

Pandemic recovery: Positive intentions vs policy rollbacks, with just a hint of green

Climate Action Tracker

Warming Projections Global Update

September 2020



Summary

In this briefing we examine the COVID-19 recovery packages of five major emitters – **China, EU27¹, India, South Korea and the USA** we present the global temperature update, taking into account the economic impact of COVID-19; and we share key insights from the updated assessments for 13 of the 36 countries assessed by the Climate Action Tracker, including projections of the effect of the COVID-19 pandemic on 2020 emissions.



This briefing provides a directional analysis as to what we could expect in terms of emissions developments in the future, considering that COVID-19 adds another layer of uncertainty to the forecasting exercise, given the lack of information and how long this will last.



Covid recovery analysis: still waiting for green plans

For the analysis on recovery packages, we looked into 106 domestic measures across the five countries, grouped into **overarching packages** (aggregated rescue and recovery announcements) and **individual interventions** (relevant and quantifiable measures of rescue, recovery, and regulatory rollbacks).

- ▶ We find that amid some stated positive intentions, on the whole, these governments have yet to seize this moment to green their recovery packages, but the jury is still out as to whether any of them will actually bend their emissions curve towards a 1.5°C pathway.
- ▶ On the contrary, some appear to be taking their economies in the opposite direction, bailing out their fossil fuel industry - and airlines - by initiating policy rollbacks.
- ▶ Much-needed leadership on green recovery and consistent step change across countries is still missing.

At the **overarching packages** level, we found the investments being made represent more than 8% of GDP for the EU27, India and South Korea, and even up to 14% of GDP in the case of the USA and China.

- ▶ Only South Korea and the EU have communicated **overarching packages** with any deliberate focus on green recovery.
- ▶ Others provide large liquidity support and bailout for corporations, but none of them are conditional on green criteria.
- ▶ We rate a large share of investment “neutral” as they focus on short-term rescue measures with limited or no direct impact on emissions reduction, such as health care-related or social spending. We rate another large share as “unclear” given lack of information on its composition.

There is even less information available at the **individual interventions** level. In fact, the interventions for which we were able to find detailed information account for only between 0.5% to 2.5% of GDP (compared to the 8% to 14% of GDP that the entire **overarching packages** represent).

- ▶ We have rated these efforts and find a mix of both “green” (low carbon) and “red” (carbon-intensive) measures being announced or implemented.
- ▶ All countries have announced “green” interventions (39 across five countries), but the size of their investments, in terms of share of GDP, remains relatively small. All countries have simultaneously adopted “red” interventions (33 across five countries).
- ▶ There is still significant uncertainty and a lack of information around these **individual interventions** and how governments plan to implement them, especially when it comes to financial volumes.

¹ For this analysis, we only look into measures decided by the EU27 (European Council) and not those proposed by individual Member States.

Through this country-level analysis we find that key emitters are taking different approaches in their early economic recovery practices. Some countries are clearly using the pandemic as an excuse to continue an unsustainable 'business as usual', dominated by 'red' interventions –USA, Brazil, Mexico, Australia, South Africa, Indonesia, Russia, Saudi Arabia, Argentina, Turkey– but we also have encouraging examples of countries taking steps in the right direction; like the EU and South Korea. However, so far, none of the countries we have analysed is yet taking a fully transformational approach, committing to make all possible recovery measures green.

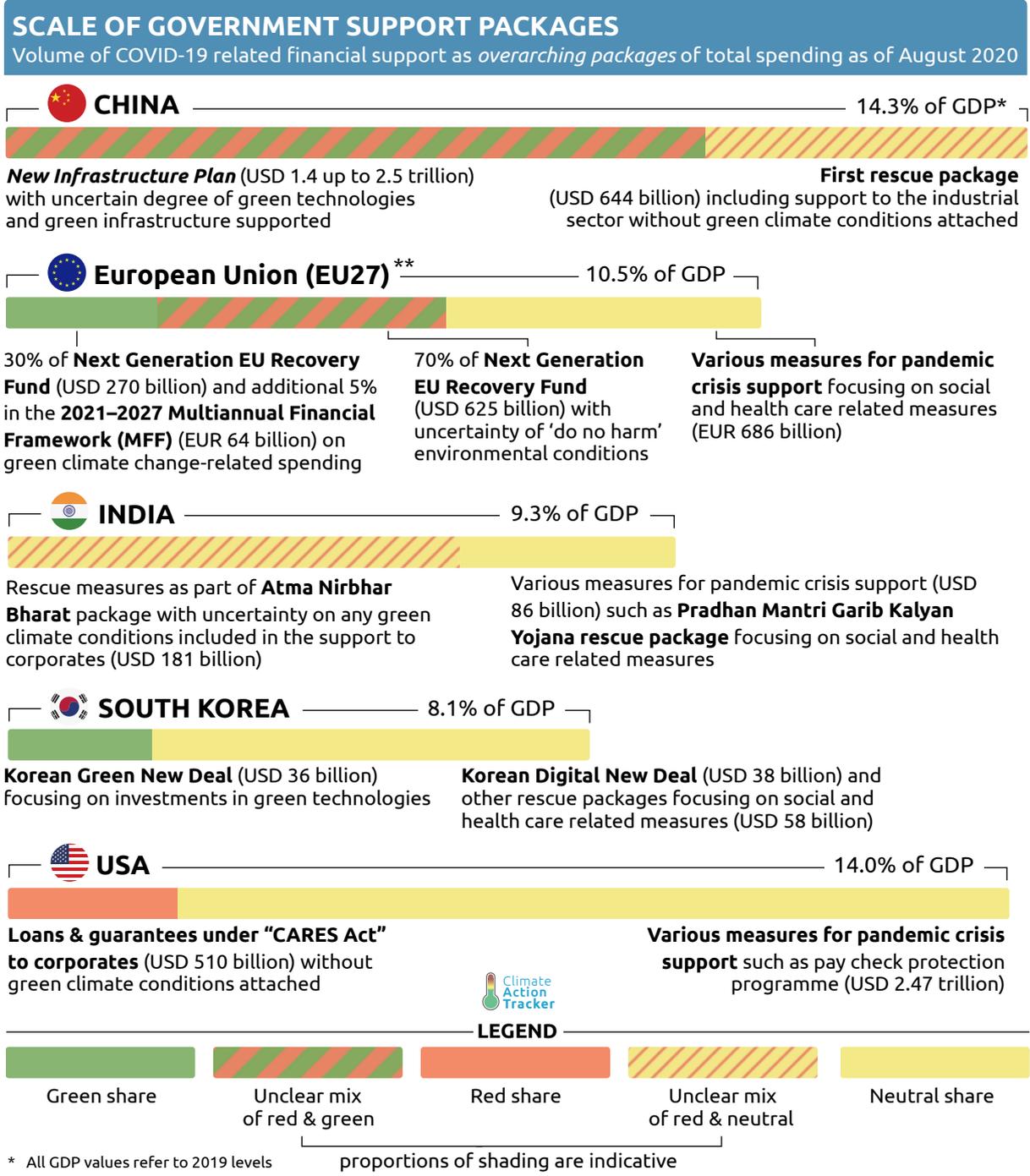


Figure 1: Overview of overarching economic recovery packages through public finance as aggregated volume (as share of GDP) in five selected countries. Note: Some overarching packages included in this figure have a multi-annual timeframe of implementation beyond 2020

As we know, government responses to the pandemic represent a unique circumstance where they need to make significant investments to reactivate their economies. Making wise decisions with climate change at their heart is the only way to ensure the impacts of recovery packages are inclusive and lead to the required transformational changes that would limit global warming to 1.5°C. According to our previous assessments, an increase of 1.2% of GDP in annual global green investments would result in higher emission reductions and enable reaching the Paris Agreement goal (Climate Action Tracker, 2020).

