Climate Policy Factbook: COP29 Edition

Three policy priorities for rapid action

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November 7, 2024

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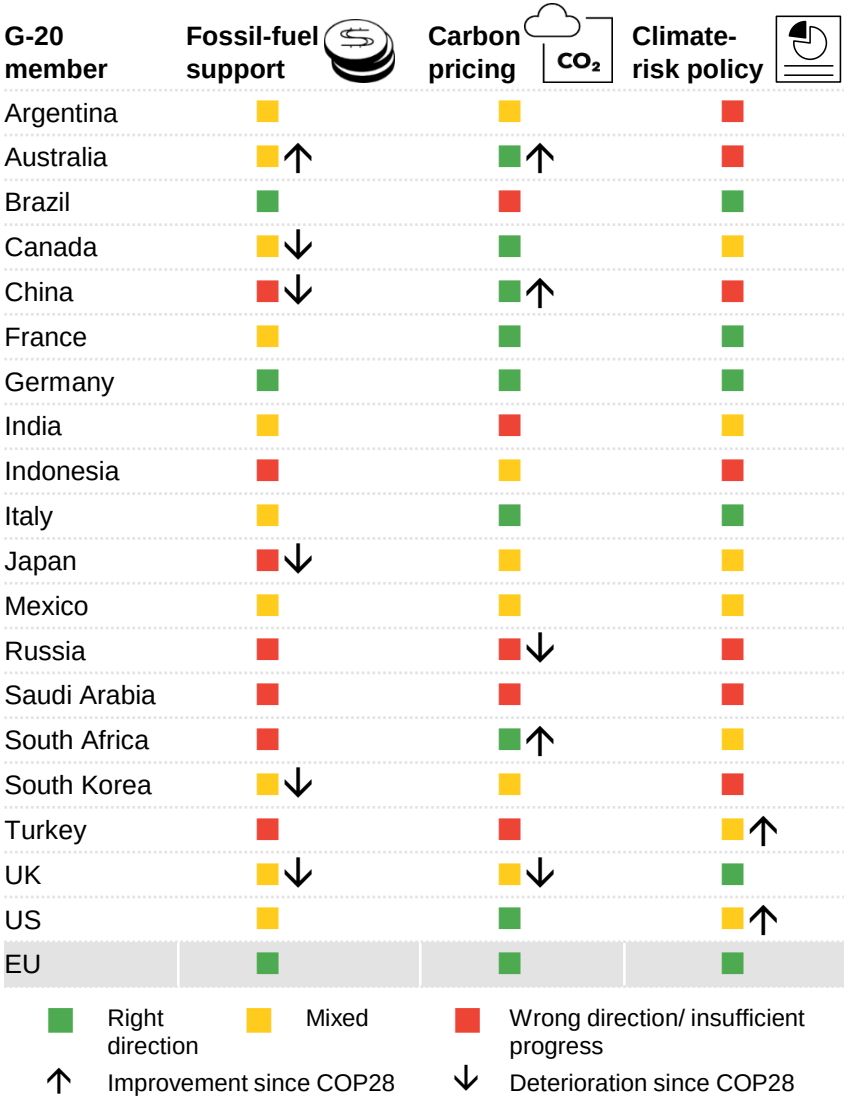
Key messages

On the brink of this year's COP29 summit, governments are grappling with how to devise their next climate plans. Not only are these meant to contain bolder pledges, they also need to account for budgetary constraints, a cost-of-living crisis, the wish for energy independence and use of domestic natural resources, and election outcomes. With that in mind, this fifth edition of the *Climate Policy Factbook* focuses on three policy areas that would accelerate the transition to a low-carbon economy without considerable government outlay: fossil-fuel support, carbon pricing and climate-risk policy.

- Group-of-20 governments and state-owned bodies provided $1.1 trillion in fossil-fuel support in 2022 – by far the highest volume for at least a decade. The main driver of this increase was the global energy crisis as policymakers sought to support consumers. However, $500 billion went to producers and utilities, some of whom saw record profits that year. As a result of these trends and a lack of progress on phasing out coal power, China and Japan are now classified as making insufficient headway on fossil-fuel support, while Canada and the UK have moved down to 'mixed progress'. But Australia is now moving in the 'right direction', having reduced coal-fired generating capacity in recent years and lowered fossil-fuel support in 2022.
- The acute phase of the energy crisis generally ended in late 2022. Yet early estimates suggest G-20 fossil-fuel support amounted to $945 billion in 2023 – a 19% year-on-year fall but still well above historical levels. Subsidy reform is politically delicate, especially if it implies an increase in consumer prices. As a first step, policymakers could follow Canada's example by defining what inefficient fossil-fuel subsidies are and requiring new government programs to avoid them.
- A growing number of G-20 members have multiple carbon taxes and markets either in place or planned. Compliance carbon pricing now covers 29% of G-20 emissions and this share is due to climb as programs are expanded and new schemes begin. Price trends have varied across these economies in the last year: some European programs have seen falls, while Australia, China and some US state-level markets have shifted higher.
- However, many carbon-pricing policies are weak green incentives: only the European Union's cap-and-trade scheme is within the range of prices estimated to be needed in 2030 to be on track to limit global warming to 2C, although Canada and California could be in line by the end of the decade. Another reason is the continued generous concessions to participants, including the handout of free emission allowances, though some governments are devising reforms.
- The gap widens between the G-20 members at the vanguard of climate-risk policy and those lagging behind. Some, like the EU, Brazil and the UK, have made substantive progress in introducing regulations. But others, including Argentina, Saudi Arabia and Russia, lack rules requiring firms and financial institutions to assess, report and mitigate their exposure to climate-related risks. Having made significant progress in the last year, Turkey and the US have moved up to the next rating category.
- The International Sustainability Standards Board's framework issued last year has enabled many policymakers to adopt the harmonized reporting standards in their own jurisdictions. Nine G-20 markets have passed, or said they were developing, local rules to mandate reporting against the ISSB standards. But while this creates a unified approach to climate-risk reporting, the framework's lack of stringency, as well as fragmentation due to the local variations, could reduce its effectiveness.

G-20 progress in three priority areas



Source: BloombergNEF. Note: Click here for definitions. Ratings for France, Germany and Italy take account of EU-level policies. EU rating only comprises bloc-level policies. Due to lack of data and policy mandates, it has not been possible to create ratings for the African Union this year.

(Report corrected on Nov. 7, 2024, to reflect on page 46 that the US does not have an economy-wide carbon price.)

Context

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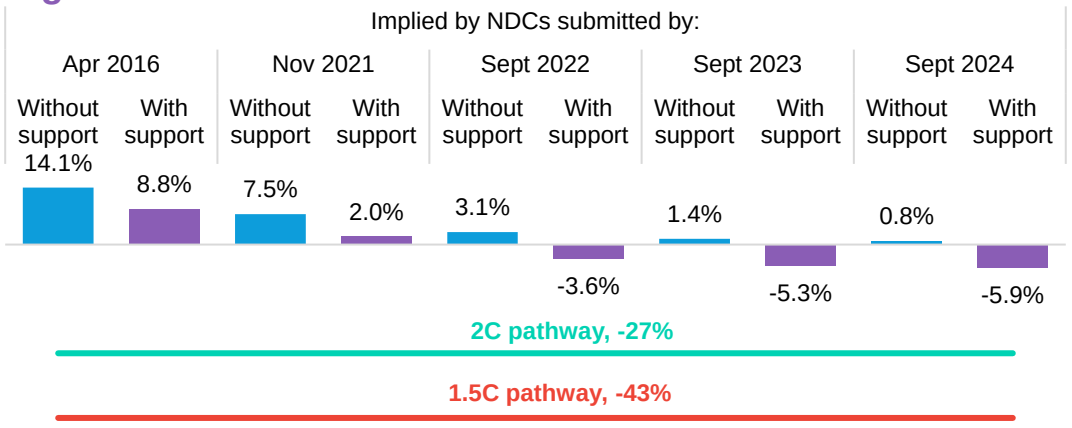
COP29 will be crunch time for a deal on the new finance goal, as governments are meant to pledge bolder climate action

This year's United Nations climate summit, known as COP29, is being held in Baku, Azerbaijan, and will likely have two principal focus areas: finance and the next set of plans to help achieve the goals of the Paris Agreement, known as Nationally Determined Contributions (NDCs). At the top of the agenda will be agreement on the new collective quantified goal (NCQG) on finance for developing economies to tackle the effects of climate change. Negotiators will face substantial hurdles to reaching an NCQG deal, with controversial issues being potential contributors and recipients, and the size of the financing target. Developing economies need $6 trillion to meet their NDCs by 2030, excluding adaptation costs, based on a 2021 report by the Standing Committee on Finance for the UN Framework Convention on Climate Change. Yet wealthy nations failed to meet their 2020 deadline for raising $100 billion per year.

- In the meantime, governments are devising their new or updated 'third-generation' NDCs, which are due to be submitted to the UN by February 10, 2025, for discussion at COP30 in Brazil. Following the first evaluation of global progress toward the Paris Agreement's aims, which concluded at COP28, governments are meant to pledge bolder targets and explain how they intend to deliver them. Three policy areas analyzed in this report would help governments accelerate decarbonization by:
  1. Reducing subsidies that promote the production and consumption of fossil fuels – see section on fossil-fuel support.
  2. Implementing mechanisms that make companies and the public pay for their carbon emissions – see section on carbon pricing.
  3. Introducing measures to drive financial and non-financial organizations to assess and mitigate their exposure to climate-related risks – see climate-risk policy section.
- The collective ambition of parties' NDCs has slowly crept up in recent years. But global greenhouse gas emissions would rise by 0.8% over 2019-2030 if parties achieved their unconditional targets announced by September 2023, based on the UN's latest synthesis report. If developed economies provide the finance and other support requested by emerging markets, the conditional NDC targets imply a 5.9% decrease over this period. However, this is still well behind the 27% drop required to limit global warming to 2C and the 43% reduction necessary for a 1.5C pathway.

Change in global emissions from 2019 levels if 2030 NDC targets are met



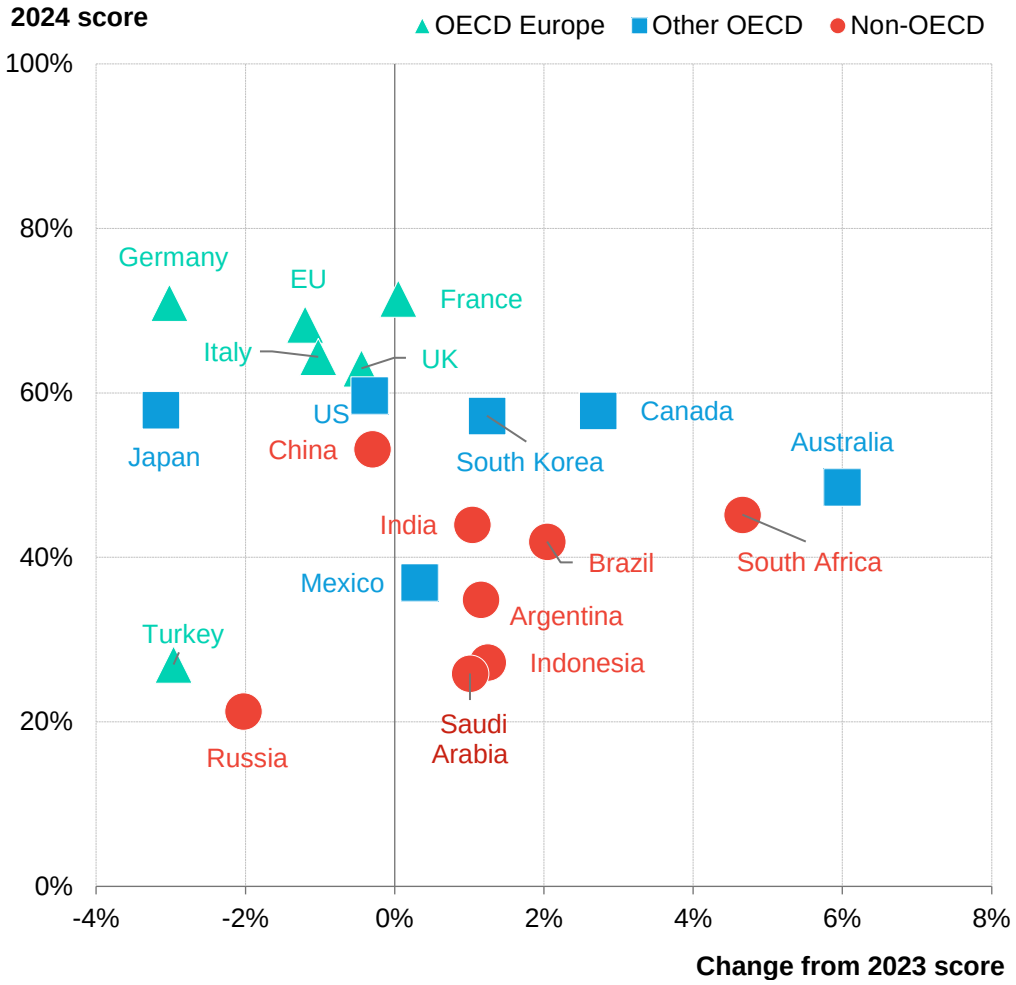
Source: UN Framework Convention on Climate Change, BloombergNEF. Note: Excludes land use, land-use change and forestry. NDC refers to Nationally Determined Contribution.

Tripling renewables

While last year's global stocktake failed to deliver much punch, COP28 did yield a set of pledges that, if achieved, could deliver progress toward a 1.5C pathway. The target that attracted the most headlines was "tripling renewable energy capacity globally" by 2030. This will be an important step to achieving global net-zero emissions by 2050 and should be hard – but achievable – based on BNEF analysis (for clients, see: *Unlocking Investment to Triple Renewables by 2030* (web | terminal)). But meeting the target would need renewables investment to reach at an average of $1 trillion per year (in 2023 terms) over 2024-2030, plus $193 billion for battery storage and $607 billion for grids. This is 1.6-2 times the investment in grids and renewables in 2023 and more than five times the 2023 total for storage. Other bottlenecks must also be tackled, including project permitting, revenue certainty for renewables generators and incentives.

European G-20 members have made limited progress in implementing effective low-carbon policy

G-20 Zero-Carbon Policy Scoreboard



Source: BloombergNEF, G-20 Policy Scoreboard 2024 (clients: web | terminal). An extended executive summary is also available publicly. Note: OECD refers to the Organisation for Economic Co-Operation and Development. BNEF's G-20 Policy Scoreboard assesses each G-20 member based on the quantity and quality of its low-carbon support. As this year's Scoreboard was based on 2023 data, it did not include the African Union.

The G-20 scored, on average, just 49% in the latest edition of BNEF's Zero-Carbon Policy Scoreboard – a 1 percentage point rise from the 2023 assessment. While performances continue to vary widely, the general lack of advancement is a red flag for wider climate action given that the group accounts for around 75% of global greenhouse gas emissions. Governments need to rapidly introduce more and better low-carbon policy support if the world is to reach net zero by mid-century and achieve the goals of the Paris Agreement.

- European members of the Organisation for Economic Co-operation and Development, excluding Turkey, sit atop BNEF's latest Policy Scoreboard thanks to their provision of incentives for low-carbon solutions and increasingly stringent regulatory measures targeting emissions-intensive technologies.
- But their total score declined this year, reflecting increasing uncertainty among consumers, industry and investors. This was due to insufficient or delayed information on new policies and abruptly ending programs earlier than expected. Some also weakened regulations or pushed back those measures' deadlines.
- The performance of other G-20 members of the OECD varied widely. The US leads this group but lost points for delays in rolling out the Inflation Reduction Act's support. In contrast, Australia achieved the biggest increase out of the G-20, driven mainly by better power, transport and industry policies.
- Yet, the dividing line of economic wealth persists. In general, developed economies have more and better low-carbon support than emerging markets. G-20 members in the OECD scored, on average, a total of 57% in BNEF's latest assessment, compared with 37% for non-OECD economies. To limit global warming to 1.5C, it will be especially important for developed economies to take the lead by implementing increasingly ambitious regulations and mandates on emissions-intensive technologies and practices.
- But it will be equally important for large emerging markets to make progress, and developed economies can support policymakers there. Accounting for 43% of the world's emissions, the 'BRICS' – Brazil, Russia, India, China and South Africa – have an average policy score of 42%.

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In particular, more support is needed to incentivize decarbonization of sectors outside power and transport

France, Germany, Italy and the EU as a whole performed best in BNEF's 2024 Policy Scoreboard – our annual assessment of the quantity and quality of low-carbon support. In particular, these European policymakers have implemented more decarbonization incentives and regulations across a wider range of sectors. However, all G-20 markets need more support in 'harder-to-abate' economic areas, where cleaner options are currently limited or very costly. Many governments began the energy transition by focusing on the power system and more recently road transport. As a result, the G-20 averaged 57% and 51%, respectively, for these two sectors – where economic low-carbon solutions are more readily available – in this year's Policy Scoreboard. This compares with an average of 41% for the other sectors.

The lack of low-carbon policy support for buildings, industry and agriculture is especially concerning because they account for a substantive proportion of emissions in many countries. This share is likely to grow further with increased decarbonization of the power and transport sectors. Governments need to start devising good support measures targeted at these hard-to-abate areas now. Designing good policy is tricky and time-consuming. Proposals need to be approved before they can be implemented and then, if designed well, they can start to drive change. A mix of incentives and regulations will be required, especially to build up demand and ensure any infrastructure is built.

G-20 Zero-Carbon Policy Scoreboard 2024 – results by sector (darker shade indicates a higher score)

	Power	Transport	Biofuels, low-carbon hydrogen and CCUS	Buildings	Waste	Industry	Agriculture
France	78%	82%	71%	77%	70%	65%	53%
Germany	75%	71%	71%	76%	64%	67%	54%
EU	75%	75%	66%	73%	62%	60%	50%
Italy	74%	64%	53%	73%	67%	51%	44%
UK	75%	69%	65%	52%	63%	64%	49%
US	66%	65%	76%	45%	41%	45%	41%
Japan	62%	62%	50%	60%	68%	46%	44%
Canada	59%	64%	67%	50%	36%	59%	43%
South Korea	60%	64%	54%	52%	58%	50%	41%
China	63%	65%	34%	54%	37%	43%	44%
Australia	57%	44%	39%	38%	34%	44%	47%
South Africa	59%	28%	25%	38%	32%	26%	31%
India	62%	55%	41%	34%	37%	31%	27%
Brazil	55%	43%	49%	25%	32%	21%	45%
Mexico	40%	40%	24%	35%	40%	30%	41%
Argentina	44%	33%	37%	27%	26%	23%	38%
Indonesia	35%	29%	31%	26%	27%	20%	19%
Turkey	37%	28%	27%	32%	37%	11%	27%
Saudi Arabia	38%	24%	18%	27%	17%	15%	18%
Russia	29%	27%	12%	14%	34%	13%	16%
Average	57%	51%	46%	45%	44%	39%	39%

Source: BloombergNEF, G-20 Policy Scoreboard 2024 (clients: web | terminal). An extended executive summary is also available publicly. Note: As this year's Scoreboard was based on 2023 data, it did not include the African Union. CCUS refers to carbon capture, utilization and storage.

Fossil-fuel support and coal power

G-20 fossil-fuel support declined in 2023 but still exceeded levels seen before the energy crisis

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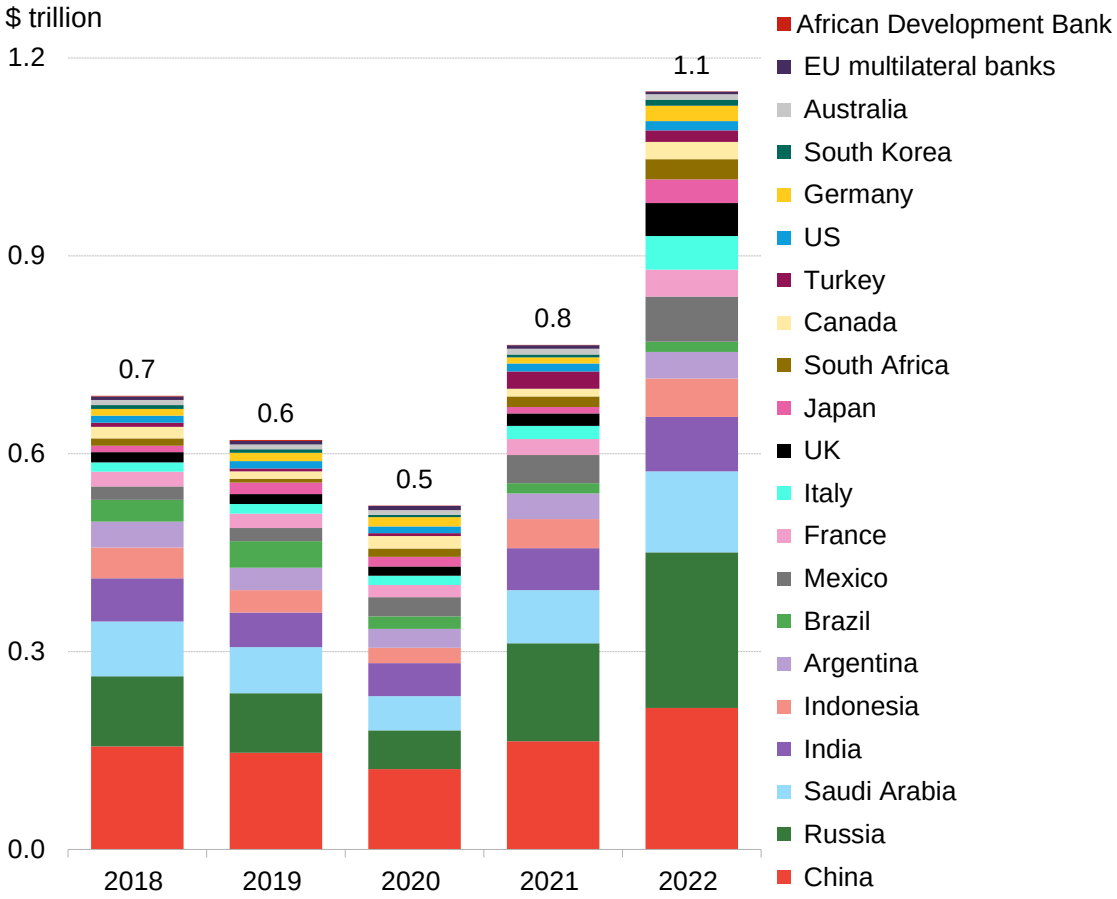
In total, the G-20 governments provided $1.1 trillion of fossil-fuel support in 2022, 51% more than the year before

G-20 fossil-fuel support, including EU multilateral banks and the African Development Bank



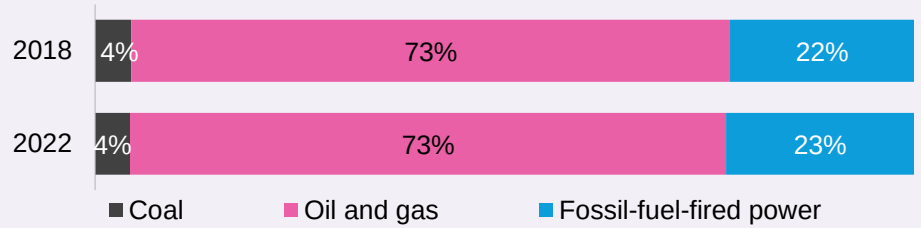
Source: OECD, International Energy Agency, Oil Change International, International Institute for Sustainable Development, BloombergNEF. See slide 25 for methodology and sources. Note: Includes budget transfers, tax expenditure, public finance, expenditure by state-owned enterprises, and consumer-price support. Data for all years have been updated and therefore may differ from previous editions of the Factbook. Figure includes the EU multilateral banks (the European Investment Bank and European Bank for Reconstruction and Development) and as a proxy for the African Union, funding from the African Development Bank.

