

Overview of recently adopted mitigation policies and climate-relevant policy responses to COVID-19

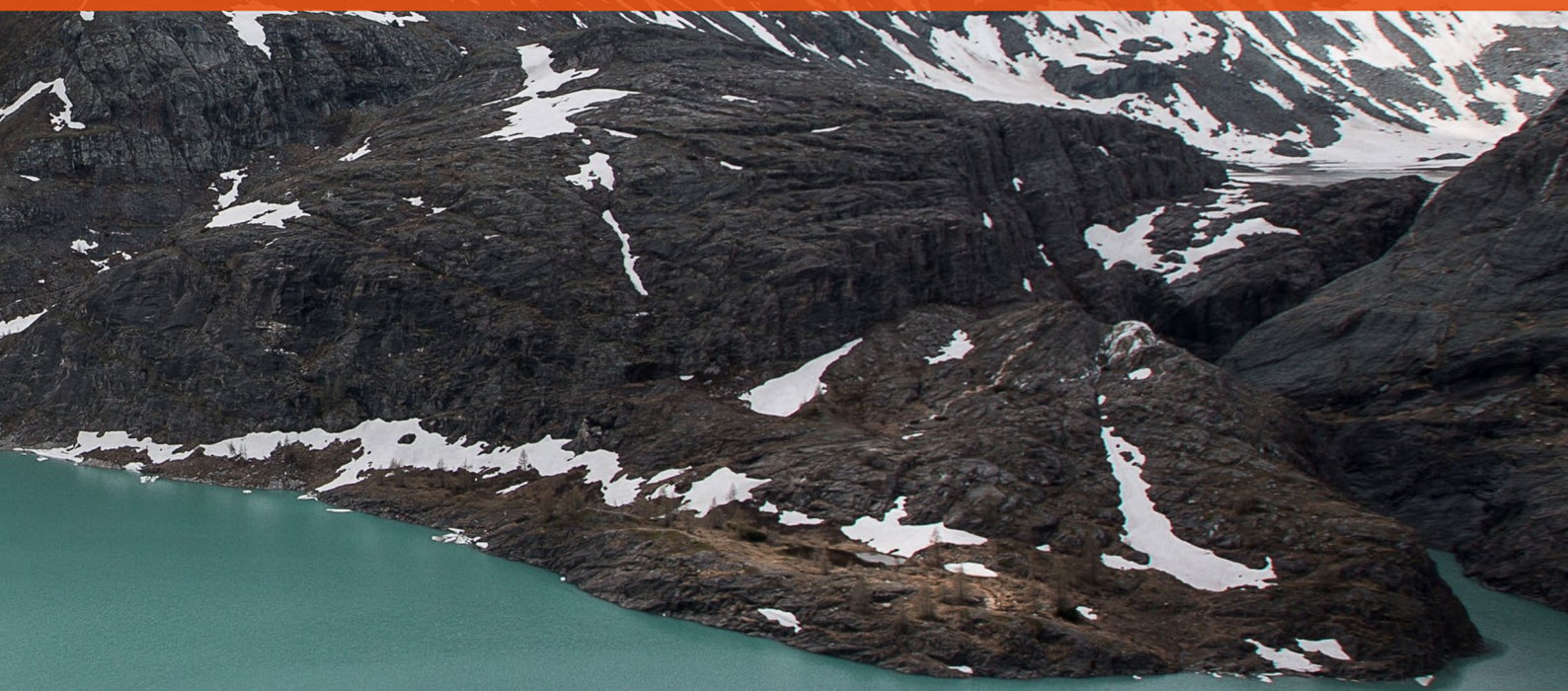
2020 Update

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Project number

319041

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This report has been prepared by PBL/NewClimate Institute/IIASA under contract to the European Commission, DG CLIMA (EC service contract N° 340201/2019/815311/SERICLIMA.C.1 “Analytical Capacity on International Climate Change Mitigation and Tracking Progress of Action”) started in December 2019. This project is funded by the European Union.

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Acknowledgements

This report was financed by the European Commission's Directorate-General for Climate Action (DG CLIMA). We thank Miles Perry (DG CLIMA) for his feedback on an earlier draft. We also thank our colleagues Victoria Fischdick and Nicolas Fux (NewClimate Institute) for their support on the design and communications of this report, and Pieter Boot (PBL) for his comments. This report benefited from the analyses conducted under the Climate Action Tracker project, led by NewClimate Institute and Climate Analytics, and the Horizon 2020 ENGAGE project (grant no. 821471).

Summary

This document contains three sections with information on the following for 25 selected countries:

- An overview of recent mitigation policies across all sectors
- An overview of COVID-19 response measures, with selected “green” and “grey” measures screened for climate impact
- A state of play on updated Nationally Determined Contributions (NDCs) and long-term low greenhouse gas emission development strategies (LTS)

The 25 countries and regions assessed in this document are: Argentina, Australia, Brazil, Canada, China, Colombia, Egypt, Ethiopia, the European Union (EU),¹ India, Indonesia, Iran, Japan, Mexico, Morocco, Republic of Korea, the Russian Federation, South Africa, Saudi Arabia, Thailand, Turkey, Ukraine, the United Arab Emirates (UAE), the United States and Vietnam. These 25 countries and regions cover all of the G20 countries (excluding the three individual EU member states and the United Kingdom) and comprise about 79% and 78% of total global GHG emissions excluding LULUCF and including LULUCF respectively in 2018 (Crippa *et al.*, 2019; FAO, 2020a).

This report includes over 60 mitigation policies that were adopted or under development between July 2019 and August 2020. Our analysis shows higher policy activity in the energy sector (25 entries), followed by the transport sector (12 entries), land use, land use change and forestry (eight), buildings (two), and agriculture (one). There were also 16 new cross-sectoral policies. This time no new policies were noted in the industry and waste sectors.

Most policy developments are expected to contribute to GHG emissions reductions; however, we have also identified explicit policies that could increase GHG emissions in at least four countries. These include the expansion of fossil fuel exploration in Colombia, a stimulus to palm oil biodiesel production in Indonesia, potential mining in protected area in Brazil, and several proposed rollbacks of legislations and regulations set under the previous administration in the United States.

The report also provides an overview of COVID-19 response measures implemented in the selected countries and regions and, where possible, identifies sustainable “green” measures and unsustainable “grey” measures. Our assessment indicates that, with exceptions of the EU and Republic of Korea, most countries have not dedicated large shares of their recovery explicitly to “green” measures.

Countries are expected to formulate or submit their updated NDCs and long-term development strategies well in advance of COP26 in 2021. Of the 25 countries and regions assessed here, only Vietnam has officially revised its NDC target, whereas Japan resubmitted its original NDC target in March 2020. The European Commission has proposed a strengthened target for the EU to at least 55% emissions reduction below 1990 levels by 2030 (compared to at least 40% previously), but this target is yet to be approved (European Commission, 2020). In September 2020, Premier Xi Jinping signalled China’s intent at bringing forward its peaking year target for CO₂ emissions, but it is still unclear whether this will be reflected in China’s next NDC.

The development of net zero emissions targets and strategies is gaining momentum. Among the 25 countries and regions assessed, three countries and regions have submitted their long-term strategies with net-zero targets: the EU aims for net-zero GHG emissions by 2050, Japan aims to achieve a decarbonised society as early as possible in the second half of this century, and South Africa aims for net zero carbon emissions by 2050. In addition, China announced in September 2020 that it would aim for carbon neutrality by 2060. With China’s announcement, countries with similar net-zero announcements are responsible for more than half of global GHG emissions today (Climate Action Tracker, 2020a).

¹ Our analysis refers to the EU-27, excluding the United Kingdom. The UK has left the EU but is in a transition period until the end of 2020, during which the NDC submitted by the EU still applies to it.

1 Introduction

This report is divided in three sections showcasing recent mitigation policy developments, climate-relevant responses to the COVID-19 pandemic and an overview of Nationally Determined Contributions (NDC) and long-term, low-emissions development strategies (hereafter referred to as long-term strategies or LTSs) submitted to the UNFCCC.

The first section of this document (Table 1) presents an overview of climate and energy policies mostly adopted between July 2019 and August 2020 in 25 countries and regions. NewClimate Institute, PBL and IIASA have been tracking progress of climate change mitigation in most of these 25 countries since 2016. The policy information compiled by NewClimate Institute, PBL and IIASA in this document supplements the December 2019 report on the projected greenhouse gas (GHG) emissions under currently implemented policies and mitigation commitments (Kuramochi *et al.*, 2019), and is an update of a similar report published in June 2019 (NewClimate Institute, PBL and IIASA, 2019)

The 25 countries and regions assessed in this document are: Argentina, Australia, Brazil, Canada, China, Colombia, Egypt, Ethiopia, the European Union (EU)², India, Indonesia, Iran, Japan, Mexico, Morocco, Republic of Korea, the Russian Federation, South Africa, Saudi Arabia, Thailand, Turkey, Ukraine, the United Arab Emirates (UAE), the United States and Vietnam.³ These 25 countries and regions cover all of the G20 countries (excluding the three individual EU member states and the United Kingdom) and comprise about 79% and 78% of total global GHG emissions excluding LULUCF and including LULUCF respectively in 2018 (Crippa *et al.*, 2019; FAO, 2020a).⁴ Among the 25, Iran and Turkey have not ratified the Paris Agreement as of September 2020, while the United States has submitted its intent to withdraw from the Paris Agreement, which would come into effect in November 2020 (U.S. Department of State, 2019).

The adopted policies presented in this document are mainly legislative decisions, executive orders, or their equivalent. Policy targets and strategies presented include those adopted by the parliament or the cabinet in respective countries but exclude those only announced by ministers for example. We further only include measures that have direct effect on reducing GHG emissions, and thus do not include all supporting policies or policy instruments, such as regulation on monitoring and reporting emissions, or sector-specific supporting policies. Some decisions that could classify as climate mitigation policies have been passed as recovery measures to the COVID-19 pandemic; for the sake of clarity and consistency these have all been included under the section on COVID-19 responses (see Table 2).

