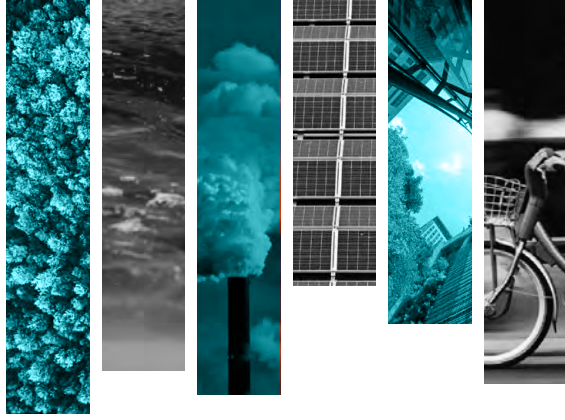


Greenness of Stimulus Index

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

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Greenness of Stimulus Index

The Greenness of Stimulus Index (GSI) assesses the effectiveness of the COVID-19 stimulus efforts by G20 countries and other major economies 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. This release is updated as of October 2020. The previous release was published on September 16.

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@vivideconomics.com.

New to this release

This update of the index incorporates significant new information that has become available since the previous release in September. The latest announcements on stimulus flows, deregulation and environmental policies have been incorporated into the analysis, with the following highlights:

- Addition of Singapore and the Philippines to the index.
- An increase in the total quantity of measured stimulus to US\$12.7 trillion, from US\$12.1 trillion. This includes increases in stimulus packages in France (from US\$469 billion to US\$579 billion), Spain (from US\$249 billion to \$343 billion) and the addition of the two new countries (US\$102 billion total).
- Improvements to some index scores. Notably, France, Spain, Canada and India have leveraged new packages and policies into increased scores.
- However, most countries have continued to supply unconditional support to polluters across environmentally-intensive sectors. Particularly damaging measures include further support for airlines and other polluters without environmental strings attached, and rollbacks in environmental regulations.
- Additional analysis that demonstrates the neglect of nature and biodiversity in stimulus funding in general, with more than US\$195 billion of specific (quantified) stimulus measures that will likely have an adverse effect on nature, compared with only US\$93 billion that will likely have a directly positive effect

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FINANCE FOR
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Initiative

Executive summary

The world's leading economies have announced economic stimulus packages that will pump approximately US\$3.7 trillion directly into sectors that have a large and lasting impact on carbon emissions and nature, namely agriculture, industry, waste, energy and transport. These flows compare with a total stimulus to date of US\$12.7 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.**

Announced stimulus to date will have a net negative environmental impact in 16 of the G20 countries and economies, and in two of the three other analysed countries. Among more developed countries, the US stimulus package stands out as the most damaging. Australia, Italy and Japan join them on the net negative side, owing largely to the existing negative impacts of their environmentally-intensive sectors, and their lack of decisive action to use the stimulus to take specific actions to restore nature and mitigate climate change. The economies analysed comprised the G20 plus Spain, the Philippines and Singapore.

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 - Singapore and the Philippines - follow this negative trend. Singapore has historically supported carbon-intensive energy and transport sectors, leading to continuing poor environmental performance and a low GSI score. Although the Philippines has allocated some stimulus towards a green recovery, this fails to offset the poor underlying environmental performance of the economy, as well as negative stimulus measures.

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\$502 billion, only US\$93 billion was related to improving biodiversity or preserving ecosystems, while some US\$195 billion was associated with pollution or direct habitat destruction with negative expected impacts on biodiversity.¹ Given the risks associated with degraded natural capital - including the virus spillover risk driving the current pandemic - it is impossible to justify this scant attention paid to nature protection.

¹ The \$502 billion quantified green stimulus to date appears large in comparison with the \$195 billion for negative quantified stimulus associated with pollution or direct habitat destruction as much of 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.

To date, the economic response to the COVID-19 crisis is thus set to 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 cannot ignore another.

The stimulus in Western Europe, South Korea and Canada offers promise, with at least a portion of spending likely to be nature-friendly, coupled with green infrastructure investments in energy and transport.

Germany's 'Package for the Future' was the first to include widespread green measures, including funding for green infrastructure and R&D, particularly in the energy and transport sectors. South Korea has announced significant support for its 'Green New Deal' over the next five years. Additionally, France's recently released recovery plan, France Relance, sets an excellent example of how to integrate green policy into economic recovery, as does Spain's Recovery, Transformation and Resilience Plan. The UK benefits from a less environmentally-intensive economy to start with, plus its decision to retain green rules and policies. However, specific funding for green projects in the UK is relatively small compared with Germany and South Korea. The UK's positive score is thus largely driven by good underlying environmental performance. Finally, Canada has announced green measures that go some way to counteracting the country's negative underlying environmental performance.

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

Of the €750 billion (US\$830bn) 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 recovery acts yet.

The progress of European countries in improving their scores stands in stark contrast to the US, whose score has remained stagnant.

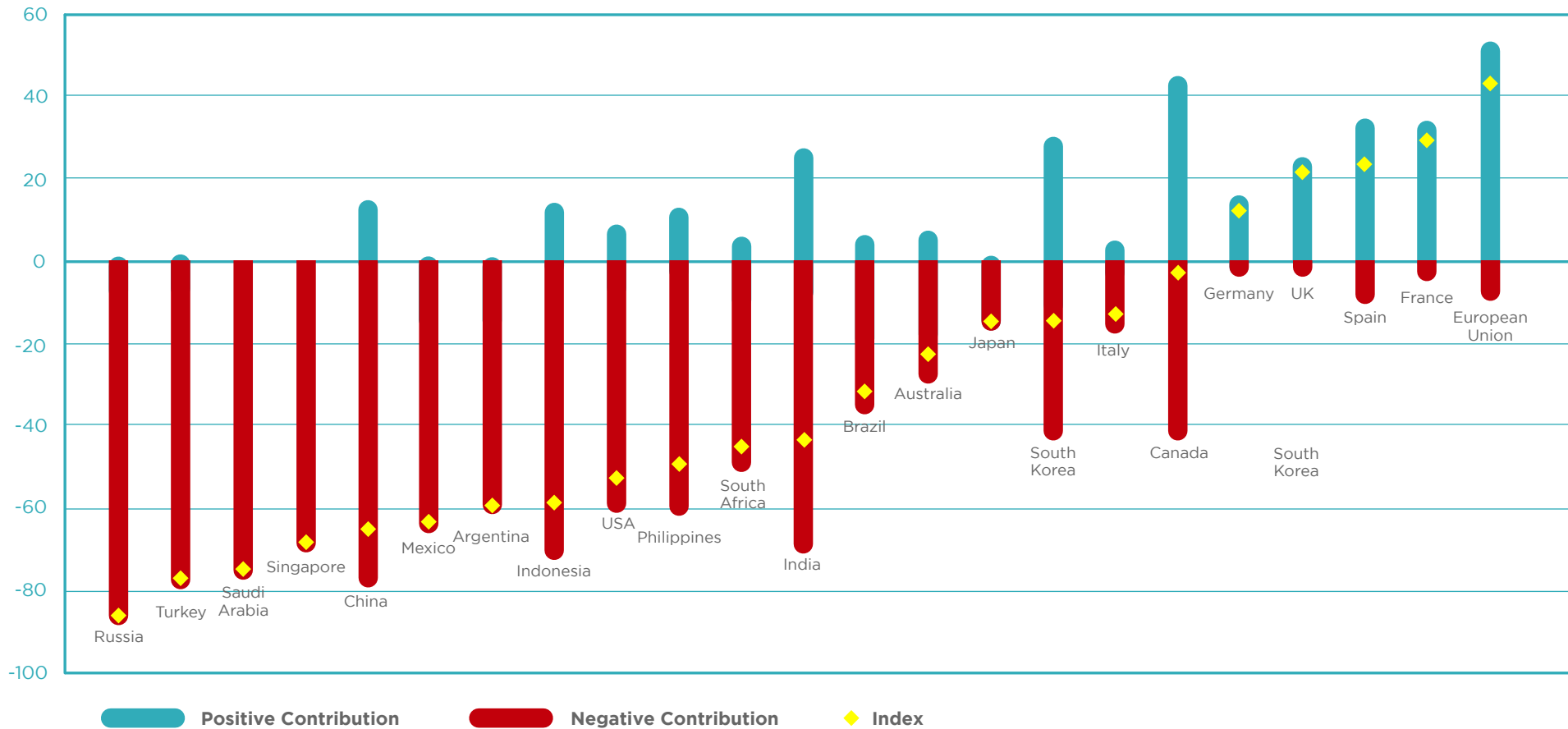
Whereas countries like France and Spain have seen their index scores climb in recent months, due to recovery acts that place an emphasis on building green, resilient economies, the United States remain a laggard, with the most negative score among large developed economies. The next US administration will be critical in shaping the future direction of the massive US stimulus, and therefore of the world's biggest economy. We would expect a Biden win to see some change of course, with more direct stimulus for nature and low-carbon technologies, and a Trump win to reinforce negative trends and continue to place the United States as part of the environmental and climate problem rather than the solution.

Regardless of economic structure or past environmental performance, each country has the opportunity to steer its stimulus package to support nature and the climate.

Looking 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 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

Greenness of Stimulus Index

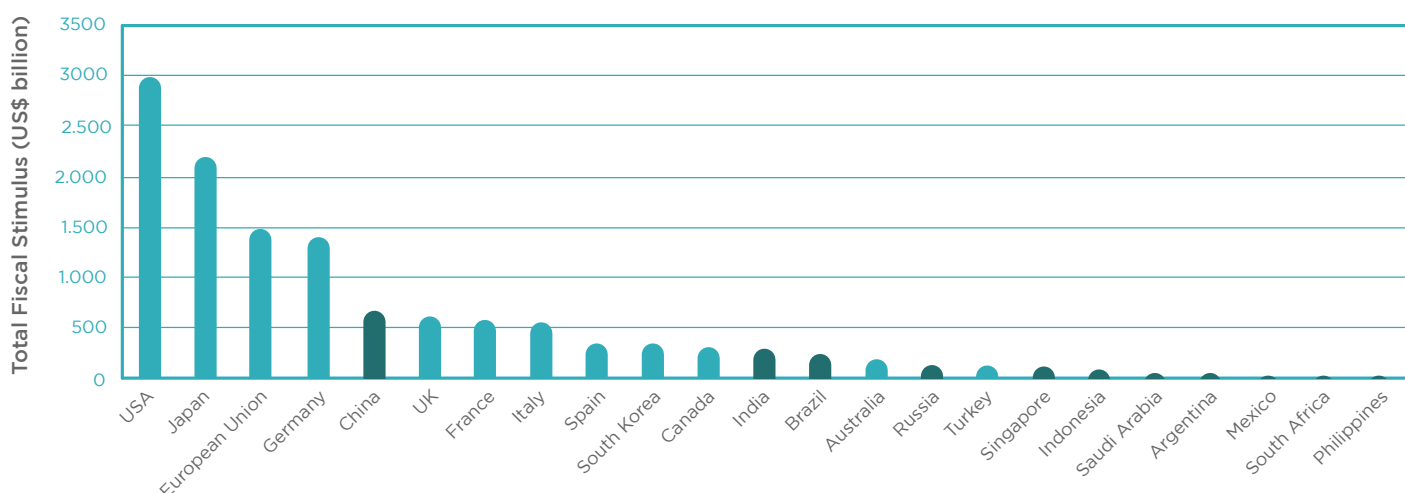


Source: Vivid Economics using a variety of sources, consult Annex II for the entire list of sources
 Note: Updated on October 23, 2020

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 including bailouts and loans. For the countries that we have analysed, current stimulus packages vary from \$17 billion (Philippines) to \$3 trillion (the United States).