Forecast temperature update: little change

Our latest temperature assessment shows the *economic impact of the pandemic alone has little long-term effect on warming*. The lockdowns and economic impacts of COVID-19 will cause emissions to drop in 2020 by between 5% and 9% below 2019 levels². Currently implemented policies, including, the effect of the pandemic, will lead to a 2.9°C temperature rise by the end of the century. While emissions are likely to be lower in 2030 compared to a pre-COVID-19 scenario, this reduction is not the result of any economic structural changes, nor a shift towards decarbonisation and therefore will not be sustained in the long run. It is thus essential to focus on this transition as part of the recovery efforts.

If governments stick to their current targets submitted under the Paris Agreement (Nationally Determined Contributions), the world is set to warm by 2.7°C by the end of the century, a level far from the Paris Agreement’s 1.5°C temperature limit. Few countries have updated their targets in 2020, as they agreed to do, while many large countries have announced that they will not do so (see CAT’s [Climate Target Update Tracker](#)). COP26 has been postponed until late 2021; however, scaling up climate action cannot wait. Urgent global action is needed, and all governments have a role to play.

Our latest set of updates include 13 countries: [Australia](#), [Brazil](#), [Canada](#), [China](#), [EU27](#), [India](#), [Indonesia](#), [Japan](#), [Mexico](#), [Russia](#), [Saudi Arabia](#), [South Africa](#) and the [UK](#) (See section 3.3)

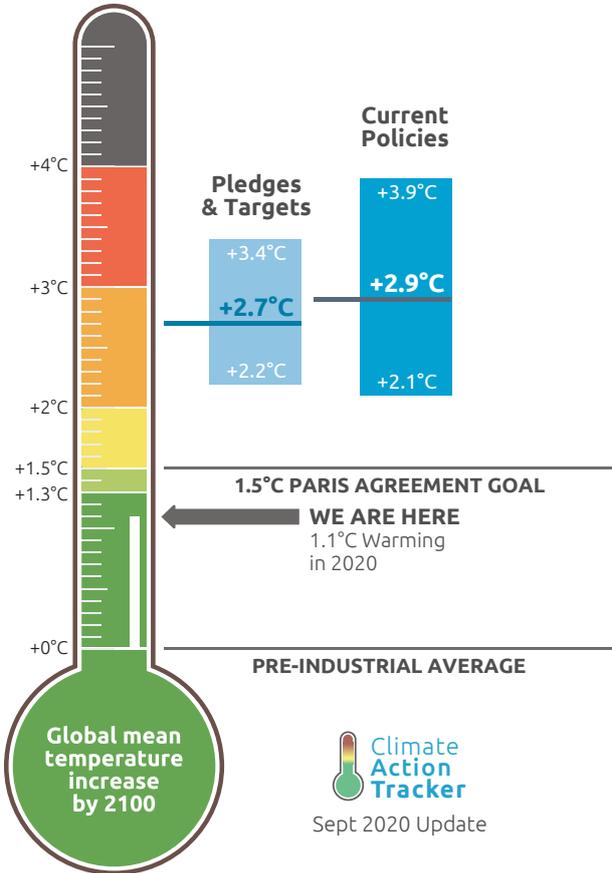


Figure 2: CAT warming projections of global temperature increase by 2100. September 2020 update.

² For the countries which the Climate Action Tracker has analysed the effects of COVID-19 on emissions (23 countries plus the EU).



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1 Green recovery response possibilities

Recovery package choices currently made by governments in response to the COVID-19 pandemic are important in bending the emissions curve. Understandably, governments' first priority has been first to save lives. However, while COVID-19 has created economic devastation in many countries, it also presents a unique moment where governments are making such huge investments.

Ignoring this moment to scale up climate action would continue to lock many into high-carbon economies, and therefore it is important that governments seize this occasion by making wise decisions with climate change at their core. By "wise decisions" we mean ensuring the impacts of recovery packages are sustainable and lead to the required transformational changes that would limit the global warming to 1.5°C. Sustainable greenhouse gas emission reduction depends on these decisions.

The limited economic activities in the majority of countries will result in a short-term decline in greenhouse gas emissions, which will not bend the emissions curve. Sustaining a decline in emissions requires strong green stimulus that will catalyse the necessary structural transformational changes.

The magnitude of the stimulus packages will have a stronger effect on the degree to which the transformation happens, with an increase of 1.2% per GDP in annual global green investments resulting in higher emission reductions and enabling the ability to reach Paris Agreement goal (Climate Action Tracker, 2020). However, there is also a high risk that carbon emissions will rebound to pre-COVID levels if governments do not shift investments from fossil fuels to low carbon development or if they continue supporting fossil fuel in their recovery spending (Figure 3).

Green stimulus to fight the COVID-19 economic crisis and the climate crisis

Strong climate policies plus sustained investment can provide valuable jobs, revitalise economies and get the world on track to meeting the 1.5°C Paris Agreement goal

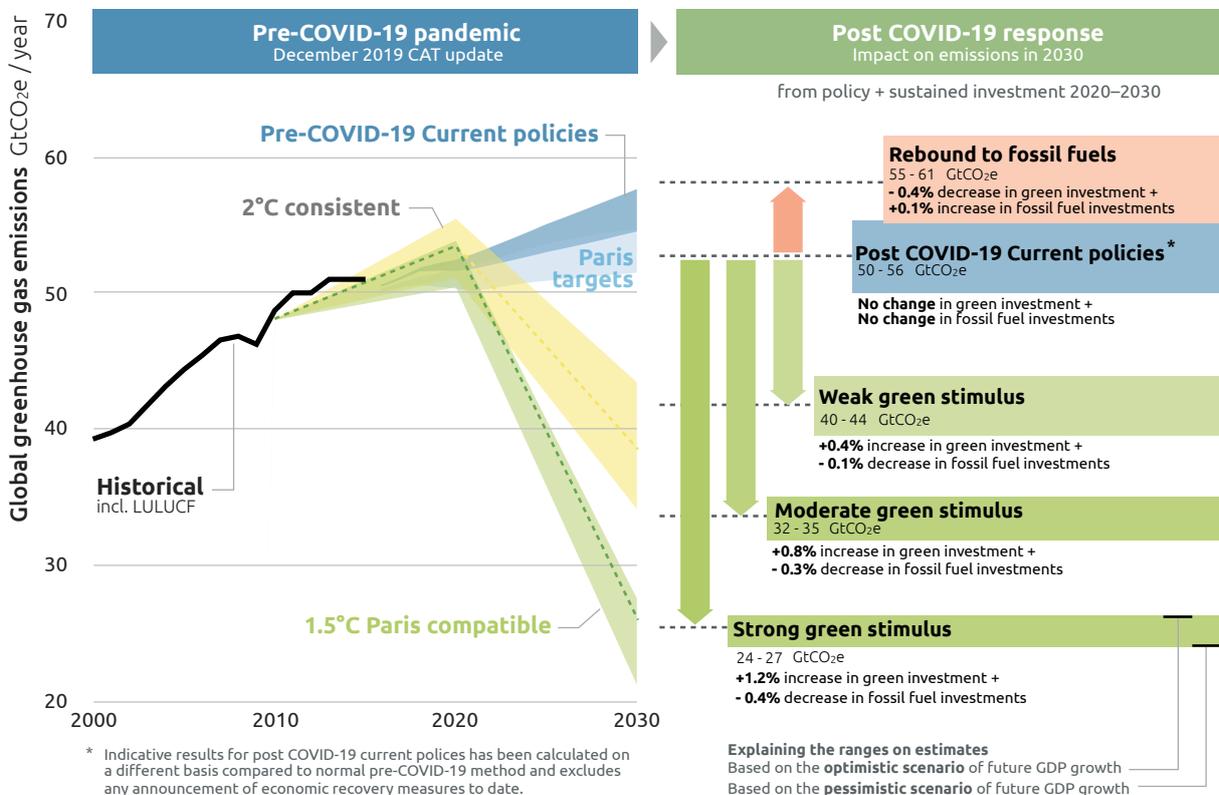


Figure 3: Benefits of a coordinated combined climate-mitigation economic stimulus that can kick-start the transition to a low-carbon economy that is achieved by sustained green investment over the next decades (Climate Action Tracker, 2020).

