

Integrating climate change and biodiversity into the response to COVID-19: Bailout measures

This note is part of a series looking at *climate change and biodiversity considerations in economic responses to COVID-19*. Other notes look at a green stimulus index, international assistance flows into developing countries and labour market reforms. *This note may be updated as circumstances develop. This work was undertaken by Vivid Economics, in partnership with the Finance for Biodiversity Initiative (F4B), and funded by the MAVA Foundation.*

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1.1 Summary

Governments bear a responsibility to align bailout packages with environmental goals as they will significantly impact an economy's structural transition. Trillions of dollars in corporate bailouts are being mobilised to rescue major sectors and firms from possible collapse owing to the COVID crisis. The baseline impact of bailouts on climate and biodiversity targets will likely be negative if no conditionalities are attached, as they will reinforce the current unsustainable trajectory. Governments need to weigh both shorter and longer term goals to ensure taxpayer money is used as effectively as possible.¹

Integrating climate and biodiversity considerations into bailout measures is much more feasible today than in the previous recession of 2009, given greater clarity about country targets and the actions required to meet them, as well as improved understanding of the cost of climate change and biodiversity loss to specific companies and sectors.

Governments should use three complementary strategies to align their bailout packages:

- **First, governments should clearly set out any commitments they expect firms receiving assistance to uphold.** This should be a meaningful commitment to shift business models towards alignment with the Paris Agreement and wider biodiversity agenda, including setting a measurable, indicator-based, time-specific sustainability target; publishing a time-bound transition plan; and reporting progress against targets annually.² Commitments should draw from emerging sustainability standards such as the EU Taxonomy, Climate Bonds Taxonomy and UN SDG ABC impact classifications.
- **Second, governments should ensure the strength of those commitments (i.e. the benefits to the public) are commensurate to the public support being provided (i.e. the costs to the public).**³ Bailouts bring private companies direct benefits not shared by the general public, and it is appropriate for taxpayers to seek some public outcomes as a result. Some bailout instruments are more effective at influencing private sector behaviour than others. Equity stakes enable direct influence on a company's decision-making and should be used where possible. Otherwise, loans and grants should be provided with clear conditions. Governments should avoid assistance through deregulation.

² [WWF 2020](#); Building Resilience: WWF recommendations for a just and sustainable recovery after Covid-19

³ <https://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.24.4.141>

- **Third, governments should consider medium and long term ecological transition⁴ and physical risks⁵ when deciding the scale and duration of support.** By accounting for these risks, governments can properly assess a firm's assets and its financial health. This can prevent funnelling money into what may turn into a stranded or underperforming asset and help inform the choice of conditions for support.

Bailouts can drive medium term sustainability goals while fully addressing short term financial need, and governments should pursue this to maximise the value of taxpayer money. The benefits of enacting climate policy sooner include insurance against the worst climate impacts and inducing technological innovation to further reduce the cost of mitigation. Sustainable bailout measures would strengthen firms that carry low sustainability risks and reinforce their ability to innovate and grow, reducing future transition costs. **Critically, it will not be easy to simply address sustainability goals once the crisis is over since governments will find themselves in greatly worsened fiscal conditions, facing higher costs with more limited resources.**

⁴ Transition risks can occur when moving towards a less polluting, greener economy. Such transitions could mean that some sectors of the economy face big shifts in asset values, a higher cost of doing business, a change in liabilities and technology availability. Physical (Bank of England, 2020)

⁵ Nature's depletion and climate change means we may face more frequent or severe natural disasters like pandemics, flooding, droughts and storms. These events bring 'physical risks' that impact our society directly and have the potential to affect the economy. (Bank of England, 2020)

1.2 Introduction

Trillions of dollars in corporate bailouts are being mobilised to rescue major sectors and firms from possible collapse owing to the COVID crisis. Bailouts aim to secure essential goods and services, and more broadly to ensure businesses that were healthy before the crisis are able to quickly recover to their pre-crisis state. Although the sector allocation of bailouts has yet to be determined, early indications are that the majority will go beyond essential goods and services, and that large benefits will accrue to private interests rather than the broader public.