This document also presents, whenever appropriate and relevant, draft legislations that are likely to be adopted as well as the development status of proposed policies that may have significant impact on future GHG emissions; these policies are presented with a tag: “[Under development]”. Sub-national (e.g. city- or region-level) targets and policies as well as action commitments by companies are not included, as these are difficult to quantify in our frameworks, although these are important in countries such as Australia, Canada, India, the United Arab Emirates and the United States. For Australia, we have however noted that all states now have net-zero emissions targets or strategies for 2050 despite

² Our analysis refers to the EU-27, excluding the United Kingdom. The UK has left the EU but is in a transition period until the end of 2020, during which the NDC submitted by the EU still applies to it. The UK will need to submit its own NDC to be valid from 2021 onwards.

³ The list of 25 countries has changed compared to the 2019 edition: this year we have added Egypt, Iran, the United Arab Emirates and Vietnam. We have not included updates for Chile, Democratic Republic of the Congo, Kazakhstan, and the Philippines.

⁴ The emissions data from the EDGAR database excludes short-cycle biomass burning (e.g. agricultural waste burning and savannah burning) but includes other biomass burning (e.g. forest fires, post-burn decay, peat fires and decay of drained peatlands).

the federal government not having one. Similarly, for the EU, this document does not cover member state-level policies with the exception of coal power plant phase-out policies.

The second section of this report (see Table 2) displays an overview of economic response measures to the COVID-19 pandemic that are relevant to climate policy under section 3. Wherever possible, we identified “green” and “grey” recovery measures, based on the classification used by Vivid Economics (2020); “green” measures stimulate economic activity in the short term while contributing to the reduction of GHG emissions and other environmental impact, while “grey” measures include those that lead to a rebound and/or lock-in of fossil fuel consumption and GHG emissions. Note that the information and the assessment provided in the overview table may not provide a complete picture of the COVID-19 response measures for several countries, partly because of the lack of publicly available comprehensive datasets on the COVID-19 response measures for those countries.

The third and final section of this report presents the latest developments for updated Nationally Determined Contributions (NDCs) and mid-century, long-term low GHG emission development strategies (hereinafter, “long-term strategies”) submitted to the UNFCCC as of August 2020. Under the Paris Agreement, Parties are invited to submit updated NDCs and their long-term strategies by 2020. Their development status has been slow among G20 members, partly due to the COVID-19 and the consequent postponement of COP26 to 2021. The UNFCCC has encouraged countries to formulate and submit their updated NDCs and long-term strategies well in advance of COP26, which is currently scheduled for November 2021.

2 Non-exhaustive overview of mitigation policies adopted between July 2019 and August 2020

Table 1: Overview of climate mitigation policies adopted or planned between July 2019 and August 2020. Information on draft legislations and other ongoing policy formulation processes are labelled with “[Under development]”.

Country/ region	Sector	Name (date)	Description of the policy	References
Argentina	Cross-cutting	Minimum Budget for adaptation and mitigation of climate change (Law 27.520, December 2019)	The Law establishes minimum budgets for the management of climate change, including for the design and implementation of mitigation and adaptation policies, actions, instruments and strategies. The law makes provisions, amongst others, for the development of a National Climate Change Response Plan, a National System for GHG Inventory and Monitoring of Mitigation, to institutionalise and give continuity to the National Climate Change Cabinet.	(National Congress of Argentina, 2019a)
	Cross-cutting	National Plan of Adaptation and Mitigation to Climate Change (Resolution 447/2019, November 2019)	Preparation of a national plan that aims to advance in the fulfilment of Argentina’s climate change commitments and the national action plans for all sectors (energy, transport, agriculture, industry, health, infrastructure and territory and forests). The document responds to the need to address the challenges of climate change in a coordinated manner, being a public policy instrument that guides the actions in the medium and long-term	(Secretaría de Ambiente y Desarrollo Sustentable, 2019)
	LULUCF	National plan for the restoration of native forests (resolution 267/2019, July 2019)	Creation of the National Plan for the Restoration of Native Forests, which seeks to restore 20 million hectares of native forest per year by 2030.	(Secretaría de Ambiente y Desarrollo Sustentable, 2019)
Australia	Cross-cutting	State level 2050 net-zero emissions targets (July 2020)	While the federal government has not adopted a net-zero emissions target, all states and territories have done so. The last to adopt a 2050 net-zero target was the Northern Territory in July 2020.	(Climate Council, 2020)
	Cross-cutting	Technology Investment Roadmap	In May 2020, the Technology Investment Roadmap Discussion Paper was released for public consultation, followed by consultation processes with specific sectors in June-July. The document supports “technology neutrality”. It specifies that in Q3 of 2020, the first annual Low Emissions	(Government of Australia, 2020b)

Country/ region	Sector	Name (date)	Description of the policy	References
Australia (continued)			Technology Statement is to be delivered to Parliament so that the Long-Term Emissions Reduction Strategy can be released before COP26.	
	Energy	Energy Efficient Communities Program (measures announced in 2019, in operation since April 2020)	Through this program, the Australian government will provide AUD 40 million (EUR 24 million) in grants for businesses and community organisations to invest in energy efficiency (e.g. through equipment upgrades, emissions monitoring systems, etc.).	(Government of Australia, 2020)
Brazil	Energy	Ten-Year Energy Expansion Plan (PDE 2029) (February 2020)	PDE's primary purpose is to indicate the prospects of expansion of the energy sector with a horizon of ten years, from the perspective of the Brazilian Government. PDE targets 40 GW wind, 16 GW biomass, 9 GW small hydropower and 104 GW large hydropower installed by 2029. It further targets 48% renewable share (36% excluding hydropower) in total primary energy supply by 2029, and 81% renewable share (34% excluding hydropower) in total electricity generation by 2029.	(Energy Research Office (EPE) of Brazil, 2020)
	Transport	Rota 2030 – Mobility and Logistics (December 2018, ongoing)	Rota 2030 replaces the expired Inovar-Auto Program. However, the energy efficiency goals stipulated in Inovar-Auto, to be reached in 2017, remain valid until 2022. From 2023 onwards, a new minimum reduction of consumption compared to 2017 levels will be required. Targets differ per vehicle category: <ul style="list-style-type: none"> • 11% for cars and light commercial vehicles • 4.9% for 4x4 vehicles and large SUVs • 8.6% for light trucks or for vehicles up to 12 passengers 	(Ministry of Economy of Brazil, 2018)
	Transport, LULUCF	Changes in the biodiesel blending mandates (March 2020, August 2020)	In March 2020, the Brazilian government raised the biodiesel blending mandate from 11% to 12% (target of 15% in 2023). In August 2020, the mandate was temporarily lowered to 10%, and the measure is on-going until at least November 2020.	(FAO, 2020b; S&P Global, 2020)

Country/ region	Sector	Name (date)	Description of the policy	References
Brazil (continued)	LULUCF	Bill 191/2020 Proposal for authorising economic activities in indigenous lands [Under development]	The bill, passing through the Congress, would allow economic activities, such as mining and electricity generation, to take place in protected areas by paying a compensation to the indigenous communities.	(Observatório do Clima, 2020; The Executive Office of the President, 2020)
Canada	Cross-cutting	Federal Greenhouse Gas Offset System [Under Development]	Canada is developing a federal GHG offset system that would cover activities not covered by carbon pricing. Initially, the system will focus on voluntary projects in agriculture, waste and forestry. Credits generated under the system can be used to reduce the compliance costs of industrial facilities covered by the Output-Based Pricing System (OBPS) component of Canada's Greenhouse Gas Pollution Pricing Act.	(Environment and Climate Change Canada, 2020)
	Energy	Approved expansion of Coalspur Vista Coal Mine Phase II Expansion Project (December 2019, July 2020)	The Minister of Environment and Climate Change declined to subject an expansion of the mine to a federal impact assessment in December 2019, but reversed his decision in July 2020. If approved, the expansion will begin in 2022 and could increase annual production by 5 million tons of coal every year.	(Government of Alberta, 2020; Impact Assessment Agency of Canada, 2020)
	Energy	Emissions Reduction Fund for reducing methane in oil and gas sector (April 2020)	The government announced a CAD 750 million (EUR 480 million) Emissions Reduction Fund for reducing methane emissions in the oil and gas sector and to establish a leak detection and repair programme to reduce fugitive emissions.	(Natural Resources Canada, 2020)
	Transport	Clean Fuel Standard [under development]	The Clean Fuel Standard aims to achieve annual GHG emission reductions of 30 Mt by 2030 and will cover all fossil fuels (but with separate requirements for liquid, gaseous and solid fuels). The regulations for the liquid fuel class will be the first regulation published, and are expected to come into force in 2022.	(Government of Canada, 2020b)
China	Energy	Circular on 2023 risk and early warning for coal power planning and	The new coal-fired power monitor up to 2023 was published in early 2020. The monitor allows or restricts provinces to permit construction of new coal-fired power plants. Restrictions were rolled back compared to	(China Energy Portal, 2020b; National Energy Administration, 2020)

