Climate Transparency

MANAGING THE PHASE-OUT OF COAL
A COMPARISON OF ACTIONS IN G20 COUNTRIES

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This G20 coal brief is part of Climate Transparency's activities to enhance ambitious climate action in G20 countries. The partnership convenes 14 climate research organisations and NGOs from the majority of G20 countries. Its **Brown to Green Report** is the world's most comprehensive annual review of G20 climate action (mitigation, vulnerability, finance). A series of papers on coal phase-out in India, Indonesia and South Africa is available on Climate Transparency's website: **www.climate-transparency.org**

EXECUTIVE SUMMARY

According to the Intergovernmental Panel on Climate Change's (IPCC's) Special Report *Global Warming of 1.5°C*, a near-total reduction in the use of coal and other fossil fuels for electricity generation by 2050 is necessary if the temperature goal of the Paris Agreement is to be reached, with reductions of approximately two-thirds by 2030. The G20 countries are the biggest users and exporters of coal. Therefore, it is of particular importance that they embark on a process of phasing out coal.

Role of coal in G20 countries

- **About 30% of the primary energy supply of the G20 countries is derived from coal**. In many G20 countries coal is the largest contributor to greenhouse gas emissions. Within the G20, **South Africa (68%), China (64%), India (44%) and Australia (33%) have the highest coal share in domestic primary energy supply.** It is even higher in their electricity mix.
- **Absolute energy supply from coal in the G20 as a whole has been more or less constant between 2012 and 2017, with only a negligible decrease of 0.9%.** While the share of renewables in the G20 energy mix increased, economic development and rising energy demand have driven up coal use simultaneously in nine G20 countries, particularly in Asia. In the United Kingdom, Italy, the European Union, France, the United States and Canada absolute coal supply decreased rapidly between 2012 and 2017. Reasons for this decrease vary from country to country: air quality and climate policies, coal phase-out commitments, carbon pricing, reduced costs of renewables and abundant supply of natural gas have played a role.
- **Declining global coal demand will hit the largest G20 coal exporters the hardest – i.e. Australia (37% of global coal exports in 2017), Indonesia (16%), Russia (12%), the United States (9%) and South Africa (5%).** Export revenues and related taxes are often used to subsidise domestic coal power prices, establish infrastructure in coal regions and employ workers. Coal exporters thus need to anticipate the transition and plan to manage it.
- **Most G20 countries are currently constructing additional coal plants and/or are planning to do so, thus running the risk of stranded assets.** The biggest additions in new coal capacity are planned (or are already under construction) in China (199 GW), India (94 GW), Turkey (37 GW) and Indonesia (27 GW). Turkey is to roughly triple its existing coal capacity and Indonesia to is to double it.
- **G20 governments continue to provide at least US$39 billion of government support per year for the production of coal, including coal-fired power.** This is through fiscal support measures (tax breaks and budgetary support), public finance and investment by state-owned mining and utility companies. This is an underestimate as it is not possible to capture or quantify many measures and projects. The largest overseas financiers of coal are China, Japan and South Korea. China's public finance institutions have financed at least 27 GW of coal plants overseas (and in future will finance 24 GW), Japan's 20 GW (future finance: 4 GW) and South Korea's 10 GW (future finance: 3 GW).

G20 actions to phase out coal

- **Canada, France, Italy and the United Kingdom lead the G20 with Paris-compatible plans for phasing out coal before or by 2030.** In Germany, the Commission on Growth, Structural Change and Employment recommended phasing out coal by 2038 – a crucial achievement, but not aligned with the Paris Agreement. The G20 countries with the highest use of coal, highest coal exports or highest planned coal capacity are lacking any action to reduce coal production and use (Australia, Indonesia, Japan, South Korea, Turkey) and/or a long-term vision to phase out coal (India, China and South Africa).
- **In advancing renewable energies, several of the G20's big coal consumers or exporters – Australia, China, Indonesia, South Africa and Turkey – are rated low according to a rating of Climate Transparency's *Brown to Green Report 2018* based on the Allianz Climate & Energy Monitor.** The combined scoring looks at the level of ambition of renewable energy targets against a pathway towards full decarbonisation in 2050 and at whether there is an adequate policy environment, including support policies and factors ensuring that projects are realised. Germany and India are the only G20 countries heavily reliant on coal that receive a high rating.
- **In various G20 countries, the debate on just transition has begun to involve workers, trade unions, operators and the regions affected.** There are national or regional governmental initiatives to learn from in Australia, Canada, China, the European Union, France, Germany, Indonesia, South Africa and the United States.
- **The commitments of public finance institutions in G20 countries to end or restrict public spending for coal can be tracked via three categories:** 1) Germany and the United Kingdom (and formerly the United States) are the only two G20 countries that announced that they would restrict coal financing in their role as shareholders of multilateral development banks (over and above the 2013 commitments of the World Bank Group, European Investment Bank and European Bank for Reconstruction and Development to restrict coal-fired power finance); 2) national development agencies and banks in Brazil, France, Germany, the United States and the United Kingdom are divesting from coal; 3) export credit agencies in all G20 OECD countries, except for Mexico, follow the OECD restrictions on financing for coal-fired power plants – Canada's, France's and the United States' export credit agency have in addition developed their own export policies.

