU (2020). <https://www.politico.eu/article/climate-battle-shifts-to-once-in-a-generation-national-budgets/>

⁵⁰ The Rising (2020). <https://therising.co/2020/05/21/amazon-fires-may-be-worse-2020/>

1.4 Canada

Canada has passed US\$400 billion in fiscal stimulus measures.⁵¹

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 deferments. 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. With this plan, Canada's index score has improved considerably since the last release due to increased national and provincial level funding for emissions reduction investments and numerous unquantified policies, resulting in a second, higher, overall positive index score.

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

⁵¹ 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.⁵² 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.⁵³ 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.⁵⁴ 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.⁵⁵

• In the transport sector, Canada has suspended airline docking fees temporarily, waiving this tax on a high-emissions industry.⁵⁶ 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.

⁵² Canadian Government (2020). <https://pm.gc.ca/en/news/news-releases/2020/04/17/prime-minister-announces-new-support-protect-canadian-jobs>

⁵³ Canadian Broadcast Corporation (2020). <https://www.cbc.ca/news/politics/financial-aid-covid19-trudeau-1.5535629>

⁵⁴ Climate Change News (2020). <https://www.climatechangenews.com/2020/04/20/coronavirus-governments-bail-airlines-oil-gas/>

⁵⁵ EDC (2020) <https://www.edc.ca/en/about-us/newsroom/covid-19-oil-gas-support.html>

⁵⁶ Government of Canada (2020). <https://www.canada.ca/en/departement-finance/economic-response-plan.html>

- Loans provided to the fishing and agricultural industry in Canada have been enacted without conditions for improvement in environmental performance.⁵⁷ 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.
- 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.⁵⁸ 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.⁵⁹ Environmental regulations have also been rolled back in Saskatchewan,⁶⁰ Quebec,⁶¹ British Columbia and Nova Scotia,⁶² 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 Alberta⁶³ and Quebec⁶⁴ 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,⁶⁵ and coal pit protections in Alberta.⁶⁶ 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.⁶⁷

⁵⁷ Government of Canada (2020). <https://www.canada.ca/en/department-finance/economic-response-plan.html>

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

⁵⁸ Open Alberta (2020).

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

⁵⁹ 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>

⁶⁰ 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>

⁶¹ 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>

⁶² Province of Nova Scotia (2020) <https://novascotia.ca/coronavirus/fees>, Energy Policy Tracker (2020) <https://www.energypolicytracker.org/country/canada>

⁶³ 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>

⁶⁴ 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>

⁶⁵ 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>

⁶⁶ Province of Alberta (2020). <https://www.alberta.ca/coal-policy-guidelines.aspx>, Energy Policy Tracker (2020) <https://www.energypolicytracker.org/country/canada>

⁶⁷ 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>

- Investment made into transportation has affected Canada's index score both positively and negatively. While significant investment (more than US\$2 billion) has been committed to public transit both at the federal and state levels,⁶⁸ even more has been set aside for the construction of automobile-centric highways and bridges.⁶⁹

- 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.⁷⁰ 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.⁷¹

- Canada has committed to supporting Newfoundland and Labrador's off-shore oil industry with an investment of US\$238.6 million.⁷² 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.⁷³

- 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.⁷⁴

- 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.⁷⁵ Ontario became the first Canadian province to pass a regulation requiring that all regular-grade gasoline contain a minimum of 15% renewable content.⁷⁶ 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.⁷⁷

- 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.⁷⁸

⁶⁸ Prime Minister of Canada (2020). <https://pm.gc.ca/en/news/news-releases/2020/05/11/prime-minister-announces-additional-support-businesses-help-save>

⁶⁹ Open Alberta (2020).

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

⁷⁰ 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>

⁷¹ Province of Quebec (2020).

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

⁷² 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>

⁷³ Province of Nova Scotia (2020) <https://novascotia.ca/coronavirus/fees>, Energy Policy Tracker (2020) <https://www.energypolicytracker.org/country/canada>

⁷⁴ 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>

⁷⁵ 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>

⁷⁶ 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>

⁷⁷ Province of Alberta (2020). <https://www.alberta.ca/coal-policy-guidelines.aspx> , Energy Policy Tracker (2020)

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

⁷⁸ 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>

1.5 China

China has passed a total of US\$729 billion in fiscal stimulus.⁷⁹

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 enterprises⁸⁰ 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.⁸¹

China scores poorly on key indicators, and despite some positive policies, has a very low index score. China's new ambition for 2030 climate targets, as well as few associated policies, have, 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.

⁷⁹ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

⁸⁰ The Economist (2020). <https://www.economist.com/finance-and-economics/2020/04/16/why-has-chinas-stimulus-been-so-stingy>

⁸¹ 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 2020.⁸² 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 2019.⁸³ 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 infrastructure.⁸⁴

- As an initial response to COVID-19, the Chinese government dropped its commitment to key emissions intensity and energy targets for post-2020.⁸⁵ 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.⁸⁶

- Chinese provinces have rolled out car subsidies to support the general industry, encouraging uptake in traditional combustion engines in the transport sector.⁸⁷ 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 2022.⁸⁸ 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.⁸⁹ This extension will occur through 2022,⁹⁰ but decreased by 10% in December 2020 and excluded vehicles priced over US\$42,357.⁹¹

- One specific measure that supports green infrastructure investment is the US\$379 million funding for EV charging infrastructure across China.⁹² 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.

⁸² Climate Action Tracker (2019). <https://climateactiontracker.org/countries/>

⁸³ Global Energy Monitor (2020). https://endcoal.org/wp-content/uploads/2020/03/BoomAndBust_2020_English.pdf

⁸⁴ 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>

⁸⁵ 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

⁸⁶ 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>

⁸⁷ Financial Times (2020). <https://www.ft.com/content/12cc8c6a-5f7a-11ea-b0ab-339c2307bcd4>

⁸⁸ 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>

⁸⁹ IHS Market (2020). <https://ihsmarkit.com/research-analysis/china-steps-up-efforts-to-boost-auto-industry.html>

⁹⁰ Bloomberg (2020). <https://www.bloomberg.com/news/articles/2020-04-01/china-mulling-cutting-electric-car-subsidies-it-just-extended>

⁹¹ 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>

⁹² 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.⁹³ 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.⁹⁴

- 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.⁹⁵

- In a move that made international news, China pledged to become carbon neutral by 2060.⁹⁶ 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.⁹⁷ This is in addition to recent announcements that include allocating \$587 million for new coal plants.⁹⁸

- 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 kilowatts ⁹⁹ Analysis by Carbon Brief has highlighted the significance of those targets for clean electricity generation¹⁰⁰. This contributed to improving China's GSI score.