Figure 1 | Announced COVID-19 response fiscal stimulus package



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

Note: Light green represents developed and dark green represents developing countries. Updated on October 23, 2020.

Governments have rightly put people first, and focused on the immediate implications 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 their 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

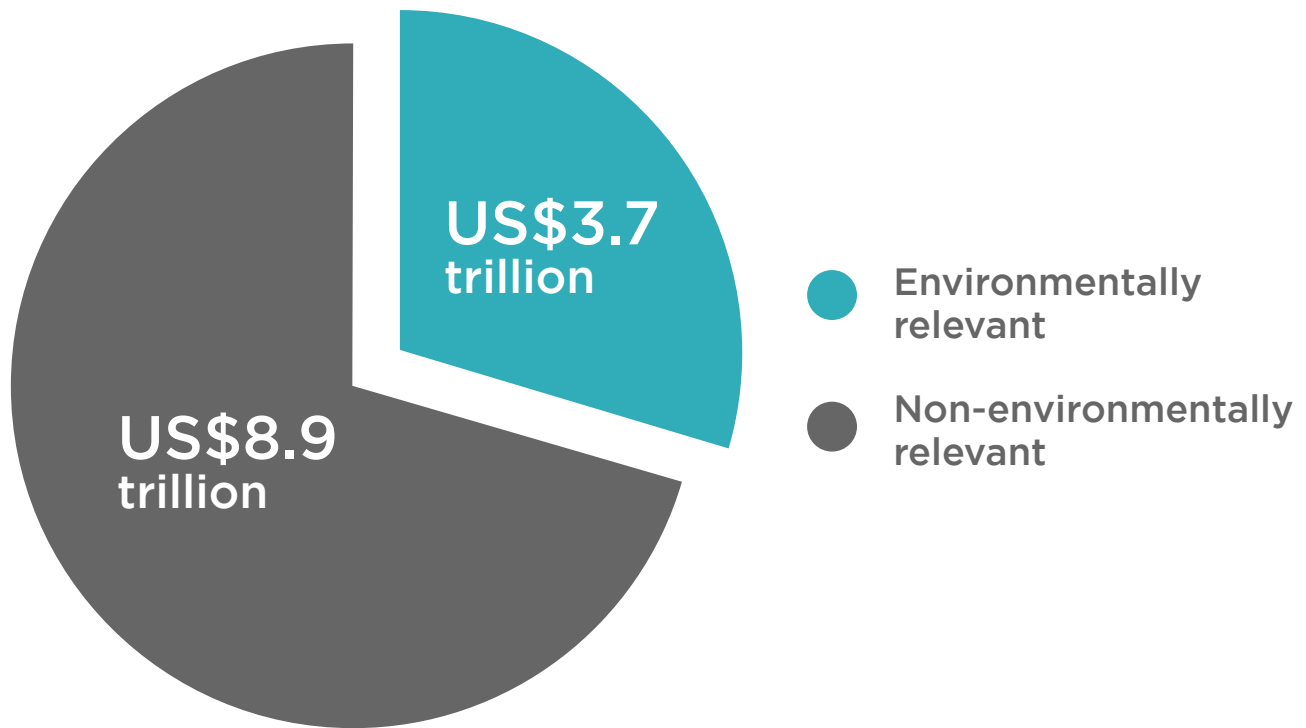
such as tree planting are shovel-ready, easily scaled, and provide overwhelmingly local, socially-distanced jobs at various skill levels.

Some US\$3.7 trillion of the announced stimulus to date, or 30% 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 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 2 | Sum of global fiscal stimulus policies of countries considered in our analysis



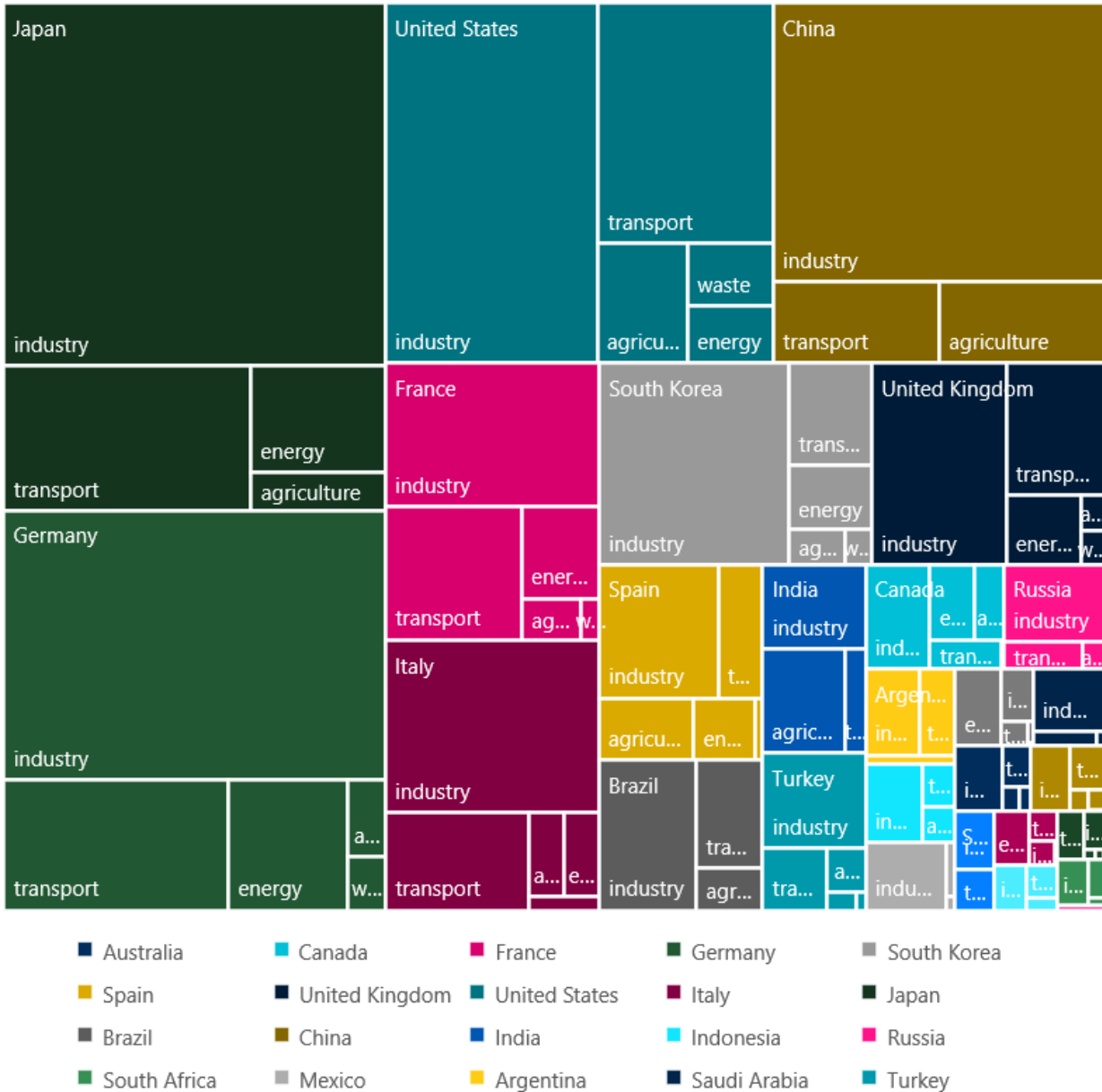
Agriculture, industry, waste, energy and transport are the sectors considered to have most environmental relevance. This categorisation is based on environmental outcomes including carbon emissions.

Source: Vivid Economics using a variety of sources

Note: Agriculture includes forestry and fisheries. Industry includes manufacturing. Updated on October 23, 2020.

The sectoral breakdown of environmentally relevant stimulus shows that industry gets the most support from governments, among these 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 crisis impact.

Figure 3 | Breakdown of environmentally relevant stimulus: G20 economies plus Spain (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 October 23, 2020.

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 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 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 for example in low-carbon energy including solar, wind, biofuels and hydrogen; energy efficient retrofits in the construction sector; and 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 adoption by offering consumer refunds or subsidising the cost of adoption upfront by expanding cash-for-clun-

ker programs 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 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 driver of a country's index score as well as identifying gaps in current measures that can be used to pave the way forward for future stimulus measures.

The Greenness of Stimulus Index

The Greenness of Stimulus Index examines 23 major 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.

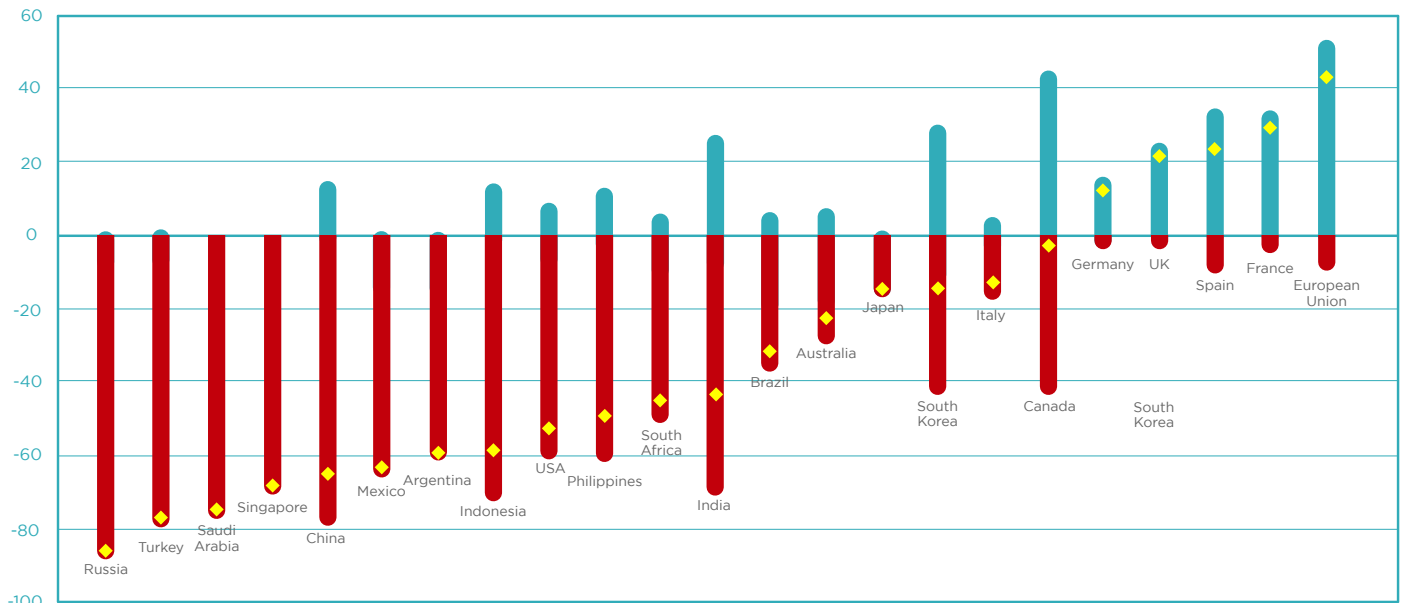
In countries with inadequate existing climate and biodiversity policies, stimulus flows are likely to reinforce unsustainable trajectories of high emissions and loss of nature. All countries have entered this crisis with large sectors of their economies still producing significant greenhouse gas emissions 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 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 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. Most especially, France, Germany, South Korea, Spain and Canada have achieved substantial improvements in their index scores (see Figure 4 below). While most countries are yet to take the opportunity to use their stimulus packages to kick-start green recoveries, some countries in September and October made significant green announcements, resulting in significant changes in index scores.