1. INTRODUCTION

Coal-fired electricity generation accounted for 30% of global carbon dioxide (CO_2) emissions in 2018. In fact, coal-fired power plants were the single largest contributor to the growth in emissions in that year.[1] Several G20 countries rely heavily on coal.

At the same time, a shift away from coal is attractive for countries for several reasons: it combats climate change, increases health benefits, reduces costs of electricity production through low input prices for renewable energies, reduces risks of stranded assets, offers energy independence and fiscal benefits, and provides energy access through alternatives such as off-grid renewables. While these and other factors have already triggered action in some G20 countries to reduce coal use, and will continue to do so, the ongoing transition is not happening fast enough to safeguard the climate. Reaching the Paris Agreement goals requires additional policy measures in G20 countries with high coal use and/or export.

It is in governments' interests to proactively shape this transition. This would allow them to maintain energy security and to provide alternatives for affected workers and regions.

This brief assesses the role of coal in G20 countries and reviews existing actions.

Section 2 compares the **role that coal plays in G20 countries**. It analyses the share of coal in primary energy supply and electricity generation, coal imports/exports, planned coal capacities and coal subsidies and financing overseas.

Section 3 compares the **policies that G20 countries have in place to phase out coal** including: 1) a rating on actions to reduce coal use or plans to phase out coal; 2) a rating on advancing renewable energies; 3) an overview of approaches for a socially and economically just transition; and 4) an overview of government commitments to end public spending on coal.

Six incentives to phase out coal:

- **Climate change:** Reaching the Paris Agreement goals of limiting global warming to well below 2°C with efforts to keep it to 1.5°C requires a rapid coal phase-out in G20 countries. According to the IPCC's Special Report *Global Warming of 1.5°C*, a near-total reduction in the use of coal and other fossil fuels for electricity generation by 2050 is necessary to limit global warming to 1.5°C, with reductions of approximately two-thirds by 2030.[2]
- **Health benefits:** Coal is a major – and is often the leading – contributor to air pollution. Although global and G20-level data is limited, estimates have found that coal burning is responsible for more than 800,000 premature deaths per year globally and many millions of cases of serious and minor illness.[3] This also has economic implications, e.g. increased healthcare costs and a higher number of lost working days.[4]
- **Costs:** Renewable energy has rapidly emerged as the lowest cost option of new power generation (without even taking into account the external costs of coal[i]) in almost all countries around the world, rendering coal increasingly unattractive economically. By 2025, electricity generation from new renewable energy infrastructure will be cheaper than from new coal infrastructure.[5] Regarding the flexibility of electricity systems, batteries are increasingly cost-effective (with a 79% decrease in costs since 2010) and are starting to compete with fossil fuel alternatives.[6]
- **Stranded assets risk:** Economic shifts and policy changes may turn coal-fired power plants into stranded assets – i.e. non-performing assets that rapidly lose value or become liabilities. This process has already started in some G20 countries.
- **Energy independence and fiscal benefits:** Reducing coal imports fosters energy independence, improves balance of payments and can reduce geopolitical tensions.
- **Energy access:** Off-grid renewables allow increased energy access in developing and emerging markets.

i Including the costs of air and water pollution, ecosystem degradation, damage to infrastructure, human injuries and loss of life etc.

2. ROLE OF COAL IN G20 COUNTRIES

i. South Africa, China, India and Australia have the highest share of coal in their energy supply; the United Kingdom, Italy, France, the European Union, the United States and Canada show a strong decrease in energy supply from coal

About 30% of the primary energy supply of the G20 countries is derived from coal. In 2017, South Africa (68%), China (64%), India (44%) and Australia (32%) had the highest share of coal in the energy mix, above the G20 average.[7] The share is even higher in terms of their electricity generation: in South Africa, 89% of electricity is generated from coal, in India 74%, in China 68% and in Australia 62%. Decarbonising the power sector is especially important as there is an increasing use of electricity in lighting, cooling, transport and production.