G-20 support for coal, natural gas, oil and fossil-fuel power amounted to $1.1 trillion in 2022. This comprises budgetary transfers, tax breaks, funding from public finance institutions and expenditure by state-owned enterprises. The total was close to Indonesia's GDP that year and by far the highest volume of fossil-fuel subsidies for at least a decade. The global energy crisis was a significant driver, having been sparked by multiple factors, not least Russia's invasion of Ukraine.

- The energy crisis prompted many governments to roll out additional support for consumers and companies, with many of these measures aimed at fossil fuels. Some countries also faced their own energy-related challenges, including abnormally hot weather, unexpected drought, fuel shortages and plant outages.
- Emerging markets are among the biggest providers of fossil-fuel support in absolute volumes. Non-OECD economies accounted for 70% of the 2022 total. However, on average, OECD members saw a larger change in aggregate fossil-fuel support in 2022 – with an 111% increase compared with 47% for non-OECD economies in the G-20.

Fossil-fuel support by fuel

The breakdown of fossil-fuel support by fuel has changed little in recent years. While coal accounts for a small share, the high volume of total fossil-fuel support in 2022 means G-20 governments still provided $49 billion to the most emissions-intensive fuel.



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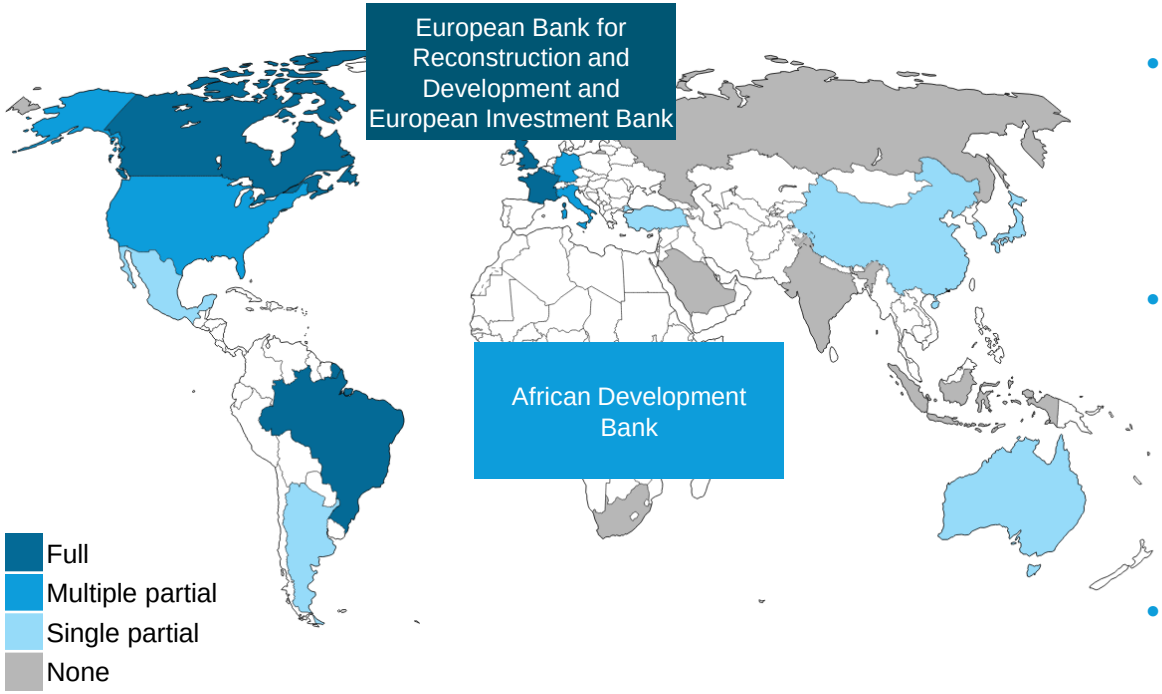
Five members of the G-20 have no explicit policies to end public financing for coal: India, Indonesia, Russia, Saudi Arabia and South Africa

One area of progress in the fossil-fuel subsidy phase-out has been public finance: bilateral institutions (meaning organizations set up by an individual country) based in G-20 economies provided $1.7 billion for coal-fired power generation, on average, over 2020-22 – a 79% reduction on the preceding three-year period. A similar decrease was seen for finance allocated to other parts of the coal-power value chain. The EU's multilateral finance institutions – the European Investment Bank (EIB) and European Bank for Reconstruction and Development (EBRD) – and African Development Bank have also provided almost no coal finance. These trends have been buoyed by the increasing number of public institutions that have ended coal subsidies.

Policies to end coal support by G-20 bilateral public finance institutions as well as EU multilateral institutions and African Development Bank



Source: Public Finance for Energy Database, BloombergNEF. Note: Geographies in white are not individual G-20 member economies. 'Single' means exclusions covering only one part of the supply chain (or one type of indirect finance) at one or more of the relevant institutions. 'Full' exclusions cover all supply chain stages across all institutions. Significant loopholes may apply.

- Five G-20 member states and the EU banks have full exclusion policies for coal, based on data from the Public Finance for Energy Database. The EIB and EBRD have similar full exclusions. The African Development Bank and a further nine individual country members of the G-20 have one or more policies covering a single part of the supply chain.
- The rise in such measures was buoyed by the commitment made by 39 nations at the COP26 summit in 2021 to end new direct public support for the international unabated fossil-fuel sector within one year. However, not all of the signatories explained how they planned to comply with the pledge and these types of policies are often subject to substantive loopholes.
- For example, in 2021, OECD members participating in the 'Arrangement on Officially Supported Export Credits' agreed to end export credit support for new and existing coal-fired power plants (except when carbon capture and storage is present). We do not categorize this pledge as a 'full' exclusion because it only applies to a share of public finance and is subject to exceptions. For instance, even though Japan is an OECD member, the Japan International Cooperation Agency may still provide coal finance at the request of a host country.
- Only the UK, plus the EIB and EBRD, have imposed a full exclusion on oil across all institutions. No G-20 member state has ended public finance for gas. However, Brazil, Canada, France, Germany and the UK have partial exclusion policies, as do the EIB, EBRD and African Development Bank.

G-20 fossil-fuel support dropped 19% in 2023 but remains well above historical levels, despite the acute phase of the energy crisis having ended in 2022

G-20 members pledged to "phase out and rationalize over the medium term inefficient fossil fuel subsidies" in 2009 and the group has repeated this commitment on multiple occasions. However, progress has been slow. Subsidy reform is politically challenging, especially if it implies increasing retail energy prices.

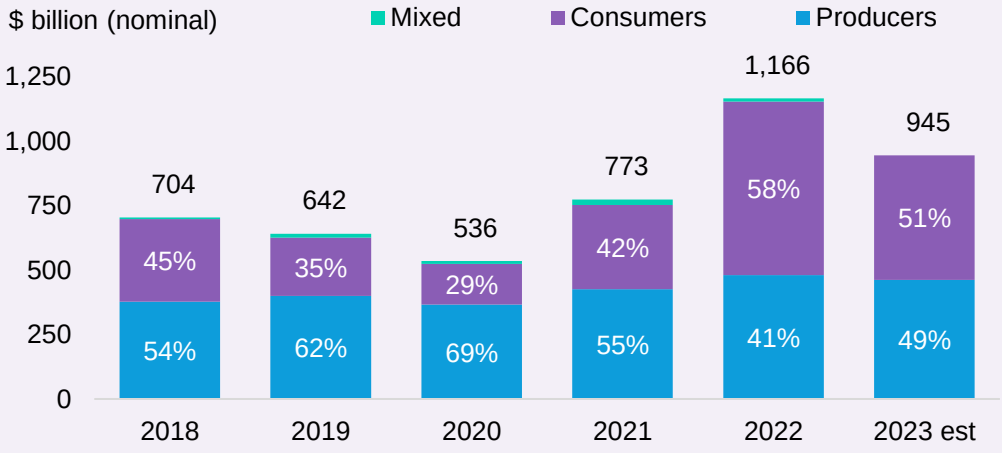
- As at previous UN climate talks, parties at COP28 last year were called on to contribute to "global efforts" for "phasing out inefficient fossil fuel subsidies that do not address energy poverty or just transitions, as soon as possible". The final text provided more detail on what is to be phased out compared with other international agreements.
- Governments are not expected to make substantive steps forward at COP29. There is still no consensus on what constitutes an inefficient fossil-fuel subsidy or what timeframe is covered by "as soon as possible". The lack of specificity gives governments wiggle room to interpret such commitments as they see fit.
- Canada is one of the few G-20 members that have taken steps forward, publishing guidelines in 2023 on the definition of inefficient fossil-fuel subsidies. Ministers are required to identify whether any initiative would meet this definition and, if so, they must revise their plan.
- The EU has also made headway. Its eighth Environment Action Programme, which covers 2022-2030, called for an immediate phase-out of such support and progress is monitored by the European Commission's State of the Energy Union report. Member states must also include information on fossil-fuel subsidy reform in their annual energy and climate progress reports.
- The EU is participating in the World Trade Organization's Fossil Fuel Subsidy Reform initiative, launched in 2021. Agreed at the February meeting, the 2024-25 work plan has a relatively broad scope to enhance transparency, tackle energy crisis support measures, and identify and address harmful fossil-fuel subsidies.

Estimated fossil-fuel support in 2023

The most severe effects of the global energy crisis are believed to have ended in late 2022. Yet the G-20 provided still $945 billion in fossil-fuel support in 2023, based on preliminary analysis by International Institute for Sustainable Development, excluding finance from the EU multilateral banks and African Development Bank.

This marks a 19% decrease on 2022 level but is still a third higher than the average over 2019-2022. In particular, support for producers was similar to volumes seen before the energy crisis. But consumer-targeted subsidies remain elevated.

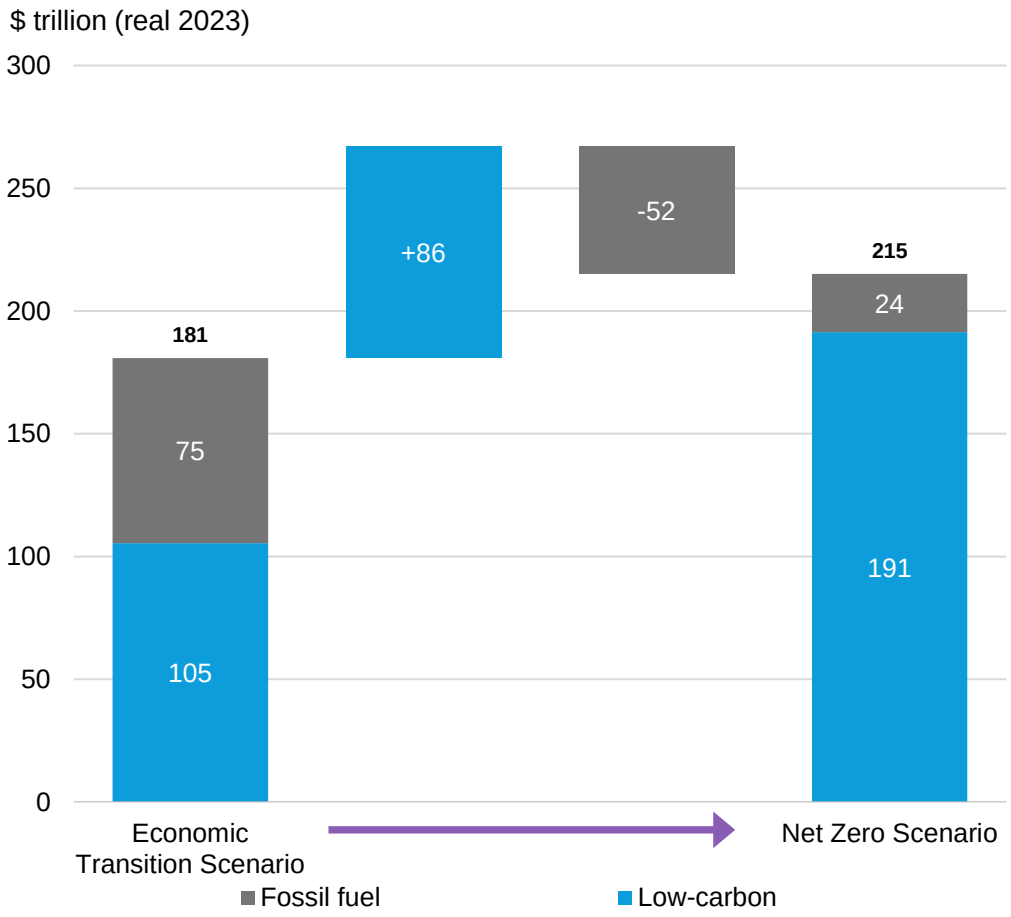
G-20 fossil-fuel support by beneficiary, with preliminary 2023 estimate



Source: Pre-2023 estimates based on International Institute for Sustainable Development, International Energy Agency, Oil Change International, International Institute for Sustainable Development (IISD), BloombergNEF. Note: Includes budget transfers, tax expenditure, public finance, expenditure by state-owned enterprises and consumer-price support. 2023 estimate based on IISD, Public Financial Support for Renewable Power Generation and Integration in the G20 Countries, 2024. Data for all years have been updated and may differ from previous editions of the Factbook. Excludes general sector support and funding from the EU multilateral banks and African Development Bank, but, as in previous years, this is expected to be minimal.

Subsidy reform is needed to weaken incentives to produce and consume fossil fuels that slow the energy transition

Global energy investment and spending across 2024-2050, by BNEF scenario



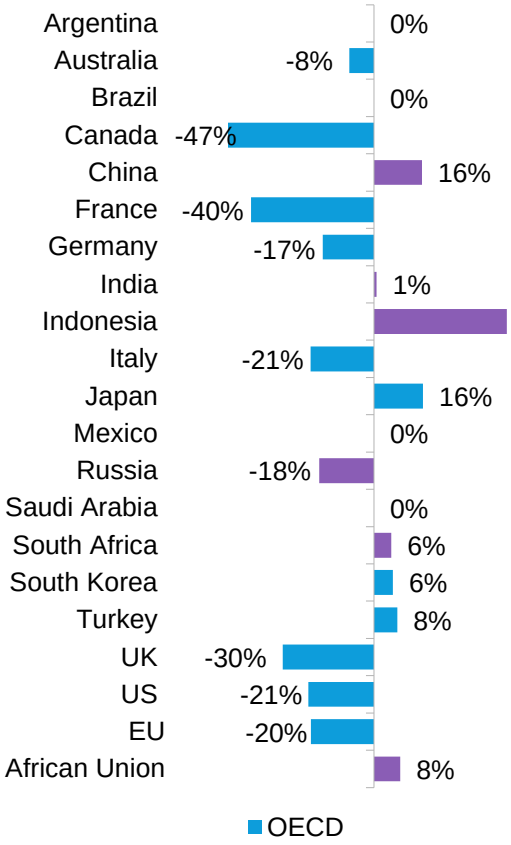
Source: BloombergNEF, New Energy Outlook 2024: Investment (clients – web | terminal). Note: The numbers above the bars indicate cumulative investment. The Economic Transition Scenario is driven by the cost-competitiveness of technologies and assumes no new policy support. The Net Zero Scenario is a pathway to net-zero emissions globally by 2050.

Fossil-fuel support impedes the climate transition and progress toward the goals of the Paris Agreement. Not only can it redirect funding away from low-carbon technologies, but it also can lead to additional emissions by distorting energy prices, encouraging potentially wasteful use and production of fossil fuels. Such support also spurs investment in long-lived, emissions-intensive equipment and infrastructure. Even subsidies intended to help low-income households and other vulnerable consumers tend to disproportionately benefit the wealthy.

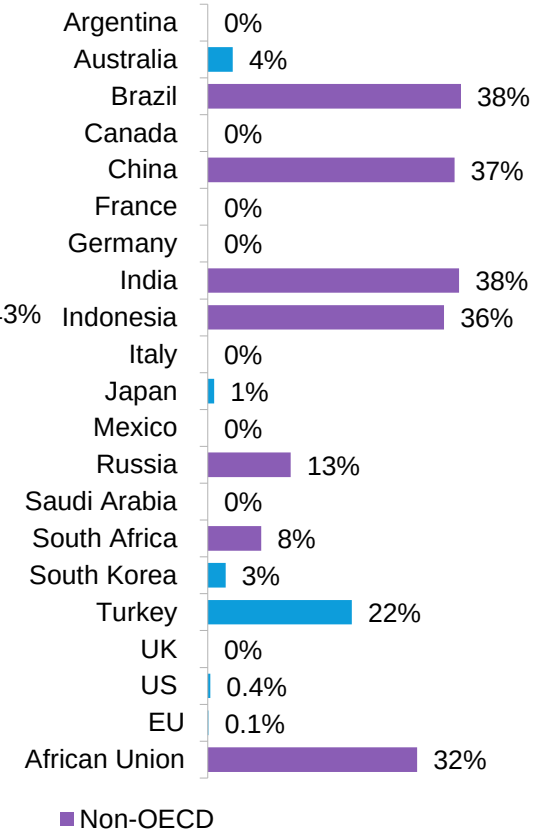
- To remain on track for net-zero emissions by mid-century, significantly more investment in the energy system is required, especially for low-carbon technologies. This amounts to $215 trillion over 2024-2050 under BNEF's Net Zero Scenario – a credible pathway to net-zero emissions globally by 2050 that limits planetary warming to 1.75C above pre-industrial levels. This investment is almost a fifth higher than in our economics-driven base case.
- Low-carbon solutions comprise the larger share of investment in both scenarios, with $105 trillion to 2050 in the base case. Electric vehicles sales and the buildout of renewables and power networks are the primary drivers. A net-zero pathway requires an additional $86 trillion for energy-transition technologies. Over half of this comprises spending on EVs. In contrast, fossil-fuel investment reduces by $52 trillion relative to the Economic Transition Scenario.
- Low-carbon investment is off track for net zero, though the gap varies across geographies. China needs to double its annual spending over the rest of the decade to align with the Net Zero Scenario, the US needs to see a quadrupling, and India must achieve a sevenfold increase.
- These investment sums would not be expected to come entirely from government budgets. But they illustrate the scale of financing necessary to realize the goals of the Paris Agreement. They also highlight the need for governments to reform fossil-fuel subsidies and devise effective policy support to make best use of public spending by increasing the profitability and bankability of low-carbon projects and drive up private-sector capital. This will require collaboration between policymakers, regulators, financial institutions and companies.

Coal-power project pipelines in emerging markets dwarf developed economies' plans

Change in coal-fired generating capacity across 2019-2023



Change in coal-fired generating capacity if current pipeline is built with no closures



Source: BloombergNEF, Global Energy Monitor (January 2024). Note: Excludes Saudi Arabia, which has no commissioned or pipeline coal-fired capacity. EU includes France, Germany and Italy. African Union includes South Africa. 'Pipeline' includes announced, pre-permitted, permitted and under construction projects.

The G-20 continues to expand its coal-fired power fleet, increasing generating capacity by 3% over 2019-2023, including all members of the EU and African Union. As a result, it has around 2 terawatts of operational coal-fired generating capacity, with another 0.6TW in the pipeline. This fuel is the largest contributor to climate change, highlighting the importance of ending coal-power build and phasing out existing assets.