Figure 4 | Greenness of Stimulus Index, scaled (-100, 100)



■ Positive Contribution
 ■ Negative Contribution
 ◆ Index

	CHN	IDN	USA	RUS	IND	MEX	ZAF	BRA	AUS	CAN	ITA	JAP	SPA	KOR	GER	GBR	FRA	EU	SGP	PHL
Agriculture	✓		✓		✓				✓	✓			✓		✓	✓	✓	✓		
Energy	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Industry	✓				✓			✓	✓	✓			✓	✓	✓	✓	✓	✓		
Transport	✓	✓	✓		✓				✓	✓	✓		✓	✓	✓	✓	✓	✓		
Waste										✓				✓			✓	✓		
Agriculture			✓					✓	✓	✓									✓	✓
Energy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓									
Industry	✓	✓	✓	✓	✓		✓		✓	✓				✓			✓		✓	✓
Transport	✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓
Waste			✓													✓				

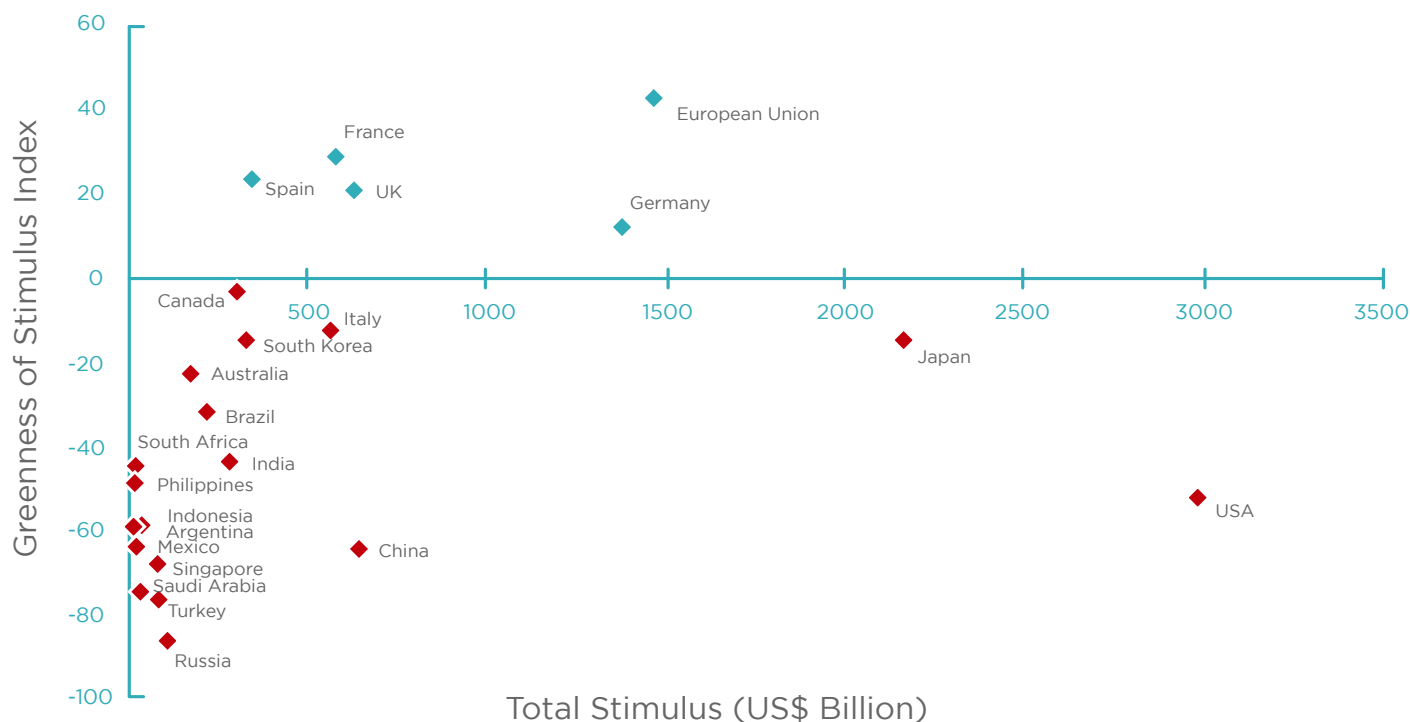
Source: Vivid Economics using a variety of sources. Consult Annex II for the entire list of sources.
Note: Updated on October 23, 2020.

Drilling down into individual countries (see Figure 4 and Figure 5), the negative score in the US is worrying, as it is also the country with the largest stimulus package. The result here is driven by a combination of poor underlying (pre-COVID) policies, as well as specific stimulus measures which further undermine a shift to sustainability. Present, environmentally damaging US policies mean that stimulus funds will be generally more tilted toward reinforcing a harmful trajectory, and despite some positive measures, this has been made worse by environmental deregulation in energy, industry, transportation and agriculture, and the bailout of the aviation industry without any green conditions.

China too is particularly concerning, given the size of its economy, and the negative signal it might send 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, 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. However, the government has 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 5 | GSI score and total size of fiscal stimulus



Source: Vivid Economics using IMF Policy Tracker and other sources
Note: Updated October 23, 2020

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. Brazil has historically struggled to enforce forest and land use policies, a situation worsened under its COVID 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, improving its GSI score. Nevertheless, Indonesia has still passed a law that deregulates the mining industry, and approved a stimulus that provides substantial funds to support state-owned oil and gas and electricity companies and airlines. Such policies risk undermining previous commitments to reduce greenhouse gas emissions, preserve nature and strengthen natural capital, while providing very limited (if any) benefits in terms of immediate emergency economic stimulus.

Russia, Mexico and South Africa are major fossil fuel energy producers, and their response to COVID 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 has supported the sector further. Since the economic slowdown, the government has propped up oil prices domestically, and continued to subsidise energy and industry without green conditions or targeted low carbon investments, resulting in a very low GSI ranking. In this update, Russia has slipped to the bottom of our GSI ranking as more information about Russia's recovery has been released. Mexico has announced energy sector funding with unconditional support for the refining industry and various polluting energy and transport infrastructure projects. South Africa has scaled back renewable energy in response to the drop in energy demand, and deferred carbon tax payments and relaxed environmental regulations.

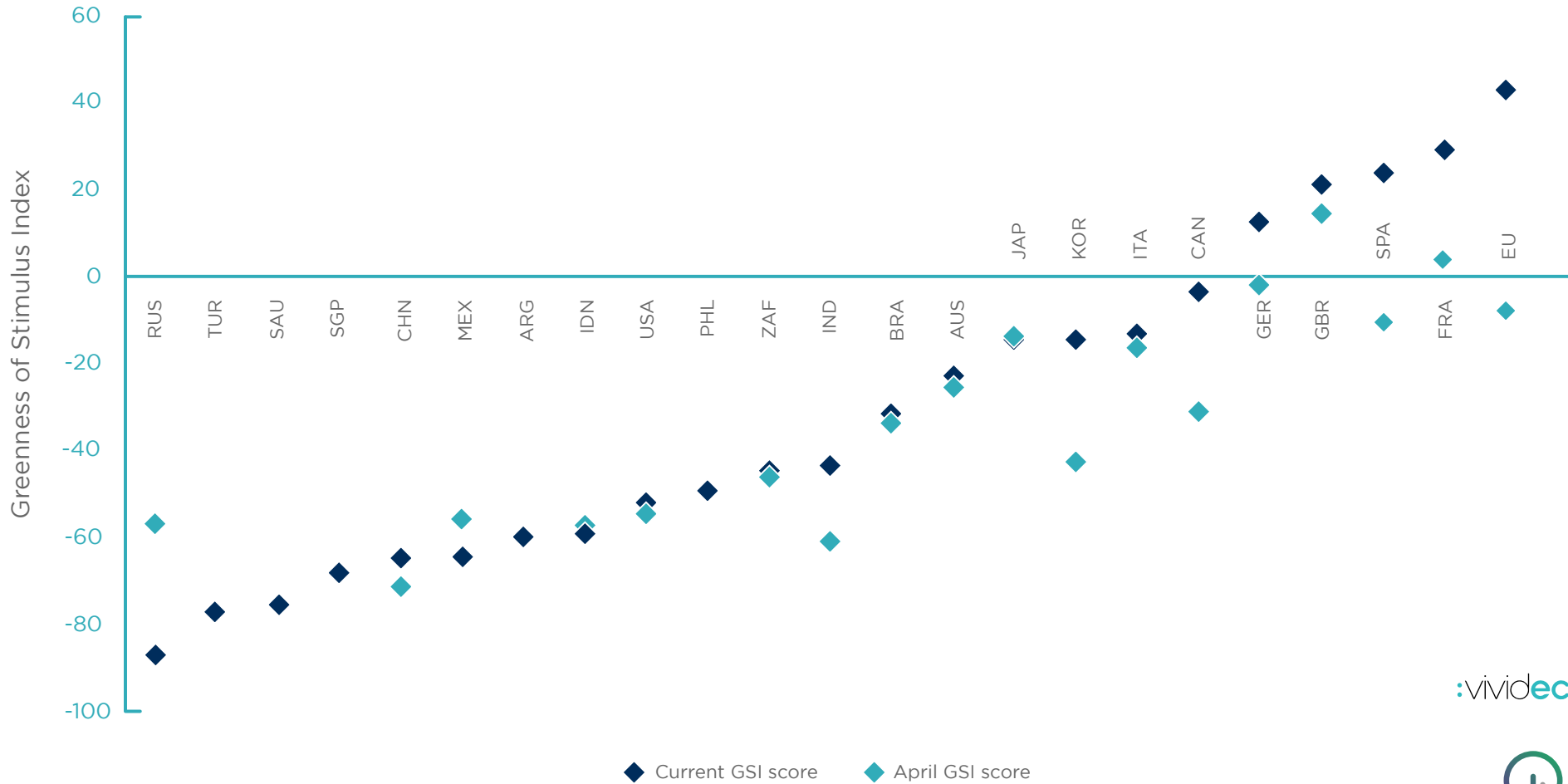
Similarly, Argentina, Saudi Arabia and Turkey are directing a significant proportion of their stimulus packages towards polluting industries. All three have a poor baseline environmental performance, and have made little attempt to steer new funding towards 'green' initiatives, preferring more polluting energy companies, and failing to apply environmental conditions to such support.

