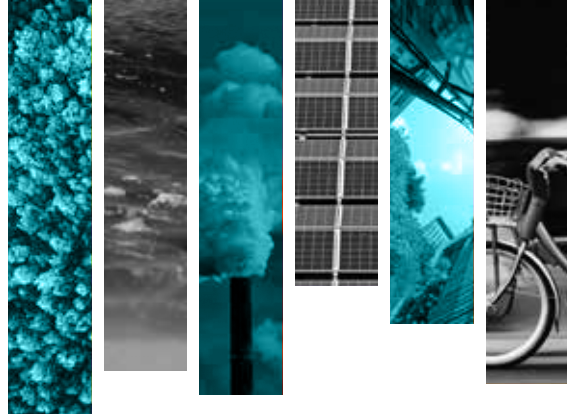


Green Stimulus Index

An assessment of the orientation of COVID-19 stimulus in relation to climate change, biodiversity and other environmental impacts

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Green Stimulus Index

The Green Stimulus Index (GSI) assesses the effectiveness of the COVID-19 stimulus efforts 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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FINANCE FOR
BIODIVERSITY
Initiative

Executive summary

Across 17 major economies, announced economic stimulus packages will pump approximately US\$ 3.5 trillion directly into sectors that have a large and lasting impact on nature. These flows present an opportunity to support these sectors through the current COVID-19 crisis, while increasing their sustainability and resilience in the face of the parallel climate and biodiversity crises. So far, government responses have largely failed to harness this opportunity, disregarding the broader sustainability and resilience impacts of their actions.

In 14 of the 17 countries considered, potentially damaging flows outweigh those supporting nature. Of the more developed countries, the United States stands out as the largest scale risk. Australia, Italy and Japan join them on the negative side, owing largely to the existing negative impacts of their environmentally-intensive sectors, and their lack of decisive action to ensure stimulus supports a more sustainable transition.

Emerging economies dependent on environmentally-intensive sectors and without strong regulatory systems have perhaps the hardest task ahead. China, India and Mexico have announced measures that will have negative environmental impacts, while South Africa and Russia's stimulus is largely reinforcing existing trends in environmentally-intensive sectors. Indonesia and Brazil are pushing response efforts likely to reinforce negative environmental outcomes largely resulting from high carbon industry and energy sectors and unsustainable agriculture practices. To manage through the crisis, while protecting and rebuilding nature, international support must be combined with environmental provisions hardwired into stimulus measures.

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. Germany's 'Package for the Future' was the first to include widespread 'green' measures, which includes funding for 'green' infrastructure and R&D, particularly 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 to date. Of the €750 billion (US\$830bn) package, 30% will be directed towards 'green' initiatives, including targeted measures to reduce dependence on fossil fuels, enhance energy efficiency, invest in preserving and restoring natural capital, among others. Furthermore, all recovery loans and grants to member states will be attached to 'do no harm' environmental safeguards.

Green Stimulus Index



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Source: Vivid Economics using a variety of sources, consult Annex II for the entire list of sources

Note: The European Commission score is calculated assuming that the proposed 'Next Generation EU' recovery package and related environmental measures are implemented in full. Its score is provisional. Updated on July 21, 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 are emerging that provide immediate and lasting economic benefits 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, sustainable agriculture, conservation and wildlife protection

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

Our social and economic fate is inextricably linked to that of nature. Governments have the opportunity and responsibility to ensure short-term emergency measures lead to a better more resilient future. Nature has suffered a pandemic-like crisis for over a century. Human activity has accelerated the rate at which plant and animal species are becoming extinct by a factor of more than 100, and paved the way for a growing climate crisis.

To date, the global economic response to the COVID-19 crisis is set to reinforce this trend.

Most governments have not chosen to use economic stimulus to enhance nature or tackle climate change. However, there is an opportunity to learn from those 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.

New to this release

This update of the index incorporates 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:

The total quantity of measured stimulus has increased to \$11.8 trillion.

The European Union has approved the 'Next Generation EU' recovery package, which includes substantial funding for 'green' initiatives.

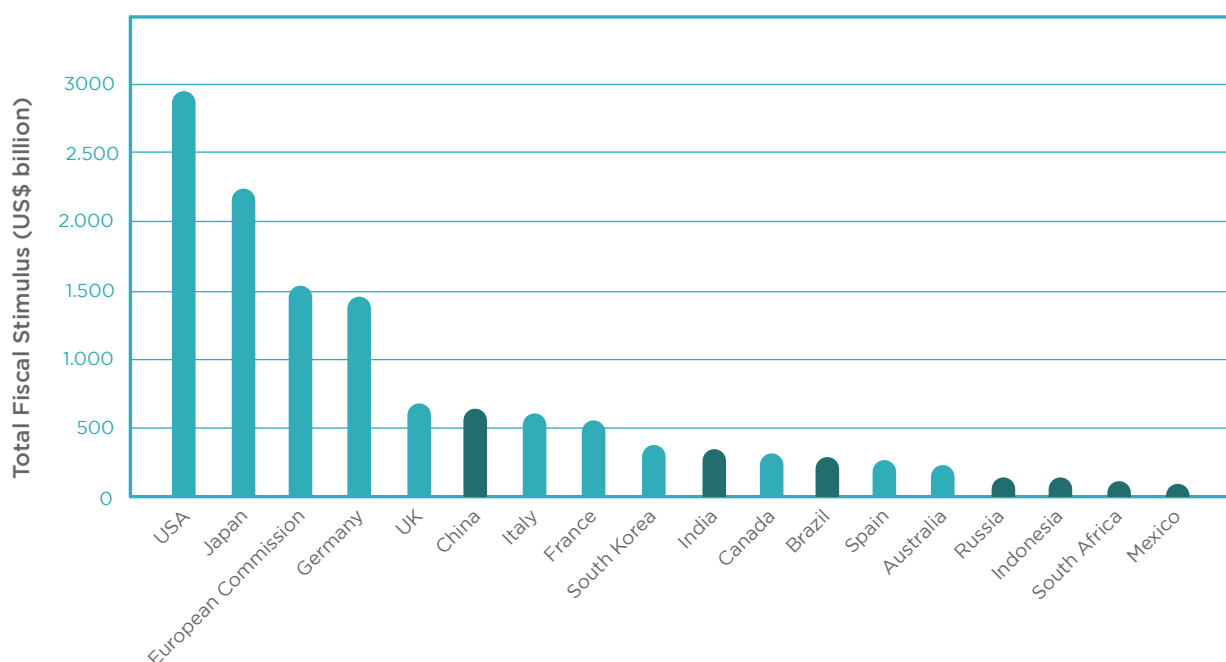
However, continued support for environmentally-intensive industries in the form of unconditional bailouts and other measures has also been announced.

Environment-specific announcements include Germany's substantially green-oriented 'Package for the Future' and support for South Korea's 'Green New Deal'. France has achieved more success in attaching environmental conditions to bailouts granted to environmentally intensive industries, and the UK has announced some specific funding for 'green' projects

Announced Stimulus Packages

Over the past months the world has witnessed unprecedented government financial interventions in response to COVID-19. Economic 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 to \$2.98 trillion, with Mexico as the smallest and the United States as the largest.

Figure 1 | Announced COVID response fiscal stimulus package by country



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

Note: Light blue represents developed and dark blue represents developing countries. Assumes the proposed 'Next Generation EU' recovery package is implemented in full. Updated on July 21, 2020.

Governments have rightly put people first and focused on the immediate implications of the crisis – with money channelled directly to households and those on the frontline. Specifically they have to sought to secure employment, provide unemployment and cash benefits to workers and households, and supply liquidity to businesses across the economy.

