



BloombergNEF

Climate Policy Factbook

Three priority areas for climate action

July 20, 2021

Foreword

Michael R. Bloomberg

Since the start of the pandemic, the global community has endured an unprecedented challenge.

COVID-19 has touched every corner of the world. Some four million people have died – a number that is still rising – and many lost their jobs and livelihoods.

But now, as vaccination rates go up worldwide – and public health restrictions begin to ease – it's time to envision what our shared post-pandemic future looks like. And that process begins with charting an economic recovery that makes us all stronger.

Of course, each country's plans for rebuilding their economies will be different. But two things are clear:

One: We need to work together to build a resilient global economy capable of withstanding the next worldwide crisis.

And two: that crisis is already here. It's called climate change.

By integrating climate change into their economic recovery, countries have a chance to spur job growth – while also building stronger and more resilient economies for the future.

In recent years, we've made a lot of progress driving carbon emissions down. But the reality is, to respond with the urgency that is required, we all need to do more – and this is a critical year for the global fight against climate change.

To meet this moment, it's essential that governments not only make bold commitments, but also adopt policies that ensure they reach their goals.

This report highlights three areas where G20 members can take immediate and tangible steps toward achieving the goals put forward by the Paris Climate Agreement: Phasing out fossil fuels and transitioning to clean energy, putting a price on carbon emissions, and embracing mandatory climate risk disclosure.

To build a better future for our children and grandchildren, we must come together – in the public and private sectors – and take the necessary steps to build a resilient, sustainable global economy.

The G20 has the power to ensure that we do – and this report, if taken to heart, can help provide a roadmap for success.



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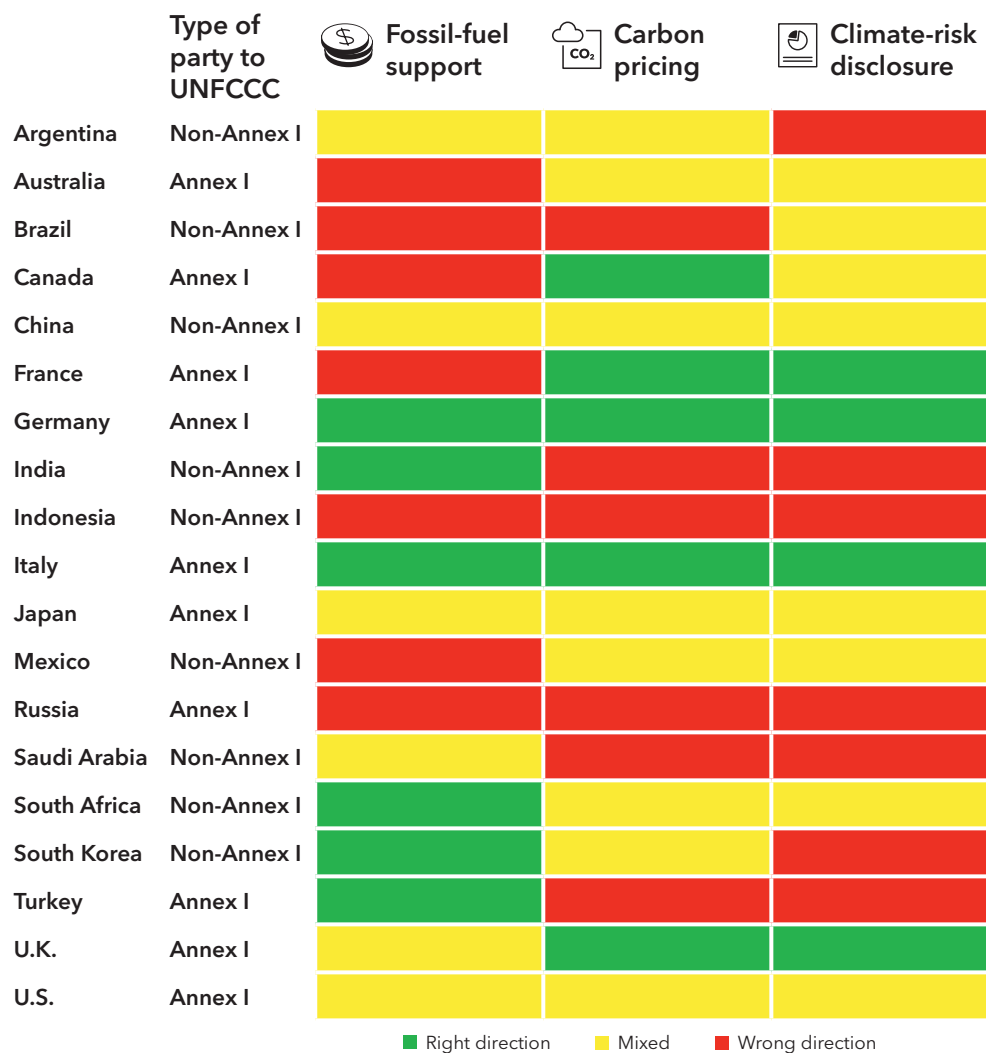
UN Secretary-General's Special Envoy
for Climate Ambition and Solutions

Key messages

2021 is set to be a crucial year for galvanizing government and corporate efforts to reduce greenhouse-gas emissions and tackle climate change. Support from developed to developing countries, and leadership from the former by taking swift action will be paramount. This report highlights three concrete areas where G20 governments can act today to make significant contributions toward achieving the Paris Agreement goals: phasing out support for fossil fuels, putting a price on carbon emissions and making companies disclose the risks they face due to climate change.

- The Group-of-20 countries provided \$636 billion in direct support for fossil fuels in 2019 – only 10% below 2015. This type of policy distorts prices and risks increasing investment in emission-intensive assets with long lives. Even consumer-targeted subsidies tend to benefit wealthier citizens.
- Seven of the G-20 members (four in the OECD) boosted fossil-fuel support from 2015-19 or their total support on a per-capita basis is notably high relative to the rest of the group. Five countries allocated over \$1 billion to coal in 2019.
- Some nations have made phase-out commitments but these are often ill-defined or include significant exceptions. Despite governments' increasingly ambitious climate commitments and the availability of cheaper clean technologies, 60% of fossil-fuel support in 2019 went to producers and utilities.
- A total of 12 G-20 countries have implemented at least one nationwide carbon-pricing policy. However, only half of the schemes could drive meaningful emission reduction by covering a big enough share of emissions with a high enough price. Even these policies are weakened by concessions such as generous free allocation of permits.
- 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 in order for these risks to be assessed accurately.
- However in the G-20, only the U.K. plans to enforce climate-risk reporting, while the three EU member states have made it mandatory in certain cases. Some countries such as Australia have in place generic environmental disclosure requirements, which could be adapted to climate risk.

G-20 progress on three priority areas



Source: BloombergNEF. Note: [Click here](#) for our definitions of 'Right' and 'Wrong direction'

Introduction

Global average temperatures continue to rise, with 2020 tying with 2016 to be the warmest year on record, according to NASA's [Goddard Institute for Space Studies](#). Covid-19-driven lockdown measures mean that emissions in 2020 were 2-12% lower than the preceding year. However, this temporary decline will likely have a limited effect in terms of mitigating the impact on climate systems as man-made emissions have been accumulating for centuries.

A growing number of governments have announced a target to reach net-zero emissions within the next 30-40 years. Indeed many of these commitments have been made during a global pandemic, signaling a growing awareness of the risks posed by climate change.

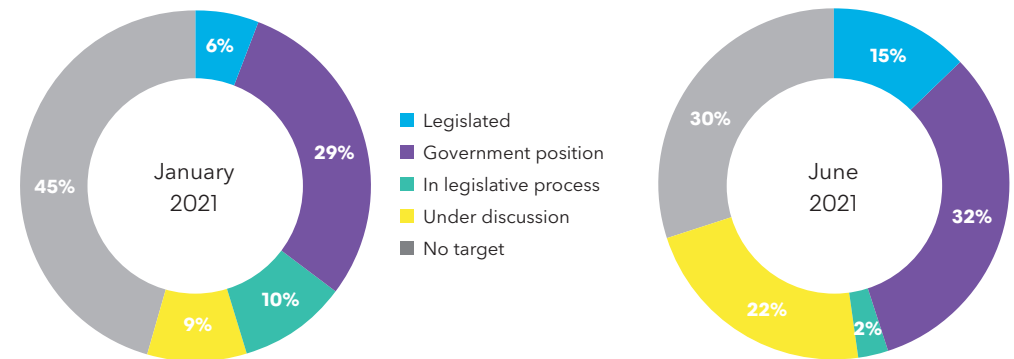
COP26 in November 2021 will kick off the first full pledging cycle, which was agreed in Paris in 2015, and will be the first official opportunity to discuss countries' climate plans known as 'Nationally Determined Contributions'. Parties must ratchet up the ambition of their pledges to avoid the worst effects of climate change. The NDCs submitted by end-2020 would put the world on course for global warming of more than 3 degrees Celsius this century, based on the UN Environment Programme's [2020 Emissions Gap Report](#).