India's stimulus supports business as usual industry and energy activities. Despite the announcement of funding for afforestation and some support for solar power, a large proportion of India's stimulus is 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. However, some hope for a more green recovery has come in the form of rail initiatives and investments into solar energy.

Italy, Australia, and Japan have slightly negative GSI scores. They benefit from a better historical (pre-COVID) 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. For example, Australia has waived fees for some environmentally harmful sectors, and both Italy and Spain are financing unconditional airline bailouts.

Turning to better or more improved environmental performers (see Figure 6), France, Spain and Canada have successfully introduced green packages and attached 'green' conditions to bailouts of environmentally intensive industries. France has made government support for airlines, aviation and car manufacturing conditional on environmental targets. France has also introduced measures directly supporting a green transition through its new recovery act, resulting in one of the best index score of the countries analysed. Spain's Recovery, Transformation and Resilience Plan which, like France's plan, draws from EU Next Generation funding, has a similarly ambitious bend towards green action. Introduction of this plan made Spain the biggest improver in this GSI update. Canada, another big improver, has successfully attached green conditions to support provided by the Canadian Large Employer Emergency Financing Facility, which is dependent on increased commitments to climate-related financial transparency. Canada's recent Throne Speech commits to implementing further positive measures such as nature-based solutions, nature and ocean protection, and energy efficiency renovations. Overall, the Canadian stimulus package includes a mix of positive and negative measures. Combined with a relatively poor baseline environmental performance, this results in a slightly negative index score.

Figure 6 | Current and first release (24th April) GSI scores



Note: Since the GSI first release, 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. Updated October 23, 2020.

Source: Vivid Economics

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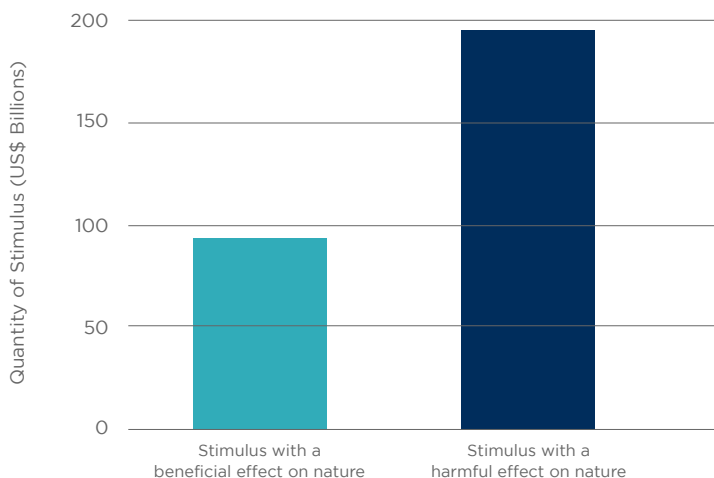
Germany and South Korea also lead the way in specific support for green projects. The United Kingdom's stimulus has a smaller role for such initiatives, but the country still scores highly as a result of its positive underlying environmental performance. Germany's latest stimulus package includes a 'Package for the Future' worth around US\$45 billion, which includes a variety of measures to support the green transition, particularly in the energy and transport sectors. These positive steps counteract the large, unconditional bailout of Lufthansa and other airlines, resulting in a net positive index score. In July, South Korea announced substantial funding for green projects through its 'New Deal', which includes initiatives to support electric and hydrogen vehicles, renewable energy and energy efficiency over the next five years. The US\$63 billion in green funding is equivalent to 19% of the country's total stimulus, the largest proportion of all G20 countries, resulting in a significant improvement in the country's index score.

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 the EU member states drive through the aims of the stimulus, by using these grants and loans to achieve the dual purpose of economic recovery and environmental sustainability.

Nature has been particularly neglected in stimulus funding. We identify more than US\$195 billion of specific (quantified) stimulus measures that will likely have an adverse effect on nature, compared with only US\$93 billion that will likely have a directly positive effect (see Figure 7). This is before taking into account non-quantified stimulus measures, of which the vast majority are negative, such as deregulation of environmental standards and reduced fees for polluters. Examples of nature-positive stimulus measures include India's afforestation program, the conservation component of South Korea's New Deal, China's wildlife trade ban, and the announced US 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 recent approval of four new coal mine projects.

Figure 7 | Allocation of stimulus to nature



Overall, much more is required to kick-start a truly green recovery.

Aside from the European Union's stimulus package, the South Korean 'New Deal', and Spain and France's new policy packages, specific green measures comprise only a small proportion of stimulus to date in G20 countries. 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 a critical opportunity for the inclusion of 'green' stimulus.

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 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.³ 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.⁴ 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.

³ 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.

⁴ 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, eg 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 programs 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 programs or subsidisation of environmental producer responsibility (EPR) programs.

Source: Vivid Economics

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

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 programs.

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 reduces 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 \$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\$26 billion in fiscal stimulus measures.⁵

Composition of stimulus: Argentina's stimulus package, equivalent to about 5% 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. New measures to support the oil and gas, mining, automotive, railway and ship-building sectors was announced in September.

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.

⁵ 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.

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

- 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. While this program 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.

⁶ Official Bulletin of Argentina (2020). <https://www.boletinoficial.gob.ar/detalleAviso/primera/229470/20200519>. Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/argentina/>

⁷ Argentinian Ministry of Agriculture, Livestock and Fisheries (2020). <https://www.magyp.gob.ar/fondosambientales/>. Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/argentina/>

⁸ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/argentina/>

⁹ 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\$176 billion in total fiscal support.¹⁰

Composition of stimulus: Australia's fiscal package includes specific health spending, support for households and workers, and specific support 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.

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

¹⁰ IMF Policy Tracker (2020). <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.¹¹ The government announced in April that licensing fees and annual petroleum fees will not be due until December 2020.¹² 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.¹³ 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.¹⁴ While it is not a law imposed across the entire country, the repeal of this legislation places natural forests at risk of logging.¹⁵ 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.¹⁶

• Other damaging measures include the opening up of 7,000 square km of land for coal and gas exploration,¹⁷ and the introduction of exploration grants,¹⁸ both in Queensland, as well as the development of the onshore gas industry in the Northern Territory.¹⁹

• 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,²⁰ the Australian Renewable Energy Agency is providing US\$44 million,²¹ and the Tasmanian renewable hydrogen action plan commits to further support.²² The Northern Territory government has announced the procurement of a large-scale battery energy storage system for the Darwin-Katherine power network.²³ In Queensland, more than US\$400 million has been invested into renewable energy zones²⁴, 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.²⁵

¹¹ Climate Change News (2020). <https://www.climatechangenews.com/2020/04/20/coronavirus-governments-bail-airlines-oil-gas/>

¹² APPEA (2020). https://www.appea.com.au/media_release/sa-supports-exploration-amid-covid-19-challenges/

¹³ Australian Treasury (2020). https://treasury.gov.au/sites/default/files/2020-05/Overview-Economic_Response_to_the_Coronavirus_3.pdf

¹⁴ Drilled News (2020). <https://www.drillednews.com/post/the-climate-covid-19-policy-tracker>

¹⁵ Monga Bay (2020). <https://news.mongabay.com/2020/05/australias-logging-madness-fuels-more-fires-hastens-ecosystem-collapse/>

¹⁶ The Guardian (2020). <https://www.theguardian.com/environment/2020/apr/17/polluter-bailouts-and-lobbying-during-covid-19-pandemic>

¹⁷ ABC (2020). <https://www.abc.net.au/news/2020-05-07/queensland-coal-and-gas-exploration-coronavirus/12220636>

¹⁸ Queensland Government (2020).

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

¹⁹ Northern Territory Government (2020). <http://newsroom.nt.gov.au/mediaRelease/33259>

²⁰ Thomson Reuters Foundation (2020). <https://news.trust.org/item/20200504013347-5ffvz/>

²¹ Renew Economy (2020). <https://reneweconomy.com.au/arena-opens-70-million-funding-round-to-fast-track-renewables-for-hydrogen-58600/>

²² Tasmanian Government (2020). http://www.premier.tas.gov.au/releases/re-issued_becoming_the_nations_renewable_hydrogen_industry_epicentre

²³ Northern Territory Government (2020). <http://newsroom.nt.gov.au/mediaRelease/33392>

²⁴ 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

²⁵ 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>

1.3 Brazil

Brazil has passed a total of US\$224 billion in fiscal stimulus spending.²⁶

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

Brazil's negative score is driven by a combination of poor underlying performance, plus some environmentally harmful measures, particularly in the agriculture and transport sectors.

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.

²⁶ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

• Specific environmental measures (b₂)

- Brazil has delayed electricity auctions which were expected in the spring of 2020.²⁷ 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 has followed the lead of many other countries and extended unconditional financial support to the airline industry.²⁸ This includes direct supports to airlines and aviation, as well as extending the deadline for repayment of airport concession contracts until December 2020.

- The Brazilian government has however announced some promising measures, through the creation of new financial mechanisms to issue green bonds for sustainable infrastructure. These are expected to attract up to US\$34 billion by 2029.³⁵ Brazil has also announced the extension of a green credit line to support biofuel producers.³⁶

- Support for renewable energy has also been provided through BNDES. In particular, this includes funding for wind energy infrastructure and energy efficiency improvements, which contribute positively towards Brazil's index score.³⁷

- 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 and forestry and industrial sectors.²⁹

- 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.³⁰ 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.³¹ The bill is explicitly designed to allow for over 9.8 million hectares of land that is currently under unrecognized indigenous use to be opened up for economic activity, effectively serving as a deregulatory measure for the mining and timber industries.³²

- 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.³³ 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.³⁴

²⁷ 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/>

²⁸ 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>

²⁹ Brazil government (2020). http://www.planalto.gov.br/ccivil_03/_ato2019-2022/2019/Mpv/mpv910.htm

³⁰ The Guardian (2020). <https://www.theguardian.com/environment/2020/may/28/studies-add-to-alarm-over-deforestation-in-brazil-under-bolsonaro-covid-19>

³¹ Financial Times (2020). <https://www.ft.com/content/ca84017c-94c5-48ca-80c6-2ac31ea20cd9>

³² Monga Bay (2020). <https://news.mongabay.com/2020/05/brazil-opens-38000-square-miles-of-indigenous-lands-to-outsiders/>

³³ Politico EU (2020). <https://www.politico.eu/article/climate-battle-shifts-to-once-in-a-generation-national-budgets/>

³⁴ The Rising (2020). <https://therising.co/2020/05/21/amazon-fires-may-be-worse-2020/>

³⁵ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/brazil/>

³⁶ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/brazil/>, <https://epbr.com.br/linha-de-r-3-bi-do-bndes-para-o-etanol-estara-disponivel-nesta-quarta/>

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

1.4 Canada

Canada has passed US\$301 billion in fiscal stimulus measures.³⁸

Composition of stimulus: Alongside measures to fund the healthcare system and to 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. Since the previous release, Canada has implemented several new green initiatives and Canada's 2020 Throne Speech has reinforced a commitment to a green and sustainable recovery.