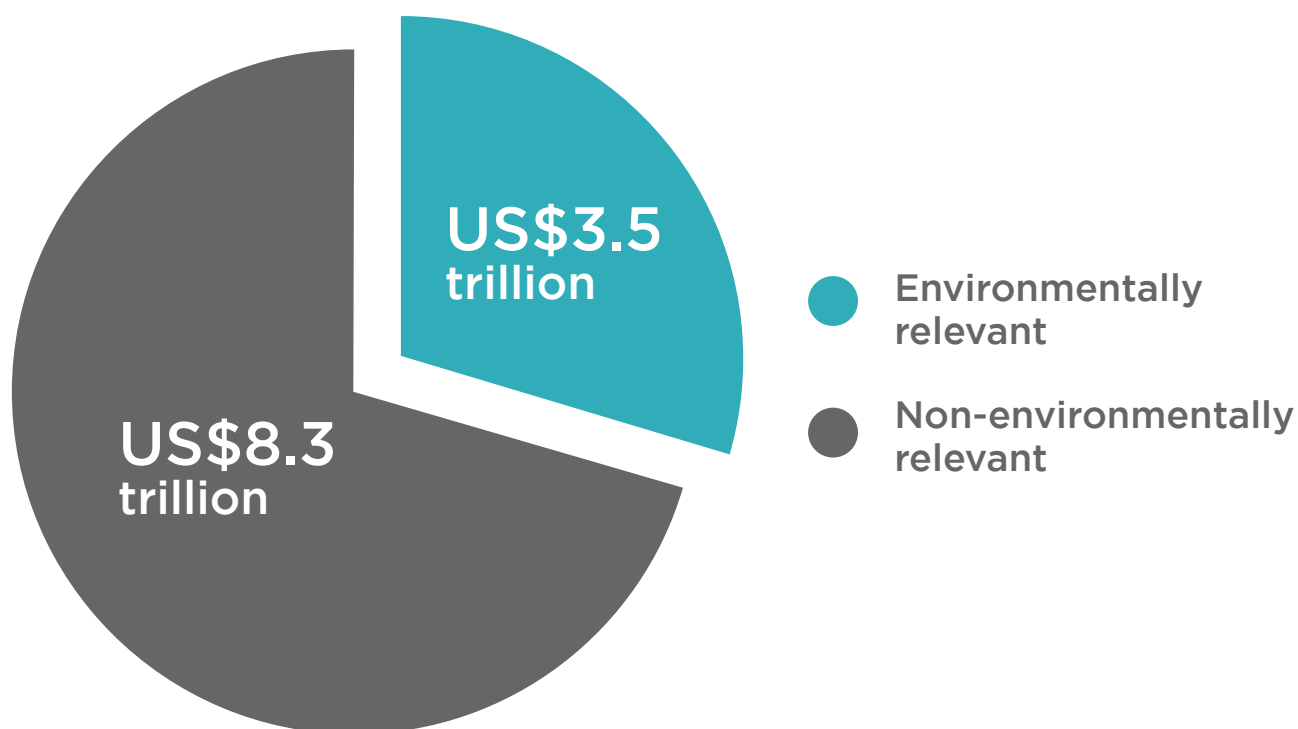
At the same time, roughly US\$3.5 trillion in announced stimulus, 30% of the total, will flow into environmentally-intensive sectors – whether on climate change, biodiversity or local pollution¹.

This proportion will likely increase as stimulus efforts deepen for long-term recovery. This critical funding should allow countries to respond to the COVID crisis without risking public health, job security, fiscal stability and environmental sustainability. Economic stimulus provided to sectors with an environmental impact may be directed towards clean energy and low carbon development. It is worth noting that 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.

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



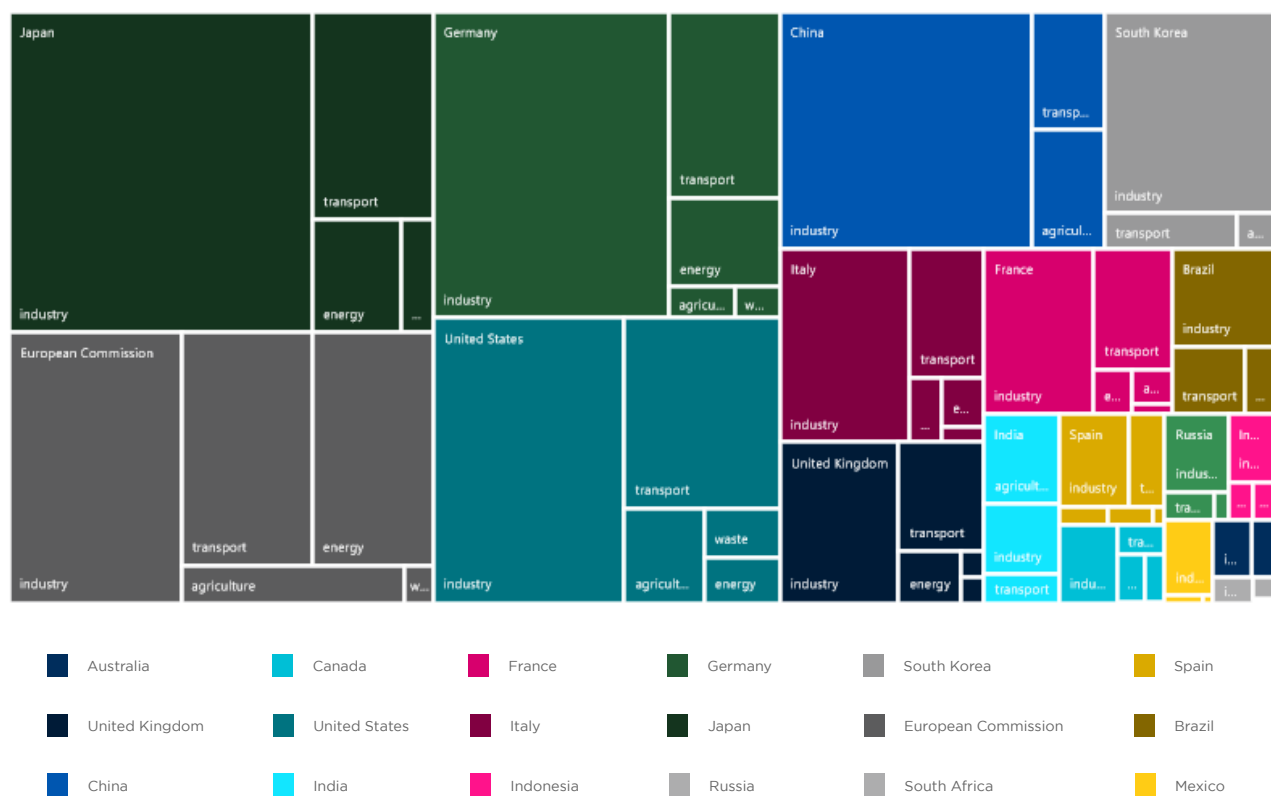
Agriculture, industry, manufacturing waste, energy and transportation are the sectors considered to have environmental relevance. This categorisation is based on previous evidence of impact and direct relationship to environmental and natural outcomes, including emissions.

Source: Vivid Economics using a variety of sources

Note: Updated on July 21, 2020

The sectoral breakdown of environmentally relevant stimulus shows that industry gets the most support from governments, followed by transport and energy. This breakdown has remained relatively constant over time and reflect the relative sizes and crisis impact.

Figure 3 | Breakdown of environmentally relevant stimulus (total = US\$3.5 trillion)



Source: Vivid Economics
Note: For developing countries, support for energy and waste is included within industry. Updated on July 21, 2020

The Green Stimulus Index

The Green Stimulus Index examines 17 economies² and the European Commission to assess the environmental orientation of their stimulus funding based on:

the scale of funds flowing into environmentally intensive sectors

the existing green orientation of those sectors, and

the efforts which steer stimulus toward (or away from) pro-environmental recovery.

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 remains significant scope for governments to more pro-actively ensure this.

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 contributing significantly to greenhouse gas emissions, air and water pollution, and 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 citizens' welfare and the natural world in the near and long term.

Where targeted efforts have occurred to specifically steer funding, they have more often removed incentives toward sustainability, 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. Relatively few efforts have been made to support some improvements in environmental sustainability.

² Our analysis includes ten developed countries and seven developing countries, plus the European Commission.

