

Climate Policy Factbook

3 priority areas for climate action

COP26 EDITION

Nov. 3, 2021



BloombergNEF

Key messages

Final preparations for COP26 are underway in Glasgow for the most consequential climate summit since Paris 2015. Hopes are high, especially for developed countries to show leadership and deliver on previous promises. Governments have made new commitments of varying ambition over the last 18 months. Yet the science signals that much more action is needed to achieve the Paris goals. In that context, this report highlights three concrete areas where governments can act today: phasing out support for fossil fuels (especially coal), putting a price on carbon emissions and making companies disclose the risks they face due to climate change. This COP26 edition of the *Climate Policy Factbook* provides updates on the report published in July 2021, with the latest developments, new data and an updated methodology.

- The Group-of-20 countries provided nearly \$600 billion in 2020 in subsidies and other support to fossil fuels, based on provisional estimates. This was down slightly from 2019 and driven by a 29% cut in subsidies to retail customers due to lower fuel and energy consumption during the Covid-19 pandemic.
- Absent this drop, fossil-fuel support would have stayed level in 2020 due to continued and new subsidies. In addition, governments allocated at least \$104 billion in stimulus funds to coal, oil and gas, and fossil-fuel power projects. Overall, only France provided more stimulus to green sectors compared with carbon-intensive industries.
- Some G-20 nations (mostly in Europe and North America) have downsized their coal-power fleet in recent years. But others have seen substantial increases – eg, 29% in Brazil, 23% in Indonesia and 21% in South Korea since 2016. Furthermore, the G-20 plan to build 384GW more – half in China – potentially locking in those emissions for decades more.
- A total of 13 G-20 countries have implemented carbon pricing and another plans to start a tax from 2022. Such schemes cover anywhere from 0-85% of national emissions. However, only four of these nations have CO2 prices high enough to limit global warming to 2 degrees. And some programs offer generous concessions to participants (eg, free-allocation levels up to 98%), weakening the low-carbon impetus.
- Climate change brings increasing physical and transition risks for companies and investors. Some governments have begun to implement policies to ensure that the right data is available for these risks to be assessed and mitigated accurately.
- However, in the G-20, only the U.K. and the three EU member states have mandated specific nationwide climate-risk regulations for investors. In contrast, more than half of the countries have not even implemented generic environmental disclosure requirements, illustrating the significant need for improvement in this area.

G-20 progress on three priority areas

G-20 country	UNFCCC Annex I party?	Fossil-fuel support 	Carbon pricing 	Climate-risk disclosure 
Argentina	x	Yellow	Yellow	Red
Australia	✓	Red	Yellow	Red
Brazil	x	Yellow	Red	Yellow
Canada	✓	Green	Green	Red
China	x	Red	Yellow	Red
France	✓	Green	Green	Green
Germany	✓	Green	Green	Green
India	x	Yellow	Red	Red
Indonesia	x	Red	Yellow	Red
Italy	✓	Green	Green	Green
Japan	✓	Yellow	Yellow	Yellow
Mexico	x	Yellow	Yellow	Yellow
Russia	✓	Red	Red	Red
Saudi Arabia	x	Yellow	Red	Red
South Africa	x	Yellow	Yellow	Yellow
South Korea	x	Red	Yellow	Yellow
Turkey	✓	Red	Red	Red
U.K.	✓	Green	Green	Green
U.S.	✓	Green	Yellow	Red

Source: BloombergNEF.
Note: [Click here for definitions](#)

 Right direction  Mixed  Wrong direction/insufficient progress

Introduction

The latest report by the Intergovernmental Panel on Climate Change (IPCC), published August 9, makes clear why and when climate action is needed – because the world is heating very quickly and now, respectively. It projects global surface temperatures reach 1.5 degrees Celsius above pre-industrial levels by 2028-35 – a decade earlier than it had warned previously. When the IPCC talks, policy makers typically listen: its 2018 special report kickstarted the surge in government pledges to reach ‘net zero’. Today, countries responsible for nearly 90% of global emissions have at least begun discussions about such a target – up from a third in January 2020.

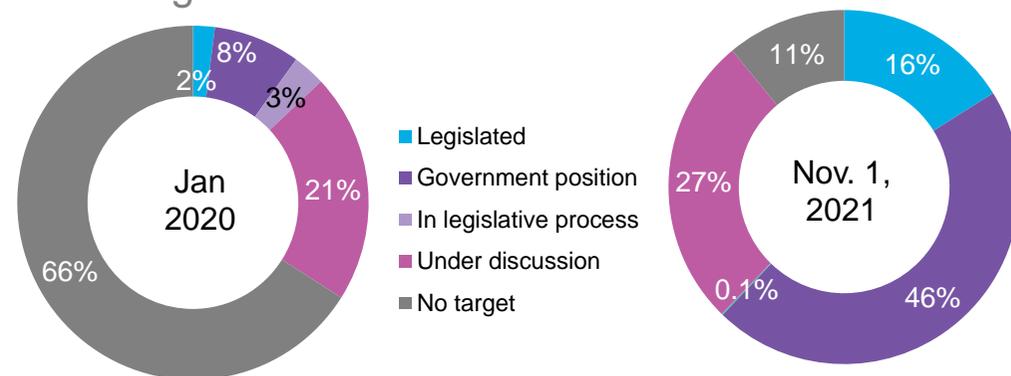
COP26 in November 2021 will kick off the first full pledging cycle, agreed in Paris in 2015, and will be the first official opportunity to discuss countries’ climate plans known as ‘Nationally Determined Contributions’. Parties must ratchet up the ambition of their pledges. Yet the NDCs submitted by end-July 2021 would put the world on course for global warming of more than 2.7 degrees Celsius this century, based on the UN Environment Programme’s Synthesis Report published Sept. 17.

- **Phasing out fossil-fuel support:** Governments, state-owned enterprises and public financial institutions continue to provide billions of dollars each year to support the production and consumption of fossil fuels. Moreover, despite recent pronouncements, some countries still plan to build hundreds of gigawatts of new coal-fired power plants, locking in those emissions for decades to come.
- **Advancing carbon pricing:** More governments than ever are pricing CO2 emissions with the aim of deterring carbon-intensive fuel use and incentivizing cleaner technologies. However, such initiatives are only effective if they lack loopholes and create CO2 prices high enough to spur decarbonization.
- **Making climate-risk disclosure mandatory:** There are growing calls for companies to be obliged to report the climate risks they face. Making such disclosure mandatory should enable companies to prepare better for the physical effects of climate change and implications of the shift to a low-carbon economy, and help investors to understand better those risks.

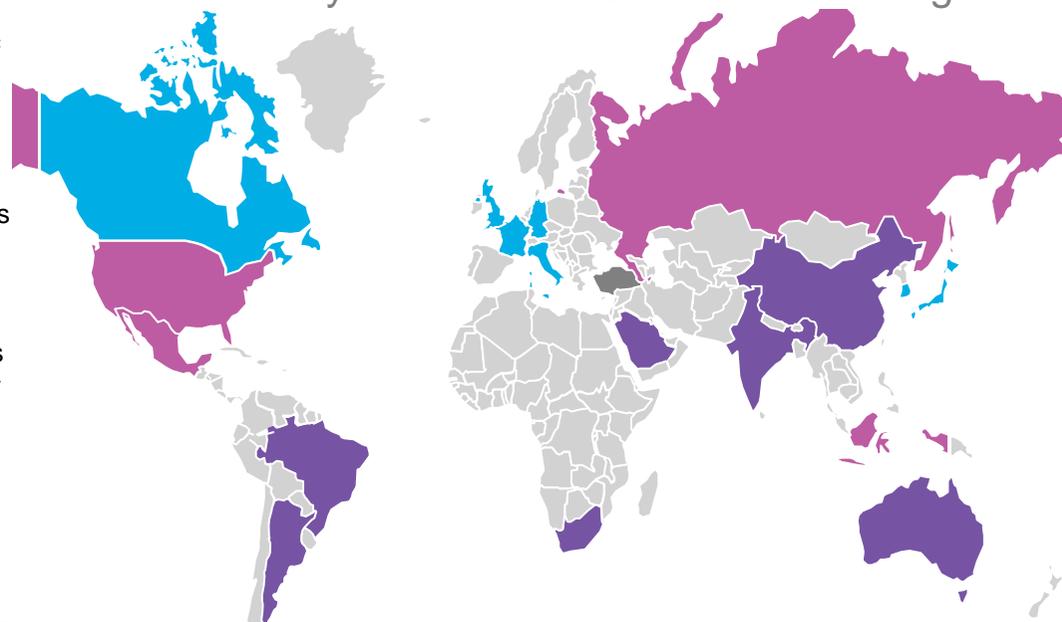
Each G-20 country is scored for each area based on metrics, explained [below](#). This score determines whether they are ‘moving in the right direction (and thus **green**)’, ‘have made insufficient progress or are moving in the wrong direction’ (**red**), or making ‘mixed progress’ (**yellow**). These ratings are not meant to be endorsements of a given country – all G-20 members have room for improvement in terms of climate ambition and implementing concrete policy support to achieve it.

Status of net-zero emission targets

Share of global emissions



G-20 countries by status of net-zero emission target



Source: Governments, WRI CAIT, BloombergNEF. Note: Greenhouse-gas emissions including land use and forestry covered by an EU, national or state-level target.

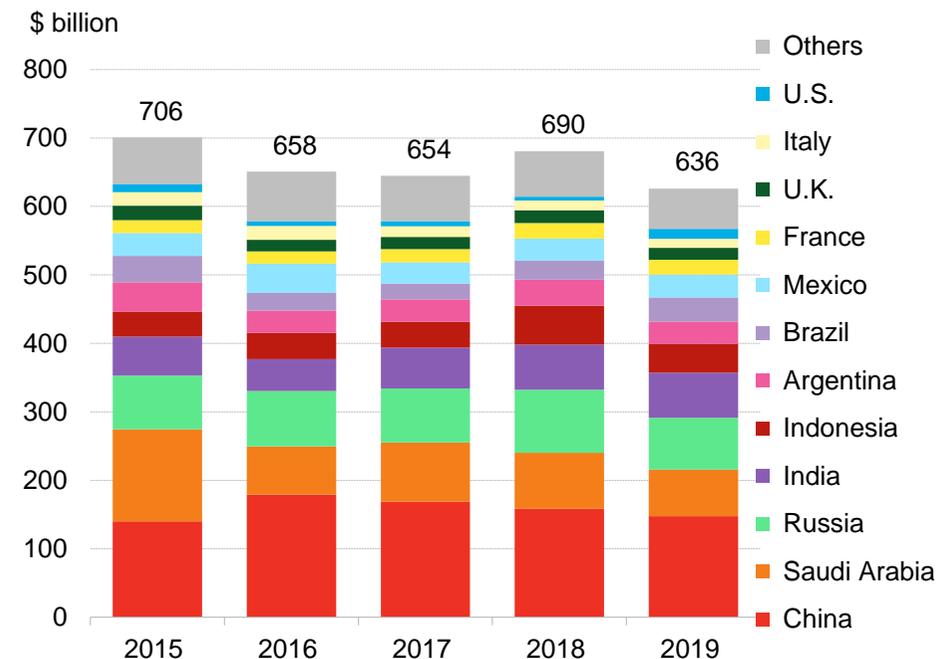
Fossil-fuel support

2015-19

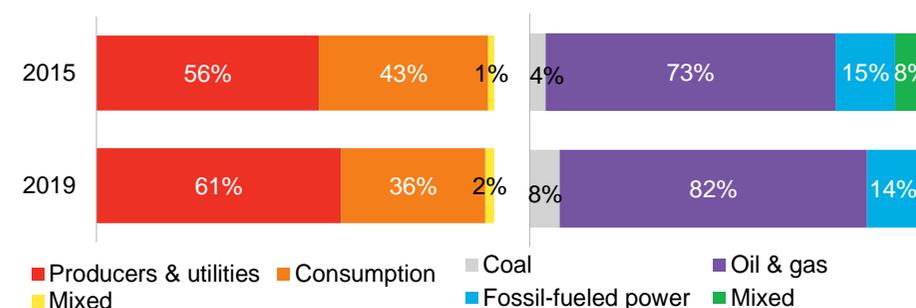
The governments of the 19 individual country members of the G-20 provide significant financial support for fossil-fuel production and consumption. Phasing out this support will be an important step in accelerating the climate transition and achieving the goals of the Paris treaty.

- G-20 governments provided \$3.3 trillion of direct support for coal, oil and gas and fossil-fuelled power 2015-19, based on updated data. At today's prices, that sum could fund 4,376GW of new solar power plants – over 3.5 times the size of the U.S. grid on a capacity basis. These figures are probably under-counts, given the limited transparency.
- Support is delivered in various forms. Nearly half the 2019 G-20 total comprised investment by state-owned enterprises, which are common in developing nations. Governments in such nations also provided the lion's share of subsidies to consumers to ease energy costs. This was a fifth of the 2019 total for all G-20 countries.
- Developed countries tend to support fossil fuels through direct budgetary transfers (8% of the G-20 2019 total), tax breaks (13%) or concessional grants and loans from public finance institutions (17%).
- China provided nearly a quarter of the 2019 total. But with a per-capita total of \$110, it was well below the G-20 average of \$349. In contrast, Saudi Arabia (\$2,003), Argentina (\$720) and Australia (\$542) came top. The G-20 as a whole has cut this funding 8% 2015-19. But this masks significant variation across countries, with 10 members boosting support – notably Australia, Canada and France.
- This support encourages the (potentially wasteful) use and production of fossil fuels. It can also distort prices and risks carbon 'lock-in' – whereby assets funded today will be around decades, locking in high levels of future emissions. All of these factors hinder the climate transition.
- Around two-thirds goes to producers and utilities, despite government climate commitments and proliferation of cost-competitive clean technologies. Even consumer-targeted subsidies disproportionately benefit wealthier consumers.
- Much of the effort to phase out fossil-fuel support has focused on coal. Yet coal subsidies have risen in recent years, with China, India, Japan, South Korea and the U.S. allocating more than \$1 billion in 2019.

Fossil-fuel support by G-20 countries



By target recipient



Source: OECD, International Energy Agency, Oil Change International, Overseas Development Institute, BNEF. Note: Includes budget transfers, tax expenditure, public finance, investment by state-owned enterprises (SOE) and consumer-price support.