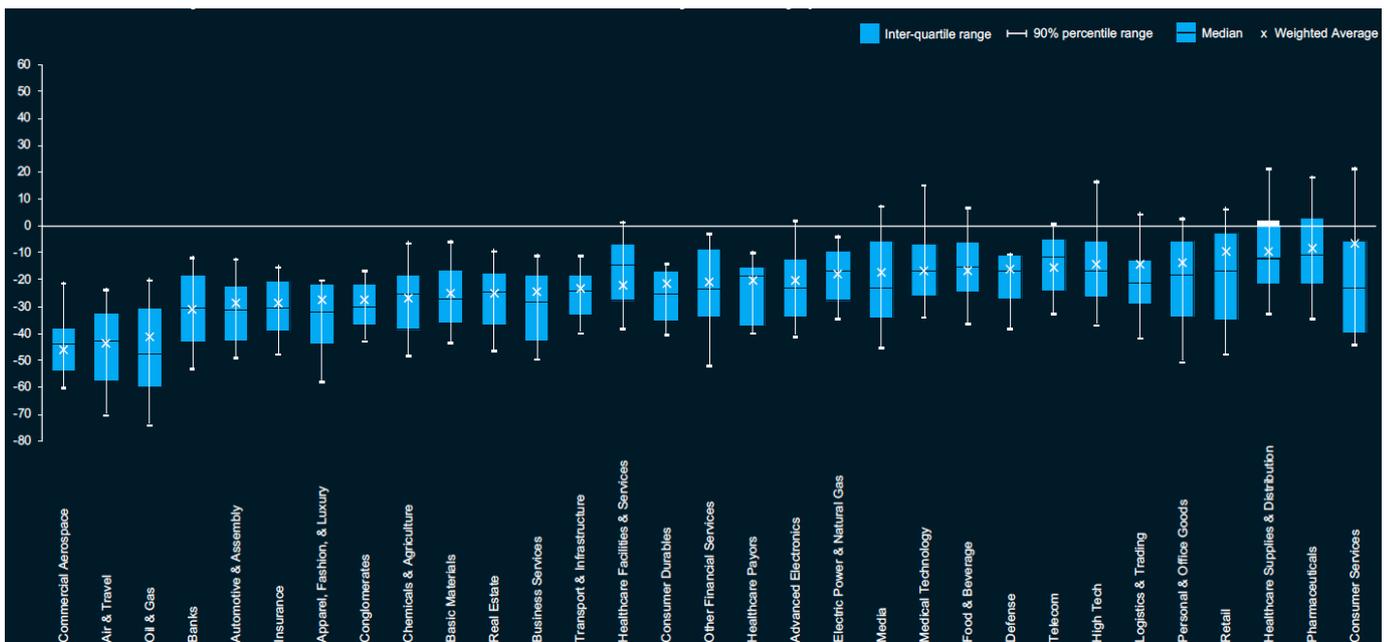
The baseline impact of bailouts on climate and biodiversity targets will likely be negative if no conditionalities are attached, as they will reinforce the current unsustainable trajectory. A number of key target sectors for bailouts have significant climate and biodiversity related impacts and dependencies, including airlines and aviation, oil & gas, automotive, agriculture and retail, as well as financials more broadly. These present an opportunity to depart from a BAU recovery and to support these sectors in meeting their medium term goals related to climate and biodiversity without reducing the effectiveness of bailouts’ short term aims.

Integrating climate and biodiversity considerations into bailout measures is much more feasible today than in the previous recession of 2009. Governments today are more capable of making biodiversity and climate stipulations in recovery measures given greater clarity about country targets and the actions required to meet them, as well as improved understanding of the cost of climate change and biodiversity loss to specific companies and sectors. Many governments have already made concrete, sector-specific plans and commitments, and identified the required funding to meet climate and biodiversity goals.

1.3 How much is on the table and for which sectors?

Many companies in different sectors will need to be rescued by the government. The oil and gas sector, aerospace and defence, financial services, automotive and agriculture are considered the most impacted sectors based on size of the sector and the projected change in growth. In particular, oil, gas, coal and large-scale commercial farming, which often deplete natural ecosystems and have high emissions into air, land and water, will likely qualify for rescue funding given the necessity of food and energy. Figure 1 shows the change in shareholder value caused by the COVID crisis as a percentage of pre-COVID market capitalisation.

Figure 1 Weighted average year-to-date local currency shareholder returns by industry in percent.