Greening recovery packages have multiple sustainable development benefits such as reduced air pollution, creation of sustainable jobs, revitalisation and growth of economies, enhanced energy access, supply and security. This approach is also critical for supporting the most vulnerable and building up resilience, both in-country and across countries. These should be enough to incentivise governments to choose “green” (low-carbon) over “red” (carbon-intensive) interventions in the revitalisation of their economies.

There are various measures that governments could reasonably implement, but these would require intentional and focused effort by both decisionmakers and implementers. These are interventions that could lead to substantial progress in the transition to low carbon economies and societies, and contribute to the ramping-up of implementation envisaged in the IPCC’s 1.5°C report. However, we have also observed that many countries are using stimulus packages to continue supporting fossil fuels (red interventions), and continuing further carbon lock-in of their economies.

2 Building back greener? An analysis of COVID-19 economic recovery in five selected countries

The Climate Action Tracker has assessed the status of COVID-19 economic rescue and recovery measures announced by five selected governments: China, the European Commission³, India, South Korea and the USA. The comparative analysis across these countries provides insights on the *magnitude* of rescue and recovery activities, their level of ‘greenness’, and potential *impact on emission pathways* towards 2030.

In this analysis, the Climate Action Tracker tracks economic recovery packages, selected rescue measures (e.g. corporate bailouts), and regulatory rollbacks for each of the five countries. The measures are categorised by their level of ‘greenness’ and impact on greenhouse gas emissions (Table 1). The analysis builds on the methodology proposed in Dafnomilis et al. (2020) and other recently published literature (Hepburn, O’Callaghan, Stern, Stiglitz, & Zenghelis, 2020; Vivid Economics, 2020).

Table 1: Framework to analyse economic recovery, rescue, and regulatory rollback measures

Expert judgement on level of ‘greenness’ of rescue and recovery measures	
Technical Annex provides ‘green’ and ‘red’ policy archetypes	
	GREEN Measure triggers investment in low-carbon technologies (e.g. investments in renewables capacity) or supports further advancement of such technologies through R&D or regulatory changes
	NEUTRAL Measures has no direct impact on emissions (e.g. health care or social-related spending, or R&D for artificial intelligence)
	RED Measure supports an unsustainable business-as-usual (e.g. unconditional airline bailout) or new carbon-intensive investment (e.g. investment in new coal plants)
	UNCLEAR No expert judgment possible given lack of available information

³ For this analysis, we only look into measures decided by the EU27 (European Council) and not those proposed by individual Member States.

As of August 2020, we assessed 106 domestic measures across the five countries. We differentiate between *overarching packages* and *individual interventions* (Figure 4). **Overarching packages** represent aggregated rescue and recovery announcements, for example the announced Korean New Deal of USD 97 billion (Government of Republic of Korea, 2020). **Individual interventions** represent relevant and quantifiable measures of rescue, recovery, and regulatory rollback activities, for which sufficient information was available as of August 2020. We include *individual interventions* at the idea stage, announced, or implemented in 2020 - such as the network expansion of 600,000 new electric vehicle charging stations in 2020 announced by the Chinese government (Shen, 2020).

QUANTIFYING THE GREEN RECOVERY Attempting to estimate the emissions impact of economic recovery packages despite uncertainty and lack of transparent and quantifiable information

Overarching packages			
Consisting of multiple interventions in response to COVID-19			
Interventions relevant to emissions reductions	Interventions not directly relevant to emissions reductions		
Carbon-related	Other	Social	Health care August 2020
Example: Investments in energy infrastructure or R&D for zero-carbon technologies in the cement sector	Example: Digitalisation of public administrations or R&D in the field of artificial intelligence	Example: Wage support and employment provision to low-wage workers	Example: Emergency support for hospital and health care workers

Figure 4: Framework of overarching packages and individual interventions to quantify economic recovery packages

2.1 Understanding the magnitude of rescue and recovery activities

The volume of the announced *overarching packages* of rescue and recovery activities through public finance is more than 8% of GDP for the European Union (EU27)⁴, India and South Korea, and even up to 14% of GDP in the case of the USA and China (Figure 3).

The CAT rates a large share of the *overarching packages* as neutral. These measures focus on short-term rescue measures such as health care-related or social spending, such as India's first rescue package *Pradhan Mantri Garib Kalyan Yojana* of USD 25 billion focusing on cash transfers to lower-income households, insurance coverage for workers in the healthcare sector, and wage support to low-wage workers (Government of India, 2020a).

Another large share is rated "unclear" given the lack of existing information on its composition. An example is the high uncertainty around China's *New Infrastructure Plan* of USD 1.4–2.5 trillion (Wong, 2020), but parts of the EU's and India's measures are also unclear.

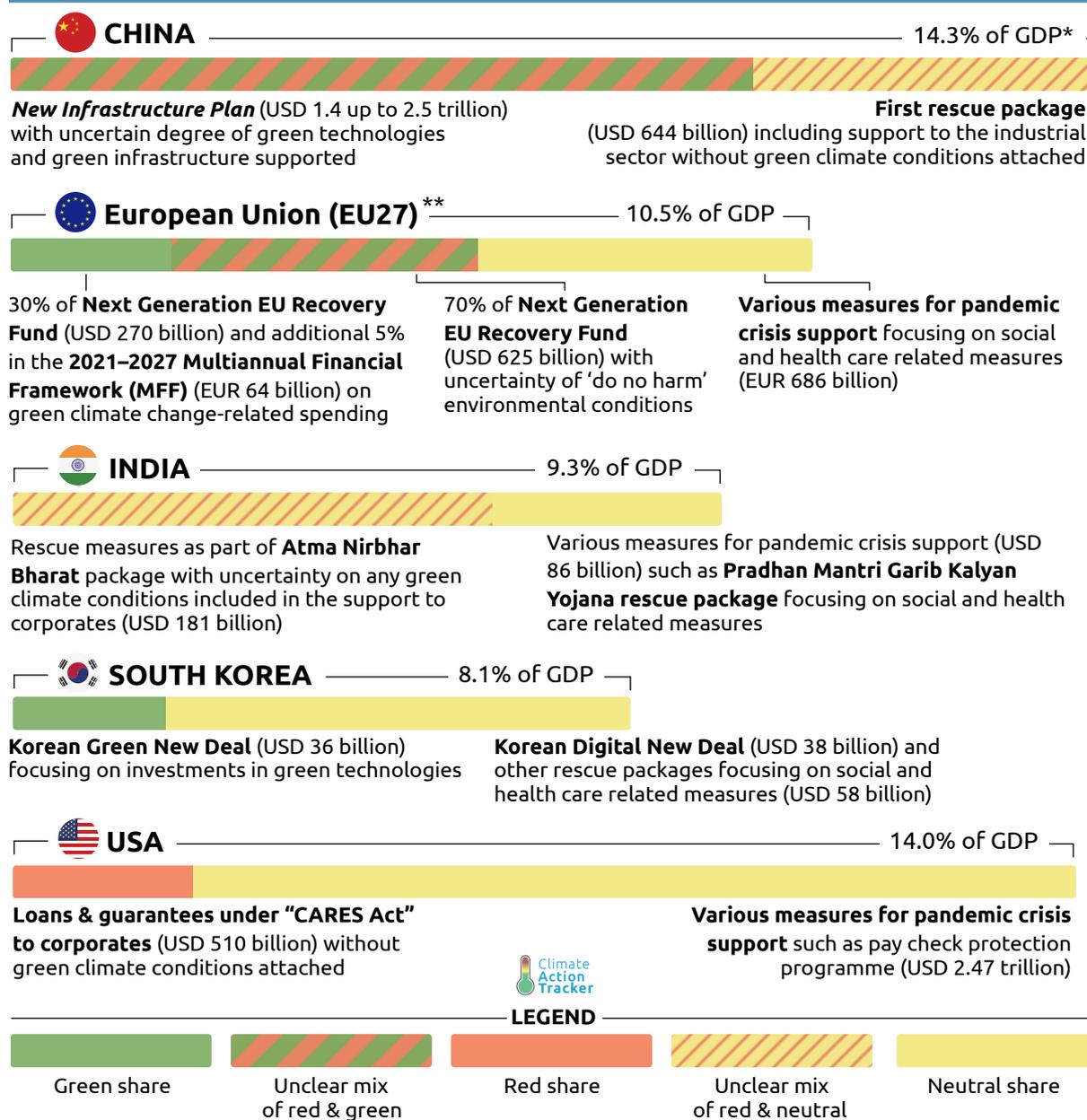
A missed opportunity is the fact that all countries provide large liquidity support and bailout for corporations, but none of them are conditional on green criteria. A prominent example is the USD 510 billion in loans and guarantees of the Coronavirus Aid, Relief and Economy Security Act ("CARES Act") in the USA.