- China has also unveiled plans for a biomass power plant,¹⁰¹ and the city of Beijing has implemented an incentive system for businesses to replace their light trucks with electric vehicles.¹⁰² 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.¹⁰³

⁹³ Line Today (2020). <https://today.line.me/hk/article/National+green+development+fund+company+established+in+Shanghai-5eYWgw>

⁹⁴ 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.

⁹⁵ 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.

⁹⁶ Climate Change News (2020). <https://www.climatechangenews.com/2020/09/22/xi-jinping-china-will-achieve-carbon-neutrality-2060/>

⁹⁷ Carbon Brief (2020). <https://www.carbonbrief.org/analysis-chinas-covid-stimulus-plans-for-fossil-fuels-three-times-larger-than-low-carbon>

⁹⁸ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/china>, <http://www.sxcoal.com/news/4615831/info/en>

⁹⁹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/china/>

¹⁰⁰ Carbon Brief (2020) <https://www.carbonbrief.org/analysis-chinas-new-2030-targets-promise-more-low-carbon-power-than-meets-the-eye>

¹⁰¹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/china>, https://www.ndrc.gov.cn/xxgk/zcfb/tz/202009/t20200916_1238868.html

¹⁰² Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/china>, http://jt.beijing.gov.cn/xxgk/zcjd/202008/t20200831_1994317.html

¹⁰³ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/china>, http://www.gov.cn/zhengce/content/2020-11/02/content_5556716.htm

1.6 Colombia

Colombia has passed a total of US\$8 billion in COVID-19 fiscal stimulus.¹⁰⁴

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.¹⁰⁵ 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.¹⁰⁶ 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.¹⁰⁷

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.

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

¹⁰⁴ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

¹⁰⁵ Government of Colombia (2020). http://www.urf.gov.co/webcenter/ShowProperty?nodeId=/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>

¹⁰⁶ 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>

¹⁰⁷ Government of Colombia (2020). <https://colaboracion.dnp.gov.co/CDT/Conpes/Econ%C3%B3micos/3999.pdf>

• Underlying sector context (b₁)

Performance on key indicators is highly insufficient to achieve environmental targets.¹⁰⁸

• Specific environmental measures (b₂)

- The Ministry of Mines and Energy recently 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 wave¹⁰⁹. 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.¹¹⁰

- 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.¹¹¹

- On 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.¹¹²

¹⁰⁸ 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.

¹⁰⁹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/colombia>

¹¹⁰ 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>

¹¹¹ 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>

¹¹² Government of Colombia (2020). http://www.urf.gov.co/webcenter/ShowProperty?nodeld=/ConexionContent/WCC_CLUSTER-127220

1.7 Denmark

Denmark has passed a total of US\$38 billion in fiscal measures.¹¹³

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,¹¹⁴ as well as an immediate commitment to energy efficiency, green research investments, and a dedicated nature and biodiversity allocation.¹¹⁵ Most recently, 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'.¹¹⁶

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.

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

¹¹³ IMF Policy Tracker (2021). Policy Responses to COVID19 (imf.org)

¹¹⁴ IMF Policy Tracker (2020). Policy Responses to COVID19 (imf.org)

¹¹⁵ The Carbon Brief (2020). Coronavirus: Tracking how the world's 'green recovery' plans aim to cut emissions (carbonbrief.org)

¹¹⁶ Copenhagen Post Online (2020). Government lands 2021 budget agreement - The Post (cphpost.dk)

• 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.¹¹⁷ 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.

• More recently 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.¹¹⁸

• 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.¹¹⁹

¹¹⁷ IMF Policy Tracker (2021). Policy Responses to COVID19 (imf.org)

¹¹⁸ Copenhagen Post Online (2020). Government lands 2021 budget agreement - The Post (cphpost.dk)

¹¹⁹ 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 €1.33 trillion (US\$1.46 trillion).¹²⁰

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.¹²¹ In September 2020, the European Union adopted a revised set of EU Emission Trading System State Aid Guidelines.¹²² In October, the EU’s new stimulus measures included nearly €1 billion in grants for new energy infrastructure investments¹²³ and the issuance of €17 billion (US\$18.75 billion) in social bonds under the EU SURE instrument.¹²⁴

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

¹²⁰ 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

¹²¹ New York Times (2020). <https://www.nytimes.com/reuters/2020/07/21/us/21reuters-eu-summit-climate-change-factbox.html>

¹²² European Commission (2020). https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1712

¹²³ European Commission (2020). https://ec.europa.eu/commission/presscorner/detail/en/IP_20_1803

¹²⁴ 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.¹²⁵

• 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.¹²⁶

- 37% of the €750bn 'Next Generation EU' package will be directed at specific green measures, which includes support for the following investments:¹²⁷

- 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.¹²⁸

- 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).¹²⁹ 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.¹³⁰

- Funding for natural capital and the circular economy.¹³¹

- Support for electric vehicle sales and charging infrastructure.¹³²

- €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.¹³³

- 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.¹³⁴ 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 energy and US\$9 million to Norway through the Horizons 2020 programme for development of the green hydrogen ship 'Topeka'.¹³⁵

¹²⁵ The Climate Action Tracker provides a score for the EU. The EPI score is calculated by taking an average of scores of member countries.

¹²⁶ KPMG Insights (2020). <https://home.kpmg/xx/en/home/insights/2020/04/russia-government-and-institution-measures-in-response-to-covid.html>

¹²⁷ New York Times (2020). <https://www.nytimes.com/reuters/2020/07/21/us/21reuters-eu-summit-climate-change-factbox.html>

¹²⁸ EURACTIV (2020). <https://www.euractiv.com/section/energy/news/eu-boosts-just-transition-fund-pledging-e40-billion-to-exit-fossil-fuels/>

¹²⁹ 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>

¹³⁰ Guardian (2020). https://www.theguardian.com/environment/2020/may/28/eu-green-recovery-package-sets-a-marker-for-the-world?CMP=share_btn_tw

¹³¹ 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>

Bloomberg (2020).

https://www.bloomberg.com/news/articles/2020-05-20/eu-to-unveil-world-s-greenest-virus-recovery-package?cmpid=BBDD052120_GREENDAILY&utm_medium=email&utm_source=newsletter&utm_term=200521&utm_campaign=greendaily

¹³² European Commission (2020). https://ec.europa.eu/commission/presscorner/detail/en/IP_20_1803

¹³³ European Commission (2020). <https://www.cnn.com/2020/11/19/eu-gentiloni-worried-after-hungary-and-poland-veto-stimulus.html>

¹³⁴ Manila Bulletin (2020). <https://mb.com.ph/2020/10/26/eu-allots-p3-76-b-for-ph-green-financing/>

¹³⁵ Euractiv (2020). <https://www.euractiv.com/section/shipping/news/norways-green-hydrogen-ship-granted-e8m-in-eu-funding/>

1.9 Finland

Finland has passed a total of US\$33 billion in fiscal measures.¹³⁶

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,¹³⁷ 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).¹³⁸ The recapitalisation scheme of Finnair, early in the pandemic, works against the country's index score.¹³⁹

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.