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. However, these positive steps are offset by some environmentally harmful policies and poor underlying performance, resulting in a negative index score overall. Canada's index score has improved significantly following new green investments and commitments to nature conservation and nature-based solutions, though it remains negative overall.

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

³⁸ 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)

- 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.³⁹ 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 responsibility to fund the project has raised a question mark over whether it is truly green, but we consider that 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.⁴⁰ This funding is a green infrastructure investment made to ensure long-term emissions reductions in the oil and gas sector in Canada.

- Despite 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.⁴¹ In addition to the tax relief, 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.⁴²

- In the transport sector, Canada has suspended airline docking fees temporarily, waiving this tax on a high-emissions industry.⁴³ Suspension of ground lease rents through the end of the year are being expanded to large port cities across Canada. Providing economic relief to aviation and shipping without any conditions falls is categorised as a negative environmental measure, given zero conditionality on environmental requirements.

- Loans provided to the fishing and agricultural industry in Canada have been enacted without conditions for improvement in environmental performance.⁴⁴ 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.⁴⁵ 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.

³⁹ Canadian Government (2020). <https://pm.gc.ca/en/news/news-releases/2020/04/17/prime-minister-announces-new-support-protect-canadian-jobs>

⁴⁰ Canadian Broadcast Corporation (2020). <https://www.cbc.ca/news/politics/financial-aid-covid19-trudeau-1.5535629>

⁴¹ Climate Change News (2020). <https://www.climatechangenews.com/2020/04/20/coronavirus-governments-bail-airlines-oil-gas/>

⁴² EDC (2020) <https://www.edc.ca/en/about-us/newsroom/covid-19-oil-gas-support.html>

⁴³ Government of Canada (2020). <https://www.canada.ca/en/departement-finance/economic-response-plan.html>

⁴⁴ Government of Canada (2020). <https://www.canada.ca/en/departement-finance/economic-response-plan.html>

⁴⁵ Prime Minister of Canada (2020). <https://pm.gc.ca/en/news/news-releases/2020/05/11/prime-minister-announces-additional-support-businesses-help-save>

- 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.⁴⁶ Environmental regulations have also been rolled back in Saskatchewan,⁴⁷ Quebec,⁴⁸ British Columbia⁴⁹ and Nova Scotia,⁵⁰ 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 Alberta⁵¹ and Quebec⁵² 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 loosening of oil exploration rules in Newfoundland and Labrador,⁵³ and coal pit protections in Alberta.⁵⁴ 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.⁵⁵

- 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,⁵⁶ even more has been set aside for the construction of automobile-centric highways and bridges.⁵⁷

- 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.⁵⁸ The Government of Canada made a commitment to expand nature parks as well as employ nature-based solutions in the planting of 2 billion trees.⁵⁹ 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 and zero-emission buses and charging infrastructure.⁶⁰

- Canada has committed to supporting Newfoundland and Labrador's off-shore oil industry with an investment of US\$238.6 million.⁶¹ This investment will help fund maintenance projects as well as protect jobs amidst the falling oil prices.

⁴⁶ Open Alberta (2020).

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

⁴⁷ 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>

⁴⁸ 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>

⁴⁹ 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>

⁵⁰ Province of Nova Scotia (2020) <https://novascotia.ca/coronavirus/fees>, Energy Policy Tracker (2020) <https://www.energypolicytracker.org/country/canada>

⁵¹ 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>

⁵² 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>

⁵³ 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>

⁵⁴ Province of Alberta (2020). <https://www.alberta.ca/coal-policy-guidelines.aspx>, Energy Policy Tracker (2020) <https://www.energypolicytracker.org/country/canada>

⁵⁵ 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>

⁵⁶ Government of Canada (2020).

<https://www.canada.ca/en/office-infrastructure/news/2020/07/safe-restart-agreement-helps-canadian-communities-get-back-on-their-feet.html>, Energy Policy Tracker (2020) <https://www.energypolicytracker.org/country/canada>

⁵⁷ Ontario News (2020).

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

⁵⁸ Government of Canada (2020). <https://www.canada.ca/en/privy-council/campaigns/speech-throne/2020/speech-from-the-throne.html>

⁵⁹ Government of Canada (2020). <https://www.canada.ca/en/privy-council/campaigns/speech-throne/2020/speech-from-the-throne.html>

⁶⁰ CBC News (2020). <https://www.cbc.ca/news/politics/trudeau-infrastructure-pandemic-recovery-mckenna-1.5746029>

⁶¹ Offshore Technology (2020). <https://www.offshore-technology.com/news/canada-support-offshore-oil-industry/>

1.5 China

China has passed a total of US\$648 billion in fiscal stimulus.⁶²

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 enterprises⁶³ 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.⁶⁴

China scores poorly on the key indicators and despite some positive policies, has a very low index score.

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.

⁶² IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

⁶³ The Economist (2020). <https://www.economist.com/finance-and-economics/2020/04/16/why-has-chinas-stimulus-been-so-stingy>

⁶⁴ 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 2020.⁶⁵ In February and March, 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 2019.⁶⁶ 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.⁶⁷

- The Chinese government has dropped its commitment to key emissions intensity and energy targets for post-2020 in response to COVID-19.⁶⁸ While China had already failed to achieve its targets for energy efficiency in 2019, the lack of a 2020 target indicates a delayed trajectory towards its climate change commitments.

- An unconditional US\$3.5 billion bailout of airline Cathay Pacific has been announced.⁶⁹

- Chinese provinces have rolled out car subsidies to support the general industry, encouraging uptake in traditional combustion engines in the transport sector.⁷⁰ 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 vehicles, the Chinese government has extended its national EV subsidy program through 2022.⁷¹ 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.⁷² This extension will occur through 2022,⁷³ but will decrease by 10% in December and excludes vehicles priced over US\$42,357.⁷⁴

- One specific measure that supports green infrastructure investment is the US\$379 million funding for EV charging infrastructure across China.⁷⁵ In tandem with the extension of the EV subsidy in March, these projects aid the uptake of EVs. This type of explicit green infrastructure supported the transport sector's GSI score.

⁶⁵ Climate Action Tracker (2019); <https://climateactiontracker.org/countries/>

⁶⁶ Global Energy Monitor (2020). https://endcoal.org/wp-content/uploads/2020/03/BoomAndBust_2020_English.pdf

⁶⁷ 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>

⁶⁸ 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

⁶⁹ 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>

⁷⁰ Financial Times (2020). <https://www.ft.com/content/12cc8c6a-5f7a-11ea-b0ab-339c2307bcd4>

⁷¹ 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>

⁷² IHS Market (2020). <https://ihsmarkit.com/research-analysis/china-steps-up-efforts-to-boost-auto-industry.html>

⁷³ Bloomberg (2020). <https://www.bloomberg.com/news/articles/2020-04-01/china-mulling-cutting-electric-car-subsidies-it-just-extended>

⁷⁴ 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>

⁷⁵ 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.⁷⁶ 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.⁷⁷

- 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.⁷⁸

- In a move that made international news, China pledged to become carbon neutral by 2060.⁷⁹ This commitment to long-term green action, however, is juxtaposed against a carbon-intensive, short-term agenda. Provincial plans analyzed 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. This is in addition to recent announcements that include allocating \$587 million for new coal plants.

- China has also unveiled plans for a biomass power plant, and the city of Beijing has implemented an incentive system for businesses to replace their light trucks with electric vehicles.⁸⁰ These positive measures are outweighed by China's environmentally harmful activities.⁸¹

⁷⁶ Line Today (2020). <https://today.line.me/hk/article/National+green+development+fund+company+established+in+Shanghai-5eYWgx>

⁷⁷ 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.

⁷⁸ 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.

⁷⁹ Climate Change News (2020). <https://www.climatechangenews.com/2020/09/22/xi-jinping-china-will-achieve-carbon-neutrality-2060/>

⁸⁰ Carbon Brief (2020). <https://www.carbonbrief.org/analysis-chinas-covid-stimulus-plans-for-fossil-fuels-three-times-larger-than-low-carbon>

⁸¹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/china>, <http://www.sxcoal.com/news/4615831/info/en>

⁸² Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/china>, https://www.ndrc.gov.cn/xxgk/zcfb/tz/202009/t20200916_1238868.html

⁸³ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/china>, http://jtjw.beijing.gov.cn/xxgk/zcjd/202008/t20200831_1994317.html

1.6 European Union

The European Union 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).⁸⁴

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 is set to 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.⁸⁵ In September, the European Union adopted a revised set of EU Emission Trading System State Aid Guidelines.⁸⁶ In October, the EU’s new stimulus measures included nearly €1 billion in grants for new energy infrastructure investments⁸⁷ and the issuance €17 billion (US\$18.75 billion) in social bonds under the EU SURE instrument.⁸⁸

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

Table 8 | 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

⁸⁴ 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

⁸⁵ New York Times (2020). <https://www.nytimes.com/reuters/2020/07/21/us/21reuters-eu-summit-climate-change-factbox.html>

⁸⁶ European Commission (2020). https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1712

⁸⁷ European Commission (2020). https://ec.europa.eu/commission/presscorner/detail/en/IP_20_1803

⁸⁸ 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.⁸⁹

• 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.⁹⁰

- 37% of the €750bn 'Next Generation EU' package will be directed at specific green measures, which includes support for the following investments:⁹¹

- 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.⁹²

- 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).⁹³ 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.⁹⁴

- Funding for natural capital and the circular economy.⁹⁵

- Support for electric vehicle sales and charging infrastructure.⁹⁶

- €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 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.⁹⁷

⁸⁹ The Climate Action Tracker provides a score for the EU. The EPI score is calculated by taking an average of scores of member countries.