This report focuses on the following three priority areas for government action:

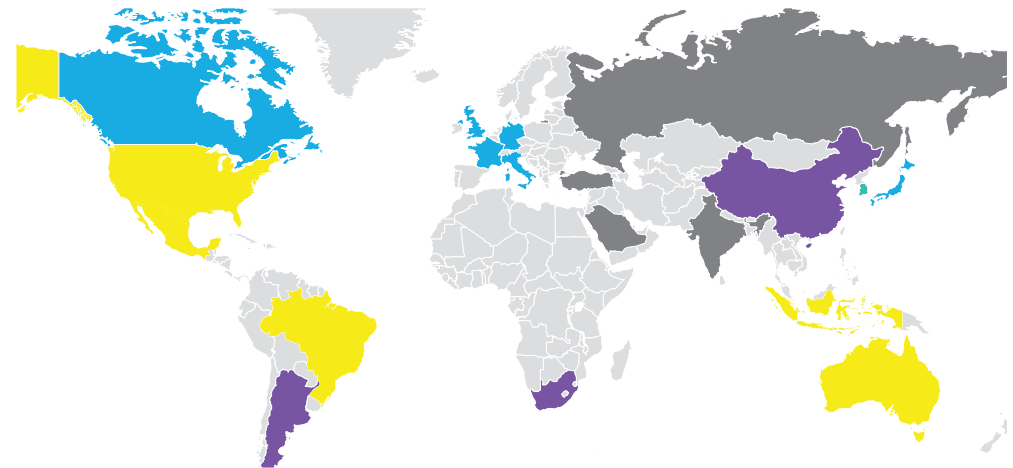
- **Phasing out existing fossil-fuel support:** Governments, state-owned enterprises and public financial institutions continue providing billions of dollars each year to support the production and consumption of fossil fuels.
- **Advancing carbon pricing:** More governments than ever are putting a price on emissions with the aim of deterring the use of carbon-intensive fuels and incentivizing cleaner technology. Absent a carbon price, polluters pay nothing for the long-lasting damage they cause to the environment.
- **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 the implications of the shift to a low-carbon economy, and help investors to understand better and take account of those risks.

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.

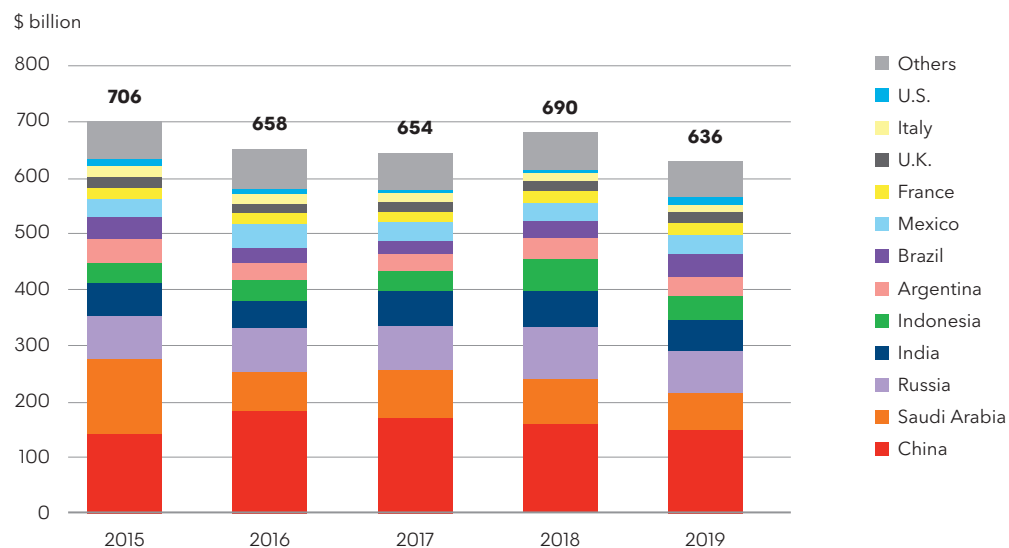
Fossil-fuel support

Overview

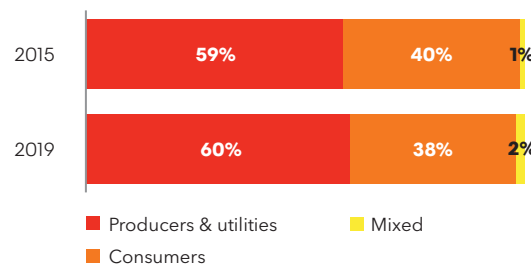
The governments of the 19 individual country members of the G-20 provide significant financial support for fossil-fuel production and consumption. Phasing out this support will be an important step in accelerating the climate transition and achieving the goals of the Paris treaty.

- G-20 governments provided \$3.3 trillion of direct support for coal, oil and gas and fossil-fuelled power 2015-19. At today's prices, that sum could fund 4,232GW of new solar power plants – over 3.5 times the size of the U.S. grid. Further, given varying levels of transparency nations provide on such funds, these figures are probably an under-count.
- This support comes in various forms: nearly half of the G-20 total in 2019 comprised investment by state-owned enterprises. Such companies are often the sole operators in the energy sector and are thus more common in developing countries. Such nations also account for the lion's share of the subsidies on consumer energy prices (21% of the G-20 total in 2019).
- Instead, fossil-fuel support made by developed countries tends to be in the form of direct budgetary transfers (8% of the G-20 2019 total), tax breaks (14%) or concessional grants and loans from public finance institutions (12%).
- China provided nearly a quarter of the 2019 count. But with a per-capita total of \$104, it was well below the G-20 average of \$313. In contrast, Saudi Arabia (\$1,962), Argentina (\$734) and Russia (\$523) came top. The G-20 as a whole has cut this funding 10% 2015-19. But this masks significant variation across countries, with eight members boosting support – notably Australia, Canada and the U.S.
- 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 for decades, locking in high levels of future emissions. All of these factors hinder the climate transition.
- The lion's share (60% in 2019) 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 sizable funding from China, South Africa, Japan and the U.S., among others.

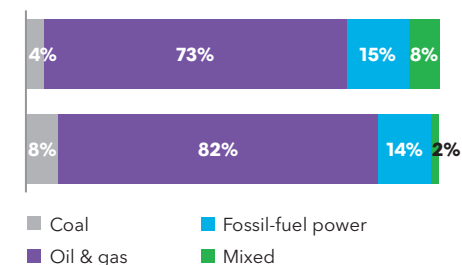
Fossil-fuel support by G-20 countries



By target recipient



By fuel



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

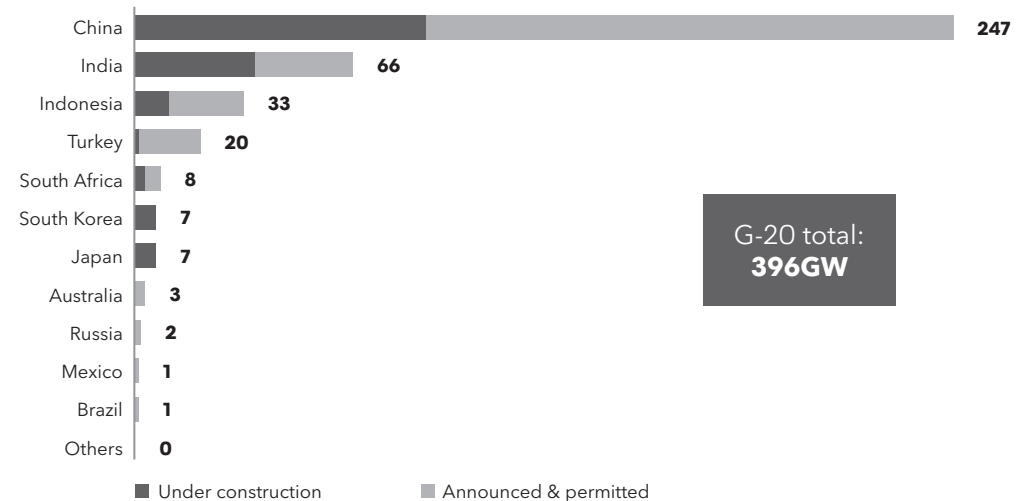
Fossil-fuel support

Other types

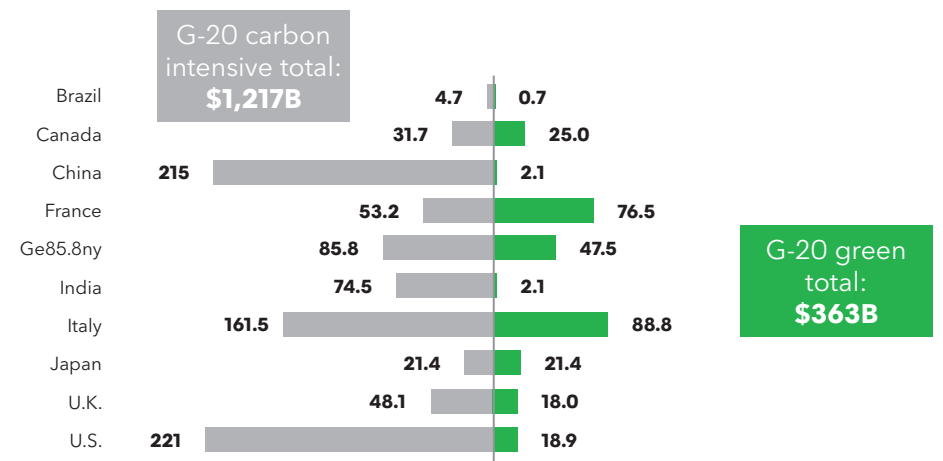
Some G-20 nations have pledged to phase out unabated coal power, while others have plans for hundreds of megawatts in new capacity. Calls for a green economic recovery have thus far largely fallen on deaf ears, with much more funding targeted at CO₂-intensive sectors.

