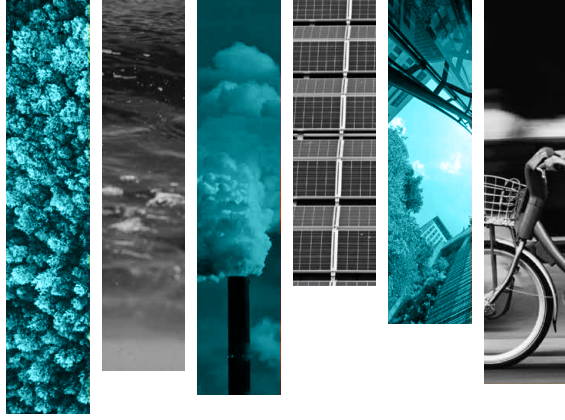


Greenness of Stimulus Index

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

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 **FINANCE FOR
BIODIVERSITY**
Initiative



Greenness of Stimulus Index

The Greenness of Stimulus Index (GSI) assesses the effectiveness of the COVID-19 stimulus efforts G20 countries 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 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.**

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Executive Summary

The world's leading G20 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 G20 stimulus to date of US \$12.1 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.** Among developed countries, the US stimulus 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.

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.

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

In green stimulus to date, nature and biodiversity have been particularly neglected. Where large

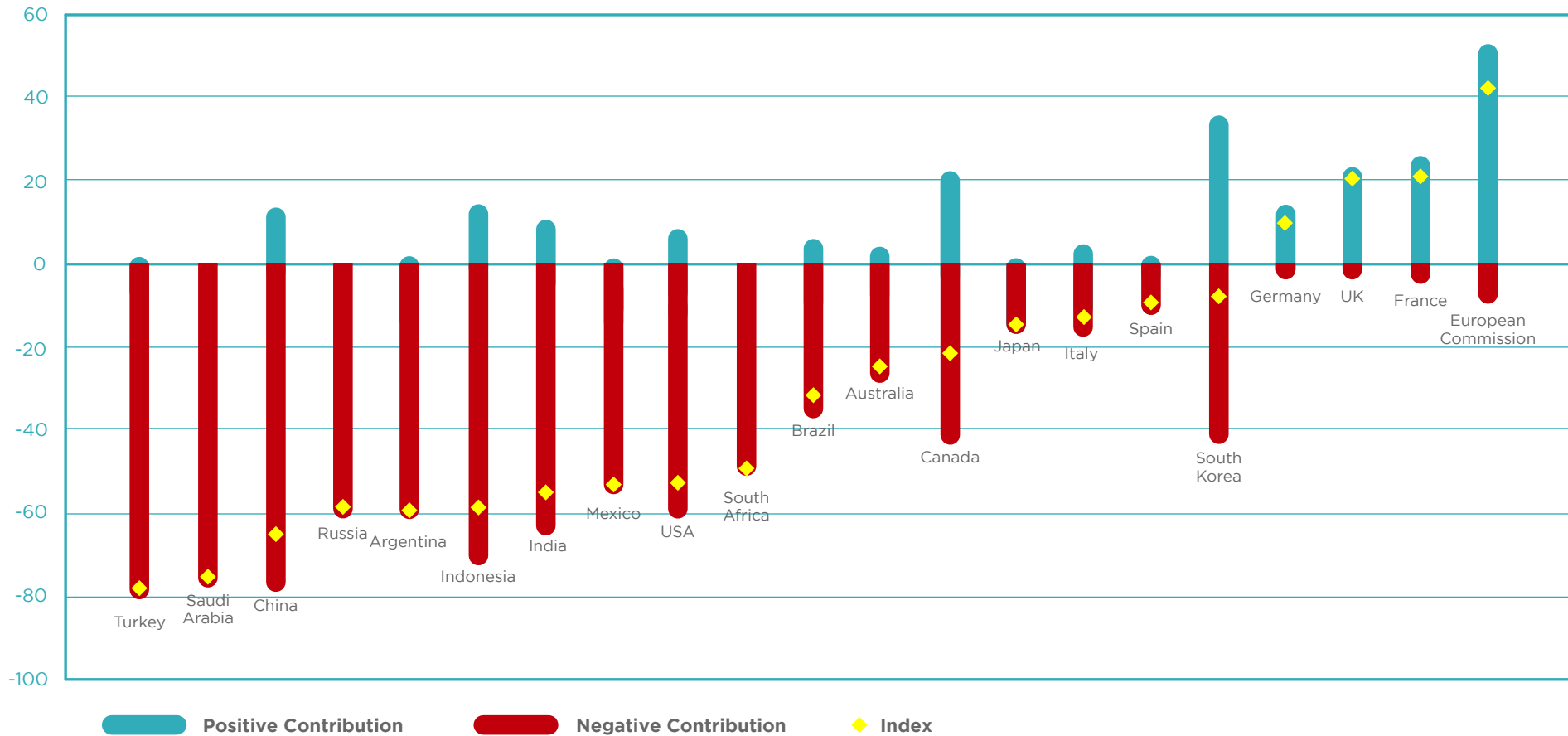
green stimulus measures have been taken, they have been predominately related to carbon emissions with only occasional attention to preserving and enhancing nature and natural capital. Of total quantified green stimulus, only 2.8% was directly related to improving biodiversity or preserving ecosystems, while among the environmentally negative stimulus 94.8% was associated with pollution or direct habitat destruction with negative expected impacts on biodiversity. In light of the risks associated with degraded natural capital – including the pandemic risk driving the current crisis – it is hard to understate the scant attention paid to these risks.

To date, the G20 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 dramatically lower future costs of protecting the planet. In solving one crisis, we cannot ignore another.

Packages in parts of Western Europe, South Korea and Canada offer more promise with at least a portion of spending likely to be nature-friendly, with green infrastructure investments in energy and transport sectors being the most common positive interventions observed thus far. Germany's 'Package for the Future' was the first to include widespread green measures, which includes funding for green infrastructure and R&D in the energy and transport sectors. South Korea has announced support for its 'Green New Deal', which will provide large financial support to a variety of green projects over the next five years. France and the UK benefit from less environmentally intensive economies and their decisions to retain more stringent regulations and policies. However, specific funding for green projects announced in the UK is relatively small compared with Germany and South Korea, and the UK's positive score is largely driven by good underlying environmental performance. France has been particularly successful in attaching green conditions to financial support, while Canada follows suit with several inherently 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, with 37% of its €750 billion (US\$830bn) directed towards green initiatives.

Greenness of Stimulus Index



Source: Vivid Economics using a variety of sources, consult Annex II for the entire list of sources
Note: Updated on August 28, 2020.

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

New to this release

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

Addition of the three remaining G20 countries (Argentina, Saudi Arabia and Turkey) to the index.

The total quantity of measured stimulus has increased to US\$12.1 trillion. This includes increases in stimulus packages in China (from US\$592 billion to US\$648 billion), Italy (from US\$530 billion to \$557 billion) and Australia (from US\$148 billion to US\$163 billion).

Improvements to some index scores. For example, we have seen more funding for clean energy in Europe, for green infrastructure projects in China, and national park conservation in the United States.

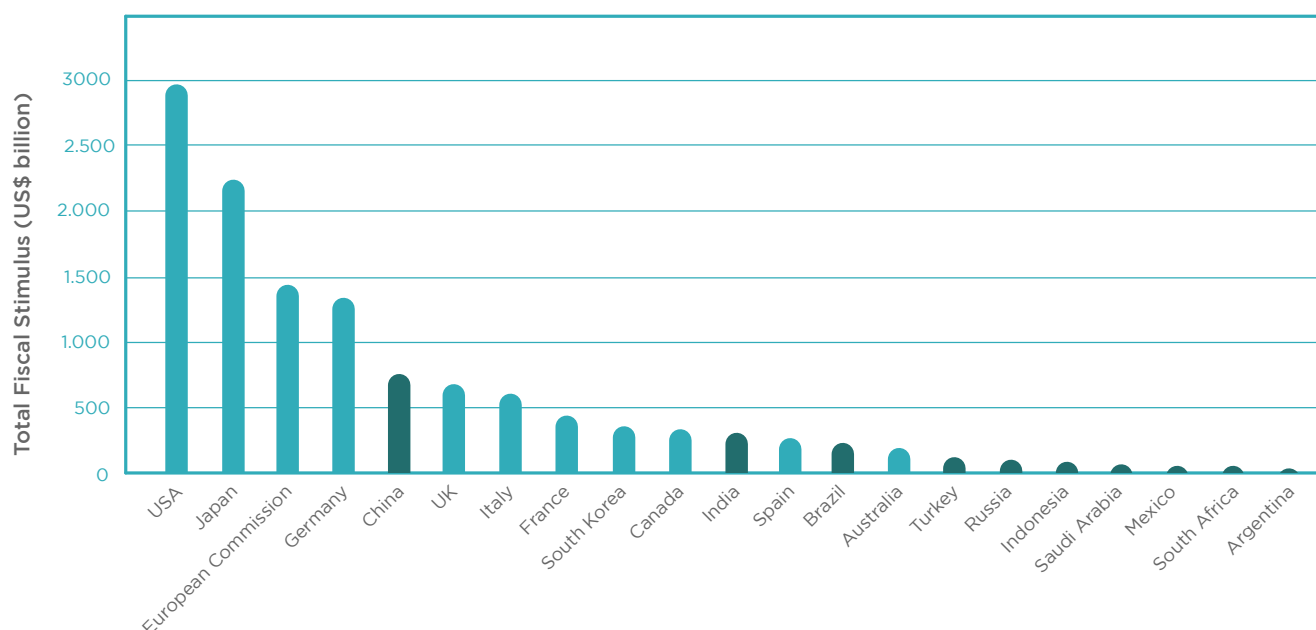
However, most G20 countries have continued to supply unconditional support to polluters across environmentally intensive sectors. Particularly damaging measures include further support for airlines and other polluters without environmental strings attached, and rollbacks in environmental regulations.