Only South Korea and the European Commission have communicated *overarching packages* with some deliberate focus on green recovery (Figure 3).

⁴ For this analysis, we only look into measures decided by the EU27 (European Council) and not those proposed by individual Member States.

SCALE OF GOVERNMENT SUPPORT PACKAGES

Volume of COVID-19 related financial support as *overarching packages* of total spending as of August 2020



* All GDP values refer to 2019 levels

proportions of shading are indicative

** For this analysis, we only look into measures decided by the EU27 (European Council) and not those proposed by individual Member States

Figure 5: Overview of overarching economic recovery packages through public finance as aggregated volume (as share of GDP) in five selected countries. Note: Some overarching packages included in this figure have a multi-annual timeframe of implementation beyond 2020.

The analysis of *individual interventions* of early rescue and recovery measures and regulatory rollbacks shows a clearer mix of both green and red measures being announced or implemented. These *individual interventions*, for which information is available as of August 2020, account for only a small portion of the *overarching packages*, ranging from 0.5% to 2.5% of GDP.

All five countries have announced green *individual interventions* for 2020 or 2021 (39 across all five countries), although the overall magnitude of these *interventions* in terms of GDP remains relatively small, and red *interventions* have simultaneously been adopted in all countries (33). Several months into the proposal of rescue and recovery measures, uncertainty and a lack of information remain, especially on the financial volumes of *individual interventions*.

Table 2 below provides further country-specific insights for each country on the status of their rescue and recovery efforts. The analysis considers recovery, rescue, and rollback measures announced and implemented as of August 2020.

Table 2: Country insights for economic rescue and recovery analysis on USA, South Korea, China, India, and the European Commission

INSIGHTS ON CONCRETE RECOVERY MEASURES August 2020
 Analysis of economic rescue and recovery *individual interventions* announced and implemented



CHINA



- ▶ China’s first rescue and stimulus package of USD 644 billion includes substantial support to the industrial sector without green climate conditions attached to ensure a greener recovery alongside healthcare and welfare measures.
- ▶ Although there is some hint of green interventions, the specific composition and details of the *New Infrastructure Plan* of USD 1.4–2.5 trillion remains unclear (Wong, 2020), particularly on the degree to which low-carbon technologies and green infrastructure investments will be included in the plan.
- ▶ China has implemented several green *individual interventions* (7) in 2020, for example the launch of the *National Green Development Fund* with USD 10 billion governmental funding (Seetao, 2020), but information on respective budgets allocated remains unavailable for some interventions.



EUROPEAN UNION (EU27)



This analysis looks into what has been shared publicly (30% of the budget); how the rest of that budget (70%) will be spent and its level of ‘greenness’ remains unclear. Here we look into measures decided by the EU27 (European Council) and not those proposed by individual Member States.

- ▶ The European Union has announced it will devote 30% of all *overarching packages* in the Next Generation EU (NGEU) Recovery Fund and an additional 5% in the 2021-2027 Multiannual Financial Framework (MFF) on green climate change-related spending (total of around 2% of European Commission’s GDP in 2019).
- ▶ Uncertainty remains as to how the 70% of remaining NGEU funds, disbursed as recovery loans and grants to member states tied to ‘do no harm’ environmental conditions, will be spent from 2021 onwards.
- ▶ *Individual interventions* implemented at EU level in 2020 mostly represent green measure (11) and predominantly built upon existing programmes. It is important to note here that the CAT has not yet tracked any green and red interventions announced by specific EU Member States.

INDIA

10 red measures

2 unclear measures

6 green measures

- ▶ India's *overarching* fiscal rescue and recovery packages announced to date have focused on healthcare, welfare, and support for businesses and the agriculture sector. Uncertainty especially remains on whether any green climate conditions have been included in the support to corporates.
- ▶ Most recent announcement point in a somewhat carbon-intensive direction with many red (10) *individual interventions*, most prominently promoting more than 40 new domestic coal mines by private investors (Government of India, 2020b; Sarkar, 2020).
- ▶ Only a few and rather low-impact green *individual interventions* (6) have been announced to date, for example additional funds for plantation work, forest management, and wildlife conservation.

SOUTH KOREA

4 red measures

12 green measures

- ▶ South Korea's Green New Deal of around USD 36* billion sets a focus on green recovery in *overarching packages*, and other neutral funding priorities such as Digital New Deal and other rescue measures.
- ▶ While the South Korean government has announced more green *individual interventions* (12) than red ones (4), the share of GDP allocated to red *individual interventions* remains higher, given multiple corporate bailouts in the Key Industry Relief Fund of USD 32 billion without any green conditions attached (Hosokawa, 2020).

* This budget excludes private finance included in the KRW 73.4 trillion announced by the government as part of the Green New Deal. The government will invest KRW 42.7 trillion or around USD 36* billion from national treasury on green recovery (Government of Republic of Korea, 2020).

USA

14 red measures

1 unclear measure

3 green measures

3 neutral measures

- ▶ The government has not attached any green strings to large volume of immediate rescue packages to date (14% of GDP), especially the USD 510 billion of loans and guarantees of the Coronavirus Aid, Relief and Economy Security Act ("CARES Act").
- ▶ The USA government uses COVID-19 pandemic to roll back several environmental regulations (9) and implement other red *individual interventions* (5), while green recovery interventions remain almost completely absent (3).

2.2 Early practices of "green" and "red" economic recovery

In April 2020, early on in the pandemic's outbreak, the Climate Action Tracker introduced a green stimulus framework for policymakers in response to COVID-19 (Climate Action Tracker, 2020). The framework highlighted key green stimulus interventions for five key economic sectors, and outlined harmful actions to be avoided by countries.