- In recent years some governments have sought to reduce support for coal-fired power. Not only is it more emission-intensive than other fossil fuels, but there are also cost-competitive alternatives: onshore wind and PV are the cheapest source of new bulk power generation in countries accounting for two-thirds of the world's population.
- One of the U.K.'s priorities for COP26 is for parties to ban the use and financing of coal power. Public finance institutions in 13 G-20 countries already have full or partial restrictions on direct coal finance, although not on indirect support. However, some governments may take some persuading to come on board: the G-20 countries have just under 400GW of coal-fired generating capacity in the pipeline – equivalent to a quarter of the current global fleet of coal power stations.
- Coal has attracted very little of the trillions of dollars of Covid-19 recovery funding distributed by the G-20 countries. Indeed, these governments have responded to calls to 'build back better' by allocating some \$363 billion to sectors or projects that aim to buoy up the economy and to cut emissions or 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 element.
- Globally, governments have approved some \$16.7 trillion in stimulus funding. The vast majority, which we classify as 'neutral', comprises disaster relief, aid for health care, wage subsidies and cross-sector funding programs. One of the reasons why this share is so large is due to the persistence of the pandemic, with recurrent waves of virus infections and government responses. As a result, while governments may have already announced some long-term plans for revitalizing the economy, they have continued to simultaneously roll out funding to deal with the short-term impacts. France and Japan are the only G-20 countries to have allocated more, or a similar volume of, stimulus to green sectors compared with carbon-intensive areas.

Coal-power plants in the pipeline in G-20 (GW)



Approved Covid-19 stimulus in 10 largest G-20 economies (\$billion)



Source: Governments, development banks, Global Coal Plant Tracker. Note: Lower figure includes EU member states' national economic and resilience plans as well as approved stimulus.

Fossil-fuel support

Assessment

Seven of the G-20 jurisdictions (including four in the OECD) made no clear progress phasing out fossil-fuel support 2015-19, based on BNEF analysis. They have expanded such subsidies or still provide more of such funding and concessions on a per-capita basis relative to the rest of the G-20. In comparison, six other nations are moving in the right direction.

- Eliminating fossil-fuel supports can be a slow and politically delicate process. However, other policies can be implemented to offset these supports without the same potential downsides. 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.
- The need to reduce greenhouse-gas emissions and the expanding number of viable lower-carbon technologies have spurred some policy makers to agree to reduce fossil-fuel subsidies. Indeed, in 2009, G-20 governments [committed to](#) "phase out and rationalize over the medium term inefficient fossil fuel subsidies". They did not clearly define "inefficient" nor did they not specify a deadline, although G-7 countries agreed in 2016 to a deadline of 2025 – a pledge they reiterated at the summit on June 11-13, 2021.
- The G-7 also committed to end support for "unabated international thermal coal power generation". However, this wording could mean that funding higher-efficiency thermal coal power technologies – e.g., ultra supercritical boilers – would still adhere to the commitment because they have comparatively low emissions, as could combined-heat-and-power thermal coal projects. The agreement also did not explain what was meant by the "limited exceptions" to the pledge, which was restricted to international finance alone.
- In an attempt to speed the phase-out process, G-20 governments developed a framework for voluntary peer reviews of fossil-fuel subsidies. The idea was to facilitate sharing of experiences and learnings in phasing out fossil-fuel subsidies between countries. 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. Germany and Mexico followed in 2017, then Indonesia and Italy in 2019. 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", making comparisons difficult. Even when such measures have been identified through review, the country decides whether and when 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 on phasing out fossil-fuel supports

	Change in total support (2015-19)	Per capita (2019)
Argentina	↓ 23%	\$734
Australia	↑ 48%	\$293
Brazil	↑ 3%	\$188
Canada	↑ 40%	\$446
China	↑ 4%	\$104
France	↑ 24%	\$347
Germany	↓ 17%	\$107
India	↓ 4%	\$40
Indonesia	↑ 27%	\$170
Italy	↓ 33%	\$220
Japan	↓ 3%	\$138
Mexico	↑ 3%	\$269
Russia	↓ 4%	\$523
Saudi Arabia	↓ 50%	\$1,962
South Africa	↓ 35%	\$100
South Korea	↓ 29%	\$213
Turkey	↓ 22%	\$35
U.K.	↓ 18%	\$262
U.S.	↑ 37%	\$46

■ Right direction ■ Mixed ■ Wrong direction

Source: BloombergNEF. Note: [Click here](#) for our definitions of 'Right' and 'Wrong direction'

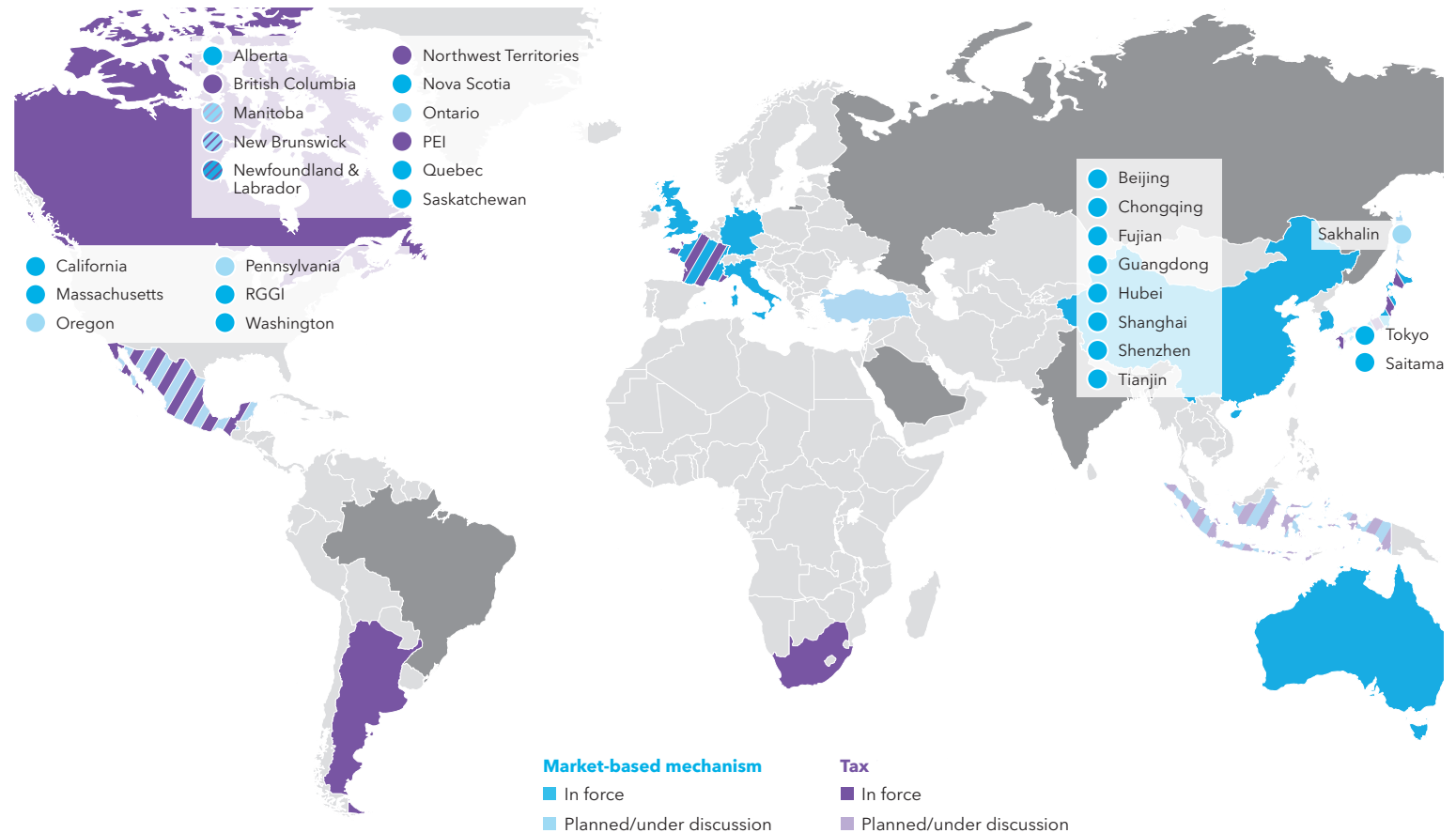
Carbon pricing

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.

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 CO₂ emissions split fairly equally between those with trading markets and others with taxes. A further two nations are conducting trials. For this analysis, each G-20 jurisdiction was assessed based on share of emissions covered by a carbon tax or market, and the average price paid. Where a nation had more than one program, an average was calculated weighted by each scheme's emissions.