Source: Corporate Performance Analytics, S&CF Insights, S&P Global

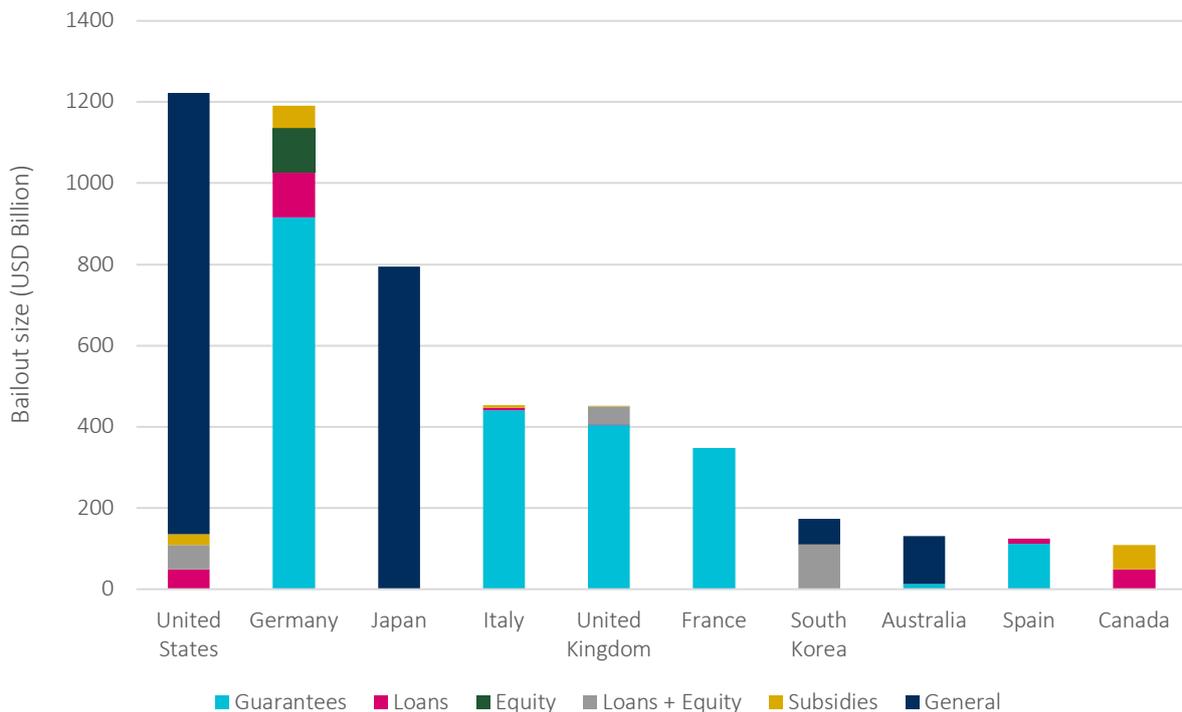
Note: Updated on April 2. Data set includes global top 3000 companies by market cap in 2019, excluding some subsidiaries holding companies, companies with very small free float and companies that have delisted since.

Economic stimulus packages announced to date include a range of different bailout mechanisms. Of the 17 major economies that we have analysed, stimulus packages range from \$26 billion to \$2.9 trillion, with Mexico the smallest and United States the largest. Grants and loans made to small businesses are common throughout Europe and North America, where the government is providing disaster relief loans and additional funding mechanisms for small firms to retain employees and cover their overhead costs. These will take the form of loans, equity, loan guarantees, or coverage of wages and benefits to employees. Prominent commitments to date include:

- **The US** has the largest bailout commitment, including a specific package of \$60 billion for airlines (see box 1).
- **Germany** has committed a substantial proportion of its large stimulus package to bailout companies through a variety of measures, including loan guarantees, loans, equity and subsidies.
- **Japan** has a nearly \$1 trillion USD package with a large proportion targeted at businesses, although the size and allocation of company-specific bailouts remains unclear.

In all cases, a significant portion of the bailout package will provide predominantly private benefits (e.g. to shareholders and executives) with no direct benefit to taxpayers.

Figure 2 Announced bailouts by instrument.



Source: Vivid Economics Greenness of Stimulus Index using data from IMF Policy Tracker, Oxford Government response tracker and Government Stimulus tracker

Note: The figures in the graph exclude paycheck protection programmes, health spending and direct transfers to households. Updated on May 11

Box 1 Example – The United States’ Bailout of Airline Industry

The US bailout of the airline and aviation sectors incorporates mechanisms whereby the government directs how this funding is used. The package is primarily focussed on alleviating the immediate impacts on employees, the risk of insolvency, and the inability to operate. However, it could open the door to broader conditionality.

- **Support already explicitly earmarked:** Structured to include \$25 billion in payroll support, \$25 billion in loans for passenger airlines and more than \$10 billion in grants and loans for cargo airlines and aviation contractors.
- **30% of the total in the form of loans and stock warrants indicating government rights:** 30% was deemed by Treasury to not to directly benefit taxpayers, and therefore to be structured as a loan repayable over 10 years. The government also receives stock warrants worth 10% of loan amounts above \$100 million, giving it the right to buy shares in companies at a pre-determined price.
- **Conditions placed on use of profits into 2021 and 2022:** Airlines receiving stimulus are also subject to prohibitions on share buybacks and dividend payments through September 2021, and to limits on executive pay until late March 2022.