Country/ region	Sector	Name (date)	Description of the policy	References
China (continued)		construction (February 2020)	last year (2022 risk monitor), and more provinces were green-lighted for new plants.	
	Energy	Key points of the work to resolve the excess capacity of coal power, coal mining, and steel in 2020 (June 2020)	Continued supply-side structural reform of coal and steel industries to resolve inefficiency and overproduction through a range of policy initiatives. retiring of plants, restricting new production, improved reporting mechanisms, monitoring of illegal projects, etc).	(China Energy Portal, 2020a)
	Transport	NEV market share target increase (December 2019)	The target for the new energy vehicles (NEVs) market share in all car sales was raised from 20% to 25% in 2025.	(Yukun and Jia, 2019)
	Transport, LULUCF	Suspension of the rollout of a 10% bioethanol blending mandate (January 2020)	Declining maize stocks and capacity constraints led the government to suspend the rollout of a 10% bioethanol blending mandate.	(FAO, 2020b)
	LULUCF	Revision of Forestry Law of the People's Republic of China (December 2019)	In 2019, China revised its Forest Law for the first time in 20 years, with the most significant policy change the implementation of a ban (in effect as of July 2020) on the purchasing, processing, or transport of illegal logs for Chinese companies. The law enhances protection for forests classified by the law as public-benefit, natural, protected, or rare.	(Xinhua, 2019)
	LULUCF	Revision of Land Administration Law of the People's Republic of China (August 2019)	The law, which became effective in January 2020, re-affirms a policy redline of a minimum of 120 Mha of arable land. In case of conversion of agricultural land, the law requires the same area and quality of land be reclaimed for agricultural use.	(Library of Congress, 2020)
	LULUCF	15-year plan (2021-2035) to protect ecosystems (June 2020)	Tasks include the increase of forest cover to 26% by 2035, the increase of grassland vegetation cover to 60%, and the increase of nature reserve areas to 18% of national land area.	(Government of China, 2020)

Country/region	Sector	Name (date)	Description of the policy	References
Colombia	Energy	Non-conventional renewable energy auction (October 2019)	In October 2019, the Ministry of Energy carried out the first tender in the country for non-conventional renewable energy (excluding hydropower). Eight projects, totalling 1.3 GW of wind and solar, were awarded with 15-year power purchase agreements.	(Ministry of Mines and Energy of Colombia, 2019)
	Energy	Guidelines to start fracking pilot projects, Decree 328 of the Ministry of Mines and Energy (February 2020)	Decree 328 of February 2020 sets the regulatory framework to start pilot projects for the exploration and exploitation of oil and gas with fracking techniques in Colombia. This regulatory framework sets the basis to legalise and develop the exploration and production of non-conventional oil and gas in Colombia, which could drive significant investment to the oil and gas industry.	(Ministry of Mines and Energy of Colombia, 2020)
	Transport	Measures to reduce emissions from mobile sources, Law 1972 (July 2019)	Law 1972 of 2019 establishes measures to reduce emissions of diesel-fuelled vehicles and motorcycles. As of 2021, all new motorcycles will have to comply with the maximum permissible emission limits corresponding to Euro III, their equivalent or higher. As of 2023, new land-based mobile sources with diesel engines will have to comply with the maximum permissible emission limits corresponding to Euro VI technologies, or higher. As of 2035, all diesel-based vehicle stock must comply with these limits.	(National Congress of Colombia, 2019)
Egypt	[-]	No significant policy developments noted		
Ethiopia	Cross-cutting	Climate Resilience Green Economy (CRGE) Strategy [Under development]	The Ethiopian government is reviewing the existing CRGE Strategy. The current version published back in 2011 with visions for 2025. The release of the updated CRGE was planned for Q1 2020 but has been postponed. There is no further information available on content.	(Climate Action Tracker, 2020c)
	LULUCF	Second Green Legacy Campaign (June 2020)	On World Environment Day in June 2020, Ethiopia's Prime Minister launched the Second Green Legacy Campaign aiming to plant 5 billion seedlings. This goal was reportedly achieved in August 2020.	(Ethiopian News Agency, 2020; Ethiopian Press Agency, 2020)

Country/ region	Sector	Name (date)	Description of the policy	References
European Union ⁵	Cross-cutting	European Green Deal (December 2019)	The European Green Deal (EGD) is a general framework for climate action that includes proposals for several policy initiatives. The EGD aims to be Europe's "growth strategy" and the initiatives aim to operationalise the objective to reach net-zero GHG emissions by 2050. As part of the EGD, an impact assessment is also under preparation to provide recommendations on the EU's strengthened 2030 climate target.	(European Commission, 2020a)
	Cross-cutting	Proposal for a European Climate Law (March 2020)	The European Commission (the EU executive branch) proposed a European Climate Law in March 2020 to provide a legal framework for the European Green Deal and to make the 2050 net-zero GHG emissions target binding.	(European Commission, 2020c)
	Energy	Coal power phase-out plans in member states (ongoing)	<p>The following coal phase-out plans were announced in past year:</p> <ul style="list-style-type: none"> • Germany confirmed its coal phase-out by 2038 in January 2020 • Greece and Hungary announced phase-out plans for 2028 and 2030 respectively in September 2019 • Portugal announced an accelerated phase-out from 2030 to 2023 in October 2019 • Slovakia declared in June 2019 it would stop using coal for electricity production by 2023 <p>Other previously announced plans include Denmark (2030), Finland (2029), France (2021), Ireland (2025), Italy (2025), and the Netherlands (2029).</p> <p>Belgium (2016), Austria (2020), and Sweden (2020) are the only member states to have achieved a coal phase-out. The following six member states have no coal in their electricity mix: Cyprus, Estonia, Latvia, Lithuania, Luxembourg, and Malta.</p>	(UNEP, 2019; Europe Beyond Coal, 2020)

⁵ Our analysis refers to the EU-27, excluding the United Kingdom. The UK has left the EU but is in a transition period until the end of 2020, during which the NDC submitted by the EU still applies to it. The UK will need to submit its own NDC to be valid from 2021 onwards.

Country/ region	Sector	Name (date)	Description of the policy	References
EU (continued)			This leaves seven member states without a coal phase-out plan: Bulgaria, Croatia, Czechia, Poland, Romania, Slovenia, and Spain.	
	LULUCF	EU Biodiversity Strategy for 2030 (May 2020)	Part of the European Green Deal, a strategy by the European Commission which proposes several actions related to biodiversity, including the aim to legally protect 30% of the area in the EU, of which 30% would be strictly protected.	(European Commission, 2020a, 2020b)
	Agriculture, LULUCF	EU Farm to Fork Strategy (December 2019)	Part of the European Green Deal, a strategy by the European Commission related to fair, healthy and environmentally-friendly food systems.	(European Commission, 2020a)
India	[-]	No significant policy developments noted		
Indonesia	Energy	Bill on renewable energy [Under development]	The details of the regulation are not yet public, but the draft legislation awaits presidential approval. The regulation will define the rule for the calculation of feed-in-tariffs for renewable energy other than geothermal.	(The Jakarta Post, 2020)
	Transport, LULUCF	Raising of the biodiesel blending mandate (January 2020)	Nationwide mandatory biodiesel blending rate was raised from 20% to 30%, with a plan to achieve a 40% blending rate by 2022.	(FAO, 2020b)
Iran	[-]	No significant policy developments noted		
Japan	Energy	Phase-out of old and inefficient coal-fired power plants (July 2020)	On 3 July 2020, the Minister of Economy, Trade and Industry (METI) announced that Japan would develop concrete plans to phase out inefficient coal-fired power plants. He provided few details, but news reports suggested the government was considering shutting down or mothballing about 100 out of total of 110 existing inefficient coal plants by 2030.	(METI, 2020c; The Japan Times, 2020)

Country/ region	Sector	Name (date)	Description of the policy	References
Japan (continued)	Energy	New strategy on coal-fired power plant finance overseas	On 9 July 2020, the Japanese government stated in its new strategy document on infrastructure exports that it will - in principle - not finance coal-fired power plants in countries that do not have a decarbonisation strategy in place. While the new export strategy does not completely ban new coal finance overseas and does not apply to running projects, it marks a significant change from the previous strategy, in which coal power was identified as a pillar of the export strategy.	(Government of Japan, 2020b)
	Energy	Mid-term deployment plan for offshore wind power (July 2020)	In July 2020, a METI committee was set up to formulate a plan to install 10 GW of offshore wind power capacity by 2030, compared to the current total installed capacity of 65 MW (2018 figure; IRENA, 2020). While we do not consider this plan in our emissions projections, it would lead to an additional renewable electricity generation of about 26 TWh/year or 2.5% of total electricity generation in 2030 (assuming a 30% capacity factor).	(METI, 2020a; The Mainichi, 2020)
Mexico	Cross-cutting	National Strategy to Reduce Short-Lived Climate Pollutants (January 2020)	This strategy presents a roadmap to reduce short-lived climate pollutants in order to improve air quality, mitigate climate change and reduce health and ecosystem impacts. These pollutants include black carbon, methane, tropospheric ozone and HFCs.	(INECC, 2019)
	Cross-cutting	ETS pilot programme (January 2020)	In 2017, Mexico began a simulation of a voluntary Emissions Trading Scheme (ETS) and the General Climate Change Law makes the scheme mandatory as soon as its three-year pilot phase concludes. The pilot phase—originally planned to start in August 2018—started operation in January 2020. The ETS will not replace the existing carbon tax.	(SEMARNAT, 2019)
	Cross-cutting	3 rd Special Programme on Climate Change 2020-2024 (PECC, in Spanish) [under development]	The 3 rd PECC has been developed and approved by the Intergovernmental Climate Commission but awaits approval by the Federal Government. It is expected to be published this year, covering the period 2020-2024. This document is to include short-term mitigation and adaptation goals per sector, as well as a list of concrete actions,	(SEMARNAT, 2020)