- There is a clear divide between developed economies and emerging markets: by 2023, OECD members in the G-20 had cut coal-fired capacity by 22%, on average, relative to 2019 levels. In particular, the UK closed its last coal power plant earlier this year, while other G-20 members like Canada and France have pledged coal-power phase-out targets. Japan was a clear exception.
- In contrast, non-OECD members averaged a 6% increase in coal-fired capacity over this period, led by markets in Asia and Africa. Indonesia expanded its fleet by 43%, followed by China at 12%. South Africa is a continental leader for coal power, with a 6% rise in the last five years. Argentina, Brazil and Mexico saw minimal change, having historically relied more on hydropower and gas for electricity generation.
- In total, over 563 gigawatts of coal-fired power plants are in the pipeline across the G-20. This is 28% larger than the current coal capacity across and bloc and broadly equivalent to India's entire power plant fleet. Most of this planned capacity is concentrated in non-Annex I parties as they seek to meet growing power demand and, in some cases, make use of domestic resources. In particular, the current pipelines in India, China and Indonesia are 36-38% the size of their current fleet.
- It will be crucial for countries to phase out coal-fired electricity if they want to realize the goals of the Paris Agreement. CO2 emissions from coal combustion were responsible for around a third of the 1C of global warming to date, according to the International Energy Agency. Indeed, BNEF's Net Zero Scenario sees no new coal-fired capacity added without carbon capture and storage from 2023.

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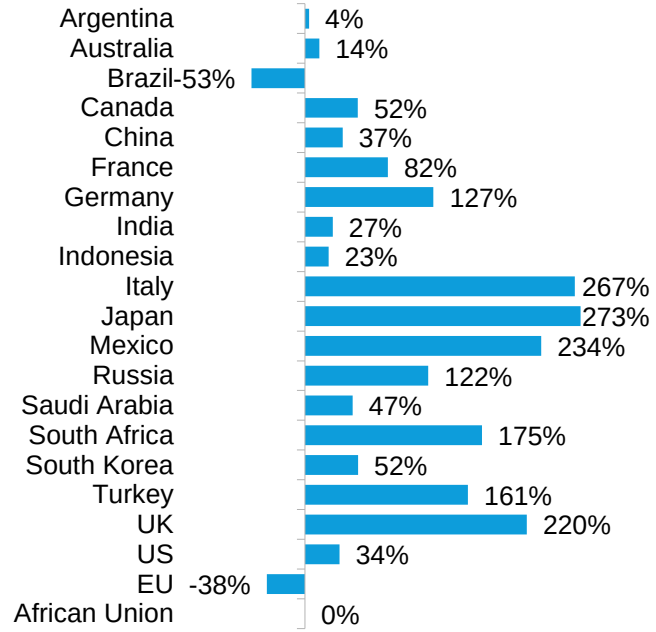
The G-20 has made little progress in phasing out fossil-fuel subsidies, with an average increase of 84% over 2018-2022 partly due to the energy crisis

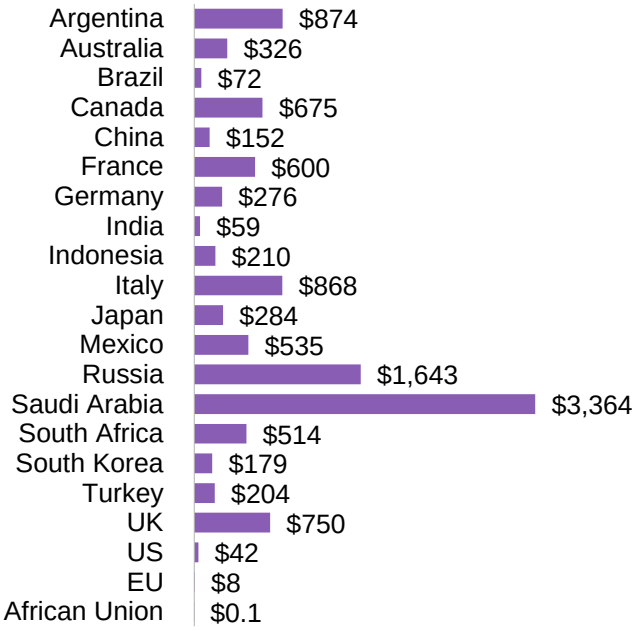
On average, the G-20 members provided 84% more fossil-fuel subsidies in 2022 than five years earlier. Only Brazil and the EU multilateral banks saw a decline over the period. As a result, they have some of the lowest values for fossil-fuel support on a per-capita basis. In contrast, with $236 billion, Russia provided more aid than China ($214 billion), for the first time since 2016. These two economies plus Saudi Arabia comprise half the G-20 total for 2022. However, the considerable size of some emerging markets means, on a per-capita basis, some rank among the lowest in the G-20.

As many European and Asian countries sought to reduce reliance on Russian gas, they saw significantly higher annual growth than in previous years. Germany, Italy, Japan, South Korea and the UK all more than doubled fossil-fuel support in 2022. However, Germany remains classified as moving in the 'right direction' due to progress in phasing out coal power. Japan is one of the few OECD members in the G-20 with plans to add more coal-fired generating capacity. This factor, as well as its rise in fossil-fuel support in 2022, means the country is now classified as making 'slow or no progress'.

Change in fossil-fuel support, 2018-2022



Fossil-fuel support per capita, 2022



Source: Organisation for Economic Co-Operation and Development, International Energy Agency, Oil Change International, International Institute for Sustainable Development, BloombergNEF. Population data from the World Bank. Note: Includes budget transfers, tax expenditure, public finance, expenditure by state-owned enterprises, and consumer-price support. Data for all years have been updated, so may differ from previous editions of the Factbook. Figure for EU is for the bloc's multilateral banks. Figure for African Union is for the African Development Bank.

Progress on phasing out fossil-fuel support and coal power

Source: BloombergNEF. Note: Click here for definitions. Ratings for France, Germany and Italy take account of EU-level policies. EU rating only comprises bloc-level policies.

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Carbon pricing

Most compliance carbon pricing programs are weak green incentives, while policymakers seek to build trust in offsets

BloombergNEF

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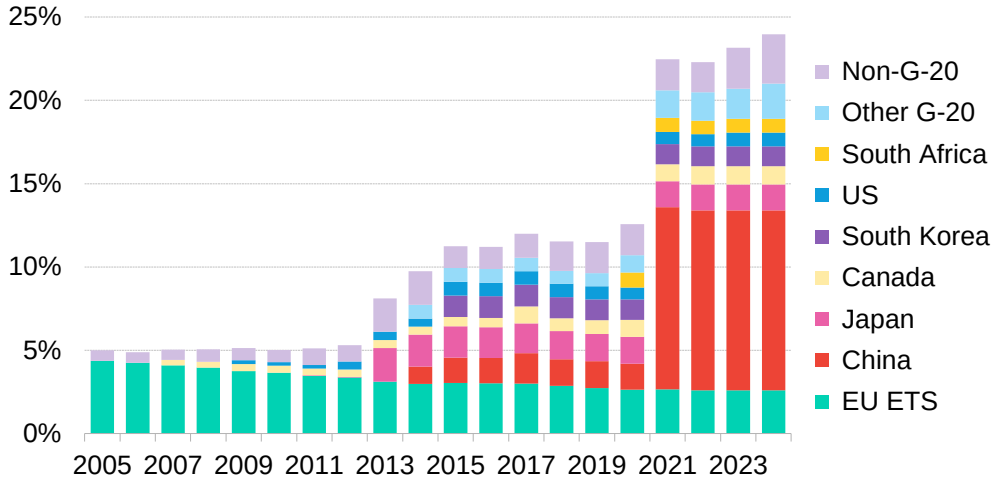
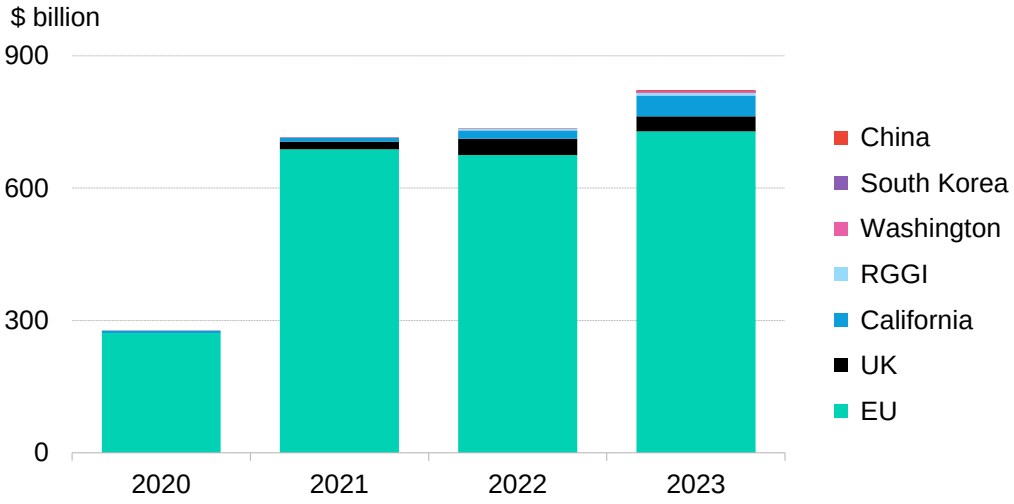
G-20 carbon pricing policies cover 24% of global greenhouse gas emissions – and this share is set to grow

Share of global emissions covered by a carbon price



Source: BloombergNEF, World Bank. Note: EU ETS is the EU Emissions Trading System.

Value of major compliance carbon markets in the G-20



Source: BloombergNEF, InterContinental Exchange. Note: Traded value is calculated by multiplying traded volumes by carbon price. RGGI is the Regional Greenhouse Gas Initiative in the US.

G-20 members' carbon taxes and markets account for around a quarter of greenhouse gas released globally and 29% of bloc-level emissions. This share is due to rise further: not only are existing schemes being expanded, but governments also plan to implement new carbon taxes and markets. Indeed, a growing number of jurisdictions now have multiple schemes in place or planned.

- In total, 14 G-20 economies, including the EU, have an economy-wide carbon price. Russia and the US have subnational schemes only, and just one member of the African Union, South Africa, has a carbon pricing policy in place. In the meantime, Brazil, India and Turkey continue to make progress on designing a compliance carbon market, albeit slowly in some cases. This leaves Saudi Arabia with no plans announced to follow suit.
- In contrast, Canada, France, Germany and Mexico have introduced more than one economy-wide carbon tax or market. Indonesia and Japan are also considering whether to establish an additional carbon pricing program. All EU member states will have another carbon market when the bloc kicks off the separate emissions trading scheme for road transport and buildings in 2027.
- A government may create a new tax or market to cover additional sectors where an existing carbon pricing program is deemed to be too stringent or not suitable (such as different levels of ambition or types of participants). This has been the case in France and Germany, for example.
- China's economy-wide market is the biggest carbon pricing program in the world in terms of covered emissions, and is due to grow further. Policymakers have announced plans to expand the emissions trading scheme to more sectors, beginning with aluminum, steel and cement.
- But the EU Emissions Trading System, better known as the EU ETS, takes top prize based on traded value, thanks to higher prices and trading volumes than other markets.
- The total value of major compliance carbon markets in the G-20 is expected to have exceeded $800 billion in 2023. Prices have generally rallied due to reforms to leverage these mechanisms to achieve climate targets, though trading volumes fell in some markets amid lingering fallout from Russia's invasion of Ukraine.

Power and industry are the most common sectors to be covered by a carbon price, though buildings and transport are catching up

Most carbon taxes or markets start by covering power and industry. These are often big emitters and comprise a limited number of facilities, making it easier for governments to monitor and enforce compliance. However, policymakers are starting to look at other areas of the economy. Buildings and transport, for example, account for an increasing share of some jurisdictions' emissions, and governments can overcome the challenge around the high number of emission sources by putting the price on fuel suppliers.

Compliance carbon markets and taxes in the G-20

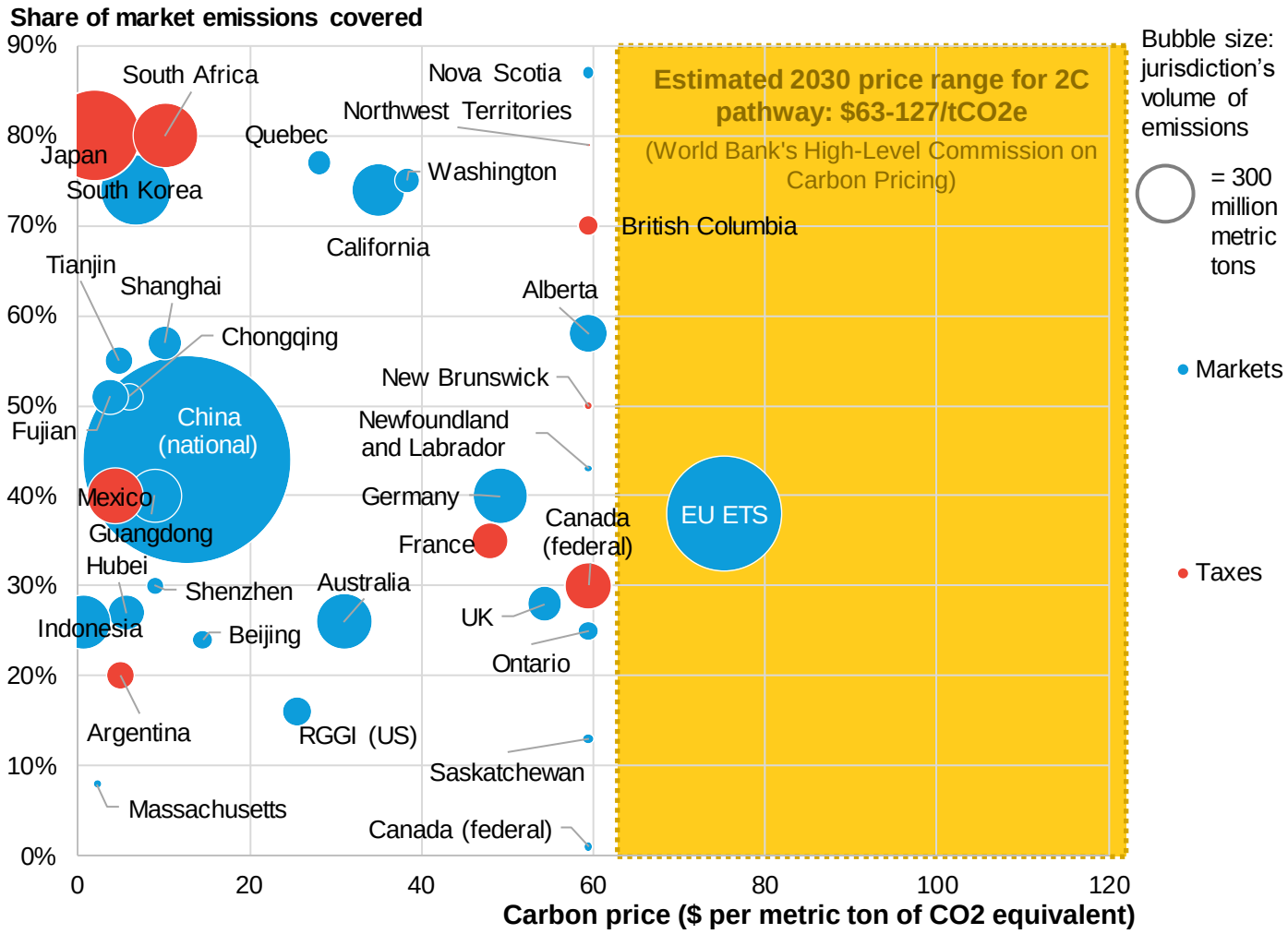
Legend: Yes / No

			Coverage of main sectors						
	Market	Tax	Power	Industry	Buildings	Road transport	Aviation	Other	Offsets permitted?
Argentina		In force	✓	✓	✓	✓	✓	✓	
Australia	In force		✗	✓	✗	✗	✗	✓	✓
Brazil	Planned		*Market under discussion*						
Canada	In force	In force	✓ (ETS and tax)	✓ (ETS and tax)	✓ (Tax)	✓ (Tax)	✓ (Tax)	✓ (Tax)	✓
China	In force		✓	Planned	✗	✗	✗	✗	✓
France	In force	In force	✓ (EU ETS)	✓ (EU ETS and tax)	✓ (Tax), planned (EU ETS)	✓ (Tax), planned (EU ETS)	✓ (EU ETS)	✓	✗
Germany	In force**		✓ (EU and national ETS)	✓ (EU and national ETS)	✓ (ETS), planned (EU ETS)	✓ (ETS), planned (EU ETS)	✓ (EU ETS)	✓	✗
India	Planned		*Market under discussion*						
Indonesia	In force	Planned	✓	✗	✗	Planned (tax)	✗	✗	✓**
Italy	In force		✓ (EU ETS)	✓ (EU ETS)	Planned (EU ETS)	Planned (EU ETS)	✓	✗	✗
Japan	Planned	In force	✓	✓	✓	✓	✗	✗	
Mexico	In force	In force	✓ (ETS and tax)	✓ (ETS and tax)	✓ (Tax)	✓ (Tax)	✓ (Tax)	✓ (Tax)	✓
Russia			*Regional only*						
Saudi Arabia			*Not applicable*						
South Africa		In force	✓	✓	✓	✗	✓	✓	✓
South Korea	In force		✓	✓	✓	✓	✓	✓	✓
Turkey	Planned		*Market under discussion*						
UK	In force		✓	✓	✗	✗	✓	✗	✗
US			*Regional only*						
African Union			*South Africa only*						
EU	In force		✓	✓	Planned	Planned	✓	✗	✗

*Source: BloombergNEF. Note: ETS refers to an emissions trading scheme. *Germany has a national ETS, as well as the EU system. **Awaiting crediting program.*

The EU ETS is the only G-20 carbon-pricing program with average prices in line with a 2C global warming pathway

Existing compliance carbon markets and taxes in the G-20



Source: BloombergNEF, governments, World Bank. Note: Figure includes operational international and national carbon taxes and markets, including state-level measures in China, Canada and the US. For the EU, includes the regional program plus France and Germany's national schemes. Where available, tax rates are for current year. Emissions trading scheme prices are average over three months to September 16, 2024. Where tax rates vary across fuels, sectors and greenhouse gases, figure uses rate for the most common use case. RGGI is the US Regional Greenhouse Gas Initiative. Russia and Mexico's pilot carbon markets excluded due to data availability issues.

In total, 38 carbon markets and taxes are in place across the G-20. However, most are ineffective at driving companies and consumers to reduce consumption or switch to less emissions-intensive technologies.

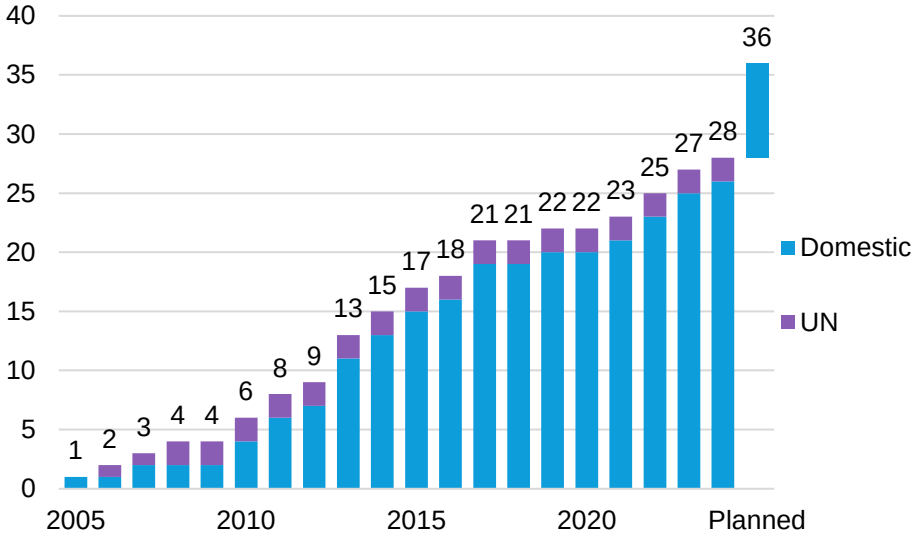
- A key reason is price: the EU ETS averaged $75 per metric ton of CO2 equivalent in the three months to September 2024. This means it was the only carbon pricing program in the G-20 to exceed the lower end of the 2030 price range estimated to needed for a 2C pathway. Some other jurisdictions could meet this threshold by 2030. For example, Canada's federal backstop tax is also due to fall within this range by 2030, as will the joint California-Quebec market, based on BNEF analysis.
- Prices should be between $63-127/t in 2030 to limit global warming to 2C, based on recommendations by the World Bank's High-Level Commission on Carbon Pricing, adjusted for inflation. The World Bank estimates $226-385/t would be consistent with 1.5C.
- In some cases, prices in emissions trading schemes have been weighed down by weak emissions caps and baselines due to low climate ambition, together with generous concessions like free permit allocation. Many G-20 schemes face considerable credit oversupply.
- As for taxes, governments may be motivated to set low rates to mitigate opposition and ease consumers and companies into the new carbon pricing regime. In some cases, they also offer concessions like tax-free allowances that further weaken the impact of the carbon levy as a green incentive.
- Carbon pricing concessions can be useful in the early days after a program is implemented. However, many governments have been reluctant to phase them out.