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

¹³⁶ KPMG Covid-19 Policy Responses (2021). Finland - Measures in response to COVID-19 - KPMG Global (home.kpmg)

¹³⁷ KPMG Covid-19 Response Measures (2020). Finland - Measures in response to COVID-19 - KPMG Global (home.kpmg)

¹³⁸ Finnish Government (2020). Government reaches agreement on seventh supplementary budget proposal for 2020 (valtioneuvosto.fi)

¹³⁹ KPMG Covid-19 Policy Responses (2020). Finland - Measures in response to COVID-19 - KPMG Global (home.kpmg)

• 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.¹⁴⁰ 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.

- A scrapping scheme for old cars has been introduced recently to provide an incentive for Finnish road users to abandon outdated, climate damaging technology in favour of modern, low emissions vehicles.¹⁴¹ 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.

- Fiscal expenditure on highway infrastructure development between some of the country's largest cities serves to lower Finland's score, although the possibility of low emissions or electric vehicles using these roads in the future somewhat mitigates the severity of this impact.¹⁴²

¹⁴⁰ Finnish Government (2020). Government reaches agreement on seventh supplementary budget proposal for 2020 (valtioneuvosto.fi)

¹⁴¹ Finnish Government (2020). Government reaches agreement on seventh supplementary budget proposal for 2020 (valtioneuvosto.fi)

¹⁴² 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\$611 billion in fiscal measures.¹⁴³

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 France¹⁴⁴ and €8 billion (US\$8.8 billion) for the auto industry.¹⁴⁵ 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.¹⁴⁶ At the end of October, the country approved additional stimulus worth US\$24 billion to help SMEs and sectors disproportionately hit by the pandemic¹⁴⁷.

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

¹⁴³ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

¹⁴⁴ New York Times (2020). <https://www.nytimes.com/2020/04/25/business/air-france-klm-bailout.html>

¹⁴⁵ Government of France (2020). <https://www.economie.gouv.fr/covid19-soutien-entreprises/mesures-plan-soutien-automobile>

¹⁴⁶ Government of France (2020). <https://www.gouvernement.fr/france-relance>

¹⁴⁷ 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.¹⁴⁷ 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.¹⁴⁸ 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.¹⁴⁹

- 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.¹⁵⁰

- 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 2040.¹⁵¹ 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.¹⁵² 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.¹⁵³

- France has extended its rooftop solar PV subsidy to households - originally expected to be phased out this spring.¹⁵⁴ This extension, coupled with a fast-tracking of requirements for wind and solar projects in France, is providing a regulatory boost for green energy projects during the crisis.

- However, the French government has announced some potentially harmful support for environmentally-intensive producers by allowing the exemption of certain firms from particular environmental regulations¹⁵⁵, and extending tax breaks for off-road diesel use.¹⁵⁶

- 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.¹⁵⁷

¹⁴⁷ New York Times (2020). <https://www.nytimes.com/2020/04/25/business/air-france-klm-bailout.html>

¹⁴⁸ Routes Online (2020). <https://www.routesonline.com/news/29/breaking-news/291047/air-france-told-by-government-to-dramatically-cut-domestic-flying/>

¹⁴⁹ RFI (2020) <http://www.rfi.fr/en/wires/20200527-air-france-cut-40-domestic-flights-after-bailout>

¹⁵⁰ Transport Environment (2020) <https://www.transportenvironment.org/publications/air-frances-bailout-climate-conditions-explained>

¹⁵¹ Europe Auto News (2020). <https://europe.autonews.com/automakers/france-help-auto-sector-measures-worth-88b>

¹⁵² French Economic Ministry (2020). <https://www.economie.gouv.fr/covid19-soutien-entreprises/mesures-plan-soutien-automobile>

¹⁵³ Le Monde (2020).

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

¹⁵⁴ The Guardian (2020). <https://www.theguardian.com/environment/2020/apr/17/polluter-bailouts-and-lobbying-during-covid-19-pandemic>

¹⁵⁵ Legifrance (2020).

https://www.legifrance.gouv.fr/affichTexte.do;jsessionid=80CDCAC7FA81B36CA4F682A1EC712CA9.tplgfr42s_1?cidTexte=JORFTEXT000041789298&dateTexte=&IdAction=rechJO&categorieLien=id&idJO=JORFCONT000041789298

¹⁵⁶ 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>

¹⁵⁷ Government of France (2020). <https://www.gouvernement.fr/france-relance>

1.11 Germany

Germany has passed a total of US\$1.4 trillion in fiscal stimulus.¹⁵⁸

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 recently announced that furlough wage subsidies will be extended until the end of 2021.¹⁵⁹

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.

¹⁵⁸ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

¹⁵⁹ 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.¹⁶⁰ The Lufthansa bailout includes ceding a 20% equity stake to the German government.¹⁶¹ 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.¹⁶² 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.¹⁶³

- 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 crisis¹⁶⁴. Further, Germany's lower house of parliament approved a tax on greenhouse 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 2025¹⁶⁵.

- 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.¹⁶⁶

¹⁶⁰ Transport & Environment (2020). https://www.transportenvironment.org/sites/te/files/Airline-bailout-tracker_8_May_2020.pdf

¹⁶¹ 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/>

¹⁶² Carbon Brief (2020). <https://www.carbonbrief.org/coronavirus-tracking-how-the-worlds-green-recovery-plans-aim-to-cut-emissions>

¹⁶³ Energy Policy Tracker (2020). <http://www.energypolicytracker.org/country/germany/>, <https://www.bundesrat.de/SharedDocs/beratungsvorgaenige/2020/0301-0400/0392-20.html>

¹⁶⁴ Recharge News (2020). <https://www.rechargenews.com/transition/germany-lowers-renewables-surcharge-to-cushion-covid-impact-on-consumers/2-1-894231>

¹⁶⁵ Energy Policy Tracker (2020). <http://www.energypolicytracker.org/country/germany/>

¹⁶⁶ Reuters (2020). <https://de.reuters.com/article/us-germany-autos/germany-to-up-financial-aid-for-cars-sector-government-sources-idUSKBN27X1S7>

1.12 Iceland

Iceland has passed US\$2 billion in total fiscal stimulus packages in response to COVID-19¹⁶⁷.