Figure 4 | Green Stimulus Index, scaled (-100, 100)



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

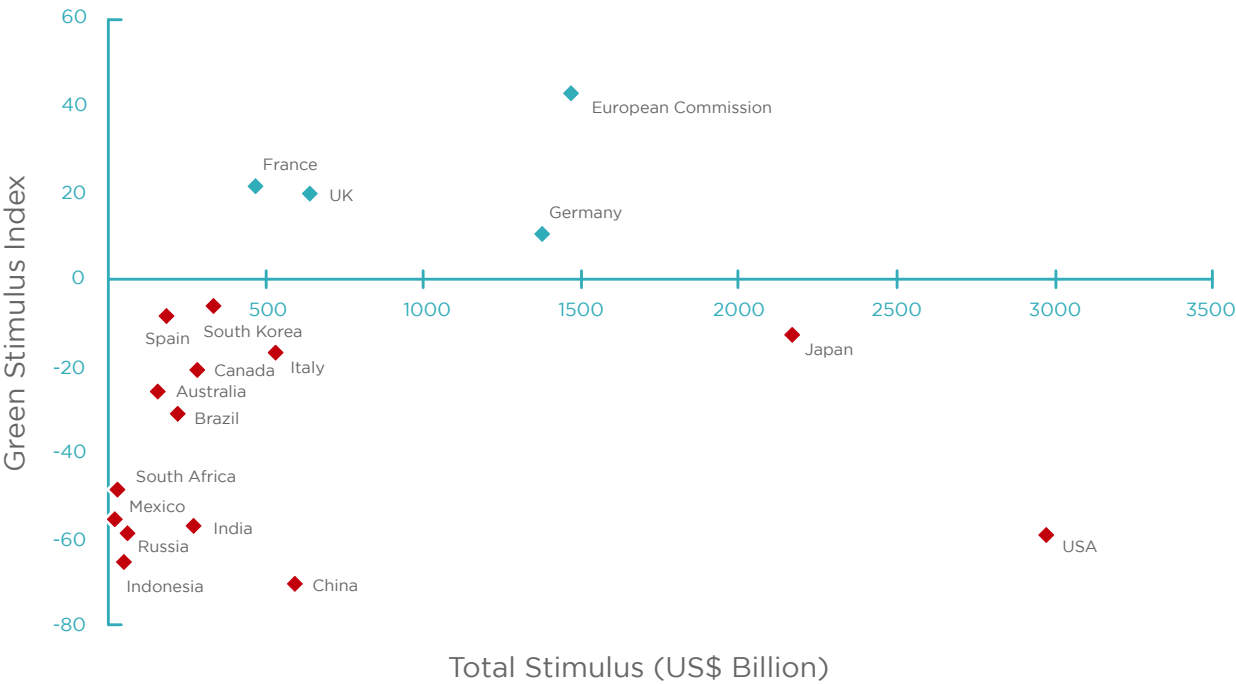
Source: Vivid Economics using a variety of sources, consult Annex II for the entire list of sources

Note: The European Commission score is calculated assuming that the proposed 'Next Generation EU' recovery package and related environmental measures are implemented in full. Its score is provisional. Updated on July 21, 2020.

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 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 this has been made much worse by specific stimulus measures including environmental deregulation in energy, industry, manufacturing, transportation and agriculture, and the bailout of the aviation industry without green conditions.

China too is particularly concerning, given the size of its economy and the negative signal it might send across developing Asia and the wider Belt and Road countries. China has a relatively environmentally intensive sector base and poor underlying policy environment, which means its stimulus efforts will largely reinforce a negative trajectory unless concerted effort is made to avoid this. As a response to COVID, the government relaxed environmental reporting in key industries like transportation and industry, streamlined permits for coal mining and extended subsidies for fossil fuel vehicles. It is worth mentioning that the government has introduced some 'green' measures, including expansion of an EV subsidy scheme, the decision to ban wildlife trading for specific animal species, and support for China's Green Development Fund, but these measures form a small proportion of total Chinese stimulus.

Figure 5 | GSI score and total size of fiscal stimulus



Source: Vivid Economics using a variety of sources, consult Annex II for entire list of sources.
Note: Updated July 21, 2020. The EC score assumes the Next Generation EU package is implemented in full.

Indonesia and Brazil have demonstrated lenient environmental policies combined with large-scale industries that have heavy use of land and forest eco-system impacts. These countries are heavy agriculture producers, and without strict environmental policies and enforcement, these sectors remain on a trajectory of high emissions intensity and large biodiversity destruction. Brazil has often encountered major issues in enforcing forest and land use policies. This situation has aggravated during the COVID response through a Presidential decree relaxing land use permits and enforcement. Indonesia had loosened permitting restrictions on timber producers to stimulate economic activity, but this has since been reversed, resulting in an improved index score. Indonesia has, however, passed a law that deregulates the mining industry and provides substantial funds to support state-owned oil and gas, electricity 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.

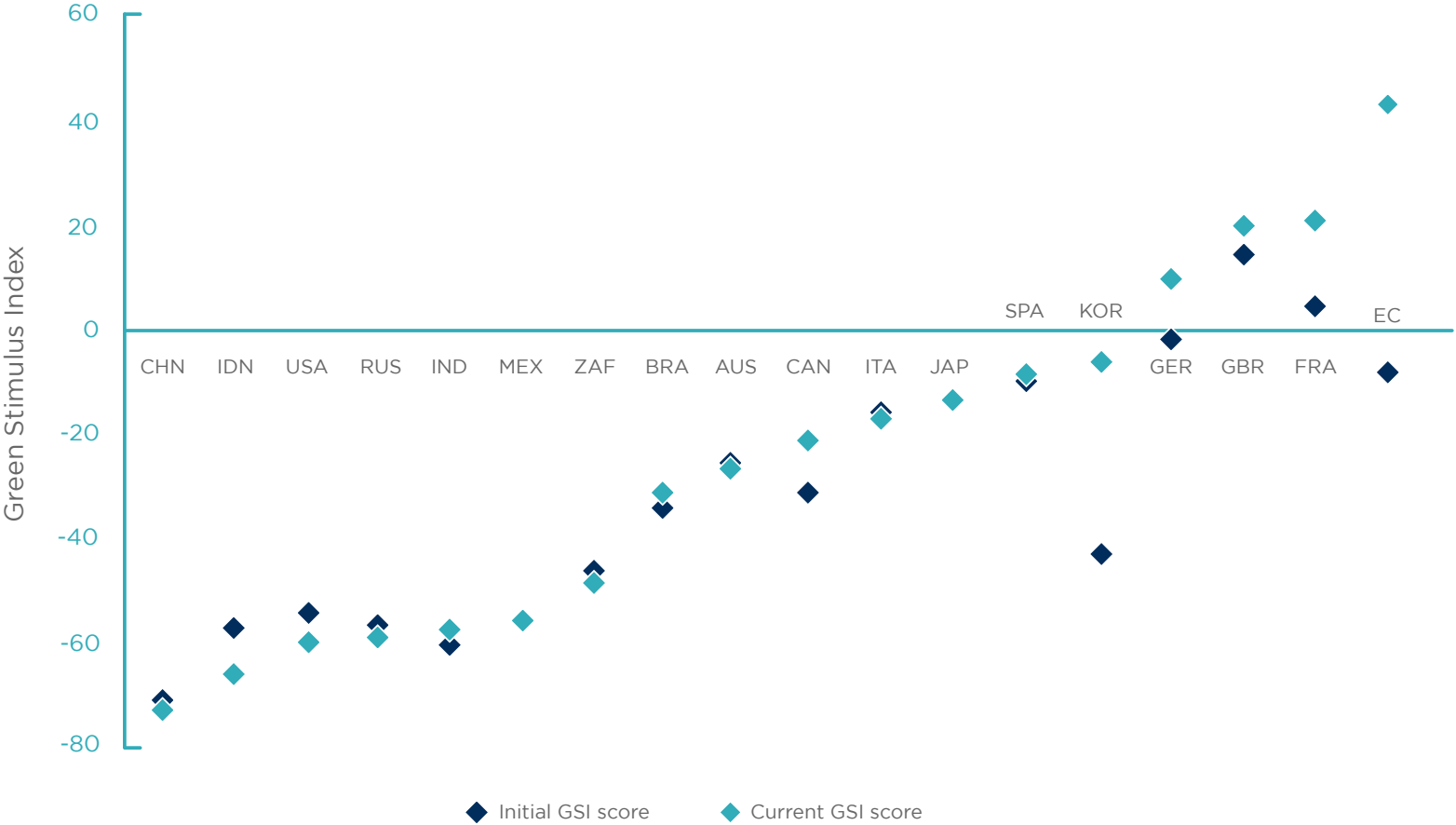
Russia, Mexico and South Africa are heavy fossil fuel energy producers, and their response to COVID has reinforced their negative environmental orientation. Russia relies heavily on the oil and gas sector for exports and overall economic output, and its response to COVID has supported that sector further. Since the economic slowdown, the government has propped up oil prices domestically and continued to subsidise the energy and industrial sector without green conditions or targeted investments in low carbon developments or programs. Because Russia's economic activity is dominated by environmentally intensive sectors and it has not made an attempt to tighten fiscal flows to these sectors, the country's performance is low in our index. Mexico has announced considerable funding for its energy sector, with unconditional support directed towards the refining industry. Worryingly, South Africa has announced a number of measures to support its polluting energy sector, including the reduced use of renewable energy in response to the drop in energy demand, as well as a deferral of carbon tax payments and relaxation of environmental regulations. Mexico has provided little in terms of conventional stimulus, instead providing additional support for existing polluting energy and transport infrastructure projects.