⁹⁰ KPMG Insights (2020). <https://home.kpmg/xx/en/home/insights/2020/04/russia-government-and-institution-measures-in-response-to-covid.html>

⁹¹ New York Times (2020). <https://www.nytimes.com/reuters/2020/07/21/us/21reuters-eu-summit-climate-change-factbox.html>

⁹² EURACTIV (2020). <https://www.euractiv.com/section/energy/news/eu-boosts-just-transition-fund-pledging-e40-billion-to-exit-fossil-fuels/>

⁹³ 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>

⁹⁴ Guardian (2020). https://www.theguardian.com/environment/2020/may/28/eu-green-recovery-package-sets-a-marker-for-the-world?CMP=share_btn_tw

⁹⁵ 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>

⁹⁶ Bloomberg (2020).

https://www.bloomberg.com/news/articles/2020-05-20/eu-to-unveil-world-s-greenest-virus-recovery-package?cmpid=BBD052120_GREENDAILY&utm_medium=email&utm_source=newsletter&utm_term=200521&utm_campaign=greendaily

⁹⁷ European Commission (2020). https://ec.europa.eu/commission/presscorner/detail/en/IP_20_1803

1.7 France

France has passed a total of US\$579 billion in fiscal measures.⁹⁸

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 France⁹⁹ and €8 billion (US\$8.8 billion) for the auto industry.¹⁰⁰ A further stimulus package of €100 billion (US\$110 billion) was confirmed at the start of September, 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.¹⁰¹

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 9 | 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

⁹⁸ IIMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

⁹⁹ New York Times (2020). <https://www.nytimes.com/2020/04/25/business/air-france-klm-bailout.html>

¹⁰⁰ Government of France (2020). <https://www.economie.gouv.fr/covid19-soutien-entreprises/mesures-plan-soutien-automobile>

¹⁰¹ Government of France (2020). <https://www.gouvernement.fr/france-relance>

• 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 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.¹⁰² 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.¹⁰³ 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 therefore is seen as a green response measure. Air France has also announced it will reduce its domestic flights as requested by the government to reduce competition with train routes.¹⁰⁴

- 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.¹⁰⁵

- The French government has supported the development of electric vehicles and EV infrastructure in line with its target for banning the sale of combustion engine vehicles by 2040.¹⁰⁶ Major features of the US\$8.9 billion stimulus to the transport sector include increasing subsidies for electric vehicles until December, accelerating the deployment of electric charging stations, and investing more than \$390 million in green R&D across vehicle manufacturer supply chains.¹⁰⁷

- France has extended its rooftop solar PV subsidy to households - originally expected to be phased out this spring.¹⁰⁸ 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 regulations¹⁰⁹, and extending tax breaks for off-road diesel use.¹¹⁰

- 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, US\$6.1 billion for green energy infrastructure. This new stimulus package boosts France's index score significantly.¹¹¹

¹⁰² New York Times (2020). <https://www.nytimes.com/2020/04/25/business/air-france-klm-bailout.html>

¹⁰³ Routes Online (2020). <https://www.routesonline.com/news/29/breaking-news/291047/air-france-told-by-government-to-dramatically-cut-domestic-flying/>

¹⁰⁴ RFI (2020) <http://www.rfi.fr/en/wires/20200527-air-france-cut-40-domestic-flights-after-bailout>

¹⁰⁵ Transport Environment (2020) <https://www.transportenvironment.org/publications/air-frances-bailout-climate-conditions-explained>

¹⁰⁶ Europe Auto News (2020). <https://europe.autonews.com/automakers/france-help-auto-sector-measures-worth-88b>

¹⁰⁷ French Economic Ministry (2020). <https://www.economie.gouv.fr/covid19-soutien-entreprises/mesures-plan-soutien-automobile>

¹⁰⁸ The Guardian (2020). <https://www.theguardian.com/environment/2020/apr/17/polluter-bailouts-and-lobbying-during-covid-19-pandemic>

¹⁰⁹ Legifrance (2020).

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

¹¹⁰ 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>

¹¹¹ Government of France (2020). <https://www.gouvernement.fr/france-relance>

1.8 Germany

Germany has passed a total of US\$1.38 trillion in fiscal stimulus.¹¹²

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 2021.¹¹³

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

Table 10 | 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

¹¹² IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

¹¹³ Wall Street Journal (2020). <https://www.wsj.com/articles/germany-boosts-already-hefty-coronavirus-stimulus-11598440184>

• 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.

• 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.¹¹⁴ The Lufthansa bailout includes ceding a 20% equity stake to the German government.¹¹⁵ 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 environment goals. For the purposes of our GSI, Germany is still providing a bailout without any green strings attached.

- At the start of June, 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.¹¹⁶ 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.¹¹⁷

- 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 crisis. This subsidy on renewable energy prices contributes to Germany's positive score.

¹¹⁴ Transport & Environment (2020). https://www.transportenvironment.org/sites/te/files/Airline-bailout-tracker_8_May_2020.pdf

¹¹⁵ 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/>

¹¹⁶ Carbon Brief (2020). <https://www.carbonbrief.org/coronavirus-tracking-how-the-worlds-green-recovery-plans-aim-to-cut-emissions>

¹¹⁷ Energy Policy Tracker (2020). <http://www.energypolicytracker.org/country/germany/>, <https://www.bundesrat.de/SharedDocs/beratungsvorgaenige/2020/0301-0400/0392-20.html>

¹¹⁸ Recharge News (2020). <https://www.rechargenews.com/transition/germany-lowers-renewables-surcharge-to-cushion-covid-impact-on-consumers/2-1-894231>

1.9 India

India has passed US\$276 billion in total fiscal stimulus packages in response to COVID.¹¹⁹

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.¹²⁰

India's negative index score is driven by poor underlying environmental performance, and specific harmful stimulus measures including substantial support for coal. The government has, however, made some announcements of green stimulus measures, which drive India's score improvement in this latest release.

Table 11 | 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

• Underlying sector context (b₁)

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

¹¹⁹ <https://www.ft.com/content/5734f333-e4d7-4ebf-9de2-220e537da3f0>

¹²⁰ CNBC (2020). <https://www.cnbc.com/2020/10/13/india-economy-economists-not-impressed-by-latest-fiscal-stimulus.html>

• 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,¹²¹ and the removal of coal washing regulations for supply to thermal power plants.¹²² The government has also sought to replace imported coal with Indian coal to boost the domestic sector.¹²³

• India has also allocated US\$6.6 million for transport infrastructure to help bring coal from India's state-run mines to market.¹²⁴ 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 gas¹²⁵, and taking advantage of low oil prices to secure a strategic reserve.¹²⁶ 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.¹²⁷

• India has also fast-tracked environmental impact assessments, to increase the speed of project development.¹²⁸ This fast-tracking is a driver of the negative score for India's industrial sector.

• However, India has also channeled US\$780 million towards an afforestation program designed to stimulate the rural and semi-urban economy while providing essential ecosystem benefits.¹²⁹ This funding is provided through the Compensatory Afforestation Management and Planning Authority (CAMPA) fund.¹³⁰ The specific jobs created through this fund include plantation work, forest management and wildlife protection. These jobs will be available for tribal communities.¹³¹ 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.

• 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 2022¹³², and the government of Andhra Pradesh has announced a Renewable Energy Export Policy, which establishes renewable energy equipment manufacturing facilities.¹³³

• 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 2024.¹³⁴

• Newly announced quantified stimulus measures for India include significant (roughly US\$800 million) investment into coal machinery,¹³⁵ which is somewhat offset by roughly US\$100 million in financing extended to Sri Lanka to build solar infrastructure.¹³⁶ India's improved score is also powered by unquantified measures including a 'Green Railway Initiative' which will increase electrification of trains,¹³⁷ minimum thresholds for solar production from generators and bidders in the utility sector,¹³⁸ loans to farmers to implement solar technologies on farms,¹³⁹ incentives for solar panel and LED light manufacturing¹⁴⁰ and the commissioning of new electric bus charging stations.¹⁴¹

¹²¹ Indian Press Information Bureau (2020).

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

¹²² The Wire (2020).

<https://thewire.in/environment/coal-washing-environment-ministry-changing-rules>

¹²³ Energy Policy Tracker (2020).

<https://www.energypolicytracker.org/country/india>, Coal India (2020).

<https://www.coalindia.in/ourbusiness/specialspote-auctionscheme2020forimportsubstitution.aspx>

¹²⁴ LiveMint (2020).

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

¹²⁵ 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>

¹²⁶ 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>

¹²⁷ 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

¹²⁸ QZ (2020) <https://qz.com/india/1851634/india-fast-tracks-green-clearance-to-spur-coronavirus-hit-economy/>

¹²⁹ India TV (2020). <https://www.indiatvnews.com/business/news-nirmala-sitharaman-final-phase-of-announcement-economic-stimulus-package-11-am-live-updates-617884>

¹³⁰ 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>

¹³¹ Economic Times (2020). <https://bfsi.economicstimes.indiatimes.com/news/policy/key-highlights-of-the-finance-ministers-whole-economic-package/75797903>

¹³² Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, The Economic Times (2020). <https://energy.economicstimes.indiatimes.com/news/renewable/govt-grants-ists-waiver-extension-for-solar-wind-projects-until-june-2023/77390466>

¹³³ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, The Economic Times (2020). <https://energy.economicstimes.indiatimes.com/news/renewable/andhra-pradesh-govt-announces-renewable-energy-export-policy/77028959>

¹³⁴ 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>

¹³⁵ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, https://www.business-standard.com/article/companies/cil-finales-rs-5-900-cr-heavy-machinery-contracts-to-bolster-production-120092300988_1.html

¹³⁶ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, <https://energy.economicstimes.indiatimes.com/news/renewable/india-offers-100-million-line-of-credit-to-lanka-for-solar-projects/78327563>

¹³⁷ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, <https://www.pib.gov.in/PressReleaseDetail.aspx?PRID=1638269>

¹³⁸ 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>

¹³⁹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, https://www.rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=50310

¹⁴⁰ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, <https://mercomindia.com/tamil-nadu-new-electronics-hard-ware-manufacturing-policy/>

¹⁴¹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, <https://energy.economicstimes.indiatimes.com/news/power/govt-sanctions-670-electric-buses-241-charging-stations-under-fame-scheme/78312963>

1.10 Indonesia

Indonesia has passed US\$46 billion in fiscal stimulus measures.¹⁴²

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. No new fiscal stimulus measures have been announced since the last report. A second major stimulus package is on the verge of approval by the Indonesian Parliament, but is opposed by environmentalists due to the elimination of environmental reviews, including deforestation.¹⁴³

Indonesia has implemented a mix of positive and negative policies, resulting in a negative index score that is largely driven by poor underlying environmental performance.

Table 12 | 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

¹⁴² IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

¹⁴³ The New York Times (2020) <https://www.nytimes.com/2020/10/02/world/asia/indonesia-bill-environment-unions.html>

• Underlying sector context (b₁)

Performance on key indicators is **highly insufficient**.

• Specific environmental measures (b₂)

• A mining law announced in early May has expanded the land area available to miners, designed to stimulate more value-added production of mined coal and minerals.¹⁴⁴ This law has required mining companies to allocate exploration funds and to increase exploration each year.¹⁴⁵ 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.¹⁴⁶

• 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.¹⁴⁷ It has also eliminated some financial penalties for Independent Power Producers, to spur renewable energy production.¹⁴⁸

• 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,¹⁴⁹ and the price of industrial gas.¹⁵⁰ Tax incentives have also been extended until December, including VAT exemption on imported raw materials.¹⁵¹

¹⁴⁴ 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>

¹⁴⁵ Jakarta Post (2020). <https://www.thejakartapost.com/news/2020/05/14/explainer-new-rules-in-revised-mining-law.html>

¹⁴⁶ 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>

¹⁴⁷ 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>

¹⁴⁸ Ibid.

¹⁴⁹ 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>

¹⁵⁰ 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>

¹⁵¹ Bloomberg Tax (2020). <https://news.bloombergtax.com/daily-tax-report/indonesia-extends-tax-stimulus-related-to-pandemic-to-end-of-year>

1.11 Italy

Italy has passed US\$557 billion in fiscal stimulus measures.¹⁵²

Composition of stimulus:¹⁵³ 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 Alitalia¹⁵⁴, with Italy's industrial sector also receiving a substantial share of stimulus. In August, the Italian government announced an additional €25 billion (US\$28 billion) package to provide labour and social support alongside further measures for businesses. No new stimulus measures have been implemented since the previous release.

Italy has a slightly negative score, which is mainly driven by its baseline environmental performance. Few specific environmental measures have been announced, and Italy scores worst among European countries included in the GSI.