Fossil-fuel support

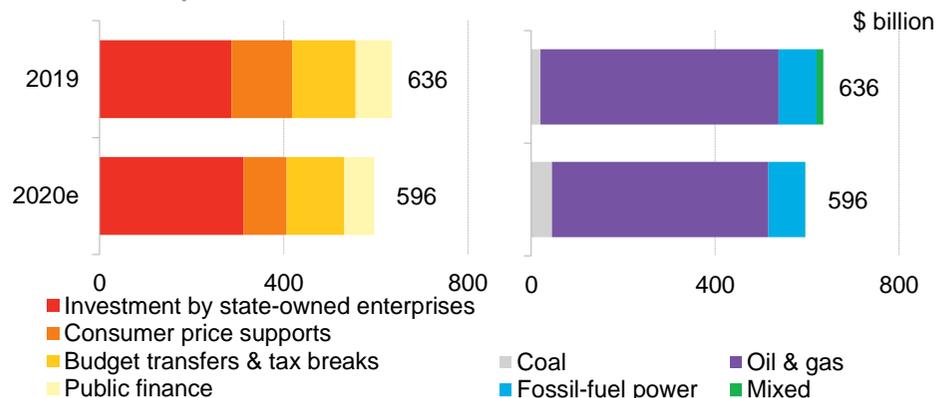
Spotlight on 2020

G-20 governments maintained broadly similar levels of support for fossil fuels in 2020 compared to 2019, based on provisional data. While substantial funds went toward a “green recovery” from the pandemic, far more was earmarked for CO2-intensive sectors.

- Fossil-fuel support provided by G-20 countries slid 6% in 2020, based on provisional estimates from multiple sources. (Read methodology.) Reporting delays and lack of transparency suggest that 2020 spending was actually somewhat higher.
- The 2020 overall decline was driven by a 29% drop in the value of subsidies for energy consumers as fossil-fuel and electricity usage decreased during the pandemic. Global oil demand dropped by around a tenth in 2020 from the year prior, according to BNEF. Low retail fuel prices meant that price-based subsidies from governments also fell. However, that reduction was partly offset by new subsidies implemented specifically in response to the pandemic. Indonesia provided electricity bill waivers totaling \$6.5 billion, for instance. Australia, France and Brazil also provided supports.
- After state-owned producers cut output in due to weaker demand, governments stepped in to shore up their balance sheets. Mexico’s state-controlled oil major Pemex received a special tax cut of \$2.6 billion, for instance. Argentina has made \$5.1 billion available to natural gas producers in the Vaca Muerta shale.
- Factoring out lower consumer price subsidies, total fossil-fuel support would have stayed level 2019-20 after governments and state-owned organizations provided special, one-time funding in response to the pandemic. G-20 governments allocated at least \$104 billion in stimulus for coal, oil, gas and fossil-fueled power projects.
- Some governments sought to ‘build back better’. G-20 countries approved nearly \$500 billion in stimulus to cut emissions and aid climate adaptation. However, far more – over \$1.2 trillion – has been set aside for carbon-intensive sectors such as aviation and construction with no green elements. France is the only G-20 country to have allocated more green stimulus than funding for carbon-intensive areas.
- Globally, governments have approved nearly \$17 trillion in stimulus funding. The vast majority we classify as ‘neutral’ and comprises disaster relief, aid for health care, wage subsidies and cross-sector funding programs.

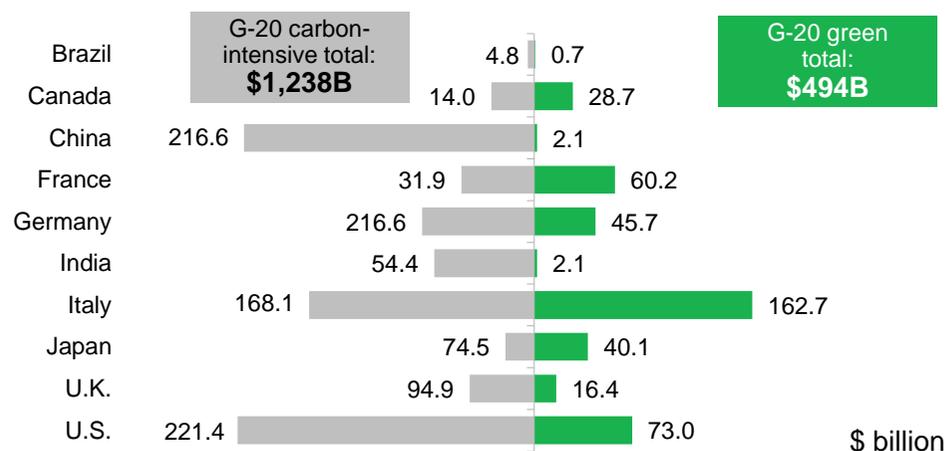
Fossil-fuel support by G-20 countries

2019 and provisional 2020



Source: OECD, International Energy Agency, Oil Change International, Overseas Development Institute, BNEF. Note: Includes budget transfers, tax expenditure, public finance, investment by state-owned enterprises (SOE) and consumer-price support. 2020 data is provisional only. See [the appendix](#) for methodology.

Approved Covid-19 stimulus in 10 largest G-20 economies



Source: Governments, development banks, Global Energy Monitor. Note: Includes EU-, national- and state-level funding. For U.S., figure assumes 50% of the \$128 billion of green funds proposed in the Infrastructure Bill will be allocated, as it has yet to be approved by the House of Representatives.

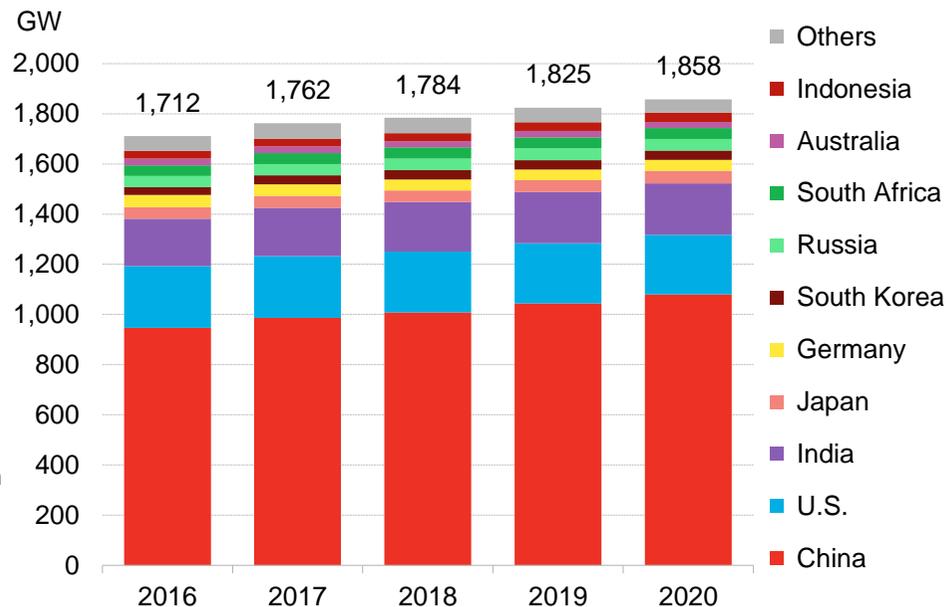
Fossil-fuel support

Coal power

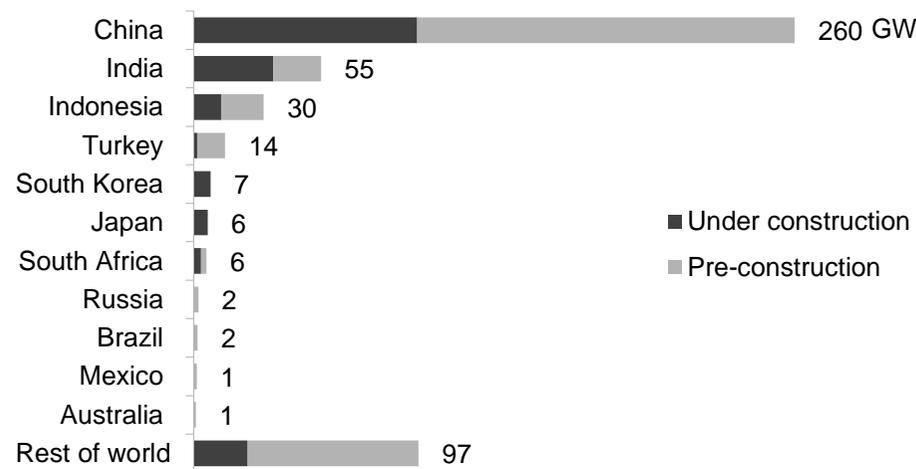
Some G-20 nations have cut significantly the number of coal-fired power plants operating within their borders and plan to build no further projects. However, others have far exceeded the global average increase in coal-fired capacity for 2015-19 and set their sights on hundreds of megawatts in new build, potentially locking in higher emissions for decades more.

- As climate fears have grown and clean energy prices plummeted, some governments have sought to scale back their support for coal-fired power. CO2 emissions from coal combustion were responsible for over 0.3 degrees Celsius of the 1 degrees of global warming to date, according to the [International Energy Agency](#). Coal-fired power accounted for 30% of global CO2 emissions.
- Against this backdrop, governments, companies and organizations such as the Powering Past Coal Alliance have worked to promote the shift away from coal. COP26 host the U.K. government has sought to make abandoning coal a top priority. At the G-7 summit in July, also hosted by the U.K., leaders agreed to end “new direct government support in carbon intensive international fossil fuel energy” and support for “unabated international thermal coal power generation by the end of 2021”.
- In addition, seven countries, including France, Germany and the U.K., announced a ‘No New Coal Power Compact’ at the UN High-Level Dialogue on Energy in September. The initiative aims to urge other nations to halt construction of coal power by COP26.
- China remains very much in the spotlight, both because of its enormous domestic fleet of coal-fired power plants and its funding for such projects abroad. President Xi Jinping sought to address the latter on September 21 when he said China would stop building overseas plants. More than 70% of such projects globally today rely on funding from China, according to the International Institute of Green Finance.
- More is clearly needed, however. The G-7 pledge was phrased in a way that still allows for plants with higher-efficiency thermal coal technologies. It also did not define the “limited circumstances” under which countries could still provide support. Xi’s statement related only to plants outside China but said nothing about the 260GW under development within the country.
- The global “pipeline” for new coal-fired power plants is less than a third of what it was in 2015, according to an [E3G report](#). But a further 481GW is still planned. The 384GW G-20 pipeline would be equivalent to the aggregate coal-power capacity that came online in those the 19 countries 2012-20.

Operating coal-fired power plants in the G-20



Planned coal-fired power plants in the G-20



Source: BloombergNEF, Global Energy Monitor (July 2021).

Fossil-fuel support

Assessment

Seven G-20 countries made no clear progress in phasing out fossil-fuel support (2015-19) or moving away from coal-fired power, based on BNEF analysis. Six others did move in the right direction by scaling back support for fossil fuels and reducing reliance on coal. The rest of the G-20 more or less ran in place over the five-year period.

- With some notable exceptions, governments have by and large not exploited the opportunities presented by low fuel prices and reduced fossil-fuel consumption to pursue subsidy reforms. Rarely is making such changes easy politically, of course. Other policies can be implemented to offset cuts, however.
- These include financial incentives for renewables and energy storage, capacity mechanisms in the power market, and ‘just transition’ strategies to support companies, workers and local communities affected by the shift from fossil fuels to cleaner technologies.
- In 2009, G-20 governments committed to “phase out and rationalize over the medium term inefficient fossil fuel subsidies” – a pledge reiterated at their 2021 summit in Rome. They did not clearly define “inefficient” nor did they not specify a deadline other than reference to “the medium term”. In 2021, both the G-7 and G-20 countries also pledged to end support for “unabated international thermal coal power generation” by end-2021. But exceptions were not defined and the generally vague wording potentially left the door open to more efficient but still emission-intensive technologies.
- Seeking to speed the phase-out process, G-20 governments developed a framework for voluntary peer reviews of fossil-fuel subsidies. China and the U.S. were the first to undertake such reviews of each other’s fossil-fuel support, with the results published in 2016. Argentina and Canada, and France and India, are in the process of undertaking peer reviews.
- The reviews are likely to have varying degrees of success. Each government may choose its own definition of “inefficient fossil-fuel subsidies” and decides whether to act on the results. A change in political leadership may also affect the implementation of changes: the U.S., for example, began its review under the helm of President Obama but delivered the results under President Trump.

Progress phasing out fossil-fuel support

	Fossil-fuel support		Coal power	
	Change in total (2015-19)	Per capita (2019)	Change in capacity (2016-20)	Change in capacity if pipeline is built
Argentina	↓24%	\$720	0%	0%
Australia	↑50%	\$297	↓11%	↑4%
Brazil	↓9%	\$166	↑29%	↑29%
Canada	↓6%	\$301	↓17%	0%
China	↑5%	\$105	↑14%	↑19%
France	↑15%	\$323	0%	0%
Germany	↓41%	\$76	↓13%	0%
India	↑15%	\$48	↑9%	↑21%
Indonesia	↑17%	\$157	↑23%	↑45%
Italy	↓34%	\$216	↓14%	0%
Japan	↓9%	\$129	↑11%	↑11%
Mexico	↑0.4%	\$263	0%	↑20%
Russia	↓4%	\$523	↑3%	↑4%
Saudi Arabia	↓49%	\$2,000	0%	0%
South Africa	↓33%	\$103	↑5%	↑11%
South Korea	↑3%	\$311	↑21%	↑16%
Turkey	↓22%	\$35	↑17%	↑40%
U.K.	↓19%	\$261	↓63%	0%
U.S.	↑34%	\$45	↓4%	0%

Source: BloombergNEF.
Note: [Click here for definitions](#)