India's US\$266 billion package appears most likely to support the current trajectory of its manufacturing and energy industries. Despite the announcement of funding for afforestation and some support for solar power, a large proportion of India's stimulus is directed at supporting environmentally-intensive industries. A reduction in the stringency of monitoring and approval of environmentally harmful projects risks raising the impact of India's polluting industries.

With a more pro-climate baseline across sectors, Italy, Australia, Japan, and Spain also lean negative but to a lesser extent than developing countries with weaker institutional commitment. They benefit from having somewhat better underlying (pre-COVID) policies and environmental performance, but are channelling funds into a mix of sectors, with significant risks of reinforcing existing negative trajectories. They are yet to take measures that ensure stimulus will not undermine the sustainability and resilience of their economies, with Australia also waiving fees for some environmentally harmful sectors and both Italy and Spain financing unconditional airline bailouts.

However, the overall outlook is improving slightly, especially in developed countries. Most prominently, France, Germany, South Korea and Canada have achieved substantial improvements in their index score. While most countries are yet to take the opportunity to use their stimulus packages to kick start green trajectories, some countries have placed significant emphasis on 'greening' their stimulus packages, resulting in the largest changes in index scores since the first release of the Green Stimulus Index in April.

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



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Source: Vivid Economics using a variety of sources
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 21 July, 2020

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 requirements. This success, alongside other measures to support the green transition, results in France achieving the best index score of the countries analysed. 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. Otherwise, the Canadian stimulus package includes a mix of positive and negative measures, resulting in a small negative index score.

Germany and South Korea are leading the way in providing specific support for ‘green’ projects, while the United Kingdom is yet to deliver wide-spread ‘green’ policies. 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. This counteracts the large unconditional bailout of Lufthansa and other airlines, resulting in a 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 as part of its ‘New Deal’. The US\$48 billion in ‘green’ funding is 16% of total Korean stimulus, the largest proportion of all countries included in the Green Stimulus Index and prompts a significant improvement in the country’s index score. The UK has introduced some positive environmental policies but these are small in comparison to those announced in South Korea and Germany. Its positive index score is based largely on good underlying environmental performance.

The European Commission’s own 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 those 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 domestic governments. As a result, the European Commission achieves the highest index score.

However, much more is required in order to kick-start a truly ‘green’ recovery. Aside from the European Commission’s package and recently announced support for the Korean ‘New Deal’, specific ‘green’ measures comprise only a small proportion of total stimulus. 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.

Archetype green measures

Hundreds of policies have been announced worldwide, but only some deliver both environmental and economic benefits. Below is a toolkit of measures that governments can use to shape the future environmental impact of their economies for the better (more details are provided in Annex 1).

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 recent 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 on degraded land, sustainable agricultural practices, wildfire prevention infrastructure, efficient water irrigation systems – are ideally suited to tackle the ongoing crisis because they can be deployed in a timely fashion, are transitional, provide stimulus to particularly vulnerable populations and are resilient to future lockdowns.

Loans and grants for green investments:

Direct investment in the form of loans or grants towards renewable energy including solar, wind, biofuels and hydrogen in the energy sector; energy efficient retrofits in the construction sector; 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 a stimulus measure in some countries, which have argued they relieve regulatory burdens to businesses. However, others have reinforced environmental regulation by for example introducing wildlife trading bans and proposing to expand the coverage of Emissions Trading Schemes to other sectors.

Subsidies or tax reductions for green products:

Tax reductions or rebates are available most broadly across countries in the transport sector, targeted at electric vehicle adoption, offering consumers 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. Additional subsidies available in the transport sector for electric bicycles, regular bicycles, and public transit passes. In the energy sector, rebates or subsidies are 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. For industry, products which meet voluntary performance standards are eligible for tax rebates, including home appliances and lighting.

Green R&D subsidies: Government spending across sectors focuses heavily on R&D subsidies for the transportation and energy sectors where funds have been created for the purpose of 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 for energy include investments in solar, wind, 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 2 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.

Annex I

Methodology

The index is constructed by combining the flow of stimulus into key sectors with an indicator of each sector's environmental impact. The impact indicator assigns a greenness value (positive or negative) to each sector for every country based on methodology discussed below. The overall Greenness Index 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 sectors included as relevant due to their historical impact on climate and environment include agriculture, energy, industry, waste and transport.

An estimated 30% of overall global stimulus funding will have a relevant impact on the environment.³ Despite some targeted stimulus measures to support environmental improvements, overall flows into the sectors of interest remain harmful given historic performance of these sectors. 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 including 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 countries 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 a 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 policy is categorised against positive and negative archetype interventions. Table 1 and Table 2 describe these policy archetypes respectively.

³ This figure comes from totalling all fiscal spending by countries in our analysis and categorising the flows by sector. This value is the percentage of estimated and actual flows going into the above environmentally-relevant sectors across all countries in our analysis. Our estimate is above recently published work, including Hepburn et. Al's estimate of 8% of total funding having either a positive or negative environmental impact. [Hepburn, C. O'Callaghan, B., Stern, N., Stiglitz, J., Zenghelis, D. (2020). Will COVID-19 fiscal recovery packages accelerate or retard progress on climate change? Oxford Smith School of Enterprise and the Environment, Working Paper No. 20-02 ISSN 2732-4214]. We believe our figure is larger given our analysis is only of recovery stimulus and not long term fiscal measures that may be introduced in the medium and long term. We categorise all stimulus into agriculture, energy, industry, transport and waste.

⁴ Key indicators used for the construction of baseline performance are the Climate Action Tracker (<https://climateactiontracker.org/countries/>), Environmental Performance Index (<https://epi.yale.edu/>), 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 and waste in return for direct funding.
	Nature based solutions	Afforestation programmes, restoration of wetlands, or forest management investments.
	Loan and grants for green investments	Direct loans or tax rebates and subsidies for low-water irrigation systems.
	Conservation and wildlife protection programmes	Making the sale of endangered animals illegal.
Energy	Bailouts with green strings attached	Direct loans and guarantees towards energy providers (renewables, nuclear) or oil and gas and coal with commitments for improvement on emissions or energy efficiency.
	Loan and grants for green investments	Direct investment in the form of loans or grants towards renewable energy including solar, wind, biofuels and hydrogen.
	Green R&D subsidies	Grants for research institutes, academic institutes, and private firms to develop new renewable energy technologies and systems.
	Subsidies or tax reductions for green products	Extending tax rebates to households for solar, making green energy products including utilities 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	Taxes for the use of primary materials in supply chain, subsidies offered to firms who undertake compliance in supply chain.

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 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 transit, public walkways, and railroads with consideration towards climate mitigation and adaptation.
	Green R&D subsidies	Loans or research grants available to academic institutions, research centres, think tanks and private firms to develop electric vehicles, hydrogen vehicles, and low-carbon fuel alternatives for shipping, aviation and vehicle transport.
	Subsidies or tax reductions for green products	Tax rebates available to consumers for EVs, subsidies for low carbon transportation including light rail, developing HOV lanes or low-emission zones fees.
Waste	Bailouts with green strings attached	Directing grants or loans to firms which open incinerate waste without provisions for 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 associated with 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 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 on 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 capacity 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	Subsidisation 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 impact 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 car transport infrastructure.
	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 policy, 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 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 and gas avoids direct air pollution and land use for oil and gas or coal. 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 and recouping those fees afterwards.

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 the wildlife trade is a permanent change in policy and is likely to have positive impacts on the species directly traded and indirectly on other species who live in or share the habitat. The wildlife ban will likely not affect all 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 \$60 billion directly to airlines and cargo carriers in the aviation sector. Another \$25 billion has been allocated to the transportation sector, including transportation infrastructure, shipping, and trucking, and \$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.

Insufficient underlying environmental performance, widespread deregulation of environmental standards 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. **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.

In the US, announcements of environmental rules have been rolled back indefinitely. The EPA will be exercising “enforcement discretion” indefinitely through the pandemic. All firms which have pollutant or emissions discharge are not required to monitor or report to the Environmental Protection Agency (EPA) at this time.⁸ 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.”⁹ 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.¹⁰ 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.¹¹ As the draft legislation is yet to be approved by the House of Representatives, it is not currently included in the US index score.