- France and Germany have made most progress out of the G-20 countries in terms of implementing carbon pricing. This is in no small part due to their participation in the EU ETS, though they also have national policies in place, increasing the share of emissions covered by a carbon price.
- The EU ETS has become a well-regarded policy measure. Reforms for its fourth trading period (2021-30) will see greater emission reductions and higher carbon prices. Compared with previous compliance periods, the share of allowances allocated for free has shrunk considerably. Half of permits were auctioned over 2013-20, rising to at least 57% through 2021-30.
- Member states must use at least half the proceeds from these sales for 'climate and energy related' purposes. In addition, revenue is allocated to funds dedicated to supporting innovative low-carbon projects and accelerating the low-carbon energy transition in member states with a low GDP per capita. In some carbon-pricing programs (such as British Columbia), revenue is used to support especially affected and/or low-income households and companies.
- In a carbon market, prices tend to start low and rise over time, allowing companies to adapt to their changes in cost without creating a sudden shock for consumers. However, if the price remains too low (or concessions are too generous), the carbon price will have little effect on participants. The EU ETS was an example of this, for instance. The market price, today above 50 euros, was consistently below 10 euros (\$12) 2012-17.
- Eight of the G-20 have made mixed progress regarding carbon pricing, In most cases, the national government has implemented a tax or market. But it will likely have little impact in terms of spurring decarbonization because the price is too low or the concessions to emitters too generous.
- In the case of the U.S., state-level programs collectively cover less than a tenth of national emissions and their prices are relatively low.
- Countries in red have yet to put a price on carbon. Among the group, Indonesia and Turkey seem to be the closest to doing so, although they remain far from actual implementation of mandatory programs.

Progress on carbon-pricing policies

	Emissions covered	Average price
Argentina	20%	\$10
Australia	50%	\$12
Brazil	0%	—
Canada	78%	\$31
China	43%	\$6
France	90%	\$60
Germany	85%	\$49
India	0%	—
Indonesia	0%	—
Italy	45%	\$67
Japan	68%	\$3
Mexico	63%	\$2
Russia	0%	—
Saudi Arabia	0%	—
South Africa	80%	\$8
South Korea	74%	\$12
Turkey	0%	—
U.K.	31%	\$58
U.S.	8%	\$6

■ Right direction
 ■ Mixed
 ■ Wrong direction

Source: BloombergNEF. Note: [Click here](#) for our definitions of 'Right' and 'Wrong direction'

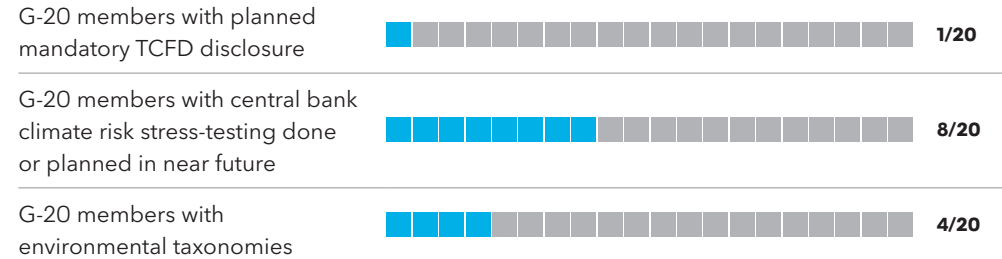
Climate risk disclosure

Overview

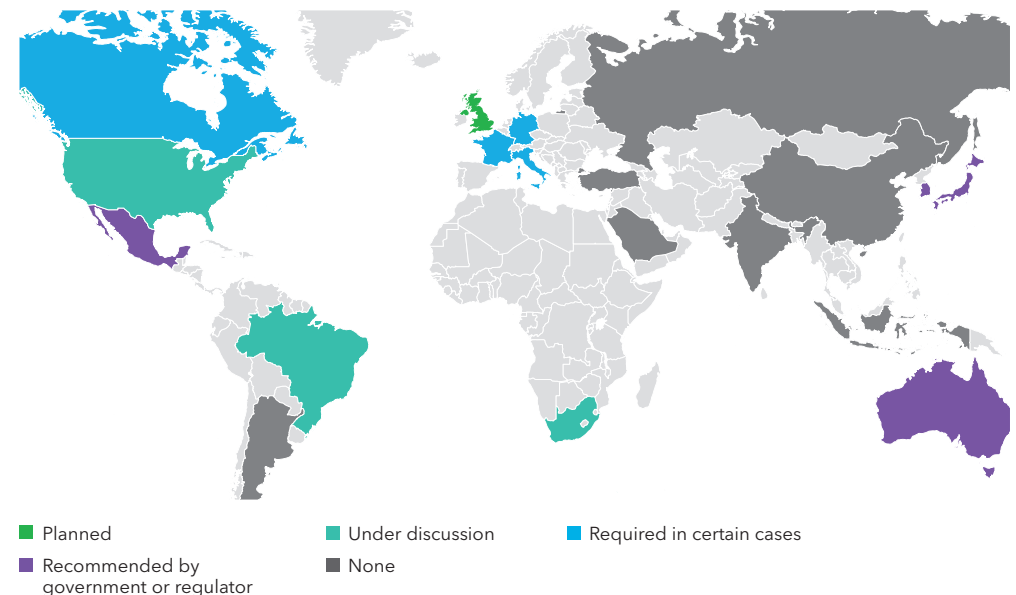
Climate risk encompasses both physical and transition risks linked to climate change. Companies and financial market participants' performance are increasingly affected by physical risks like extreme weather events. With governments expanding efforts to address climate, companies and investors face transition risk in the form of new policies and litigation on the grounds of climate inaction. Growing susceptibility to these risks has financial players looking at climate change when assessing their portfolios and lending activities. Governments are starting to implement policies to ensure the right data is collected and published in order for these risks to be assessed accurately. The ultimate goal is for financial institutions to consider and price the impact of climate externalities into credit risk and valuation models.

- Most G-20 governments have voiced support for voluntary reporting of climate risks. Indeed, the G-7 nations backed "moving towards" mandatory climate-risk disclosure at their 2021 summit in June. But few have legislated it. The EU and the U.K. are the only governments that have enforced climate-risk policies to date. Their efforts have focused on assessing the environmental impacts of companies and investors, and evaluating and managing the effect of climate risks on performance.
- The [Task Force on Climate-related Financial Disclosures](#) (TCFD) is the most widely used disclosure framework, with 2,108 corporate, financial and government supporters. While largely voluntary, it has gained momentum as governments announce support, typically by requiring disclosure under certain circumstances, as is the case in Canada or in the EU. However, only the U.K. plans to enforce mandatory TCFD reporting for listed companies, starting in 2023.
- Central banks can play an important role in supporting climate-risk disclosure, notably by integrating these risks into the 'stress tests' they routinely put on financial institutions to test their financial health. The tests could require them to assess their stability under several potential climate scenarios.

By the numbers



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



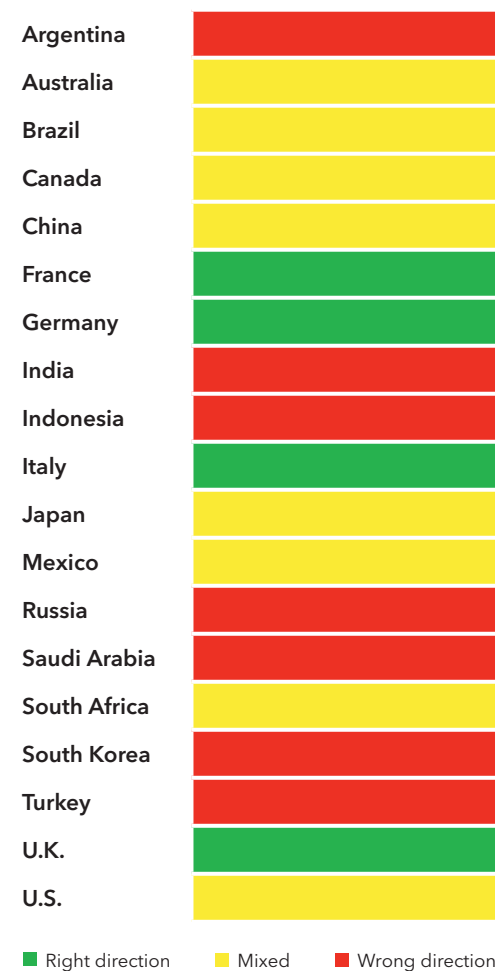
Source: BloombergNEF

Climate risk disclosure

Assessment

- Climate-risk 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 the impacts of climate change 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 December 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



Source: BloombergNEF. Note: [Click here](#) for our definitions of 'Right' and 'Wrong direction'



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)

Share spent on coal (2019)

Share targeted at producers & utilities (2019)

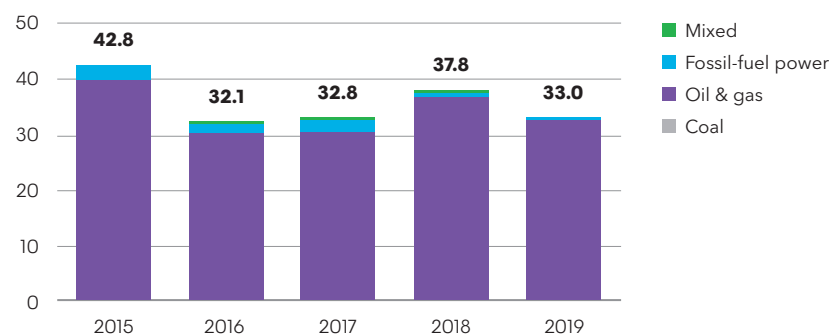


\$178 billion

0.1%

81%

Fossil-fuel support (\$billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF.