Table 13 | 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

¹⁵² IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

¹⁵³ 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>

¹⁵⁴ https://www.transportenvironment.org/sites/te/files/Airline-bailout-tracker_8_May_2020.pdf

• 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.¹⁵⁵ For solar PV, this has increased from 50%.¹⁵⁶

• US\$41.3 million has been allocated to Italian municipalities with less than 1,000 residents for the implementation of public energy efficiency projects and sustainable territorial development.¹⁵⁷ The government has also provided support for active transport by supporting a bike and scooter scheme¹⁵⁸, investing in active transport infrastructure in a number of cities, and by incentivising walking and cycling.¹⁵⁹

• 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 the year.¹⁶⁰ Subsidies have also been announced for conventional vehicles, although these are smaller than those available for electric vehicles.¹⁶¹

• 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.¹⁶²

¹⁵⁵ 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>

¹⁵⁶ 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/>

¹⁵⁷ Italian Ministry of Economical Progress (2020).

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

¹⁵⁸ 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>.

¹⁵⁹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/italy>.

¹⁶⁰ 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=>

¹⁶¹ 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>

¹⁶² 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>

1.12 Japan

Japan has passed a total of US\$2.17 trillion in fiscal measures in response to COVID.¹⁶³

Composition of stimulus: Japan has announced two stimulus packages, each of ¥117.1 trillion (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. No new stimulus measures have been implemented since the last release, although a new stimulus package is expected to be announced in the coming months.¹⁶⁴

Japan has announced little in the way of specific environmental measures, so its slightly negative index score is driven mostly by its underlying environmental performance.

Table 14 | 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

• 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",¹⁶⁵ Japan has announced little in the way of specific environmental measures. 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 – much more support is required. Additionally, Japan has passed measures that will continue to support a carbon-intensive economy, such as a reduction of environmental performance taxes on certain automobiles.¹⁶⁶

- 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.¹⁶⁷

¹⁶³ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

¹⁶⁴ Reuters (2020).

<https://www.reuters.com/article/us-health-coronavirus-japan-amari/japan-expected-to-compile-next-econ-stimulus-in-fall-says-pm-abels-ally-idUSKBN23T3AF>

¹⁶⁵ Climate Change News (2020).

<https://www.climatechangenews.com/2020/06/01/japan-launch-green-recovery-platform-ministerial-meeting/>

¹⁶⁶ Cabinet Office of Japan (2020).

https://www5.cao.go.jp/keizai1/keizaitaisaku/2020/20200420_economic_measures_all.pdf, Energy Policy

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

¹⁶⁷ Japan Bank for International Cooperation (2020).

<https://www.jbic.go.jp/en/information/press/press-2020/0609-013422.html>

1.13 Mexico

Mexico has passed a total of US\$28 billion in fiscal stimulus measures.¹⁶⁸

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). However, a large proportion of the stimulus package is 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 15 | 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\$26 billion spending package to a flagship oil refinery and new airport development.¹⁶⁹ Both major projects will receive funding under the COVID 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.¹⁷⁰
- However, the Mexican government has also invested in active transport infrastructure in response to COVID-19, by investing in the expansion of Mexico City cycling network, with 54km in new routes.¹⁷¹

¹⁶⁸ 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>

¹⁶⁹ 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/>

¹⁷⁰ 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/>

¹⁷¹ Financial Times (2020). <https://www.ft.com/content/989be646-90ef-43a0-b17a-7ab191e6bec9>, Energy Policy Tracker (2020).

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

1.14 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.

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 16 | 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.

• 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-19.¹⁷³
- 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.¹⁷⁴

- 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.¹⁷⁵
- 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.¹⁷⁶ 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.¹⁷⁷

¹⁷² The Philippines are 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.

¹⁷³ Philippine News Agency (2020). <https://www.pna.gov.ph/articles/1102775>

¹⁷⁴ 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)

¹⁷⁵ 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>

¹⁷⁶ The Philippine Star (2020). <https://www.philstar.com/business/2020/04/06/2005680/government-boost-infrastructure-spending-cushion-covid-impact>

¹⁷⁷ Reuters (2020). <https://uk.reuters.com/article/philippines-budget/philippines-plans-to-build-up-infrastructure-spending-in-2020-budget-idINKCN1VAOP7>

1.15 Russia

Russia has passed a total of US\$56 billion in fiscal stimulus measures.¹⁷⁸

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 been added since the last report, 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.

Russia has large negative scores in industry and transport, which are receiving a large proportion of stimulus support.

Table 17 | 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

¹⁷⁸ 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)

- Russia has introduced a deferral of loan payments for 'hard hit' sectors which are classified as small and medium enterprises (SMEs).¹⁷⁹ 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.¹⁸⁰ Unconditional support (US\$360 million) has also been provided to the automotive industry.¹⁸¹

- A temporary ban on imports of some fuels has also been introduced in order to protect domestic producers amid the drop in oil price.¹⁸² As such, this is regarded as support for polluting producers, and contributes to Russia's negative index score.

- Further harmful environmental measures include tax incentives for oil and gas exploration in the Arctic,¹⁸³ and an increase in the subsidy for converting vehicles from petrol to gas from 30% to 60% of conversion costs.¹⁸⁴

- Along with health and social welfare stimulus measure updates, this update incorporates additional granularity of the fiscal flows, showing more flow into the environmentally relevant sectors.¹⁸⁵ Russia has provided US\$4.4 billion to support the systematic companies with interest-free loans, subsidies and tax deferrals, of which US\$145 million was allocated to interest rate subsidies and US\$930 to tax deferrals.

¹⁷⁹ KPMG Insights (2020). <https://home.kpmg/xx/en/home/insights/2020/04/russia-government-and-institution-measures-in-response-to-covid.html>

¹⁸⁰ 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>

¹⁸¹ Russian Government (2020). <http://government.ru/news/39724/>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/russia/>

¹⁸² Russian Government (2020). <http://publication.pravo.gov.ru/Document/View/0001202005250018?index=0&rangeSize=1>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/russia>

¹⁸³ Reuters (2020). <https://www.reuters.com/article/us-russia-gas-arctic-idUSKBN21537F>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/russia>

¹⁸⁴ Russian Government (2020). <http://government.ru/news/39909/>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/russia/>

¹⁸⁵ Russian Government (2020), Plan economic impact new coronavirus infections (План преодоления экономических последствий COVID-19), http://government.ru/support_measures/

1.16 Saudi Arabia

Saudi Arabia has passed US\$35 billion in fiscal stimulus measures.¹⁸⁶

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 program to help businesses defer impending loan payments.

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

Table 18 | 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 program cost US\$240 million. Saudi Arabia's electricity is generated almost entirely using fossil fuels.¹⁸⁷ Additionally, the government halved the price of petroleum domestically "to adjust domestic fuel prices according to changes in export prices of crude oil."¹⁸⁸

¹⁸⁶ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

¹⁸⁷ 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/>

¹⁸⁸ 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/>

1.17 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 stabilization 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's index score is driven by a critically insufficient environmental baseline performance coupled with potentially harmful stimulus measures.

Table 19 | 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.¹⁸⁹

• 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 airlines¹⁹⁰. 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 2021¹⁹¹.

• The government has allocated US\$70 million of point-to-point (P2P) support packages, which allow taxi and private hire car drivers to receive special relief fund payments of SG\$300 (US\$220) per vehicle per month until September. 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 facilities¹⁹².

• 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 for 2020. Meanwhile, businesses in other non-residential properties such as offices and industrial properties are granted 30% tax rebate for the year 2020¹⁹³. This measure has cost the government US\$1.47 billion.

• As part of the Fortitude Budget announced in May 2020, the government has 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-open¹⁹⁴.

¹⁸⁹The 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.

¹⁹⁰ Singapore Government Agency (2020). https://www.singaporebudget.gov.sg/budget_2020/resilience-budget/supplementary-budget-statement

¹⁹¹ Ministry of Transport Singapore (2020). <https://www.mot.gov.sg/news-centre/news/detail/extension-of-support-to-the-aviation-sector>

¹⁹² Ibid.

¹⁹³ Ibid.

¹⁹⁴ Singapore Government Agency (2020). https://www.singaporebudget.gov.sg/budget_2020/fortitude-budget/fortitude-budget-statement

1.18 South Africa

South Africa has passed US\$27 billion in fiscal stimulus measures.¹⁹⁵

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 (US\$10.6 billion) and tax measures (US\$3.7 billion) to businesses. Specific support has been granted for the agriculture sector, which includes direct payments to small farmers.

South Africa scores poorly on the key indicators, and has introduced potentially damaging measures. Environmentally positive measures, though present, are scarce.

Table 20 | 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.

• 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.¹⁹⁶ 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.¹⁹⁷ Further measures to support South Africa's polluting energy and industry sectors include a relaxation of some environmental regulations¹⁹⁸ and the delay of carbon tax payments.¹⁹⁹ 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.²⁰⁰

- 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.²⁰¹

¹⁹⁶ <https://mg.co.za/article/2020-04-21-ramaphosa-announces-r500-billion-covid-19-package-for-south-africa/>

¹⁹⁷ 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>

¹⁹⁸ Eskom (2020). <http://www.eskom.co.za/news/Pages/2020Apr1.aspx>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/south-africa>

¹⁹⁹ 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>

²⁰⁰ 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>

²⁰¹ 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/>

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>



1.19 South Korea

South Korea has passed fiscal stimulus equal to US\$333 billion.

Composition of stimulus:²⁰² 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-19.²⁰³ 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.

Support for the 'New Deal' has driven substantial improvements in South Korea's index score, which was previously substantially more negative due to poor underlying environmental performance.²⁰⁴

Table 21 | 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

²⁰² IMF Policy tracker (2020) <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>, Pulse News (2020)

²⁰³ Financial Service Commissions (2020). https://www.fsc.go.kr/eng/new_press/releases.jsp?menu=01&bbsid=BBS0048&selYear=&sch1=&sword=&nxPage=1

²⁰⁴ 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, 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 digitalization 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.²⁰⁵ 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 2025.²⁰⁶

• In contrast to the government's long-term green goals, South Korea is increasing tax relief for the car manufacturing industries for a further three months, and providing additional aid to the industry.²⁰⁷ The tax deduction for carmakers of 30%, which was supposed to end in 2020, has been extended in an effort to boost export sales.²⁰⁸ 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 billion²⁰⁹, as well as the bailout in early April 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.²¹⁰

²⁰⁵ Vivid Economics estimate excluding contributions by the private sector. Base on YNA (2020). <https://en.yna.co.kr/view/AEN20200714004851320>.

²⁰⁶ Korea Ministry of Environment (2020).

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

²⁰⁷ Pulse News Korea (2020) <https://pulsenews.co.kr/view.php?year=2020&no=217288>

²⁰⁸ KPMG Insights (2020). <https://home.kpmg/xx/en/home/insights/2020/04/south-korea-tax-developments-in-response-to-covid-19.html>

²⁰⁹ 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>.

²¹⁰ 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>

1.20 Spain

Spain has passed a total of US\$343 billion in fiscal measures as a response to COVID.²¹¹

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.²¹² 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.²¹³

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

Table 22 | 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

²¹¹ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

²¹² Reuters (2020).