An additional French stimulus package will be confirmed at the start of September, which is expected to include around US\$30 billion in funding for green initiatives. Once confirmed, this will boost France's index score.

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 \$26 billion (Argentina) to \$3 trillion (the United States).

Figure 1 | Announced COVID response fiscal stimulus package: G20 economies plus Spain



Source: Vivid Economics using IMF COVID response tracker and other sources.
Note: Dark blue represents developed and light blue represents developing countries. Updated on August 28, 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 the economy.

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

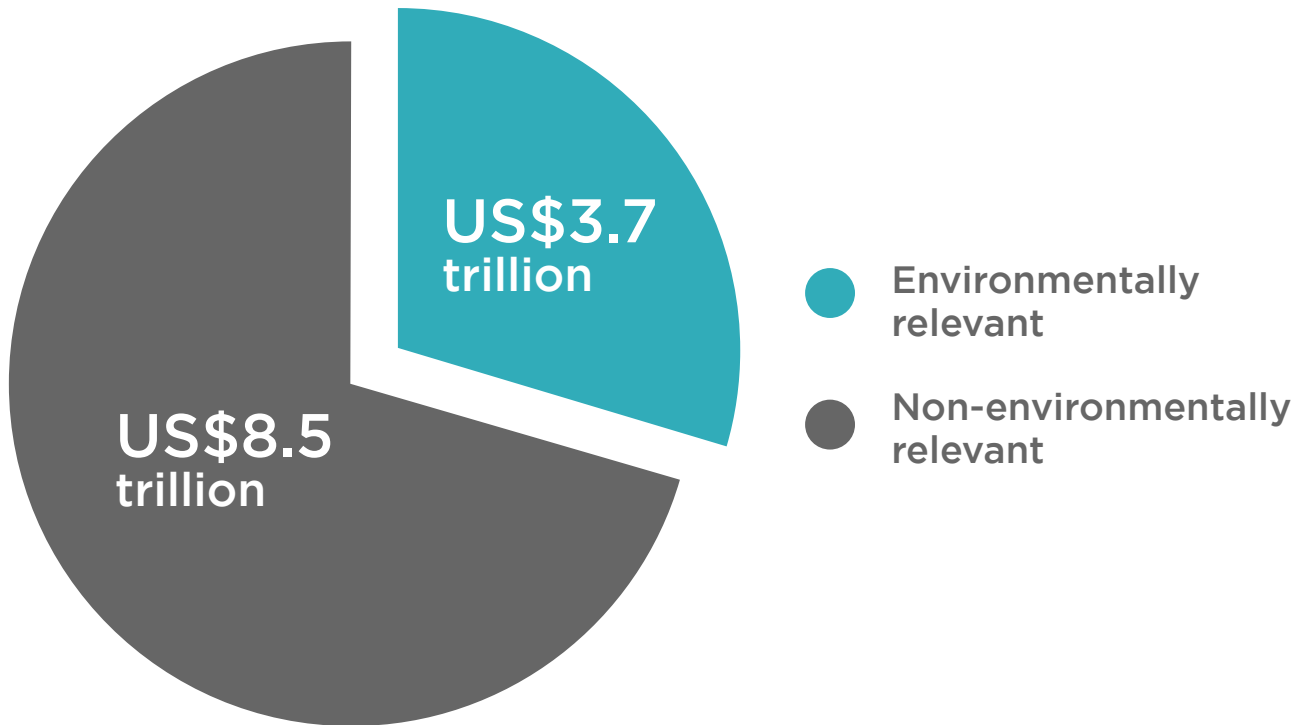
projects such as tree planting are shovel-ready, easily scaled, and provide overwhelmingly local, socially-distanced jobs at various skill levels.

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 pollution.¹ This proportion will likely increase as stimulus efforts deepen for long-term recovery. This critical 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.

¹ 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



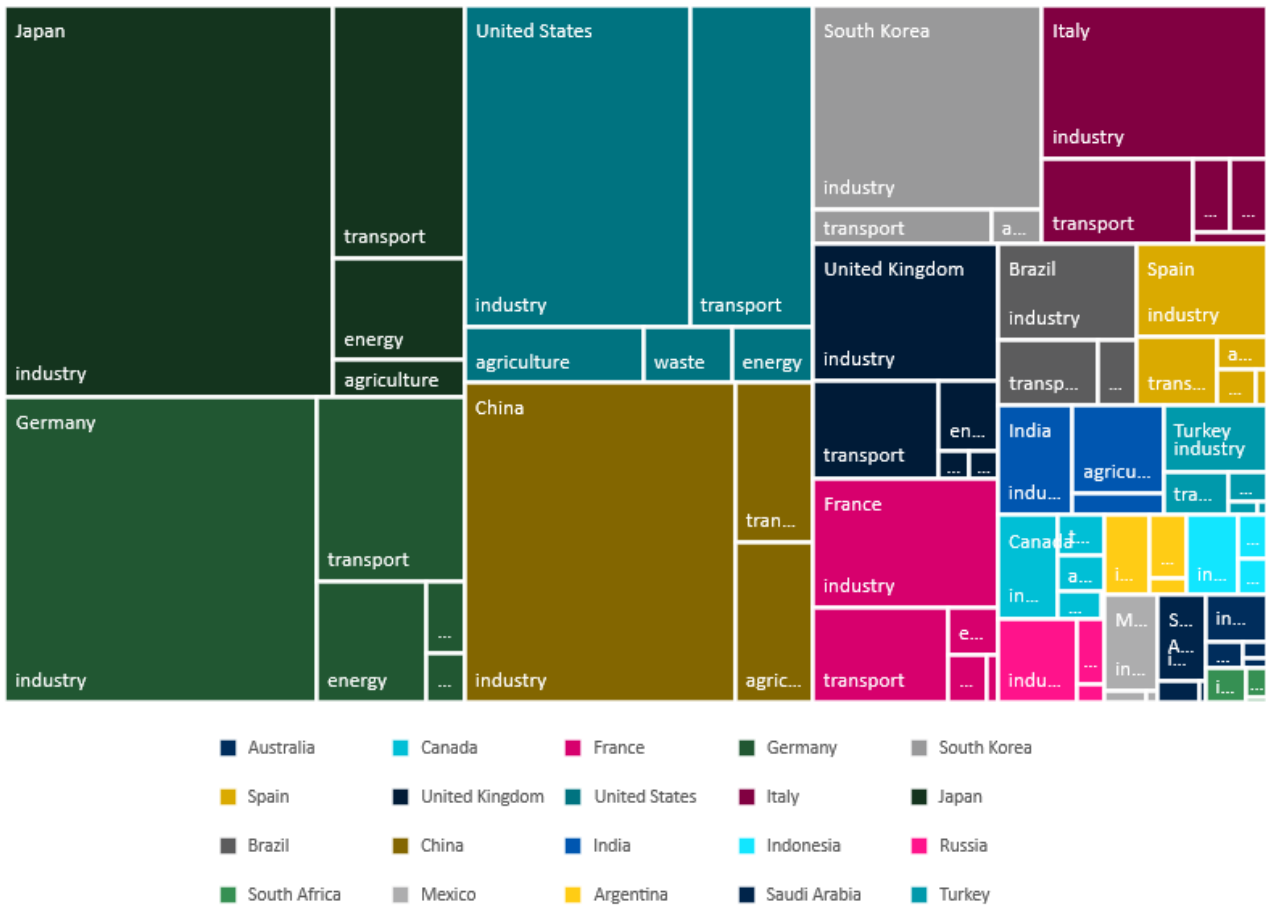
Agriculture, industry, waste, energy and transport are the sectors considered to have most environmental relevance. This categorisation is based on environmental outcomes including emissions.