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

⁹ NY Times (2020). <https://www.nytimes.com/interactive/2020/climate/trump-environment-rollbacks.html?mtref=www.google.com&assetType=REGIWALL>

¹⁰ Columbia Climate Law (2020). <https://climate.law.columbia.edu/climate-deregulation-tracker>

¹¹ TMF Group (2020). <https://www.tmf-group.com/en/news-insights/coronavirus/government-support-schemes/#B>

¹¹ United States Government (2020). <https://www.congress.gov/bills/116th-congress/senate-bill/3422>

1.2 Japan

Japan has passed a total of US\$2.17 trillion in fiscal measures as a response to COVID.¹²

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 slight 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 “June Momentum”,¹³ 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, but this is a tiny fraction of Japan's total stimulus package – much more support is required.

¹² IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

¹³ Climate Change News (2020). <https://www.climatechangenews.com/2020/06/01/japan-launch-green-recovery-platform-ministerial-meeting/>

1.3 Germany

Germany has passed a total of US\$1.38 trillion in fiscal stimulus.¹⁴

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, have been excluded from the sectoral stimulus. Substantial support for businesses has also been granted by state governments. Germany's latest additional stimulus includes 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.

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

¹⁴ 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 **insufficient**, but better than most other countries included in the Green Stimulus Index. Substantial improvements are required in order to achieve environmental targets.

• Specific environmental measures (b₂)

As a part of the economic stimulus passed in Germany, only the transport sector has received targeted funding. Additional environmental measures have not been introduced.

- 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 Greenness Index, Germany is still providing a bailout without any 'green' strings attached.

- At the start of June, Germany announced additional stimulus including a 'Package for the Future' which will provide support 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.¹⁷ Aside from the EU's proposed stimulus, this package is the first example of a large green-oriented recovery package. However, it still represents only a small proportion of Germany's total fiscal stimulus.

¹⁵ Transport & Environment (2020). https://www.transportenvironment.org/sites/te/files/Airline-bailout-tracker_8_May_2020.pdf

¹⁶ 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/>

¹⁷ Carbon Brief (2020). <https://www.carbonbrief.org/coronavirus-tracking-how-the-worlds-green-recovery-plans-aim-to-cut-emissions>

1.4 United Kingdom

The United Kingdom has passed US\$630 billion in fiscal measures in response to COVID-19.¹⁸

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\$2billion bailout for London's transport authority TfL,¹⁹ a US\$6.1 billion investment in transport infrastructure,²⁰ 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, the total of 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 a mix of environmentally specific stimulus measures, resulting in a positive index score.

Table 6 | 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

¹⁸ 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/>

¹⁹ BBC (2020). <https://www.bbc.co.uk/news/uk-england-london-52670539>

²⁰ 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 government stimulus, and are much smaller in absolute value than those in Germany.

- A total of US\$2.2 billion has been provided in soft loans to airlines Easyjet, Ryanair, British Airways and Wizz Air through the COVID Corporate Financing Facility.²¹ With no attachment of 'green' conditions, these loans are providing direct support to a highly environmentally intensive industry, and are thus considered damaging.

- A slight easing of permitting requirements in the agriculture and waste sectors in the UK has taken place.²² 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 contributes a small negative score.

- The UK government has extended a US\$ 1.97 billion bailout to Transport for London (TfL) to cover the public transportation company's losses from decreased ridership.²³ 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\$2.48 billion has been earmarked in the government's investment in public infrastructure for cycling and pedestrian infrastructure in the UK.²⁴ This investment in green infrastructure is designed for local authorities to rapidly undertake cycling and walking projects during lockdown.

- The agriculture sector has received a US\$49 million grant programme targeted towards cattle farmers in Scotland.²⁵ While minor, this policy extends direct fiscal aid to high emission agricultural producers without environmental conditions. While not large relative to the size of the overall UK stimulus, there were no additional 'green' targets or goals imposed on Scotland's cattle.

- Support for wind energy has also been announced, with specific funding for Dogger Bank offshore wind farm – expected to become the world's largest.²⁶

- 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.²⁷

- 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.²⁸

²¹ Bank of England (2020). <https://www.bankofengland.co.uk/markets/bank-of-england-market-operations-guide/results-and-usage-data>

²² UK Government (2020). <https://www.gov.uk/government/collections/covid-19-regulatory-position-statements#water-industry>

²³ BBC (2020) <https://www.bbc.co.uk/news/uk-england-london-52670539>

²⁴ 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>

²⁵ TMF Group (2020). <https://www.tmf-group.com/en/news-insights/coronavirus/government-support-schemes/#B>

²⁶ Business Green (2020).

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

²⁷ UK Government (2020). <https://www.gov.uk/government/publications/a-plan-for-jobs-documents/a-plan-for-jobs-2020>

²⁸ UK Government (2020). <https://www.gov.uk/government/publications/a-plan-for-jobs-documents/a-plan-for-jobs-2020>

1.5 China

China has passed a total of US\$592 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 localities, 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 the new stimulus.

China scores poorly on the key indicators and has introduced a mix of positive and negative policies, resulting in a negative overall index score.

Table 7 | Archetype policies announced in China

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

Source: Vivid Economics

• Underlying sector context (b_1)

Performance on key indicators is critically insufficient. Significant action is required to achieve Paris Agreement targets and environment-related sustainable development goals.

• Specific environmental measures (b_2)

We have considered the following policies in our analysis:

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>

- Part of the fiscal stimulus plan includes an increased speed of 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 had loosened the labelling on the provinces which were previously considered over-capacity for coal power generation to available for sites, and had 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 lock-in the country to high emissions 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 target for 2020 demonstrates a delay in the country's trajectory towards its climate change commitments.

- Chinese provinces have rolled out car subsidies to save the general industry, encouraging uptake in traditional combustion engines in the transport sector.³⁵ 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 2022.³⁶ 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.³⁷ This extension will occur through 2022³⁸ but will decrease by 10% in December and excludes vehicles over US\$42,357.³⁹

- A specific measure that supports 'green' infrastructure investment includes the US\$379 million payout for EV charging infrastructure across China.⁴⁰ In tandem with the extension of the EV subsidy in March, these projects aid in the uptake of EVs across the country. This type of explicit 'green' infrastructure drives the transport sector's index score positively.

- An unconditional US\$3.5 billion bailout of airline Cathay Pacific has been announced.⁴¹

- 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.

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-11-5kg3nhljqrjl>

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

³⁶ 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>

³⁷ IHS Market (2020). <https://ihsmarkit.com/research-analysis/china-steps-up-efforts-to-boost-auto-industry.html>

³⁸ Bloomberg (2020). <https://www.bloomberg.com/news/articles/2020-04-01/china-mulling-cutting-electric-car-subsidies-it-just-extended>

³⁹ The Driven (2020). <https://thedriven.io/2020/04/02/tesla-confusion-as-china-extends-electric-vehicle-subsidies-to-meet-covid-19-challenge/>

⁴⁰ Reuters (2020). <https://uk.reuters.com/article/uk-china-autos-electric-subsidies/china-to-cut-new-energy-vehicle-subsidies-by-10-this-year-idUKKC2251DT>

⁴¹ China post-COVID Recovery Factsheet (2020).

⁴² SCMP (2020). <https://www.scmp.com/news/hong-kong/hong-kong-economy/article/3088130/trading-cathay-pacific-halted-hong-kong-stock>

⁴³ Line Today (2020). <https://today.line.me/hk/article/National+green+development+fund+company+established+in+Shanghai-5eYWgX>

1.6 Italy

Italy has passed US\$530 billion in fiscal stimulus measures.⁴³

Composition of stimulus:⁴⁴ 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 Alitalia⁴⁴, with Italy's industrial sector also receiving a substantial share of stimulus.

Italy has a slight negative score, which is mainly driven by its baseline environmental performance – few specific environmental measures have been announced, and Italy scores worst of the European countries included in the Green Stimulus Index.

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

⁴³ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

⁴⁴ The Economist (2020). <https://www.economist.com/finance-and-economics/2020/04/16/why-has-chinas-stimulus-been-so-stingy>

⁴⁵ 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 further injecting 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.

- Italy has recently increased the subsidy for residential consumers who install solar PV from 50% to 110%.⁴⁶ This green subsidy for households is a tax-deductible benefit available for households which install solar and storage systems in their home. As a part of the COVID-19 economic recovery, this is a 'green' subsidy and encourages low carbon development in the energy sector.

⁴⁶ 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/>

1.7 France

France has passed a total of US\$469 billion in fiscal measures.⁴⁷

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 AirFrance⁴⁸ and €8 billion (US\$8.8 billion) in support for the auto industry.⁴⁹ Further stimulus is anticipated, including support for youth employment (expected to be announced this month) and further support for businesses (expected in August).

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. However, there is some doubt over the stringency of environmental commitments included in France's bailouts, which threatens to undermine their effectiveness in promoting favorable economic outcomes.