■ Right direction
 ■ Mixed
 ■ Wrong direction/insufficient progress

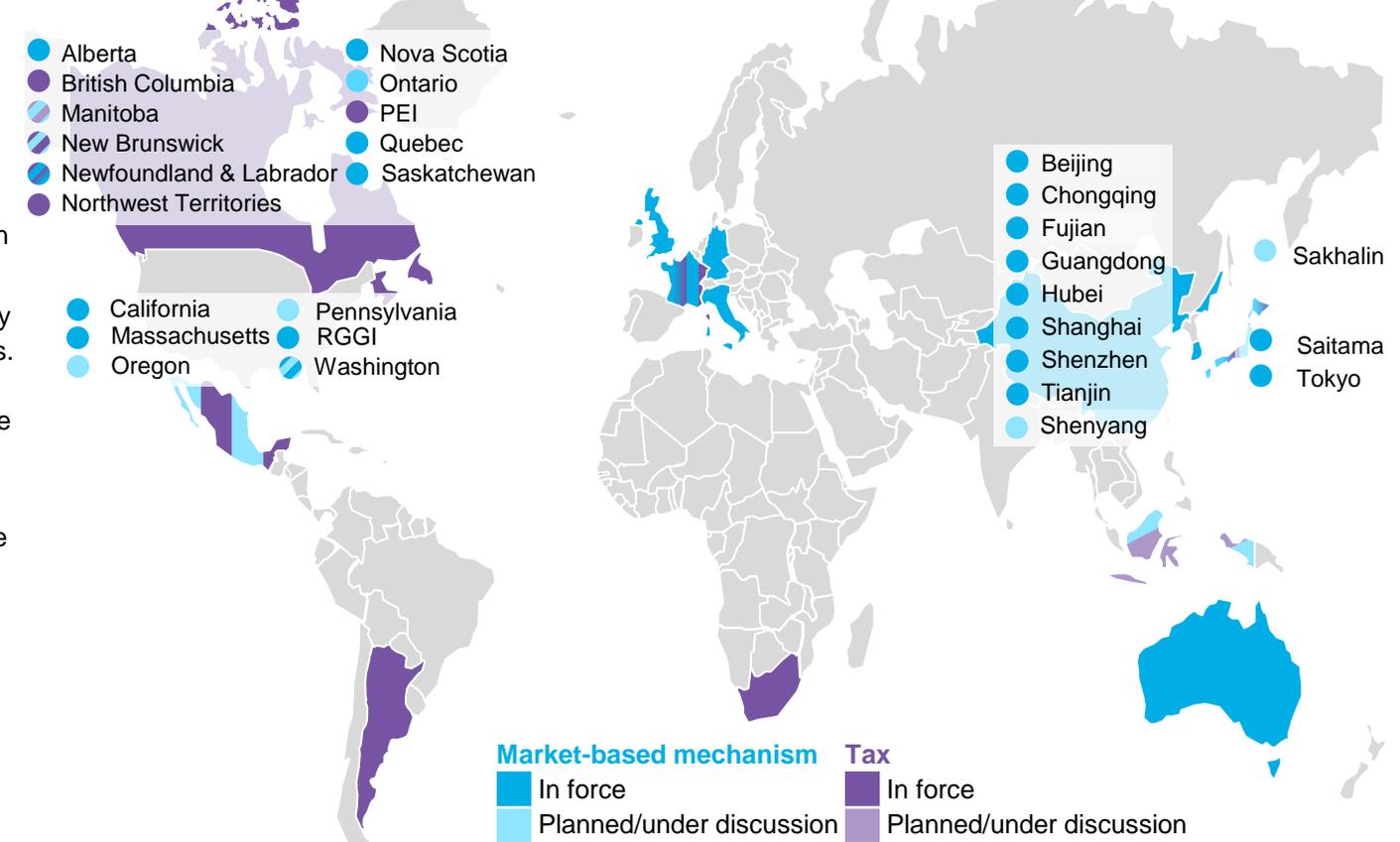
Carbon pricing

Overview

The aim of putting a price on CO₂ is to force polluters to pay for the costs they impose on the environment and thus incentivize them to cut emissions. There are two main ways for governments to price carbon: market-based mechanisms such as emission-trading systems or fixed-price systems like taxes. The design features of an ETS or tax can differ significantly, as can the realized carbon price. Existing schemes vary greatly in terms of price levels, industries covered and regions.

- An emissions-trading or 'cap and trade' scheme places an upper limit, or cap, on the amount of available emission permits. Prices paid by participants are determined by the allowance supply-demand balance, in the absence of measures such as price floors.
- A carbon tax gives participants more certainty on the future cost of carbon, but does not guarantee any specific level of emission reductions. A tax has less flexibility, but is administratively simpler than an emission-trading scheme.
- Carbon pricing is best used as part of a policy suite because it may not provide sufficient incentive for innovation, especially the types and scale of innovation likely to be required to reach a net-zero world.
- A fluctuating carbon price may not provide the certainty required for companies to make long-term investments. Further, the technologies needed for deep decarbonization are far from commercialization – these projects are unlikely to be scaled up unless there is further financial support available.
- Governments with carbon-price ambitions need to take steps to bolster public acceptance. Important factors are measures to ensure fairness, the policy name (eg, 'fee' or 'contribution' over 'tax'), and how revenue is spent. In some carbon-pricing programs (such as British Columbia), revenue is used to support especially affected and/or low-income households and companies.

Carbon markets and taxes in the G-20



Source: Governments, BloombergNEF. Note: PEI = Prince Edward Island. RGGI = Regional Greenhouse Gas Initiative

Carbon pricing

Assessment

A total of 12 G-20 countries have established nationwide prices on emitting CO₂. Another – Indonesia – will introduce a carbon tax from April 2022, and the U.S. has various state-level schemes. However, today only four G-20 nations have prices sufficiently high to achieve the goals of the Paris Agreement. For this analysis, each country was assessed based on share of emissions covered by a carbon tax or market, price level and, for markets, share of free allocation to participants. If a nation had more than one program, an average was calculated weighted by each scheme's emissions.

- Six G-20 countries have operational CO₂ taxes or trading markets that cover over half of their national emissions. But their per-ton tax or permit price is often too low to spur significant decarbonization. An explicit carbon price of \$40-80 per metric ton is needed by 2020 and \$50-100 by 2030 to limit global warming to 2 degrees above pre-industrial levels by the end of the century, according to the [World Bank](#).
- Among the G-20, only France, Germany, Italy and the U.K. would meet this threshold. But even at those levels, carbon pricing alone is insufficient to achieve the long-term goals of the Paris Agreement. Other policies are needed, including measures to promote development of new technologies or to provide revenue stability for projects to secure cost-effective financing.
- Historically, carbon-pricing programs have not been effective decarbonization drivers at the start. It takes time for concessions (eg, free allocation of permits) to be removed and demand – and prices - build up, allowing companies to adapt.
- However, if the price remains too low (or concessions too generous), the scheme has little effect on participants. In the EU ETS for instance, the cost of emitting hovered around 10 euros (\$12) from 2012-17, while Japan's carbon tax remains around \$3/t. However, schemes implemented today need to have a much more immediate effect.
- Nine G-20 countries have had mixed success in pricing CO₂ emissions. In most of these cases, the national government has implemented a tax or market. But it will likely have little impact in terms due to low prices and/or liberal concessions. In the U.S., state-level programs collectively cover less than a tenth of total national emissions and carbon credits trade at a relatively low price. Indonesia's carbon tax is to begin from April 2022.
- Five countries (in red at right) have yet to put any price on emitting CO₂. Among this group, Turkey appears closest to taking action, and Russia is considering a regional trial.

Progress on carbon-pricing policies

	Emissions covered	Average price (per metric ton)	Free allocation (markets only)
Argentina	20%	\$7	–
Australia	50%	\$14	46%
Brazil	0%	–	–
Canada	78%	\$31	–
China	43%	\$6	98%
France	55%	\$64	41%
Germany	40%	\$49	22%
India	0%	–	–
Indonesia	<i>Tax scheduled to begin from April 2022</i>		
Italy	45%	\$74	41%
Japan	68%	\$3	–
Mexico	23%	\$2	–
Russia	0%	–	–
Saudi Arabia	0%	–	–
South Africa	80%	\$9	–
South Korea	74%	\$25	90%
Turkey	0%	–	–
U.K.	31%	\$72	37%
U.S.	8%	\$7	37%

Source: BloombergNEF.
Note: [Click here for definitions](#)

■ Right direction
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Climate risk disclosure

Overview

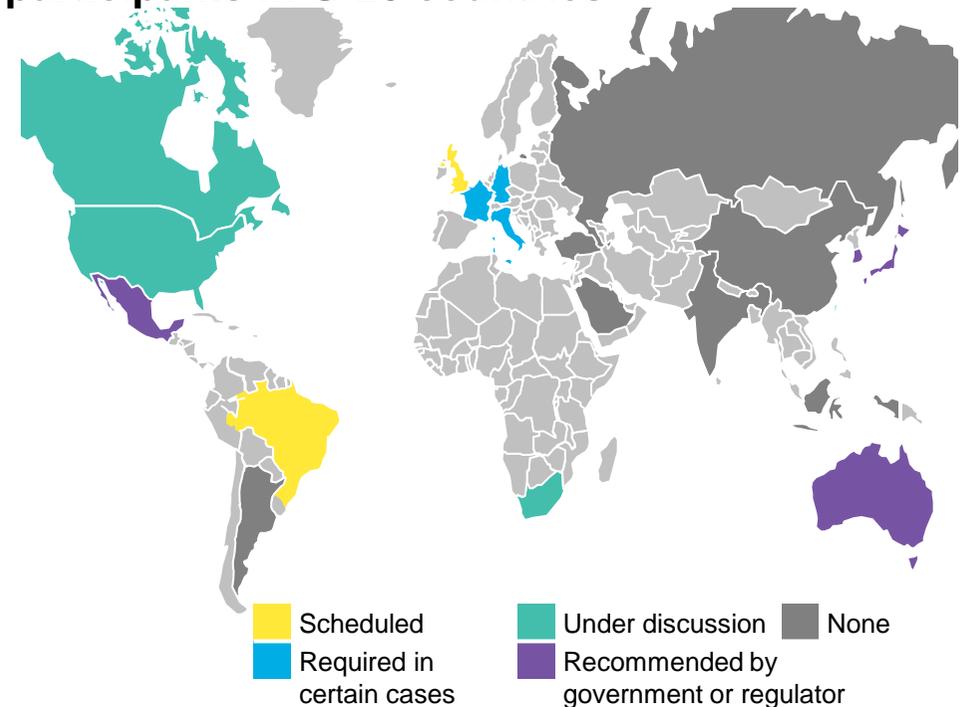
Climate risk encompasses both physical and transition risks linked to climate change. With weather events becoming more frequent and extreme, companies and investors are already increasingly feeling the physical effects of climate change. In addition, with governments taking more climate action, companies and investors face growing transition risk in the form of new policies and litigation due to inaction. Governments are starting to introduce policies to ensure the right data is collected and published in order for financial players to assess accurately those climate risks. The ultimate goal is for financial institutions to price the impact of climate change into their investment or lending activities.

- Most G-20 members have voiced support for voluntary reporting of climate risks, and the G-7 backed “moving towards” mandatory climate-risk disclosure at their 2021 summit. But only the EU and the U.K. have legislated climate-risk regulations on investors to date. Their efforts have focused on assessing the environmental impacts companies and investors face, then evaluating climate change’s potential impact on future performance.
- The Task Force on Climate-related Financial Disclosures (TCFD) has built the most widely used climate-risk disclosure framework, with 2,514 corporate, financial and government supporters. While largely voluntary, it has gained momentum, with some countries implementing rules requiring disclosure in certain cases, such as the EU. The G-20 ministers agreed at their finance and climate meetings in July to promote implementation of disclosure mandates and build on the work of the TCFD. However, only the U.K. and Brazil have scheduled mandatory TCFD reporting for listed companies or banks.
- Central banks can also play important roles in supporting climate-risk disclosure, notably by integrating such risks into routine ‘stress tests’ of financial institutions’ health. These tests force financial institutions to show how they would perform under multiple climate scenarios. Results could ultimately compel banks and insurance companies to keep higher capital reserves. The European Central Bank’s (ECB) economy-wide climate-risk stress-test has already highlighted that the cost of climate change far outweighs the cost of transitioning to a low-carbon economy.
- A special G-20 working group is devising a ‘sustainable finance roadmap’ to be presented at the Oct. 30-31 summit. This will outline potential actions for scaling sustainable finance, such as collecting consistent, robust and relevant data. While the roadmap is meant to inform future G-20 work, it is not expected to impose new requirements on members.

By the numbers

G-20 members scheduled to begin mandatory TCFD disclosure (for banks and/or companies)	2
G-20 members with central bank climate risk stress-testing completed or scheduled for the near future	8
G-20 members with environmental taxonomies in force	5

Mandatory TCFD reporting for financial market participants in G-20 countries



Source: BloombergNEF

Climate risk disclosure

Assessment

Since this report's first release in July 2021, we have updated its methodology to focus on which G-20 countries have passed laws or regulations to mandate specific, nationwide climate-risk disclosure for investors (asset managers and pension funds). To date, the U.K. and three EU member states are the only G-20 nations to have done so. While they are not perfect, they are deemed to be 'moving in the right direction' under this study's methodology.

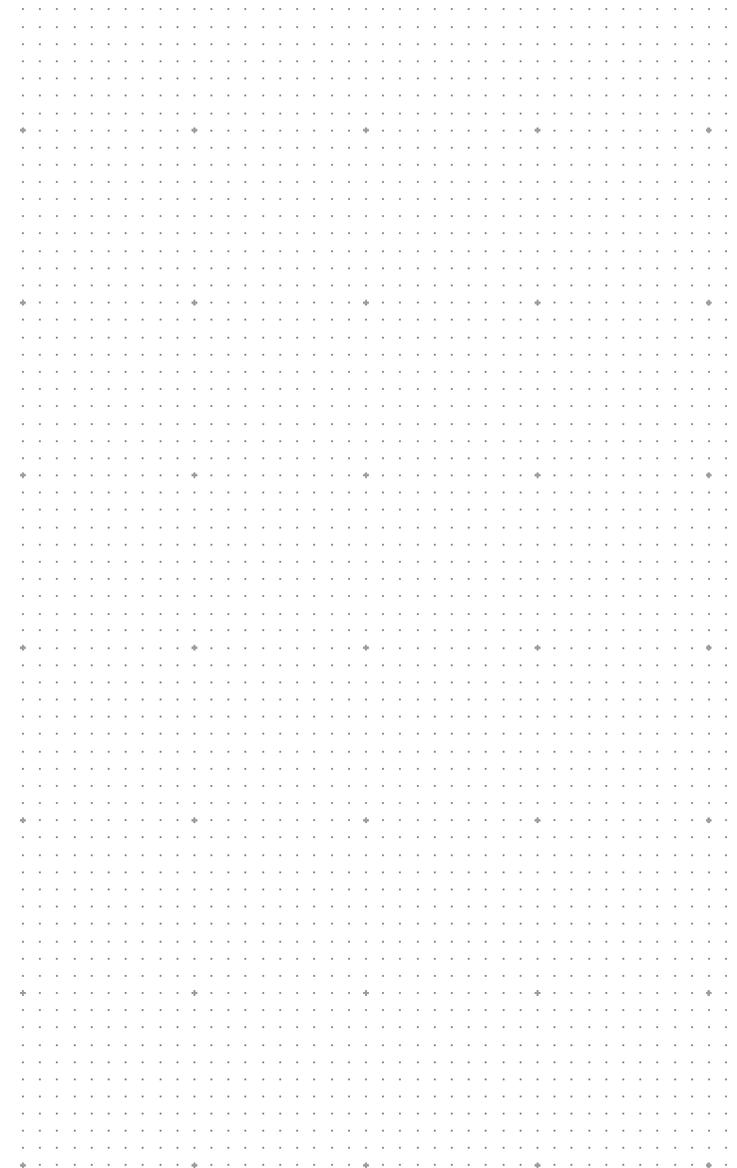
- Now, the 'mixed' rating only includes countries with mandatory, nationwide, generic environmental disclosure policies for investors. More than half the G-20 countries have not taken even this step, illustrating the significant room for improvement required on climate-risk disclosure.
- Such policies can have a forward-looking dimension, such as when governments or central banks conduct stress-tests to assess future impacts of climate change on the profitability of a company or stability of a financial institution. Climate-risk policies can also assess the effects of environmental changes and climate policies on the current performance of companies and financial products. Countries with mixed progress, such as Australia or Brazil, lack specific climate risk regulations. However, they have initiatives that set the right foundation to develop further climate-risk regulatory standards.
- The TCFD recommendations offer a robust framework for evaluating climate-change impacts on organizations. TCFD promotes scenario analysis to better understand how organizations might perform under various future climate scenarios and this can be the most challenging component for supporters to implement.
- It falls to policy makers to develop further guidance on scenario analysis, ensuring it can also be supported by central banks that have launched climate risk stress-test pilots, like the [European](#) and [French](#) banks. As others, including Japan and Australia, undertake stress tests, understanding of scenario analysis should improve.
- In 2017, eight central banks and supervisors [established](#) the Network of Central Banks and Supervisors for Greening the Financial System (NGFS). Most central banks are now members of the initiative, which aims to enhance how financial institutions identify and manage climate risks, among other goals.
- Despite the positive momentum, financial institutions still lack much of the data needed to assess fully climate-related risks associated with their investments. This puts the onus on regulators to enforce disclosure regulations focusing on physical assets and environmental data. The availability of such information, available in a standardized manner, is key to ensuring more accurate climate-risk assessments. It also alleviates the use of estimates that may paint an inaccurate picture of climate risks.
- To ensure wider adoption of best climate-risk disclosure practices from financial and non-financial organizations, countries should aim for uniformity and harmonization between regulatory standards. The Chinese central bank [announcing](#) its cooperation with the EU on developing a jointly recognized green taxonomy is a great example of such initiatives.