Source: Vivid Economics using a variety of sources

Note: Agriculture includes forestry and fisheries. Industry includes manufacturing. Updated on August 28, 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



Source: Vivid Economics

Note: For developing countries, support for energy and waste is included within industry. The European Union is excluded from this chart. Updated August 28, 2020.

Green Stimulus Toolkit

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 economies 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, and 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.

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.

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-clunker 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.

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 the G20 economies and the European Commission 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.

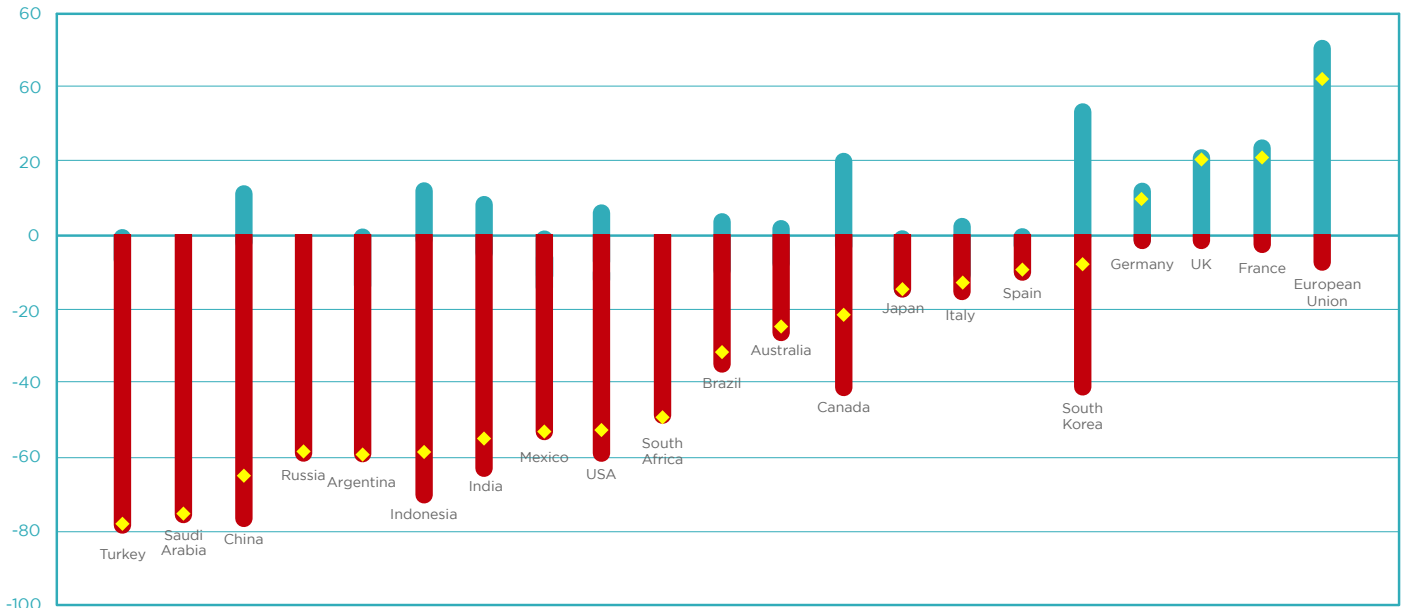
In countries with inadequate existing climate and biodiversity policies, these flows are likely to reinforce unsustainable trajectories of high emissions and loss of nature. All countries have entered this crisis with large sectors of their economies still producing significant greenhouse gas emissions 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 G20 stimulus is improving slightly over time, especially in developed countries. Most especially, France, Germany, South Korea and Canada have achieved substantial improvements in their index scores (see Figure 6 below). While most countries are yet to take the opportunity to use their stimulus packages to kick start green recoveries, some countries in August made significant green announcements, resulting in the largest changes in index scores since our first release of the GSI in April.

Figure 4 | Greenness of Stimulus Index: G20 economies plus Spain



Positive Contribution Negative Contribution Index

	TUR	SAU	CHN	RUS	ARG	IDN	IND	MEX	USA	ZAF	BRA	AUS	CAN	ITA	JAP	SPA	KOR	GER	GBR	FRA	EC
Agriculture			✓		✓		✓		✓			✓	✓					✓	✓		✓
Energy	✓		✓			✓	✓		✓		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
Industry			✓				✓				✓	✓	✓				✓	✓	✓	✓	✓
Transport			✓			✓	✓	✓	✓			✓	✓	✓		✓	✓	✓	✓	✓	✓
Waste													✓				✓				✓
Agriculture									✓		✓	✓	✓							✓	
Energy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				✓				
Industry			✓	✓		✓	✓	✓	✓	✓	✓	✓	✓				✓		✓	✓	
Transport	✓		✓	✓		✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Waste								✓	✓											✓	

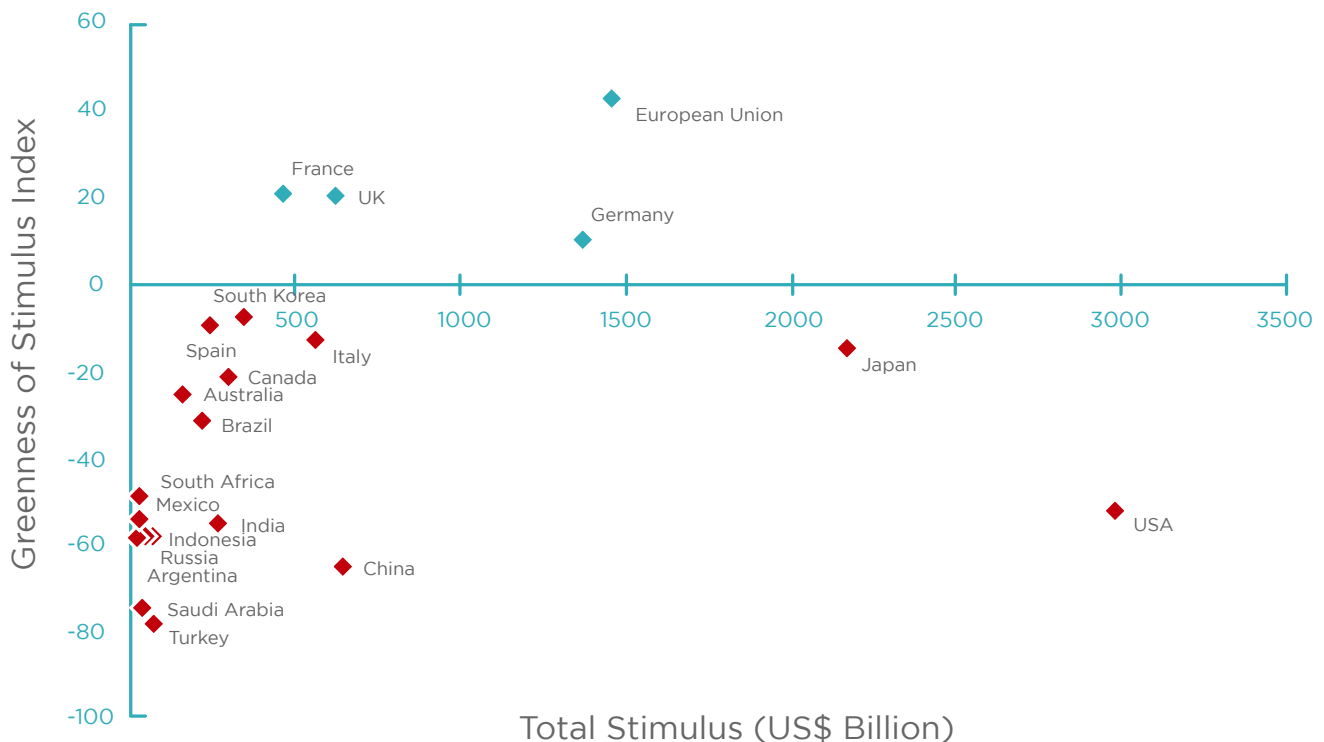
Source: Vivid Economics using a variety of sources. Consult Annex II for the entire list of sources.
 Note: Updated on Augusts 28, 2020.

Drilling down into individual countries (see Figures 4 and 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. The US has a current policy mix that means 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 underlying 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, the decision to ban wildlife trading for specific animal 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.

Figure 5 | GSI score and total size of fiscal stimulus: G20 economies plus Spain



Source: Vivid Economics using IMF Policy Tracker and other sources
 Note: Updated August 28, 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.