Through this country-level analysis we find that key emitters are taking different approaches in their early economic recovery practices. The examples collected (Table 3) reemphasise the range of green

measures governments have at their disposal to design their economic recovery plans, but also highlights that governments have already implemented numerous red and carbon-intensive measures. Some countries are clearly using the pandemic as an excuse to continue an unsustainable 'business as usual', dominated by 'red' interventions –USA, Brazil, Mexico, Australia, South Africa, Indonesia, Russia, Saudi Arabia, Argentina, Turkey. We also found few but encouraging examples of countries taking steps in the right direction; this is the case for the EU and South Korea. So far, none of the countries we have analysed is yet taking a fully transformational approach, committing to make all possible recovery measures green.

Table 3: Overview of sector-level analysis on economic recovery activities

THE DO'S AND DON'TS OF GREEN ECONOMIC RECOVERY		August 2020
A reality check on key interventions governments have recently announced or implemented		
 <p>Energy and electricity supply</p>	<p>✓</p> <ul style="list-style-type: none"> ▶ China: Increase in solar and wind energy targets to 240 GW each for 2020 (Hove, 2020) ▶ South Korea: Increased support for solar and wind capacity deployment from 2020 onwards with special focus on large-scale offshore wind parks (Government of Republic of Korea, 2020) ▶ USA: Department of Treasury extends deadline for solar investment tax credit (ITC) and wind production tax credit (PTC) until the end of the 2021 (Department of Treasury, 2020) 	
	<p>✗</p> <ul style="list-style-type: none"> ▶ China: Relaxation of provincial permitting of coal plants inducing the potential construction of up to 40 GW of new coal capacity (Hale & Hook) ▶ India: Accelerated commercial coal mining by removing the coal end-use restriction on private parties with a first auction announced for 41 new coal mines in 2020 (Government of India, 2020b; Sarkar, 2020) ▶ Indonesia: Plans to subsidise fuel for industries and businesses using roughly 14% of the budget reserved for the National Economic Recovery (PEN) (Kontan.co.id, 2020) and two regulations in place to inject approximately USD 1 billion into state companies, incl. the coal-heavy national utility company PT PLN ▶ South Korea: Bailout of Doosan Heavy Industries & Construction Co. totalling around USD 2 billion without any green conditions such as coal phase-out requirements (Farand, 2020) ▶ USA: Waiver of reporting requirements for fossil fuel electricity generators under the Cross-State Air Pollution Rule, Acid Rain Program, and NO_x state implementation plan (SIP) (EPA, 2020) 	
 <p>Land-based transport and mobility</p>	<p>✓</p> <ul style="list-style-type: none"> ▶ China: Expansion of electric vehicle charging network by 50% in 2020 with an additional 600,000 charging stations to be installed in 2020 (Shen, 2020) ▶ India: Temporary tax increase on petrol and diesel in context of slumping international oil prices (Parashar, 2020) ▶ Nigeria: Removal of gasoline subsidies to save USD 2 billion annually (Bala-Gbogbo, 2020) ▶ South Korea: Extend a temporary tax cut on purchases of all-electric and hydrogen fuel-cell electric cars to 2022 (Deok-hyun, 2020) 	
	<p>✗</p> <ul style="list-style-type: none"> ▶ China: VAT reduction for second-hand cars by 1.5 %-points without any conditions to priorities more efficient cars (Garcia, 2020) and several <i>cash-for-clunker schemes</i> for conventional vehicles in Chinese provinces (Shepherd, 2020) ▶ South Korea: 30% tax deduction for car manufacturers and the reduction of car sales tax for new cars (from 5% to 1.5%) without preferential measures for electric or hydrogen vehicles (Deok-hyun, 2020) 	

 Aviation	<ul style="list-style-type: none"> ▶ Austria: Bailout of Austrian Airlines linked to several climate conditions such as reduction from domestic flight emissions by 2030, end of flights where a train connection under 3hrs exists, and minimum price for tickets via fees and taxes (Bannon, 2020b) ▶ France: Bailout of Air France linked to several climate conditions such as fleet efficiency improvements, reduction from domestic flight emissions by 2024, and a fuel mandate by 2025 (Bannon, 2020a) <ul style="list-style-type: none"> ✘ China: Civil aviation enterprises suspended from paying fees to the civil aviation development fund (Chua, 2020) ✘ South Korea: Around USD 2.5 billion bailouts of Korean Air and Asiana without any green conditions attached (Hyun-su, 2020) ▶ USA: CARES Act provides financial support to airline companies without any green conditions attached (Aratani, 2020)
 Industry	<ul style="list-style-type: none"> ▶ Denmark: Grants of USD 0.14 billion to fund electrification and energy efficiency in industry between 2020-24 to promote a "green transition" (Government of Denmark, 2020) ▶ India: Proposal to for setting up designated manufacturing hubs for renewable energy in India (Mohanty, 2020) ▶ United Kingdom: Funding of USD 0.18 billion to cut emissions in heavy industry by supporting the transition from natural gas to clean hydrogen power, and scaling up carbon capture and storage technology (Government of the United Kingdom, 2020) <ul style="list-style-type: none"> ✘ South Korea: Key Industry Relief Fund focusing on seven key industries (airline, automobile, shipbuilding, maritime shipping, machinery, power and communications) without any green conditions attached (Hosokawa, 2020) ▶ USA: Environmental Protection Agency suspends payment of penalties in environmental regulations (Friedman, 2020)
 Buildings	<ul style="list-style-type: none"> ▶ Germany: Extra funding for a CO2-focused building renovation programme, with an additional EUR 1 billion in 2020 and 2021 taking the annual totals to €2.5 billion (Government of Germany, 2020) ▶ South Korea: Retrofitting of old public facilities such as day-care centres, public health centres, public housing with a total investment of around USD 5.2 billion between 2020-2025 (Government of Republic of Korea, 2020) <ul style="list-style-type: none"> ✘ <i>No example of harmful actions identified in economic recovery activities as of August 2020</i>
 Land-use & environmental protection	<ul style="list-style-type: none"> ▶ India: Additional funds for CAMPA support plantation work, forest management, and wildlife conservation (India TV News Desk, 2020) ▶ South Korea: Component in <i>Green New Deal</i> to restore the terrestrial, marine and urban ecosystems (Government of Republic of Korea, 2020) <ul style="list-style-type: none"> ✘ Brazil: Deregulation of land use in the Amazon to stimulate economic activity in the region, such as relaxation of restrictions on logging, mining and other development permits for industrial actors (Vivid Economics, 2020) ▶ Indonesia: Ongoing discussion and remaining uncertainty on requirements on certification for wood production that raise concerns about increase in illegal logging (Iswara, 2020)

3 Current climate targets and action not enough to reach 1.5°C limit

Greening stimulus packages can have a much [greater impact on closing the emissions gap](#) and limiting global warming than the economic impact of the pandemic, as outlined in section 1. The results of our latest temperature assessment only serve to reinforce this point.

3.1 Economic impact of the pandemic has little long-term impact on temperature warming

Current global warming is now at 1.1°C above pre-industrial levels, and global average temperature will rise by 2.9°C, based on current policies (or policies governments are currently implementing) (WMO, 2020). This shows that governments are far from meeting the Paris temperature limit of 1.5°C.

The lockdowns and economic impacts caused by COVID-19 will cause emissions to drop in 2020 by about 5 to 9% below 2019 levels⁵. While emissions are likely to be lower in 2030 compared to a pre-COVID-19 scenario, due to the economic downturn, this reduction in emissions is not the result of any structural change in the economy or decarbonisation efforts and therefore will not be sustained in the long run.

The effect of a lower current policies scenario in 2030 on our estimate of temperature increase by 2100 is minimal, because we assume that the dip in emissions will not continue post-2030. This temperature estimate is slightly lower compared to last year's estimate for this reason and is more due to CAT methodological improvements rather than actual government action on climate (see technical annex for details).