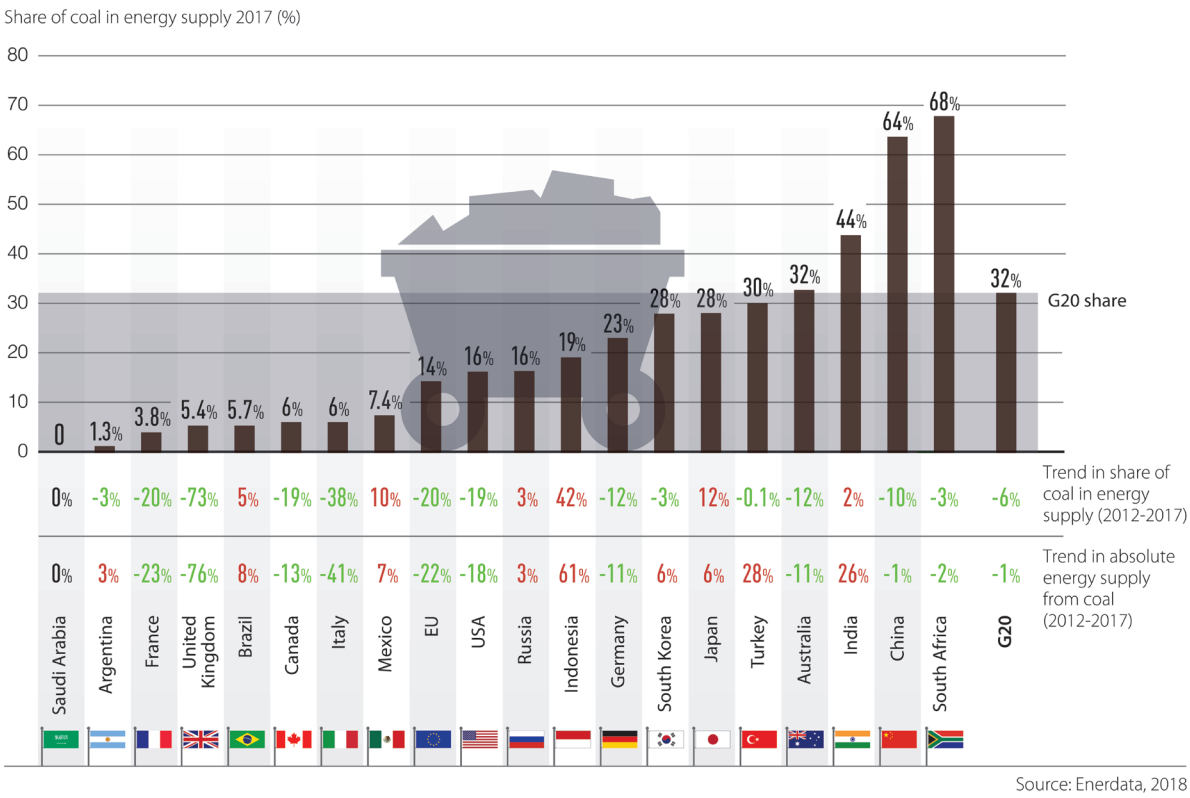
In absolute terms, China has the biggest energy supply from coal. The country accounts for nearly half of the world's coal consumption and developments in the coal sector in China have the potential to influence coal, gas and electricity prices around the world.[8]

Absolute energy supply from coal in the G20 as a whole has been more or less constant between 2012 and 2017, with only a negligible decrease of 0.9%. In nine G20 countries, the absolute energy supply from coal increased between 2012 and 2017, mostly mirroring rising economic development in these countries and an overall increase in energy consumption: Indonesia (+61%), India (+26%), Turkey (+28%), Brazil (+8%), Mexico (+7%), South Korea (+6%), Japan (+6%), Argentina (+3%) and Russia (+3%).

Eleven G20 members including the European Union (EU) reduced absolute energy supply from coal. The highest reductions between 2012 and 2017 are observed in the United Kingdom (-76%), Italy (-41%), France (-23%), the EU (-22%), the United States (-18%) and Canada (-13%). This partly reflects a declining local energy demand, but also more stringent regulation and market mechanisms in places where coal is no longer competitive.