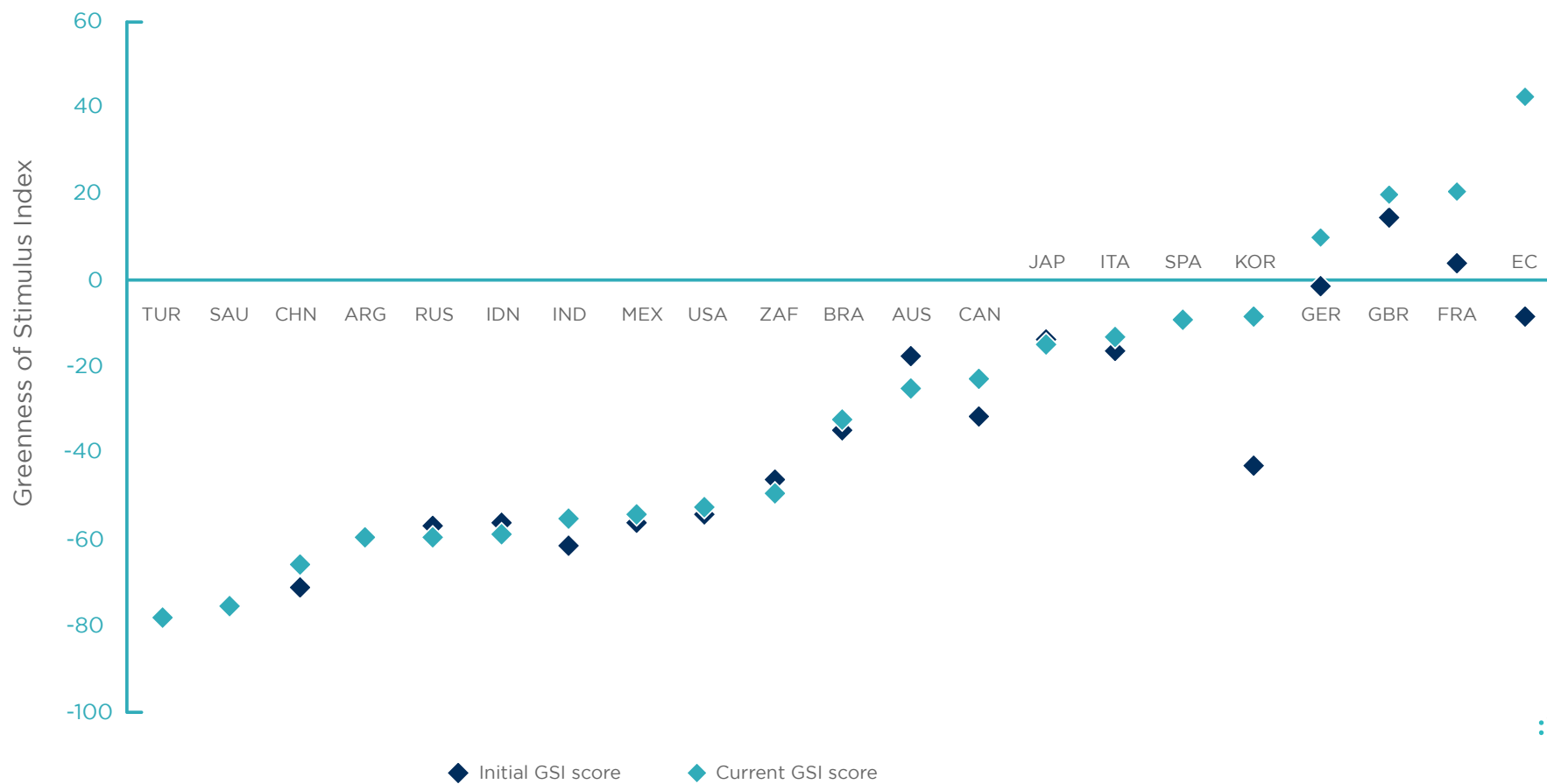
Russia, Mexico and South Africa are major fossil fuel energy producers, and their response to COVID has reinforced their historical negative environmental performance. Russia relies heavily on its oil and gas sector for exports and overall economic output, and its response to COVID has supported the 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. 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. Turkey scores bottom in our GSI ranking of the G20.

India's stimulus appears to support 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 undermines a green recovery.

Italy, Australia, Japan and Spain 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.

Figure 6 | Current and first release (24th April) GSI scores: G20 economies plus Spain



:vivid economics



Source: Vivid Economics

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 August 28, 2020.

Turning to better or more improved environmental performers (see Figure 6), both France and Canada have successfully attached green conditions to bailouts of environmentally intensive industries. French government support for airlines, aviation and car manufacturing has been conditional on environmental targets. France has also introduced measures directly supporting a green transition, resulting in the best index score of the countries analysed, besides the EU as a whole. Canada has also 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. 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..

Germany and South Korea 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\$52 billion in green funding is equivalent to 15% 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. 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. Although approved support for the EU's Just Transition Fund, Rural Development and Sustainable Infrastructure Fund (InvestEU) is 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 the grants and loans to achieve the dual purpose of economic recovery and environmental sustainability.

Overall, much more is required to kick-start a truly green recovery. Aside from the European Union's stimulus package, and the recently announced South Korean 'New Deal', 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 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. 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. 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 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.

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

² 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. We categorise all stimulus into agriculture, energy, industry, transport and waste.

³ 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/>), Germanwatch Climate Change Performance Index (<https://germanwatch.org/en/CCPI>) and progress towards achieving Sustainable Development Goals (https://s3.amazonaws.com/sustainabledevelopment.report/2019/2019_sustainable_development_report.pdf)

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 programmes, restoration of wetlands, or forest management investments.
	Loans and grants for green investments	Direct loans or tax rebates and subsidies, eg for high-efficiency water irrigation systems.
	Conservation Wildlife Trade Ban 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 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 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 walk-ways, 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	Loans, guarantees or grants provided to agricultural producers including farmers, fishers and cattle ranchers that do not require improvement in sustainable practices.
	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 or procurement of 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 severity and coverage:

Severity

Each measure is rated on severity from 1 to 5, with one as the least severe and five as the most severe. The impacts on the environment may be severe in either positive or negative trajectories. Severity 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 a severe 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 severe 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 gas 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 severe negative policy (1) is a temporary fee suspension for environmentally harmful activities, but subsequently recouping fee collection.

Coverage

Each measure is rated on the level of coverage from 1 to 5, with one as the least amount of coverage and five as the highest coverage. Coverage of a policy is determined 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 will be updated as more information on the recovery packages becomes available:

1.1 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 using the data on the businesses that are receiving loans, of which a substantial proportion have been allocated to industrial producers.⁵ Additional government stimulus is anticipated, but negotiations are ongoing. Some environmentally positive stimulus has come at the state level.

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

Table 3 | 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

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

⁵ AP News (2020) <https://apnews.com/53954f808f0652463d58728ad64cd5b3>

Underlying sector context (b₁)

Performance on key indicators is **highly insufficient** in supporting nature and tackling climate change.

Specific environmental measures (b₂)

In the United States, deregulation across all sectors coupled with a lack of environmental conditions on transportation funding have added negative weights to our baseline, though 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.⁶ The US government has warrants on up to 1.9% of shares for any airline receiving grants or loans.⁷ But given the current US administration, we do not anticipate these equity stakes, if taken, to be used to drive voluntary compliance to any environmental standards that would be set by the federal government. Additionally, US\$10 billion in bailout funding was provided separately to airports.⁸

In 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 pollutant or emissions are not required to monitor or report to the Environmental Protection Agency (EPA) at this time.⁹ 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.”¹⁰ 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 a recovery measure providing grants to agricultural producers which undertake the production of renewable or bio-fuels.¹¹ 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.¹² 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,¹³ and US\$122 million of funding for ‘coal innovation centers’ was made available through the Department of Energy.¹⁴

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 transit¹⁵ and off-shore wind power,¹⁶ while the California Energy Commission has used geothermal energy investment as a potential stimulus measure.¹⁷ Some positive federal level stimulus has come in the form of a bailout for Amtrak,¹⁸ the United States’ largest passenger rail service, and the extension of tax credits for wind and solar energy.¹⁹

The United States Paycheck Protection Program’s environmentally beneficial effects were outweighed by environmentally negative ones. Though roughly US\$250 million went to clean energy industries, more than US\$3.5 billion went to fossil fuel and carbon-intensive industries.²⁰

⁶ US Treasury (2020). <https://home.treasury.gov/system/files/136/Payroll-Support-Procedures-Form-FINAL.pdf>

⁷ Financial Times (2020) <https://www.ft.com/content/fb8ef5a9-2e42-4b6a-acd0-078a1faa0d01>

⁸ US Congress (2020). <https://www.congress.gov/bills/116/congress/house-bill/748/text>