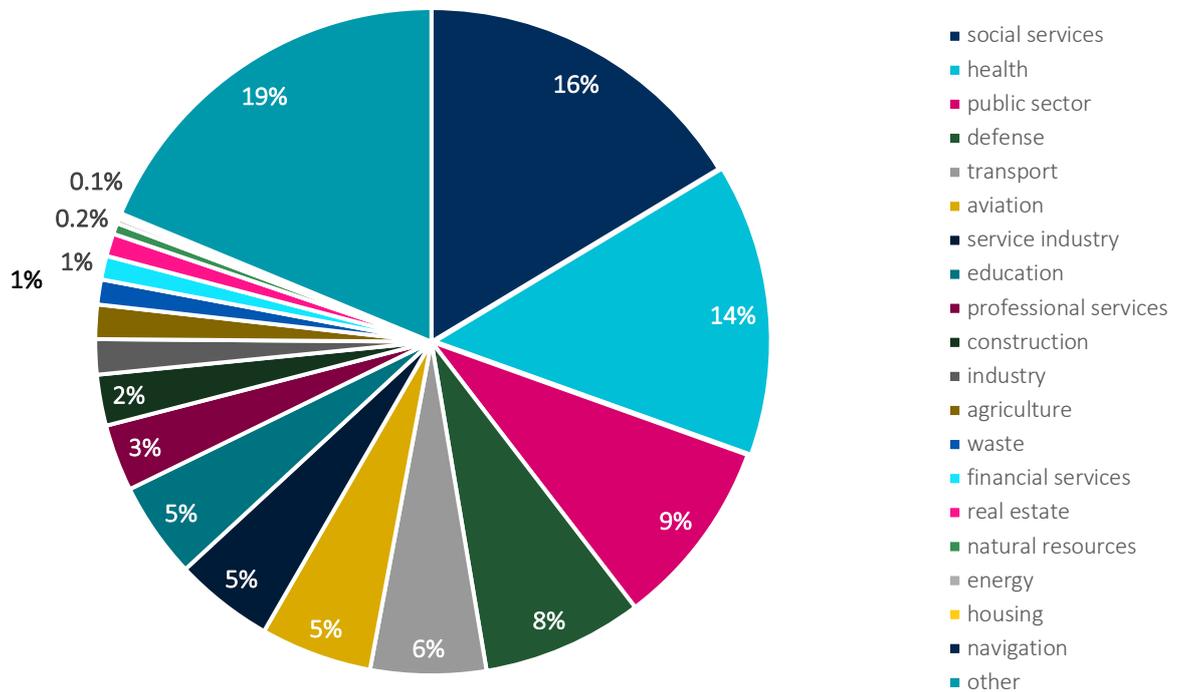
Though little data is currently available on sectoral distribution of funding, individual announcements suggest that many countries have similar spending patterns. Most countries are focussing on sectors and firms that produce essential goods and services (especially in addressing the crisis), play systematically critical roles in economic output, employ large numbers of workers, and are experiencing a short term liquidity shock but remain fundamentally healthy.⁶

In the US, stimulus available under the 2020 CARES Act is largely concentrated on supporting essential services and public administration. Social services, health, the public sector, defence and transport are the highest five recipients of funding, together accounting for more than half of total funding available under the programme (see Figure 3). This reflects the urgency the government is placing on ensuring the provision of basic social and health care is not disrupted. Beyond this, aviation, the services sector and education are receiving considerable support with roughly 5% of funding each.

⁶ [Politico 2020](#), [NYTimes 2020](#)

Figure 3 Sector-level fiscal stimulus estimated for the United States 2020 CARES Act

CARES Act spending by sector, of total \$2.3 trillion USD



Source: Vivid Economics using data from US Bureau of Economic Analysis, US Small Business Association
 Note: Updated on April 16.

Government fiscal stimulus measures will provide direct support for sectors with high environmental impacts. Aside from aviation, considerable funding is expected for other ‘brown’ sectors. Vivid’s *Greenness of Stimulus Index* estimates the stimulus flows into agriculture, industry, manufacturing, energy, transport, and waste, and finds that support for these sectors will constitute as much as one quarter of total stimulus packages.⁷ Without the attachment of green strings, the vast majority of support for these sectors could be destined cause environmental damage.

Governments bear a responsibility to align stimulus packages with broader social and environmental goals, as their medium term impact on the economy’s structural transition is likely to be large. The COVID-19 crisis has raised short-term needs and responding to them has dominated governments’ immediate attention. As well as the identified environmentally-linked sectors, most, if not all, of the sectors receiving economic relief also play a critical role in the medium term transition toward environmental sustainability and resilience. As such, incorporating sustainability even as a secondary consideration in how bailouts are designed and implemented can have large impacts. Governments need to weigh both shorter and longer term goals to ensure taxpayer money is used as effectively as possible.⁸

⁷ <https://www.vivideconomics.com/casestudy/greenness-for-stimulus-index/>

1.4 How can governments maximise public value?

Sustainability can serve as an additional (albeit secondary) criteria to incorporate nature-related implications of bailouts and ensure they support both short- and medium-term goals. This discretion could be used to ensure that stimulus at the least does not work against, but hopefully helps to achieve (or overachieve or achieve earlier), countries' medium term goals mentioned in their Nationally Determined Contribution (NDC) and Convention on Biological Diversity (CBD)⁹ commitments such as:

- Reductions in environmental pollution and greenhouse gas emissions;
- Ensuring deforestation-free and nature-friendly supply chains;
- Halting habitat loss and employing wide-scale landscape restoration;
- Participation in environmentally sound greenhouse gas emissions offset schemes.