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.¹⁶⁸ Subsequent investments maintained this theme, offering sizeable loans for SMEs, supporting students, and abolishing hotel taxes.¹⁶⁹ Most recently, 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-19.¹⁷⁰ A rise in car tax of 2.5% that came into force in January 2021 contributed positively to Iceland's index score.¹⁷¹

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

¹⁶⁷ IMF Policy Tracker (2021). Policy Responses to COVID19 (imf.org)

¹⁶⁸ Government of Iceland (2020). Government of Iceland | Icelandic Government announces 1.6bn USD response package to the COVID-19 crisis

¹⁶⁹ 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/>

¹⁷⁰ Government of Iceland (2020), Government of Iceland | Eight stability measures

¹⁷¹ 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 million¹⁷². 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 score¹⁷³.

• The increase in car tax by 2.5% from January 2021¹⁷⁴ 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.

¹⁷² 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/>

¹⁷³ Government of Iceland (2020). Government of Iceland | Eight stability measures

¹⁷⁴ Reg Follower (2020). Iceland: Parliament approves a bill to implement tax measures under 2021 budget (regfollower.com)

1.13 India

India has passed US\$325 billion in total fiscal stimulus packages in response to COVID-19.¹⁷⁵

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.¹⁷⁶ 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.¹⁷⁷

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 announced some green stimulus measures, which features a US\$26.5 billion investment in biogas and cleaner fuels. The approval of US\$3.5 billion in production incentives for high efficiency solar PV and Advanced Chemistry Cell battery along with different state announcements on renewable energy plans have led to an increase in India's score in this latest release.

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

¹⁷⁵ <https://www.ft.com/content/5734f333-e4d7-4ebf-9de2-220e537da3f0>

¹⁷⁶ CNBC (2020). <https://www.cnbc.com/2020/10/13/india-economy-economists-not-impressed-by-latest-fiscal-stimulus.html>

¹⁷⁷ 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,¹⁷⁸ and the removal of coal washing regulations for supply to thermal power plants.¹⁷⁹ 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 Bihar¹⁸⁰. The government has also sought to replace imported coal with Indian coal to boost the domestic sector.¹⁸¹

• India has also allocated US\$6.6 million for transport infrastructure to help bring coal from India's state-run mines to market.¹⁸² 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 gas¹⁸³, and taking advantage of low oil prices to secure a strategic reserve.¹⁸⁴ 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.¹⁸⁵ India also approved US\$620 million towards raising ethanol production capacity to suck out surplus sugar as well as cut oil imports¹⁸⁶.

• India has also fast-tracked environmental impact assessments, to increase the speed of project development.¹⁸⁷ This fast-tracking is a driver of the negative score for India's industrial sector.

• However, India has also channelled US\$780 million towards an afforestation programme designed to stimulate the rural and semi-urban economy while providing essential ecosystem benefits.¹⁸⁸ This funding is provided through the Compensatory Afforestation Management and Planning Authority (CAMPA) fund.¹⁸⁹ The specific jobs created through this fund include plantation work, forest management and wildlife protection. These jobs will be available for tribal communities.¹⁹⁰ 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.

¹⁷⁸ Indian Press Information Bureau (2020). <https://pib.gov.in/PressReleasePage.aspx?PRID=1625305> , Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>

¹⁷⁹ The Wire (2020). <https://thewire.in/environment/coal-washing-environment-ministry-changing-rules>

¹⁸⁰ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india> ,

¹⁸¹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india> , Coal India (2020). <https://www.coalindia.in/ourbusiness/specialspote-auction-scheme2020forimportsubstitution.aspx> .

¹⁸² LiveMint (2020). <https://www.livemint.com/news/india/fm-sitharaman-fast-tracks-industrial-reforms-to-aid-growth-recovery-11589639649764.html>

¹⁸³ 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> .

¹⁸⁴ 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> .

¹⁸⁵ 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

¹⁸⁶ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>

¹⁸⁷ QZ (2020) <https://qz.com/india/1851634/india-fast-tracks-green-clearance-to-spur-coronavirus-hit-economy/>

¹⁸⁸ India TV (2020). <https://www.indiatvnews.com/business/news-nirmala-sitharaman-final-phase-of-announcement-economic-stimulus-package-11-am-live-updates-617884>

¹⁸⁹ 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>

¹⁹⁰ 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 2022¹⁹¹. 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.¹⁹² Most recently, the State of Maharashtra proposed to deploy 17,385MW of renewable power by 2025, and the government of Gujarat announced a new solar policy¹⁹³. Those announcements contributed to the increase in India's score.

- 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 2024.¹⁹⁴

- India's significant (roughly US\$800 million) investments into coal machinery¹⁹⁵ are slightly offset by roughly US\$100 million in financing extended to Sri Lanka to build solar infrastructure.¹⁹⁶ India's improving score has been powered by unquantified measures including a 'Green Railway Initiative' which will increase electrification of trains,¹⁹⁷ minimum thresholds for solar production from generators and bidders in the utility sector,¹⁹⁸ loans to farmers to implement solar technologies on farms,¹⁹⁹ incentives for solar panel and LED light manufacturing²⁰⁰ and the commissioning of new electric bus charging stations.²⁰¹ Most recently, the power ministry also made it mandatory for all discoms to comply with Energy Conservation Act to decrease energy losses and increase profitability²⁰².

- 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.²⁰³ 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 million²⁰⁴. 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.²⁰⁵ India also committed to setting up 1,000 liquefied natural gas stations in the next three years.²⁰⁶ While liquefied natural gas generates less emissions than petroleum, it is not a renewable fuel.

¹⁹¹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, The Economic Times (2020). <https://energy.economictimes.indiatimes.com/news/renewable/govt-grants-ists-waiver-extension-for-solar-wind-projects-until-june-2023/77390466>.