The last decade has seen more and more governments introduce their own carbon crediting programs

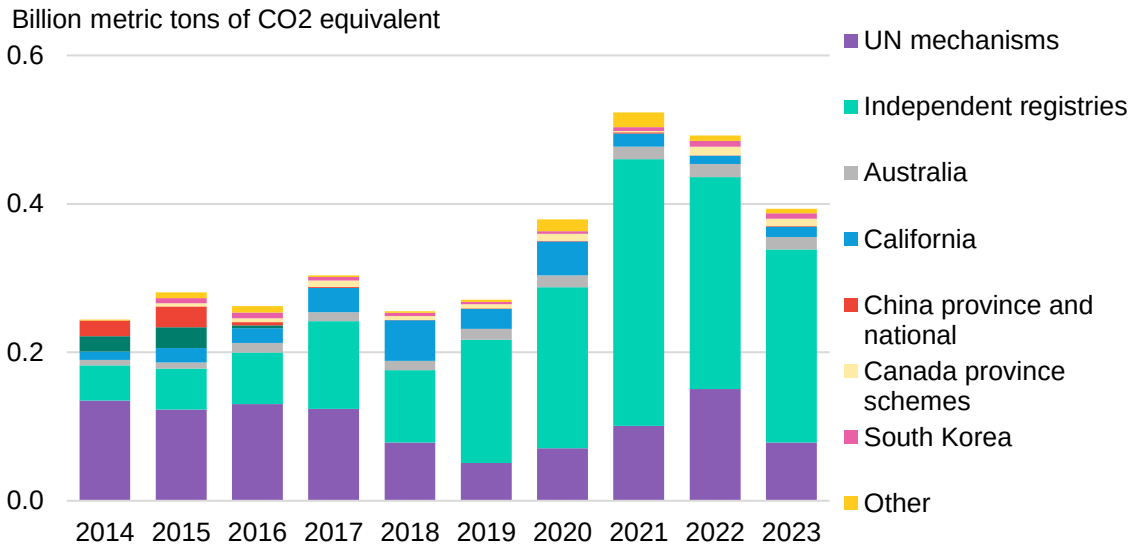
As governments increase their involvement in the carbon offset markets, a growing number are creating domestic crediting mechanisms. The G-20 has 26 in place – 73% more than a decade before. These range in geographic and sectoral scope, with some focused on specific project types, such as the Fujian Forestry Offset Crediting Mechanism.

- In some cases, policymakers want to allow companies to use offsets as part of a domestic carbon tax or market. However, rather than relying on the voluntary market, governments may also want to impose specific restrictions, such as on project type or simply to promote offset integrity and credibility. Hence many are linked to a local mandatory carbon pricing program such as the California Compliance Offset Program, and the Washington Crediting Mechanism launched in 2023. Some have also been criticized on integrity grounds like the Australian Carbon Credit Unit Scheme, but policymakers are taking steps to improve them. Governmental crediting mechanisms also create opportunities for local project developers.
- Despite integrity concerns, the ACCU program leads other government offset schemes in terms of credit issuance, followed by California. However, offset volumes from these programs are still dwarfed by issuance from independent voluntary market registries, as well as the UN's Clean Development Mechanism.
- Eight more domestic programs are under development. The EU and UK are considering whether to allow participants in their emissions trading systems to use certain offsets for compliance. The EU is exploring a conservative scope limited only to 'engineered' removals, meaning a metric ton of emissions actively removed from the atmosphere by a technology such as direct air capture. The UK is considering a broader range of removals, with the possibility of including high-quality nature-based options. Policymakers in both markets are likely to be cautious. Offsets were previously allowed in the EU ETS, but issues around integrity and oversupply previously plagued their inclusion, contributing to a crash in the bloc's compliance carbon price in the early years of the market.

Cumulative number of G-20 and UN government carbon crediting programs



Annual carbon credit issuance by G-20 and UN programs, and independent global registries



Source: World Bank, BloombergNEF.

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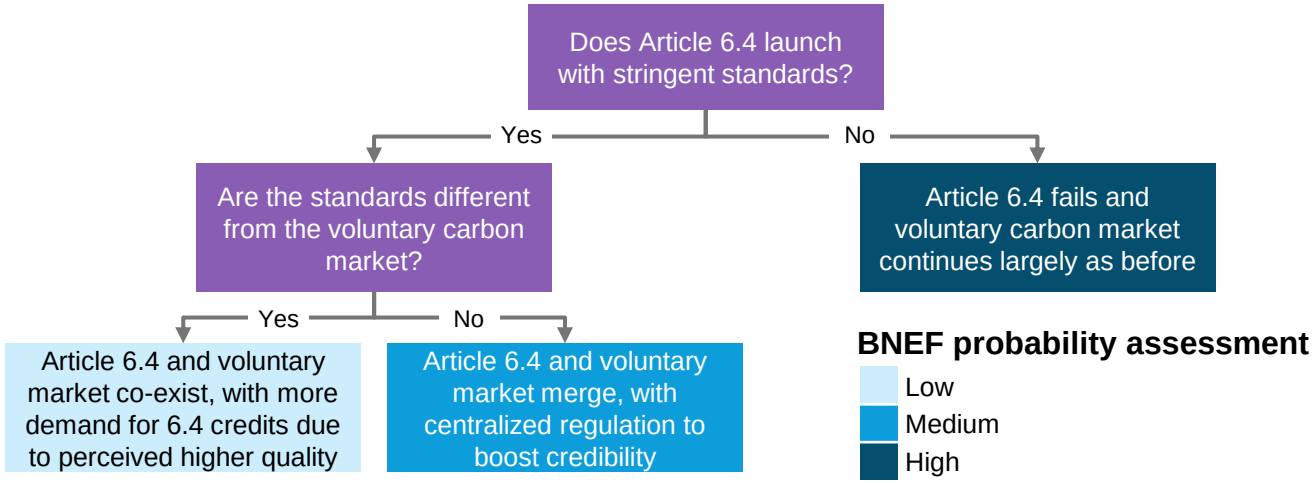
Governments also seek to promote a high-quality carbon offset market through domestic initiatives like guidance and the Article 6 negotiations

New global offset market (Article 6.4)

- Discussions continue on the new global carbon credits mechanism covered by Article 6.4 of the Paris Agreement. Once established, this will allow both governments and companies to trade emissions credits through a system overseen by a UN supervisory body. But little progress has been made on the detailed design. Indeed, talks broke down at COP28 in 2023 after several governments rejected the draft agreement, calling for stricter criteria that would safeguard the environmental and social integrity of Article 6.4.
- In October 2024, the Supervisory Body released Article 6.4 standards, which address eligibility criteria and integrity concerns. These criteria largely overlap with the existing Core Carbon Priniciples released by the Integrity Council on Voluntary Carbon Markets. The Supervisory Board standards must be approved by parties. The most contentious issues still to be resolved are corresponding adjustment processes to avoid double counting. Even if approval is granted, further steps will then be required before the first trade takes place, such as creating the trading platform.
- In the event of a short-lived Article 6.4 system due to inefficient trading mechanisms, the existing voluntary carbon market would likely be less affected. But more stringent standards could see Article 6.4 coexist alongside the voluntary market. Buyers may then face public pressure to procure more expensive Article 6.4-eligible credits, which are viewed as higher quality. However, a more likely scenario would be a merger of both systems, which could increase liquidity in the market, with centralized regulatory oversight from the UN Supervisory Body.

Possible short-term effects of Article 6.4 on the voluntary market



Source: BloombergNEF

Domestic initiatives

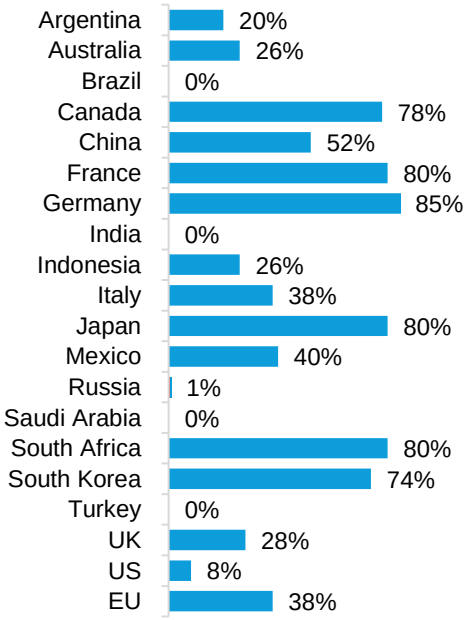
- Policymakers and regulators are also seeking to inject confidence into carbon offsets. For example, the US government issued guidelines in May 2024 that the country's private sector and other stakeholders should follow to responsibly participate in the voluntary carbon market.
- Under the guidelines, any credits purchased should meet credible atmospheric integrity standards and, where applicable, support benefits beyond decarbonization. Buyers should only offset after reducing emissions with high-integrity credits, while publicly disclosing all purchased credits to make carbon neutrality claims.
- The guidelines also emphasize that all market participants — sellers as well as buyers — should contribute to efforts to improve market integrity, such as supporting data transparency efforts. To define what high-integrity credits look like, the government will rely on private sector initiatives like the Integrity Council on Voluntary Carbon Markets.
- The announcement came after recommendations were issued in December 2023 by the US Commodities Futures Trading Commission on high-integrity offset futures trading. The voluntary guidelines were adopted by the watchdog in September 2024.
- To date, many of the top buyers of US offsets are international companies, while local players have chosen to do most of their offsetting internationally.

Europe has seen carbon prices tumble in the last year, in contrast to China, Australia and some state-level programs in the US

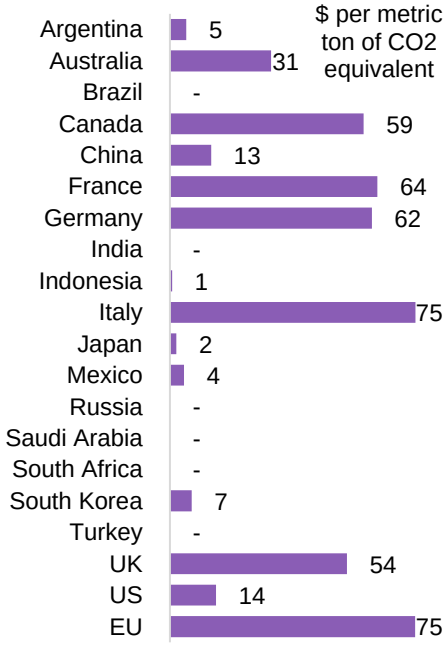
Average carbon prices in Europe have fallen due to added supply and record-low emissions. Still, these G-20 members are moving in the 'right direction' because their programs hover around the $63/t threshold needed for a 2C pathway and cover a significant share of domestic emissions, with plans for expansion. China is also now classified as moving in the 'right direction', after the announcement of carbon market reforms helped drive up prices.

Prices in some US carbon markets – especially the Regional Greenhouse Gas Initiative, which covers the power sector in the northeast – have also risen. But the country is making only 'mixed progress' because it has yet to implement a federal carbon tax or market, and there are no signs of this being in the works. Only 8% of US emissions are covered by a carbon price versus 52% for China – a share that is set to grow if plans to expand the economy-wide scheme to more sectors come to fruition. Russia is now categorized as 'slow or no progress', with the first compliance period for the pilot program in Sakhalin scheduled for 2023 and then postponed to 2024. But there has been no news on an official launch or significant trading activity, nor more information on how Russia might scale up the scheme to the national level.

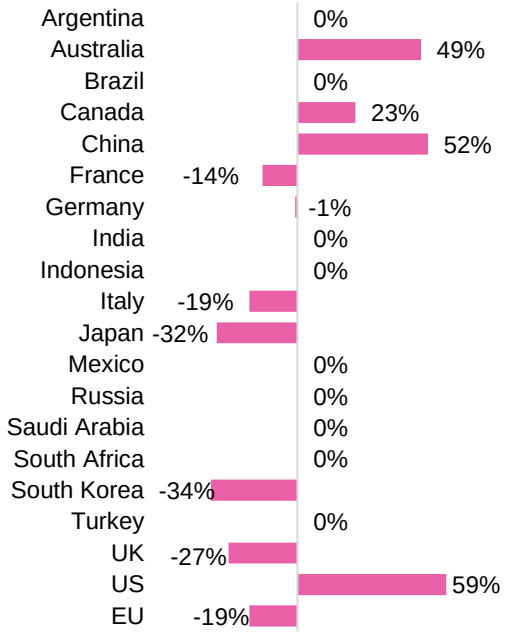
Emissions covered by a carbon price



Average carbon price over last three months



Change in carbon price since COP28 report



Source: BloombergNEF, governments, World Bank. Note: Where a G-20 member has multiple economy-wide schemes or only regional programs, values are a weighted average based on the emissions of each pricing scheme. Where available, tax rates are for current year. Emissions trading scheme prices are the average over the three months to September 16, 2024.

Progress on carbon pricing

Source: BloombergNEF. Note: Click here for definitions. Ratings for France, Germany and Italy take account of EU-level policies. EU rating only comprises bloc-level policies.

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Climate-risk policy

New harmonized approach to climate risk disclosure is launched, as governments make incremental policy progress

BloombergNEF

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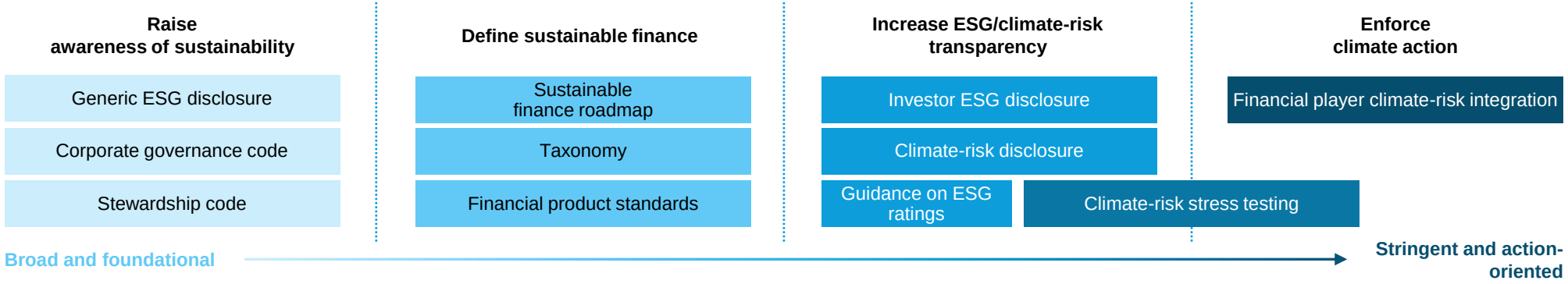
A transparent but gradual implementation timeline for climate-risk policies is important, to avoid overloading organizations

Sustainable finance policy framework



Source: BloombergNEF

This Factbook ranks the G-20 members based on four main policy types that aim to drive financial and non-financial organizations to assess and mitigate their exposure to climate-related risks:

- **Generic ESG disclosures:** These rules are the first step of any regulatory action plan. Mandating firms and financial institutions to report environmental, social and governance data points forces them to create new internal reporting streams and educate their staff to gather non-financial data. Eventually, banks and investors can rely on standardized ESG data to assess their own exposure to climate risks.
- **Environmental taxonomies:** These classifications of what a certain government deems to be 'green' spread across the globe. Particularly, science-based taxonomies allow companies and investors to assess their exposure to activities aligned with the low-carbon transition. So far only the EU mandates reporting against its green taxonomy, but Brazil is currently developing its own and announced that disclosure against it will also be mandatory.
- **Climate-risk disclosures:** These policies require financial institutions and/or corporations to report how their financial results may be positively or negatively impacted by climate risks. The framework, developed by the International Sustainability Standards Board, is becoming the gold standard for such policies.
- **Climate-risk stress tests:** These force organizations to show how they would perform under multiple climate scenarios. The results from the stress tests could ultimately compel banks and insurance companies to keep higher capital reserves.

Why care about climate-risk disclosure?

Climate risk encompasses both the physical and transition risks linked to climate change. These physical consequences are increasingly impacting companies and represent a new liability for financial institutions as a result. In addition, with more governments taking climate action, corporations and financial market participants face growing transition risk in the form of new low-carbon policies, as well as litigation due to inaction. Governments must therefore enforce measures to ensure the right data is collected and published for financial players to accurately assess such climate risks. But the ultimate goal is for financial institutions to price the impact of climate change into their investment or lending activities, to mitigate the risk of an economic crisis and progressively shift financial portfolios away from activities not aligned with a low-carbon economy.

G-20 members make headway on policies to promote climate-risk disclosure and mitigation

Climate change brings a whole set of new and ever-growing risks to banks, investors and insurers, as well as companies, ultimately threatening the financial stability of economies. G-20 policymakers are increasingly taking steps to spur disclosure and action from corporations and financial institutions.

- Many G-20 members have already taken the preliminary step of mandating generic ESG disclosure, while others like South Korea and Indonesia have such regulation in development. But some, including the US, Mexico and Russia, have yet to take this step. Such policies are key to fostering climate-risk mitigation. Hence markets such as China, which already had a generic ESG reporting rule for listed firms, are developing much more stringent standards and widening their scope to include private firms.
- Following these early steps, regulators can start requesting both financial players and companies to specifically disclose their exposure to climate risks, as seen in the EU, UK and Brazil, for instance.
- Green taxonomies are also proliferating: 12 G-20 members have a green and/or sustainable classification in place, and another four, like Australia, the UK and Canada, have a taxonomy in the pipeline. Yet only the EU policy mandates reporting for companies and financial institutions, though Brazil plans to follow suit. Taxonomies define the economic areas that need investment to transition to a low-carbon economy. But without mandatory reporting, their effect is limited.
- Central banks are also taking an active role to raise banks' awareness around the potential impacts of climate-related risks. They first run pilot climate-risk stress tests, which require banks to disclose how they would perform under multiple climate scenarios, but the results do not have any further impact. In 2024, the US Federal Reserve published the results of its exercise on six banks in the previous year, while Japan's second climate-risk stress test is due to end in December 2024. Most stress tests to date have been exploratory in nature. However, some central banks are requiring banks to undertake climate-risk stress tests or at least consider climate risk as part of their regular stress tests or their broad risk management. This is the case in the EU and Brazil, for example, and Indonesia also intends to follow.

Progress on climate-risk policies

	Generic ESG disclosure	Environmental taxonomy	Climate-risk disclosure: For companies	Climate-risk disclosure: For financials	Climate-risk stress test	COP29 rating
Argentina	✓	×	×	×	×	■
Australia	✓	×	×	×	✓Pilot	■
Brazil	✓	✓	✓	✓	✓	■
Canada	✓	×	×	✓	✓Pilot	■
China	✓	✓	×	×	✓Pilot	■
France	✓	✓	✓	✓	✓	■
Germany	✓	✓	✓	✓	✓	■
India	✓	×	✓	×	✓Pilot	■
Indonesia	×	✓	×	×	✓Pilot	■
Italy	✓	✓	✓	✓	✓	■
Japan	✓	×	✓	×	✓Pilot	■
Mexico	×	✓	×	✓	×	■
Russia	×	✓	×	×	×	■
Saudi Arabia	×	×	×	×	×	■
South Africa	×	✓	×	×	✓	■
South Korea	×	✓	×	×	✓Pilot	■
Turkey	✓	×	✓	×	×	■↑
UK	✓	×	✓	✓	✓Pilot	■
US	×	×	✓	✓	✓Pilot	■↑
EU	✓	✓	✓	✓	✓	■

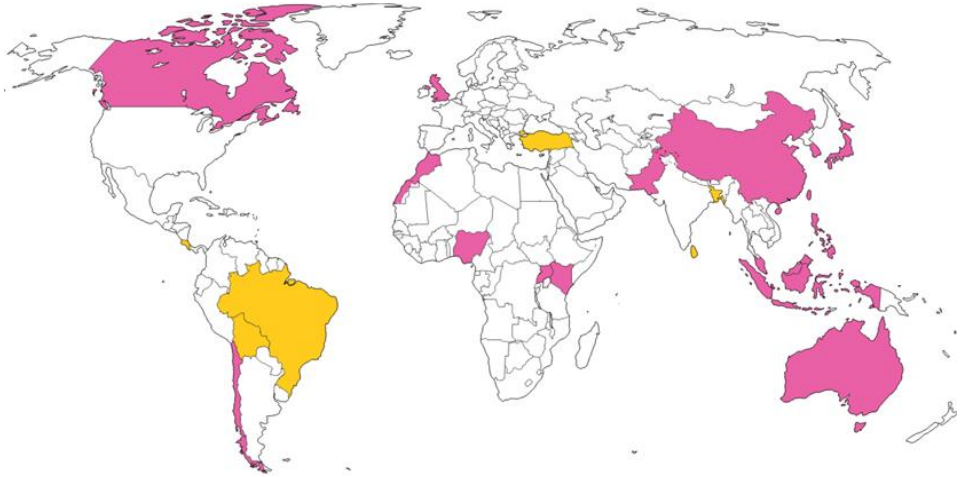
Source: BloombergNEF. Notes: Ticks and crosses reflect pillars on which points were allocated. See full methodology here. Ratings for France, Germany and Italy take account of EU policies. The African Union does not have a policy mandate in this area so it is excluded from the table. For COP29 rating, green is right direction; yellow is mixed; red is wrong direction or insufficient progress.

The ISSB framework harmonizes and enables more climate-risk disclosure policies

The International Sustainability Standards Board released its reporting framework in 2023, spurring policymakers around the world to adopt them.

- Mandating specific climate-risk reporting from companies and financial institutions is a key step to ensure that investors, banks and insurers have accurate and standardized data to assess the climate-risk exposure of their investment and lending portfolio. Climate-risk reporting does not require corporations or financial institutions to take mitigation actions. However, the goal is to make them aware of the financial materiality of such risks and thereby indirectly spur them to mitigate their exposure. Investors could, for instance, divest from companies with no transition plan for the shift to a low-carbon economy and banks could raise interest rates for such firms because of the additional risk they bear.
- The ISSB framework helps create a unified global approach to such reporting. Through 2024, nine G-20 markets have passed or announced they were developing local rules to mandate reporting against the international standards. ISSB standards are structured around two sets of ESG reporting: IFRS S1 focuses on overall sustainability-related financial information, and IFRS S2 focuses on climate-related information. Most markets decide to impose reporting against both and some are working to develop disclosure rules solely against IFRS S1 or S2 for now.

Global ISSB adoption



Announced

In force

ISSB implementation is showed for markets that have onboarded the IFRS S1 and/or S2 framework and for markets that have published or announced to publish a national transposition. Other markets may have an equivalent framework, like the EU with its ESRS, but these are not considered in this map.

Source: BloombergNEF. Note: Planned integration can be voluntary or mandatory. Data is shown for distinct economies.