Carbon pricing

Carbon-pricing policy

National emissions covered by carbon price

Average carbon price (2020)



20%

\$10/metric ton

Climate risk disclosure

Mandatory TCFD policy

Corporate, financial and government TCFD supporters

Investor climate-risk policy

Central bank climate-risk stress-testing

Environmental taxonomy



X

O

X

X

X

Australia

Annex I party

Australia has made mixed progress on the three priority areas, with room for improvement regarding fossil-fuel support and carbon pricing. Discussions on a national net-zero target are underway, although states and territories have legislated a goal of their own, or are in the process of doing so. Australia has begun to decarbonize its power system but achieving its 2030 emission target will require more policy measures for transport and industry.

- Among the G-20, Australia had boosted its financial support for fossil fuels the most 2015-2019, with spending up 48% over that time. The rise has predominantly gone to oil and gas consumers.
- Tax breaks account for the lion's share of fossil-fuel support in Australia, thanks to capex deductions for mining and petroleum operations, fuel-tax credits, reduced fuel-excise rates and offset schemes. 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.
- Australia has taken some steps to promote climate-risk disclosure, with limited success. TCFD policy is not mandatory and only members of the Financial Services Council are required to report their ESG risk-management policy. The Council is an industry body representing over 100 financial-service companies.
- Two 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.

Fossil-fuel support

Total (2015-19)

Share spent on coal (2019)

Share targeted at producers & utilities (2019)

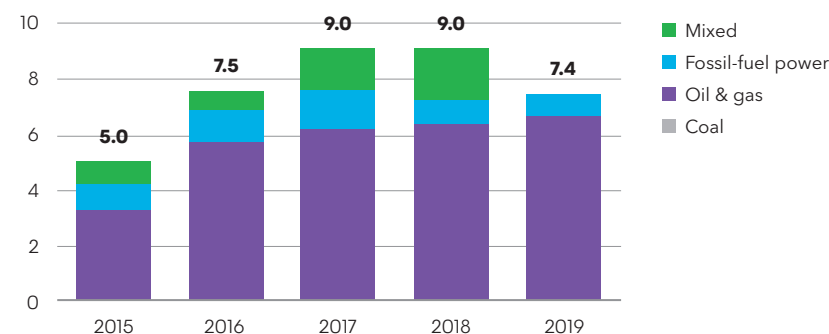


\$38 billion

0%

31%

Fossil-fuel support (\$billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF.

Carbon pricing

Carbon-pricing policy

National emissions covered by carbon price

Average carbon price (2020)



50%

\$12/metric ton

Climate risk disclosure

Mandatory TCFD policy

Corporate, financial and government TCFD supporters

Investor climate-risk policy

Central bank climate-risk stress-testing

Environmental taxonomy



Recommended only **X**

103

X

Planned for 2021 **X**

X

Brazil

Non-Annex I party

Brazil has been a leader in renewable power auctions and biofuels production due to its incentive program and access to feedstock. Yet the real challenge for decarbonization will be the country's agriculture, forestry and land-use sectors, which together comprised 62% of emissions in 2018. President Jair Bolsonaro said at the U.S.-convened climate ambition summit in April that Brazil would reach climate neutrality by 2050. But this would be contingent on financial support from developed countries.

- Brazil saw a slight increase (3%) in support for fossil fuels 2015-19, and its per-capita total in 2019 (\$188) was some way above the G-20 average. The country has taken steps toward phase-out, halving aid for consumers from 2015-19.
- This therefore means that Brazil has the second-highest share of support given to fossil-fuel producers and utilities, most of which comprises investment in oil and gas state-owned enterprises.
- 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 the central bank plans to implement reporting in line with TCFD recommendations and issue regulations to enforce it for the rest of the economy in 2021/22.
- Brazil's central bank has required financial institutions to maintain processes to manage environmental risks since 2014. It is also part of the NGFS initiative and is discussing how to integrate a climate-risk stress-testing.

Fossil-fuel support

Total (2015-19)

Share spent on coal (2019)

Share targeted at producers & utilities (2019)

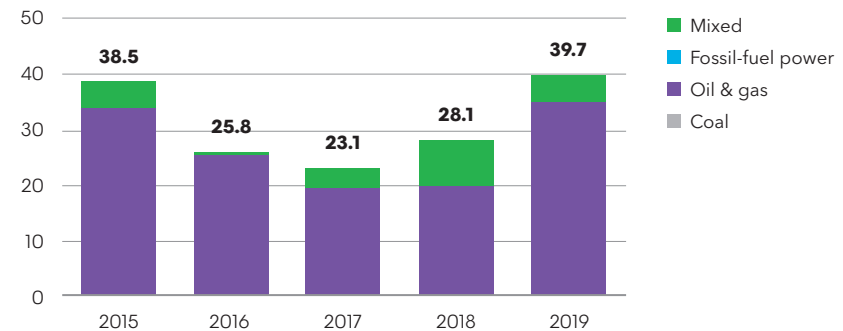


\$155 billion

0.4%

90%

Fossil-fuel support (\$billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF.

Carbon pricing

Carbon-pricing policy

National emissions covered by carbon price

Average carbon price (2020)



X

0%

n/a

Climate risk disclosure

Mandatory TCFD policy

Corporate, financial and government TCFD supporters

Investor climate-risk policy

Central bank climate-risk stress-testing

Environmental taxonomy

Under discussion X

31

Generic ESG reporting for funds X

Under discussion X

X

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 - and an even steeper reduction will be needed to meet the national 2050 net-zero target, which was approved in June 2021. With a relatively low-carbon 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 2016, the Trudeau government committed to phase out inefficient fossil-fuel subsidies by 2025 – in line with the G-20 pledge first made in 2009. Yet Canada raised this support by 40% from 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. The results of its mutual peer review of supports with Argentina have yet to be released.
- 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 89 TCFD supporters, of which more than half are financials. 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 is discussing how to define and some climate-risk stress-tests. Canada is also working on its own green taxonomy, but the project has already been delayed. Its only ESG disclosure policy for investors applies to pension funds in Ontario.

Fossil-fuel support

Total (2015-19)

Share spent on coal (2019)

Share targeted at producers & utilities (2019)

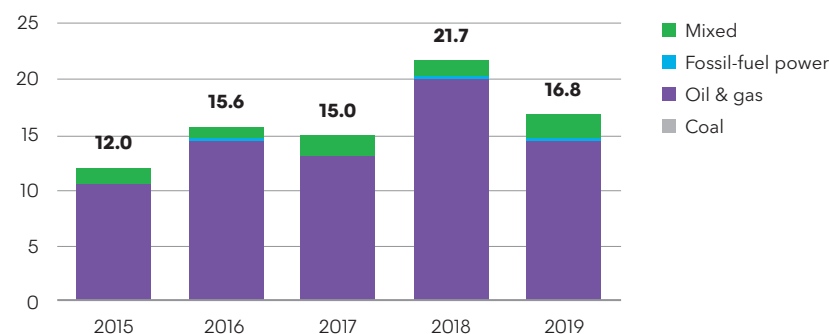


\$81 billion

0.1%

93%

Fossil-fuel support (\$billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF.

Carbon pricing

Carbon-pricing policy

National emissions covered by carbon price

Average carbon price (2020)



✓

78%

\$31/metric ton

Climate risk disclosure

Mandatory TCFD policy

Corporate, financial and government TCFD supporters

Investor climate-risk policy

Central bank climate-risk stress-testing

Environmental taxonomy



In certain cases ✓

89

X

Planned for 2022 X

In development X

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. Its industrial sector will likely be the most challenging to decarbonize, even with the government's intention to shift away from a resource-driven energy-intensive economy.

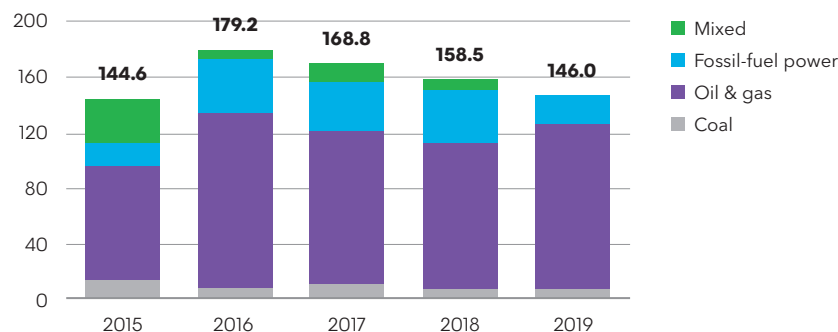
- In 2019, China provided \$146 billion in fossil-fuel support, by far the most among the G-20 and nearly double what runner-up Russia provided. Some 57% of China's total was in the form of investment by state-owned oil and gas producers. A further fifth of the support was targeted at consumers of fossil fuels and fossil-fuel-fired power.
- 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.
- 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 (e.g., 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. In the meantime, the eight provincial-level cap-and-trade schemes continue.
- 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'.

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.