¹⁹² Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, The Economic Times (2020). <https://energy.economictimes.indiatimes.com/news/renewable/andhra-pradesh-govt-announces-renewable-energy-export-policy/77028959>

¹⁹³ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>

¹⁹⁴ 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>

¹⁹⁵ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, https://www.business-standard.com/article/companies/cil-fina-lises-rs-5-900-cr-heavy-machinery-contracts-to-bolster-production-120092300988_1.html

¹⁹⁶ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, <https://energy.economictimes.indiatimes.com/news/renewable/india-offers-100-million-line-of-credit-to-lanka-for-solar-projects/78327563>

¹⁹⁷ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, <https://www.pib.gov.in/PressReleaseDetail.aspx?PRID=1638269>

¹⁹⁸ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, <https://economictimes.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>

¹⁹⁹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, https://www.rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=50310

²⁰⁰ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, <https://mercomindia.com/tamil-nadu-new-electronics-hard-ware-manufacturing-policy/>

²⁰¹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, <https://energy.economictimes.indiatimes.com/news/power/govt-sanctions-670-electric-buses-241-charging-stations-under-fame-scheme/78312963>

²⁰² Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>,

²⁰³ Business Insider (2020). <https://www.businessinsider.in/policy/economy/news/indian-govt-approves-the-pli-scheme-for-10-sectors/articleshow/79172901.cms>

²⁰⁴ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>

²⁰⁵ Government of India (2020). <https://pib.gov.in/PressReleasePage.aspx?PRID=1674428>

²⁰⁶ Government of India (2020). <https://pib.gov.in/PressReleasePage.aspx?PRID=1673998>

1.14 Indonesia

Indonesia has passed US\$75 billion in fiscal stimulus measures.²⁰⁷

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.²⁰⁸

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 decrease in Indonesia's score in this edition is driven by the passing into law of the Omnibus bill which has been criticised for having potentially far-reaching negative consequence for nature and climate alike.

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

²⁰⁷ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

²⁰⁸ Indonesia Ministry of Finance (2020).

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

• 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.²⁰⁹

• 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.²¹⁰ This law has required mining companies to allocate exploration funds and to increase exploration each year.²¹¹ 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.²¹²

• 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.²¹³ It has also eliminated some financial penalties for Independent Power Producers, to spur renewable energy production.²¹⁴

• 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,²¹⁵ and the price of industrial gas.²¹⁶

²⁰⁹ Mongabay (2020).

²¹⁰ 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>

²¹¹ Jakarta Post (2020). <https://www.thejakartapost.com/news/2020/05/14/explainer-new-rules-in-revised-mining-law.html>

²¹² 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>

²¹³ 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>

²¹⁴ Ibid.

²¹⁵ 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>

²¹⁶ 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>

1.15 Italy

Italy has passed US\$574 billion in fiscal stimulus measures²¹⁷.

Composition of stimulus:²¹⁸ 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 Alitalia²¹⁹, 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.²²⁰

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 continues to perform worse than its European peers.

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

²¹⁷ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

²¹⁸ 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>

²¹⁹ https://www.transportenvironment.org/sites/te/files/Airline-bailout-tracker_8_May_2020.pdf

²²⁰ Italian Ministry of Economic Development (2020).

• 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.²²¹ For solar PV, this has increased from 50%.²²²

• 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.²²³ The government has also provided support for active transport by supporting a bike and scooter scheme²²⁴, investing in active transport infrastructure in a number of cities, and by incentivising walking and cycling.²²⁵

• Stimulus has also included support for electric vehicles, including a subsidy of up to €10,000 that will last from August until the end of 2020.²²⁶ Subsidies have also been announced for conventional vehicles, although these are smaller than those available for electric vehicles.²²⁷ Resources were also dedicated to support local public transport systems in August 2020.²²⁸

• 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.²²⁹

²²¹ 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>

²²² 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/>

²²³ 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>

²²⁴ 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/it/articolo/comunicato-stampa-del-consiglio-dei-ministri-n-45/14602> .

²²⁵ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/italy> .

²²⁶ 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=>

²²⁷ 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>

²²⁸ Energy Policy Tracker (2021). Italy - Energy Policy Tracker

²²⁹ 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\$2.78 trillion in fiscal measures in response to COVID-19.²³⁰

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.

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. However, some measures in the last stimulus package aimed at promoting carbon neutrality to 2050 contributed to increase 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

²³⁰ 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',²³¹ 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.²³²

• 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 billion 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 schools²³³. The allocation of the December stimulus towards projects with beneficial environmental effects improved Japan's score in this edition of the GSI.

• 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.²³⁴

²³¹ Climate Change News (2020). <https://www.climatechangenews.com/2020/06/01/japan-launch-green-recovery-platform-ministerial-meeting/>

²³² 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>

²³³ 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>

²³⁴ 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\$28 billion in fiscal stimulus measures.²³⁵

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.

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

• 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.²³⁶ 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.²³⁷
- However, the Mexican government has also invested in active transport infrastructure in response to COVID-19, by investing in the expansion of Mexico City's cycling network, with 54km in new routes.²³⁸

²³⁵ 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>

²³⁶ 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/>

²³⁷ 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/>

²³⁸ Financial Times (2020). <https://www.ft.com/content/989be646-90ef-43a0-b17a-7ab191e6bec9>, Energy Policy Tracker (2020).

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

1.18 Norway

Norway has passed US\$31 billion in fiscal stimulus measures.²³⁹

Composition of stimulus: New to this release, 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 relief²⁴⁰, 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.²⁴² Most recently, Norway has financially supported a renewable energy advocacy organisation for losses suffered throughout the pandemic.²⁴³

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.

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

²³⁹ IMF Policy Tracker (2021). Policy Responses to COVID19 (imf.org)

²⁴⁰ ADB Covid Policy Database (2020).

²⁴¹ Government Norway (2020). Package of measures to support the oil and gas industry and the supply industry - regjeringen.no

²⁴² Energy Policy Tracker (2021). Norway - Energy Policy Tracker

• 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.²⁴³
- 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.²⁴⁴

- Resilience and agricultural measures include funds dedicated to avalanche and landslide protection, and improved coastal monitoring through investment in the Institute of Marine Research.²⁴⁵
- An upcoming 'Comprehensive Climate Action Plan' may see Norway's score rise considerably in the future and is expected to enforce a variety of carbon tax measures facing households and consumers, while maintaining industry level commitments to pollution abatement and climate change mitigation made at the European level.²⁴⁶

²⁴³ Government Norway (2020). Package of measures to support the oil and gas industry and the supply industry - regjeringen.no

²⁴⁴ Government Norway (2020). Statsbudsjettet 2021: A til A - regjeringen.no

²⁴⁵ Government Norway (2020). Statsbudsjettet 2021: A til A - regjeringen.no

²⁴⁶ 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 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.²⁴⁷

• 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-19.²⁴⁸
- 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.²⁴⁹

- 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.²⁵⁰
- 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.²⁵¹ 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.²⁵²

²⁴⁷ 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.