This note explores three complementary strategies which governments need to follow to achieve this:

- First, governments should clearly set out any commitments they expect firms receiving assistance to uphold. This will vary between sectors and firms.
- Second, governments should ensure the strength of those commitments (i.e. the benefits to the public) are commensurate to the public support being provided (i.e. the costs to the public).¹⁰
- Third, they should consider medium- and long-term ecological transition¹¹ and physical risks¹² when deciding the scale and duration of corporate support.

1.4.1 What commitments should they ask for?

Across all industries, bailouts can be made conditional on a meaningful commitment to shift business models towards alignment with the Paris Agreement and wider biodiversity agenda. This condition offers governments relatively low risk by defining the outcome to be achieved. At the same time, corporates have greater flexibility in how they reach this target, potentially lowering costs and increasing innovation. The clearest example is for corporates to set a commitment to reach net zero GHG emissions or no net loss of biodiversity by a specific date. Commitments could take a variety of different forms but should include:¹³

- Setting a measurable, indicator-based, time-specific sustainability target;
- Publishing a time-bound transition plan; and
- Reporting progress against targets annually.

More broadly, bailouts could be made conditional on the commitment that corporates ensure all business activity is brought into alignment with emerging sustainability standards, such as the EU Taxonomy, Climate Bonds Taxonomy and UN SDG ABC impact classifications. While currently challenging, such a condition will become easier to monitor over time as the use of these standards becomes more widespread within the

⁹ A majority of countries have signed on to develop a Biodiversity Strategy, as part of the Convention on Biological Diversity's (CBD) Aichi Biodiversity targets, agreed upon at the 2010 Conference of the Parties. The CBD sets the international legal standard for biodiversity positive measures and targets that can be undertaken by firms or countries. Countries who have already developed a Biodiversity Strategy have funding mechanisms in place for biodiversity preservation projects or research.

¹⁰ <https://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.24.4.141>

¹¹ Transition risks can occur when moving towards a less polluting, greener economy. Such transitions could mean that some sectors of the economy face big shifts in asset values, a higher cost of doing business, a change in liabilities and technology availability. Physical (Bank of England, 2020)

¹² Nature's depletion and climate change means we may face more frequent or severe natural disasters like pandemics, flooding, droughts and storms. These events bring 'physical risks' that impact our society directly and have the potential to affect the economy. (Bank of England, 2020)

¹³ [WWF 2020](#); Building Resilience: WWF recommendations for a just and sustainable recovery after Covid-19

financial community. Corporate measurement and reporting of this data will also help facilitate access to alternative sources of finance (both public and private) in the future.

Compensation mechanisms can also be adjusted to ensure that incentive structures reward long term sustainability as opposed to short term financial performance. Executive compensation can transition from a narrow focus on short term shareholder value to a broader set of metrics that better capture long term corporate health. This may include climate and environmental impact metrics, as well as transition and physical risk metrics incorporated into risk-adjusted financial metrics. A focus on resilience to nature-related shocks is likely to be particularly welcome with shareholders looking for reassurance in the wake of the COVID-19 crisis.

Industry-specific commitments could provide a more prescriptive approach, suitable for governments looking to have greater control over the transition path that corporates choose to take. This makes particular sense in environmentally intensive sectors, where it is possible to accelerate well-established pathways toward a sustainable transition. In many cases, such conditions will realise existing commitments not yet fully enacted in concrete policies. Examples of what this might mean for a selection of industries:

- **Airlines:**
 - *Offset commitments:* In line with a net zero emission targets, airlines should be asked to participate in the pilot and successive stages of the CORSIA offsets scheme. Offset commitments should also align with emerging best-in-class environmental standards, especially no net loss of biodiversity.
 - *Clean fuel commitments:* Airlines should also make time-bound commitments to transition towards cleaner fuels such as synthetic kerosene and waste-based biofuels. The European Federation for Transport and the Environment (T&E) has also called for airlines in the EU to pay duty tax on fuel and VAT on international flights (they are currently exempt).¹⁴
- **Automotive:**
 - *Emissions standards:* As an immediate action, automotive companies should commit to increased minimum fuel efficiency standards across new models, as well as broader emissions performance standards.
 - *Business transition:* Automotive companies should also commit to accelerating the shift to zero-emissions vehicles, with concrete commitments to achieve minimum levels of electric and hydrogen vehicle production, and commensurate expansion in charging infrastructure.
- **Oil and gas (O&G):**
 - *Offset commitments:* O&G companies should be asked to abate or fully offset their operational emissions, and to begin offsetting their product emissions if necessary to ensure overall Paris alignment. Offset commitments should also align with best-in-class environmental standards
 - *Business transition:* Commitments in the O&G sector should focus around accelerating the transition to zero-carbon energy technologies. This could include specific commitments to reducing the carbon intensity of their products in line with the Paris Agreement, and explicit investment commitments to increase deployment of zero carbon fuels, carbon capture and negative emissions technologies, or renewable technologies.