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

⁴⁷ IIMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

⁴⁸ New York Times (2020). <https://www.nytimes.com/2020/04/25/business/air-france-klm-bailout.html>

⁴⁹ 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.⁵⁰ 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.⁵¹ While the specifics of how this will be affirmed or enforced have still not been released, this is a prime 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 slash 40% of its domestic flights as requested by the government to reduce competition with train routes.⁵²

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

• Although these are all positive departures from 'business as usual', the stringency of French conditional bailouts has been questioned.⁵³

- 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 2040.⁵⁴ Major points of the US\$8.9 billion stimulus to the transportation sector include increasing the subsidies for electric vehicles until December, accelerating the deployment of electric charging stations and investing over \$390 million in green research and development across the supply chain of vehicle manufacturers.⁵⁵

- France has extended its rooftop solar PV subsidy to households - originally expected to be phased out this spring.⁵⁶ This extension, coupled with a fast-tracking of requirements for wind and solar projects in France, is providing a 'green' regulatory environmental for energy projects during the crisis. This policy delivers a 'green' boost for the energy sector in our analysis.

- However, the French government has announced some potentially harmful support for environmentally intensive producers by allowing the exemption of certain firms from particular environmental regulations.⁵⁷

⁵⁰ New York Times (2020). <https://www.nytimes.com/2020/04/25/business/air-france-klm-bailout.html>

⁵¹ Routes Online (2020). <https://www.routesonline.com/news/29/breaking-news/291047/air-france-told-by-government-to-drastically-cut-domestic-flying/>

⁵² RFI (2020) <http://www.rfi.fr/en/wires/20200527-air-france-cut-40-domestic-flights-after-bailout>

⁵³ Transport Environment (2020) <https://www.transportenvironment.org/publications/air-frances-bailout-climate-conditions-explained>

⁵⁴ Europe Auto News (2020). <https://europe.autonews.com/automakers/france-help-auto-sector-measures-worth-88b>

⁵⁵ French Economic Ministry (2020). <https://www.economie.gouv.fr/covid19-soutien-entreprises/mesures-plan-soutien-automobile>

⁵⁶ The Guardian (2020). <https://www.theguardian.com/environment/2020/apr/17/polluter-bailouts-and-lobbying-during-covid-19-pandemic>

⁵⁷ Legifrance (2020).

https://www.legifrance.gouv.fr/affichTexte.do;jsessionid=80CDCAC7FA81B36CA4F682A1EC712CA9.tplgr42s_1?cidTexte=JORFTEXT000041789766&dateTexte=&oldAction=rechJO&categorieLien=id&idJO=JORFCONT000041789298

1.8 South Korea

South Korea has passed fiscal stimulus equal to US\$337 billion.

Composition of stimulus:⁵⁸ 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-19.⁵⁹ More recently, South Korea has announced substantial support for the Korean New Deal, which includes specific funding for digital and 'green' initiatives. The latest package, announced as US\$130 billion, includes US\$21 billion to be provided by the private sector, which we exclude from the analysis. More specific details about the specific projects that will be funded are expected to be released soon.

South Korea's negative index score is driven by relatively poor historical environmental performance and the introduction of specific harmful policies. Increased funding for South Korea's 'Green New Deal' is expected, which will result in improvements in South Korea's index score.

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

⁵⁸ IMF Policy tracker (2020) <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>, Pulse News (2020)

⁵⁹ 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 the sustainable transition, including funding for renewables, support for electric and hydrogen vehicles, and energy efficiency in buildings. The government has committed to a total of US\$48 billion in 'green' funding before 2025, which is a large proportion of total Korean stimulus and drives a substantial improvement in the country's index score.⁶⁰

• In opposition 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.⁶¹ The tax deduction for carmakers of 30%, which was supposed to end in 2020, has been extended in an effort to boost export sales.⁶² This tax deduction does not offer any conditions or additional incentives for electric or hydrogen vehicles. Furthermore, the car sales tax of 5% on new vehicles has been lowered to 1.5% for consumers, to stimulate demand and is similarly without a green conditional component.

• Additional damaging measures include 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.⁶³ The funding was dispersed in stages, with the first loan coming from South Korea's first COVID stimulus, while the second portion of funding was granted during the second wave of funding, announced on April 28th. Doosan Heavy Industry received two rounds of funding despite the country's credit rating dropping steadily before the crisis.⁶⁴ This loan comes with no environmental conditions and represents an investment in environmentally-damaging coal stations, gas turbines, and desalination equipment. While it is not a direct coal bailout by the government, the loan's approval process is opaque and may likely fund coal development in direct contradiction to the 'Green New Deal'.

⁶⁰ 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.

⁶¹ Pulse News Korea (2020) <https://pulsenews.co.kr/view.php?year=2020&no=217288>

⁶² KPMG Insights (2020). <https://home.kpmg/xx/en/home/insights/2020/04/south-korea-tax-developments-in-response-to-covid-19.html>

⁶³ 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>

⁶⁴ KoreaBiz (2020) <http://koreabizwire.com/policy-lenders-mulling-providing-800-bln-won-to-doosan-heavy/158650>, Eco-Business (2020) <https://www.eco-business.com/news/green-groups-decry-south-koreas-bailout-of-coal-power-plant-builder/>

1.9 Canada

Canada has passed US\$284 billion in fiscal stimulus measures.⁶⁵

Composition of stimulus:⁶⁶ Alongside measures to fund the healthcare system and to support households (US\$120 billion), Canada is providing a variety of measures to support businesses (US\$138 billion). This has included some specific environment-related measures.

'Green' policies in Canada's energy sector and successful attachment of Task Force on Climate-related Financial Disclosures (TCFD) conditions to financial support balance with some harmful policies and poor underlying performance, resulting in a negative index score.

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

⁶⁵ Canadian Government (2020). <https://www.canada.ca/en/departement-finance/economic-response-plan.html>

⁶⁶ 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.⁶⁷ 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. While concerns over the responsibility of who should fund this project raise concerns of whether this is truly a 'green' investment, we consider this fund to contribute to the reduction of environmental impact in 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.⁶⁸ This funding is a green infrastructure investment made to ensure the 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.⁶⁹ In addition to the tax relief, the expanded export credit capacity in the Export Development Canada and Business Development Bank will benefit the oil and gas sector, without conditions for environmental performance.⁷⁰

• In the transport sector, Canada has suspended airline docking fees temporarily, waiving the taxation for a high-emissions industry.⁷¹ 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 measures as the support is not conditional on any environmental requirements.

• Loans provided to the fishing and agricultural industry in Canada have been enacted without conditions for improvement in environmental performance.⁷² 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 yearly climate-related reports, including an assessment of the impact of their future operations on sustainability and climate goals.⁷³ This 'green' strings attached bailout covers 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 the financial reporting procedures.

• The rollback of some environmental regulations in Alberta is a potentially harmful policy that contributes towards Canada's overall negative index score. However, these are much less widespread and severe than the large-scale environmental deregulation that is occurring in the United States.⁷⁴

⁶⁷ Canadian Government (2020). <https://pm.gc.ca/en/news/news-releases/2020/04/17/prime-minister-announces-new-support-protect-canadian-jobs>

⁶⁸ Canadian Broadcast Corporation (2020). <https://www.cbc.ca/news/politics/financial-aid-covid19-trudeau-1.5535629> Canadian Broadcast Corporation (2020). <https://www.cbc.ca/news/politics/financial-aid-covid19-trudeau-1.5535629>

⁶⁹ Climate Change News (2020). <https://www.climatechangenews.com/2020/04/20/coronavirus-governments-bail-airlines-oil-gas/>

⁷⁰ EDC (2020) <https://www.edc.ca/en/about-us/newsroom/covid-19-oil-gas-support.html>

⁷¹ Government of Canada (2020). <https://www.canada.ca/en/department-finance/economic-response-plan.html>

⁷² Government of Canada (2020). <https://www.canada.ca/en/department-finance/economic-response-plan.html>

⁷³ Prime Minister of Canada (2020). <https://pm.gc.ca/en/news/news-releases/2020/05/11/prime-minister-announces-additional-support-businesses-help-save>

⁷⁴ Open Alberta (2020). <https://open.alberta.ca/dataset/2deef631-4dad-4b47-a20f-d31dd2cbe343/resource/366a722d-630c-4ce8-9ea5-3a22f3696bfb/download/aep-ministerial-order-15-2020.pdf>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/canada>

1.10 India

India has passed a US\$266 billion fiscal stimulus package in response to COVID.⁷⁵

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 measures including substantial support for coal. The government has, however, made some announcements of 'green' 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

⁷⁵ <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 extraction⁷⁶ and the removal of coal washing regulations for supply to thermal power plants.⁷⁷

- India has also fast-tracked the environmental assessment of site clean-ups on projects in order to increase the speed of project development.⁷⁸ This increase in the speed of assessments for environmental performance spans across different industrial firms, and is a driver of the negative score for India's industrial sector.