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

²¹³ Government of Spain (2020). https://www.lamoncloa.gob.es/presidente/actividades/Paginas/2020/071020-sanchez_plan.aspx

• Underlying sector context (b₁)

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

• 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.²¹⁴

- However, the Spanish government has provided support for green transport.²¹⁵ 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.²¹⁶

- 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 emission 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, Spain allocated US\$225 million to five autonomous communities (Aragon, Cantabria, the Valencian Community, La Rioja and Melilla) to use for the construction of renewable energy facilities.²¹⁷

²¹⁴ Reuters (2020).

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

²¹⁵ Bloomberg (2020). <https://www.bloomberg.com/news/articles/2020-06-15/spain-s-auto-industry-to-get-4-2-billion-in-government-stimulus>

²¹⁶ 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.

²¹⁷ 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-financiacion-de-proyectos-renovables-innovadores-en-cinco-comunidades-autonomas> tcm:30-512142

Turkey has passed US\$72 billion in fiscal stimulus measures.²¹⁸

Composition of stimulus: Following an initial package of around US\$14 billion, Turkey announced a larger, second package of measures in June to support the economic response to COVID-19. Since the previous release, additional specificity and policy information has been added, 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 23 | 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 (b_1)

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

• Specific environmental measures (b_2)

- Turkey's stimulus package includes unconditional support for Turkish Airlines,²¹⁹ and bailouts to the underground mining sector.²²⁰ The reduction and postponement of regulations relating to the oil sector also contribute negatively to Turkey's index score.²²¹

- 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 bills accrued.²²² This negatively impacts Turkey's index score, because more than 70% of Turkey's energy is derived from fossil fuels.²²³ 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.²²⁴

- However, the Turkish government has announced some positive measures, including the introduction of a 'Green Tariff' for power derived from renewable energy, and support for solar power.²²⁵ In addition, Turkey has extended the Renewable Energy Support Scheme,²²⁶ and committed to increasing solar energy production capacity by 1 GW.²²⁷

²¹⁸ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

²¹⁹ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

²²⁰ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/turkey>, <https://www.resmigazete.gov.tr/eskiler/2020/03/20200325-2.pdf>

²²¹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/turkey>, MAPEG (2020). http://www.mapeg.gov.tr/Duyurular/2904_duyuru.aspx.

²²² 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>

²²³ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/turkey>

²²⁴ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/turkey>, Botas (2020). <https://www.botas.gov.tr/>

²²⁵ 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>

²²⁶ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/turkey/>, <https://www.resmigazete.gov.tr/eskiler/2020/09/20200918-8.pdf>

²²⁷ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/turkey/>

1.22 United Kingdom

The United Kingdom has passed US\$628 billion in fiscal measures in response to COVID-19.²²⁸

Composition of stimulus: The UK's stimulus package includes 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,²²⁹ a US\$6.1 billion investment in transport infrastructure,²³⁰ and support for airlines. The UK's most recent stimulus package has included specific measures to improve energy efficiency and to incentivise green R&D. However, total specific green spending remains much smaller than the large spending commitments made by Germany and the EU. The UK has released the outline of a new stimulus package titled, 'The Winter Economy Plan', but budgetary aspects of the plan have yet to be released and thus are not taken into account.²³¹

The UK scores relatively well on baseline indicators, and has several specific green stimulus measures, resulting in a positive index score.

Table 24 | 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

- **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 UK 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.

²²⁸ 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/>

²²⁹ BBC (2020). <https://www.bbc.co.uk/news/uk-england-london-52670539>

²³⁰ 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>

²³¹ The Guardian (2020). <https://www.theguardian.com/politics/2020/sep/24/key-points-rishi-sunak-winter-economy-plan-covid-crisis>

- 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 Corporate Financing Facility.²³² 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.²³³

- A slight easing of permitting requirements in the agriculture and waste sectors in the UK has taken place.²³⁴ 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.²³⁵ 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.²³⁶ This investment in green infrastructure is designed for local authorities to complete cycling and walking projects during lockdown.

- In July, 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.²³⁷

- 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.²³⁸ 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.²³⁹

- The agriculture sector has received a US\$49 million grant programme targeted towards cattle farmers in Scotland.²⁴⁰ While minor, this policy extends direct fiscal aid to high emission agricultural producers without environmental conditions.

- 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.²⁴¹

- Other smaller measures have been announced recently, including R&D funding for the development of direct air capture technology, support for the Automotive Transformation Fund for innovative R&D projects, and contributions to the Green Jobs Challenge Fund, which aims to enhance the natural environment through conservation and restoration activities.²⁴²

- September and October have seen further UK 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 decarbonization of industry and manufacturing.²⁴³ And in October, the national government allocated around US\$50 million to nuclear energy development²⁴⁴ and US\$210 million for offshore wind energy development.²⁴⁵

²³² Bank of England (2020). <https://www.bankofengland.co.uk/markets/bank-of-england-market-operations-guide/results-and-usage-data>

²³³ 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>

²³⁴ UK Government (2020). <https://www.gov.uk/government/collections/covid-19-regulatory-position-statements#water-industry>

²³⁵ BBC (2020) <https://www.bbc.co.uk/news/uk-england-london-52670539>

²³⁶ 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>

²³⁷ UK Government (2020). <https://www.gov.uk/government/publications/a-plan-for-jobs-documents/a-plan-for-jobs-2020>

²³⁸ UK Government (2020). <https://www.gov.uk/government/news/pm-commits-350-million-to-fuel-green-recovery>

²³⁹ Business Green (2020). <https://www.businessgreen.com/news/4018369/ev-charging-water-efficiency-projects-unveiled-london-recovery-plan>

²⁴⁰ TMF Group (2020). <https://www.tmf-group.com/en/news-insights/coronavirus/government-support-schemes/#B>

²⁴¹ Business Green (2020).

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

²⁴² UK Government (2020). <https://www.gov.uk/government/publications/a-plan-for-jobs-documents/a-plan-for-jobs-2020>

²⁴³ 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>

²⁴⁴ 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>

²⁴⁵ 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>

1.23 United States

The US has passed a US\$2.98 trillion spending package.

Composition of stimulus: The US stimulus package includes substantial healthcare and welfare measures, payroll protection and direct support for businesses. Specific funding for environmentally relevant sectors includes US\$60 billion directly to airlines and cargo carriers in the aviation sector. Another US\$25 billion has been allocated to transport infrastructure, shipping, and trucking, and US\$23.5 billion has been allocated to support the agriculture sector. Alongside the announced direct measures, sectoral breakdown of stimulus is possible based on data for the businesses that are receiving loans, of which a substantial proportion have been allocated to industrial producers.²⁴⁶ Some environmentally positive stimulus has come at the state level. Though unlikely to be passed by the Senate, a new pair of bills was introduced by Senator Merkley which would stop both private banks and international financial institutions from making new fossil fuel investments.²⁴⁷ Additional government stimulus is anticipated, but negotiations are ongoing.

Poor underlying environmental performance, plus a stimulus which has included widespread environmental deregulation and large unconditional airline bailouts drive the negative US index score.

Table 25 | 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

²⁴⁶ AP News (2020) <https://apnews.com/53954f808f0652463d58728ad64cd5b3>

²⁴⁷ Jeff Merkley (2020). <https://www.merkley.senate.gov/news/press-releases/merkley-introduces-pair-of-bills-to-protect-american-lives-and-livelihoods-from-climate-chaos-2020>

• 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, although some actions from states have worked in the opposite direction. Key policies include:

- A total of US\$60 billion in bailout funding has been made available to ten airlines in the US. 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.²⁴⁸ The US government has warrants on up to 1.9% of shares for any airline receiving grants or loans.²⁴⁹ But given the current US 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.²⁵⁰

- Across the US, 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.²⁵¹ On May 15th, President Trump passed an Executive Order instructing agencies to prioritise the economic recovery of the US by waiving or exempting polluters from any regulations or requirements “which may inhibit economic recovery.”²⁵² 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 Program (HIIBP) to provide grants to agricultural producers which undertake the production of renewable or bio-fuels.²⁵³ 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 U.S. 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.²⁵⁴ As the draft legislation is yet to be approved by the House of Representatives, it is not currently included in the US 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,²⁵⁵ and US\$122 million of funding for ‘coal innovation centers’ was made available through the Department of Energy.²⁵⁶

- The most positive environmental stimulus in the United States have come from states rather than the federal government. New York state has invested heavily (nearly US\$1 billion total) into electric vehicle infrastructure, public transit²⁵⁷ and offshore wind power,²⁵⁸ while the California Energy Commission has used geothermal energy investment as a potential stimulus measure.²⁵⁹ Some positive federal level stimulus has come in the form of a bailout for Amtrak,²⁶⁰ the United States’ largest passenger rail service, and the extension of tax credits for wind and solar energy.²⁶¹

- 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.²⁶²

²⁴⁸ US Treasury (2020). <https://home.treasury.gov/system/files/136/Payroll-Support-Procedures-Form-FINAL.pdf>

²⁴⁹ Financial Times (2020) <https://www.ft.com/content/fb8ef5a9-2e42-4b6a-acd0-078a1faa0d01>

²⁵⁰ US Congress (2020). <https://www.congress.gov/bill/116th-congress/house-bill/748/text>

²⁵¹ The Hill (2020) <https://thehill.com/policy/energy-environment/489753-epa-suspends-enforcement-of-environmental-laws-amid-coronavirus>

NY Times (2020). <https://www.nytimes.com/interactive/2020/climate/trump-environment-rollbacks.html?mtrref=www.google.com&assetType=REGIWALL>

²⁵² Columbia Climate Law (2020). <https://climate.law.columbia.edu/climate-deregulation-tracker>

²⁵³ TMF Group (2020). <https://www.tmf-group.com/en/news-insights/coronavirus/government-support-schemes/#B>

²⁵⁴ United States Government (2020). <https://www.congress.gov/bill/116th-congress/senate-bill/3422>

²⁵⁵ State of Pennsylvania (2020). <https://www.legis.state.pa.us/cfdocs/billInfo/billInfo.cfm?sYear=2019&slnd=0&body=H&type=B&bn=732>

²⁵⁶ US Department of Energy (2020). <https://www.energy.gov/articles/doe-announces-intent-provide-122m-establish-coal-products-innovation-centers>

²⁵⁷ State of New York (2020). <https://www.governor.ny.gov/news/governor-cuomo-announces-nation-leading-initiatives-expand-electric-vehicle-use-combat-climate>

²⁵⁸ State of New York (2020). <https://www.governor.ny.gov/news/governor-cuomo-announces-largest-combined-solicitations-renewable-energy-ever-issued-us-combat>

²⁵⁹ California Energy Commission (2020). <https://www.energy.ca.gov/news/2020-05/geothermal-lithium-recovery-projects-get-boost-california-energy-commission>

²⁶⁰ US Congress (2020). <https://www.congress.gov/bill/116th-congress/house-bill/748/text>

²⁶¹ Bloomberg Tax (2020). <https://news.bloombergtax.com/daily-tax-report/u-s-treasury-extends-deadlines-for-renewable-energy-projects>

²⁶² 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>

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