- **Financials:**

¹⁴ <https://www.transportenvironment.org/news/bailout-airlines-only-if-they-start-paying-tax-and-using-cleaner-fuels>

- *Risk disclosure:* A minimal commitment would be for institutions to implement the disclosure guidelines from the Taskforce for Climate-related Financial Disclosures (TCFD), the forthcoming Taskforce for Nature-related Disclosures (TNFD), OECD Responsible Business Conduct due diligence guidelines and the EU Regulation on Sustainability-related Disclosures in the Financial Services sector. This should include concrete commitments for improved monitoring and management of climate, biodiversity and other environmental risks
- *Alignment:* Commitments should also include the alignment of financing with global commitments such as the Paris Agreement and the Aichi Biodiversity Targets. This would include specific financing targets, standard norms for engaging counterparties with high environmental impact and risk, and criteria for divestment.
- **Agriculture, fast-moving consumer goods (FMCG) and retail:**
 - *Supply chain certification and reporting:* These sectors, with intense impacts on nature, should commit to the highest standards of sustainability certification across supply chains. This could include certification from the Forest Stewardship Council (FSC), Marine Stewardship Council (MSC) and Roundtable on Sustainable Palm Oil (RSPO), as well as jurisdictional approaches such as the emerging LandScale scheme.¹⁵ This should also include a commitment to disclose the location and activities of all production and processing sites across their supply chain.
 - *Agricultural practices:* Producers and their input suppliers should commit to concrete investments and production targets for climate- and nature-smart agricultural practices.

Box 2 Recent announcements of green bailouts

1. Air France-KLM Bailout

The French and Dutch governments have announced a ‘green’ bailout for airline group Air France-KLM. France’s government will provide €4 billion (\$4.4 billion USD) in state-backed loans and €3 billion (\$3.3 billion USD) in a direct shareholder’s loan to the airline group. The Dutch government has pledged between €2 billion and €4 billion in financial support for Air France-KLM.¹⁶ No equity stake has been taken by the government in exchange for funding.

This financial support is tied to environmental conditions, which have been agreed by the airline. French Finance Minister Bruno Le Maire has declared that the bailout is tied to “Air France becoming the company that most respects the environment”.¹⁷ Le Maire announced that the ‘green’ strings will take the form of the following environmental conditions¹⁸:

- A 50% reduction in carbon dioxide emissions per passenger kilometre compared with 2005 levels. This goes beyond Air France’s previous target of halving emissions by 2030.
- A commitment to improvement in aircraft efficiency and sustainably sourcing 2% of fuel.
- A drastic reduction in the number of flights for which there is a rail alternative of less than 2.5 hours.

As other airlines seek financial support, there will be opportunities for governments to attach environmental strings to their bailout packages. Lufthansa, one of Europe’s largest airlines, is currently

¹⁵ <https://verra.org/project/landscale/>

¹⁶ <https://www.flightglobal.com/strategy/french-government-sets-green-conditions-for-air-france-bailout/138160.article>

¹⁷ <https://www.bloomberg.com/news/articles/2020-05-04/air-france-wins-eu-approval-for-eu7b-french-guarantee-and-loan>

¹⁸ <https://www.flightglobal.com/strategy/french-government-sets-green-conditions-for-air-france-bailout/138160.article>

negotiating with Germany's Economic Stabilisation Fund (WSF) for a €9 billion (\$9.8 billion USD) bailout that is set to include loans, credit guarantees and a possible equity stake for the Germany government.¹⁹ While many airlines have already received support, many others are yet to receive bailouts, and by choosing to attach green strings governments can shape the future environmental footprint of the airline industry.

However, there are concerns that the environmental conditions will not be enforced by governments. While the attachment of environmental conditions to bailout packages is a clear positive step, there are fears that such conditions are non-binding.²⁰ Without proper enforcement of environmental conditions that are attached to bailouts, governments risk creating further environmental by providing support for 'brown' industries.

2. Canadian Energy Sector Clean-up

Canada's government has directed fiscal stimulus towards the energy sector in Alberta, British Columbia, and Saskatchewan, which must be used for environmental improvement. Prime Minister Justin Trudeau has announced C\$1.7 billion (\$1.2 billion USD) in support for oil and gas businesses, aiming to "create immediate jobs in these provinces while helping companies avoid bankruptcy, and supporting our environmental targets".²¹ By ring-fencing support for businesses to specific uses it is hoped that the environmental impact of these measures will be significant.

This support stimulus is to be used specifically for the clean-up of orphaned or inactive wells. Orphaned oil and gas wells are those abandoned by owners that are unable to afford a proper decommissioning, and there are around 5,650 orphan wells in the three provinces targeted by the policy, according to Finance Canada.²² This funding is directly earmarked to be used for the clean-up of orphaned and disused wells, which will provide jobs and improvements to the environmental impact of the energy sector.