Progress on climate risk disclosure policies for investors



Source: BloombergNEF. Note: Rated based on implementation of mandatory, specific nationwide climate-risk disclosure for investors (asset managers and pension funds). [Click here for definitions](#)

Country snapshots



Argentina

Non-Annex I party

Argentina was one of the first G-20 members to increase the ambition of its 2030 emission target. However, the new goal may require relatively little effort to achieve, based on BNEF analysis. The same cannot be said for its new net-zero pledge for 2050. The government has introduced policies to promote renewables but the macroeconomic crisis and bottleneck on the power transmission network is hindering investment. It will need to implement significant new support to achieve this target, especially to decarbonize the transport and agriculture sectors.

- Argentina still provides significant direct support to fossil fuels, with the second-highest per-capita total capita (at \$734 in 2019). It decreased total support by 23% over 2015-19, with cuts focused mainly on scaling back subsidies received by consumers.
- As a result, fossil-fuel producers and utilities benefited from 81% of total support in 2019, driven by investment from state-owned enterprises, YPF and Integracion Energetica Argentina. These figures are likely an underestimate due to lack of transparency around support provided to state-owned enterprises, and funding provided by export credit agencies.
- Argentina and Canada have yet to announce the results of their mutual subsidy peer review agreed in 2018. While there is no official deadline, previous reviews have taken 12-18 months.
- In 2018, Argentina introduced a carbon tax on liquid fuels and coal, covering around a fifth of emissions. The official rate is \$10 per metric ton but due to currency devaluation, liable entities pay around \$3.60. The measure therefore has relatively little impact in practice. Tax revenue has been allocated to the National Housing Fund, the Transport Infrastructure Trust and the social security system.
- Argentina lacks policy on climate-risk disclosure, with no TCFD reporting requirements and no local TCFD supporters. It also imposes no mandatory rules regarding climate risk and does not participate in the NGFS initiative. So far, only companies with over 300 employees must produce annual sustainability report.

Fossil-fuel support

Total (2015-19)	\$178 billion
Share spent on coal (2019)	0.1%
Share targeted at producers & utilities (2019)	81%



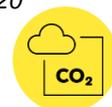
Fossil-fuel support (\$ billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF. Note: 2020 country-level data not yet available.

Carbon pricing

Carbon-pricing policy	✓
National emissions covered by carbon price	20%
Latest available carbon price (Sept 2021)	\$7/metric ton



Climate-risk disclosure

Investor climate-risk policy (used for ranking)	x
Mandatory TCFD policy	x
Corporate, financial and government TCFD supporters	1
Central bank climate-risk stress-testing	x
Environmental taxonomy	x



Australia

Annex I party

Prime Minister Scott Morrison said on Oct. 26, 2021, that Australia intends to reach net-zero emissions by 2050 and is devising a plan on how to achieve it. However, the government does not plan to alter its 2030 emission target, making Australia one of the few Annex I parties that has not increased its NDC's ambition in time for COP26. The country has begun to decarbonize its power system but it will require more policy support across the rest of the economy to meet even its current 2030 emissions goal or indeed net zero by mid-century.

- Among the G-20, Australia had boosted its financial support for fossil fuels the most 2015-19, with spending up 48% over that time. Tax breaks account for the lion's share, thanks to capex deductions for mining and petroleum operations, fuel-tax credits and reduced fuel-excise rates. In total, the country lost out on nearly U.S. \$6 billion in foregone taxes 2015-19.
- Carbon pricing is controversial in Australian politics. Introduced in 2016, the national Emissions Reduction Fund Safeguard Mechanism acts as a 'baseline and credit system' under which industrial and power companies must surrender offsets if they exceed their government-set baseline level of emissions. It lacks ambition, however, as it was not designed to cut emissions – just ensure they remain below the baseline.
- However, this issue could be mitigated if the government implements the proposed Safeguard Crediting Mechanism. This would operate alongside the existing scheme from July 2022 and offer credits to facilities that reduce their emission intensity. The consultation ended October 5, 2021.
- Australia has taken some steps to promote climate-risk disclosure, with limited success. TCFD reporting is not mandatory but the country has already a large base of supporters which could be leveraged.
- Two other drivers could spur more action: the Australian Securities and Investment Commission has encouraged TCFD reporting and welcomed it as the preferred market standard; and the Australian Prudential Regulation Authority is increasing scrutiny of climate-risk management while undertaking a consultation on how to manage the financial risks of climate change. It also required banks to publish the assessment of their climate vulnerability assessment in 2022 to further work on climate risk policies.

Fossil-fuel support

Total (2015-19)

\$38 billion

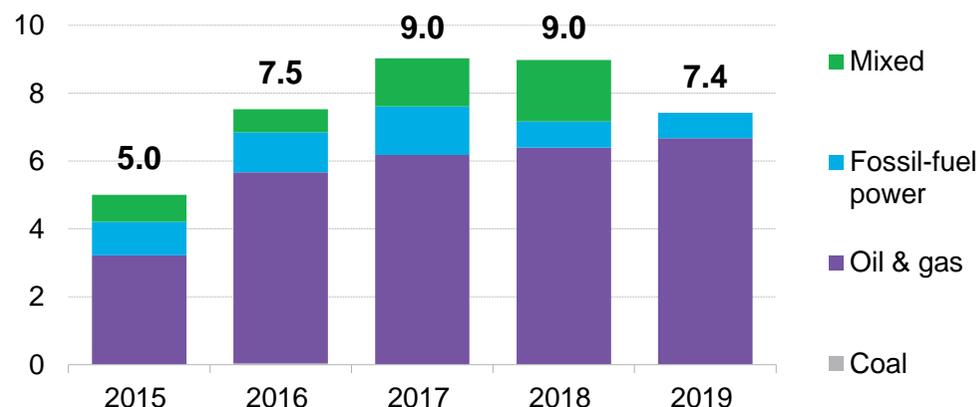
Share spent on coal (2019)

0%

Share targeted at producers & utilities (2019)

31%

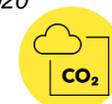
Fossil-fuel support (\$ billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF. Note: 2020 country-level data not yet available.

Carbon pricing

Carbon-pricing policy



✓

National emissions covered by carbon price

50%

Latest available carbon price (Sept 2021)

\$14/metric ton

Climate-risk disclosure

Investor climate-risk policy (used for ranking)

✗

Mandatory TCFD policy

✗ Recommended only

Corporate, financial and government TCFD supporters

122

Central bank climate-risk stress-testing

✓ Scheduled

Environmental taxonomy

✗

Brazil

Non-Annex I party

Brazil's more ambitious target to reach net-zero emissions by 2050, announced at COP26, marks a policy about-turn for the Jair Bolsonaro administration. Not only does it bring forward the deadline by 10 years, but it also firms up what had previously been a weaker commitment: its December 2020 climate plan referenced a "potential indicative objective" of achieving net-zero emissions in 2060. However, the government will need to significantly ramp up policy support, especially outside the power sector, to achieve this new goal.

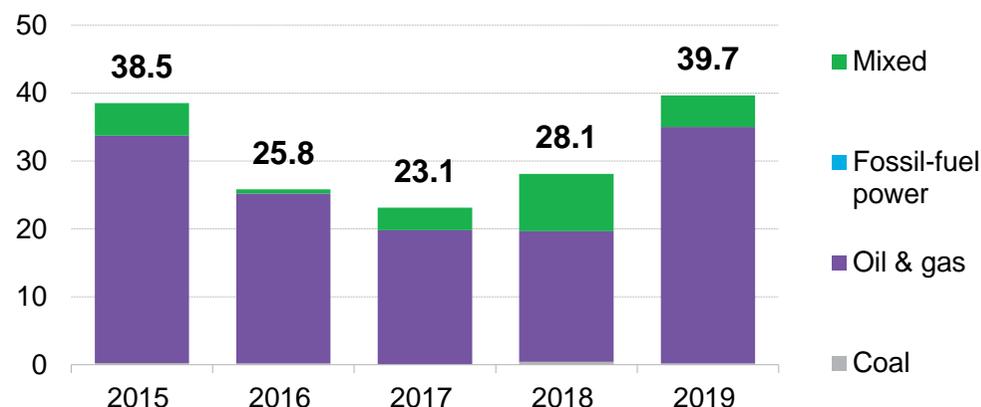
- Since this report's first publication in July 2021, Brazil score on the fossil-fuel metric has been upgraded to 'mixed progress'. It only saw a slight increase (3%) in support for fossil fuels 2015-19, although its per-capita total in 2019 (\$188) was some way above the G-20 average. The country has taken steps toward phasing out supports, halving aid for consumers from 2015-19.
- Brazil cut its coal-power capacity by 5% 2016-20, but plans to build a further 1.7GW, which would increase the size of its current fleet by a third.
- In December 2019, Brazil's Ministry of Economy pledged to 'accelerate studies on the creation of a carbon pricing system based on national greenhouse gas emissions trading'. It is undertaking impact assessments for both an ETS and a tax.
- There is relatively little backing among companies for TCFD reporting, as shown by the low number of local supporters of the initiative. But in September 2021, the central bank announced that TCFD reporting will become mandatory for banks, from 2022. To allow banks to do so, mandatory reporting in line with TCFD recommendations for companies will be required.
- Brazil's central bank has required financial institutions to maintain processes to manage environmental risks since 2014. It is also part of the Network of Central Banks and Supervisors for Greening the Financial System and is discussing how to integrate a climate-risk stress-testing. In September 2021, the central bank announced new rules making it mandatory for banks to incorporate climate change-related risks in their stress-tests in 2022.

Fossil-fuel support

Total (2015-19)	\$155 billion
Share spent on coal (2019)	0.4%
Share targeted at producers & utilities (2019)	90%



Fossil-fuel support (\$ billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF. Note: 2020 country-level data not yet available.

Carbon pricing

Carbon-pricing policy	*
National emissions covered by carbon price	0%
Latest available carbon price (Sept 2021)	n/a



Climate-risk disclosure

Investor climate-risk policy (<i>used for ranking</i>)	* Generic ESG reporting for funds
Mandatory TCFD policy	✓ For banks as of 2022
Corporate, financial and government TCFD supporters	38
Central bank climate-risk stress-testing	✓ Scheduled
Environmental taxonomy	*



Canada

Annex I party

Canada's new emission target for 2030 announced at April's Earth Day summit would require relatively little additional effort to achieve provided the country maintains current trends in energy efficiency and clean fuels. This is not a foregone conclusion, however. An even steeper reduction will be needed to meet the national 2050 net-zero target. With a relatively low-carbon existing power system, federal and provincial policy makers will have to strengthen support to decarbonize buildings and industry and tackle the country's fossil-fuel value chain.

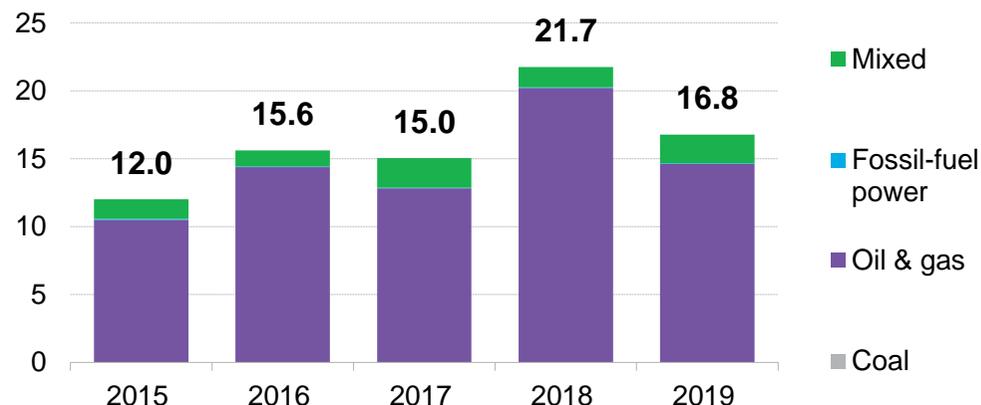
- In this update to the July 2021 Factbook, Canada is categorized as moving 'in the right direction' when it comes to its support for fossil fuels. This is largely because the updated methodology takes into account each country's change in coal-fired power – Canada saw a 17% decrease 2016-20. The country now intends to phase out coal entirely by 2030.
- Still, Canada has room for improvement in terms of the fossil-fuel support it provides. Its support for such industries grew 40% 2015-19 – the second-largest increase among the G-20. Over 80% of the total in 2019 comprised public finance for oil and gas producers and utilities, putting Canada in the top 3 for this type of support. The remainder was in the form of tax breaks.
- A nationwide carbon price was introduced in 2019. Provinces and territories must have a system that meets the federal standard – set at C\$40 (\$31) per metric ton in 2021, rising to C\$170 (\$130) by 2030. If they fail to do so, a 'federal backstop' kicks in, comprising a tax and a baseline-and-credit program (Output Based Pricing System). The Supreme Court ruled in March 2021 that climate change is a national threat and thus the backstop is constitutional, following appeals from some provinces.
- Canada, as a G-7 member, said it backed "moving towards" mandatory climate-risk disclosure and it has 104 companies and organizations supporting the TCFD. But the only mandatory policy is for large companies to publish TCFD reporting to access Covid-19 recovery financing.
- Part of the NGFS initiative, Canada's central bank launched in 2021 its first climate risk stress-test pilot covering both banks and insurers. The private sector is also working on a climate transition taxonomy, but the project has already been delayed and is not sponsored by the federal government.

Fossil-fuel support

Total (2015-19)	\$81 billion
Share spent on coal (2019)	0.1%
Share targeted at producers & utilities (2019)	93%



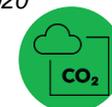
Fossil-fuel support (\$ billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF. Note: 2020 country-level data not yet available.