Carbon pricing

Carbon-pricing policy	✓
National emissions covered by carbon price	43%
Average carbon price (2020)	\$6/metric ton



Climate risk disclosure

Mandatory TCFD policy	X
Corporate, financial and government TCFD supporters	18
Investor climate-risk policy	X
Central bank climate-risk stress-testing	X
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. France has implemented a relatively strong set of policies to achieve these pledges.

- Having increased fossil-fuel support by 24% over 2015-19, France had the highest per-capita total in 2019 (\$347) of the OECD countries. It is therefore the only EU member state that is not deemed to be making progress on eliminating fossil-fuel support. France and India pledged in 2019 to undertake a peer review of their fossil-fuel subsidies.
- Half of France's 2019 total comprised investment by state-owned enterprises involved in oil and gas and fossil-fuelled power. A further 43% came in the form of tax breaks for energy consumers. The government is set to close the remaining coal-fired power capacity by end-2022 and has pledged not to add any new gas capacity. Its public finance institutions are banned from investing in coal, with partial restrictions on oil and gas.
- France is a participant of the EU ETS – the bloc's flagship climate policy. In addition, it 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)

Share spent on coal (2019)

Share targeted at producers & utilities (2019)

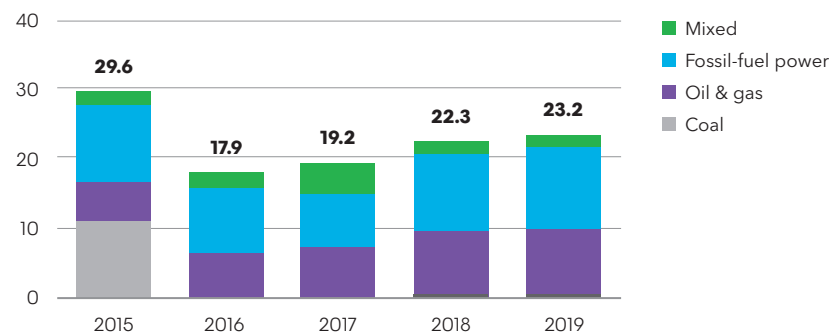


\$101 billion

1.3%

59%

Fossil-fuel support (\$billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF.

Carbon pricing

Carbon-pricing policy

National emissions covered by carbon price

Average carbon price (2020)



80%

\$60/metric ton

Climate risk disclosure

Mandatory TCFD policy

Corporate, financial and government TCFD supporters

Investor climate-risk policy

Central bank climate-risk stress-testing

Environmental taxonomy



In certain cases ✓

105



National. In development at EU level ✓



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 17% cut on 2015 levels. Public finance accounts for nearly two-thirds of Germany's total, focused on oil and gas producers.
- Its mutual peer review with Mexico identified 22 measures that favored fossil fuels but Germany only identified two as "inefficient". These two ended as part of an EU commitment to end supports for hard coal.
- Launched in 2021, Germany's national emission-trading scheme covers heat and transport. The program could provide a blueprint for the EU, which is considering adding 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.

Fossil-fuel support

Total (2015-19)

Share spent on coal (2019)

Share targeted at producers & utilities (2019)

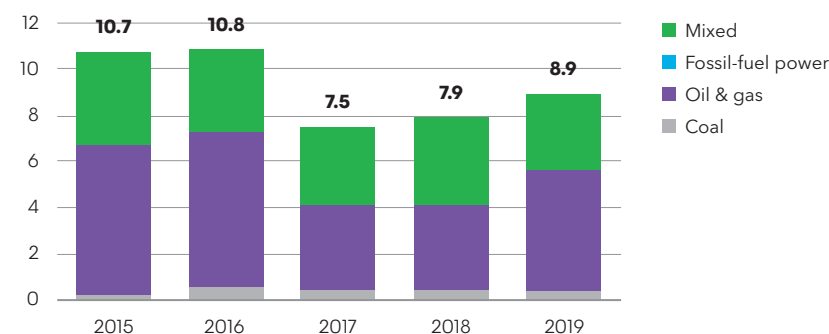


\$46 billion

4.5%

71%

Fossil-fuel support (\$billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF.

Carbon pricing

Carbon-pricing policy

National emissions covered by carbon price

Average carbon price (2020)



85%

\$49/metric ton

Climate risk disclosure

Mandatory TCFD policy

Corporate, financial and government TCFD supporters

Investor climate-risk policy

Central bank climate-risk stress-testing

Environmental taxonomy



In certain cases ✓

45



In development at EU level ✗



India

Non-Annex I party

The Indian government finds itself 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. It has set up a task force to consider potential timelines and pathways for reach net-zero emissions. The country may request financial support from other countries in return for a net-zero pledge. Or it could opt for a near-zero emission target, as it seeks to balance the need to tackle climate change and to enable economic development.

- 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.
- 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 carbon pricing scheme. 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 42 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.

Fossil-fuel support

Total (2015-19)

Share spent on coal (2019)

Share targeted at producers & utilities (2019)

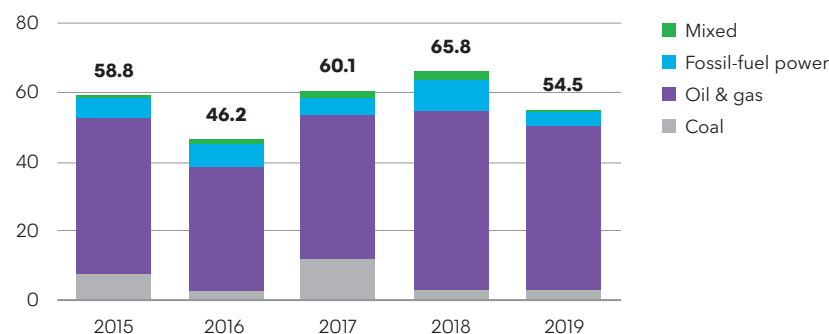


\$284 billion

5.1%

37%

Fossil-fuel support (\$billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF.

Carbon pricing

Carbon-pricing policy

National emissions covered by carbon price

Average carbon price (2020)



X

0%

n/a

Climate risk disclosure

Mandatory TCFD policy

Corporate, financial and government TCFD supporters

Investor climate-risk policy

Central bank climate-risk stress-testing

Environmental taxonomy



X

42

X

X

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 transmission and distribution.
- 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, the government submitted a draft law to Parliament on June 28, to implement a carbon tax of 75,000 rupiah (\$5.2) per metric ton. (Because the tax has yet to be approved and the emission-trading program is at a pilot stage only, we have not included them 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)

Share spent on coal (2019)

Share targeted at producers & utilities (2019)

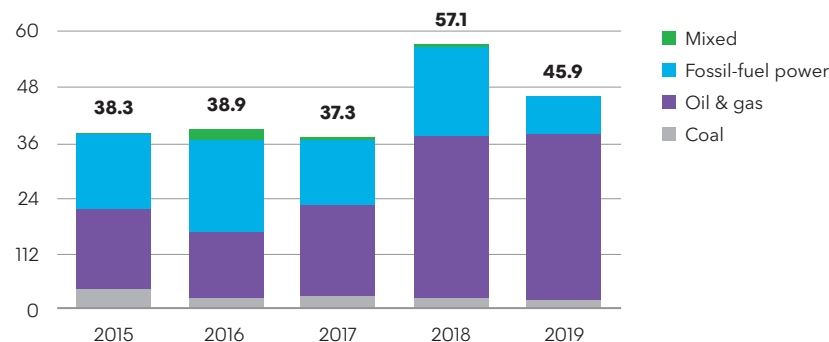


\$216 billion

4.6%

40%

Fossil-fuel support (\$billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF.

Carbon pricing

Carbon-pricing policy

National emissions covered by carbon price

Average carbon price (2020)



Under discussion **X**

0%

n/a

Climate risk disclosure

Mandatory TCFD policy

Corporate, financial and government TCFD supporters

Investor climate-risk policy

Central bank climate-risk stress-testing

Environmental taxonomy



X

6

X

X

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 few TCFD supporters, which would make it more difficult to implement a mandatory TCFD policy.
- Asset managers must perform some generic sustainability reporting but the development of the climate-risk policies will directly impact them too. Italy's central bank is part of the NGFS initiative.

Fossil-fuel support

Total (2015-19)

Share spent on coal (2019)

Share targeted at producers & utilities (2019)

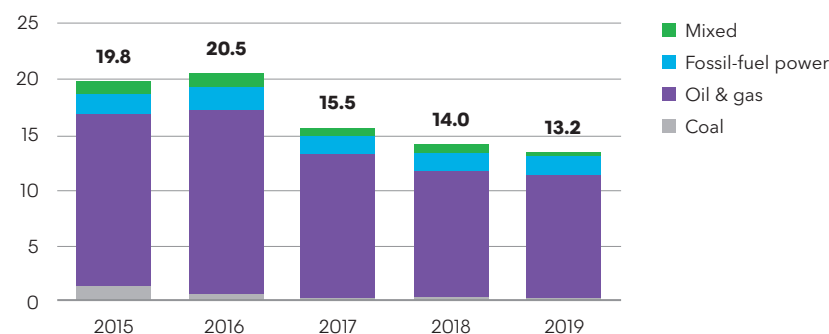


\$83 billion

1.2%

29%

Fossil-fuel support (\$billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF.