⁹ The Hill (2020) <https://thehill.com/policy/energy-environment/489753-epa-suspends-enforcement-of-environmental-laws-amid-coronavirus>

¹⁰ NY Times (2020). <https://www.nytimes.com/interactive/2020/climate/trump-environment-rollbacks.html?mtrref=www.google.com&assetType=REGIWALL>

¹¹ Columbia Climate Law (2020). <https://climate.law.columbia.edu/climate-deregulation-tracker>

¹² TMF Group (2020). <https://www.tmf-group.com/en/news-insights/coronavirus/government-support-schemes/#B>

¹³ United States Government (2020). <https://www.congress.gov/bills/116/congress/senate-bill/3422>

¹⁴ State of Pennsylvania (2020). <https://www.legis.state.pa.us/cfdocs/billInfo/billInfo.cfm?sYear=2019&slnd=0&body=H&type=B&bn=732>

¹⁵ US Department of Energy (2020). <https://www.energy.gov/articles/doe-announces-intent-provide-122m-establish-coal-products-innovation-centers>

¹⁶ State of New York (2020). <https://www.governor.ny.gov/news/governor-cuomo-announces-nation-leading-initiatives-expand-electric-vehicle-use-combat-climate>

¹⁷ California Energy Commission (2020). <https://www.energy.ca.gov/news/2020-05/geothermal-lithium-recovery-projects-get-boost-california-energy-commission>

¹⁸ US Congress (2020). <https://www.congress.gov/bills/116/congress/house-bill/748/text>

¹⁹ Bloomberg Tax (2020). <https://news.bloombergtax.com/daily-tax-report/u-s-treasury-extends-deadlines-for-renewable-energy-projects>

²⁰ US Treasury (2020). <https://home.treasury.gov/policy-issues/cares-act/assistance-for-small-businesses/sba-paycheck-protection-program-loan-level-data>

Energy Policy Tracker (2020). <https://www.enerypolicytracker.org/country/united-states>

1.2 Japan

Japan has passed a total of US\$2.17 trillion in fiscal measures in response to COVID.²¹

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. Of the support for businesses, a large share is directed at Japan's industry and transport sectors.

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 4 | 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",²² 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.²³

²¹ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

²² Climate Change News (2020). <https://www.climatechangenews.com/2020/06/01/japan-launch-green-recovery-platform-ministerial-meeting/>

²³ 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>

1.3 Germany

Germany has passed a total of US\$1.38 trillion in fiscal stimulus.²⁴

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 2021.²⁵

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

Table 5 | 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

²⁴ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

²⁵ 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**, 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.¹⁵ The Lufthansa bailout includes ceding a 20% equity stake to the German government.¹⁶ 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.²⁸ Aside from the EU's proposed stimulus, this package is the first example of a large green-oriented recovery package. Despite this, green stimulus measures still represent a relatively small proportion of Germany's total fiscal stimulus.

²⁶ Transport & Environment (2020). https://www.transportenvironment.org/sites/te/files/Airline-bailout-tracker_8_May_2020.pdf

²⁷ 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/>

²⁸ Carbon Brief (2020). <https://www.carbonbrief.org/coronavirus-tracking-how-the-worlds-green-recovery-plans-aim-to-cut-emissions>

1.4 China

China has passed a total of US\$648 billion in fiscal stimulus.²⁹

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 enterprises³⁰ 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.

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

Table 6 | 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**. Significant extra action is required to achieve Paris Agreement targets and environment-related sustainable development goals.

²⁹ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

³⁰ The Economist (2020). <https://www.economist.com/finance-and-economics/2020/04/16/why-has-chinas-stimulus-been-so-stingy>

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 2020.³¹ In February and March, China loosened labelling of provinces as over-capacity for coal power generation, making them available for new coal power sites and more permit approvals than in the same period in 2019.³² 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.³³

The Chinese government has dropped its commitment to key emissions intensity and energy targets for post-2020 in response to COVID-19.³⁴ 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.³⁵

Chinese provinces have rolled out car subsidies to support the general industry, encouraging uptake in traditional combustion engines in the transport sector.³⁶ 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 to 2022.³⁷ This extension of an existing subsidy coupled with the government's recent announcement to reduce the permitting requirements on new electric vehicles provide a green boost to the transport sector in China.³⁸ This extension will occur through 2022³⁹ but will decrease by 10% in December and excludes vehicles over US\$42,357.⁴⁰

One specific measure that supports green infrastructure investment is the US\$379 million funding for EV charging infrastructure across China.⁴¹ In tandem with the extension of the EV subsidy in March, these projects aid in the uptake of EVs. This type of explicit green infrastructure supported the transport sector's GSI score.

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 be directed at 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 and land and space greening, energy conservation and utilisation, green transportation, clean energy and other fields.⁴² However, this makes up only a small 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 include energy efficiency improvements.⁴³

Another measure that helps to improve China's index score is investment in railway infrastructure. The 100-yuan investment (around US\$14 billion) forms part of a large infrastructure package announced by the Chinese government.⁴⁴

³¹ Climate Action Tracker (2019); <https://climateactiontracker.org/countries/>

³² Global Energy Monitor (2020). https://endcoal.org/wp-content/uploads/2020/03/BoomAndBust_2020_English.pdf

³³ 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>

³⁴ 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

³⁵ 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>

³⁶ Financial Times (2020). <https://www.ft.com/content/12cc8c6a-5f7a-11ea-b0ab-339c2307bcd4>

³⁷ 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>

³⁸ IHS Market (2020). <https://ihsmarkit.com/research-analysis/china-steps-up-efforts-to-boost-auto-industry.html>

³⁹ Bloomberg (2020). <https://www.bloomberg.com/news/articles/2020-04-01/china-mulling-cutting-electric-car-subsidies-it-just-extended>

⁴⁰ 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>

⁴¹ China post-COVID Recovery Factsheet (2020).

⁴² Line Today (2020). <https://today.line.me/hk/article/National+green+development+fund+company+established+in+Shanghai-5eYWgx>

⁴³ 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

⁴⁴ 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

1.5 United Kingdom

The United Kingdom has passed US\$626 billion in fiscal measures in response to COVID-19. ⁴⁵

Composition of stimulus: The UK's stimulus package includes a range of measures to fund healthcare, 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,⁴⁶ a US\$6.1 billion investment in transport infrastructure,⁴⁷ 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 scores relatively well on the baseline indicators and has several specific green stimulus measures, resulting in a positive index score.

Table 7 | 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

⁴⁵ 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/>

⁴⁶ BBC (2020). <https://www.bbc.co.uk/news/uk-england-london-52670539>

⁴⁷ 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>

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 total stimulus, and are much smaller in absolute value than those in Germany.

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.⁴⁸ 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.⁴⁹

A slight easing of permitting requirements in the agriculture and waste sectors in the UK has taken place.⁵⁰ In agriculture, slurry from dairy farming may be used without a 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.⁵¹ 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.⁵² 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.⁵³

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.⁵⁴ 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.⁵⁵

The agriculture sector has received a US\$49 million grant programme targeted towards cattle farmers in Scotland.⁵⁶ 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.⁵⁷

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.⁵⁸

⁴⁸ Bank of England (2020). <https://www.bankofengland.co.uk/markets/bank-of-england-market-operations-guide/results-and-usage-data>

⁴⁹ 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>

⁵⁰ UK Government (2020). <https://www.gov.uk/government/collections/covid-19-regulatory-position-statements#water-industry>

⁵¹ BBC (2020) <https://www.bbc.co.uk/news/uk-england-london-52670539>

⁵² 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>

⁵³ UK Government (2020). <https://www.gov.uk/government/publications/a-plan-for-jobs-documents/a-plan-for-jobs-2020>

⁵⁴ UK Government (2020). <https://www.gov.uk/government/news/pm-commits-350-million-to-fuel-green-recovery>

⁵⁵ Business Green (2020). <https://www.businessgreen.com/news/4018369/ev-charging-water-efficiency-projects-unveiled-london-recovery-plan>

⁵⁶ TMF Group (2020). <https://www.tmf-group.com/en/news-insights/coronavirus/government-support-schemes/#B>

⁵⁷ Business Green (2020).

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

⁵⁸ UK Government (2020). <https://www.gov.uk/government/publications/a-plan-for-jobs-documents/a-plan-for-jobs-2020>

1.6 Italy

Italy has passed US\$557 billion in fiscal stimulus measures.⁵⁹

Composition of stimulus:⁶⁰ 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 Alitalia⁶¹, 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.