Country/ region	Sector	Name (date)	Description of the policy	References
Mexico (continued)			budget and responsibilities at federal and state level to achieve the goals.	
	Energy	Special Programme for Energy Transition [under development]	The Special Programme for Energy Transition (2019 – 2024) includes measures to achieve the goal to have 35% of the country's electricity coming from clean sources, in line with the Energy Transition Law. One of the primary objectives of this Programme is to establish the national oil company Petróleos Mexicanos (Pemex) and the Federal Electricity Commission (CFE), both state-owned institutions, as strategic operators in the energy transition process.	(Government of Mexico, 2020d)
	Transport	National Strategy on Electro Mobility [under development]	The policy aims at introducing 500,000 hybrid light-duty vehicles and 7,000 heavy-duty vehicles by 2030; and that ten urban areas have electric mobility; to reach 50% share of hybrid or electric by 2040; and 100% share by 2050.	(Portal Ambiental, 2019)
Morocco	Cross-cutting	2030 National Climate Plan (2019)	This document does not present any new climate policies but confirms targets and measures from the first NDC.	(Kingdom of Morocco, 2019)
Republic of Korea	Energy	Ninth Electricity Plan [under development]	<p>The draft Ninth Electricity Plan aims to further accelerate the transition from fossil fuels and nuclear power to renewables by generating electricity in 2034 by: 17% nuclear, 15% coal, 32.3% natural gas, and 40% renewables.</p> <p>The draft targets suggest significant upward revisions in shares of natural gas and renewables and a downward revision of coal shares compared to the Eighth Electricity Plan for 2030 (23.9% nuclear, 36.1% coal, 18.8% natural gas, and 20% renewables).</p>	(Yonhap News Agency, 2020b)
Russia	Energy	Energy Strategy 2035 (June 2020)	The latest energy strategy, approved in June 2020, describes the expected development of the country's energy sector for the next 15 years. The strategy focuses on fossil fuels industries. It describes how	(Ministry of Energy of the Russian Federation, 2020)

Country/ region	Sector	Name (date)	Description of the policy	References
Russia (continued)			Russia aims to secure its energy-exports position internationally by projecting an increase in production of coal and gas. The strategy only briefly outlines planning for energy efficiency, renewables other than hydro, and alternative synthetic fuels.	
Saudi Arabia	Energy	National Renewable Energy Program (launched in 2017, ongoing)	The National Renewable Energy Program is part of Saudi Arabia's Vision 2030 initiative. Round 3 of the program was launched in January 2020, tendering 1.2 GW of solar PV. A total of close to 2.2 GW of solar PV have been tendered so far in rounds 1 and 2.	(Government of Saudi Arabia, 2020)
South Africa	Energy	Integrated Resource Plan (IRP2019, passed in October 2020)	IRP2019 is the first update of the original IRP2011. <ul style="list-style-type: none"> • IRP2019 aims to decommission over 35 GW (of 42 GW currently operating) of Eskom's coal generation capacity by 2050, with 5.4 GW already by 2022 and 10.5 GW by 2030 • 7.2 GW of new coal capacity will be built (5.7 GW already under construction 1.5 GW to be commissioned by 2030) • Renewables-based power generation capacity to increase with an additional 15.8 GW for wind and 7.4 GW for solar by 2030 • No new nuclear capacity procurement actual capacity planning until 2030 but operational lifetime of the Koeberg power plant by 20 years suggested 	(Department of Energy, 2019)
	Transport	Biofuels Regulatory Framework (BRF) to implement Biofuels Industrial Strategy (February 2020)	The Biofuels Industrial Strategy, which falls under the Petroleum Products Act, mandates biofuel blending of 2%–10% for bioethanol and a minimum of 5% for biodiesel from 2015 onwards <ul style="list-style-type: none"> • Biofuels Regulatory Framework (BRF) of February 2020 implements the Biofuels Industrial Strategy • Uncertainty remains on the socio-economic benefits to be achieved through the BRF, the carbon-intensity of South African biofuels, and the actual uptake of 1st and 2nd generation biofuels over time 	(WWF, 2020)

Country/region	Sector	Name (date)	Description of the policy	References
Thailand	Energy	Alternative Energy Development Plan (AEDP) 2018–2037 (July 2019)	An update from the 2015 revision, the latest plan aims to achieve the following renewable power capacities by 2037: 15.6 GW for solar, 5.8 GW for biomass, 3 GW for wind, 3 GW for hydro including imports from Laos, 0.9 GW from waste. The aggregate target of 29.4 GW under the latest plan is a major leap from the earlier target of 19.7 GW by 2036.	(National News Bureau of Thailand, 2019)
Turkey	[-]	No significant policy developments noted		
Ukraine	Cross-cutting	Ukraine Green Deal (2020-2050) [under development]	The Ministry of Energy and Environmental Protection of Ukraine presented a draft version of the Ukraine Green Deal on January 21, 2020. The Ministry will conduct public hearings on Ukraine’s “Green” Transition Concept in June 2020, aiming for all strategic documents to be approved by 2021. The main objectives are: 1) renewables in the energy balance up to 70% by 2050; 2) Phase out coal by 2050; 3) Reduce nuclear power generation to 20-25%; 4) Energy demand reduction by at least 50%, by increasing energy efficiency.	(Ministry of Energy and Environmental Protection of Ukraine, 2020)
	Cross-cutting	Emissions Trading System (2020) [under development]	The main elements of the national MRV system supporting the ETS are in place. In 2018, the Cabinet of Ministers approved a framework law on MRV, which was adopted by Parliament in December 2019. The MRV law will enter into force in spring 2020 and will be applied from 1 January 2021 onwards.	(International Carbon Action partnership (ICAP), 2020)
United Arab Emirates	Energy	Mohammed bin Rashid Al Maktoum Solar Park (2012, development ongoing)	Construction of the third phase of the solar project (800 MW) was completed in the first half of 2020, but it is unclear whether it has been connected to the grid. The UAE have started planning and DEWA, Dubai’s electric utility, has signed a PPA for the fifth, 900 MW phase. Once completed by 2030, the solar park should total 5 GW of solar capacity	(Government of the United Arab Emirates, 2019; Emirates News Agency, 2020b)

Country/ region	Sector	Name (date)	Description of the policy	References
United Arab Emirates (continued)	Energy	Development of nuclear energy (ongoing)	In August 2020, the UAE connected its first nuclear reactor to the power grid. This 1.4 GW nuclear reactor is part of the larger 5.6 GW Barakah nuclear power plant under construction.	(Government of the United Arab Emirates, 2019; Arabian Business, 2020; Emirates News Agency, 2020a)
United States	Cross-cutting	Withdrawal from Paris Agreement (November 2019, effective in November 2020)	The Trump Administration formally notified the United Nations that the US would withdraw from the Paris Agreement. The US exit will take effect exactly one year later, on 4 November 2020, one day after the 2020 US Presidential Elections. It would leave the US as one of only a handful of countries outside the Paris Agreement.	(U.S. Department of State, 2019; United Nations, 2019)
	Energy	Repeal of the Clean Power Plan; Emission Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units; Revisions to Emission Guidelines Implementing Regulations (September 2019)	<p>Repeal of the Clean Power Plan (CPP) and its replacement with a weaker plan called the Affordable Clean Energy (ACE). The CPP aimed to reduce emissions from the power sector by 32% below 2005 levels by 2030, by setting targets for each state individually.</p> <p>The ACE rule limits the scope of the plan to reduce emissions inside the fence at individual power plants, for example through efficiency measures or carbon capture and storage technologies and gives states the ability to set their own rules.</p> <p>The rule is under at least two legal challenges: one by a group of 23 State Attorneys General and six large cities and one by a group of major power utilities.</p>	(U.S. Environmental Protection Agency, 2019)
	Energy	Open Alaska's National Wildlife Refuge to gas and oil drilling (September 2019)	Plan to open Alaska's National Wildlife Refuge (ANWR), making millions of acres of public lands available to oil and gas drilling. The Trump Administration has however not yet auctioned drilling leases for the area, as legal challenges continue.	(U.S. Department of the Interior, 2019)

Country/ region	Sector	Name (date)	Description of the policy	References
United States (continued)	Transport	The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks (April 2020)	The SAFE vehicle rule rolls back stricter fuel efficiency standards of the Obama-era. The SAFE rule requires automakers to improve the fuel efficiency of their light duty vehicles by 1.5% year-to-year from model year 2021 to 2026, reaching 40 miles per gallon by 2025. Obama-era standards would have required a roughly 5% annual increase, reaching 54 miles per gallon by 2025. Several states are pushing back against the rollback with legal challenges.	(U.S. Environmental Protection Agency and U.S. National Highway Safety Administration, 2020)
	Transport	The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program (September 2019)	The rule revokes California’s ability to set its own emission standards for cars and trucks that are stricter than the federal standards. This exemption had allowed California to implement stricter programs that aimed to limit air pollution and GHG emissions from the transport sector, including its Zero Emission Vehicle (ZEV) Programme. The rollback has also an effect on other states that have adopted California’s programmes to reduce emissions from light duty vehicles. Over a dozen states have pushed back against the rollback with legal challenges. Stricter state standards are still in place. Final decisions will be implemented after legal challenges have been resolved in court.	(U.S. EPA and U.S. NHTSA, 2019)
	Buildings	Energy Conservation Program: Definition for General Service Lamps (September 2019)	The rule repeals the Obama-era standards for general service lamps, which sets stricter energy-efficiency requirements for lightbulbs in residential and commercial lightbulbs. The standards were to come into effect in 2020.	(U.S. Department of Energy, 2019)
	Buildings	Energy Conservation Program for Appliance Standards: Procedures for Use in New or Revised Energy Conservation Standards and Test Procedures for Consumer Products and Commercial/Industrial	It changes the decision-making process for energy efficiency standards rulemaking for consumer and commercial equipment. The amended rule applies a threshold approach to determine whether projected energy savings would be “significant”, defined as saving at least 88 TWh (0.3 quads) of energy over 30 years or improving energy use by at least 10% above existing standards. This significantly raises the bar for the minimum energy efficiency improvements before the agency will even consider implementing it, thus endangering future attempts to update and improve appliances’ efficiency standards.	(U.S. Department of Energy, 2020)