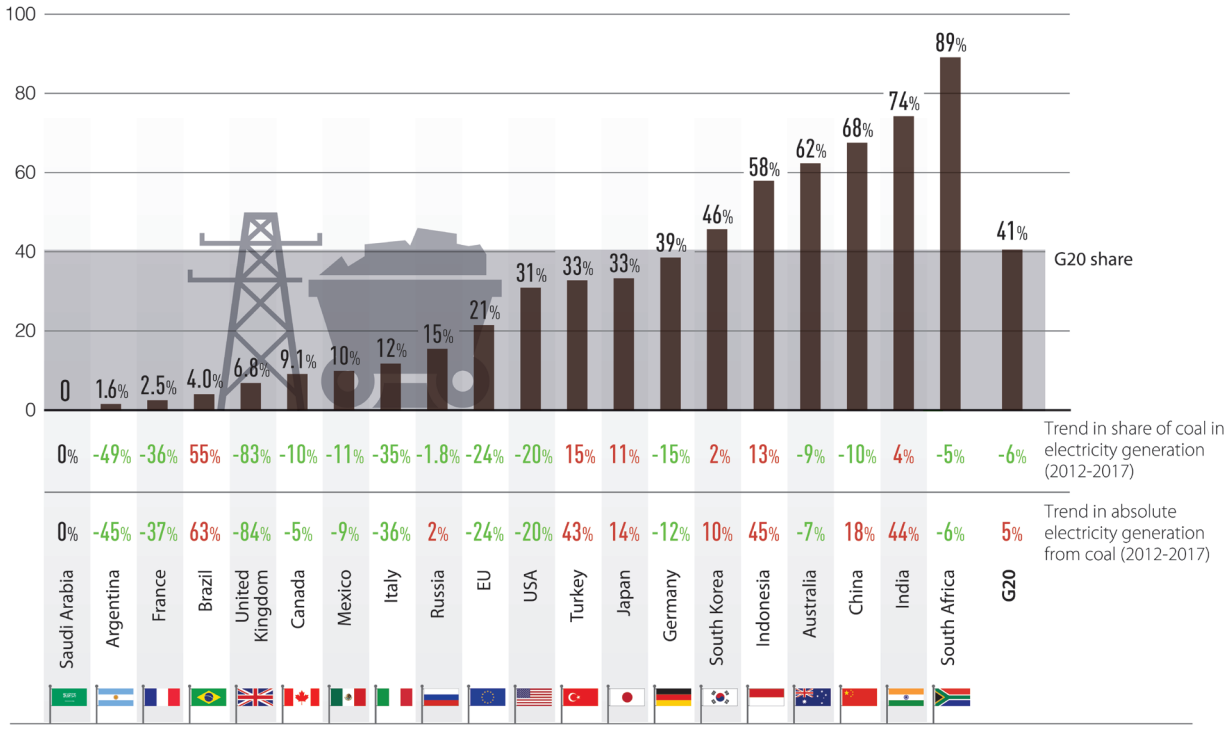
- Pollution laws, carbon taxes and a commitment in 2015 to phase out coal by 2025 led to the closure of ageing coal plants in the **United Kingdom**, with three major plants shut down in 2016 alone. Energy efficiency reduced demand and the gap left by the coal plants is now met by nuclear, gas and renewables. The government incentivised the growth of wind, solar and biomass, which now generate a quarter of the United Kingdom's power.[9] In 2017, the United Kingdom, together with the Canadian government, established the Powering Past Coal Alliance (PPCA) – a global alliance of national and sub-national governments, businesses and organisations working together to end unabated coal use and financing for it.
- **Italy** has always had a comparatively low level of coal in its energy supply (current installed capacity: 9 GW) and has never been a major producer of coal. It mostly relies on imports. Coal imports, however, decreased between 2005 and 2016 due to energy efficiency measures, the expansion of renewables and the 2008 economic and financial crisis, which heavily affected electricity demand and steel production. Italy was struggling with a dramatic overcapacity of electricity generation, putting pressure on electricity prices and the profitability of fossil fuel power stations. In 2015, the energy market leader ENEL announced its intention to become carbon neutral by 2050 and to accelerate investments in renewable energy. In 2017, the Italian government announced a coal phase-out by 2025.[10]
- In **France**, EU legislation on air pollution regulations led to the closure of seven coal-fired units in 2015 totalling 1,758 MW of capacity. The country invested early in nuclear power.[11]
- In the **United States**, despite the support from the federal government, the coal industry is declining in the face of lower-cost and abundant natural gas and renewable energy, as well as regulations designed to reduce emissions and protect public health (e.g. requirements to install pollution controls). This has led several coal companies to declare bankruptcy, including four industry giants between 2015 and 2018.[12]
- In **Canada**, a planned phase-out of coal-fired power plants, particularly in the state of Ontario, has led to decreasing coal consumption. Ontario committed in 2003 to phase out coal by 2014. Civil society campaigns on the negative health impacts of coal made it a key issue in the 2003 provincial elections. The new government absorbed the cost of the phase-out and combined it with an overall reform of the electricity sector and with promoting renewable energy. In 2018, the federal government of Canada amended its regulations to accelerate a coal phase-out by 2030 for the whole country. This followed the Canadian government's leadership in establishing the Powering Past Coal Alliance in November 2017, together with the UK government.