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 8 | 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

⁵⁹ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

⁶⁰ The Economist (2020). <https://www.economist.com/finance-and-economics/2020/04/16/why-has-chinas-stimulus-been-so-stingy>

⁶¹ https://www.transportenvironment.org/sites/te/files/Airline-bailout-tracker_8_May_2020.pdf

Underlying sector context (b₁)

Performance on key indicators is **insufficient**.

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 of 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. For solar PV, this has increased from 50%.⁶²

The government has also provided support for active transport by supporting a bike and scooter scheme⁶³, investing in active transport infrastructure in a number of cities, and by incentivising walking and cycling.⁶⁴

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.⁶⁵ Subsidies have also been announced for conventional vehicles, though these are smaller than those available for electric vehicles.⁶⁶

⁶² 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>

⁶³ 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/>

⁶⁴ 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>.

⁶⁵ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/italy>.

⁶⁶ 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=>

⁶⁷ 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>

1.7 France

France has passed a total of US\$469 billion in fiscal measures.⁶⁸

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 AirFrance⁶⁹ and €8 billion (US\$8.8 billion) for the auto industry.⁷⁰ A further stimulus package of €100 billion (US\$110 billion) will be confirmed at the start of September, which is expected to include around €30 billion (US\$33 billion) for an 'Ecological Plan' to support environmental targets.

France has been the most successful country in attaching green conditions to bailouts. Combined with other positive environmental measures and a relatively good underlying environmental performance, France achieves the best score on the index among all countries, excepting the EU as a whole.

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

⁶⁸ IIMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

⁶⁹ New York Times (2020). <https://www.nytimes.com/2020/04/25/business/air-france-klm-bailout.html>

⁷⁰ Government of France (2020). <https://www.economie.gouv.fr/covid19-soutien-entreprises/mesures-plan-soutien-automobile>

Underlying sector context (b₁)

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

Specific environmental measures (b₂)

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

France has extended a US\$7.7 billion deal to Air France, as part of an EU-approved deal between the Netherlands and France to bailout the airline.⁷¹ 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.⁷² 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.⁷³

Other examples of conditional bailouts include US\$5.4 billion for car manufacturer Renault and aerospace manufacturer Airbus (US\$8.9 billion).⁷⁴

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.

- 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 2040.⁷⁵ Major features of the US\$8.9 billion stimulus to the transportation 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.⁷⁶

- France has extended its rooftop solar PV subsidy to households - originally expected to be phased out this spring.⁷⁷ 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 regulations⁷⁸, and extending tax breaks for off-road diesel use.⁷⁹

- Expected as part of France's next stimulus package, the 'Ecological Plan' is set to include several green stimulus measures. Once confirmed, these will boost France's index score.

⁷¹ New York Times (2020). <https://www.nytimes.com/2020/04/25/business/air-france-klm-bailout.html>

⁷² Routes Online (2020). <https://www.routesonline.com/news/29/breaking-news/291047/air-france-told-by-government-to-drastically-cut-domestic-flying/>

⁷³ RFI (2020) <http://www.rfi.fr/en/wires/20200527-air-france-cut-40-domestic-flights-after-bailout>

⁷⁴ Transport Environment (2020) <https://www.transportenvironment.org/publications/air-frances-bailout-climate-conditions-explained>

⁷⁵ Europe Auto News (2020). <https://europe.autonews.com/automakers/france-help-auto-sector-measures-worth-88b>

⁷⁶ French Economic Ministry (2020). <https://www.economie.gouv.fr/covid19-soutien-entreprises/mesures-plan-soutien-automobile>

⁷⁷ The Guardian (2020). <https://www.theguardian.com/environment/2020/apr/17/polluter-bailouts-and-lobbying-during-covid-19-pandemic>

⁷⁸ Legifrance (2020).

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

⁷⁹ 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>



1.8 South Korea

South Korea has passed fiscal stimulus equal to US\$343 billion.

Composition of stimulus:⁸⁰ 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-19.⁸¹ 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 negative due to poor underlying environmental performance.

Table 10 | 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

⁸⁰ IMF Policy tracker (2020) <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>, Pulse News (2020)

⁸¹ Financial Service Commissions (2020). https://www.fsc.go.kr/eng/new_press/releases.jsp?menu=01&bbsid=BBS0048&selYear=&sch1=&sword=&nxPage=1

Underlying sector context (b₁)

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

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 renew-ables, support for electric and hydrogen vehicles, and energy efficiency in buildings. The government has committed to a total of US\$52 billion in green funding before 2025, which is a large proportion of total Korean stimulus and drives a substantial improve-ment in the country's index score.⁸² The 'New Deal' also includes investments from the private sector into green and digital infra-structure projects, excluded from the GSI.

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.⁸³ The tax deduction for carmakers of 30%, which was supposed to end in 2020, has been extended in an effort to boost export sales.⁸⁴ 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 consum-ers, to stimulate demand and is similarly without a green conditional component.

Other environmentally damaging measures include support for airlines, at almost US\$2.5 billion⁸⁵, 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\$2 billion.⁸⁶

⁸² Vivid Economics estimate excluding contributions by the private sector. Base on YNA (2020). <https://en.yna.co.kr/view/AEN20200714004851320>. South Korea's index score will be updated as more information about the 'New Deal' becomes available.

⁸³ Pulse News Korea (2020) <https://pulsenews.co.kr/view.php?year=2020&no=217288>

⁸⁴ KPMG Insights (2020). <https://home.kpmg/xx/en/home/insights/2020/04/south-korea-tax-developments-in-response-to-covid-19.html>

⁸⁵ 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> .

⁸⁶ 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>

1.9 Canada

Canada has passed US\$291 billion in fiscal stimulus measures.⁸⁷

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 deferrals. This has included some specific environment-related measures that provide support both to green and brown industries.

Green stimulus measures in Canada's energy sector plus a condition to report climate risk according to TCFD guidelines, to qualify for financial support, improve Canada's GSI. However, these positive steps are more than offset by some environmentally harmful policies, and poor underlying performance, resulting in a negative index score overall.

Table 11 | 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

⁸⁷ Conversion from the Canadian dollar to US dollar are taken using the weekly average exchange using Morning Star

⁸⁸ 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**.

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.⁸⁹ 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.⁹⁰ This funding is a green infrastructure investment made to ensure long-term emissions reductions of 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 of polluting energy infrastructure.⁹¹ 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 conditions for better environmental performance.⁹²

In the transport sector, Canada has suspended airline docking fees temporarily, waiving this tax on a high-emissions industry.⁹³ 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.⁹⁴ 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.⁹⁵ 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.

⁸⁹ Canadian Government (2020). <https://pm.gc.ca/en/news/news-releases/2020/04/17/prime-minister-announces-new-support-protect-canadian-jobs>

⁹⁰ Canadian Broadcast Corporation (2020). <https://www.cbc.ca/news/politics/financial-aid-covid19-trudeau-1.5535629>

⁹¹ Climate Change News (2020). <https://www.climatechangenews.com/2020/04/20/coronavirus-governments-bail-airlines-oil-gas/>

⁹² EDC (2020) <https://www.edc.ca/en/about-us/newsroom/covid-19-oil-gas-support.html>

⁹³ Government of Canada (2020). <https://www.canada.ca/en/departement-finance/economic-response-plan.html>

⁹⁴ Government of Canada (2020). <https://www.canada.ca/en/departement-finance/economic-response-plan.html>

⁹⁵ 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.⁹⁶ Environmental regulations have also been rolled back in Saskatchewan,⁹⁷ Quebec,⁹⁸ British Columbia⁹⁹ and Nova Scotia,¹⁰⁰ largely in the form of deferred carbon tax payments and reduced enforcement on environmental rules.

Canada's fossil fuel industries have also received a stimulus bump. Both Alberta¹⁰¹ and Quebec¹⁰² 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 Labrador¹⁰³ and coal pit protections in Alberta.¹⁰⁴ Counter-ing this carbon-intensive investment, more than US\$260 million has been invested into 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.¹⁰⁵

Investment made into transportation has affected Canada's index score positively and negatively. While significant investment (more than US\$2 billion) has been committed to public transit both at the federal and state levels,¹⁰⁶ even more has been set aside for the construction of automobile-centric highways and bridges.¹⁰⁷

⁹⁶ 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.pdf>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/canada>

⁹⁷ 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>

⁹⁸ 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>

⁹⁹ 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>

¹⁰⁰ Province of Nova Scotia (2020) <https://novascotia.ca/coronavirus/fees>, Energy Policy Tracker (2020) <https://www.energypolicytracker.org/country/canada>

¹⁰¹ 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>

¹⁰² 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>

¹⁰³ 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>

¹⁰⁴ Province of Alberta (2020). <https://www.alberta.ca/coal-policy-guidelines.aspx>, Energy Policy Tracker (2020)

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

¹⁰⁵ 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>

¹⁰⁶ 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>

¹⁰⁷ 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>

1.10 India

India has passed a US\$266 billion fiscal stimulus package in response to COVID.⁹⁶

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.