Country/ region	Sector	Name (date)	Description of the policy	References
United States (continued)		Equipment (February 2020)		
	Transport, LULUCF	Biodiesel blending tax credit extended to 2022 biodiesel blending volume increased for 2020.	Extension of the USD 1 per gallon biodiesel blending tax credit to 2022. Raised the required advanced biofuel/biodiesel volume from 2019 levels.	(Environmental Protection Agency, 2019) (FAO, 2020)
Vietnam	Cross-cutting	National Energy Development Strategy to 2030 with vision to 2045 (February 2020)	Resolution No 55NQ/TW reviews the National Energy Development Strategy of Vietnam to 2030 and extends its goals to 2045. It aims at fostering the development of renewable energy sources by easing the regulatory framework and improving the economic structure of the energy sector. The targets include: <ul style="list-style-type: none"> • 15-20% of renewables in energy mix by 2030 and 25-30% by 2045 • 7% energy efficiency improvement on total final energy consumption in 2030 and 14% by 2045 compared to the business-as-usual (BAU) scenario • A reduction of 15% in energy sector GHG emissions compared to the BAU scenario in 2030 and 20% in 2045 	(LSE Grantham Research Institute, 2020)
	Energy	Suspension of licensing large-scale solar projects under Feed-in Tariff (FiT) scheme, Circular 9608/BCT-DL (December 2019)	Vietnam's Ministry of Industry and Trade has urged regional governments and state-owned Vietnam Electricity (EVN) to stop licensing new solar power projects until further notice. Vietnam deployed around 4.5 GW of solar under the first phase of the FiT scheme.	(PV Magazine, 2019)
	Energy	Introduction of auction scheme for large-scale solar projects,	With Notification No. 402/TB-VPCP, Vietnam's Ministry of Industry and Trade has decided to support large-scale solar deployment via an auctioning scheme, marking a clear shift away from its FiT scheme.	(Ministry of Industry and Trade of Vietnam, 2019)

Country/ region	Sector	Name (date)	Description of the policy	References
Vietnam (continued)		Notification No. 402/TB-VPCP (November 2019)		
	LULUCF	Proposal for a Carbon for Forest Ecosystems Services Program (C-PFES) [Under development]	The government is discussing the proposal for a pilot programme of this plan, under which the country's 100 largest emitters (cement manufacturers and coal-fired power plants) would pay forest communities and landowners to protect and expand forests.	(Clouse, 2020)

3 Non-exhaustive overview of implemented climate-relevant policy responses to COVID-19

Table 2: Non-exhaustive overview of implemented climate-relevant policy responses or economic recovery packages to COVID-19. The classification of “green” or sustainable measures and “grey” or unsustainable measures are authors’ judgements based on the criteria used by Vivid Economics (2020). Note that external assessments on “green” and “grey” measures (e.g. Regalado, 2020; Tiftik *et al.*, 2020; Vivid Economics, 2020) may not have covered more recent recovery measures. Monetary figures presented are based on varying assumptions on e.g. currency conversion factors and GDP estimates, and therefore could be different from those reported elsewhere. Where relevant, a currency conversion rate of 1 Euro = 1.1 USD is applied.

Country	Overall fiscal measures and amount	Selected “green” measures	Selected “grey” measures
Argentina	<p>The Argentinean government has announced several fiscal measures (totalling about 5.0 percent of GDP) focused on providing:</p> <ul style="list-style-type: none"> • Increased health spending • Support for workers and vulnerable groups, unemployment insurance benefits, and payments to minimum-wage workers • Support for hard-hit sectors (e.g. subsidized loans for construction-related activities) • Spending on public works • Continued provision of utility services for households • Credit guarantees for bank lending to micro, small and medium enterprises (SMEs) for the production of foods and basic supplies <p>In addition, the authorities have adopted anti-price gouging policies, including price controls for food and medical supplies and ringfencing of essential supplies, including certain export restrictions on medical supplies and equipment and centralization of the sale of essential medical supplies (IMF, 2020).</p>	<ul style="list-style-type: none"> • Public support to private investments in renewable energy and energy efficiency in the agriculture sector (Ministry of Agriculture Livestock and Fishing, 2020) 	<ul style="list-style-type: none"> • Domestic oil price is fixed at a minimum of USD 45 (EUR 41) per barrel for 2020, irrespectively of considerably lower international oil prices (National Congress of Argentina, 2020b) • Electricity and gas tariffs are capped to December 2019 levels until the end of 2020 (National Congress of Argentina, 2019b, 2020a) • Allocation of ARS 100 billion (EUR 1.1 billion) for the construction and refurbishment of buildings, schools and hotels. However, the measure is not accompanied by sustainability and energy efficiency guidelines (Government of Argentina, 2020)
Australia	<p>The federal government has issued a recovery package of AUD 164 billion (EUR 100 billion, or 8.6% of GDP), mostly in</p>	<ul style="list-style-type: none"> • The Australian Renewable Energy Agency has issued AUD 70 million 	<ul style="list-style-type: none"> • In March 2020, the Australian government announced an AUD 715 million (EUR 434 million)

Country	Overall fiscal measures and amount	Selected “green” measures	Selected “grey” measures
Australia (continued)	<p>the form of support for wages, direct support for household and businesses (IMF, 2020).</p> <p>In March, the government also appointed a National COVID-19 Commission Advisory Board to support the government’s economic recovery measures.</p>	<p>(EUR 43 million) for green hydrogen projects</p> <ul style="list-style-type: none"> • The Clean Energy Finance Corporation (CEFC) will provide a further AUD 300 million (~EUR 185 million) to develop hydrogen—this does not, however, need to be exclusively renewables-powered hydrogen, due to which this amount does not classify as a “green” measure 	<p>bailout for airlines—without ‘green’ conditionalities (Government of Australia, 2020a).</p> <ul style="list-style-type: none"> • The National COVID-19 Commission Advisory Board has requested the government to underwrite natural gas pipelines (Murphy, 2020).
Brazil	<p>Brazil has not initiated a comprehensive recovery package and is still focused on reducing the negative effects of COVID-19. In April 2020, the government started discussions on a ‘Pró Brasil’ plan aiming to speed up Brazilian economic growth by investing over BRL 280 billion (EUR 43 billion) in key sectors post-COVID (D’Agosto, 2020; Soares and Fernandes, 2020). However, there is no evidence the Plan is moving forward.</p> <p>The government spending towards limiting the impacts of the pandemic are expected to amount to BRL 1 trillion (EUR 155 billion) in 2020 alone. This amount is destined to supporting vulnerable citizens, sub-national actors, and SMEs as well as the direct investment for fighting the spread of the virus (Ministry of Economy of Brazil, 2020).</p>	<ul style="list-style-type: none"> • None explicitly specified (Tiftik <i>et al.</i>, 2020) 	<ul style="list-style-type: none"> • Bailout of air companies by providing support worth BRL 6 billion (EUR 930 million) via the Brazilian Development Bank (BNES) and other private actors (Istoé, 2020). • The lack of monitoring and enforcement has been exacerbated by the COVID-19 crisis, and has a deregulatory impact on land use and deforestation in the Amazon (De Freitas Paes, 2020).
Canada	<p>Canada’s CAD 200 billion (~EUR 130 billion) Economic Response Plan is mainly targeted towards health and economic impacts affecting individuals and businesses (Government of Canada, 2020a).</p>	<ul style="list-style-type: none"> • CAD 1.7 billion (EUR 1.1 billion) to clean up orphan and inactive oil and gas wells (Department of Finance Canada, 2020a). 	<ul style="list-style-type: none"> • Waiving lease payments of around CAD 330 million (EUR 210 million) for 21 airports across the country from March to December

Country	Overall fiscal measures and amount	Selected “green” measures	Selected “grey” measures
Canada (continued)		<ul style="list-style-type: none"> • A CAD 750 million (EUR 480 million) fund to support the oil and gas sector reduce methane and other emissions (Natural Resources Canada, 2020). • CAD 50 million (EUR 30 million) to redistribute food as well as other measures to avoid food waste (Agriculture and Agri-Food Canada, 2020; Government of Canada, 2020c) • A requirement that large employers who receive support publish annual climate-related financial disclosure reports and contribute to achieving Canada’s NDC, 2050 net zero target and commitments under the Paris Agreement (Office of the Prime Minister of Canada, 2020). 	<p>(Department of Finance Canada, 2020b).</p> <ul style="list-style-type: none"> • Accelerated disbursement of the annual CAD 2.2 billion (EUR 1.4 billion) in federal support for local infrastructure projects (Government of Canada, 2020d).
China	<p>China’s pandemic stimulus package will reach upwards of 4 trillion yuan (EUR 470 billion) over 2020, mostly with local special government bonds, with figures expected to reach up to 17.5 trillion yuan (EUR 2 trillion) by 2025 to support its New Infrastructure Plan targeted on R&D and construction. Estimated numbers for project areas by 2025:</p> <ul style="list-style-type: none"> • 5G networks: ~2.5 trillion yuan • Artificial intelligence: 220 billion yuan • Industrial Internet of Things: 650 billion • Data centres: 1.5 trillion yuan 	<ul style="list-style-type: none"> • Expansion of China’s charging network by 50% in 2020. • Extension of EV purchase tax exemption program for new vehicles until 2022. • Extension of EV subsidies until 2022. • ‘Green Travel Creation Action Plan’ aiming from 70% of green travel in more than 60% of the created 	<ul style="list-style-type: none"> • Circular on 2023 risk and early warning for coal power planning and construction (not the only cause for, but already 40 GW of new coal permitted in 2020) (China Energy Portal, 2020b; National Energy Administration, 2020) • Adjustment of companies environmental supervision and deadlines to meet environmental standards (Xu and Goh, 2020)