Carbon pricing

Carbon-pricing policy	✓
National emissions covered by carbon price	78%
Latest available carbon price (Sept 2021)	\$31/metric ton



Climate-risk disclosure

Investor climate-risk policy (used for ranking)	
Mandatory TCFD policy	✓ In certain cases
Corporate, financial and government TCFD supporters	104
Central bank climate-risk stress-testing	✓ Scheduled
Environmental taxonomy	✗ Transition taxonomy in development



China

Non-Annex I party

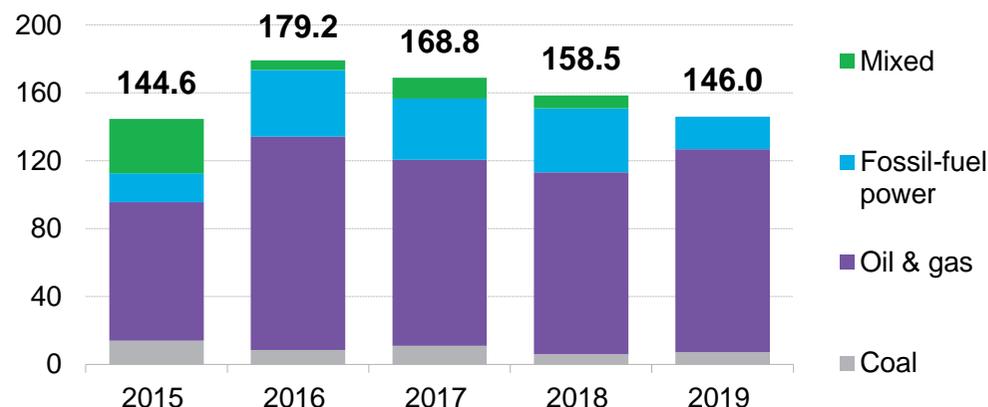
China intends to limit additional coal consumption during 2021-25 and reduce total consumption 2026-30, President Xi Jinping said during April's Earth Day summit. A more ambitious 2030 target would be needed to put China on a path to carbon neutrality by 2060 – the pledge announced by Xi in September 2020. The country is the largest wind and solar market and leads the world in electric-vehicle deployment.

- In 2019, China provided \$146 billion in fossil-fuel support, by far the most among the G-20 and nearly double what runner-up Russia provided. Some 57% of China's total was in the form of investment by state-owned oil and gas producers.
- The results of its peer review of fossil-fuel subsidies with the U.S. were announced in 2016, including a reform plan for China. Since then consumer price support and public finance have declined but these trends have been outweighed by the increases in other types of support.
- The country also scores poorly on coal power, having increased its fleet 16% over 2016-20. President Xi has said China will end support for new coal-power plants abroad and will be cautious for approving new projects. Currently China has some 260GW of coal on the cards.
- China's national carbon market covering the power sector began in 1Q 2021. In the long term, this policy could help cut emissions. In the shorter term, its design (eg, no absolute emission cap) will mean it is less of a driver of decarbonization than other policies such as the energy intensity limits and RPS targets. However, it is actively considering incorporating other heavy-emitting sectors (eg, steel, cement) into the carbon scheme.
- China has no policy support encouraging or enforcing TCFD reporting and very low support among companies. Investors are also not required to report climate risk. However, the country intends to collaborate with the EU on creating green investment standards by merging their environmental taxonomies. It is also working to establish the instruments, standards, rules and institutions comprising a 'green financial system'. In June 2021, the People's Bank of China governor said the bank will introduce "mandatory disclosure of climate-related information", without outlining a timeframe to do so ([web](#)).

Fossil-fuel support

Total (2015-19)	\$793 billion
Share spent on coal (2019)	4.9%
Share targeted at producers & utilities (2019)	69%

Fossil-fuel support (\$ billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF. Note: 2020 country-level data not yet available.

Carbon pricing

Carbon-pricing policy	✓
National emissions covered by carbon price	43%
Latest available carbon price (Sept 2021)	\$6/metric ton

Climate-risk disclosure

Investor climate-risk policy (<i>used for ranking</i>)	✗
Mandatory TCFD policy	✗
Corporate, financial and government TCFD supporters	25
Central bank climate-risk stress-testing	✗
Environmental taxonomy	✓

France

Annex I party

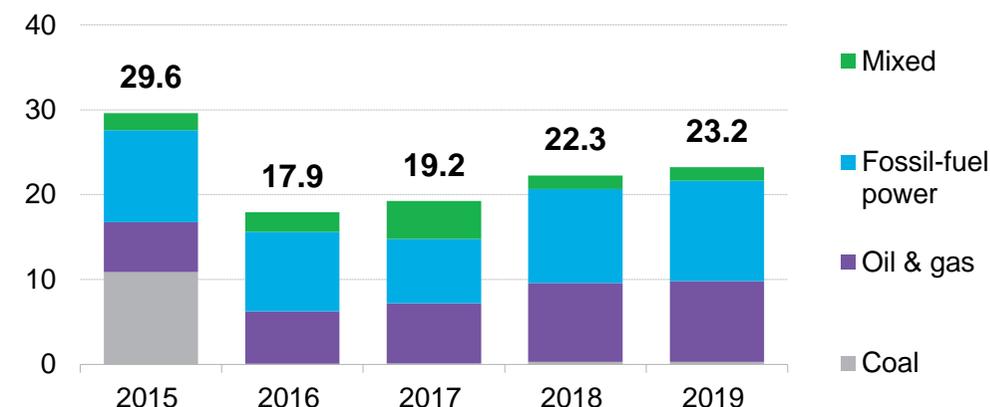
France was one of the first countries in the world to legislate a net-zero target and the EU's 2030 emission target is also bold. It has implemented a relatively strong set of policies to achieve these pledges, especially in the power and transport sectors.

- Having increased fossil-fuel support by 24% over 2015-19, France had the highest per-capita total in 2019 (\$347) of the OECD countries. Half of its 2019 total comprised investment by state-owned enterprises involved in oil and gas and fossil-fuelled power.
- However, France is defined as moving in the right direction overall on fossil-fuel support because of efforts to move away from coal. It saw no increase in coal-fired capacity 2016-20 and is set to close its remaining plant by end-2022. Its public finance institutions are also banned from investing in coal, with partial restrictions on oil and gas.
- France is a participant in the EU ETS – the bloc's flagship climate policy – which is set to expand to buildings, transport and shipping if the 'Fit for 55' plans are passed. The European Commission has also proposed a carbon border adjustment mechanism, which would apply to power and certain industrial sectors. These must be approved by the European Parliament and member states.
- In addition, France has a carbon tax covering 35% of national emissions. This tax was originally scheduled to increase to 86 euros (\$101) per metric ton in 2022, but it has been frozen at 44.60 euros (\$52.4) since 2019.
- As France is an EU member state, climate-risk assessment is mandatory under the Taxonomy and the Sustainable Finance Disclosure Regulation (SFDR), which came into force in March 2021, and TCFD is the recommended reporting framework. The concept of dual materiality is also embedded in the EU's sustainable finance disclosure regime.
- At national level, France has a large pool of TCFD supporters, mostly represented by financials and some large industrial companies. The government was one of the first to impose environmental reporting from asset managers and recently the central bank ran its first climate-risk stress-testing.

Fossil-fuel support

Total (2015-19)	\$101 billion
Share spent on coal (2019)	1.3%
Share targeted at producers & utilities (2019)	59%

Fossil-fuel support (\$ billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF. Note: 2020 country-level data not yet available.

Carbon pricing

Carbon-pricing policy	✓
National emissions covered by carbon price	80%
Latest available carbon price (Sept 2021)	\$64/metric ton

Climate-risk disclosure

Investor climate-risk policy (used for ranking)	✓
Mandatory TCFD policy	✓ In certain cases
Corporate, financial and government TCFD supporters	115
Central bank climate-risk stress-testing	✓ - national In development - EU
Environmental taxonomy	✓

Germany

Annex I party

Germany aims to reach net-zero emissions by 2045, having agreed in June 2021 to bring forward the deadline by five years. This announcement came after the country's highest court ruled that the government's 2019 climate law put future generations at risk by delaying the bulk of emission reductions to after 2030. The government will need to introduce more concrete policy measures to achieve these new ambitions, although Germany already has the strongest set of decarbonization policies among the G-20, according to [separate BNEF analysis](#).

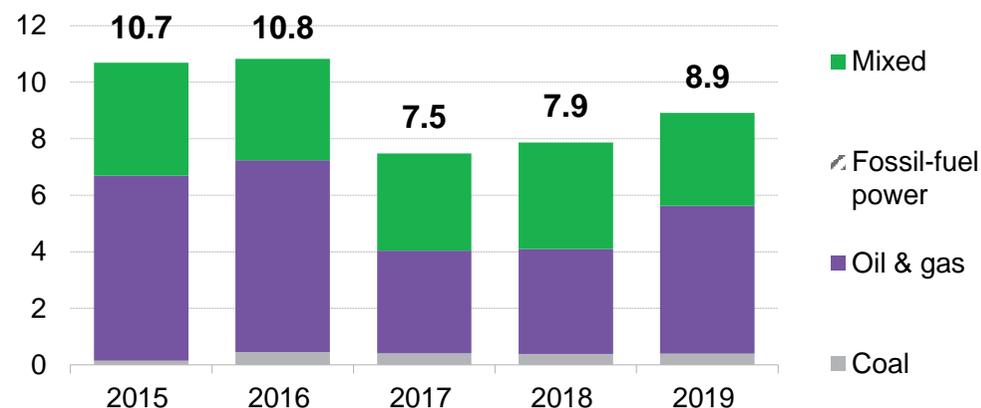
- Germany provides less direct fossil-fuel support compared with the other EU member states in the G-20, having achieved a 10% cut on 2015 levels. Public finance accounts for nearly two-thirds of Germany's total, focused on oil and gas producers.
- The country has reduced its coal-generating capacity 15% in the last five years and has no new plants planned. However, the government has come under criticism for its relatively unambitious coal phase-out deadline of 2038.
- Launched in 2021, Germany's national emission-trading scheme covers heat and transport. The program could provide a blueprint for the EU, which plans to add heat and transport emissions into the scope of the EU ETS, of which Germany is also a member.
- Climate-risk assessment is mandatory in Germany through the EU Taxonomy and the Sustainable Finance Disclosure Regulation (SFDR), and TCFD is the recommended reporting framework. The concept of dual materiality is also embedded in the EU's sustainable finance disclosure regime.
- But Germany is far behind France when it comes to TCFD supporters, which are mostly financial institutions. Germany has some ESG risk rules covering insurers, and EU climate-risk policies apply to asset managers as does stress-testing by the European Central Bank. The Deutsche Bundesbank is also part of the NGFS initiative. Germany is also included in the European Central Bank climate risk stress-test that is planned for 2022 and aims to review banks' practices in this regard.

Fossil-fuel support

Total (2015-19)	\$46 billion
Share spent on coal (2019)	4.5%
Share targeted at producers & utilities (2019)	71%



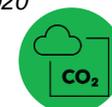
Fossil-fuel support (\$ billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF. Note: 2020 country-level data not yet available.

Carbon pricing

Carbon-pricing policy	✓
National emissions covered by carbon price	85%
Latest available carbon price (Sept 2021)	\$49/metric ton



Climate-risk disclosure

Investor climate-risk policy (used for ranking)	✓
Mandatory TCFD policy	✓ In certain cases
Corporate, financial and government TCFD supporters	49
Central bank climate-risk stress-testing	✗ In development at EU level
Environmental taxonomy	✓



India

Non-Annex I party

Indian Prime Minister Narendra Modi announced a new net-zero target on Nov. 1, at the COP26 climate talks. The government has been under pressure to clarify its short- and long-term climate ambitions after other major economies announced carbon-neutrality goals or more ambitious Nationally Determined Contributions. The 2070 deadline for the net-zero target is later than other G-20 countries and Modi reiterated in Glasgow the need for developed countries to increase climate finance.

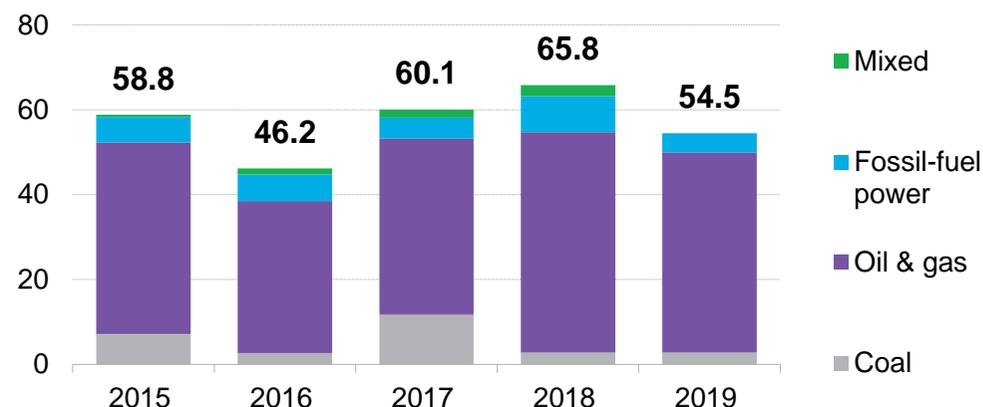
- India reduced spending on consumer energy subsidies by 4% over 2015-19, but the government still provides significant support for oil consumption. In addition, investment by state-owned oil and gas producers grew by a third over the period.
- The government intends to make use of coal and renewables to meet rapidly growing electricity demand. Its coal-power fleet grew 19% 2016-20 and India is second only to China in volume of new plants planned.
- State-owned enterprises play a key role in India's energy sector: over half of electricity generation capacity is owned by national or subnational government, especially fossil-fuel-fired assets. However, the central administration aims to divest state-owned companies and raise some 1.75 trillion rupees (\$13.7 billion), Finance Minister Nirmala Sitharaman said in her budget speech in February.
- India lacks a national CO2 pricing scheme and has been one of the countries to criticize the EU's plan to impose a carbon border tax. The state of Gujarat has a pilot cap-and-trade program for particulate matter (PM2.5). The success of this could see further roll-out of such schemes, for air pollution or carbon emissions. However, a national market is likely a long way off.
- Despite having no mandatory requirement or incentive to publish TCFD reporting, India counts 49 supporters. Nonetheless, it has no government policy on climate-risk reporting, nor ESG disclosure rules for investors. The Securities and Exchanges Board of India introduced new ESG reporting requirements for listed entities in May 2021 and the central bank joined the NGFS initiative in April. There is a strong need for a framework to assess climate risk on financial stability in the country.

Fossil-fuel support

Total (2015-19)	\$284 billion
Share spent on coal (2019)	5.1%
Share targeted at producers & utilities (2019)	37%



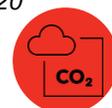
Fossil-fuel support (\$ billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF. Note: 2020 country-level data not yet available.