The Canadian government also announced that it will create an emissions reduction fund. The fund is worth C\$750 million (\$540 million USD) and will focus on methane. This additional funding to the energy sector is conditional on being used to cover the cost of labour necessary to install upgraded methane monitoring and reduction technologies in line with recently updated methane emissions standards.²³ Through these efforts the fund is expected to create around 10,000 jobs across Canada.²⁴

3. Chinese New Energy Vehicle Subsidy

The Chinese government has extended its national new energy vehicle subsidy programme for an additional two years. Alongside the announcement of the extension of the electric vehicle subsidy to 2022, Premier Li Leqiang declared that the government will compensate the replacement of diesel vehicles in key cities.²⁵ The Chinese government has also reduced the market access requirements for

¹⁹ <https://www.bloomberg.com/news/articles/2020-05-12/lufthansa-nearing-deal-with-berlin-after-opposition-cools-off?srnd=markets-vc>

²⁰ <https://www.transportenvironment.org/press/airline-bailouts-set-double-%E2%82%AC26bn-countries-fail-impose-binding-green-conditions>

²¹ <https://www.cbc.ca/news/politics/financial-aid-covid19-trudeau-1.5535629>

²² <https://www.cbc.ca/news/politics/financial-aid-covid19-trudeau-1.5535629>

²³ <https://www.cbc.ca/news/politics/financial-aid-covid19-trudeau-1.5535629>

²⁴ <https://energycentral.com/c/ec/%E2%80%98-major-turning-point%E2%80%99-trudeau-unveils-17-billion-abandoned-wells-resists-fossils>

²⁵ <https://www.prnewswire.com/news-releases/china-extends-new-energy-vehicle-purchase-subsidies-and-purchase-tax-exemption-policy-for-two-years-301032549.html>

manufacturers of new energy vehicles to help smaller firms stay in the market in response to the challenges promoted by the COVID-19 outbreak.²⁶

These measures provide direct support for the growing NEV industry in China. However, financial support from provinces for the entire automobile industry is slowing the transition towards electric vehicles.

Chinese provinces have rolled out car subsidies to save the general industry, without specific conditions for EVs.²⁷ As a result, while auto sales were higher this April compared to April 2019, sales of electric vehicles were down.²⁸ This indicates that much more needs to be done to promote the transition away from high-emissions vehicles.

Across all sectors, it is also possible to enforce sustainable procurement commitments to align purchasing with sustainability goals and maximise the value of taxpayer money. These are both the highest priority and largest stimulus packages in most countries and focus on securing a sufficient supply of food, medical equipment and other essential goods. For example, considerations for agriculture and retail as well as healthcare might include:

- **Agriculture and food distribution:** Governments should consider sustainability performance when selecting suppliers for food distribution programmes and large catering contracts. Government can also offer concessional funding for productivity enhancing investments with environmental co-benefits such as high energy efficiency and low pesticide and water use.
- **Healthcare:** Healthcare firms, hospitals and other providers are receiving grants or concessional finance for upgrades and expansions. Governments should ensure new infrastructure is climate-smart and nature-friendly, for example, through energy efficient buildings and equipment, sustainable waste policies and efficient or electric vehicle fleets.

Even more broadly, all sectors could make commitments to increase purchases of renewable energy sources, and to increase use of electric and hydrogen vehicles in their transport and delivery fleets.

1.4.2 How should governments ensure commitments are appropriately ambitious?

Governments should demarcate those measures providing predominantly ‘private’ benefits and commensurately seek publicly beneficial behaviour. Aside from payroll support and financial support necessary to ensure critical sectors can produce essential goods and services, a sizable portion of bailouts bring private companies (and their shareholders and executives) direct benefits not shared by the general public. That is, there is high public cost, but limited public benefit. These should be explicitly demarcated, and it should be recognised that taxpayers require significant public outcomes as a result.

Requiring these companies to take action to mitigate negative environmental externalities is both an appropriate and efficient way to ensure public benefits. Mitigating negative environmental externalities provides significant public benefits, as the effects of environmental damage are generally broad based. Moreover, it is a widely recognised realm of public policy, and contributes economic as well as social and environmental benefits.

²⁶ <https://ihsmarkit.com/research-analysis/china-steps-up-efforts-to-boost-auto-industry.html>

²⁷ <https://www.ft.com/content/12cc8c6a-5f7a-11ea-b0ab-339c2307bcd4>

²⁸ <https://edition.cnn.com/2020/05/11/business/china-car-sales-coronavirus/index.html>

The existing set of bailout instruments offers various ways to align private sector behaviour with sustainability goals, with some variation in their likely effectiveness. Equity provides the most direct and sustained influence and deregulation provides the least.