Share of coal in total primary energy supply (2017)



Source: Enerdata, 2018

Share of coal in electricity generation (2017)



Source: Enerdata, 2018

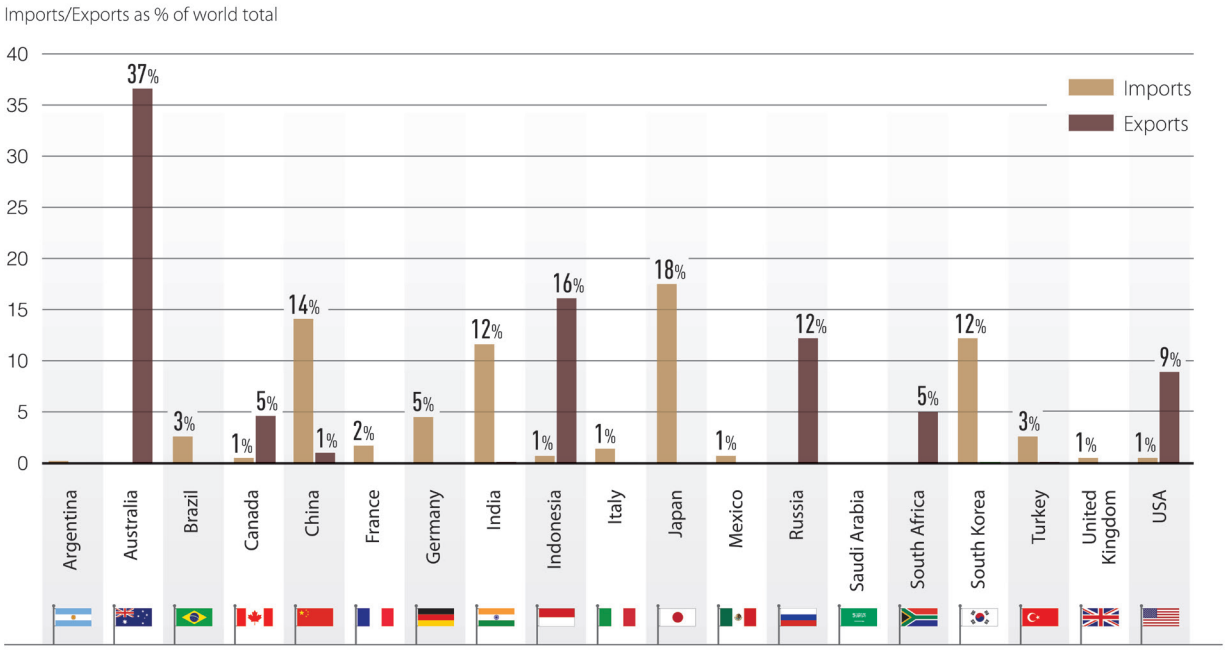
ii. Declining global coal demand will hit the largest G20 coal exporters hardest – Australia, Indonesia, Russia, the United States and South Africa

In 2017, the G20 countries accounted for 85% of global coal exports and 72% of global coal imports. The biggest coal exporters in the G20 were Australia (37% of global coal exports), Indonesia (16%), Russia (12%), the United States (9%) and South Africa (5%). They supply, among others, the biggest coal importers in the G20 – Japan which accounts for 18% of global coal imports, China (14%), India (12%) and South Korea (12%).[13] Russia's main coal market continues to be Europe but might soon be surpassed by the Asian economies.[14]

However, these major exporters face a declining global coal demand. The International Energy Agency (IEA) World Energy Outlook stated in 2018 that global coal use peaked in 2014. It is likely to remain stable until 2023[15] and the IEA forecasts that it will start declining afterwards.[16,17] Indeed, there are signs of reduced demand from the G20 biggest coal importers. Coal demand in China is forecasted to decline from the early 2020s, as result of saturated heavy industry growth, the country's clean air measures and commitment to investments in renewables.[18] The IEA also forecasted that India's thermal coal import[ii] will decrease, as the government of India released several policies to reduce the dependence on imports.[19] Both China and India, despite still having large planned coal pipelines, have both seen a reduction in coal fleet load factors[iii] in recent years. At the beginning of 2019, Japanese banks and trading houses were backing away from plans to build power plants and were divesting from Australian mines (Japan is Australia's largest export customer). Meanwhile major Japanese investors are seeking to back large-scale renewables projects across Asia.[20] If countries are continuously increasing the ambition of their nationally determined contributions (NDCs) under the Paris Agreement, coal demand will fall even faster.[21]

Decreasing demand and the likely decreasing trade will affect exporting economies. Export revenues and related taxes – often used currently to subsidise domestic coal power prices, establish infrastructure in coal regions and employ workers – will fall. Coal exporters thus need to anticipate and manage the transition away from coal.