The post-COVID-19 current policy scenario only considers the economic impact of the pandemic and does not yet consider the impact of any recovery or stimulus measures. To be compatible with the Paris Agreement's temperature goal, governments must ensure that the recovery supports the transition to a zero emissions society.

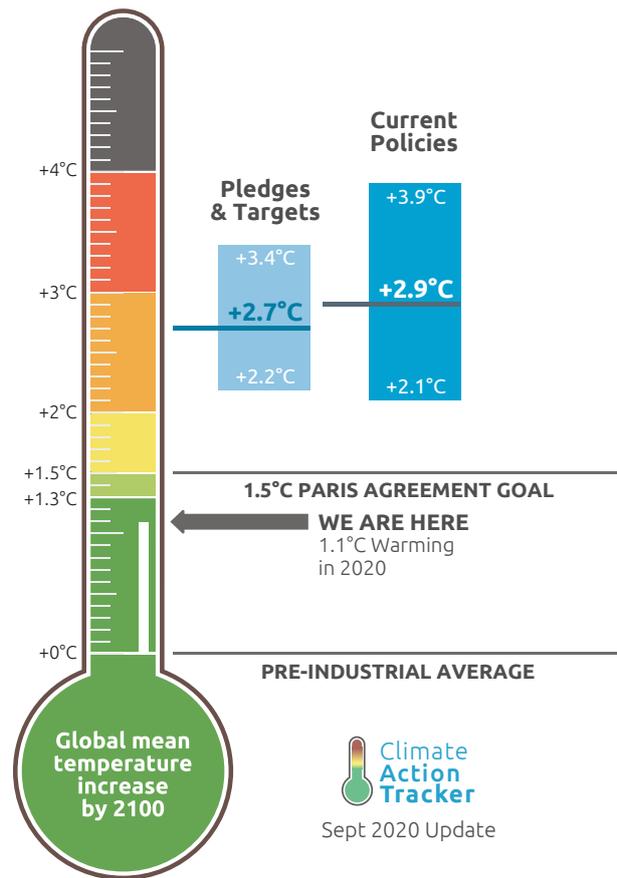


Figure 6: CAT warming projections of global temperature increase by 2100. September 2020 update.

⁵ This figure is based on the assessment of the Climate Action Tracker of the impact of the pandemic on emissions in 23 countries and the EU. We assume that global reduction in GHG emissions will be of the same order.

3.2 Few target improvements in 2020

If governments meet their current targets submitted under the Paris Agreement (Nationally Determined Contributions, or NDCs), the world is set to warm by 2.7°C by the end of the century⁶.

The few NDC updates that have been submitted to date are not enough to significantly impact the level of warming by the end of the century.

When they adopted the Paris Agreement in 2015, governments knew the targets they had put on the table would not be sufficient to meet the long-term temperature goal, so they agreed to update their NDCs 'by 2020', with more ambitious targets (UNFCCC, 2015). To date, only 12 countries have made submissions regarding their NDCs (see the CAT's [Climate Target Update Tracker](#) for more details as they come in).

However, the majority of these did not submit stronger targets⁷. Japan, New Zealand and Singapore submitted unchanged targets, meaning no increase in ambition compared to their first NDC targets submitted in 2016. Russia has proposed a new target within the context of its long-term strategy, which is still weaker than its own projection of current emissions. At the same time, Australia and Indonesia have *announced* that they will not submit stronger targets. The USA has withdrawn from the Paris Agreement entirely. These resubmissions and announcements are in conflict with the Paris Agreement's requirement that each successive NDC represent a progression beyond the level of ambition of the current one.

On the other side, Chile, Norway and Viet Nam have strengthened their NDCs. While Norway committed to deeper emission reductions, this was not enough to increase its CAT rating of 'Insufficient' and it still needs to scale up action to become Paris Agreement-compatible. Chile did improve the CAT rating of its unconditional target from 'Highly Insufficient' to 'Insufficient'. Viet Nam's strengthened its NDC on paper; however, the new target can still be met easily with current policies and will not drive further climate action.

COP26 has been postponed until late 2021 on account of the pandemic, but scaling up climate action cannot wait. The UNFCCC expects 80 countries to update their NDCs by the end of the year (Doyle, 2020). Urgent global action is needed and all governments have a role to play.

⁶ The figure is the median estimate of the projected temperature increase in 2100. It is likely (66% or greater change) that the average global temperature increase will be in the range of 2.2°C to 3.4°C. Note: for those countries who do not have an NDC (like the USA) or for countries whose current policy pathway is lower than their NDC, we use their current policy pathway in our Pledges & Targets scenario.

⁷ Out of the countries that the Climate Action Tracker analyses. The CAT has not analysed the submissions of Andorra, Jamaica, Marshall Islands, Moldova, Rwanda or Suriname.

3.3 Little development on the climate policy front

Our latest updates of 13 countries show 2020 has seen little significant climate policy development. For details see our updated [online country profiles](#) or click on the country name to go directly to that profile.



AUSTRALIA

Continuing with ineffective policies, investment in renewables drop and economic recovery focused on fossil fuels

The government has shown no intention of updating its Paris Agreement target, nor adopting a net zero emissions target. Renewable energy investments have dropped to 2017 levels due to lack of government policy direction with no new renewable energy target after 2020. The economic recovery is focusing on supporting the gas industry, with some support for coal as well.



BRAZIL

Accelerated environmental regulations rollbacks, growing deforestation and agriculture emissions

Brazil is heading the wrong direction having used the pandemic to further weaken environmental regulations. It seems unlikely that Bolsonaro's administration will seize the opportunity for a green recovery. The continued roll-back of forest protection policies is enabling even higher rates of deforestation and the policy landscape in agriculture sector remains stagnant.



CANADA

Time to deliver on climate action promises and focus on green recovery

Canada has promised to exceed its NDC and reach net zero emissions in 2050. However, the country continues to expand natural gas production and could expand coal exports, notwithstanding its membership in the Powering Past Coal Alliance. To date, the recovery plan has focused on helping fossil fuel interests pay for clean-up, with no financial support for the transition to zero emissions society.



CHINA

Hints of a green recovery, but still a long way to go; ongoing support for coal at odds with global shift

China's economic recovery has shown signs of improvement from its previous similar recovery packages, with hints of government's commitment to accelerating renewables and electric vehicles. China's commitment to coal remains concerning and at odds with the global decline in coal capacity. The recent phase-out of subsidies for renewables and EVs leads to uncertainty on the future of these sectors.



EUROPEAN UNION

Leading the way on climate policy, but still not Paris compatible, stronger NDC target being discussed

The EU27 has made climate mitigation one of the three main priorities of its economic recovery, the European Council agreed to spend at least 30% of the EU's multiannual budget and recovery for climate action. It will revamp most of its climate legislation, including its 2030 target, and adopt new measures as part of its European Green Deal.



INDIA

No new coal in 2020 but potential future growth still concerning

India has not built any new coal-fired power stations in 2020 but is still planning new coal. The government is encouraging more coal mining and production. India can accelerate the expansion of renewable energy and e-mobility, reduce emissions and capitalise on sustainable development benefits if it adopts a green economic recovery plan.



INDONESIA

Huge coal electricity pipeline and bailouts for coal-heavy utilities

Indonesia one of a handful of countries to start a new coal plant construction in 2020 and has the fourth largest coal pipeline (30GW), globally. Its economic recovery plan also bailed out coal-heavy utilities, which contradicts the urgent need to phase out coal by 2040.