Carbon pricing

Carbon-pricing policy	x
National emissions covered by carbon price	0%
Latest available carbon price (Sept 2021)	n/a



Climate-risk disclosure

Investor climate-risk policy (used for ranking)	x
Mandatory TCFD policy	x
Corporate, financial and government TCFD supporters	49
Central bank climate-risk stress-testing	x
Environmental taxonomy	x



Indonesia

Non-Annex I party

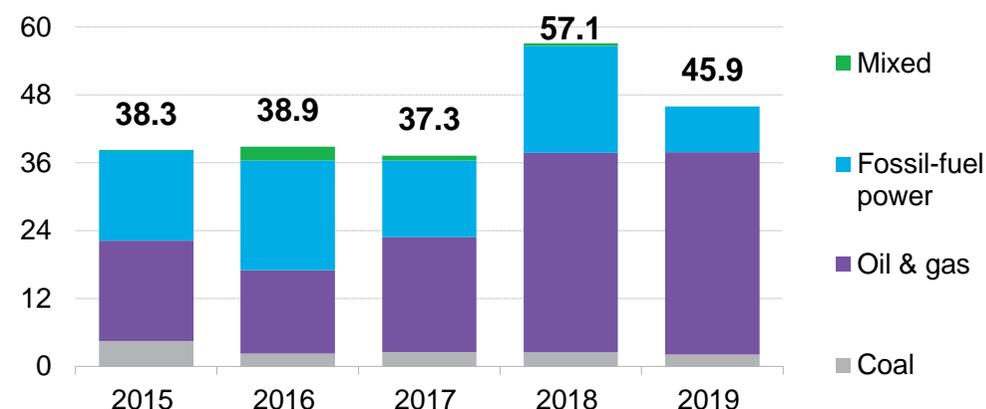
Indonesia's NDC target is relatively modest, as it would allow for an 81% increase in emissions by 2030 (compared to a 2010 baseline). The government has begun exploring a net-zero target. However, as with other developing countries, Indonesia may request financial support from developed nations in return for such a commitment. The government would also need to increase significantly support measures to promote decarbonization and improve overall policy and investor certainty.

- Indonesia undertook significant reforms of its power and petroleum subsidies over 2014-17. But the government still provides considerable fossil-fuel support, which rose 27% between 2017 and 2019. This increase has been largely driven by subsidized retail energy prices.
- Another contributor has been the 51% growth in investment by state-owned enterprises over 2017-19. These companies play an important role in the downstream oil and gas sector, and utility PLN owns over two-thirds of the power generation capacity and has a monopoly on the grid.
- Its coal-power fleet has expanded 27% in the last five years and its plans for new coal build would increase its total generating capacity by 45%.
- Indonesia is in the early stages of designing an emission-trading system, having begun voluntary trials by some power plants in March 2021. The plan would be to make the program mandatory.
- In addition, Parliament passed a tax-reform bill in October 2021 that would impose a carbon tax of at least 30,000 rupiah (c.2.11) per metric ton from April 2022. Coal plants would be the first to be subject to the tax, which is to be expanded to other sectors.
- The tax has yet to be signed off by the President and the finance ministry must introduce various regulations. We have therefore not included this levy – or the pilot emission-trading scheme - in our calculation of emissions covered by a carbon price.
- With only six TCFD supporters, Indonesia has no policy or other incentive pushing investors to publish in alignment with this framework.
- The government has yet to implement any climate-risk policy, although the central bank is a member of the NGFS initiative, which could lead to climate-risk stress-testing in the future.

Fossil-fuel support

Total (2015-19)	\$216 billion
Share spent on coal (2019)	4.6%
Share targeted at producers & utilities (2019)	40%

Fossil-fuel support (\$ billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF. Note: 2020 country-level data not yet available.

Carbon pricing

Carbon-pricing policy	* Scheduled to begin from April 2022
National emissions covered by carbon price	0%
Latest available carbon price (Sept 2021)	n/a

Climate-risk disclosure

Investor climate-risk policy (used for ranking)	x
Mandatory TCFD policy	x
Corporate, financial and government TCFD supporters	8
Central bank climate-risk stress-testing	x
Environmental taxonomy	x

Italy

Annex I
party

Unlike fellow EU member states France and Germany, Italy has not set a national net-zero target. However, the EU-level commitment was legislated on June 28, 2021, together with an ambitious emission-reduction goal for 2030. Achieving these targets will require the Italian government to ramp up policy support for clean technologies and energy efficiency, in particular for industry and low-carbon fuels.

- Italy achieved the third-largest decrease in fossil-fuel support over 2015-19 (33%) and the largest for the OECD members of the G-20. Nearly three-quarters of its 2019 total was in the form of tax breaks (mostly for consumers). These also accounted for nearly all of the measures identified in Italy's peer review with Indonesia.
- The government has begun to decarbonize the power system, reducing the share of fossil-fuel generation from 78% in 2010 to 64% in 2019. But the fossil-fuel power sector retains a sizeable share of total support (12%) compared with other developed G-20 countries.
- As a participant in the EU ETS, Italy has seen carbon prices average 32.34 euros (\$38.39) over the last year – up from 24.74 euros (\$27.41) in the preceding 12 months. Unlike France and Germany, Italy has no separate carbon pricing scheme of its own.
- Climate-risk assessment is required in Italy through the EU Taxonomy and the Sustainable Finance Disclosure Regulation and TCFD is the recommended framework. However, Italy has very few TCFD supporters, which would make it more difficult to implement a mandatory TCFD policy.
- Italy's central bank is part of the NGFS initiative and as a member of the EU, it will also be impacted by the new planned climate-risk stress-tests. The European Central Bank has already performed an economy-wide climate-risk stress-test but it plans to require banks to perform their own stress-tests in 2022.

Fossil-fuel support

Total (2015-19)

\$83 billion

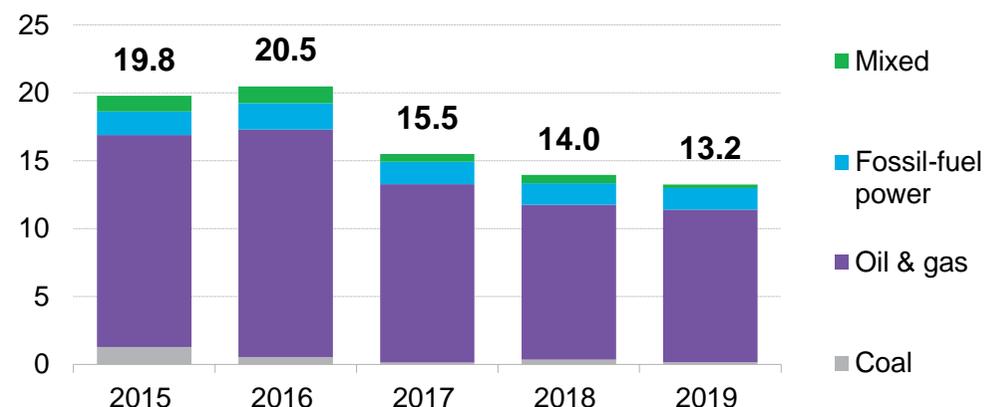
Share spent on coal (2019)

1.2%

Share targeted at producers & utilities (2019)

29%

Fossil-fuel support (\$ billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF. Note: 2020 country-level data not yet available.

Carbon pricing

Carbon-pricing policy

✓

National emissions covered by carbon price

45%

Latest available carbon price (Sept 2021)

\$74/metric ton

Climate-risk disclosure

Investor climate-risk policy (used for ranking)

✓

Mandatory TCFD policy

✓ In certain cases

Corporate, financial and government TCFD supporters

19

Central bank climate-risk stress-testing

✗ In development at EU level

Environmental taxonomy

✓

Japan

Annex I party

Japan aims to cut emissions 46-50% by 2030 vs. 2013 levels – a marked increase in ambition from its previous target of 26%. Achieving its 2030 goal and pledge to reach net zero by 2050 will require the country to accelerate decarbonization of the power sector and electrification of end-use sectors like transport.

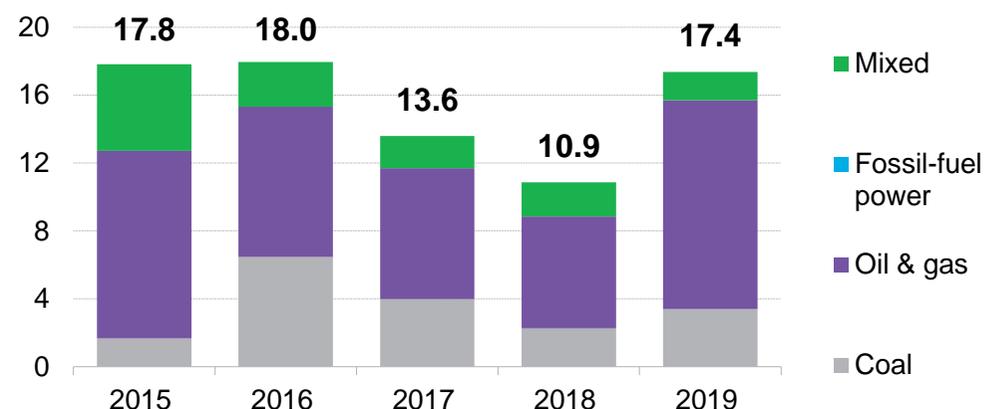
- Japan presents a mixed picture on fossil-fuel support, having achieved only a 3% reduction 2015-19. The government provides relatively little in the way of subsidies to energy consumers.
- Japan's public financial institutions continue to offer considerable support to fossil-fuel producers, especially coal and gas – both domestically and abroad. Much of this funding has been gone into other Asian countries, notably Indonesia and Vietnam. In 2020, the government said that, in principle, its institutions would not finance overseas coal-power plants in countries lacking decarbonization policies. However, this pledge came with exceptions similar to those included in the pledge all the G-7 nations later made. Japan is also one of the few Annex I parties in the G-20 with plans to add domestic coal-fired capacity.
- Japan's carbon tax, introduced in 2012, covers just over two-thirds of national emissions. However, it has little effect in practice due to its low rate (\$3 per metric ton). At the subnational level, Tokyo and the Saitama Prefecture have linked baseline-and-credit systems for energy-use-related emissions from the industry, power and buildings sectors. The government has begun discussions on a national carbon price.
- Japan has by far the highest number of TCFD supporters and, together with the rest of the G-7, it said it was in favor of "moving towards" mandatory climate-risk disclosure in June 2021. The government began to recommend this reporting framework in 2019 at the launch of the TCFD Consortium – a private-sector initiative to promote discussion on corporate climate-risk disclosure. It has since published some guidance documents.
- Japan currently lacks specific climate-risk regulations for investors. However the Bank of Japan said in March 2021 that it would begin to check financial institutions' preparations for addressing climate risk in its next bank examinations. The Bank is part of the NGFS initiative.

Fossil-fuel support

Total (2015-19)	\$78 billion
Share spent on coal (2019)	20%
Share targeted at producers & utilities (2019)	91%



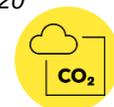
Fossil-fuel support (\$ billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF. Note: 2020 country-level data not yet available.

Carbon pricing

Carbon-pricing policy	✓
National emissions covered by carbon price	68%
Latest available carbon price (Sept 2021)	\$3/metric ton



Climate-risk disclosure

Investor climate-risk policy (used for ranking)	✗ Generic ESG reporting
Mandatory TCFD policy	✗ Recommended only
Corporate, financial and government TCFD supporters	505
Central bank climate-risk stress-testing	✓ Scheduled
Environmental taxonomy	✗



Mexico

Non-Annex I party

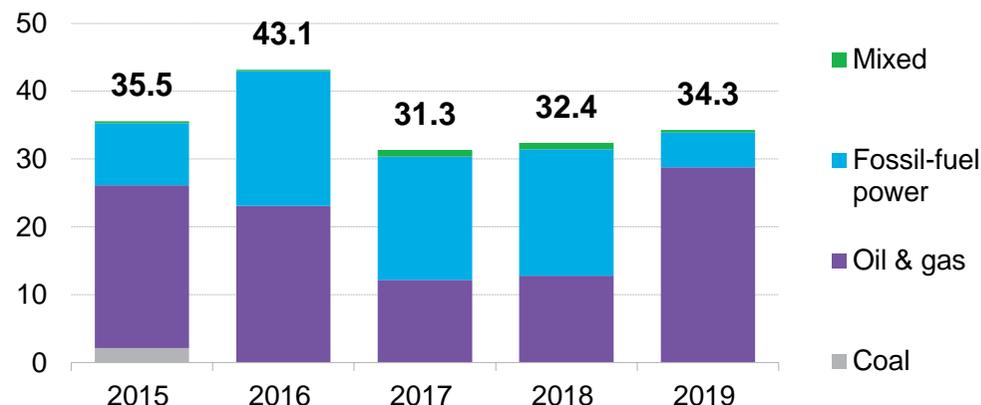
Mexico's current NDC target is not in line with the goals of the Paris Agreement and the government has shown little interest in boosting its ambition. Instead, President Andrés Manuel López Obrador's (AMLO) explicit efforts to reverse parts of the 2013-14 energy reform and block renewable power deployment stand to impede decarbonization.

- Mexico made some progress in reducing fossil-fuel support over 2013-17 through its reform of petroleum-fuel pricing and taxation. However, since the publication of its peer review with Germany in 2017, the country has seen support slowly creep up, rising 9% over 2017-19. Over this period, the government has cut retail energy price supports by a further 73%. But this decline has been mitigated by significant growth in budgetary transfers, tax breaks and public finance.
- AMLO, who came to power in 2018, has also prioritized development of state-owned oil and power companies in the name of "energy sovereignty". As a result, investment by state-owned enterprises – notably Pemex – accounts for a sizeable slice (41% in 2019) of total fossil-fuel support.
- Mexico's pilot emission-trading scheme began in 2020, covering power and industry. All permits are given for free, although participants will receive less free allocation during the next period if they fail to comply. The program should be fully operational by 2022. It also has a national carbon tax, with a maximum rate around \$2 per metric ton. Some states have implemented or are planning their own carbon taxes.
- Mexico has a low number of TCFD supporters but since 2020 the central bank has supported the creation of more regulations to enforce the disclosure of climate risks borne by financial institutions. It advocates TCFD as a reporting standard. However, there is low awareness: a survey by the central bank and UNEP found that 70% of banks and 85% of asset owners are unfamiliar or have just started learning about the TCFD. It also found that only half of the financial institutions consider that environmental risks can impact them financially.
- A partnership between several banks, the GIZ, UNEP/UNDP and the NGFS are now working on the creation of an environmental taxonomy.

Fossil-fuel support

Total (2015-19)	\$175 billion
Share spent on coal (2019)	0%
Share targeted at producers & utilities (2019)	49%

Fossil-fuel support (\$ billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF. Note: 2020 country-level data not yet available.