Country	Overall fiscal measures and amount	Selected “green” measures	Selected “grey” measures
China (continued)	<ul style="list-style-type: none"> • Ultra high voltage lines: >500 billion yuan • High speed rail and rail transit: 4.5 trillion yuan • Electric mobility and charging projects: 90 billion yuan (CCID, 2020; China Energy Portal, 2020c) <p>China has also been implementing a credit-backed recovery, with low interest rates, increased lending, and expectations of further government bond issuances.</p>	<p>cities; large-scale application of new energy and clean energy vehicles (e.g. new energy and clean energy buses to account for no less than 60% of all buses).</p> <ul style="list-style-type: none"> • Increase in national railway development capital. • Launching of the National Green Development Fund. • Investment in housing renovation as part of a wider industry support package (Energy Policy Tracker, 2020) 	
Colombia	<p>Under a state of emergency, the Colombian government created a National Emergency Mitigation Fund of 31.8 billion Colombian Pesos (~ EUR 7 billion, 1.5% of GDP). Some of the fiscal measures include:</p> <ul style="list-style-type: none"> • New credit lines providing liquidity support to the coffee sector, the education sector, public transportation sector, health providers and all tourism-related companies • New credit lines for payroll and loan payments for small and medium enterprises • Delayed tax collection, an exemption of tariffs and VAT for strategic health imports and selected food industries and services • Delayed utility payments for poor and middle-income households 	<ul style="list-style-type: none"> • No assessment available 	<ul style="list-style-type: none"> • In August 2020, the Colombian government announced an USD 370 million (EUR 336 million) bailout for Avianca airline in the form of credit —without ‘green’ conditionalities (Ministry of Finance and Public Credit of Colombia, 2020)
Egypt	<p>The Egyptian government has announced a stimulus package of EGP 100 billion (EUR 5.3 billion, 1.8% of GDP). This includes support increases in spending in social</p>	<ul style="list-style-type: none"> • No assessment available 	<ul style="list-style-type: none"> • Increased energy subsidies for the industry sector

Country	Overall fiscal measures and amount	Selected “green” measures	Selected “grey” measures
Egypt (continued)	<p>programmes, incentives for consumer spending, targeted support for the healthcare sector, etc.</p> <p>To provide support for the most affected sectors and SMEs, a 1% “corona tax” has been added to salaries (0.5% to state pensions).</p>		<ul style="list-style-type: none"> Fuel subsidies for the aviation sector
Ethiopia	<p>The Ethiopian government has announced several fiscal measures in response to the social and economic crisis due to COVID-19 pandemic (IMF, 2020):</p> <ul style="list-style-type: none"> A COVID-19 Multi-Sectoral Preparedness and Response Plan of USD 1.64 billion (EUR 1.5 million, about 1.6% of GDP) focusing on (1) emergency food distribution to 15 million individuals, (2) health sector support, (3) provision of emergency shelter and non-food items, and (4) agricultural sector support and others A set of economic measures such as forgiveness of all tax debt prior to 2014/2015 or a tax amnesty on interest and penalties for tax debt pertaining to 2015/2016-2018/2019 Intentional statements for additional measures to support foreign direct investments as well as enterprises and job protection in urban areas and industrial parks 	<ul style="list-style-type: none"> The Government of Ethiopia United Nation’s Economic Commission for Africa signed a <i>Memorandum of Understanding</i> in August 2020 on a four-year USD 3.6 million (EUR 3.3 million) project on nature-based solutions for water resources infrastructure and community resilience in Ethiopia to foster Ethiopia’s green recovery (ECA, 2020). 	<ul style="list-style-type: none"> No assessment available
EU⁶	<p>In July 2020, the European Council (EU heads of state and government) agreed the main elements of a proposed recovery package “Next Generation EU” (European Council, 2020). This package is additional to the EU’s 2021-2027 budget and would be composed of EUR 750 billion in grants and loans. The funds are to be channelled to Member States and companies, some of which will specifically support the so-called green (and digital) transitions. Approval and</p>	<p>The main ‘green’ recovery elements of the “Next Generation EU” (NGEU) package are the following (European Council, 2020):</p> <ul style="list-style-type: none"> 30% of NGEU funds and of the EU’s long-term budget 2021-2027 have been earmarked for climate 	<ul style="list-style-type: none"> No assessment available

⁶ The EU refers to the current 27 members states, excluding the United Kingdom. While the EU and the UK are in a transition period until the end of 2020, the COVID-19 recovery measures put forward by the EU do not include support from or for the UK.

Country	Overall fiscal measures and amount	Selected “green” measures	Selected “grey” measures
EU (continued)	finalisation of the EU budget by the European Parliament is still in process.	action (up from 25% before July 2020) <ul style="list-style-type: none"> • Beyond the 30% objective, climate action is to be mainstreamed in all NGEU programmes and the EU’s long-term budget. All funds are to support the 2030 climate target and 2050 climate neutrality objective • A contribution to the objectives of the European Green Deal is a prerequisite for Member States’ national recovery plans • A Just Transition Fund of EUR 17.5 billion, or 10 billion more than before the pandemic, will be established. The fund will support regions most affected socially and economically by the transition to the EU’s climate neutrality objective. 	
India	<p>The Prime Minister has announced a sizeable stimulus package of INR 20 trillion.</p> <p>In March 2020, India announced a rescue package that amounts to INR 1.7 trillion (EUR 19 billion). This package includes cash transfers for low-income citizens, subsidization of essential items, such as rice and cooking gas, among others (KPMG, 2020a).</p> <p>Many other economic stimulus measures are also implemented. These include, for example, deferral of financial commitments and loans to small and medium</p>	<ul style="list-style-type: none"> • None explicitly specified (Tiftik <i>et al.</i>, 2020) 	India has introduced many measures in 2020 that directly supports its fossil fuel industry to reduce its reliance on imported coal. One the of measures is an investments of INR 180 billion (EUR 2 billion) of its stimulus package to support the development of coal transport infrastructure (Chaturvedi, 2020).

Country	Overall fiscal measures and amount	Selected “green” measures	Selected “grey” measures
India (continued)	enterprises (SMEs). Support for SMEs could reach INR 3.5 trillion (EUR 40 billion) (Ohri, 2020).		
Indonesia	As an attempt to minimize the effect of COVID-19 on the economy, the government has earmarked approximately 720 trillion IDR (EUR 41 billion) to fund the National Economic Recovery (Ministry of Finance Indonesia, 2020a). It does so with the establishment of numerous policy instruments such as tax incentives, direct investments and subsidies and loans (Cabinet Secretariat of the Republic of Indonesia, 2020; Media Indonesia, 2020; Ministry of Finance Indonesia, 2020b)	<ul style="list-style-type: none"> • Fiscal and financial incentives for renewable energy, including biofuels and renewable power generation (Vivid Economics, 2020). 	<ul style="list-style-type: none"> • Indonesia has postponed this year’s geothermal auctions claiming delays on data improvement and regulation development (Richter, 2020). • The government has reduced government spending on rooftop solar with has, in combination with reduction in household spending, reduced solar PV demand (Harsono, 2020a). • In January 2020, Indonesia has put a cap on the price of domestic coal 20 USD below market value to boost consumption (Harsono, 2020b). • The Indonesian government 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). Two regulations (PP 36/2020 and PP 37/2020) are already in place to inject approximately IDR 14 trillion (EUR 840 million) into state companies, including the national utility company, PLN.

Country	Overall fiscal measures and amount	Selected “green” measures	Selected “grey” measures
Indonesia (continued)			<ul style="list-style-type: none"> The government approved a USD 195 million (EUR 166 million) subsidy for the production of biodiesel from palm oil (Jong, 2020) At the same time, government plans to produce ‘green diesel’ entirely with palm oil by 2023 have been pushed back to 2026 (Diela, Munthe and Nangoy, 2020).
Iran	Iran has been severely hit by the COVID-19 pandemic, and the government has responded by increasing funding to the healthcare sector (equivalent to 2% of GDP), by providing subsidised loans to businesses and vulnerable households (4.4% of GDP) and by providing cash transfers and additional funding to the unemployment insurance. To finance these measures, the government has sold its remaining shares in 18 companies, with proceeds amounting to IRR 235 trillion (~EUR 4.7 billion, 0.8% of GDP).	<ul style="list-style-type: none"> No assessment available 	<ul style="list-style-type: none"> No assessment available
Japan	Japan adopted two COVID response packages in April and June 2020, which together amount up to over JPY 230 trillion or over 40% of 2019 GDP (IMF, 2020).	<ul style="list-style-type: none"> JPY 5 billion (EUR 40 million) Support on the installation of self-consumption type solar power generation facilities that contribute to companies' RE100 etc. in light of bringing back the production bases to Japan (Government of Japan, 2020a; MOEJ, 2020) 	<ul style="list-style-type: none"> There are few measures that would be considered as ‘grey’ measures (Vivid Economics, 2020)
Mexico	In April, Mexican government issued fiscal stimulus measures of a total of USD 26 billion (EUR 24 billion); part of it in the form of support for the health system, direct support for household and businesses, but another part to support	<ul style="list-style-type: none"> None explicitly specified or identified (Tiftik <i>et al.</i>, 2020) 	<ul style="list-style-type: none"> In April 2020, Mexico passed a Bill on fiscal support to its state-owned petroleum company (Pemex). The regulation reduces the tax on oil extraction, providing up to MXN 65

Country	Overall fiscal measures and amount	Selected “green” measures	Selected “grey” measures
Mexico (continued)	the flagship oil refinery and the new airport development (Vivid Economics, 2020)		billion (EUR 2.5 billion) to support Pemex to continue their investments on oil exploration and extraction (Government of Mexico, 2020c). <ul style="list-style-type: none"> • On the same month, Mexico passed the Austerity Law which seeks to reduce government expenditure in the context of the COVID-19 crisis and oil price crash. However, certain projects and activities were excluded (meaning they can continue to move forward during the emergency period) (Government of Mexico, 2020b). • The government established a policy to “strengthen energy security in the country”, which effectively halts private renewable energy investment in the country, prioritising the government’s fossil fuel-fired power plants, claiming that the intermittent nature of renewable energy projects would produce oscillation in the National Electrical System which could not be dealt with (Government of Mexico, 2020a).
Morocco	In July 2020, Morocco put forward a MAD 120 billion (~EUR 11 billion, or 11% of GDP) economic recovery package to respond to the economic consequences of	<ul style="list-style-type: none"> • No assessment available 	<ul style="list-style-type: none"> • No assessment available