JAPAN

Climate policy may be shifting away from coal to renewables, a revised energy mix target by mid-2021 is likely

Japan recently announced plans to phase out inefficient coal-fired power plants and restrict overseas financing of coal power. Despite potential loopholes and limitations, these plans, together with another recently announced plan to boost offshore wind (10GW by 2030), may signal a shift in Japan's climate policy positions.



MEXICO

Pandemic used as excuse to stifle renewables and promote fossil fuel; no strengthening of 2030 targets

Mexico has used the pandemic to pass several bills which effectively halt private investment in renewables and favours fossil fuel power generation. Even with the 2020 dip in emissions, Mexico needs to adopt ambitious policies to meet its NDC target, and use the NDC update process currently underway as an opportunity to strengthen its target.



RUSSIA

Continues to prioritise fossil fuels over renewables, on track to meet its weak target

Russia's new 2035 energy strategy continues to promote fossil fuel expansion for both domestic and export markets. The recent economic recovery package is entirely devoid of climate-related measures. Russia's proposed new 2030 target is still weaker than its own projection of current emissions.



SAUDI ARABIA

Oil exports declining, but very slow progress on diversification and renewables

Crude oil exports are down as global demand has shrunk. Contrary to the G20 commitment to phase out fossil fuel subsidies, the current G20 President announced further subsidies for its fossil fuel generated electricity in April 2020. While it has ambitious renewable energy targets, growth in installed capacity has been extremely slow.



SOUTH AFRICA

Shift to renewables at risk if opportunity to green the economic recovery is ignored

Prior to the pandemic, South Africa adopted its new electricity plan which would have contributed to the shift from coal to renewables. This plan could be undermined if carbon-intensive projects are prioritised as part of the economic recovery.



UNITED KINGDOM

Yet to walk green recovery talk or submit post-Brexit NDC, must scale up action to meet its 2050 net zero target

The government has yet to match its 'build back greener' rhetoric with strong action. The UK has strengthened policies since legislating its 2050 net zero target, but remains off-track to meet it. As upcoming COP26 President, the UK needs to lead by example and submit a 2030 NDC in line with its 2050 net zero goal.



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General framework

The Climate Action Tracker (CAT) has tracked a total of 106 national-level economic recovery, rescue, and regulatory rollback measures announced by five selected governments as of August 2020: China, India, the European Union (EU27)⁸, South Korea and the USA.

The CAT combines data inputs from the following publicly available data sources covering a range of countries. Country-specific literature available as of August 2020 further complements these data inputs.

- ▶ **Policy Response to COVID-19 Tracker** on fiscal and monetary measures taken in response to COVID-19 pandemic (IMF, 2020)
- ▶ **Energy Policy Tracker** on energy-related measures in recovery packages of G20 Member States (Energy Policy Tracker, 2020)
- ▶ **CarbonBrief Tracker** of green recovery measures of selected number of countries (CarbonBrief, 2020)
- ▶ **Green Stimulus Index** providing country-level overviews of measures taken by 17 countries (Vivid Economics, 2020)

The CAT collects the following information for all recovery, rescue, and regulatory rollback measures to the degree possible given currently available information as of August 2020.

- ▶ **Level of measure:** (1) Overarching package; (2) Individual intervention
- ▶ **Type of measure:** (1) Recovery; (2) Rescue; (3) Rollback
- ▶ **Measure's title** (in English and original language)
- ▶ **Sector:** (1) Economy-wide; (2) Energy, (3) Buildings, (4) Transport, (5) International bunkers, (6) Industry, (7) Agriculture, (8) Forestry
- ▶ **Status:** (1) Idea; (2) Announced; (3) Implemented; (4) Unclear
- ▶ **Expert judgement on level of 'greenness' of rescue and recovery measures:** (1) Green as per policy archetypes in Table 4 below; (2) Neutral; (3) Red as per policy archetypes in Table 5 below; (4) Unclear
- ▶ **Expert judgement on emission impact of rescue and recovery measures towards 2030:** (1) High; (2) Medium; (3) Low; (4) Unclear
- ▶ **Volume – USD** in billion USD
- ▶ **Volume as share of GDP 2019** in %
- ▶ **Volume – Local currency** in billions of local currency
- ▶ **Period of implementation**

The comparative analysis across these countries as of August 2020 provides insights on the *magnitude* of rescue and recovery activities, their *level of greenness*, and potential *impact on emission pathways* towards 2030.

⁸ For this analysis, we only look into measures decided by the EU27 (European Council) and not those proposed by individual Member States.

Green and red policy archetypes

The following present policy archetypes to define green (Table 4) and red (Table 5) economic recovery, rescue, and regulatory rollback measures. The archetypes build on the classification proposed by Vivid Economics (2020) that have been further adjusted by Dafnomilis et al. (2020).

Table 4: Classification of green policy archetypes. Source: Vivid Economics (2020) for sector-specific measures and Dafnomilis et al. (2020) for economy-wide measures.

Sector	Archetype	Description
Economy-wide (without an explicit sector-level focus specified)	Subsidies or tax reductions for green products	Tax rebates and other subsidies for households and/or companies to purchase low-carbon/zero-carbon products and services.
	Loan and grants for green investments	Direct investment in the form of loans or grants for low-carbon/zero-carbon investments such as public infrastructure and production technologies.
	Green R&D subsidies	Loans or research grants available to academic institutions, research centres, think tanks and private firms to develop low-carbon/zero-carbon technologies, products, and infrastructure.
	Corporate bailouts with green strings attached	Conditional bailouts (and respective budget lines) specifying requirements on emissions, pollutions, supply chain requirements, compliance to voluntary agreements and/or reporting standards.
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.
	Wildlife Trade Ban	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 on emissions, pollutions, supply chain requirements, or compliance to voluntary agreements or reporting standards.
	Loan and grants for green investments	Low carbon or low emissions public infrastructure for industry including CCS projects for industry, energy efficiency programs for existing buildings, investment in hydrogen economy and electrification of industry.

Sector	Archetype	Description
	Green R&D subsidies	Direct grants or loans available to research institutions, academic institutions, and private firms to develop low-carbon industrial infrastructure including natural based solutions, hydrogen, and electrification technologies.
	Subsidies or tax reductions for green products	Taxes for the use of primary materials in supply chain, subsidies offered to firms who undertake compliance in supply chain.
Transport	Bailouts with green strings attached	Conditional bailouts to air carriers, car manufacturers, or navigation 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 considerate to 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, ⁹ subsidisation of 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 who open incinerate waste without provisions for more sustainable waste management strategies.
	Loan and grants for green investments	Direct investment in recycling, MSW, 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 advancement 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.

⁹ Electric vehicles are not by default greener (i.e. less carbon-intensive) than internal combustion engines, but we consider them 'green' because the technology is essential for a transition towards net-zero. This is especially the case in context of a parallel low-carbon transition in the electric supply sectors worldwide.

Table 5: Summary of 'red' policy archetypes. Source: Vivid Economics (2020) for sector-specific measures and Dafnomilis et al. (2020) for economy-wide measures. Note: where Vivid Economics' (2020) used 'brown' we have replaced this with 'red'.

Sector	Archetype	Description
Economy-wide (without an explicit sector-level focus specified)	Roll-back of economy-wide regulation and environmental standards	Removal, elimination, weakening or (temporary) suspension of existing regulation and/or environmental standards, including the postponed introduction of planned regulation and standards.
	Subsidies, waived fees, or tax reductions for red products	Waiving, reducing, or directly subsidizing fees for households and/or companies to purchase high-carbon products and services.
	Loan and grants for red investments	Direct investment in the form of loans or grants for high-carbon investments such as public infrastructure and production technologies.
	Red R&D subsidies	Loans or research grants available to academic institutions, research centres, think tanks and private firms to develop high-carbon technologies, products, and infrastructure.
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 agriculture producers including farmers, fishers and cattle ranchers that do not require improvement in sustainable practices.
	Subsidies or tax reductions for red products	Introducing subsidies on high emissions agriculture 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.
	Red 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 red 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.