Carbon pricing

Carbon-pricing policy

National emissions covered by carbon price

Average carbon price (2020)



✓

45%

\$67/metric ton

Climate risk disclosure

Mandatory TCFD policy

Corporate, financial and government TCFD supporters

Investor climate-risk policy

Central bank climate-risk stress-testing

Environmental taxonomy



In certain cases ✓

17

✓

In development at EU level X

✓

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 over 2015–19. The government provides relatively little subsidies on retail energy prices.
- However, its 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 a country without a decarbonization policy. However, there are exceptions. In addition, as a member of the G-7, Japan pledged to end international coal-power finance by end-2021, although the agreement was too vague to be meaningful.
- 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)

Share spent on coal (2019)

Share targeted at producers & utilities (2019)

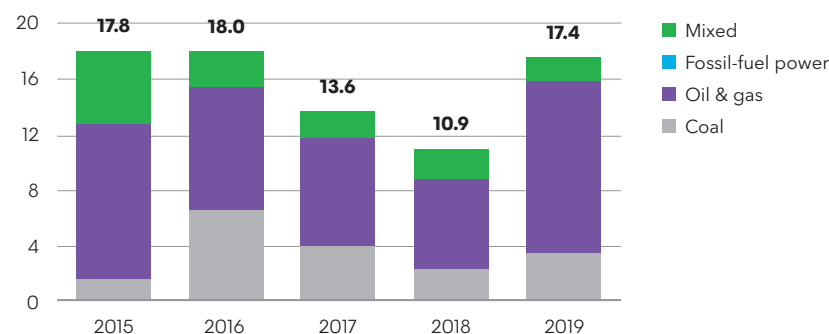


\$78 billion

20%

91%

Fossil-fuel support (\$billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF.

Carbon pricing

Carbon-pricing policy

National emissions covered by carbon price

Average carbon price (2020)



✓

68%

\$3/metric ton

Climate risk disclosure

Mandatory TCFD policy

Corporate, financial and government TCFD supporters

Investor climate-risk policy

Central bank climate-risk stress-testing

Environmental taxonomy



Recommended only **X**

389

Generic ESG reporting **X**

Planned **X**

X

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.

Fossil-fuel support

Total (2015-19)

Share spent on coal (2019)

Share targeted at producers & utilities (2019)

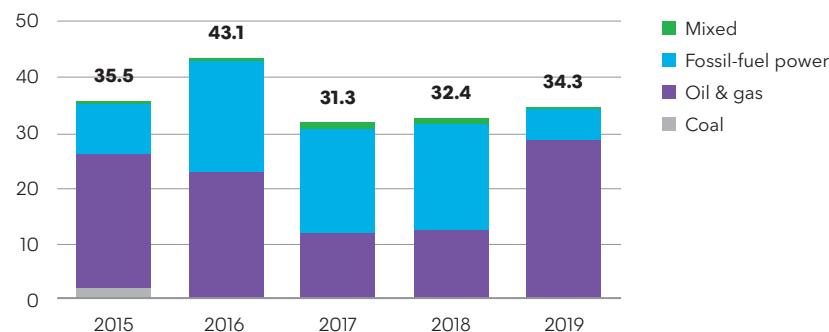


\$175 billion

0%

49%

Fossil-fuel support (\$billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF.

Carbon pricing

Carbon-pricing policy

National emissions covered by carbon price

Average carbon price (2020)



63%

\$2/metric ton

Climate risk disclosure

Mandatory TCFD policy

Corporate, financial and government TCFD supporters

Investor climate-risk policy

Central bank climate-risk stress-testing

Environmental taxonomy

Recommended only **X**

20

Generic ESG reporting for pension funds **X**

X

X

Russia

Annex I party

Russia's 2030 emission target lacks ambition and the government has introduced limited policy measures to spur decarbonization. However, the government is exploring how to diversify the economy and a new climate policy was approved by the State Duma (lower house) in April. If passed by parliament, the law would introduce a system for companies to monitor and report their emissions.

- 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.
- 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.
- 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)

Share spent on coal (2019)

Share targeted at producers & utilities (2019)

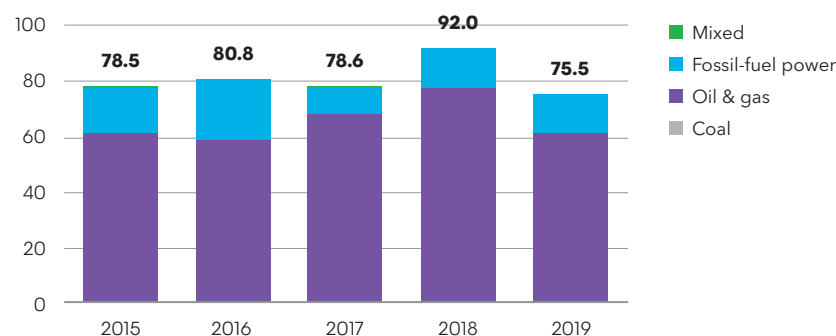


\$406 billion

0.2%

67%

Fossil-fuel support (\$billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF.

Carbon pricing

Carbon-pricing policy

National emissions covered by carbon price

Average carbon price (2020)



X

0%

n/a

Climate risk disclosure

Mandatory TCFD policy

Corporate, financial and government TCFD supporters

Investor climate-risk policy

Central bank climate-risk stress-testing

Environmental taxonomy



X

3

X

X

X

Saudi Arabia

Non-Annex I party

Saudi Arabia's NDC, submitted in 2016, did not include a quantitative emission goal. However, 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

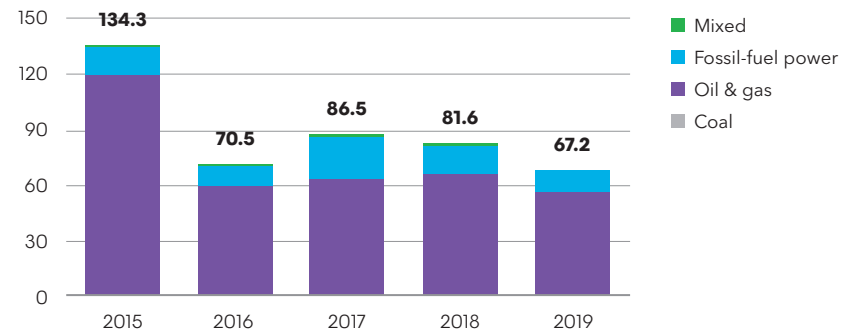
Share spent on coal (2019)

0%

Share targeted at producers & utilities (2019)

57%

Fossil-fuel support (\$billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF.

Carbon pricing

Carbon-pricing policy



X

National emissions covered by carbon price

0%

Average carbon price (2020)

n/a

Climate risk disclosure

Mandatory TCFD policy



X

Corporate, financial and government TCFD supporters

O

Investor climate-risk policy

X

Central bank climate-risk stress-testing

X

Environmental taxonomy

X

South Africa

Non-Annex I party

Under its current NDC, South Africa could meet its 2030 target by increasing emissions 21% over 2010 levels. However, the government is working on an updated plan, which could mean a 13% cut instead. The updated NDC is undergoing consultation and due to be submitted by COP26. So far, the government has made most progress in decarbonizing the power sector, although coal still supplies nearly 90% of generation.

- 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 less surprising that the fuel accounts for 12% of fossil support in 2019 – the second-largest share of the G-20. A further fifth is spent on fossil-fuelled (mostly coal-fired) power.
- 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.
- A mandatory climate-risk reporting policy is under discussion: in a technical draft in 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 has very few TCFD supporters and only has generic sustainability disclosure policies for pension funds. The central bank is part of the NGFS initiative

Fossil-fuel support

Total (2015-19)



\$47 billion

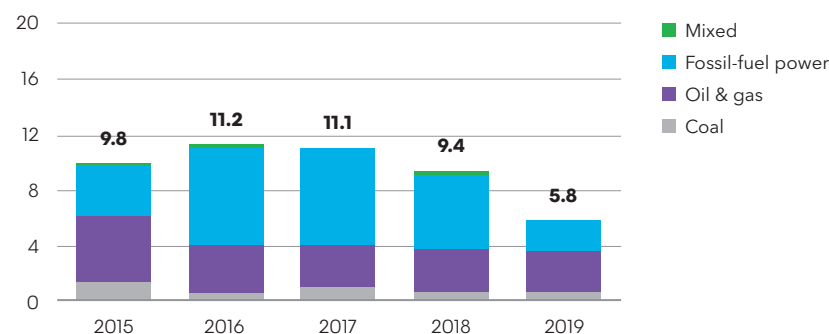
Share spent on coal (2019)

12%

Share targeted at producers & utilities (2019)

33%

Fossil-fuel support (\$billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF.

Carbon pricing

Carbon-pricing policy



National emissions covered by carbon price

80%

Average carbon price (2020)

\$8/metric ton

Climate risk disclosure

Mandatory TCFD policy

Under discussion **X**

Corporate, financial and government TCFD supporters

16

Investor climate-risk policy

Generic ESG report for pension funds **X**

Central bank climate-risk stress-testing

X

Environmental taxonomy

X

South Korea

Non-Annex I party

South Korea's current 2030 emission target would not be aligned with the Paris Agreement goals. Nor would it put the country on a pathway to achieving its 2050 net-zero pledge, which is midway through the legislative process. However, it will bolster its 2030 target before COP26, President Moon Jae-in announced at the climate ambition summit in April.