Coal imports and exports as percentage of world total (2017)



Source: WTEx, 2019

ii Also known as steam coal which is burnt to generate electricity via steam

iii If the load factor is 100%, a coal plant operates at its maximum capacity for every hour of the year. Due to routine maintenance, fuel availability problems and variations in demand, actual load factors are lower than 100%.

iii. China, India, Turkey and Indonesia have highest planned coal capacities

Most G20 countries are currently building more coal power plants or are planning to do so. The exceptions are: Canada, France, the United Kingdom and Italy, which have all decided to abandon coal before 2030; Australia and the United States, where coal is not competitive in their markets; and Saudi Arabia, which has not used coal and is also not planning to build any coal plants. According to the Global Coal Plant Tracker, Mexico also belongs to this group of countries. However, its National Electricity Plan 2018–2032 includes 129 MW of additional capacity planned until 2020,[22] despite the fact that Mexico joined the Powering Past Coal Alliance at COP23. Mexico's newly elected president also announced the purchase of 400,000 tons of coal from producers in the Carbonífera Carboniferous Region in early 2019.[23]

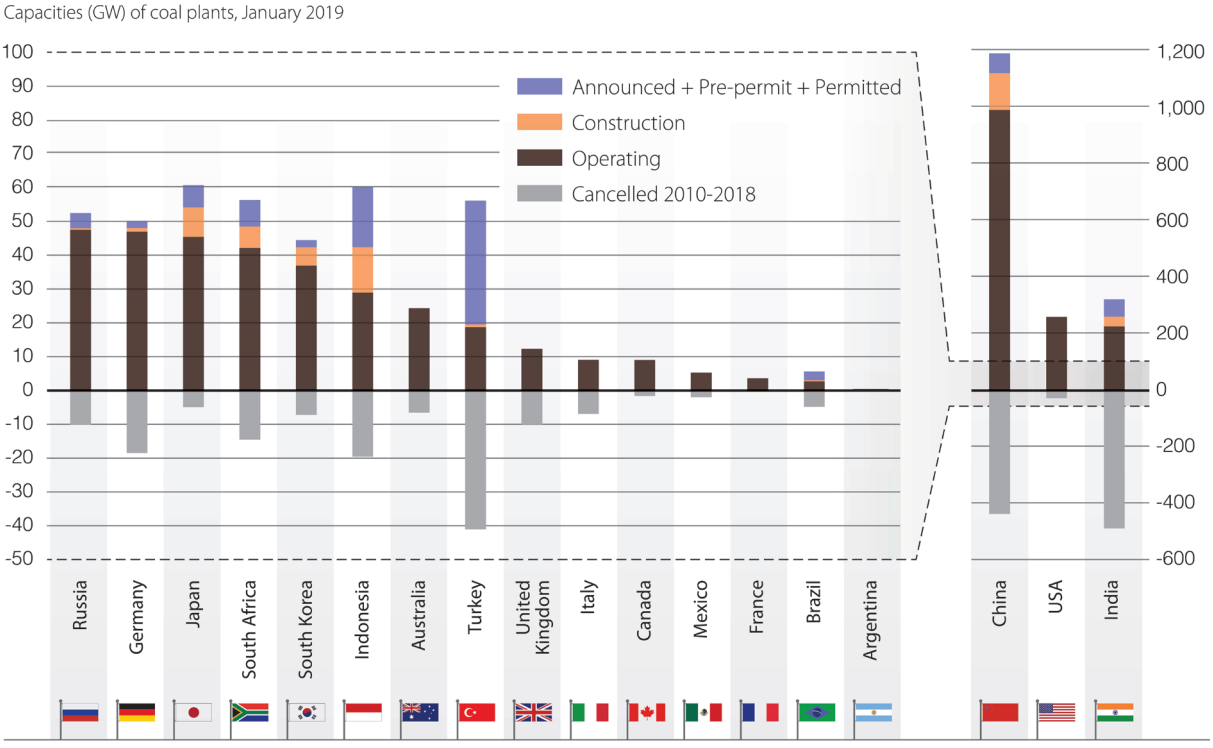
The biggest additions in coal capacity are planned (including announced, pre-permitted and permitted capacities) or are already under construction in China (199 GW), India (94 GW), Turkey (37 GW) and Indonesia (27 GW). Turkey is due to roughly triple its existing coal capacity and Indonesia to double its capacity.[24]

Due to the long lifetime of coal plants, decisions taken today will lock countries into a high-carbon energy pathway. It is critical that the G20 countries instead align their infrastructure planning and their long-term strategies with 1.5°C pathways.

Many of the plants have been planned based on old regulations and outdated energy demand projections. This creates a risk of stranded assets,[iv] especially if countries tighten climate policies. For example, in India, 40 GW of coal-fired power capacity that has been commissioned or is under construction is already "stressed",[v] with potential systemic financial risks for the government and the financial system.[25] Similarly, China is struggling with overcapacity in electricity generation and low utilisation rates of coal-fired plants. If China implements its national climate targets (NDCs), there could be stranded assets of US$90.4 billion from coal power plants by 2030.[26] Finally, particularly in exporting countries, continued investment in export-related infrastructure risks creating costly stranded assets, for example Australia's Carmichael mine, or plans in South Africa to expand rail capacity for exports.

In the best-case scenario, some plants may never be built if governments tighten regulation and revise energy demand projections. Indeed, the pipeline of new projects globally has fallen substantially in recent years. India's pipeline has fallen the most, with 490 GW of planned coal capacity having been cancelled between 2010 and 2018 (while currently around 94 GW is planned or under construction).