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.

Table 12 | 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

⁹⁶ <https://www.ft.com/content/5734f333-e4d7-4ebf-9de2-220e537da3f0>

Underlying sector context (b₁)

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

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 extraction⁹⁷ and the removal of coal washing regulations for supply to thermal power plants.⁹⁸ The government has also sought to replace imported coal with Indian coal to boost the domestic sector.⁹⁹

India has also allocated US\$6.6 million for transport infrastructure to help bring coal from India's state run mines to market.¹⁰⁰ 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 gas¹⁰¹, and taking advantage of low oil prices to secure a strategic reserve.¹⁰² 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.¹⁰³

India has also fast-tracked environmental impact assessments to increase the speed of project development.¹⁰⁴ 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.¹⁰⁵ This funding is provided through the Compensatory Afforestation Management and Planning Authority (CAMPA) fund.¹⁰⁶ The specific jobs created through this fund include plantation work, forest management and wildlife protection. These jobs will be available for tribal communities.¹⁰⁷ This program 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 inter-state transmission of wind and solar power until December 2022¹⁰⁸, and the government of Andhra Pradesh has announced its Renewable Energy Export Policy, which establishes renewable energy equipment manufacturing facilities.¹⁰⁹

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 2024.¹¹⁰

⁹⁷ Indian Press Information Bureau (2020). <https://pib.gov.in/PressReleasePage.aspx?PRID=1625305>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>

⁹⁸ The Wire (2020). <https://thewire.in/environment/coal-washing-environment-ministry-changing-rules>

⁹⁹ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/india>, Coal India (2020). <https://www.coalindia.in/ourbusiness/specialspote-auctionscheme2020forimportsubstitution.aspx>

¹⁰⁰ LiveMint (2020). <https://www.livemint.com/news/india/fm-sitharaman-fast-tracks-industrial-reforms-to-aid-growth-recovery-11589639649764.html>

¹⁰¹ 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>

¹⁰² 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>

¹⁰³ Livemint (2020). <https://www.livemint.com/news/india/india-has-secured-additional-oil-supplies-to-tide-over-iran-sanctions-1556806947754.html>

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¹⁰⁴ QZ (2020) <https://qz.com/india/1851634/india-fast-tracks-green-clearance-to-spur-coronavirus-hit-economy/>

¹⁰⁵ India TV (2020).

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

¹⁰⁶ 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>

¹⁰⁷ Economic Times (2020).

<https://bfsi.economicstimes.indiatimes.com/news/policy/key-highlights-of-the-finance-ministers-whole-economic-package/75797903>

¹⁰⁸ 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>

¹⁰⁹ 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>

¹¹⁰ 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.ecce>

1.11 Spain

Spain has passed a total of US\$249 billion in fiscal measures as a response to COVID. ¹¹¹

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.¹¹² Spain is expected to receive a relatively large share of support from the EU, which is expected to be used to support more specific green stimulus measures which would improve Spain's index score.

Spain's slight negative score is driven largely by its underlying environmental performance.

Table 13 | 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

Underlying sector context (b₁)

Performance on key indicators is **insufficient**, but better than most other countries included in the GSI.

Specific environmental measures (b₂)

- Spain has announced specific support for airlines, with bailouts to Iberia and Vueling airlines totaling US \$1.1 billion, without attachment of green conditions.¹¹³
- However, the Spanish government has also provided support for green transport.¹¹⁴ 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.¹¹⁵

¹¹¹ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

¹¹² Reuters (2020).

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

¹¹³ Reuters (2020).

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

¹¹⁴ Bloomberg (2020). <https://www.bloomberg.com/news/articles/2020-06-15/spain-s-auto-industry-to-get-4-2-billion-in-government-stimulus>

¹¹⁵ 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.

1.12 Brazil

Brazil has passed a total of US\$221 billion in fiscal stimulus spending.¹¹⁶

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 14 | 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**.

¹¹⁶ 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 its electricity auctions which were expected in the spring of 2020.¹¹⁷ 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 to have 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.¹¹⁸ This includes direct supports to airlines and aviation, as well as extending the deadline for repayment on airport concession contracts until December of 2020.

The Brazilian government has however announced some promising measures, through the creation of new financial mechanisms for green bonds issuance for sustainable infrastructure. These are expected to attract up to US\$34 billion by 2029.¹²⁵ Brazil has also announced the extension of a green credit line to support biofuel producers.¹²⁶

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.¹²⁷

Since the start of the stimulus, Brazil has introduced economic recovery measures, the country has taken significant steps to deregulate land use in the Amazon to stimulate economic activity in the region. This deregulation includes the relaxation of restrictions on logging, mining and other development permits to boost growth in the agriculture and forestry and industrial sectors.¹¹⁹

- 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.¹²⁰ 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.¹²¹ 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.¹²²

- Another environmentally damaging measure for supporting the agricultural sector is reduced oversight for 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.¹²³ 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.¹²⁴

¹¹⁷ 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/>

¹¹⁸ 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>

¹¹⁹ Brazil government (2020). http://www.planalto.gov.br/ccivil_03/_ato2019-2022/2019/Mpv/mpv910.htm

¹²⁰ The Guardian (2020). <https://www.theguardian.com/environment/2020/may/28/studies-add-to-alarm-over-deforestation-in-brazil-under-bolsonaro-covid-19>

¹²¹ Financial Times (2020). <https://www.ft.com/content/ca84017c-94c5-48ca-80c6-2ac31ea20cd9>

¹²² Monga Bay (2020). <https://news.mongabay.com/2020/05/brazil-opens-38000-square-miles-of-indigenous-lands-to-outsiders/>

¹²³ Politico EU (2020). <https://www.politico.eu/article/climate-battle-shifts-to-once-in-a-generation-national-budgets/>

¹²⁴ The Rising (2020). <https://therising.co/2020/05/21/amazon-fires-may-be-worse-2020/>

¹²⁵ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/brazil/>

¹²⁶ 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/>

¹²⁷ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/brazil/>

1.13 Australia

Australia to date has passed US\$163 billion in total fiscal support.¹²⁸

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, though 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 15 | 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

¹²⁸ 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.¹²⁹ The government announced in April that licensing fees and annual petroleum fees will not be due until December 2020.¹³⁰ 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.¹³¹ 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.¹³² While it is not a law imposed across the entire country, the repeal of this legislation places natural forests at risk of logging.¹³³ 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.¹³⁴

Other damaging measures include the opening up of 7000 square km of land for coal and gas exploration¹³⁵ and the introduction of exploration grants,¹³⁶ both in Queensland, as well as the development of the onshore gas industry in the Northern Territory.¹³⁷

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,¹³⁸ the Australian Renewable Energy Agency is providing US\$44 million,¹³⁹ and the Tasmanian renewable hydrogen action plan commits to further support.¹⁴⁰ The Northern Territory government has announced the procurement of a large-scale battery energy storage system for the Darwin-Katherine power network.¹⁴¹ In Queensland, around US\$90 million has been invested into renewable energy zones¹⁴², 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.¹⁴³

¹²⁹ Climate Change News (2020). <https://www.climatechangenews.com/2020/04/20/coronavirus-governments-bail-airlines-oil-gas/>

¹³⁰ APPEA (2020). https://www.appea.com.au/media_release/sa-supports-exploration-amid-covid-19-challenges/

¹³¹ Australian Treasury (2020). https://treasury.gov.au/sites/default/files/2020-05/Overview-Economic_Response_to_the_Coronavirus_3.pdf

¹³² Drilled News (2020). <https://www.drillednews.com/post/the-climate-covid-19-policy-tracker>

¹³³ Monga Bay (2020). <https://news.mongabay.com/2020/05/australias-logging-madness-fuels-more-fires-hastens-ecosystem-collapse/>

¹³⁴ The Guardian (2020). <https://www.theguardian.com/environment/2020/apr/17/polluter-bailouts-and-lobbying-during-covid-19-pandemic>

¹³⁵ ABC (2020). <https://www.abc.net.au/news/2020-05-07/queensland-coal-and-gas-exploration-coronavirus/12220636>

¹³⁶ Queensland Government (2020).

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

¹³⁷ Northern Territory Government (2020). <http://newsroom.nt.gov.au/mediaRelease/33259>

¹³⁸ Thomson Reuters Foundation (2020). <https://news.trust.org/item/20200504013347-5ffvz/>

¹³⁹ Renew Economy (2020). <https://reneweconomy.com.au/arena-opens-70-million-funding-round-to-fast-track-renewables-for-hydrogen-58600/>

¹⁴⁰ Tasmanian Government (2020). http://www.premier.tas.gov.au/releases/re-issued_becoming_the_nations_renewable_hydrogen_industry_epicentre

¹⁴¹ Northern Territory Government (2020). <http://newsroom.nt.gov.au/mediaRelease/33392>

¹⁴² 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

¹⁴³ 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>

1.14 Turkey

Turkey has passed US\$72 billion in fiscal stimulus measures.¹⁴⁴

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.