- India's US\$6.6 million funding for coal infrastructure to help bring coal from India's state run mines to market.⁷⁹ 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.

- 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.⁸⁰ This funding is provided through the Compensatory Afforestation Management and Planning Authority (CAMPA) fund.⁸¹ The specific jobs created through this fund include plantation work, forest management, wildlife protection and afforestation. These jobs will be available for tribal communities.⁸² 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.

- India has committed to securing a strategic amount of oil reserves from its trading partners. 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.⁸³ While this is not an explicit provision in the COVID stimulus recovery package, the securing of oil for consumption in India is an example of a reinforced polluting inertia for the country.

⁷⁶ Indian Press Information Bureau (2020). <https://pib.gov.in/PressReleasePage.aspx?PRID=1625305>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/canada>

⁷⁷ The Wire (2020). <https://thewire.in/environment/coal-washing-environment-ministry-changing-rules>

⁷⁸ QZ (2020) <https://qz.com/india/1851634/india-fast-tracks-green-clearance-to-spur-coronavirus-hit-economy/>

⁷⁹ LiveMint (2020). <https://www.livemint.com/news/india/fm-sitharaman-fast-tracks-industrial-reforms-to-aid-growth-recovery-11589639649764.html>

⁸⁰ India TV (2020). <https://www.indiatvnews.com/business/news-nirmala-sitharaman-final-phase-of-announcement-economic-stimulus-package-11-am-live-updates-617884>

⁸¹ 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>

⁸² Economic Times (2020). <https://bfsi.economictimes.indiatimes.com/news/policy/key-highlights-of-the-finance-ministers-whole-economic-package/75797903>

⁸³ Livemint (2020). <https://www.livemint.com/news/india/india-has-secured-additional-oil-supplies-to-tide-over-iran-sanctions-1556806947754.html>
Recovering Better (2020) The Case for a Sustainable and Resilient Recovery in India

1.11 Brazil

Brazil has passed a total of US\$221 billion in fiscal stimulus spending.⁸⁴

Composition of stimulus: The Brazilian government has introduced a number of measures to support businesses. A large proportion of stimulus is directed at industry and transport sectors, while some specific support has also been announced for agriculture 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 alongside specific harmful policies.

Table 13 | 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.

⁸⁴ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

• Specific environmental measures (b₂)

- Information regarding deregulation, the delaying or deferral of climate policies, or specific green conditions were included as measure specific conditions:

- Brazil has announced a delay in its electricity auctions which were anticipated to be rolled out in the spring of 2020.⁸⁵ Because of this delay, it is likely gas producers have more time to improve their relative market share and attract additional private investment, harming the renewable sector. The postponement of energy auctions may impose additional barriers to the development of renewable energy in the country. By supporting the ability of natural gas to have a competitive edge in the market, 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.⁸⁶ The government is extending the deadline for repayment on airport concession contracts until December of 2020. This deferral of payments without conditions is an environmentally damaging policy for the transport sector.

- 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 2029.⁹³ Brazil has also announced the extension of a green credit line to support biofuel producers.⁹⁴

- Since 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.⁸⁷

- 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.⁸⁸ 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 cause an uptick in this illegal land poaching, directly harming indigenous communities and increasing.⁸⁹ 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.⁹⁰ Because of this deregulation, increased economic activity will largely be gained in the industrial sector.

- Another damaging measure for the agriculture sector is the decreased 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, lessening the availability of the work force to combat illegal deforestation and land poaching.⁹¹ 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 equipment and labour for agents has strained the ability to protect land.⁹² Given the lack of monitoring and enforcement that is exacerbated by the COVID-19 crisis, we consider this a deregulatory impact.

⁸⁵ 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/>

⁸⁶ 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>

⁸⁷ Brazil government (2020). http://www.planalto.gov.br/ccivil_03/_ato2019-2022/2019/Mpv/mpv910.htm

⁸⁸ The Guardian (2020). <https://www.theguardian.com/environment/2020/may/28/studies-add-to-alarm-over-deforestation-in-brazil-under-bolsonaro-covid-19>

⁸⁹ Financial Times (2020). <https://www.ft.com/content/ca84017c-94c5-48ca-80c6-2ac31ea20cd9>

⁹⁰ Monga Bay (2020). <https://news.mongabay.com/2020/05/brazil-opens-38000-square-miles-of-indigenous-lands-to-outsiders/>

⁹¹ Politico EU (2020). <https://www.politico.eu/article/climate-battle-shifts-to-once-in-a-generation-national-budgets/>

⁹² The Rising (2020). <https://therising.co/2020/05/21/amazon-fires-may-be-worse-2020/>

⁹³ Brazilian Ministry of Mines and Energy (2020). http://www.mme.gov.br/web/guest/todas-as-noticias/-/asset_publisher/pdAS9lcdBICN/content/decreto-cria-novas-perspectivas-para-fontes-renovaveis?inheritRedirect=false&redirect=http%3A%2F%2Fwww.mme.gov.br%2Fweb%2Fguest%2Ftodas-as-noticias%3Fp_p_id%3D101_INSTANCE_pdAS9lcdBICN%26p_p_lifecycle%3D0%26p_p_state%3Dnormal%26p_p_mode%3Dview%26p_p_col_id%3Dcolumn-1%26p_p_col_count%3D1, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/brazil>

⁹⁴ <https://epbr.com.br/linha-de-r-3-bi-do-bndes-para-o-etanol-estara-disponivel-nesta-quarta/>

1.12 Spain

Spain has passed a total of US\$193 billion in fiscal measures as a response to COVID.⁹⁵

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.⁹⁶ More specific 'green' stimulus measures are anticipated, which, if approved, will improve Spain's index score.

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

Table 14 | 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 Green Stimulus Index.

• Specific environmental measures (b₂)

- Spain has announced specific support for airlines, with bailouts to Iberia and Vueling airlines totaling US\$1.1 billion, without the attachment of 'green' conditions.⁹⁷

- However, the Spanish government has also provided US\$1.2 billion in support for 'green' transport, through subsidies for the replacement of old cars and the purchase of electric vehicles.⁹⁸

⁹⁵ IMF Policy Tracker (2020). <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

⁹⁶ Reuters (2020).

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

⁹⁷ Reuters (2020).

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

⁹⁸ Bloomberg (2020). <https://www.bloomberg.com/news/articles/2020-06-15/spain-s-auto-industry-to-get-4-2-billion-in-government-stimulus>

1.13 Australia

Australia to date has passed US\$148 billion in total fiscal support.⁹⁹

Composition of stimulus: Australia's fiscal package includes specific health spending, support for households and workers, and specific support for businesses. The Australian government has announced specific support of US\$437 billion for Australian airlines and airports. Other measures to protect businesses will provide financial support to industry, transport, energy and agriculture. An additional government stimulus package is expected to be announced in July.

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

⁹⁹ 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.¹⁰⁰ The government announced in April that licensing fees and annual petroleum fees will not be due until December 2020.¹⁰¹ This is a harmful policy given it explicitly extends relief to fossil fuel firms without conditions for environmental performance. Given that this is only regional, the policy rollback does not impose as large a negative weight as a national-level rollback would. 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.¹⁰² 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 the agricultural and forestry sector.¹⁰³ While it is not a law imposed across the entire country, the repeal of this legislation puts natural growth forests at risk of logging.¹⁰⁴ This suspension is a part of the Regional Forestry Agreement that was reaffirmed during the COVID-19 crisis which exempts loggers from compliance to certain federal conservation laws, including the Environmental Protection Biodiversity Conservation Act.¹⁰⁵

• Other damaging measures include the opening up of 7000 square km of land for coal and gas exploration¹⁰⁶ and the introduction of exploration grants,¹⁰⁷ both in Queensland, as well as the development of the onshore gas industry in the Northern Territory.¹⁰⁸

• However, some specific 'green' support has been announced. Hydrogen has received funding through three channels: the Advanced Hydrogen Fund has committed US\$189 million,¹⁰⁹ the Australian Renewable Energy Agency is providing US\$44 million,¹¹⁰ and the Tasmanian renewable hydrogen action plan commits to further support.¹¹¹ The Northern Territory government has announced the procurement of a large scale battery energy storage system for the Darwin-Katherine power network.¹¹²

¹⁰⁰ Climate Change News (2020). <https://www.climatechangenews.com/2020/04/20/coronavirus-governments-bail-airlines-oil-gas/>

¹⁰¹ APPEA (2020). https://www.appea.com.au/media_release/sa-supports-exploration-amid-covid-19-challenges/

¹⁰² Australian Treasury (2020). https://treasury.gov.au/sites/default/files/2020-05/Overview-Economic_Response_to_the_Coronavirus_3.pdf

¹⁰³ Drilled News (2020). <https://www.drillednews.com/post/the-climate-covid-19-policy-tracker>

¹⁰⁴ Monga Bay (2020). <https://news.mongabay.com/2020/05/australias-logging-madness-fuels-more-fires-hastens-ecosystem-collapse/>

¹⁰⁵ The Guardian (2020). <https://www.theguardian.com/environment/2020/apr/17/polluter-bailouts-and-lobbying-during-covid-19-pandemic>

¹⁰⁶ ABC (2020). <https://www.abc.net.au/news/2020-05-07/queensland-coal-and-gas-exploration-coronavirus/12220636>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/australia>

¹⁰⁷ Queensland Government (2020).