Capacities of coal plants (January 2019)



Source: CoalSwarm, Global Coal Plant Tracker, 2019

iv The loss of value, revenue or return on investment in coal production assets.

v Stressed assets result from overdue principal/interest payments (whether in part or whole) of between 1 and 90 days (Reserve Bank of India, 2018).

iv. G20 governments continue to provide at least US$39 billion of government support per year for the production of coal, including coal-fired power

G20 governments subsidise the production of coal and coal-fired power through fiscal support measures (via governments' budgetary contributions and tax breaks), public finance and investments of state-owned enterprises, to the value of at least US$39 billion per year (2013/14 average).[vi,27] However, it is important to note that this is an underestimate, due to the lack of transparency. Many support measures are unable to be identified or even when they are identified, the resulting support cannot be quantified. Similarly, there is limited transparency around public finance institutions' projects and investments by SOEs.

The fiscal support measures captured include tax breaks for coal mining (including for use of equipment and resources), tax breaks for use of coal-fired power in industry and budgetary support for coal-fired power production including for capacity mechanisms[vii] and research and development (R&D) in coal-fired power production. Measures also include support for the transition away from coal mining, such as for the rehabilitation of mining sites or support of workers and communities.

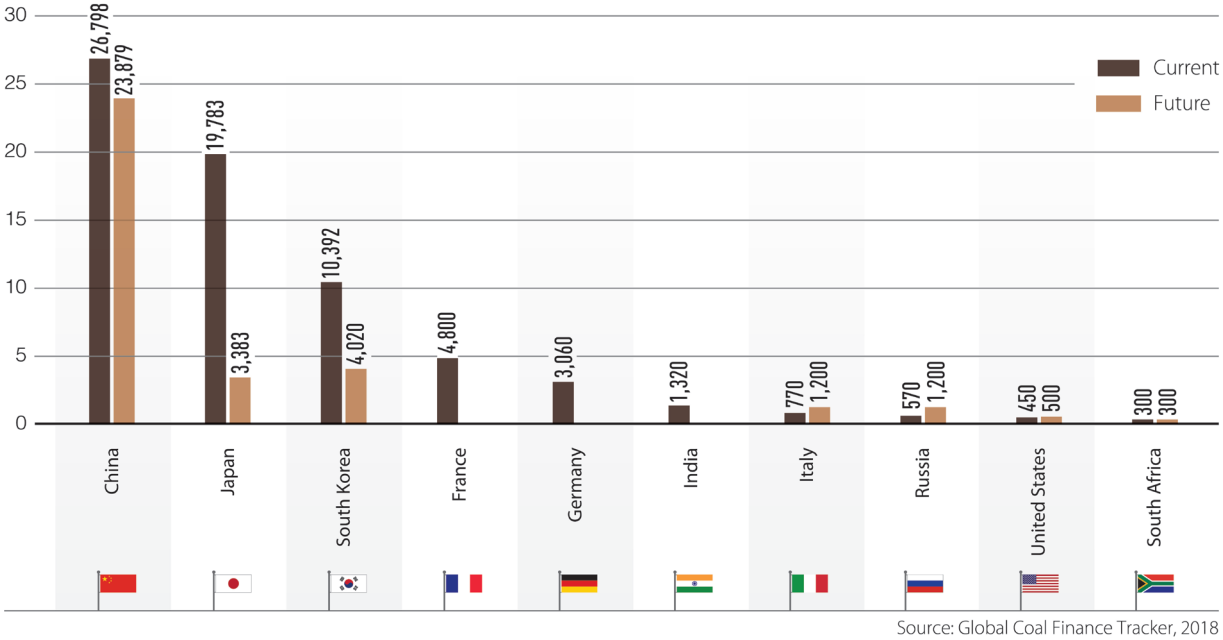
In addition to subsidies through fiscal support measures, G20 countries also support coal mining and coal-fired power projects, both at home and abroad, through their public finance institutions. Some of these institutions continue to finance coal abroad, in spite of pledges to end coal domestically.

The biggest former (up to 2018) and future G20 overseas financiers are China, Japan and South Korea.[viii] China's public finance institutions have financed 27 GW of coal plants overseas (and in future will finance 24 GW), Japan's have financed 20 GW (future finance: 3 GW) and South Korea's 10 GW (future finance: 4 GW).[28]

Finally, numerous G20 countries have majority state-owned coal mining and utility companies. Even though many of these are run commercially, where these companies invest will inevitably influence the future and direction of policy on coal in their countries (and vice versa). Therefore, it is crucial to the phase-out of coal to challenge the activities of these companies, and the role they could play in a just transition.