- Transition plan reporting rules require organizations to outline how they aim to remain profitable in a low-carbon economy. They allow financial institutions to mitigate their exposure to transition risk while continuing to invest in all industries, as long as they can show they can remain profitable. Because transition plan disclosure is embedded in the ISSB framework, markets often rely on this instead of developing separate rules.
- While the ISSB standards are an important step to promoting consistency across climate-risk disclosure approaches, it remains rather qualitative and does not prescribe any specific data point reporting. This challenge, as well as the fragmentation induced by the local adoptions of the standards, represent a risk for its ability to be truly useful for financial market participants.
- Many organizations fall, or will fall, in scope both for reporting against the ISSB and the European Sustainability Reporting Standards (ESRS). The latter comprise a framework against which thousands companies will have to disclose, including firms that are domiciled outside the EU but operate and/or are listed inside the bloc. The ESRS are much more elaborate, with more than a 1,000 quantitative and qualitative data points.
- The ISSB framework only focuses on financial materiality, meaning companies should only consider the ESG factors that have an impact on their financial results. In contrast, the ESRS is based on double materiality, mandating reporting on financially material factors as well as how the company's activities affect ESG matters such as biodiversity or social equality. Because complying with ESRS means firms automatically meet the ISSB requirements, those subject to reporting against both often choose to first comply with the EU standards due to the latter's added complexity.

Methodology and assumptions

Methodology and assumptions

Fossil-fuel support

- Fossil-fuel data covers support for oil, coal, natural gas and fossil-fuel-fired power from governments, public finance institutions and state-owned enterprises (national-level companies with at least 50% ownership). The G-20 members, excluding the African Union, were scored based on the four metrics in the table below, each of which were weighted equally. In addition, members with public finance institutions with a full coal exclusion policy were awarded a further three points, based on definitions from OCI's 'Public Finance for Energy' database. Members with multiple coal exclusions were allocated 1.5 points, a single exclusion was awarded one point and those with no such policy received no additional points. While the African Development Bank is not a formal body of the African Union, data on its fossil-fuel financing is shown on slide 49 for illustration purposes only. Due to a lack of policy mandates and data on fossil-fuel support, the African Union is not given a rating in this report.
- The change in fossil-fuel support relates to the 2018-2022 period and the total per capita is for 2022 because 2023 data at the G-20 member level is not yet available. The 2023 estimate is provisional only.
- In general, these figures are likely to be an underestimate because countries and states vary in the transparency of their reporting. Public finance was attributed to the country where the institution is headquartered, not the location of the project or initiative.

Scores

Points allocated	Change in total fossil-fuel support across 2018-2022	Per-capita fossil-fuel support in 2022	Change in coal-power capacity across 2018-2022	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 1-19%	–	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

Rating	Total score
	16 or more
	8-15
	0-7

*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	Sources
Direct budget transfers, tax breaks, retail energy price support	International Institute for Sustainable Development, and Organisation for Economic Co-operation and Development (2024) 'Fossil Fuel Subsidy Tracker'
Public finance institutions' support and coal exclusion policy	Oil Change International's 'Public Finance for Energy' database.
Expenditure by state-owned enterprises	International Institute for Sustainable Development (2024).
2023 fossil-fuel support estimate	International Institute for Sustainable Development, Public Financial Support for Renewable Power Generation and Integration in the G20 Countries, 2024, together with updated data on expenditure by state-owned enterprises from the IISD.
Coal power capacity and pipeline	2018-2022: BloombergNEF. Pipeline data: Global Energy Monitor (January 2024)

Methodology and 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 for the average for the three months to September 2024, or the latest available. France and Germany have the EU Emissions Trading System and a national carbon price in place, while the US 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 and for Mexico, the federal carbon tax rate.

Scores

Points allocated	Status	Share of emissions covered	Latest price	Change in price since COP28 Factbook
6	Economy-wide	Over 66%	Over $25	25% or more
4	Under discussion or subnational over 30% of economy-wide emissions	34-66%	$16-25	11-24%
2	Other subnational	1-33%	$6-15	0-10%
0	None	0%	Under $6	Reduction

Source: BloombergNEF. Note: Price in dollars per metric ton of CO2 equivalent.

Rating

Rating	Total score
	14 or more
	7-13
	0-6

Climate-risk policy

- The climate-risk policy scoring methodology has been updated for this *Climate Policy Factbook* to broaden the scope of policies covered. This methodology has been applied to the scores for the COP28 edition and may therefore differ from those published in November 2022.
- The new methodology ranked the G-20 members based on the types of climate-risk policy shown in the table on the right. We only allocated points to mandatory international or national measures that had been passed, meaning policies under discussion or development were not included.
- Policies are classified as ‘under discussion’ when the government has only announced them, while they are considered to be ‘under development’ once policymakers are actively designing them.
- We allocated the full number of points for each policy type even if the measure only targets a subset of financial institutions or companies, such as only listed corporations or only pension funds.

Scores

Points allocated	Policy type
1	Generic ESG disclosure policies
2 for mandatory policies, 1 for voluntary policies	Environmental taxonomies
3	Climate-risk disclosure policies for companies
3	Climate-risk disclosure policies for financials
1.5 for pilots, 3 otherwise	Climate-risk stress testing

Source: BloombergNEF

Rating

Rating	Total score
	8 - 12
	4 - 7
	0 - 3

G-20 member snapshots

Argentina

Non-Annex I party

Argentina has begun to decarbonize its power system, although renewables build has faltered in recent years due to an economic crisis and lack of transmission infrastructure. The country has no direct incentives for electric vehicles, which has constrained deployment. It also has little low-carbon policy support outside these sectors – something the government will need to address if Argentina is to achieve its net-zero-by-2050 goal.

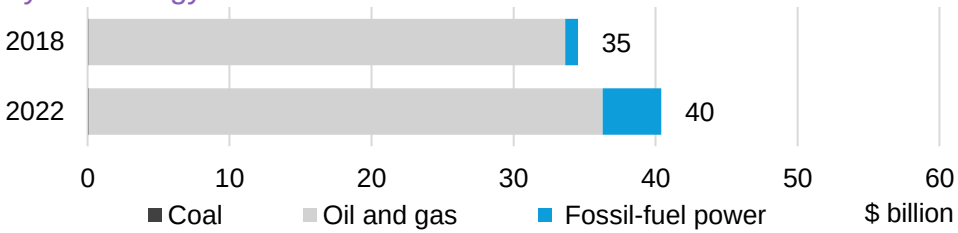
- The country provided $40 billion in fossil-fuel support in 2022, 4% more than five years earlier. Most was allocated to oil and gas, with 43% comprising budgetary transfers, tax breaks and consumer price support. Argentina had the third-highest per-capita total in 2022, after Saudi Arabia and Russia.
- The biggest share (54%) of fossil-fuel support in 2022 was composed of expenditure by state-owned enterprises such as YPF and Integracion Energetica Argentina. These figures may well be an underestimate, given that the Argentine peso devalued significantly against the US dollar during this period.
- Coal accounts for a relatively small share of the power mix, at 675 megawatts. Argentina's Bank for Investment and Foreign Trade has not announced a coal exclusion policy but has not been found to provide public finance for the fuel.
- The country's carbon tax has been in place since 2018 and is a weak driver of emissions abatement. Its scope is limited to liquid fuels and coal, and the price remains low, with an average of 4,000 pesos per ton in March 2024. This is equivalent to $5 per ton, though without the currency devaluation in recent years, the dollar value would be higher.
- Argentina has had a broad ESG disclosure rule since 2008 and in 2021 it implemented a regulation applying to ESG-themed mutual funds.
- In May 2023, the Ministry of Economy adopted the country's sustainable finance strategy. It revolves around five strategic axes: regulatory framework; common language and taxonomy; generation of information, transparency, reporting, indicators, and data analysis; incentives; and sustainable financial instruments. So far, no clear plan has been set up to develop a taxonomy nor the rest of the regulatory agenda.

	COP29	COP28

Fossil-fuel support

Total (2018-2022)	**$180 billion**
Share spent on coal (2022)	**0.3%**
Share targeted at producers and utilities (2022)	**53%**

By technology



Source: Organisation for Economic Co-Operation and Development, International Energy Agency, Oil Change International, International Institute for Sustainable Development, BloombergNEF.

Carbon pricing

Economy-wide carbon price	✓
Economy-wide emissions covered by carbon price	**20%**
Average carbon price over three months to September 2024	**$5 per metric ton***

** Average of diesel, gasoline and coal. Adjusted for fluctuations in the Argentina peso.*

Climate-risk policy

Generic ESG disclosure	✓
Environmental taxonomy	✖
Climate-risk disclosure for companies	✖
Climate-risk disclosure for financials	✖
Climate-risk stress test	✖

Australia

Annex I party

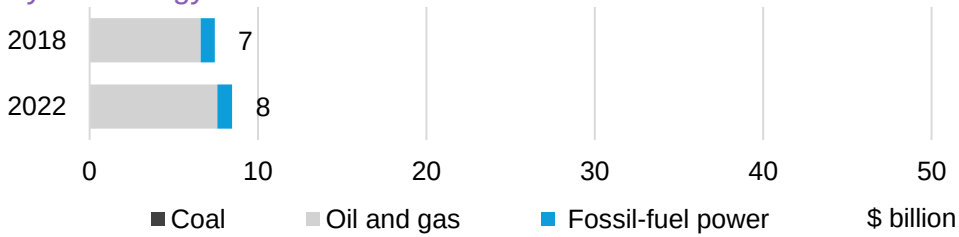
Australia has improved its low-carbon policy support in recent years. In BNEF's 2024 Policy Scoreboard, the country performed best on clean power support, which helped more than double renewables capacity over 2019-2023. The New Vehicle Efficiency Standard is due to start from 2025 and policymakers have begun to introduce low-carbon agriculture incentives. The next federal election is in 2025.

- Unlike many other G-20 economies, Australia cut fossil-fuel support in 2022 by 2%, although its total for that year was still 14% higher than in 2018. The country saw energy prices surge due to the global crisis, as well as an aging domestic coal-power fleet. The latter helped Australia decrease its coal-fired generating capacity by 8% over 2019-2023. While additional deployment is in the pipeline, progress on the coal-power phase-out and fossil-fuel support means Australia is now classified as 'mixed progress'.
- On carbon pricing, the federal government is making slow progress on reforming the compliance baseline-and-credit program, called the Safeguard Mechanism, and the domestic offset program, known as the Australian Carbon Credit Unit Scheme. Emission baselines for individual facilities have yet to be set, though the reform has introduced a 4.9% reduction rate per year to 2030.
- The budget announced a A$48 million ($32 million) plan to improve the transparency and credibility of the ACCU program, following criticism of the scheme and an independent review. A draft proposal published in September 2024 would require the regulator to release additional data on credits. Reform plans have helped increase average prices by 49% since the COP28 Factbook.
- In August 2024, the Senate passed the Treasury Laws Amendment Bill 2024, which introduced the new climate-related financial disclosure regime for large corporations and financial institutions. Organizations will have to report their climate-related risks and opportunities following the ISSB standards. The bill still needs to be signed off by the House of Representatives but will likely be passed without any change. It is expected to come into force on January 1, 2025.
- The government said in April 2023 that it would support the development of a sustainable finance taxonomy. The process to devise technical screening criteria began in July 2023, and a first draft was published in May 2024 for consultation. The first version covers three priority sectors: electricity generation and supply; minerals, mining and metals; and construction and the built environment.

Fossil-fuel support

	COP29	COP28
Total (2018-2022)	**$39 billion**	
Share spent on coal (2022)	**0.1%**	
Share targeted at producers and utilities (2022)	**33%**	

By technology



Source: Organisation for Economic Co-Operation and Development, International Energy Agency, Oil Change International, International Institute for Sustainable Development, BloombergNEF.

Carbon pricing

Economy-wide carbon price	✓
Economy-wide emissions covered by carbon price	**26%**
Average carbon price over three months to September 2024	**$31 per metric ton**

Climate-risk policy

Generic ESG disclosure	✓
Environmental taxonomy	**Under development**
Climate-risk disclosure for companies	**Mandatory under development (ISSB)**
Climate-risk disclosure for financials	**Mandatory under development (ISSB)**
Climate-risk stress test	✓ **Pilot**

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Brazil

Non-Annex I party

Brazil has the cleanest power system of the G-20 economies thanks to a large hydropower and wind fleet. More recently, a generous net metering program has driven small-scale solar build. Tax incentives, subnational policies and consumer trends enabled Brazil to achieve the second-biggest increase in EV sales out of the G-20. It also remains a world leader for biofuels.

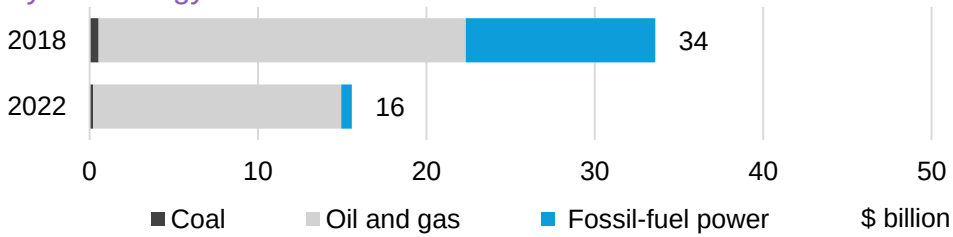
- Brazil more than halved fossil-fuel support over 2018-2022 – the largest fall of the G-20. Relying mainly on renewables for power generation, the country was shielded somewhat by the effects of the energy crisis. As a result, it had the second-lowest per-capita total in 2022, after India. President Luiz Inacio 'Lula' da Silva has supported state-owned companies such as oil giant Petrobras, which aims to play a role in the energy transition and boost oil and gas production. Petrobras intends to revitalize existing fields and told reporters on October 14 that it is optimistic regulators will approve plans to re-develop a sizable deepwater field off Brazil's southeast coast.
- The country is making gradual headway in creating the Brazilian Greenhouse Gas Emissions Trading System – a cap-and-trade program that would allow the use of offsets. Approved by the Senate in 2023, the bill would also regulate voluntary carbon markets, including Article 6, in Brazil. The Chamber of Deputies approved an amended text, but the upper house has yet to agree to the changes.
- Brazil has several sustainable finance regulations that target financial institutions and corporations. The most recent is Rule No. 193 produced by the Securities and Exchange Commission of Brazil. This requires publicly listed companies and investment managers to start reporting against ISSB standards. Voluntary reporting began from fiscal year 2024, while mandatory reporting is from 2026.
- The Brazilian Central Bank (BCB) has been particularly active in mandating banks to report and consider climate-related risks through disclosure rules and climate-risk stress tests. For instance, since 2014, financial institutions have had to report their environmental and social responsibility policy, and in 2021 the BCB expanded the scope of this disclosure to integrate climate too. In 2023, the Ministry of Finance initiated the development of a sustainable finance taxonomy. The first version is meant to be completed by November 2024 and reporting will be required from January 2026, making the policy the world's second mandatory taxonomy, after the EU.

	COP29	COP28

Fossil-fuel support

Total (2018-2022)	**$124 billion**
Share spent on coal (2022)	**1%**
Share targeted at producers and utilities (2022)	**76%**

By technology



Source: Organisation for Economic Co-Operation and Development, International Energy Agency, Oil Change International, International Institute for Sustainable Development, BloombergNEF.

Carbon pricing

Economy-wide carbon price	**Under discussion**
Economy-wide emissions covered by carbon price	**0%**
Average carbon price over three months to September 2024	**Not applicable**

Climate-risk policy

Generic ESG disclosure	**Financial institutions/listed companies**
Environmental taxonomy	**Voluntary – mandatory under development**
Climate-risk disclosure for companies	✓ **(ISSB)**
Climate-risk disclosure for financials	✓ **(ISSB for investors)**
Climate-risk stress test	✓

Canada

Annex I party

COP29 COP28

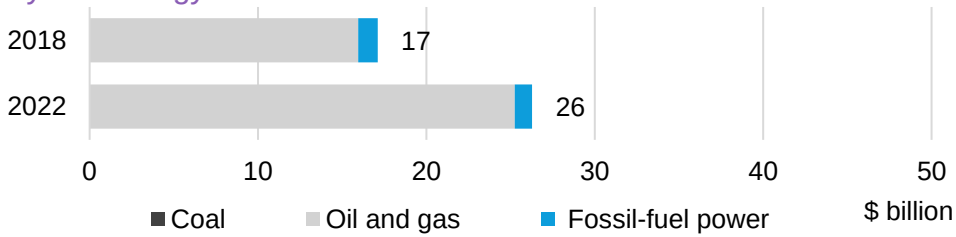
Abundant hydro resources mean Canada has already largely decarbonized its power system. Apart from that, renewables deployment has been slowed in the last year by a lack of federal and regional incentives (other than carbon pricing), as well as the moratorium and regulatory review in top-emitting province Alberta. In BNEF's latest Policy Scoreboard, the country's best performance was for low-carbon fuels and carbon capture and storage, with significant funding and investment tax credits, which are now in force. Buildings decarbonization policies have also improved.

- Having fallen by 39% in 2021, Canada's fossil-fuel support rose 127% in 2022. Almost two-thirds of the total comprised public finance for oil and gas, in particular a C$11.5 billion ($8.3 billion) financing guarantee and C$1.3 billion in working capital for the Trans Mountain oil pipeline – the only way to transport crude from Alberta to the west coast for export. The government purchased the pipeline in 2018 to rescue a project to nearly triple its capacity. The expanded pipeline began full operations in June 2024.
- The federal carbon price is the second highest in the G-20, after the EU, and is scheduled to increase again to C$95/t in 2025, reaching C$170/t in 2030. Its impact is weakened after some exemptions for oil-fired heating were granted in 2023 and industries enjoy generous emission baselines. Amid a cost-of-living crisis, the carbon tax has become a key issue in the upcoming election, due to be held by October 20, 2025.
- In October 2024, Canada announced two key sustainable finance policies: one to develop voluntary sustainable investment guidelines and another to request mandatory climate-related financial disclosures for large, federally incorporated private companies. The former policy will also encompass the development of a sustainable finance taxonomy, which should be ready within the next 12 months. Canada has made several attempts to develop a green taxonomy, and this one seems to be the most plausible to work out.
- Since March 2023, federally regulated financial institutions have had to report on their climate risk governance and management. Up until now, this policy required alignment with the Taskforce on Climate-Related Financial Disclosures (TCFD), but have since been updated to reflect the ISSB framework. Canada is still lacking strong climate-risk policy, so these developments could spur action from financial institutions and corporations.

Fossil-fuel support

Total (2018-2022)	**$85 billion**
Share spent on coal (2022)	**0.1%**
Share targeted at producers and utilities (2022)	**88%**

By technology



Source: Organisation for Economic Co-Operation and Development, International Energy Agency, Oil Change International, International Institute for Sustainable Development, BloombergNEF.

Carbon pricing

Economy-wide carbon price	✓
Economy-wide emissions covered by carbon price	**78%**
Average carbon price over three months to September 2024	**$59 per metric ton**

Climate-risk policy

Generic ESG disclosure	✓
Environmental taxonomy	**Under development**
Climate-risk disclosure for companies	**Under development (ISSB)**
Climate-risk disclosure for financials	✓ **(ISSB)**
Climate-risk stress test	✓ **Pilot. Mandatory under discussion**

China

Non-Annex I party

COP29 COP28

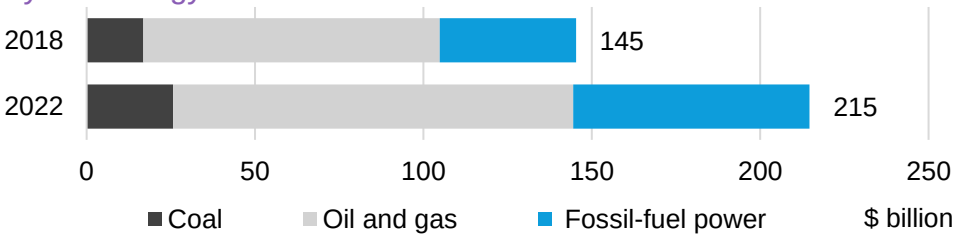
China is the highest-ranking non-OECD member in BNEF's 2024 Policy Scoreboard, principally due to strong support for clean power and transport. Economy-wide EV purchase subsidies have ended. But sales continue to rise, due to continually improving economics, province-level incentives, tax breaks and supply-side policies. As a result, EVs comprised 37% of passenger car sales in 2023, while China also took the top spot globally for wind and solar build. It has improved low-carbon policy in other sectors, notably industry. But more support will be required for China to achieve its carbon-neutrality ambitions.

- For the first time since 2016, China fell to second place for G-20 fossil-fuel support in 2022, after Russia. The economy increased such aid by 31% that year and 37% over 2018-2022. Yet its sizable population means that the per-capita total is among the lowest at just $152.
- However, China loses points for expanding coal-fired generating capacity by 16% over 2018-2023. In addition, the considerable project pipeline would increase capacity by 37%, excluding retirements. As a result, China is now classified as making little or no progress on fossil-fuel support and coal power.
- Policymakers have taken steps to strengthen China's carbon market, which currently only applies to power generators. These include tighter emissions caps, higher penalties for falsifying data, and tougher rules on banking permits from previous years and borrowing units from future periods. In addition, China intends to expand the emissions trading scheme to more sectors, beginning with aluminum, steel and cement.
- China already has mandatory ESG disclosure for listed corporations but is now developing a more ambitious framework: the Chinese Sustainability Disclosure Standards. The CSDS will largely follow the structure of the ISSB framework but apply a double materiality lens to include the impact of the environment on a company, following the lead of the EU with its Corporate Sustainability Reporting Directive. This could be a gamechanger as it is much more robust and standardized than the existing disclosure rule.
- China has a voluntary green taxonomy in place and has developed a common classification with the EU to promote interoperability. The central bank of China also ran a pilot climate-risk stress test on 23 banks and published the results in 2022. No further update has been announced publicly following this pilot exercise.