²⁴⁸ Philippine News Agency (2020). <https://www.pna.gov.ph/articles/1102775>

²⁴⁹ 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)

²⁵⁰ 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-chargers-for-airport-concessionaires.html>

²⁵¹ The Philippine Star (2020). <https://www.philstar.com/business/2020/04/06/2005680/government-boost-infrastructure-spending-cushion-covid-impact>

²⁵² Reuters (2020). <https://uk.reuters.com/article/philippines-budget/philippines-plans-to-build-up-infrastructure-spending-in-2020-budget-idINKCN1VAOP7>

1.20 Russia

Russia has passed a total of US\$129 billion in fiscal stimulus measures.²⁵³

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. On November 4th 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 absorption.²⁵⁴ This update results in a slight increase in the Russian index score, primarily driven by removing tax relief from several fossil fuel extraction and refining processes.²⁵⁵ Gazprom's US\$8 billion commitment to 'gassify' the country works against further increases in Russia's index performance.²⁵⁶

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

²⁵³ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

²⁵⁴ Government of Russia (2020). <http://publication.pravo.gov.ru/Document/Text/0001202011040008>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/russia/>

²⁵⁵ Energy Policy Tracker (2021). Russia - Energy Policy Tracker

²⁵⁶ 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).²⁵⁷ 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.²⁵⁸ Unconditional support (US\$360 million) has also been provided to the automotive industry.²⁵⁹

- Further harmful environmental measures include tax incentives for oil and gas exploration in the Arctic,²⁶⁰ and an increase in the subsidy for converting vehicles from petrol to gas from 30% to 60% of conversion costs.²⁶¹

- 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.²⁶² 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 million 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.²⁶³

²⁵⁷ KPMG Insights (2020). <https://home.kpmg/xx/en/home/insights/2020/04/russia-government-and-institution-measures-in-response-to-covid.html>

²⁵⁸ 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>

²⁵⁹ Russian Government (2020). <http://government.ru/news/39724/>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/russia/>

²⁶⁰ Reuters (2020). <https://www.reuters.com/article/us-russia-gas-arctic-idUSKBN21537F>, Energy Policy Tracker (2020).

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

²⁶¹ Russian Government (2020). <http://government.ru/news/39909/>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/russia/>

²⁶² Russian Government (2020), Plan economic impact new coronavirus infections (План преодоления экономических последствий COVID-19),

http://government.ru/support_measures/

²⁶³ Energy Policy Tracker (2021). Russia - Energy Policy Tracker

1.21 Saudi Arabia

Saudi Arabia has passed US\$35 billion in fiscal stimulus measures.²⁶⁴

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.²⁶⁵ Additionally, the government halved the price of petroleum domestically "to adjust domestic fuel prices according to changes in export prices of crude oil."²⁶⁶

²⁶⁴ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

²⁶⁵ 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/>

²⁶⁶ 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/>

1.22 Singapore

Singapore has passed US\$85.7 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 SMEs 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. Singapore has not announced or passed any new stimulus measures since the previous release.

Singapore's index score continues to be driven by a critically insufficient environmental baseline performance coupled with potentially harmful stimulus measures.

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

• Underlying sector context (b₁)

Performance on key indicators is critically insufficient to achieve environmental targets.²⁶⁷

• 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 airlines²⁶⁸. 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 2021²⁶⁹.

• 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 facilities²⁷⁰.

• 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 2020²⁷¹. 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-open²⁷².

²⁶⁷ 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.

²⁶⁸ Singapore Government Agency (2020). https://www.singaporebudget.gov.sg/budget_2020/resilience-budget/supplementary-budget-statement

²⁶⁹ Ministry of Transport Singapore (2020). <https://www.mot.gov.sg/news-centre/news/detail/extension-of-support-to-the-aviation-sector>

²⁷⁰ Ibid.

²⁷¹ Ibid.

²⁷² 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.²⁷³

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 loan guarantees and tax measures to businesses. Specific support has been granted for the agriculture sector, which includes direct payments to small farmers. The October 'Economic Reconstruction and Recovery Plan' includes provisions for infrastructure, job creation, and energy security.

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.

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

• Underlying sector context (b₁)

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

²⁷³ <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.²⁷⁴ 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-19.²⁷⁵ Further measures to support South Africa's polluting energy and industry sectors include a relaxation of some environmental regulations²⁷⁶ and the delay of carbon tax payments.²⁷⁷ 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.²⁷⁸ Additionally, October's medium-term budget plan included an unconditional bailout to South African Airways.²⁷⁹

• 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.²⁸⁰

• 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.²⁸¹

²⁷⁴ 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>

²⁷⁵ Eskom (2020). <http://www.eskom.co.za/news/Pages/2020Apr1.aspx>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/south-africa>

²⁷⁶ 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>

²⁷⁷ 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>

²⁷⁸ 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/>

²⁷⁹ Government of South Africa (2020). <https://www.gov.za/speeches/minister-tito-mboweni-medium-term-budget-policy-statement-28-oct-2020-0000>

²⁸⁰ 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>

²⁸¹ 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>



1.24 South Korea

South Korea has passed fiscal stimulus equal to US\$334 billion.

Composition of stimulus:²⁸² 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-19.²⁸³ More recently, the Korean government announced substantial support for a 'New Deal', which includes specific funding for digital and green initiatives. The latest package, for US\$130 billion, includes US\$17 billion to be provided by the private sector, which we exclude from the analysis.

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.²⁸⁴

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

²⁸² IMF Policy tracker (2020) <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>, Pulse News (2020)

²⁸³ Financial Service Commissions (2020). https://www.fsc.go.kr/eng/new_press/releases.jsp?menu=01&bbsid=BBS0048&selYear=&sch1=&sword=&nxPage=1

²⁸⁴ 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.²⁸⁵ 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 2025.²⁸⁶

• 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.²⁸⁷ The tax deduction for carmakers of 30%, which was supposed to end in 2020, has been extended in an effort to boost export sales.²⁸⁸ 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 billion²⁸⁹, 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.²⁹⁰

²⁸⁵ Vivid Economics estimate excluding contributions by the private sector. Base on YNA (2020). <https://en.yna.co.kr/view/AEN20200714004851320>.

²⁸⁶ Korea Ministry of Environment (2020).