- **Equity:** In extreme cases of financial distress, governments make equity investments, usually applied to very large and publicly traded companies. To date, equity stakes have been limited. Equity stakes are the most powerful tool to influence a company in the short and medium term, because they provide the government with access to information and decision-making power on an ongoing basis.²⁹
- **Loans:** Loans are currently the primary instrument deployed by governments to bailout companies both via the financial sector and directly into large corporates.³⁰ Non-recurring loans give governments a one-shot power to influence behaviour, though this is constrained by the information available at the time. Governments could also provide credit lines specifically for defined sustainable activities.
- **Grants:** Grants, typically for payroll assistance or capital investments, are another form of bailout for companies. Grants require a large amount of (non-reimbursable) capital and present a high bar for public benefit. Like loans, grants can be made conditional or ring-fenced for particular activities. Conditionality in grants is more common and stringent.
- **Deregulation:** Deregulation sits alongside bailouts as a mechanism that governments have deployed to reduce operating costs for businesses, helping to relieve financial pressure.³¹ For example, in early March, the US EPA began a rollback on air water and hazardous waste reporting requirements to alleviate pressure on affected companies. Deregulation can be justified in relation to short-term, urgent needs, like the provision of medical equipment or development of a vaccine. It is not justified in relation to broad-based environmental regulation whose costs and benefits are longer run. Currently, deregulation is likely to slow down the green transition.

1.4.3 Where should they focus bailouts – both scale and duration?

Governments base bailout decisions on future expectations of a company's performance, but these generally ignore the potential upside and downside of the green transition. Treasuries assess whether companies being bailed out are sustainable in the medium term based on expected cash flows.³² This accounts for a market valuation of the asset with risk adjustment based on market capitalisation, return-risk ratio, or another risk measures.³³ Traditional valuations do not account for physical and transition risks from climate change, depletion of natural resources, or instability of future natural stocks given high extraction rates or habitat degradation.³⁴

Governments have particularly good understanding of transition risks because they mostly stem from commitments outlined in their NDCs and biodiversity policies. Most governments have policy commitments and targets for sustainability over the medium to long run that will impact sectors differently. Most of these commitments were based on marginal abatement cost curves that provide valuable information to estimate the risk of devaluation of assets in firms most exposed to policy-driven transition risk. Governments, when

²⁹ Research supports the claim that public ownership of firms are more likely to have robust sustainability plans that concern ecological or environmental impact and sustainability reporting initiatives. See Gallo, P. J., & Christensen, L. J. (2011). *Firm Size Matters: An Empirical Investigation of Organizational Size and Ownership on Sustainability-Related Behaviors*. *Business & Society*, 50(2), 315–349. doi:10.1177/0007650311398784

³⁰ [The Guardian, 2020](#)

³¹ Bailouts are loosely defined as any value transfer from the government in the form of guarantees, subsidies, or direct funding, to a firm brought on by economic distress. Deregulation may be considered a form of bailout in that the cost of the externality related to pollution is now borne again by individuals and not the firm, and therefore the firm has received the equivalent value of the social cost back ([Lucas 2018](#)).

³² https://www.annualreviews.org/pb-assets/journal-assets/annual-review-financial-economics/volume-10/ARFE_Bailouts-1541624486297.pdf

³³ <http://people.stern.nyu.edu/adamodar/pdfiles/valrisk/ch5.pdf>

³⁴ <https://no.assetmanagement.hsbc.com/en/institutional-and-professional-investor/news-and-insights/low-carbon-transition-scenarios>

bailing out firms, can limit their risk based on their privileged understanding of future climate and environmental regulation and associated sectoral costs.

National level governments should also have a broad understanding of the shorter and longer run physical risks, and evaluate firms based on their geography, resource use, and current asset portfolio. Physical risks include any risks associated with natural disasters and changing resource availability – including the availability of biodiversity and other natural capital. Such risks have been outlined by the IPCC and OECD among others; and shared with policymakers at the national level. When bailing out firms, governments can limit their exposure to physical risk by integrating physical risk assessments into companies' capital asset valuation.

Governments who traditionally plan on a longer timeframe than businesses have an opportunity to avoid bailing out firms that will perform badly in the future due to natural depletion (including climate change). Accounting for the risks of nature's depletion, governments can properly assess a firm's assets and its financial health, and either (i) avoid funnelling money into what may turn into a stranded or underperforming asset given future policy or the physical impact of climate change; or (ii) put in place conditions upon the receipt of public funds that commit recipient companies to increase the sustainability and subsequently reduce the climate related risks of their of their business (such as those laid out in the previous section).

In addition to benefiting the economic effectiveness of bailouts and securing progress towards meeting sustainability goals, this full risk-based approach can also reduce the cost of environmental policy. Delayed action on climate change will incur further costs on taxpayers where mitigation responses become 40 percent more expensive each decade they are put off.³⁵ The benefits of enacting climate policy sooner include insurance against the highest impacts of climate and inducing technological innovation to further reduce the cost of mitigation. Bailout measures which are risk adjusted can guarantee firms that carry low climate risks will have the financial support necessary to innovate and grow, reducing future transition costs.

³⁵ https://scholar.harvard.edu/files/stock/files/cost_of_delaying_action.pdf