Fossil-fuel support and coal power

Total (2018-2022)	**$803 billion**
Share spent on coal (2022)	**12%**
Share targeted at producers and utilities (2022)	**56%**

By technology



Source: Organisation for Economic Co-Operation and Development, International Energy Agency, Oil Change International, International Institute for Sustainable Development, BloombergNEF.

Carbon pricing

Economy-wide carbon price	✓
Economy-wide emissions covered by carbon price	**52%**
Average carbon price over three months to September 2024	**$13 per metric ton**

Climate-risk policy

Generic ESG disclosure	✓ **For listed companies**
Environmental taxonomy	✓ **Voluntary**
Climate-risk disclosure for companies	**Under development**
Climate-risk disclosure for financials	✖
Climate-risk stress test	✓ **Pilot**

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France

Annex I party

COP29 COP28

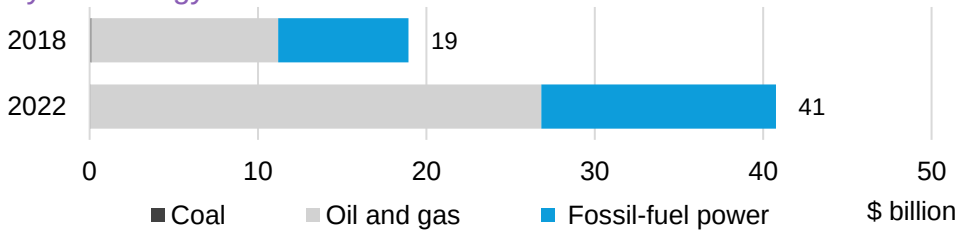
France secured top spot in BNEF's 2024 Policy Scoreboard, pushing Germany into second place. Unlike some other European countries, it lost fewer points for weakening or delaying low-carbon policy support. In addition, generous EV incentives helped electrified models account for 27% of passenger car sales in 2023, while subsidies and fossil-fuel boiler regulations buoyed heat pump adoption. France has begun to roll out clean hydrogen and carbon capture and storage policies, and has an ambitious set of circular economy measures that should help cut emissions from waste.

- The snap election in July saw no party secure an absolute majority in the National Assembly. After a two-month delay, Michel Barnier – a member of the conservative Republicans – was appointed prime minister. The new centrist and right-wing administration, and lack of a clear winner are unlikely to bode well for the passage of bold new green policy.
- France boosted fossil-fuel support by 82% over the five years from 2018. With a 70% rise in 2022 alone, driven by the energy crisis, the country saw surging prices followed by a cost-of-living crisis. Around 72% of the 2022 total comprised budgetary transfers and tax breaks. However, unlike Germany and Italy, more than a quarter of France's fossil-fuel support was composed of expenditure by state-owned enterprises, such as Electricite de France.
- The country has made significant headway in phasing out coal power, with a 40% reduction in such capacity over 2018-2023. It has no further deployment in the pipeline, and public finance institutions have full coal-exclusion policies.
- The country participates in the EU ETS – see the dedicated slide for bloc-level developments. It also has a national carbon tax, which was first introduced in 2014 to tackle emissions not covered by the EU carbon market, such as transport and buildings. However, since the 'yellow vest' public protests in 2018, the levy has remained at €44.60/t ($47.94/t), despite plans to reach € 82.3/t by 2022. Its future is also not clear given that the EU's second emissions trading system, known as ETS II, will cover road transport and buildings.
- While France's regulators sometimes issue decrees and rules, the vast majority of climate-risk policies impacting French financial institutions and corporations have been devised and implemented at the EU level. See the EU slide for more information.

Fossil-fuel support and coal power

Total (2018-2022)	**$127 billion**
Share spent on coal (2022)	**0.2%**
Share targeted at producers and utilities (2022)	**28%**

By technology



Source: Organisation for Economic Co-Operation and Development, International Energy Agency, Oil Change International, International Institute for Sustainable Development, BloombergNEF.

Carbon pricing (includes EU-level policies)

Economy-wide carbon price	✓
Economy-wide emissions covered by carbon price	**80%**
Average carbon price over three months to September 2024	**$64 per metric ton**

Climate-risk policy (includes EU-level policies)

Generic ESG disclosure	✓
Environmental taxonomy	✓ **Mandatory**
Climate-risk disclosure for companies	✓ **Ratified pending enforcement**
Climate-risk disclosure for financials	✓
Climate-risk stress test	✓

Germany

Annex I party

COP29 COP28

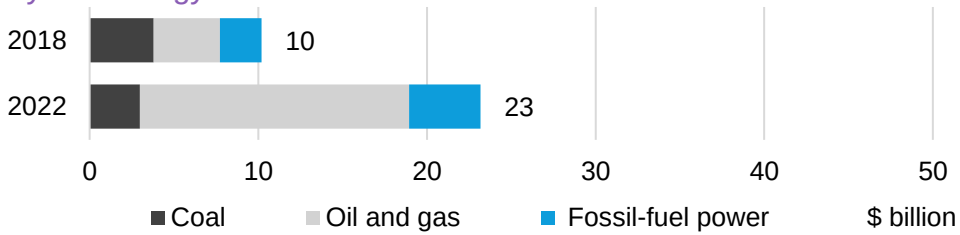
Germany fell to second place in the 2024 G-20 Policy Scoreboard, principally for scrapping and weakening commitments. For example, it increased uncertainty for automakers and consumers by unexpectedly ending its EV subsidy program a year earlier than planned. As a result, electrified sales fell 14% in 2023, though EVs still accounted for quarter of passenger car sales. In contrast, the last year has seen it introduce regulations for renewable heat in new buildings and announce considerable funding for low-carbon hydrogen. Both member state and EU policymakers are seeking to tackle these barriers, however. In addition, Germany still ranks first out of the G-20 for policies to decarbonize industry and agriculture.

- Germany provided one-and-a-half times more fossil-fuel support in 2022 than the year before, as the country sought to shield companies and consumers from surging energy prices and move away from Russian gas.
- While its 2022 total was well below that of France and Italy, Germany provides more support for coal, at $3 billion. It also has more operational coal-fired capacity, at 39 gigawatts compared with 1.8GW for France and 6.2GW for Italy. Still Germany has no more in the pipeline and a full exclusion policy.
- Germany already has a significant share of clean technologies in the power generation mix, which is 57% renewables and nuclear. Like many European nations, wind and solar deployment has been hindered by supply-chain bottlenecks and delays in granting permits and grid access, though it is making improvements.
- In addition to the EU ETS – see the EU slide for bloc-level developments – Germany has its own cap-and-trade scheme for road transport and buildings. It has relatively low prices: after the scheduled increase in 2023 was canceled on the grounds of the energy crisis, the current price is fixed at €45/t in 2024. From 2026, auctions will be held subject to a €55/t floor and €65/t ceiling.
- Like France's carbon tax, it is unclear how this national program will function alongside the EU ETS II, when the latter kicks off in full from 2025. Carbon pricing is also a part of Germany's demand-side contract-for-difference scheme for low-carbon hydrogen – the first in the world – which subsidizes the difference between clean hydrogen costs and natural gas prices plus any carbon levies.
- As for France, most climate-risk policies affecting German financial institutions and corporations are EU-level measures. See the EU slide for more information.

Fossil-fuel support and coal power

Total (2018-2022)	**$69 billion**
Share spent on coal (2022)	**13%**
Share targeted at producers and utilities (2022)	**27%**

By technology



Source: Organisation for Economic Co-Operation and Development, International Energy Agency, Oil Change International, International Institute for Sustainable Development, BloombergNEF.

Carbon pricing (includes EU-level policies)

Economy-wide carbon price	✓
Economy-wide emissions covered by carbon price	**85%**
Average carbon price over three months to September 2024	**$62 per metric ton**

Climate-risk policy (includes EU-level policies)

Generic ESG disclosure	✓
Environmental taxonomy	✓ **Mandatory**
Climate-risk disclosure for companies	✓ **Ratified pending enforcement**
Climate-risk disclosure for financials	✓
Climate-risk stress test	✓

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India

Non-Annex I party

COP29 COP28

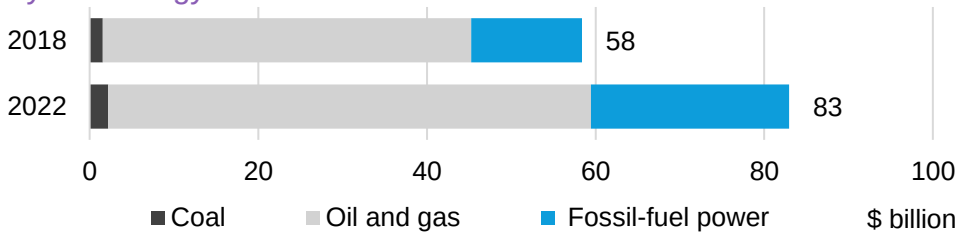
With a 36-percentage point gap between its highest- and lowest-scoring sectors in BNEF's 2024 Policy Scoreboard, India has made significant progress in some areas but lags considerably in others. Its auction programs have helped drive clean energy deployment, and it doubled EV sales in 2023, partly due to government subsidies. India has also improved support for clean hydrogen and is one of the few G-20 members to implement measures to build domestic demand for green fuels. However, the country needs more dedicated support to promote decarbonization of industry and agriculture.

- India provides relatively little fossil-fuel support, the majority of which comprises consumer price subsidies. Coal power deployment has slowed, with capacity only growing 1% over 2018-2023. But if the sizable pipeline is built, it would increase the current total by 38%.
- India has made headway on creating its Carbon Credit Trading Scheme. In July 2024, it adopted regulations for the planned compliance baseline-and-credit mechanism within the CCTS. This will be complemented by a voluntary domestic offset mechanism, which will enable non-participants in the compliance scheme to generate carbon credit certificates. Offset trading is due to begin in 2025, with the compliance market to be fully operational the year after.
- In 2022, a concise and targeted survey was undertaken among select scheduled commercial banks in India to refine the regulatory and supervisory strategies concerning climate-related financial risks and sustainable finance.
- India has a corporate sustainability reporting rule targeting the largest 1,000 listed entities based on market capitalization. This compels companies to report on the material ESG risks and opportunities impacting them (including an entity's approach to mitigating or adapting to the risks along with financial implications); sustainability related goals/targets and performance against these; and specific environmental- and social-related disclosures. In 2024, the regulator opened a consultation to simplify and reduce the cost of compliance, which could reduce the policy's ambition.
- In February 2024, the Reserve Bank of India issued its draft framework on mandatory disclosure of climate-related financial risks for banks. Reporting would start in January 2026 for larger institutions, with an implementation timeline being phased in over the following years for other banks.

Fossil-fuel support and coal power

Total (2018-2022)	**$315 billion**
Share spent on coal (2022)	**3%**
Share targeted at producers and utilities (2022)	**22%**

By technology



Source: Organisation for Economic Co-Operation and Development, International Energy Agency, Oil Change International, International Institute for Sustainable Development, BloombergNEF.

Carbon pricing

Economy-wide carbon price	**Under discussion**
Economy-wide emissions covered by carbon price	**0%**
Average carbon price over three months to September 2024	**Not applicable**

Climate-risk policy

Generic ESG disclosure	✓ **For listed companies**
Environmental taxonomy	✖
Climate-risk disclosure for companies	✓ **For listed companies**
Climate-risk disclosure for financials	**Under development**
Climate-risk stress test	✓ **Pilot**

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Indonesia

Non-Annex I party

COP29 COP28

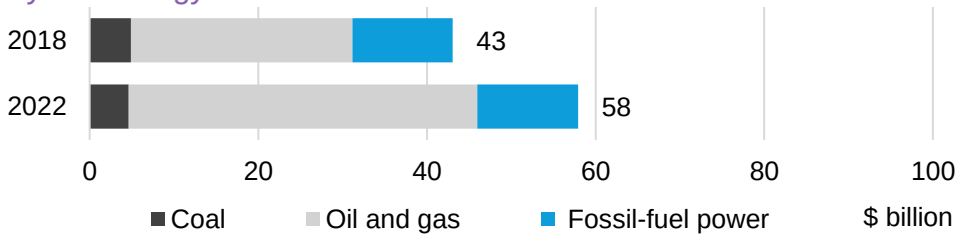
Prabowo Subianto officially became Indonesia's [resident in October 2024. He is expected to maintain the same course with regard to energy transition policy, as well as achieving energy "self-sufficiency". Its biggest improvement in BNEF's 2024 Policy Scoreboard was for low-carbon fuels and carbon capture and storage, but lacks support in other sectors.

- Budgetary transfers and consumer price subsidies accounted for the bulk of Indonesia's fossil-fuel support in 2022. The country has continued to deploy more coal-fired power capacity, seeing a 43% increase over 2019-2023 – the biggest among the G-20. In addition, it has a considerable coal project pipeline.
- Prabowo must now align these trends with the $20 billion Just Energy Transition Partnership with developed economies and financial institutions. Challenges include the need for energy market and subsidy reform. Achieving the planned share of renewables in the power generation mix would require a host of supportive policies and investments.
- The government launched a regulated emissions trading scheme in 2023 covering coal power plants over a certain size, and still plans to introduce a separate carbon tax, which will first apply to power plants and then the transport sector. Prabowo intends to create a state body to oversee the country's carbon offsets market and ensure alignment with international standards. The moratorium on issuance of post-2020 carbon credits may also be lifted, to allow offset exports and boost low-carbon project development.
- The Indonesian Financial Services Authority (OJK) published guidelines for banks' climate-risk stress testing in 2023 and is set to require all banks to undergo similar testing in 2026. OJK also announced plans to update some sustainable finance regulations to align with the ISSB reporting framework. In particular, regulation POJK 51/2017, which covers sustainable finance implementation, could be updated "soon" to follow the ISSB framework and therefore mandate climate-risk reporting. This would target financial services institutions, issuers and public companies.
- In February 2024, OJK updated the country's taxonomy, which was first issued in January 2022. It is a voluntary classification but introduces a traffic light system of green, yellow and red activities, marking an improvement on the EU taxonomy.

Fossil-fuel support and coal power

Total (2018-2022)	**$206 billion**
Share spent on coal (2022)	**8%**
Share targeted at producers and utilities (2022)	**23%**

By technology



Source: Organisation for Economic Co-Operation and Development, International Energy Agency, Oil Change International, International Institute for Sustainable Development, BloombergNEF.

Carbon pricing

Economy-wide carbon price	✓
Economy-wide emissions covered by carbon price	**26%**
Average carbon price over three months to September 2024	**< $1 per metric ton**

Climate-risk policy

Generic ESG disclosure	✖
Environmental taxonomy	✓ **Voluntary**
Climate-risk disclosure for companies	**Announced (ISSB)**
Climate-risk disclosure for financials	**Announced (ISSB)**
Climate-risk stress test	✓ **Pilot. Mandatory announced**

Italy

Annex I party

COP29 COP28

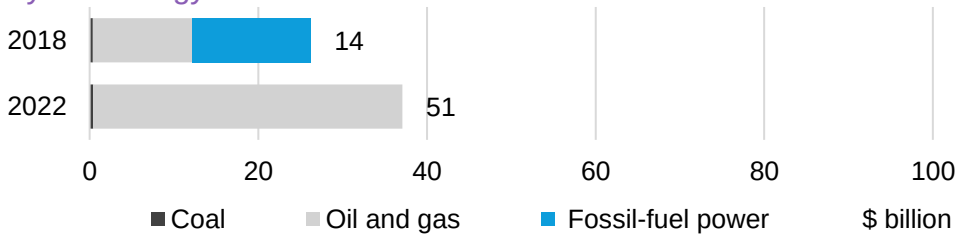
Italy continues to lag behind France and Germany on low-carbon policy, and fell 1 percentage point in BNEF's latest Scoreboard. Italy has often implemented the same number and type of low-carbon policies as France and Germany, but in some cases it is awarded fewer points for the robustness and effectiveness of these measures. This can be because the incentives and regulations are less impactful, or because slower implementation means they take longer to have an effect.

- Generous subsidies and concessions meant Italy increased fossil-fuel support by 158% in 2022, to $51 billion. This was well above France's $41 billion and Germany's $23 billion. As a result, Italy achieved the second-biggest hike in fossil-fuel support over 2018-2022 – of 267%, second only to Japan with 273%. As a result. Italy had the highest per-capita total in 2022, at $868, mainly comprising tax breaks for oil and gas, and electricity consumers.
- However, Italy continues to phase out coal power, reducing capacity by 21% over 2019-2023. A complete phase-out of coal is expected by 2027. Wind and solar have largely filled the gap, increasing by a third over the same period, partly due to carbon pricing, favorable renewables economics, auctions and other incentives. That said, uncertainty over the auctions scheme has kept some developers waiting and may have hindered corporate power purchase deals.
- Additionally, the responsibility of designating renewables 'go-to-areas' has been delegated to the country's 20 regions. Some are almost banning or strongly inhibiting deployment across large geographical areas, on the back of 'not in my back yard' movements.
- Unlike France and Germany, Italy does not have a national carbon tax or market. For EU ETS developments, see the dedicated slide for the bloc.
- Italy's central bank developed a set of supervisory expectations in 2022 on the integration of climate and environmental risks into corporate strategies, governance and management systems of risks, and disclosure to the market for banks.
- Aside from this, as with France and Germany, the vast majority of climate-risk policies impacting Italian financial institutions and corporations have been introduced at EU level. See the EU slide for more information.

Fossil-fuel support and coal power

Total (2018-2022)	**$113 billion**
Share spent on coal (2022)	**0.8%**
Share targeted at producers and utilities (2022)	**2%**

By technology



Source: Organisation for Economic Co-Operation and Development, International Energy Agency, Oil Change International, International Institute for Sustainable Development, BloombergNEF.

Carbon pricing (includes EU-level policies)

Economy-wide carbon price	✓
Economy-wide emissions covered by carbon price	**38%**
Average carbon price over three months to September 2024	**$75 per metric ton**

Climate-risk policy (includes EU-level policies)

Generic ESG disclosure	✓	
Environmental taxonomy	✓	**Mandatory**
Climate-risk disclosure for companies	✓	**Ratified pending enforcement**
Climate-risk disclosure for financials	✓	
Climate-risk stress test	✓	

Japan

Annex I party

COP29 COP28

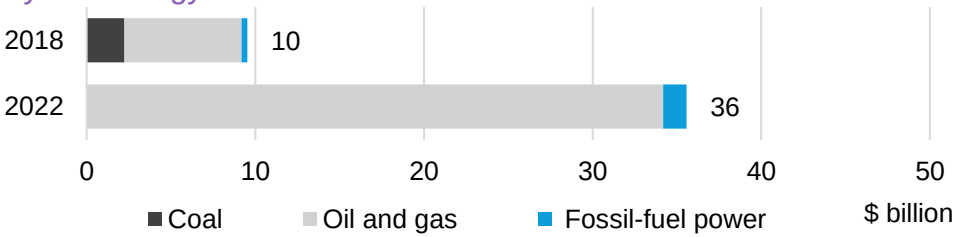
Japan decreased its score in BNEF's 2024 Policy Scoreboard. Renewables build has slowed and the country lags behind on EV adoption. However, its subsidy program helped Japan achieve the most heat pump sales per capita out of the G-20 in 2023. But it may be entering a period of energy policy uncertainty with the lower house facing a hung parliament. Without a single party holding decisive control and an impending overhaul of the energy roadmap, the loss of a clear majority by the ruling Liberal Democratic Party and coalition partner Komeito means alliances will likely need to be struck with policymakers at odds with current energy measures.

- The energy crisis helped drive up Japan's fossil-fuel support by 270% in 2022 – the biggest increase out of the G-20. While some nations boosted consumer subsidies, almost all of Japan's total in 2022 was aimed at oil and gas producers. Some 81% was in the form of tax breaks, with the rest as support from public finance institutions. In addition, coal-fired generating capacity grew 16% over 2019-2023 – the most out of the OECD members in the G-20 – and it has plans for more. As a result, Japan is now classified as 'slow or no progress'.
- Japan kicked off its voluntary Green Transformation Emissions Trading Scheme, or GX-ETS, in 2023. But the mandatory participation of companies in hard-to-abate sectors from financial year 2026 is under discussion, and the country's existing carbon tax remains too low to be a significant decarbonization driver.
- After publishing the results of a pilot climate scenario analysis in 2022, the Financial Services Agency and Bank of Japan announced a second exercise will be conducted in financial year 2024. The new exercise will again be performed on three major Japanese banks that also took part in the first analysis. The second evaluation will set a shorter target time horizon and focus on the impact on loans – in other words, the credit risk. It will most likely use the scenarios from the Network for Greening the Financial System, as with the first exercise.
- Japan already has rules mandating generic ESG and climate-risk disclosure for listed companies. The latter follows the guidelines of the Taskforce on Climate-related Financial Disclosures, but the Sustainability Standards Board of Japan is developing local standards to implement sustainability and climate disclosures following the ISSB's guidelines. The mandatory effective date for disclosure against the new standards has yet to be discussed.

Fossil-fuel support and coal power

Total (2018-2022)	**$87 billion**
Share spent on coal (2022)	**0.0%**
Share targeted at producers and utilities (2022)	**96%**

By technology



Source: Organisation for Economic Co-Operation and Development, International Energy Agency, Oil Change International, International Institute for Sustainable Development, BloombergNEF.