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 16 | Archetype policies announced in Turkey

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

Source: Vivid Economics

Underlying sector context (b₁)

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

Specific environmental measures (b₂)

- Turkey's stimulus package includes unconditional support for Turkish Airlines¹⁴⁵ and bailouts to the underground mining sector.¹⁴⁶ The reduction and postponements of regulations relating to the oil sector also contribute negatively to Turkey's index score.¹⁴⁷

- 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.¹⁴⁸

¹⁴⁴ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

¹⁴⁵ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

¹⁴⁶ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/turkey>, <https://www.resmigazete.gov.tr/eskiler/2020/03/20200325-2.pdf>

¹⁴⁷ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/turkey>, MAPEG (2020). http://www.mapeg.gov.tr/Duyurular/2904_duyuru.aspx.

¹⁴⁸ 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>

1.15 Russia

Russia has passed a total of US\$56 billion in fiscal stimulus measures.¹⁵⁰

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. However, little data is available on the breakdown of these stimulus flows between sectors.

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

¹⁵⁰ 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**.

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).¹⁵¹ 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.¹⁵² Unconditional support (US\$360 million) has also been provided to the automotive industry.¹⁵³

A temporary ban on imports of some fuels has also been introduced in order to protect domestic producers amid the drop in oil price.¹⁵⁴ 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,¹⁵⁵ and an increase in the subsidy for converting vehicles from petrol to gas from 30% to 60% of conversion costs.¹⁵⁶

¹⁵¹ KPMG Insights (2020). <https://home.kpmg/xx/en/home/insights/2020/04/russia-government-and-institution-measures-in-response-to-covid.html>

¹⁵² 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>

¹⁵³ Russian Government (2020). <http://government.ru/news/39724/>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/russia/>

¹⁵⁴ 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>

¹⁵⁵ Reuters (2020). <https://www.reuters.com/article/us-russia-gas-arctic-idUSKBN21537F>, Energy Policy Tracker (2020).

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

¹⁵⁶ Russian Government (2020). <http://government.ru/news/39909/>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/russia>

1.16 Indonesia

Indonesia has passed US\$46 billion in fiscal stimulus measures.¹⁵⁷

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.

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 18 | 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

¹⁵⁷ 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** in achieving climate change and nature-related targets.

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.¹⁵⁸ This law has required mining companies to allocate exploration funds and to increase exploration each year.¹⁵⁹ 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 treat as green.¹⁶⁰

However, some positive measures have been announced, including subsidies for the use of biodiesel fuels. The Indonesian government has also reduced VAT and income tax for various renewable energy projects.¹⁶¹ It has also eliminated some financial penalties for Independent Power Producers to spur renewable energy production.¹⁶²

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,¹⁶³ and the price of industrial gas.¹⁶⁴

¹⁵⁸ 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>

¹⁵⁹ Jakarta Post (2020). <https://www.thejakartapost.com/news/2020/05/14/explainer-new-rules-in-revised-mining-law.html>

¹⁶⁰ 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>

¹⁶¹ 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>

¹⁶² Ibid.

¹⁶³ 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>

¹⁶⁴ Indonesian Ministry of Energy and Mineral Resources (2020).

https://jdih.esdm.go.id/storage/document/PERMEN%20ESDM%20No%208%20Tahun%202020_SALINAN.pdf, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/indonesia>

1.17 Saudi Arabia

Saudi Arabia has passed US\$35 billion in fiscal stimulus measures.¹⁶⁵

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 19 | 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**.

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.¹⁶⁶ Additionally, the government halved the price of petroleum domestically "to adjust domestic fuel prices according to changes in export prices of crude oil."¹⁶⁷

¹⁶⁵ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

¹⁶⁶ 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/>

¹⁶⁷ 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/>

1.18 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\$1000). However, a large proportion of the stimulus package is directed towards infrastructure investments that are likely to reinforce Mexico's environmentally intensive trajectory.

Support for its polluting energy sector is a significant driver of Mexico's negative index score.

Table 20 | 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**.

Specific environmental measures (b₂)

Mexico has introduced specific measures in environmentally relevant sectors. Those included are below:

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>

1.19 South Africa

South Africa has passed US\$27 billion in fiscal stimulus measures.¹⁷²

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.

Table 21 | 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**.

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.¹⁷³ 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.¹⁷⁴ Further measures to support South Africa's polluting energy and industry sectors include a relaxation of some environmental regulations¹⁷⁵ and the delay of carbon tax payments.¹⁷⁶

¹⁷² <https://mg.co.za/article/2020-04-21-ramaphosa-announces-r500-billion-covid-19-package-for-south-africa/>

¹⁷³ News 24 (2020). <https://www.news24.com/citypress/business/eskom-dodges-question-on-company-that-got-r5bn-overpayment-20200531>

¹⁷⁴ Eskom (2020). <http://www.eskom.co.za/news/Pages/2020Apr1.aspx>

¹⁷⁵ IOL (2020). <https://www.iol.co.za/saturday-star/news/government-locks-sa-into-deadly-air-pollution-amid-covid-19-pandemic-45895850>

¹⁷⁶ <https://www.sars.gov.za/AllDocs/LegalDoclib/Drafts/LAPD-LPrep-Draft-2020-22%20-%20Explanatory%20Notes%20on%20Further%20COVID-%2019%20Tax%20measures.pdf>

1.20 Argentina

Argentina has passed US\$26 billion in fiscal stimulus measures.¹⁷⁷

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.

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

Table 22 | 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

Underlying sector context (b_1)

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

Specific environmental measures (b_2)

- 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.¹⁷⁸
- The government also made a small (US\$540,000) commitment to promote the use of solar energy technologies within agro-fishery activities.¹⁷⁹

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

¹⁷⁸ Official Bulletin of Argentina (2020). <https://www.boletinoficial.gob.ar/detalleAviso/primera/229470/20200519>. Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/argentina/>

¹⁷⁹ Argentinian Ministry of Agriculture, Livestock and Fisheries (2020). <https://www.magyp.gob.ar/fondosambientales/>. Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/argentina/>

1.21 European Union

The European Union has announced its own stimulus measures, in addition to the recovery packages of its member states. The European Commission's stimulus package totals €1.33 trillion (US\$1.46 trillion).¹⁸⁰

Composition of stimulus: On top of an initial package of rescue measures, the European Commission 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 Commission has also reinforced 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.¹⁸¹

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

Table 23 | Archetype policies announced by the European Commission

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: These announced policies are yet to be approved.

¹⁸⁰ 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

¹⁸¹ New York Times (2020). <https://www.nytimes.com/reuters/2020/07/21/us/21reuters-eu-summit-climate-change-factbox.html>

Underlying sector context (b₁)

Performance on key indicators is **insufficient**, but better than most countries included in the GSI.¹⁸²

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.¹⁸³

30% of the €750bn 'Next Generation EU' package will be directed at specific green measures, which includes support for the following investments:¹⁸⁴

- An addition of €10 billion (US\$11 billion) to the Just Transition Fund to reduce reliance on fossil fuels. The Just Transition fund targets 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.¹⁸⁵

- Funding for sustainable infrastructure is also lower than proposed, with support for InvestEU reduced to around €10 billion (US\$11 billion) from the originally proposed €20 billion (US\$22 billion).¹⁸⁶ 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.¹⁸⁷

- Funding for natural capital and the circular economy.¹⁸⁸

- Support for electric vehicle sales and charging infrastructure.¹⁸⁹

¹⁸² The Climate Action Tracker provides a score for the EU. The EPI score is calculated by taking an average of scores of member countries.

¹⁸³ KPMG Insights (2020). <https://home.kpmg/xx/en/home/insights/2020/04/russia-government-and-institution-measures-in-response-to-covid.html>

¹⁸⁴ New York Times (2020). <https://www.nytimes.com/reuters/2020/07/21/us/21reuters-eu-summit-climate-change-factbox.html>

¹⁸⁵ EURACTIV (2020). <https://www.euractiv.com/section/energy/news/eu-boosts-just-transition-fund-pledging-e40-billion-to-exit-fossil-fuels/>

¹⁸⁶ 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>

¹⁸⁷ Guardian (2020). https://www.theguardian.com/environment/2020/may/28/eu-green-recovery-package-sets-a-marker-for-the-world?CMP=share_btn_tw

¹⁸⁸ 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>

¹⁸⁹ 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

Greenness of Stimulus Index

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