Carbon pricing

Carbon-pricing policy	✓
National emissions covered by carbon price	23%
Latest available carbon price (Sept 2021)	\$2/metric ton

Climate-risk disclosure

Investor climate-risk policy (<i>used for ranking</i>)	* Generic ESG reporting for pension funds
Mandatory TCFD policy	* Recommended only
Corporate, financial and government TCFD supporters	23
Central bank climate-risk stress-testing	x
Environmental taxonomy	* Under discussion

Russia

Annex I party

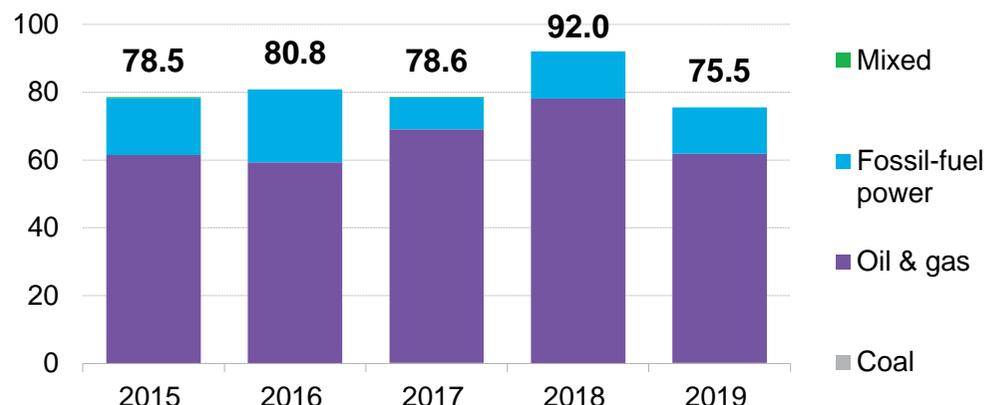
Russia's 2030 emission target in its NDC lacks ambition but President Vladimir Putin said Oct. 13, 2021, that the country would seek to become carbon-neutral by 2060. The government will need to implement significantly more concrete policy support to achieve this pledge.

- Among the G-20, Russia provided the second-largest sum of fossil-fuel support in 2019 and the third highest on a per-capita basis. As a leading fossil-fuel producer, it is less than a surprise that around two-thirds of support benefits producers and utilities.
- This is mainly thanks to investment by state-owned enterprises and tax breaks. Some 50% of oil extraction was eligible for subsidized fiscal rates in 2019 – up from 30% in 2013. This share is expected to exceed 90% in 2035, according to the [finance ministry](#).
- With 2GW of coal-power capacity in the works, Russia shows no sign of moving away from the fossil fuel. The government joined other nations (notably China and India) in opposing a coal-power ban at the G-20 meeting in July.
- Russia has no carbon pricing systems in place. However, national and regional policy makers agreed in January on a roadmap to set up a pilot emission-trading scheme in the eastern region of Sakhalin. The plan would still require legal approval by the State Duma. The potential introduction of the EU's carbon border adjustment tax could accelerate Russia's plans for emission trading.
- Support for climate-risk disclosure is weak in Russia: the country has almost no TCFD supporters, and the government and central bank have not issued a recommendation to incentivize market participants to use report using the framework. A [national taxonomy for green projects](#) was adopted on September 21, to enable companies to obtain loans on favorable terms. However, the classification is not tightly defined, meaning that compliance with the taxonomy may not ensure a positive environmental impact.
- In a [consultation paper](#) launched in June 2020, Russia's central bank invited market participants to consider climate risk impacts on financial institutions. However the country is still lacking a regulatory framework.

Fossil-fuel support

Total (2015-19)	\$406 billion
Share spent on coal (2019)	0.2%
Share targeted at producers & utilities (2019)	67%

Fossil-fuel support (\$ billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF. Note: 2020 country-level data not yet available.

Carbon pricing

Carbon-pricing policy	x
National emissions covered by carbon price	0%
Latest available carbon price (Sept 2021)	n/a

Climate-risk disclosure

Investor climate-risk policy (used for ranking)	x
Mandatory TCFD policy	x
Corporate, financial and government TCFD supporters	4
Central bank climate-risk stress-testing	x
Environmental taxonomy	✓ but very weak

Saudi Arabia

Non-Annex I party

Saudi Arabia pledged in October 2021 to reach net-zero emissions by 2060. The target does not necessarily mean that it will have to reduce oil output since it only applies to territorial emissions. However, its NDC, submitted in 2016, did not include a quantitative emission goal, nor has it implemented enough policy support to achieve its net-zero pledge. On the flip side, the Kingdom aims to generate half of its energy from renewables by 2030, from 0.3% today, according to the 'Saudi Green Initiative' announced in March 2021. The strategy is part of the 'Vision 2030' plan to diversify Saudi's oil-reliant economy.

- Saudi Arabia may have halved fossil-fuel support over 2015-19 but it still had by far the highest per-capita total in 2019 (\$1,962). The government undertook reforms in 2016 and 2018 to increase retail fuel and electricity prices, although they remained well below international standards.
- Nearly 60% of support in 2019 was via investment by state-owned enterprises. In particular, Saudi Aramco provided an average of \$33 billion a year for oil and gas production over 2017-19 and the Saudi Electric Company invested \$8.2 billion annually in fossil-fueled power.
- Saudi Arabia has no carbon pricing plans in place, though it supports a global offset market under the Paris Agreement.
- The 'Vision 2030' strategy, issued in 2016, aimed to promote environmental protection and launched the Public Investment Fund, which was meant to reduce Saudi Arabia's dependence on oil revenues.
- The Kingdom has no TCFD supporters or climate-risk policies.

Fossil-fuel support

Total (2015-19)

\$440 billion

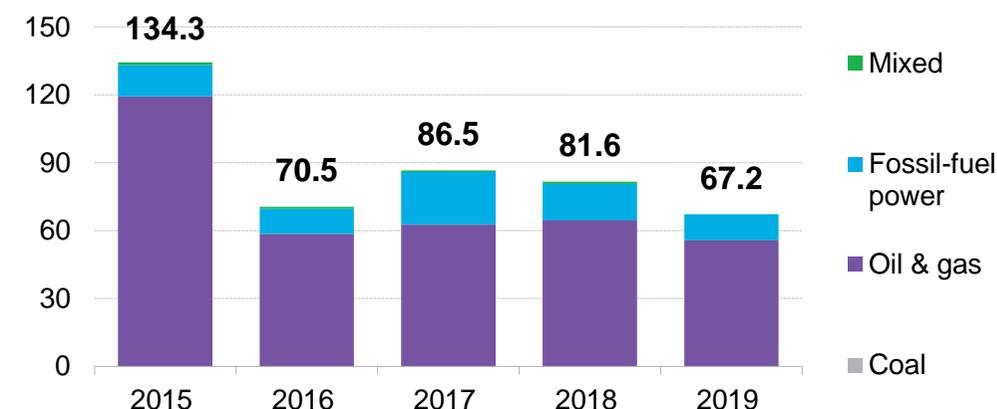
Share spent on coal (2019)

0%

Share targeted at producers & utilities (2019)

57%

Fossil-fuel support (\$ billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF. Note: 2020 country-level data not yet available.

Carbon pricing

Carbon-pricing policy

x

National emissions covered by carbon price

0%

Latest available carbon price (Sept 2021)

n/a

Climate-risk disclosure

Investor climate-risk policy (used for ranking)

x

Mandatory TCFD policy

x

Corporate, financial and government TCFD supporters

0

Central bank climate-risk stress-testing

x

Environmental taxonomy

x

South Africa

Non-Annex I party

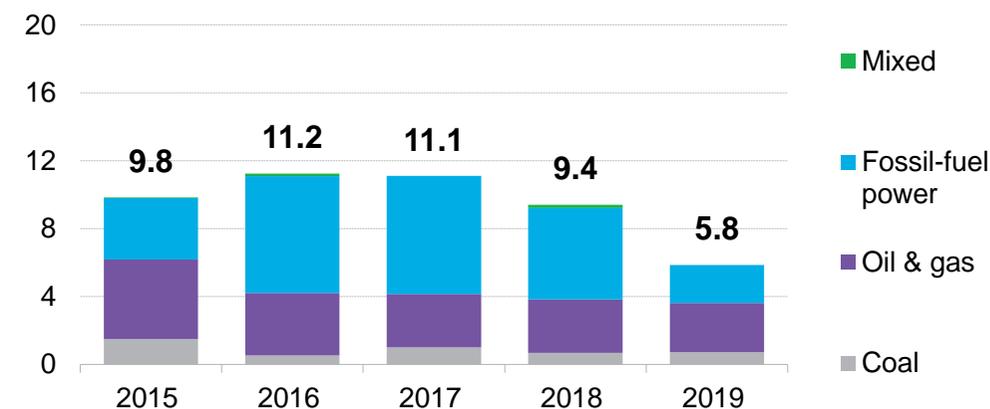
South Africa's Cabinet approved in September its updated NDC, which has reduced the maximum 2030 emission limit by 46% to 420 million metric tons. If achieved, this would mark a 17% cut compared to 2010 levels. Although this is not in line with 2 degrees, it would be the third-most ambitious G-20 target of the non-Annex I parties. The new NDC also includes a net-zero target for 2050.

- South Africa achieved the second-largest decrease in fossil-fuel support (35%) over 2015-19. This was mainly driven by reduced investment by state-owned enterprises, although this was partly offset by a near-doubling of budget transfers.
- Given that South Africa is a top-10 coal producer, it is unsurprising that only 12% of the fossil supports the government provides goes to the fuel. The country also intends to continue using coal power, having expanded its fleet 8% over 2016-20. Its pipeline, if built, would mark a 12% increase on its current total generating capacity. For these reasons, it has been downgraded in this update to having mixed progress.
- However, a lack of transparency on government funding means the South Africa data in this report is an underestimate. For example, it does not include the value of government bailouts, which totalled \$6.9 billion in the last two years, and loan guarantees to state-owned utility, Eskom.
- In 2019, South Africa introduced a carbon tax, which has a basic price of 127 rand (\$8) per metric ton. The government offers generous concessions, which enable companies to reduce their exposure by 5-40% of their emissions, depending on the sector. This could reduce the effective carbon tax rate to as low as \$0.3 per metric ton.
- In a technical draft issued May 2020, the treasury recommended regulators and the financial sector to establish policies to identify, monitor and report environmental and social risks. It also recommended the use of TCFD as a reporting standard. However, South Africa only has generic sustainability disclosure policies for pension funds. In June 2021, the government published the first draft of a green finance taxonomy, which follows the European benchmark.

Fossil-fuel support

Total (2015-19)	\$47 billion
Share spent on coal (2019)	12%
Share targeted at producers & utilities (2019)	33%

Fossil-fuel support (\$ billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF. Note: 2020 country-level data not yet available.

Carbon pricing

Carbon-pricing policy	✓
National emissions covered by carbon price	80%
Latest available carbon price (Sept 2021)	\$9/metric ton

Climate-risk disclosure

Investor climate-risk policy	✗
Mandatory TCFD policy	✗ Under discussion
Corporate, financial and government TCFD supporters	20
Central bank climate-risk stress-testing	✗
Environmental taxonomy	✗ In progress

South Korea

Non-Annex I party

In August, South Korea became Asia's second major economy to legislate a net-zero target for mid-century. The law also included a more ambitious 2030 emission goal, which puts it in a stronger negotiating position for COP26. However, it will need to implement more concrete policy support and reform in order to achieve these ambitions.

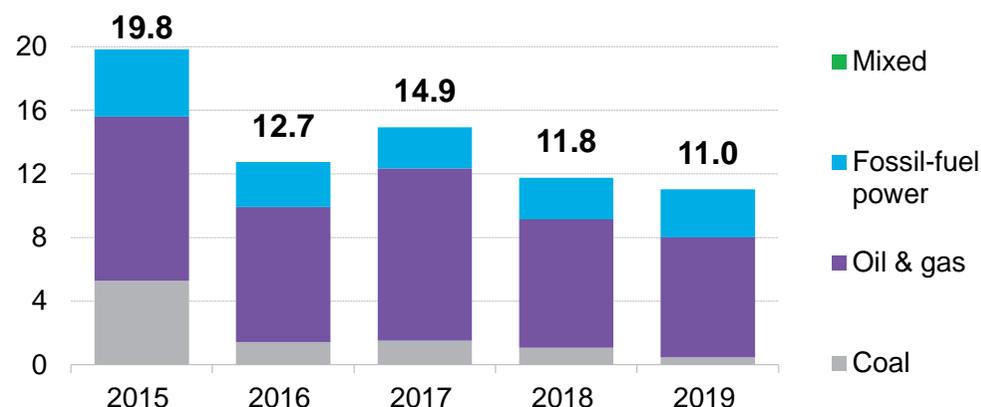
- South Korea has made progress in cutting consumption-based subsidies for fossil fuels, with a 64% reduction in retail energy price support over 2015-19. It has achieved less progress on the production side, reducing such support by 29% over the period. This meant the country achieved a total cut of 44% over 2015-19.
- In particular, public financial institutions continue to provide significant support to producers and utilities. In 2017, Moon pledged to end state-backed financing of domestic coal projects and in April 2021, he announced a ban for coal-fired power plants abroad. However, South Korea increased coal-generating capacity 21% in the last five years and has another 7GW under construction.
- South Korea was the first Asian country to implement a mandatory national emission-trading program. Prices averaged 32,596 won (\$29) per metric ton in 2020, but they fell in early 2021, prompting the government to introduce a temporary price floor.
- The program's impact in terms of promoting emission reduction is limited because participants still receive the bulk of their allowances for free. The share of auction has begun to increase, however.
- South Korea counts 72 TCFD supporters although it lacks climate-risk policies for investors. The country only has generic ESG disclosures for its national pension fund but it has recently joined the NGFS initiative.
- In January 2021, the Financial Services Commission announced measures to improve ESG corporate disclosure and responsible investing. This could be an opportunity to develop regulatory frameworks related to climate risks.

Fossil-fuel support

Total (2015-19)	\$66 billion
Share spent on coal (2019)	4.2%
Share targeted at producers & utilities (2019)	87%



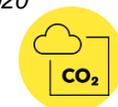
Fossil-fuel support (\$ billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF. Note: 2020 country-level data not yet available.