Carbon pricing

Economy-wide carbon price	✓
Economy-wide emissions covered by carbon price	**80%**
Average carbon price over three months to September 2024	**$2 per metric ton**

Climate-risk policy

Generic ESG disclosure	✓ **For listed companies**
Environmental taxonomy	✖
Climate-risk disclosure for companies	✓ **For listed companies**
Climate-risk disclosure for financials	✖
Climate-risk stress test	✓ **Pilot**

Mexico

Non-Annex I party

COP29 COP28

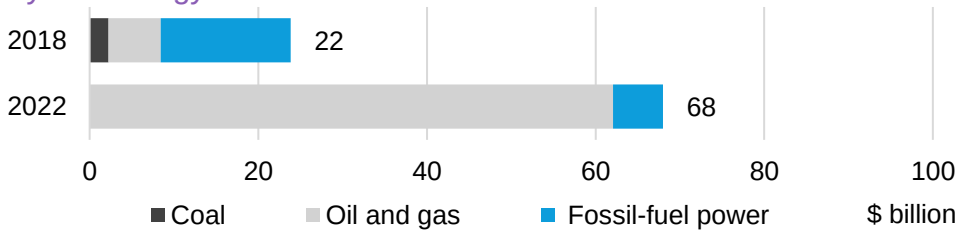
Mexico's new president, Claudia Sheinbaum, was elected in a landslide in June 2024. She has pledged continuity with her predecessor, Andres Manual Lopez Obrador, who pushed for a state-first, fossil-fuel-oriented energy policy. Sheinbaum may find it a challenge to align maintaining AMLO's stance with her pledges to promote renewables and the need for large power-sector investment. The latter will also be required for Sheinbaum to fulfil her plans to capitalize on Mexico's position to benefit from nearshoring, where companies relocate their supply chains closer to demand.

- While Mexico increased fossil-fuel support by 234% over 2018-2022, last year's 60% rise was relatively modest compared with other G-20 members. Around two-thirds of Mexico's 2022 total comprised tax breaks, with the remaining third being expenditure by state-owned enterprises. Having historically relied more on natural gas for power generation, there has been little change in coal-fired capacity in recent years and there is none recorded in the pipeline.
- Mexico's carbon tax has been in place since 2014. It is set too low to spur substantive change and includes several concessions, such as a natural gas exemption. The country also has an emissions trading scheme covering industrial and energy facilities over a certain size. After a two-year pilot, the 'transition phase' has been extended, to allow more time for the government to finalize the regulations. A launch date has yet to be confirmed.
- Mexico lacks climate-risk policies. The country published its sustainable taxonomy in 2023 but it remains voluntary. The classification covers 124 activities in six economic sectors, integrating both environmental and social dimensions.
- The government announced in 2019 that it would require pension funds to integrate ESG matters into their investment decisions. This is Mexico's only mandatory policy, which took effect in January 2022. The central bank also published a roadmap to support the incorporation of environmental and social risks into financial institutions' risk management practices in 2020. However, no further policy action has been made since.

Fossil-fuel support and coal power

Total (2018-2022)	**$181 billion**
Share spent on coal (2022)	**0.4%**
Share targeted at producers and utilities (2022)	**45%**

By technology



Source: Organisation for Economic Co-Operation and Development, International Energy Agency, Oil Change International, International Institute for Sustainable Development, BloombergNEF.

Carbon pricing

Economy-wide carbon price	✓
Economy-wide emissions covered by carbon price	**40%**
Average carbon price over three months to September 2024	**$4 per metric ton**

Climate-risk policy

Generic ESG disclosure	✗
Environmental taxonomy	✓ **Voluntary**
Climate-risk disclosure for companies	✗
Climate-risk disclosure for financials	✓ **For pension funds**
Climate-risk stress test	✗

Russia

Annex I party

COP29 COP28

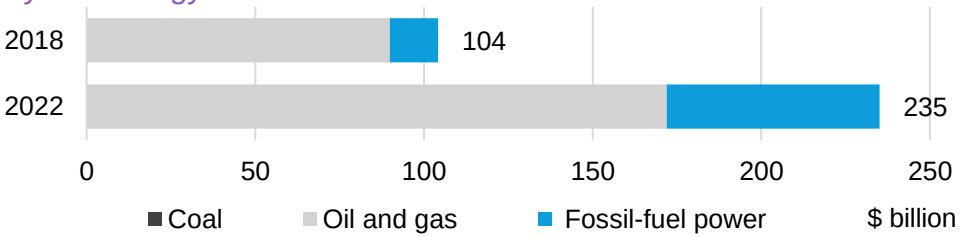
Russia was the lowest-ranking member of the G-20 in BNEF's 2024 Policy Scoreboard. The country has implemented little low-carbon support except targets in most sectors, the measures implemented are often ineffective, and the policymaking process lacks transparency and predictability. This is not expected to change in the near future, particularly in light of the re-election of President Vladimir Putin in March 2024.

- Russia provided $236 billion in fossil-fuel support in 2022. This was the highest sum out of the G-20 and marked a 122% increase on 2018 levels. As a result, it had the second-highest per-capita total in 2022, of which around 69% comprised consumer price subsidies. The remainder was made up of tax breaks and investment by state-owned enterprises.
- While Russia cut coal-fired generating capacity by 18% over 2019-2023, its pipeline would boost the current total by 13% if built and without retirements. On paper, the country has a renewables auction program but the last round was held in 2021. These projects came online over 2021-22, excluding hydropower plants over 50 megawatts. During this period, Russia added 10 gigawatts of new oil- and gas-fired power capacity.
- The first compliance period for the pilot emissions trading scheme in Sakhalin was due to begin in 2024 but its status is unclear. Regulated entities have been subject to mandatory emissions reporting since 2022 and individual caps were set in 2023.
- Russia does not have any climate-risk policy beyond its green taxonomy, which is a voluntary classification that bond issuers and financial market participants can use for their investment products. The Russian Green Taxonomy covers waste management, energy, construction, industry, transport, water supply, biodiversity and agriculture. In addition, it includes 'adaptation criteria' and would enable transition criteria to be developed in the future. While it broadly aligns with the 'substantial contribution' components of the EU taxonomy, it does not include 'do no significant harm' criteria.
- Russia's central bank has also developed recommendations on responsible investment for institutional investors, including banks, non-governmental pension funds, insurers, joint-stock investment funds, and their trustees. These date back to 2020 and are only voluntary.

Fossil-fuel support and coal power

Total (2018-2022)	**$639 billion**
Share spent on coal (2022)	**0.0%**
Share targeted at producers and utilities (2022)	**32%**

By technology



Source: Organisation for Economic Co-Operation and Development, International Energy Agency, Oil Change International, International Institute for Sustainable Development, BloombergNEF.

Carbon pricing

Economy-wide carbon price	✓ **Subnational only**
Economy-wide emissions covered by carbon price	**1%**
Average carbon price over three months to September 2024	**Not available**

Climate-risk policy

Generic ESG disclosure	✗
Environmental taxonomy	✓ **Voluntary**
Climate-risk disclosure for companies	✗
Climate-risk disclosure for financials	✗
Climate-risk stress test	✗

Saudi Arabia

Non-Annex I party

COP29 COP28

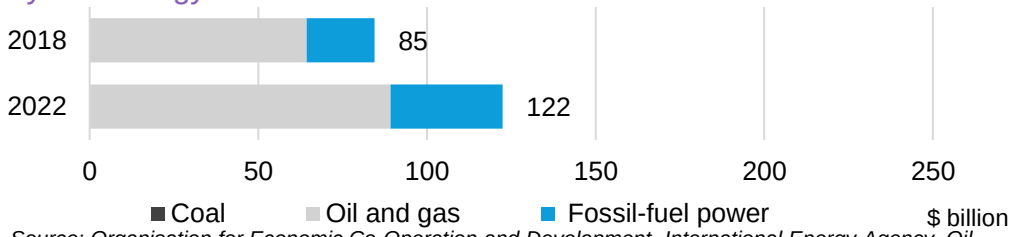
Saudi Arabia's greenhouse gas emissions climbed 16% in the decade to 2021 and the kingdom has yet to implement substantive low-carbon policy. In BNEF's 2024 Scoreboard, it performed best for clean power policy, largely thanks to its renewables auction program. The target for 40GW of solar by 2030 could be feasible, given the potential of the rooftop segment and policymakers' ability to drive large-scale tenders. Nonetheless, more support will be required if Saudi Arabia is to achieve its 2060 net-zero target. This pledge only covers greenhouse gases released domestically, meaning it can meet this goal and still export oil and gas.

- Saudi Arabia provided 47% more fossil-fuel support in 2022 – at $81 billion – compared with five years previously. This translated to $3,364 per capita in 2022 – more than twice the second-place G-20 member Russia. These figures are likely an underestimate due to data availability issues.
- The kingdom is the only G-20 economy with no operational or planned carbon-pricing policy, even at a subnational level.
- However, domestic players are becoming more involved in the voluntary offset market. The Saudi-backed Regional Voluntary Carbon Market Company (RVCMC) set a new record with its second auction, totaling 2.2 million credits in June 2023. The sovereign wealth fund, the Public Investment Fund, has an 80% stake in the RVCMC. The biggest buyers were Saudi Aramco, Saudi Electricity Company and ENOWA – a subsidiary of Saudi investment company NEOM, which is owned by the PIF.
- In April 2024, the RVCMC appointed Xpansiv to provide the technological infrastructure for the company's carbon credit exchange, which is due to be launched in 2024. The system aims to scale up offset trading in the region and support the Saudi Green Initiative and Vision 2030.
- Saudi Arabia has no sustainable finance or climate-risk policies. It only has a broad corporate governance regulation that requires companies on the Saudi Stock Exchange to report on governance policies including management remuneration. In January 2023, the Capital Market Authority amended the regulation to provide shareholders and board members with improved rights, and greater clarity and more transparency as to their respective roles and responsibilities.

Fossil-fuel support and coal power

Total (2018-2022)	**$408 billion**
Share spent on coal (2022)	**0.0%**
Share targeted at producers and utilities (2022)	**37%**

By technology



Source: Organisation for Economic Co-Operation and Development, International Energy Agency, Oil Change International, International Institute for Sustainable Development, BloombergNEF.

Carbon pricing

Economy-wide carbon price	✖
Economy-wide emissions covered by carbon price	**0%**
Average carbon price over three months to September 2024	**Not available**

Climate-risk policy

Generic ESG disclosure	✖
Environmental taxonomy	✖
Climate-risk disclosure for companies	✖
Climate-risk disclosure for financials	✖
Climate-risk stress test	✖

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South Africa

Non-Annex I party

COP29 COP28

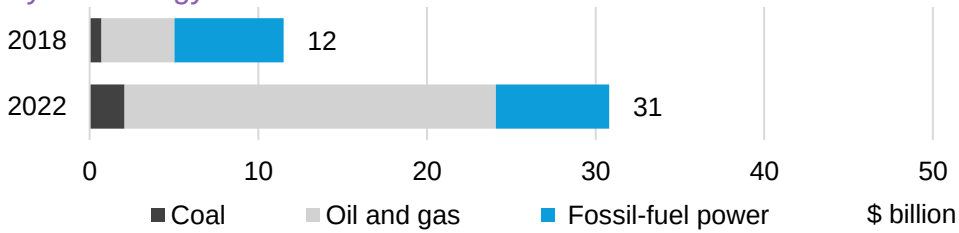
South Africa also had an election in 2024, which led to the African National Congress losing its parliamentary majority for the first time in three decades. As a result, President Cyril Ramaphosa has been forced to form a coalition government, with a member of the Democratic Alliance, Dion George, being appointed environment minister. The biggest decarbonization challenge facing South Africa remains the power sector, which accounts for 53% of national emissions.

- The new environment minister has said his primary focus will be implementing South Africa's $9.3 billion Just Energy Transition Partnership (JETP). The country is lagging on its pledges to start phasing out coal power. Additions of coal-fired generating capacity have slowed, with a 6% rise over 2019-2023. But more is in the pipeline. South Africa relies on the fuel for more than 80% of electricity generation, with the sector providing a high share of income and jobs.
- Nonetheless, progress is being made. In October 2024, the government rolled out the JETP Funding Platform, designed to match finance with projects. Many are expected to be in the coal-belt province, Mpumalanga. Coal only accounted for 2% of fossil-fuel support in 2022, though the sector also benefitted from investment in the power system.
- South Africa's carbon tax covers 80% of national emissions and, as of 2023, it increases by consumer price inflation. As a result, the tax rose by almost a fifth in 2024 to 190 rand per ton ($10/t). In February 2024, the government announced it was considering a penalty of 640 rand per ton for emissions exceeding carbon budgets. It plans for the penalty to be implemented from January 2025.
- In 2023, the South African Reserve Bank published guidance for banks to integrate climate-related risks into their governance and risk management practices. The guidance includes principles on a bank's internal oversight and management responsibilities, policies, strategy, risk monitoring and management, transition plans and capital adequacy assessment process, among others. The country has also had a voluntary taxonomy since 2022, drawing a lot of inspiration from the EU's green classification.
- In addition, South Africa has a broad ESG reporting rule for listed companies that mostly focuses on governance reporting. In 2022, the Johannesburg Stock Exchange issued sustainability and climate disclosure guidance to support JSE-listed companies with their sustainability and climate-related reporting.

Fossil-fuel support and coal power

Total (2018-2022)	**$77 billion**
Share spent on coal (2022)	**7%**
Share targeted at producers and utilities (2022)	**65%**

By technology



Source: Organisation for Economic Co-Operation and Development, International Energy Agency, Oil Change International, International Institute for Sustainable Development, BloombergNEF.

Carbon pricing

Economy-wide carbon price	✓
Economy-wide emissions covered by carbon price	**80%**
Average carbon price over three months to September 2024	**$10 per metric ton**

Climate-risk policy

Generic ESG disclosure	✗
Environmental taxonomy	✓ **Voluntary**
Climate-risk disclosure for companies	✗
Climate-risk disclosure for financials	✗
Climate-risk stress test	✓

South Korea

Non-Annex I party

COP29 COP28

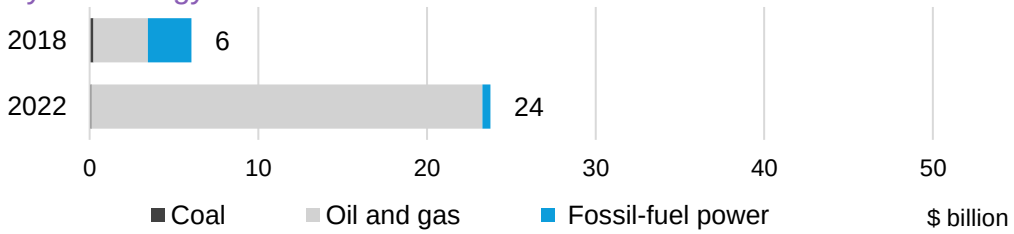
In the April 2024 election, the opposition Democratic Party of Korea and allies won 187 of the 300 seats in the unicameral parliament. The outcome is likely to impede President Yoon Suk-yeol's pro-nuclear power agenda. Still, DPK's renewables ambitions will continue to face challenges as critical entities for renewables deployment, such as the Ministry of Trade, Industry and Energy, and sole vertically integrated utility, Korea Electric Power Corp., remain under the Yoon administration's control. The country has the second-best low-carbon support in Asia out of the G-20 members, based on BNEF's 2024 Policy Scoreboard, thanks especially to measures for clean power and transport.

- South Korea more than doubled fossil-fuel support in 2022 amid the energy crisis and reliance on imported liquefied natural gas. As such, 61% was investment by public finance institutions, mainly comprising loans and guarantees for LNG carriers. South Korea is also now classified as 'mixed progress' because it increased coal-fired capacity by 6% over 2019-2023, with more in the pipeline.
- In the last three months, prices on the country's carbon market, known as the K-ETS, have been 34% lower than in the COP28 edition of this report – the biggest drop out of the G-20. The large share of free allowances at 90% continues to put downward pressure on prices. High-emitting sectors exposed to international trade, including primary steel, cement, petrochemicals and semiconductors, will also receive 100% of their permits for free across Phase 3 (2021-2025) of the K-ETS. The government plans to reduce free allocation in Phase 4 (2026-2030).
- South Korea is ramping up its climate-risk policy arsenal. In March 2024 the Bank of Korea and the Financial Supervisory Service announced a joint climate stress-test exercise – the first for the country. Running until December 2024, this involves 15 financial institutions including banks and insurance companies.
- In 2021, the Financial Services Commission said it planned to introduce mandatory ESG disclosure for listed entities. As a result, in May 2024, the Korea Sustainability Standards Board published the first draft of the upcoming disclosure standards, which will follow the ISSB framework. Implementation will occur in stages, starting with large entities from 2026 and gradually expanding to smaller companies. In October 2023 the Financial Supervisory Service announced that ESG funds would have to disclose their investment objectives and strategies, together with their associated risks and internal resources.

Fossil-fuel support and coal power

Total (2018-2022)	**$28 billion**
Share spent on coal (2022)	**0.5%**
Share targeted at producers and utilities (2022)	**69%**

By technology



Source: Organisation for Economic Co-Operation and Development, International Energy Agency, Oil Change International, International Institute for Sustainable Development, BloombergNEF.

Carbon pricing

Economy-wide carbon price	✓
Economy-wide emissions covered by carbon price	**74%**
Average carbon price over three months to September 2024	**$7 per metric ton**

Climate-risk policy

Generic ESG disclosure	✖
Environmental taxonomy	✓ **Voluntary**
Climate-risk disclosure for companies	**Under development (ISSB)**
Climate-risk disclosure for financials	✖
Climate-risk stress test	✓ **Pilot**

Turkey

Annex I party

COP29 COP28

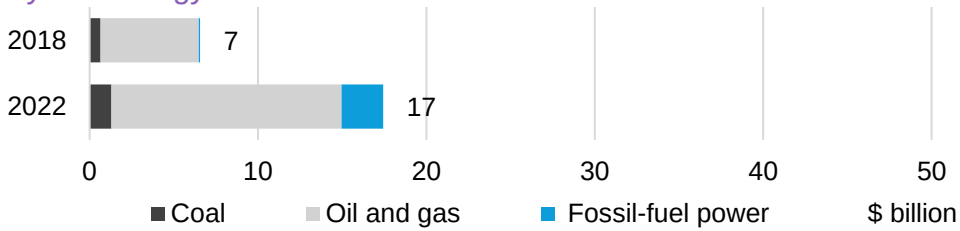
Turkey will need to implement more low-carbon policy support to achieve its bolder 2030 emissions target, announced in 2023, and net-zero goal for 2053. Its best performance in BNEF's 2024 G-20 Scoreboard was for clean power policy. However, renewables deployment has faltered amid a stop-and-start auction program, and now mainly comprises rooftop solar systems buoyed by the net-metering scheme. The government has instead promoted energy independence, including moves to exploit domestic fossil-fuel resources, notably coal.

- As a result, coal-fired generating capacity rose 8% over 2019-2023 and it would grow another 22% if projects in the pipeline were built. This is by far the biggest potential increase for the OECD members in this report.
- Discussions on launching a national emissions trading scheme have accelerated in recent years, partly as a way to mitigate the country's exposure to the EU's carbon border tariff and align its energy and climate regulations with the bloc. Turkey's updated climate plan, submitted to the UN in 2023, envisages a compliance carbon market being launched in 2024 or 2025, with a pilot phase that could last until 2027.
- In addition, the parliament agreed in July 2024 to a carbon pricing mechanism for commercial ships entering and departing from its seaports. If approved by the president, this should close a loophole whereby non-European vessels call at a Turkish port on the way to the EU to avoid the bloc's carbon pricing penalties.
- Until now, Turkey has not had any climate-risk policy beyond the 2014 sustainability principles compliance framework requiring generic ESG disclosures. However, in December 2023, the Public Oversight, Accounting and Auditing Standards Authority created the Turkish Sustainability Reporting Standards based on the ISSB standards. The national regulator adapted IFRS S1 and IFRS S2, the two main parts of the ISSB standards, and refers to them as the TSRS1 and TSRS2. The largest private companies and most public players will have to produce sustainability reports, following the standards from 2025 for fiscal year 2024. The regulator introduced a two-year grace period for reporting on Scope 3 supplychain emissions to allow companies to adjust.
- While this is a major step forward, Turkey still lacks requirements for financials or a green taxonomy.

Fossil-fuel support and coal power

Total (2018-2022)	**$59 billion**
Share spent on coal (2022)	**8%**
Share targeted at producers and utilities (2022)	**88%**

By technology



Source: Organisation for Economic Co-Operation and Development, International Energy Agency, Oil Change International, International Institute for Sustainable Development, BloombergNEF.

Carbon pricing

Economy-wide carbon price	**Under discussion**
Economy-wide emissions covered by carbon price	**0%**
Average carbon price over three months to September 2024	**Not applicable**

Climate-risk policy

Generic ESG disclosure	✓ **For listed companies**
Environmental taxonomy	✗
Climate-risk disclosure for companies	✓ **(ISSB)**
Climate-risk disclosure for financials	✗
Climate-risk stress test	✗

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UK

Annex I party

COP29 COP28

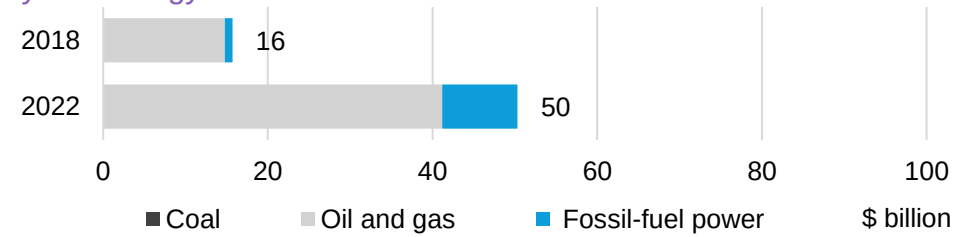
The election of the new Labour government in July 2024 should bode well for clean energy deployment in the UK. It has committed to reinstate the country's 2030 ban on sales of new petrol and diesel cars and vans. A new state-owned energy company, Great British Energy, should help de-risk investment, provided funding is targeted effectively. But the government will need to increase support and address barriers like permitting delays to achieve its bold renewables and hydrogen targets.