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

²⁸⁷ Pulse News Korea (2020) <https://pulsenews.co.kr/view.php?year=2020&no=217288>

²⁸⁸ KPMG Insights (2020). <https://home.kpmg/xx/en/home/insights/2020/04/south-korea-tax-developments-in-response-to-covid-19.html>

²⁸⁹ 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>.

²⁹⁰ 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\$344 billion in fiscal measures as a response to COVID-19.²⁹¹

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.²⁹² Spain has recently outlined its 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.²⁹³ Further marginal increases in Spain's index score result from recent decrees detailing environmentally positive policy initiatives.²⁹⁴

Spain's positive score is driven largely by its new stimulus package, despite poor underlying environmental performance.

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

²⁹¹ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

²⁹² Reuters (2020).

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

²⁹³ Government of Spain (2020). https://www.lamoncloa.gob.es/presidente/actividades/Paginas/2020/071020-sanchez_plan.aspx

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

• 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.²⁹⁵ Air Europa was also supported by investments totaling US\$523 million in November 2020.²⁹⁶

- The Spanish government has, however, provided support for green transport.²⁹⁷ 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.²⁹⁸

- 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.²⁹⁹

- Royal Decrees supporting the viability of public transport and reducing barriers to national grid energy provision for renewable energy plants serve to increase Spain's score slightly.³⁰⁰

²⁹⁵ Reuters (2020).

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

²⁹⁶ Government of Spain (2020). <https://www.lamoncloa.gob.es/consejodeministros/Paginas/enlaces/210720-fondo-empresas.aspx>

²⁹⁷ Bloomberg (2020). <https://www.bloomberg.com/news/articles/2020-06-15/spain-s-auto-industry-to-get-4-2-billion-in-government-stimulus>

²⁹⁸ 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.

²⁹⁹ 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-de-proyectos-renovables-innovadores-en-cinco-comunid/tcm:30-512142>

³⁰⁰ 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.³⁰¹

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.³⁰² 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.³⁰³

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

³⁰¹ ADB Covid-19 Policy Database (2021). Sweden | ADB COVID-19 Policy Database

³⁰² Government Offices of Sweden (2020). Government.se - Government.se

³⁰³ 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.³⁰⁴

• 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.³⁰⁵

• Sweden's final score is negatively influenced by the commitment of nearly US\$800 million in tax reductions³⁰⁶ to promote investment without accompanying green conditions. In addition, funds have been directed towards rural development initiatives³⁰⁷, which act against wider conservation principals.

• Most recently, Sweden allocated US\$33 million to the post-Covid industrial transition, further boosting the country's index score.³⁰⁸ 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.

³⁰⁴ Government Offices of Sweden (2020). Green jobs important measure to tackle unemployment during COVID-19 crisis - Government.se

³⁰⁵ Government Offices of Sweden (2020). The Budget for 2021 in five minutes - Government.se

³⁰⁶ Government Offices of Sweden (2020). The Budget for 2021 in five minutes - Government.se

³⁰⁷ RDP Key Facts and Figures (2015). PowerPoint Presentation (europa.eu)

³⁰⁸ 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\$61 billion in COVID-19 fiscal stimulus measures.³⁰⁹

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.³¹⁰ Its second package extended the partial unemployment compensations, and provided additional social support and US\$2.2 billion in bridging loans to SMEs.³¹¹ 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.³¹² December's US\$1.7 billion extension to the national hardship support programme yields a slight decrease in the Swiss index score for this edition (-0.19), though anticipated measures from the National Energy Commission³¹³ to encourage the adoption of climate-friendly energy may see Switzerland's score restored in the near future.³¹⁴

Switzerland's positive score is driven by its positive baseline score and significant green stimulus measures in the transportation sector.

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

³⁰⁹ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

³¹⁰ The Federal Council (2020). <https://www.admin.ch/gov/de/start/dokumentation/medienmitteilungen/bundesrat.msg-id-78437.html>

³¹¹ The Federal Council (2020). <https://www.admin.ch/gov/de/start/dokumentation/medienmitteilungen/bundesrat.msg-id-78515.html>

³¹² Federal Office for the Environment (2020). <https://www.bafu.admin.ch/bafu/fr/home/themes/climat/droit/totalrevision-co2-gesetz.html>

³¹³ IMF Policy Tracker (2021). Policy Responses to COVID19 (imf.org)

³¹⁴ 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.³¹⁵

• 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.³¹⁶

• 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.³¹⁷

• 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.³¹⁸

• 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.³¹⁹

• 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.³²⁰

³¹⁵ As Switzerland is landlocked, the nature component of their score is determined solely by their 'life above land' score.

³¹⁶ 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>

³¹⁷ 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>

³¹⁸ 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>

³¹⁹ 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.>

³²⁰ Platform 2020 Redesign (2020). <https://platform2020redesign.org/countries/switzerland/>

Turkey has passed US\$99 billion in fiscal stimulus measures.³²¹

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 release, additional specificity and policy information has been added, including the recently announced new subsidy scheme for tradesmen,³²² although Turkey’s index score remains unchanged.

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

• **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,³²³ and bailouts to the underground mining sector.³²⁴ The reduction and postponement of regulations relating to the oil sector also contribute negatively to Turkey’s index score.³²⁵
- 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.³²⁶ This negatively impacts Turkey’s index score, because more than 70% of Turkey’s energy is derived from fossil fuels.³²⁷ 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.³²⁸
- 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.²⁶⁸ In addition, Turkey has extended the Renewable Energy Support Scheme,³²⁹ and committed to increasing solar energy production capacity by 1 GW.³³⁰

³²¹ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>
³²² IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>
³²³ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/turkey> , <https://www.resmigazete.gov.tr/eskiler/2020/03/20200325-2.pdf>
³²⁴ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/turkey> , MAPEG (2020). http://www.mapeg.gov.tr/Duyurular/2904_duyuru.aspx .
³²⁵ 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>
³²⁶ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/turkey>
³²⁷ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/turkey> , Botas (2020). <https://www.botas.gov.tr/>
³²⁸ 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>
³²⁹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/turkey/> , <https://www.resmigazete.gov.tr/eskiler/2020/09/20200918-8.pdf>
³³⁰ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/turkey/>

1.29 United Kingdom

The United Kingdom has passed US\$758 billion in fiscal measures in response to COVID-19.³³¹

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.³³² 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,³³³ a US\$6.1 billion investment in transport infrastructure,³³⁴ 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.

The UK scores relatively well on baseline indicators, and has several specific green stimulus measures, resulting in a positive index score. The recently released Ten Point Plan places it as one of Europe's best performers.