Country	Overall fiscal measures and amount	Selected “green” measures	Selected “grey” measures
Morocco (continued)	COVID-19 (Kasraoui, 2020; The North Africa Post, 2020). This came after the “Special Fund for the Management and Response to COVID-19” worth MAD 33.7 billion (~EUR 3 billion) passed in March 2020.		
Republic of Korea	On 14 July 2020, President Moon Jae-In announced the New Deal to invest 114 trillion won by 2025 (EUR 120 billion; 160 trillion won including private and local government spending) (Government of Republic of Korea, 2020).	<ul style="list-style-type: none"> The New Deal contains a 42.7 trillion won (EUR 32 billion) plan to boost renewable energy deployment and low-carbon infrastructure, including support to put 1.13 million electric vehicles and 200,000 hydrogen vehicles on the roads by 2025 (Government of Republic of Korea, 2020). 	<ul style="list-style-type: none"> 30% tax deduction for car makers and the reduction of car sales tax for new cars (from 5% to 3.5%) without preferential measures for electric or hydrogen vehicles (Yonhap News Agency, 2020a). USD 2 billion (EUR 1.8 billion) bailout of Doosan Heavy Industries without environmental conditions and despite Doosan’s falling credit ratings before the COVID-19 crisis (Farand, 2020b).
Russia	<p>Russia has implemented multiple measures to mitigate the impacts of the COVID-19 pandemic. The total fiscal stimulus measures reached RUB 4 trillion (EUR 47 billion) Some examples of measures to ensure economic stability are (KPMG, 2020a; World Bank, 2020):</p> <ul style="list-style-type: none"> RUB 500 billion (EUR 6 billion) to ensure sufficient liquidity in the banking sector; Creation of a financial reserve of RUB 300 billion (EUR 3 billion) to support the economy and compensate citizens for lost income; Deferral of tax and loan payments in critical sectors; Expansion of loans and reductions of interest rates to small and medium enterprises. 	<ul style="list-style-type: none"> None explicitly specified or identified (Tiftik <i>et al.</i>, 2020; Vivid Economics, 2020) 	<ul style="list-style-type: none"> In May 2020, Russia has announced subsidies for airlines amounting RUB 23.4 billion (EUR 260 million) throughout 2020. The state-owned airline alone could claim about RUB 8 billion (EUR 90 million) (Stolyarov, 2020). The Russian government aims to provide up to RUB 45 billion (EUR 500 million) to the automotive industry in 2020. The funds will support: cars loans, rental programmes, and gas fuel subsidy (Energy Policy Tracker, 2020; RusAutoNews.com, 2020).

Country	Overall fiscal measures and amount	Selected “green” measures	Selected “grey” measures
Saudi Arabia	<p>The Saudi government has taken, among others, the following measures since March 2020 to respond to the economic and financial consequences of the pandemic:</p> <ul style="list-style-type: none"> • A USD 18.7 billion (EUR 17 billion or 2.8% of GDP) fiscal support package to provide liquidity to the private sector (e.g. by suspending taxes) • A USD 13.3 billion (EUR 12 billion or 2% of GDP) monetary support package to increase lending to the private sector and defer loans payments • Measures to increase non-oil revenues, including a tripling of VAT from 5% to 15% starting in July 2020 	<ul style="list-style-type: none"> • None explicitly specified (Tiftik <i>et al.</i>, 2020) 	<ul style="list-style-type: none"> • Temporary increases in electricity subsidies for consumers in the commercial, industrial and agricultural sectors for a total of USD 240 million (EUR 220 billion). Given electricity is generated nearly exclusively with fossil fuels, this measure can be considered a “grey” support measure.
South Africa	<p>South Africa has not adopted a wider economic recovery package as of August 2020 but introduced several support programmes and emergency funds since the outbreak of COVID-19 in March 2020 (IMF, 2020), among others:</p> <ul style="list-style-type: none"> • Implementation of Unemployment Insurance Fund (UIF) and special assistance programs from the Industrial Development Corporation • Several social support measures for low-income workers (small four months tax subsidy) and low-income families (temporarily higher social grant amount) • Several economic support measures for SMEs, mainly in the tourism, hospitality sectors, and small-scale farming sectors 	<ul style="list-style-type: none"> • None explicitly specified or identified (Tiftik <i>et al.</i>, 2020; Vivid Economics, 2020) 	<ul style="list-style-type: none"> • The South African government has made a preliminary announcement for a Mining and Energy Recovery Plan in July 2020 (SA News, 2020). The plan includes (1) support for artisanal and small-scale mining, (2) the development of new coalfields and mineral exploitation, (3) a new smelter complex, and (4) promotion of its Liquefied Petroleum Gas (LPG) Expansion Initiative (SA News, 2020). The plan makes no explicit reference to any low-carbon investments (such as renewables or requirements for low-carbon technologies in new mining operations) but exclusively focuses on high-carbon sectors (e.g. a new coal mine in the Molteno-Indwe coalfield).

Country	Overall fiscal measures and amount	Selected “green” measures	Selected “grey” measures
Thailand	As of 27 August 2020, the Thai government has approved a fiscal package with three phases amounting to at least 9.6% of GDP. The package mainly support health systems, and individuals and businesses affected by the COVID-19 with dedicated support on the local tourism sector (IMF, 2020).	<ul style="list-style-type: none"> • None specified (Regalado, 2020) 	<ul style="list-style-type: none"> • No assessment available
Turkey	Turkey launched an TRY 100 billion (~EUR 11 billion) “Economic Stability Shield” package that includes tax incentives, credit support and labour incentives (Investment Office Turkey, 2020).	<ul style="list-style-type: none"> • None explicitly specified (Tiftik <i>et al.</i>, 2020) 	<ul style="list-style-type: none"> • The VAT rate for domestic aviation was decreased from 18% to 1% between 1 April 2020 and 30 June 2020 (KPMG, 2020b) • The state-owned oil and natural gas pipeline company (BOTAŞ) provided a 12.5% discount to electricity producers and 9.8% discount to industry and commercial customers (Energy Policy Tracker, 2020)
Ukraine	In April the law “On Amendments to the Law of Ukraine “On the State Budget of Ukraine for 2020” entered force establishing a UAH 64.7 billion (~EUR 2 billion) COVID-19 response fund (Government of Ukraine, 2020c). Following that, on 27 May the Ukrainian government approved the Economic Stimulus Program to help stabilise the economy. While the document mentions optimising the environmental tax to promote eco-friendly modernisations, links to climate and environmental policy are limited and one of the program’s points states “to avoid setting overestimated national targets for reducing CO ₂ emissions” (Ecoaction, 2020; Government of Ukraine, 2020b).	<ul style="list-style-type: none"> • The announced Economic Stimulus Program mentions optimising the environmental tax to promote eco-friendly modernisations (no further details given) 	Changes to the state budget include: <ul style="list-style-type: none"> • Reduction of expenses on energy efficiency and environmental measures by almost 96% (Ecoaction, 2020). • Increased financing of the restructuring of the coal industry (wages for miners) in the order of UAH 1.6 billion (EUR 49 million) (Government of Ukraine, 2020a)
United Arab Emirates	The Emirati government has put forward fiscal measures to respond to the economic downfall for a total of AED 26.5	<ul style="list-style-type: none"> • In June 2020, the Dubai Future Foundation (a governmental think-tank) published a report on “Life 	<ul style="list-style-type: none"> • In March 2020, the UAE cabinet passed a decision to lower electricity bills by 20% for certain

Country	Overall fiscal measures and amount	Selected “green” measures	Selected “grey” measures
United Arab Emirates (continued)	billion (~EUR 6.1 billion) as of the end of August 2020 (IMF, 2020).	after COVID-19” and climate change, advocating for a green recovery and increasing ambition on NDCs in 2020 (Dubai Future Foundation, 2020), but no concrete “green” measures have been identified.	<p>consumers in the commercial and industrial sectors between April and June 2020 (Emirates News Agency, 2020c). The total support (which also includes support for water bills) amounts to AED 86 million (~EUR 20 million).</p> <ul style="list-style-type: none"> • The emirate of Abu Dhabi has approved water and electricity subsidies worth AED 5 billion (~EUR 1.1 billion) for citizens and businesses in the commercial and industrial sectors. • Given that electricity is still predominantly generated by fossil fuels across the UAE these measures can be considered as indirect fossil fuel subsidies.
United States	On 27 March President Trump signed into Law a USD 2.3 trillion (EUR 1.9 trillion) recovery stimulus in loans and grants aimed at helping workers and businesses, called Coronavirus Aid, Relief, and Economic Security Act — also known as the CARES Act (U.S. Congress, 2020a). Unlike the Obama Administration’s recovery stimulus after the 2008–2009 crisis, the CARES Act does not include any direct support to clean energy development.	<ul style="list-style-type: none"> • 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) 	<ul style="list-style-type: none"> • The USD 2 trillion (EUR 1.8 trillion) stimulus package cut out any direct support to clean energy development, including investments in green infrastructure and the proposed extension of incentives to renewable energy projects in the form of tax credits (Dlouhy and Kaufman, 2020; Vice, 2020) • The CARES Act included a bond bailout worth USD 750 billion (EUR 637 billion) from which at least 90 fossil fuel companies can benefit

Country	Overall fiscal measures and amount	Selected “green” measures	Selected “grey” measures
United States (continued)			<p>(The Guardian, 2020; U.S. Congress, 2020b)</p> <ul style="list-style-type: none"> In response to the pandemic, the Trump administration, through the U.S. Environmental Protection Agency (EPA), has suspended the enforcement of environmental rules (U.S. Environmental Protection Agency, 2020). Under this policy, the EPA has relaxed the obligation of factories, power plants and other facilities to comply with air and water pollution monitoring and reporting of emissions. The agency will not pursue penalties for breaking these rules. No end date has been set for the end of this non-enforcement.
Vietnam	<p>The government introduced a fiscal support package valued VND 279 trillion (~EUR 10 billion, 3.6% of GDP) to support the economy. Measures include (IMF, 2020):</p> <ul style="list-style-type: none"> Deferring payment of VAT and CIT tax obligations and land rental fees by 5 months Deferring Personal Income Tax payment Tax exemptions for medical equipment Cutting registration tax by 50% and deferring excise tax on domestically produced cars Deducting 30% of current environmental protection tax on jet-fuel from August to December 2020 	<ul style="list-style-type: none"> No assessment available 	<ul style="list-style-type: none"> Deduct 30% of current environmental protection tax on jet-fuel from August to December 2020 Cutting registration tax by 50% and deferring excise tax on domestically produced cars without preferential measures for electric or hydrogen vehicles

4 Submission of updated NDCs and long-term strategies

Table 3: Overview of updated NDCs and long-term strategies submitted to the UNFCCC as of 30 September 2020 (UNFCCC, 2020). Under the Paris Agreement, countries are expected to update their NDCs and to submit long-term low GHG emissions development strategies to the UNFCCC in 2020. Their submissions have been delayed due to COP26 being postponed to 2021.