- The UK closed its last coal power plant in September 2024, spurred by carbon pricing, emissions limits, a mandated phase-out date and the introduction of a capacity market to ensure security of supply. But fossil-fuel support climbed 165% in 2022 – the second-biggest rise of the G-20, after Japan. Around 92% was budgetary transfers and tax breaks directed at consumers. As a result, the UK is now classified as making 'mixed progress' on fossil-fuel support.
- The UK carbon price in the last three months averaged $54/t – 27% below the level in the COP28 report. Driven by permit oversupply, low emissions and policy uncertainty, this is the second-largest decrease of the G-20, after South Korea. The new government supports planned market reforms and the forthcoming carbon border adjustment mechanism. The detailed design of the UK CBAM has yet to be defined but the levy is due to begin in 2027. Discussions around linking the country's carbon market with the EU ETS have also resurfaced.
- The UK has a lot of sustainable finance policy, targeting all financial institutions and organizations. Most of its climate-risk disclosure rules mandate reporting against the TCFD, such as the 2022 regulation targeting companies and the 2021 requirement on asset managers, life insurers and pension providers. These rules will likely be replaced by new regulations being developed under the Sustainability Disclosure Requirements regime, the UK's overarching framework for climate and sustainability reporting for financial institutions and corporations.
- However, the UK has already announced delays in the rollout of some rules, like ISSB reporting for corporations. It is also still developing its green taxonomy, which was announced in 2020. The Bank of England was a pioneer when it tan one of the first climate-risk stress tests in 2021 but has yet to conduct another. The Prudential Regulation Authority requires banks and insurers to integrate climate change considerations into wider risk management processes, and also necessitated them to start making climate-risk disclosures by the end of 2021.

Fossil-fuel support and coal power

Total (2018-2022)	**$114 billion**
Share spent on coal (2022)	**0.3%**
Share targeted at producers and utilities (2022)	**8%**

By technology



Source: Organisation for Economic Co-Operation and Development, International Energy Agency, Oil Change International, International Institute for Sustainable Development, BloombergNEF.

Carbon pricing

Economy-wide carbon price	✓
Economy-wide emissions covered by carbon price	**28%**
Average carbon price over three months to September 2024	**$54 per metric ton**

Climate-risk policy

Generic ESG disclosure	✓
Environmental taxonomy	**Under development**
Climate-risk disclosure for companies	✓
Climate-risk disclosure for financials	✓
Climate-risk stress test	✓ **Pilot**

US…

Annex I party

COP29 COP28

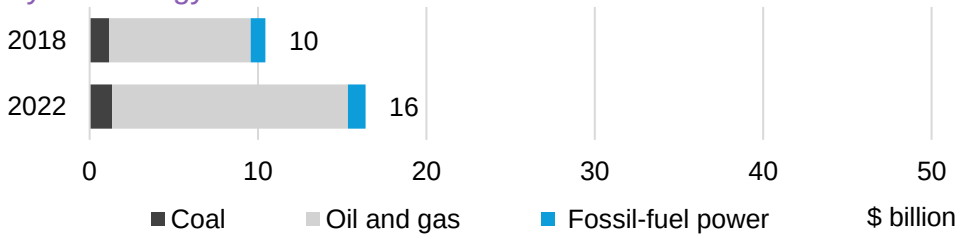
The US has improved its low-carbon policy support in recent years, not least with the passage of the Inflation Reduction Act. However, delays have prevented projects from making announcements and reaching final investment decisions, especially in less mature sectors like hydrogen and carbon capture and storage. At the time of writing, Donald Trump is assumed to be the next US President. The Republican party has broadly campaigned on repealing the IRA, though the economic benefits of the US's clean energy boom may shield the policy from most major legislative changes. Still, regulations – and looming tax bills – could still have a big impact.

- The US remains 'moving in the right direction' on fossil-fuel support, with only a 34% increase over 2018-2022. As a result, it had the lowest per-capita total out of the G-20, excluding the EU and African Union. The country also cut coal-power capacity by 21% over 2019-2023.
- There is no federal carbon price, but the US has three regional markets covering 8% of national emissions – California (which is linked with Quebec's market), the Regional Greenhouse Gas Initiative (RGGI) and Washington. Oregon's scheme is suspended but scheduled to come into force in 2025.
- The US has therefore had an average carbon price of $14/t in the last three months (weighted by the greenhouse gas output covered by each scheme). This is well below the $63-127/t range needed for a 2C pathway but a 59% rise from the level in the COP28 edition of this report.
- This price growth was largely driven by RGGI, which is undergoing a review to align with a net-zero goal. This could well require a tighter emissions cap. California also saw a modest price increase, though this was muted by a lack of policy clarity amid ongoing reforms.
- In the largest carbon market in the US, California, the uptake of clean technologies will be aided by anticipated cost declines and policy incentives such as the IRA. But power and transport will contribute the most to emissions abatement by 2030, and as cheaper greener options are exhausted, this will put upward pressure on the carbon price toward the end of the decade.

Fossil-fuel support and coal power

Total (2018-2022)	**$59 billion**
Share spent on coal (2022)	**8%**
Share targeted at producers and utilities (2022)	**42%**

By technology

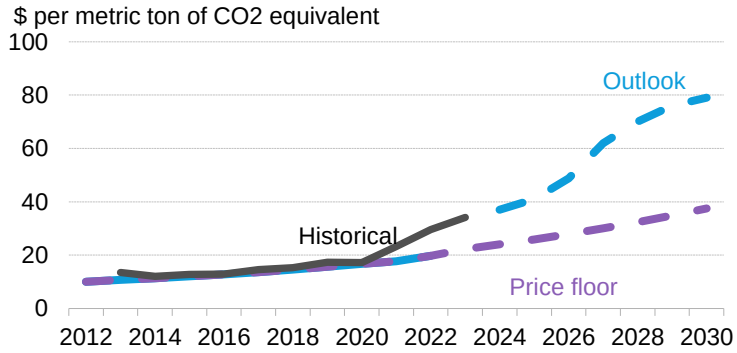


Source: Organisation for Economic Co-Operation and Development, International Energy Agency, Oil Change International, International Institute for Sustainable Development, BloombergNEF.

Carbon pricing

Economy-wide carbon price	✖
Economy-wide emissions covered by carbon price	**8%**
Average carbon price over three months to September 2024	**$9 per metric ton**

California emissions allowance price outlook



Source: BloombergNEF, California-Quebec Carbon Market Outlook 2024: Deciding Set (clients - web | terminal)

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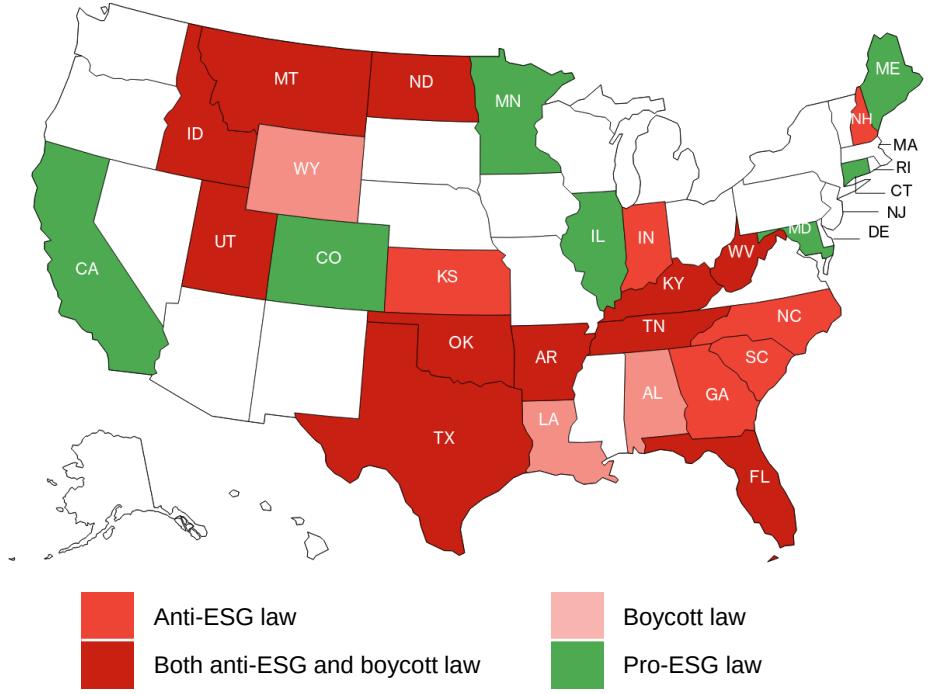
…US (continued)

- The US Securities and Exchange Commission (SEC) adopted its long-awaited "Rules to Enhance and Standardize Climate-Related Disclosures for Investors" in March 2024. These target public companies registered with the SEC, including large financial institutions. The final rules require registrants to disclose, for instance, the climate-related risks impacting organizations, mitigation and adaptation strategies, tools such as transition plans, and information about climate-related targets. However, the rule is facing lawsuits, with some arguing the SEC has overreached its remit and others claiming the Commission is failing investors by not requiring Scope 3 implementation. The SEC has put the rules on hold to allow litigation to move faster.
- The Federal Reserve Board conducted a pilot climate scenario analysis exercise with six major US banks in 2023 – Bank of America, Citigroup, Goldman Sachs, JPMorgan Chase, Morgan Stanley and Wells Fargo. The results were published in May 2024 and will have no regulatory impact on the participants as it was only an exploratory assessment.
- In addition to federal policies, state-level measures are equally – if not more – important. However, not all of these subnational policies support the consideration of ESG factors and growth of the sustainable finance market. Some 20 states have anti-ESG laws, which prevent financial institutions or state asset owners from considering non-financial factors when making investment decisions. Alternatively, they have boycott laws, banning certain financial institutions from doing business in that state.
- However, some state-level authorities have pushed back against anti-ESG legislation: an Oklahoma judge permanently blocked the state's boycott law, while Texas' government has been sued. In addition, seven states have passed pro-ESG laws, which either promote broad sustainability and/or climate-related disclosure or require divestment from certain industries. California, for example, has a robust disclosure law that could affect 10,000 companies.
- The SEC proposed a rule in 2022 to increase the disclosure of sustainability factors by investment managers that advertise ESG funds. But this does not seem to have moved forward and is unlikely to do so in the near future given the legal action currently facing the SEC around the March 2024 rule.

Climate-risk policy	COP29	COP28
Generic ESG disclosure	✖	
Environmental taxonomy	✖	
Climate-risk disclosure for companies	✓	
Climate-risk disclosure for financials	✓	
Climate-risk stress test	✓ Pilot	

ESG laws by US state



Source: BloombergNEF, state legislatures. Note: Pro-ESG laws include divestment laws.

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African Union

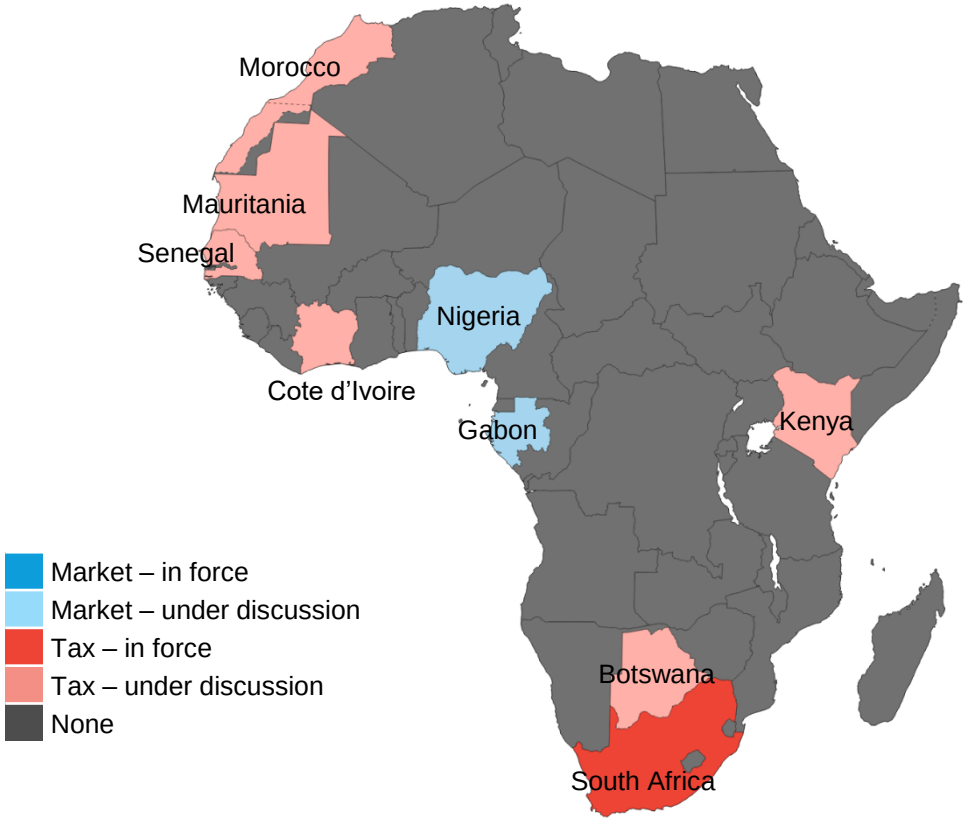
The African Union – a continental organization comprising 55 geographies – joined the G-20 as a permanent member in 2023. Infrastructure, energy and sustainable development are key program areas in the bloc's master plan, known as Agenda 2063. The organization has begun actively engaging in G-20 meetings, including October's Energy Transitions Ministerial Meeting in Brazil. These have highlighted a number of priority issues for the African Union, including the role of country-specific transition plans, access to capital for energy investments, technology transfer, the need for a just and equitable transition, sustainable aviation fuels and the roadmap for clean cooking.

- The African Union does not provide direct fossil-fuel support, nor does it have a mandate to implement a carbon price or sustainable finance regulations in the same way as the EU, for example. It therefore has no progress rating in this report.
- However, while multilateral financial institution the African Development Bank is not a formal body of the union, it has many member states in common. In 2022, the AfDB provided $165 million in fossil-fuel support – a 61% reduction on the previous year. The biggest share – at 85% - was allocated to the power system, specifically Rwanda's transmission network.
- The AfDB does not have a formal coal exclusion policy but it has not provided any coal finance since 2015. It has committed to end support for oil and gas exploration.
- The African Union has not introduced a carbon pricing policy, though the need to promote carbon markets was highlighted in the communique from the Brazil-Africa Energy Transitions Ministerial Dialogue in October 2024. This document also flagged the African Carbon Markets Initiative, which was launched at COP27 in 2022 and aims to scale high-integrity carbon markets in the region. The interoperability of credits across many geographies will be a challenge. The AfDB joined the initiative in June 2024.
- Some African countries are also unilaterally seeking to promote high-quality offset projects: in May 2024, Kenya published regulations outlining principles that a carbon project must fulfill.
- South Africa is the only member of the African Union with an operational carbon price. But eight more have plans (see map to the right).

Fossil-fuel support (African Development Bank)

Total (2018-2022)	**$161 billion**
Share spent on coal (2022)	**0.3%**
Share targeted at producers and utilities (2022)	**78%**

Carbon pricing in the African Union



Source: World Bank, governments, BloombergNEF

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European Union…

Annex I party

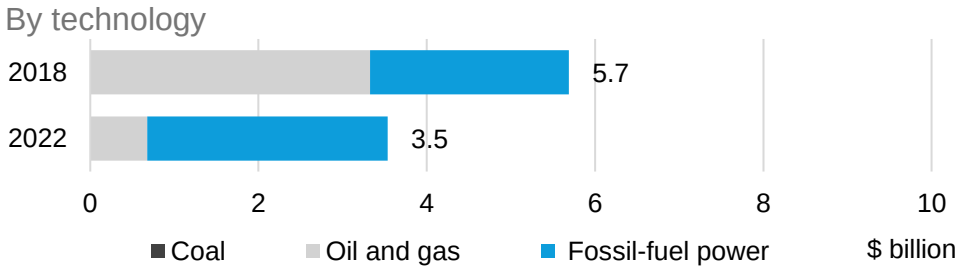
COP29 COP28

The EU is a global energy transition policy leader, with a history of implementing ambitious and stringent climate regulations. The implications of the 2024 elections have yet to become clear. In February, the European Commission recommended that the bloc's 2040 emissions-reduction target should be set at 90% below 1990 levels. This would require further EU and member state policy support.

- In total, the European Investment Bank (EIB) and European Bank for Reconstruction and Development (EBRD) provided $3.5 billion in fossil-fuel support in 2022. This marked a 30% reduction on the previous year.
- Both institutions have both coal- and oil-exclusion policies. As a result, 81% of their aggregate fossil-fuel support in 2022 was allocated to power projects, and the rest to gas. Italy was the biggest recipient, attracting 23% of the EIB and EBRD's aggregate support in 2022. Ukraine followed with 18%, Greece with 13% and Germany with 12%.
- The EU's flagship climate policy – the Emissions Trading System – is the world's largest carbon market by traded value and second-largest by volume of emissions covered. The average price in the last three months, $75/t, is 19% lower than in the COP28 edition of this report due to additional permit supply and record-low emissions. But it falls within the $63-127/t range for the 2030 price needed for a 2C pathway.
- Looking ahead, BNEF anticipates the price to dip to €65/t ($71) in 2024. However, it will likely to creep up as free allocation starts to be reduced and bullish reforms begin to bite. The stringent decline in the emissions cap will increase pressure on participants to decarbonize in the latter part of the decade. This could see the price hit €145/t in 2030, before rising to €177/t in 2035, provided current policies remain in place.
- In the meantime, reporting for EU ETS II, covering mainly road transport and buildings, began in 2024 and the program will kick off in full from 2027. In addition, the bloc's Carbon Border Adjustment Mechanism, or CBAM, is part way through its two-year transition period. From 2026, importers will need to buy and surrender certificates covering the associated emissions of their products. The fee could be at least partially waived if a carbon price has already been paid in the country where the goods were produced.

Fossil-fuel support (EIB and EBRD)

Total (2018-2022)	**$3.5 billion**
Share spent on coal (2022)	**0.0%**

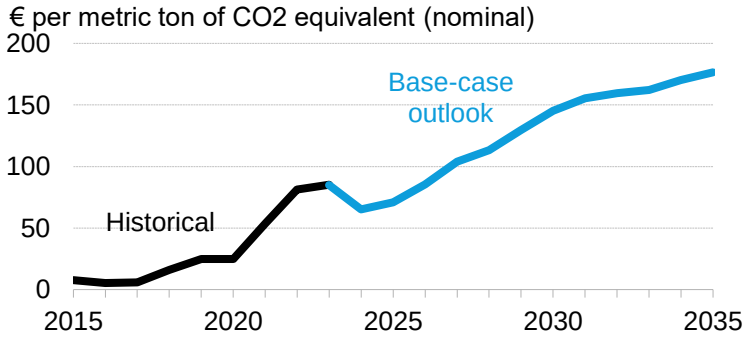


Source: Source: Organisation for Economic Co-Operation and Development, International Energy Agency, Oil Change International, International Institute for Sustainable Development, BloombergNEF.

Carbon pricing

Economy-wide carbon price	✓
Economy-wide emissions covered by carbon price	**49%**
Average carbon price over three months to September 2024	**$75 per metric ton**

EU emissions allowance price outlook



Source: BloombergNEF, 2H 2024 EU ETS Market Outlook: On Tenterhooks Over Supply (clients - web | terminal)

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…European Union (continued)

- The EU has developed one of the most ambitious climate-risk policy regimes in the world, targeting both financial institutions and corporations. It remains the first and only market to mandate reporting against its environmental taxonomy, with the first disclosures published in 2023.
- The EU also adopted the Corporate Sustainability Reporting Directive (CSRD) in 2023, with the first wave of reporting from 2025. The CSRD targets both EU and non–EU companies, as well as listed and non-listed firms. The European Sustainability Reporting Standards (ESRS) represent the disclosure framework firms must follow to comply with the CSRD. These standards mandate publication of more than 1,000 reporting points, both quantitative and qualitative. The EU has also adopted its Corporate Sustainability Due Diligence Directive which requires companies to demonstrate their actions to protect the environment and human rights.
- Climate-risk disclosure is also mandatory in the EU for financial institutions through the Sustainable Finance Disclosure Regulation (SFDR) and a rule passed by the European Banking Authority in 2022 that requires banks to provide information on how they are managing ESG risks and exposure to the EU green taxonomy and Paris Agreement-aligned activities.
- The European Central Bank (ECB) ran its first climate-risk stress test in 2022, revealing banks' strengths and vulnerabilities when it came to assessing climate-related risks. Since then, the ECB expects banks to consider climate risks as part of their risk assessment. It could issue its first-ever fines for banks for climate failures, afer notifying several institutions that they did not progress enough on climate risk assessments.
- However, with such a hefty policy agenda, the EU is at risk of overwhelming market participants – and has already been criticized on those grounds. This could lead to financial institutions and corporations complying with the new rules as a tick-boxing exercise rather than using it as an opportunity to revamp their business practices. Hence, the European Supervisory Authorities, as well as national authorities, are entering the consolidation phase: stop developing new rules and instead focus on supporting implementation and fine-tuning existing measures. The EU has already announced a revamp of SFDR to address some of the concerns and challenges associated with the current version.

Climate-risk policy	COP29	COP28
Generic ESG disclosure		✓
Environmental taxonomy		✓ **Mandatory**
Climate-risk disclosure for companies	✓ **Ratified pending enforcement**	
Climate-risk disclosure for financials		✓
Climate-risk stress test		✓

Comparison of sustainability reporting frameworks

Metric	International Sustainability Standards Board	European Sustainability Reporting Standards (for compliance with the EU Corporate Sustainability Reporting Directive)
Legal status	Voluntary	Mandatory
Content type	Free form – qualitative (similar to the Task Force on Climate-Related Financial Disclosures)	Standardized – quantitative and qualitative
Reported materiality	Single materiality	Double materiality
Timeline	Firms can start applying it from 2024	First set of reporting starts in 2025 on financial year 2024
Companies in scope	Any company since it is voluntary	50,000

The standard that performs better on that metric

The standard that performs worse on that metric

Source: BloombergNEF

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