Carbon pricing

Carbon-pricing policy	✓
National emissions covered by carbon price	74%
Latest available carbon price (Sept 2021)	\$26/metric ton



Climate-risk disclosure

Investor climate-risk policy (<i>used for ranking</i>)	✗
Mandatory TCFD policy	✗
Corporate, financial and government TCFD supporters	72
Central bank climate-risk stress-testing	✗
Environmental taxonomy	✗

* Generic ESG reporting for national pension fund



Turkey

Annex I party

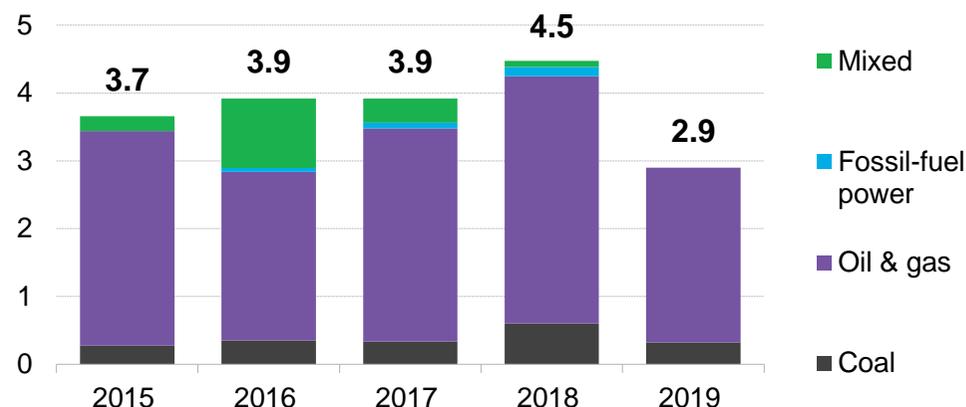
Turkey ratified the Paris Agreement in October 2021 and submitted its first NDC. This included the same emission target as in its 2015 Intended Nationally Determined Contribution (the precursor to the NDCs) – a 21% decrease on a business-as-usual scenario determined by the government. Turkey has undertaken wide-reaching electricity-market reforms in recent years and sought to exploit domestic fossil-fuel resources (mostly coal) in pursuit of greater energy independence through improved security of supply. It has implemented incentives to promote clean power, although these have their weaknesses. Other sectors lack support.

- To exploit domestic resources, Turkey plans to build 13.6GW of new coal plants – the largest volume of any Annex I party. The country already expanded its fleet by a third over 2016-20.
- In addition, it intends to retrofit existing facilities to use locally sourced lignite. It aims to reach 30GW of coal-fired power capacity by 2023, up from 20GW in 2019. For the capital cost of adding that extra 10GW of coal, Turkey could build 25GW of solar-power plants, based on BNEF analysis.
- The government has sought to reduce reliance on energy imports and promote energy security. The country cut fossil-fuel support 22% over 2015-19, largely through reduced funding for oil, gas, power producers and utilities.
- In contrast, it boosted support for fossil-fuel consumers largely via tax breaks. The coal sector benefited most, but oil and gas retains the lion's share of support (89% in 2019).
- While Turkey has a CO2 emissions monitoring, reporting and verification system in place, it lacks a carbon price. The government is exploring how a potential EU carbon import tax would impact Turkish companies. Approved in August, its plan to adapt to the EU 'Green Deal' standards includes a national carbon-pricing mechanism.
- Turkey has almost no TCFD supporters and no climate-risk policies to date.

Fossil-fuel support

Total (2015-19)	\$19 billion
Share spent on coal (2019)	11%
Share targeted at producers & utilities (2019)	11%

Fossil-fuel support (\$ billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF. Note: 2020 country-level data not yet available.

Carbon pricing

Carbon-pricing policy	* Under discussion
National emissions covered by carbon price	0%
Latest available carbon price (Sept 2021)	n/a

Climate-risk disclosure

Investor climate-risk policy (used for ranking)	x
Mandatory TCFD policy	x
Corporate, financial and government TCFD supporters	11
Central bank climate-risk stress-testing	x
Environmental taxonomy	x

U.K.

Annex I party

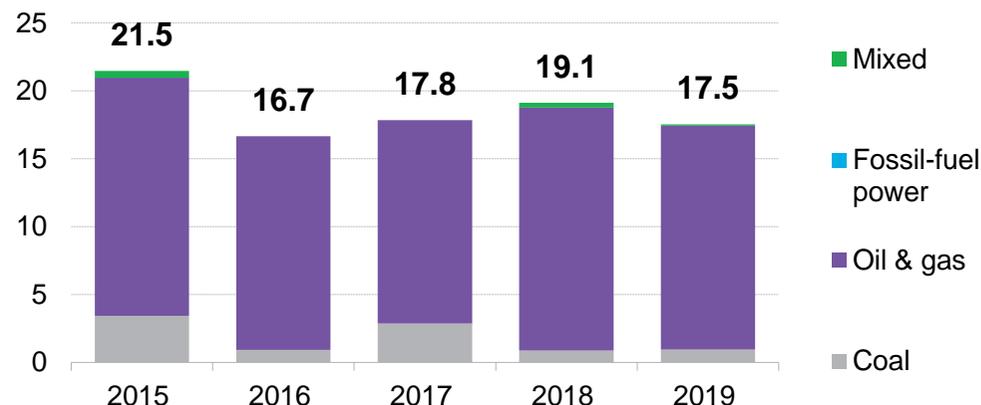
The U.K. has one of the most ambitious 2030 emission targets of the G-20 countries and has a legally binding net-zero goal for 2050. The government has begun implementing concrete policies to realize these commitments, especially to promote clean power and low-carbon fuels. It has room for improvement, however, with regard to decarbonizing buildings, which account for a sizeable share of emissions and energy use.

- The U.K. has been a leader in promoting the phase-out of fossil-fuel power generation and its last coal-fired power plant is due to close in 2024. The last five years have seen it halve its coal-power capacity.
- Prime Minister Boris Johnson announced at end-2020 that the U.K. would ban direct government support for new crude oil, natural gas, thermal coal or fossil-fuel fired power projects “with very limited exceptions”. However, the government has attracted controversy for considering whether to approve the U.K.’s first new deep coal mine for decades, having said in March that it would not intervene in the project in Cumbria as it was a “local issue”. A public inquiry into the proposals began in September.
- Overall, the U.K. reduced direct fossil-fuel support 18% over 2015-19, with a three-quarters decrease for coal. However, it still provided an average of \$18.5 billion a year over the period – or a relatively high \$262 per person in 2019 compared with other G-20 nations. The remaining support mostly comprises tax breaks, of which a third is still targeted at oil and gas producers and utilities.
- Having left the EU ETS following Brexit, the U.K. now has a national emission-trading system that closely mirrors its European counterpart. It also has one of the most advanced climate-risk and sustainable finance strategies among the G-20 countries. In November 2020 it announced that all publicly-listed U.K. companies will have to comply with TCFD requirements by 2023, and that TCFD-aligned disclosure will be mandatory across financial and non-financial sectors by 2025. Pension funds will have to report on the risks of climate change to their investments from October 2021 onwards. The country is also currently working on its green taxonomy.
- The Bank of England is also due to undertake its first climate risk stress-test in June 2021; the results are not expected until 2022.

Fossil-fuel support

Total (2015-19)	\$93 billion
Share spent on coal (2019)	5.3%
Share targeted at producers & utilities (2019)	37%

Fossil-fuel support (\$ billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF. Note: 2020 country-level data not yet available.

Carbon pricing

Carbon-pricing policy	✓
National emissions covered by carbon price	31%
Latest available carbon price (Sept 2021)	\$72/metric ton

Climate-risk disclosure

Investor climate-risk policy (used for ranking)	✓
Mandatory TCFD policy	✓ Scheduled
Corporate, financial and government TCFD supporters	384
Central bank climate-risk stress-testing	✓ Scheduled
Environmental taxonomy	* In progress

U.S.

Annex I party

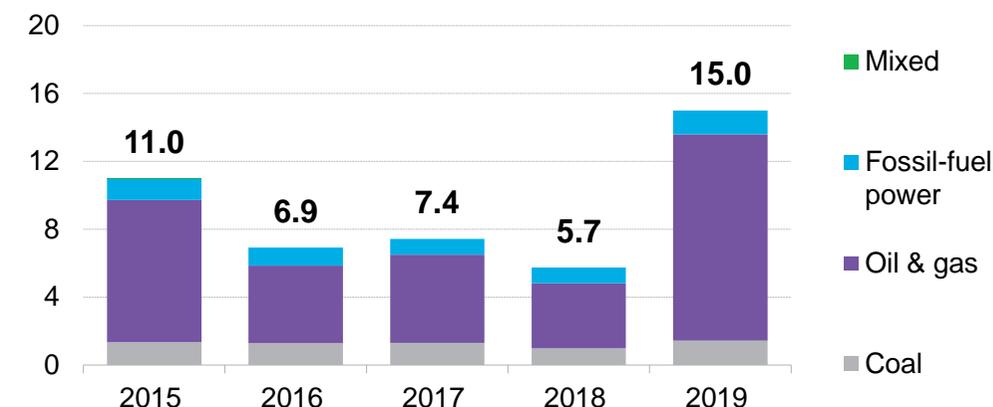
After reinserting the U.S. in the Paris Agreement, President Joe Biden hosted a global climate summit in April 2021 where he announced the country's new 2030 CO2 reduction target. The pledge to cut emissions 50-52% below 2005 levels is significantly more ambitious than the prior goal and will be challenging to achieve. In particular, further policies will be needed to decarbonize the transportation and industrial segments of the economy. The G-7, of which the U.S. is member, agreed in June to reach net zero by 2050.

- In terms of fossil-fuel support, the U.S. was the second lowest on a per-capita basis in 2019 among the G-20 countries. But from 2015-19, the U.S. posted the third-highest rate of growth (37%) due to a 170% jump in public finance for oil and gas production, plus continued tax breaks for the sector.
- However, the U.S. has been moving in the right direction on coal power. Its fleet shrank 14% over 2016-20 and while it has not announced a formal phase-out, it appears to have no coal-fired capacity in the pipeline.
- The U.S. has no federal carbon-pricing policies in place, but a number of states have implemented their own. The largest scheme is the Regional Greenhouse Gas Initiative (RGGI), which covers power plants in 11 Northeast and Mid-Atlantic states. Pennsylvania is due to join RGGI by 2022. Prices are relatively low, at \$7 per metric ton in September 2021 – some \$10 below the price in California's carbon market.
- The U.S. has a very large pool of TCFD supporters even though the federal government only started to recommend using the framework for climate-risk disclosure in April 2021. At the G-7 summit in June 2021, the U.S. said it supported “moving towards” climate-risk disclosure.
- The U.S. does not mandate ESG disclosures from companies and investors but that could soon change. In May 2021, President Biden ordered his administration to create a strategy to quantify the risks posed by climate change to both public and private financial assets. The U.S. recently joined the NGFS initiative. In September 2021 the Federal Reserve Bank of New York issued a [research](#) paper on how to implement a climate-risk stress-test but no mandatory stress-test has been announced yet.

Fossil-fuel support

Total (2015-19)	\$46 billion
Share spent on coal (2019)	9.6%
Share targeted at producers & utilities (2019)	60%

Fossil-fuel support (\$ billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF. Note: 2020 country-level data not yet available.

Carbon pricing

Carbon-pricing policy	State-level only
National emissions covered by carbon price	8%
Latest available carbon price (Sept 2021)	\$6/metric ton

Climate-risk disclosure

Investor climate-risk policy (used for ranking)	x
Mandatory TCFD policy	x
Corporate, financial and government TCFD supporters	338
Central bank climate-risk stress-testing	x
Environmental taxonomy	x

Assumptions

Fossil-fuel support

- For fossil-fuel support, each of the 19 individual country members of the G-20 were scored based on the four metrics in the table below (each weighted equally).
- The first two metrics cover direct support for the production and consumption of coal, natural gas and oil, together with fossil-fuel-fired electricity by the national governments or state-owned organizations. For the U.S., Australia and Canada, support provided by state-level governments was also included. For full methodology, please consult the data source in the gray box below.
- The change in fossil-fuel support relates to the 2015-19 period and the total per capita is for 2019 because national-level data for 2020 is not yet available. The 2020 estimate on [this slide](#) is provisional only and based on data from the OECD, IEA and Oil Change International. As data on investment by state-owned enterprises was only available up to 2019, the estimate for 2020 was calculated by extrapolating the 2015-19 trend out by one year.
- In general, these figures are likely to be an underestimate because countries and states vary in the transparency of their reporting. For example, no data was published on public finance for fossil fuels by Turkey's government-owned banks and export credit agencies. Public finance was attributed to the country where the institution is headquartered, not the location of the project/initiative. Regarding investment by state-owned enterprises, where aggregate estimates at the project level differed substantially from project-level reporting, we used the former, as was the case for Export Development Canada, for example.

Scores

Points allocated	Change in total fossil-fuel support, 2015-19	Per-capita fossil-fuel support, 2019	Change in coal-power capacity, 2016-20	Coal-power pipeline relative to existing coal capacity	
				Annex I*	Non-Annex I
6	Reduction of 20% or more	Under \$150	Reduction of -20% or more	0%	0%
4	Reduction of 1-19%	\$150-299	Reduction of -1% to -19%	–	1-10%
2	Increase of 1-19%	\$300-499	Increase of 1-19%	–	11-20%
0	Increase of 20% or over	Over \$500	Increase of 20% or over	Over 0%	Over 20%

Rating

Ranking	Total score
	12-16
	8-10
	2-6

Source: BloombergNEF. Note: *Annex I parties were given a score of zero if they had any coal-fired capacity in the pipeline.

Data sources

Type	Data source
Direct budget transfers and tax breaks, 2015-20	OECD Inventory of Support Measures for Fossil Fuels
Support to consumer energy prices, 2015-20	IEA Energy Subsidies Database
Support from public finance institutions, 2015-20	Oil Change International's 'Shift the Subsidies' Database
Investment by state-owned enterprises, 2015-19	Overseas Development Institute, International Institute for Sustainable Development and OCI
Coal-power capacity and pipeline	BloombergNEF, Global Energy Monitor (July 2021)

Assumptions

Carbon pricing

- To rank the countries, only international, national or state/province-level carbon-pricing policies were included.
- The share of emissions covered takes into account any overlapping schemes.
- The pricing data was gathered in September 2021. France and Germany have the EU ETS and a national carbon price in place, while the U.S. has multiple state- or province-level policies. In such cases, the price was a weighted average based on the emissions of each pricing scheme. For Canada, we used the backstop federal standard.

Climate-risk disclosure

- To rate the countries, we only took account of whether they have passed into law or regulation mandatory, nationwide, specific climate-risk disclosure regulations for investors (asset managers and pension funds).
- A 'green' country has regulations that specifically compel investors to assess and mitigate the climate risks that may impact their performance.
- A 'yellow' country has generic environmental disclosure regulations for investors, which we believe are the first step before legislating or writing regulations on specific climate-risk related assessment and management.
- Policy data source: UN Principles for Responsible Investment (PRI) regulation database, 3Q 2021 update.

Scores

Points allocated	Share of emissions covered	Latest price	Share of free allocation (markets only)
6	Over 66%	Over \$40	1-33%
4	33-66%	\$20-39	33-66%
2	1-33%	\$10-19	\$67-90
0	0%	Under \$10	Over \$90

Source: BloombergNEF.

Rating

Ranking	Total score
	9-12
	2-8
	0

Scores and rating

Ranking	Points allocated	Metric
	6	Specific climate-risk regulations in place
	3	Only generic environmental disclosure rules
	0	No climate-risk or generic environmental disclosure rules

Source: BloombergNEF.

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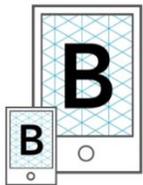
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