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

¹⁰⁸ Northern Territory Government (2020). <http://newsroom.nt.gov.au/mediaRelease/33259>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/australia>

¹⁰⁹ Thomson Reuters Foundation (2020). <https://news.trust.org/item/20200504013347-5ffvz/>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/australia>

¹¹⁰ Renew Economy (2020). <https://reneweconomy.com.au/arena-opens-70-million-funding-round-to-fast-track-renewables-for-hydrogen-58600/>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/australia>

¹¹¹ Tasmanian Government (2020). http://www.premier.tas.gov.au/releases/re-issued_becoming_the_nations_renewable_hydrogen_industry_epicentre ¹¹² Northern Territory Government (2020). <http://newsroom.nt.gov.au/mediaRelease/33392>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/australia>

1.14 Russia

Russia has passed a total of US\$56 billion in fiscal stimulus measures.¹¹³

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 expected to receive substantial support.

Table 16 | 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

¹¹³ 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).¹¹⁴ 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.¹¹⁵

• A temporary ban on imports of some fuels has also been introduced in order to protect domestic producers amid the drop in oil price.¹¹⁶ 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,¹¹⁷ and an increase in the subsidy for converting vehicles from petrol to gas from 30% to 60% of conversion costs.¹¹⁸

¹¹⁴ KPMG Insights (2020). <https://home.kpmg/xx/en/home/insights/2020/04/russia-government-and-institution-measures-in-response-to-covid.html> ¹¹⁵ 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>

¹¹⁶ 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>

¹¹⁷ Reuters (2020). <https://www.reuters.com/article/us-russia-gas-arctic-idUSKBN21537F> , Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/russia>

¹¹⁸ Russian Government (2020). <http://government.ru/news/39909/> , Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/russia>

1.15 Indonesia

Indonesia has passed US\$46 billion in fiscal stimulus measures.¹¹⁹

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.

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 17 | 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

¹¹⁹ 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.¹²⁰ This law has required mining companies to allocate exploration funds and to increase exploration each year.¹²¹ The law also extends royalty rates for large miners. Additionally, the new law has very few provisions for environmental impact except the requirement to complete land restoration projects. The specifications of what qualifies is unclear. The purpose of the bill is developing downstream mining industries and centralising the permitting process, but this requires sustaining investment to 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 energy, industry and transport sectors. The latter includes public transport which we treat as 'green'.¹²²

• 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.¹²³

• After initially announcing the relaxation of regulations for land use and forestry, which risked causing significant damage to Indonesia's remaining forest, the policy was repealed. As a result, this measure is no longer included in Indonesia's index score.

¹²⁰ 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>

¹²¹ Jakarta Post (2020). <https://www.thejakartapost.com/news/2020/05/14/explainer-new-rules-in-revised-mining-law.html>

¹²² 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>

¹²³ 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>

1.16 South Africa

South Africa has passed US\$27 billion in fiscal stimulus measures.¹²⁴

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 18 | 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.¹²⁵ 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.¹²⁶ Further measures to support South Africa's polluting energy and industry sectors include a relaxation of some environmental regulations¹²⁷ and the delay of carbon tax payments.¹²⁸

¹²⁴ <https://mg.co.za/article/2020-04-21-ramaphosa-announces-r500-billion-covid-19-package-for-south-africa/>

¹²⁵ News 24 (2020). <https://www.news24.com/citypress/business/eskom-dodges-question-on-company-that-got-r5bn-overpayment-20200531>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/south-africa>

¹²⁶ Eskom (2020). <http://www.eskom.co.za/news/Pages/2020Apr1.aspx>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/south-africa>

¹²⁷ IOL (2020). <https://www.iol.co.za/saturday-star/news/government-locks-sa-into-deadly-air-pollution-amid-covid-19-pandemic-45895850>, Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/south-africa>

¹²⁸ Energy Policy Tracker (2020). <https://www.energypolicytracker.org/country/south-africa>, <https://www.sars.gov.za/AllDocs/LegalDoclib/Drafts/LAPD-LPrep-Draft-2020-22%20-%20Explanatory%20Notes%20on%20Further%20COVID-%2019%20Tax%20measures.pdf>

1.17 Mexico

Mexico has passed a total of US\$26 billion in fiscal stimulus measures.¹²⁹

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 its negative index score.

Table 19 | Archetype policies announced in Mexico

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

Source: Vivid Economics

• Underlying sector context (b_1)

Performance on key indicators is **insufficient**.

• Specific environmental measures (b_2)

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 that has begun under the President.¹³⁰ Both major projects will receive funding under the COVID stimulus package and are a further investment in environmentally intensive infrastructure.

¹²⁹ Reuters (2020).

<https://www.reuters.com/article/us-health-coronavirus-mexico-budget/too-little-too-late-mexico-unveils-26-billion-coronavirus-spending-shift-idUSKCN22423Q>

¹³⁰ 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/>

1.18 European Commission

Alongside the stimulus packages of its members, the European Union has announced its own measures. Including the proposed 'Next Generation EU' recovery plan, the European Commission's stimulus package totals €1.33 trillion (US\$1.46 trillion).¹³¹

Composition of stimulus: On top of an initial package of rescue measures, the European Commission has approved 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.¹³²

The European Commission has positive scores across the board based on the expected 'green' impact of the 'Next Generation EU' recovery plan.

Table 20 | 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.

¹³¹ 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

¹³² 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 Green Stimulus Index.¹³³

• Specific environmental measures (b₂)

- Recovery loans and grants to member states will be tied to 'do no harm' environmental conditions. These loans are conditional on pledges which will align with EU goals for sustainable investment and climate risk.¹³⁴

- 30% of the €750bn 'Next Generation EU' package will be directed at specific 'green' measures, which includes support for the following investments:¹³⁵

- An addition of €10 billion (US\$11 billion) to the Just Transition Fund to reduce the reliance on fossil fuels. The Just Transition fund target regions which heavily rely on fossil fuel, mining, and other high emissions sectors to support the labour transition and economic impacts of the low-carbon transition. However, this figure is much smaller than the previously proposed €40 billion (\$44 billion), which has been reduced after negotiations between member states.¹³⁶

- Funding for sustainable infrastructure is also lower than proposed, with support for InvestEU reduced to €2.1 billion (US\$2.3 billion) from the originally proposed €20 billion (US\$22 billion).¹³⁷ 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.¹³⁸

- Funding for natural capital and the circular economy.¹³⁹

- Support for electric vehicle sales and charging infrastructure.¹⁴⁰

¹³³ The Climate Action Tracker provides a score for the EU. The EPI score is calculated by taking an average of scores of member countries.

¹³⁴ KPMG Insights (2020). <https://home.kpmg/xx/en/home/insights/2020/04/russia-government-and-institution-measures-in-response-to-covid.html>

¹³⁵ New York Times (2020). <https://www.nytimes.com/reuters/2020/07/21/us/21reuters-eu-summit-climate-change-factbox.html>

¹³⁶ EURACTIV (2020). <https://www.euractiv.com/section/energy/news/eu-boosts-just-transition-fund-pledging-e40-billion-to-exit-fossil-fuels/>

¹³⁷ 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>

¹³⁸ Guardian (2020). https://www.theguardian.com/environment/2020/may/28/eu-green-recovery-package-sets-a-marker-for-the-world?CMP=share_btn_tw

¹³⁹ S&P Global (2020).

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

¹⁴⁰ 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

Green Stimulus Index