- 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.
- 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 43 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)

Share spent on coal (2019)

Share targeted at producers & utilities (2019)

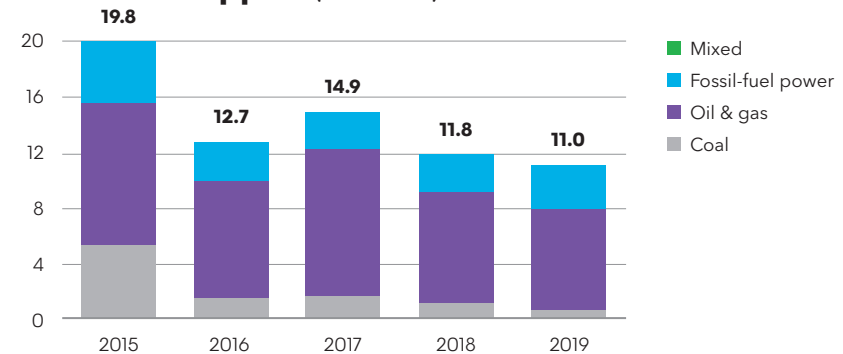


\$66 billion

4.2%

87%

Fossil-fuel support (\$billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF.

Carbon pricing

Carbon-pricing policy

National emissions covered by carbon price

Average carbon price (2020)



74%

\$12/metric ton

Climate risk disclosure

Mandatory TCFD policy

Corporate, financial and government TCFD supporters

Investor climate-risk policy

Generic ESG reporting for national pension fund

Central bank climate-risk stress-testing

Environmental taxonomy



X

43

X

X

X

Turkey

Annex I party

Turkey is the only G-20 member that has yet to ratify the Paris Agreement and has therefore yet to submit an NDC. It 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 new coal plants and 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 tax would impact Turkish companies.
- Turkey has almost no TCFD supporters and no climate-risk policies to date.

Fossil-fuel support

Total (2015-19)

Share spent on coal (2019)

Share targeted at producers & utilities (2019)

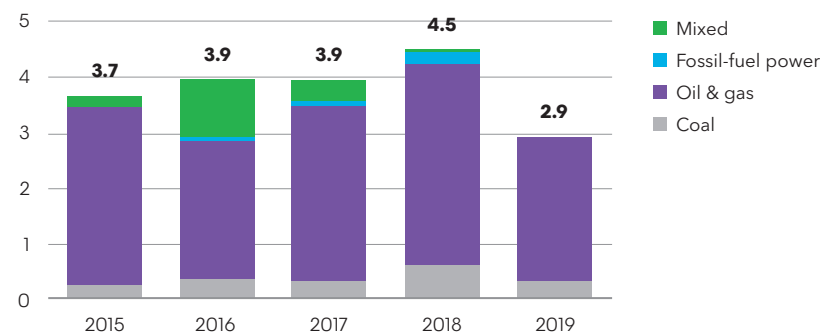


\$19 billion

11%

11%

Fossil-fuel support (\$billion)



Source: OECD, IEA, Oil Change International, ODI, IISD, BloombergNEF.

Carbon pricing

Carbon-pricing policy

National emissions covered by carbon price

Average carbon price (2020)



Under discussion **X**

0%

n/a

Climate risk disclosure

Mandatory TCFD policy

Corporate, financial and government TCFD supporters

Investor climate-risk policy

Central bank climate-risk stress-testing

Environmental taxonomy



X

8

X

X

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.

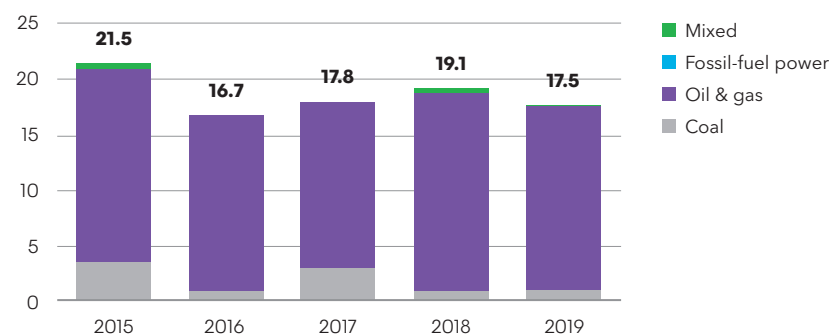
- The U.K. has been a leader in promoting the phase-out of fossil-fuel power generation and its last coal-fired power plant is due to close in 2024. Prime Minister Boris Johnson announced at end-2020 that the U.K. would ban direct government support for new crude oil, natural gas, thermal coal or fossil-fuel 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”.
- 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. The first auction, held on May 19, cleared at 43.99 pounds (\$58) – comfortably above the floor price of 22 pounds (\$29).
- The U.K. 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.
- 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.

Carbon pricing

Carbon-pricing policy	✓
National emissions covered by carbon price	31%
Average carbon price (2020)	\$58/metric ton



Climate risk disclosure

Mandatory TCFD policy	Planned for 2023	X
Corporate, financial and government TCFD supporters		339
Investor climate-risk policy		✓
Central bank climate-risk stress-testing	Planned for 2021	X
Environmental taxonomy	Under discussion	X



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 U.S. goal and will be challenging to achieve. In particular, further policies will be needed to decarbonize the transportation and industrial segments of the economy.

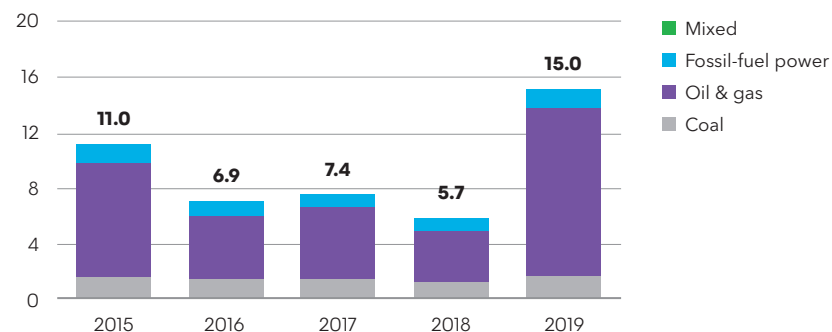
- In terms of fossil-fuel support, the U.S. was the third lowest on a per-capita basis in 2019 among the G-20 countries. But from 2015-19, the U.S. posted the third-highest rate of growth (37%) among the G-20. The rise was driven by a 170% jump in public finance for oil and gas production, along with continued tax breaks for the sector.
- Biden's 'Made in America Tax Plan', released on April 7, proposes to end tax breaks and other direct subsidies for fossil-fuel producers. The plan needs approval from a very divided Congress, however.
- The U.S. has no federal-level 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 in 2020 were relatively low, averaging \$7 per metric ton – 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.

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.

Carbon pricing

Carbon-pricing policy	State-level only
National emissions covered by carbon price	8%
Average carbon price (2020)	\$5/metric ton



Climate risk disclosure

Mandatory TCFD policy	Under discussion	X
Corporate, financial and government TCFD supporters		310
Investor climate-risk policy		X
Central bank climate-risk stress-testing		X
Environmental taxonomy		X



Assumptions

Definitions used for ranking G-20 countries

Priority area		Right direction	Mixed	Wrong direction
Fossil-fuel support	Change in total support, 2015-19	Decrease of 10% or more (G-20 average)	Decrease of less than 10%	Increase
	Per-capita support, 2019	Lowest tercile of G-20	Middle tercile	Highest tercile
Carbon pricing	Emissions covered	Over 66%	33-65%	Less than 33%
	Average price	\$18 (G-20 mean) or more	\$1-17	Less than \$1
Climate-risk disclosure		Specific climate-risk policies in place	Only generic environmental disclosure rules	No significant policies in place

Fossil-fuel support

The figures in this report 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 of the 19 individual country members of the G-20. 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 table.

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. No public finance data was recorded for China in 2019, compared with \$18 billion in 2018. We therefore assumed that it maintained the historical trend over 2015-18 out to 2019.

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.

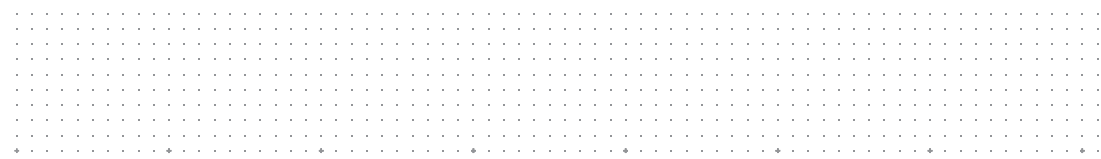
Data sources for fossil-fuel support

Type	Data source
Direct budget transfers and tax breaks	OECD Inventory of Support Measures for Fossil Fuels
Support to consumer energy prices	IEA Energy Subsidies Database
Support from public finance institutions	Oil Change International's 'Shift the Subsidies' Database
Investment by state-owned enterprises	Overseas Development Institute, International Institute for Sustainable Development and OCI

Carbon pricing

To rank the countries, only international, national or state/province-level carbon-pricing policies were included.

The price is the average over the last year or latest available. 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.



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