Sector	Archetype	Description
Industry	Subsidies or waived fees for environmentally harmful activities	Waiving permitting and environmentally-related fees for mining, construction or other heavy industrial sectors.
	Red 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 red industrial project development by removing environmental assessments.
	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 Red products	Reducing taxes on red 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.
	Red infrastructure investments	Direct government investment into infrastructure supporting red 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 red products	Reducing taxes on the sale of red 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.
	Red 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 industry who openly incinerate or do not use methane recapture, MRV systems, or other advanced waste management systems without requirements for meeting environmental reporting standards.

There are two significant changes from our last temperature assessment beyond any climate policy action: COVID-19 and new international aviation and international shipping emissions pathways. We ran multiple different scenarios in order to assess the effect of these factors and any climate policy changes on our temperature estimates (see Figure 7 and Figure 8).

Climate Policy

Since our last temperature assessment in December 2019, we have updated the current policy projections (apart from COVID-19 impacts) for 16 out of 26 assessed this year –Argentina, Australia, Canada, Costa Rica, Ethiopia, EU27+UK, Japan, Mexico, Morocco, New Zealand, Russia, Singapore, South Korea, Turkey, Ukraine and the USA. However, these updates had no impact on our median temperature impact (compare ‘2019’ to ‘2020 Pre-COVID-19’ in Figure 7).

COVID-19 economic impact

The Climate Action Tracker estimates end-of-century warming by [extrapolating](#) emissions in 2030 until 2100 based on AR5 emission pathways projections. We assume that the level of emissions in 2030 is representative of a certain structure of the economy. As the pandemic represents a temporary shock to the economic system and not structural change towards decarbonisation. Thus, it is not possible to simply extend this lower 2030 figure as it is not based on any structural change. To account for this dynamic, we extended the COVID-19 scenarios using the growth rates for the respective pre-COVID-19 scenarios in order to mimic the implied pre-COVID-19 transformation speed.

The corrected pathway shows that the pandemic will lower the temperature estimate of our current policies (or policies governments are currently implementing) by 0.08°C.

The corrected pathway shows that the pandemic will lower the pledges and targets temperature estimate by 0.03°C. This reduction is largely due to the fact that we use the current policy projections for those countries who do not have an NDC (like the USA) or whose current policies are lower than their NDC, and these current policies take into consideration the impact of the pandemic.

Figure 7 and Figure 8 contain the uncorrected estimates ‘2020 uncorrected COVID-19’ and the corrected pathway ‘2020 Post-COVID-19’.

Updated international aviation and shipping scenarios

We have updated the pathways used in our temperature analysis for [international aviation](#) and [international shipping](#) to correspond to the new assessments for these sectors that were [added](#) to the Climate Action Tracker earlier this year.

Both assessments include emissions projections until 2050. We extended the scenarios to 2100 by applying the growth rates of the closest fitting CMIP6 SSP scenario. The projected pathways are harmonised to emissions in 2015.

These updated pathways reduce the temperature estimates of both our pledges and targets scenario and our current policies scenario by 0.07°C (see ‘2020 Post-COVID-19 & Updated Bunkers’ in Figure 7 and Figure 8).

These reductions in temperature is due to the improvements in our methodology, rather than enhanced action in the sectors, and included the anticipated economic impacts of COVID-19 on these sectors.

Current Policies warming projections estimate

Impacts from methodological changes in warming estimate

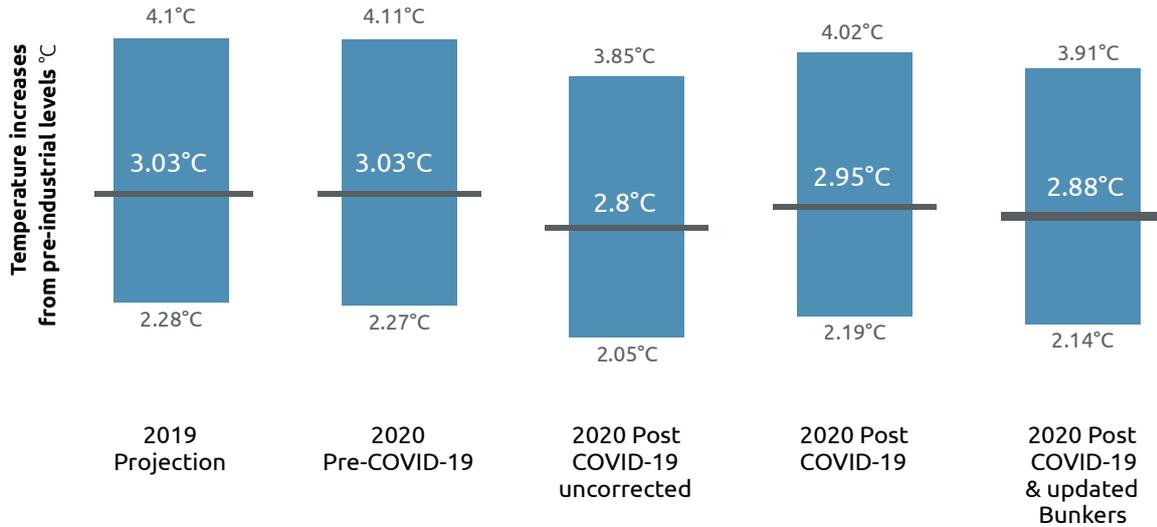


Figure 7: Global mean temperature estimates for 2100 under the 'current policies' scenario

Pledges & targets warming projections estimate

Impacts from methodological changes in warming estimate

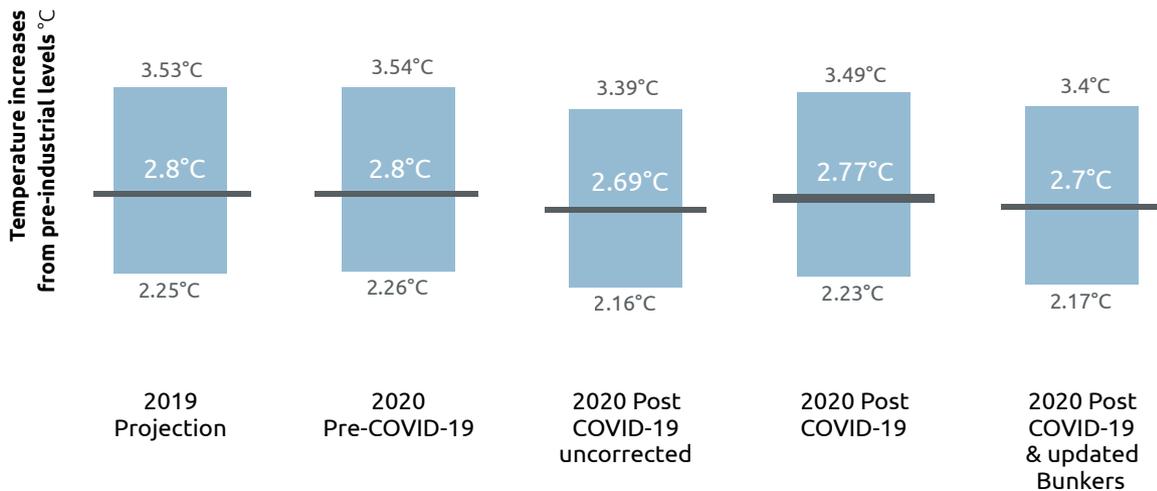


Figure 8: Global mean temperature estimates for 2100 under the 'pledges and targets' scenario