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

³³¹ 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/>

³³² IMF Policy Tracker (2021). Policy Responses to COVID19 (imf.org)

³³³ BBC (2020). <https://www.bbc.co.uk/news/uk-england-london-52670539>

³³⁴ 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>

• 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.

- Most recently, 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.³³⁵

- 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.³³⁶ With no attachment of green conditions, these loans are providing direct support to highly environmentally-intensive industries, and are thus considered damaging.

- However, around US\$250 million has been provided to support green research and development in aerospace.³³⁷

- A slight easing of permitting requirements in the agriculture and waste sectors in the UK has taken place.³³⁸ 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 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.³³⁹ 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.³⁴⁰ This investment in green infrastructure is designed for local authorities to complete cycling and walking projects during lockdown.

- 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.³⁴¹

- Further 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.³⁴² 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.³⁴³

²⁷⁵ Energy Policy Tracker (2021). United Kingdom - Energy Policy Tracker

Bank of England (2020). <https://www.bankofengland.co.uk/markets/bank-of-england-market-operations-guide/results-and-usage-data>

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>

UK Government (2020). <https://www.gov.uk/government/collections/covid-19-regulatory-position-statements#water-industry>

BBC (2020) <https://www.bbc.co.uk/news/uk-england-london-52670539>

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>

UK Government (2020). <https://www.gov.uk/government/publications/a-plan-for-jobs-documents/a-plan-for-jobs-2020>

UK Government (2020). <https://www.gov.uk/government/news/pm-commits-350-million-to-fuel-green-recovery>

Business Green (2020). <https://www.businessgreen.com/news/4018369/ev-charging-water-efficiency-projects-unveiled-london-recovery-plan>

TMF Group (2020). <https://www.tmf-group.com/en/news-insights/coronavirus/government-support-schemes/#B>

- 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.³⁴⁴

- 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.³⁴⁵ And in October, the national government allocated around US\$50 million to nuclear energy development³⁴⁶ and US\$210 million for offshore wind energy development.³⁴⁷

- The United Kingdom made further 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.³⁴⁸ 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.³⁴⁹

³⁴⁴ Business Green (2020).

<https://www.businessgreen.com/news/4015133/government-moves-shore-clean-energy-contract-regime-wave-renewables-projects-progresses>

³⁴⁵ 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>

³⁴⁶ 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>

³⁴⁷ 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>

³⁴⁸ UK Government (2020). <https://www.gov.uk/government/news/pm-outlines-his-ten-point-plan-for-a-green-industrial-revolution-for-250000-jobs>

³⁴⁹ UK Government (2020).

<https://www.gov.uk/government/publications/national-infrastructure-strategy#:~:text=The%20National%20Infrastructure%20Strategy%20sets%20out%20the%20government's%20plans%20to,zero%20emissions%20target%20by%202050>.

1.30 United States

The US has passed a US\$3.89 trillion spending package.

Composition of stimulus: In December 2020, Congress passed a US\$900 billion bipartisan stimulus package to stabilise the United States' economy.³⁵⁰ 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.³⁵¹

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. 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, the Senate passed Biden's American Rescue Plan, a stimulus package of US\$1.9 trillion to support the country's economic recovery. The package focuses on mounting a national vaccination program, containing COVID-19, safely reopening schools, supporting struggling communities and delivering immediate relief to working families. Since this plan has yet to be fully approved, it has not been included in the calculation of the score below but its consequences are detailed in Box 2.

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 has radically improved the United States' index score in this edition.

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

³⁵⁰ IMF Policy Tracker (2021). Policy Responses to COVID19 (imf.org)

³⁵¹ Washington Post (2020). <https://www.washingtonpost.com/business/2020/12/20/stimulus-package-details/>

³⁵² 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.³⁵³

The United States government has warrants on up to 1.9% of shares for any airline receiving grants or loans.³⁵⁴ 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.³⁵⁵ December's announcement saw a further US\$17 billion dedicated to the aviation industry, still lacking green conditions.³⁵⁶

- 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."³⁵⁷ 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.³⁵⁸ 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.³⁵⁹ 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,³⁶⁰ and US\$122 million of funding for 'coal innovation centres' was made available through the Department of Energy.³⁶¹

- 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.³⁶²

³⁵³ US Treasury (2020). <https://home.treasury.gov/system/files/136/Payroll-Support-Procedures-Form-FINAL.pdf>

³⁵⁴ Financial Times (2020) <https://www.ft.com/content/fb8ef5a9-2e42-4b6a-acd0-078a1faa0d01>

³⁵⁵ US Congress (2020). <https://www.congress.gov/bill/116th-congress/house-bill/748/text>

³⁵⁶ Washington Post (2020). <https://www.washingtonpost.com/business/2020/12/20/stimulus-package-details/>

³⁵⁷ Columbia Climate Law (2020). <https://climate.law.columbia.edu/climate-deregulation-tracker>

³⁵⁸ TMF Group (2020). <https://www.tmf-group.com/en/news-insights/coronavirus/government-support-schemes/#B>

³⁵⁹ United States Government (2020). <https://www.congress.gov/bill/116th-congress/senate-bill/3422>

³⁶⁰ State of Pennsylvania (2020). <https://www.legis.state.pa.us/cfdocs/billInfo/billInfo.cfm?sYear=2019&slnd=0&body=H&type=B&bn=732>

³⁶¹ US Department of Energy (2020). <https://www.energy.gov/articles/doe-announces-intent-provide-122m-establish-coal-products-innovation-centers>

³⁶² 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.energypolicytracker.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.³⁶³

- 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.³⁶⁴

- Committing to the conservation of at least 30% of United States' lands and oceans by 2030.³⁶⁵

- A nationwide pause on entering into new oil and gas leases on public lands or offshore waters "where possible".³⁶⁶

- The requirement of federal agencies to procure carbon pollution-free electricity and zero-emissions vehicles.³⁶⁷

- 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.³⁶⁸

- 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.³⁶⁹

³⁶³ Washington Post (2020). <https://www.washingtonpost.com/business/2020/12/20/stimulus-package-details/>

³⁶⁴ WhiteHouse.gov (2021). Executive Order on Tackling the Climate Crisis at Home and Abroad | The White House

³⁶⁵ 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

³⁶⁶ WhiteHouse.gov (2021). Pause on entering into new oil and gas leases on public lands or offshore waters "where possible"

³⁶⁷ 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

³⁶⁸ WhiteHouse.gov (2021). Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis | The White House

³⁶⁹ 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

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Greenness of Stimulus Index

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