Legend: For the updated NDCs, we have highlighted in green the countries that have submitted an NDC with increased ambition compared to the previous one and in yellow those that have signalled their intent to submit an updated NDC, as well as those that have simply resubmitted their previous NDC without increasing ambition. For LTSs, we have highlighted in green countries that have submitted an LTS and in yellow countries that have signalled their intent to submit one in 2020 or 2021. For entries without a colour, we either expect the country not to submit an updated NDC or LTS, or lack information on the intended submission.

Country / region	Updated NDC – Status, (expected) submission date	LTS – Status, (expected) submission date	Details
Argentina	Not submitted Submission expected in 2021	Not submitted Submission expected in 2020	<ul style="list-style-type: none"> NDC: Updated NDC expected in 2021, after the submission of the LTS (Secretaria de Ambiente y Desarrollo Sustentable, 2019) LTS: submission expected in 2020 (Secretaria de Ambiente y Desarrollo Sustentable, 2019)
Australia	Not submitted Resubmission of previous NDC expected in 2020	Not submitted Submission expected before COP26	<ul style="list-style-type: none"> NDC: In May 2020, the Australian government confirmed it would resubmit its current NDC without increasing the level of ambition LTS: submission expected before COP26
Brazil	Not submitted	Not submitted	<ul style="list-style-type: none"> NDC: No information available LTS: No information available
Canada	Not submitted	Submitted (November 2016) Updated LTS under consideration	<ul style="list-style-type: none"> LTS: The Canadian government stated in December 2019 that it will adopt a 2050 net-zero emissions target (Governor General of Canada, 2019). As of September 2020 it has not been adopted.
China	Not submitted Submission expected in late 2020, possible delay to 2021.	Not submitted New long-term target announced in September 2020	<ul style="list-style-type: none"> Updated NDC and LTS previously indicated to be submitted in 2020 although some expect to be delayed until after US election or also after finalisation of 14th Five Year Plan expected in 2021 (Ministry of Ecology and Environment, 2019; UN Secretary-General, 2019).

Country / region	Updated NDC – Status, (expected) submission date	LTS – Status, (expected) submission date	Details
			<ul style="list-style-type: none"> In September 2020, Premier Xi Jinping announced that the updated NDC will be more ambitious and that China will aim to achieve carbon neutrality by 2060 (Ministry of Foreign Affairs of the People’s Republic of China, 2020).
Colombia	Not submitted Submission expected in 2020	Not submitted Under development, submission date unknown	<ul style="list-style-type: none"> NDC: Updated NDC expected in 2020 LTS: No information available on the intended LTS release date but the process is under way
Egypt	Not submitted	Not submitted	<ul style="list-style-type: none"> NDC: No information available LTS: No information available
Ethiopia	Not submitted Submission expected in 2020	Not submitted Under development, submission date unknown	<ul style="list-style-type: none"> NDC: Updated NDC expected in 2020 LTS: No information available on intended release date but process under way with support by WRI, 2050 Pathways Platform and the French Development Agency (AFD)
EU	Not submitted Submission expected in 2020	Submitted (March 2020)	<ul style="list-style-type: none"> NDC: Updated NDC expected in 2020. In her State of the Union address on 16 September 2020, President von der Leyen confirmed the European Commission would recommend an EU 2030 target of “at least 55%” below 1990 levels, up from the previous reduction target of at least 40%. LTS: The EU submitted its LTS in March 2020. The EU aims to be climate neutral by 2050 (Croatia and the European Commission, 2020)
India	Not submitted	Not submitted	<ul style="list-style-type: none"> NDC: No information available LTS: No information available
Indonesia	Not submitted	Not submitted	<ul style="list-style-type: none"> NDC: No information available LTS: No information available
Iran	Not submitted	Not submitted	<ul style="list-style-type: none"> Iran has signed but not ratified the Paris Agreement
Japan	First NDC resubmitted March 2020	Submitted (June 2019)	<ul style="list-style-type: none"> NDC: On 1 September, 2020, Ministry of Economy, Trade and Industry (METI) and the Ministry of Environment (MOEJ) started a process to revise the 2030 energy mix

Country / region	Updated NDC – Status, (expected) submission date	LTS – Status, (expected) submission date	Details
Japan (continued)	Updated NDC expected in 2021 before COP26		<p>and the NDC target (METI, 2020b). It is expected that the Japanese government would submit its updated NDC in 2021 before COP26.</p> <ul style="list-style-type: none"> LTS: Japan's LTS submitted in 2019 aims to achieve a decarbonised society as early as possible in the second half of this century (The Government of Japan, 2019).
Mexico	Not submitted Submission expected in October 2020	Submitted (November 2016)	<ul style="list-style-type: none"> NDC: Updated NDC expected in October 2020. Public consultations took place in the first half of the year. Mexico will most likely not increase ambition, emissions reduction targets (%) and sectoral split to remain as proposed in the NDC submitted in 2016 (SEMARNAT, 2020). LTS: Mexico's LTS or "Climate Change Mid-Century Strategy" (submitted in 2016) aims to reduce its greenhouse gas emissions to 50% below 2000 levels, by 2050 (Government of Mexico, 2016). Mexico has also defined an electricity target of 50% clean energy by 2050 under their electricity policy "Prospectiva del Sector Eléctrico 2017-2031".
South Korea	Not submitted	Not submitted	<ul style="list-style-type: none"> NDC: No confirmed timeline on the NDC update/resubmission. The Fourth National Communication states that the NDC achievement roadmap, last revised in 2018, "will continue to be complemented and revised until 2020 when the NDC is to be submitted" (Government of the Republic of Korea, 2019). LTS: the ruling party announced through its manifesto during the last election in April 2020 to set a 2050 carbon neutrality goal (Farand, 2020a). The national assembly of the Republic of Korea also passed a resolution that declared a climate crisis and established a non-binding net-zero emissions target for 2050 (National Assembly of the Republic of Korea, 2020).
Russia	Not submitted	Not submitted Draft strategy available	<ul style="list-style-type: none"> The Russian government published the draft strategy of the country's long-term, low-carbon development plan to 2050 (Russian Federation, 2020). It will be reviewed by other ministries and business associations before being submitted for final government approval. Governmental agencies are to devise section specific plans by September 30, 2021.

Country / region	Updated NDC – Status, (expected) submission date	LTS – Status, (expected) submission date	Details
Russia (continued)			<ul style="list-style-type: none"> • NDC: The draft long-term strategy includes a 2030 target of 33% below 1990 levels incl. LULUCF. • LTS: The draft strategy presents two scenarios under which Russia would reduce its GHG emissions by 36-48% below 1990 levels by 2050 incl. LULUCF.
Saudi Arabia	Not submitted	Not submitted	<ul style="list-style-type: none"> • NDC: No information available • LTS: No information available
South Africa	Not submitted Submission expected in 2020	Submitted (September 2020)	<ul style="list-style-type: none"> • NDC: update expected in 2020 • LTS: Submitted to the UNFCCC on 23 September 2020. The strategy aims for net zero carbon emissions by 2050 (Republic of South Africa, 2020)
Thailand	Not submitted	Not submitted	<ul style="list-style-type: none"> • NDC: No public reports on Thailand's updating of its NDC in 2020 and 2021 • LTS: As of January 2020 Thailand is in the process of developing its first LTS (GIZ Office Bangkok, 2020)
Turkey	Not submitted	Not submitted	<ul style="list-style-type: none"> • Turkey has not yet ratified the Paris Agreement
Ukraine	Not submitted Submission expected in 2020	Submitted July 2018	<ul style="list-style-type: none"> • NDC: Update expected in 2020, timeline remains uncertain • The LTS provides emission reduction pathways for the energy and industry sectors based on four scenarios containing different ambition levels of decarbonisation measures and policies. It includes an indicative GHG emissions target of 31-34% by 2050, compared to 1990 levels. While in 2009 Ukraine had pledged to reduce emissions by 50% from 1990 levels by 2050.
United Arab Emirates	Not submitted Submission expected in 2020	Not submitted	<ul style="list-style-type: none"> • NDC: The Minister of Climate Change announced at the 2019 New York Climate Summit that the UAE would issue an updated NDC in 2020 (WAM, 2019). The renewable energy target is expected to be extended to 2050 but this would likely not significantly increase the 2030 ambition level. • LTS: No information is available
United States	Not submitted	Submitted (November 2016)	<ul style="list-style-type: none"> • NDC: No update expected under the Trump administration, which began the process of withdrawing from the Paris Agreement

Country / region	Updated NDC – Status, (expected) submission date	LTS – Status, (expected) submission date	Details
United States (continued)	No updated NDC expected under current administration	(removed from all government websites)	<ul style="list-style-type: none"> LTS: The Trump administration has now removed the mid-century strategy from all its websites (Climate Action Tracker, 2020b)
Vietnam	Submitted September 2020	Not submitted	<ul style="list-style-type: none"> NDC: Updated NDC submitted on September 11, 2020 (Government of the Socialist Republic of Viet Nam, 2020) The government passed a resolution (Resolution No 55NQ/TW) which reviews the National Energy Development Strategy of Vietnam to 2030 and extends its goals to 2045. It aims at fostering the development of renewable energy sources by easing the regulatory framework and improving the economic structure of the energy sector.

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