Financing the capacity of coal-fired power plants overseas

Financing coal plants' capacity (GW) overseas, 2018



Source: Global Coal Finance Tracker, 2018

vi This data will be updated in Overseas Development Institute (ODI) et al. (forthcoming), 'G20 government subsidies to coal' to be published in June 2019.

vii Capacity mechanism: A mechanism that rewards market participants for available capacity, on top of revenues generated by selling electricity in the wholesale market. These payments are meant to ensure security of supply by incentivising sufficient investment in new capacity or preventing the retirement of existing capacity. But in their current design, many of these risk undermining parallel energy and climate objectives by locking in dependence on high-carbon power generation assets (van der Burg and Whitley, 2016).

viii The data includes only foreign flows of financing for coal that come from public finance institutions such as export credit agencies and development banks.

Summary: Role of coal in main G20 coal users and exporters

Australia	■ Coal capacity installed: 24 GW; coal capacity planned and under construction: 0 GW ■ 4th largest coal share in energy supply, above G20 average, with decreasing trend in absolute energy supply from coal (-11%, 2012–2017) ■ Biggest global coal exporter (37% of global coal exports)
China	■ Coal capacity installed: 973 GW; coal capacity planned and under construction: 199 GW ■ 2nd largest coal share in energy supply, above G20 average, with decreasing trend in absolute energy supply from coal (-1%, 2012–2017) ■ 2nd biggest coal importer in G20 (14% of global coal imports) ■ Biggest international funder: China's public finance institutions have financed at least 27 GW of coal plants overseas, and may finance at least 24 GW in the future
Germany	■ Coal capacity installed: 47 GW; coal capacity planned and under construction: 3 GW ■ Share of coal in electricity generation (39%), slightly below G20 average, with a decreasing trend in absolute numbers (-12%, 2012–2017) ■ Biggest producer of lignite coal and biggest importer of hard coal in EU (5% of global coal imports)
India	■ Coal capacity installed: 221 GW; coal capacity planned and under construction: 94 GW ■ 2nd largest coal share in electricity generation (74%), above G20 average, with increasing trend in absolute electricity supply from coal (+44%, 2012–2017), although the share has decreased due to expansion of renewable energies ■ 3rd biggest coal importer in G20 (12% of global coal imports)
Indonesia	■ Coal capacity installed: 29 GW; coal capacity planned and under construction: 27 GW ■ 5th largest share of coal in electricity generation, above G20 average, with strong increase of 45% of total electricity supply from coal (2012–2017) ■ 2nd biggest global coal exporter (16% of global coal exports)
Japan	■ Coal capacity installed: 46 GW; coal capacity planned and under construction: 15 GW ■ 6th largest share of coal in energy supply, below G20 average, but with increasing trend in absolute numbers (+6%, 2012–2017) ■ Biggest global coal importer (18% of global coal imports) ■ 2nd biggest international funder: Japan's public financial institutions have financed at least 20 GW of coal plants overseas, and may finance at least 3 GW in the future
Russia	■ Coal capacity installed: 48 GW; coal capacity planned and under construction: 5 GW ■ Share of coal in energy supply and electricity generation below G20 average, slight increase in absolute energy supply from coal (+3%, 2012–2017) and increase in electricity generation (2%, 2012–2017) ■ 3rd biggest coal exporter in G20 (12% of global coal exports)
South Africa	■ Coal capacity installed: 42 GW; coal capacity planned and under construction: 14 GW ■ Largest share of coal in both energy supply and electricity generation (89%) in the G20, although with slightly decreasing trend (-6%, 2012–2017) ■ 5th biggest coal exporter in the G20 (5% of global coal exports)

South Korea	■ Coal capacity installed: 37 GW; coal capacity planned and under construction: 8 GW ■ 6th largest share of coal in electricity generation (46%), above G20 average, with increasing trend (+10%, 2012–2017) ■ 3rd biggest international funder: South Korea's public finance institutions have financed at least 10 GW of coal plants overseas, and may finance at least 4 GW more in the future
Turkey	■ Coal capacity installed: 19 GW; coal capacity planned and under construction: 37 GW (highest increase: Turkey triples its capacity) ■ 5th largest share of coal in energy supply (30%), slightly below G20 average, but with increasing trend in absolute numbers (+28%, 2012–2017) ■ Coal importer (3% of global coal imports)
United Kingdom	■ Coal capacity installed: 12 GW; coal capacity planned and under construction: 0 GW ■ First country to mainly use fossil fuels, large decline in absolute energy supply from coal (-76%, 2012–2017) due to pollution laws, carbon taxes and a commitment to phase out coal by 2025 ■ Neither a significant coal exporter nor importer
United States	■ Coal capacity installed: 259 GW; coal capacity planned and under construction: 0 GW ■ Large decline in absolute energy supply from coal (-18%, 2012–2017) due to lower-cost and abundant natural gas and renewable energy as well as regulations designed to reduce emissions and protect public health ■ 4th biggest coal exporter in G20 (9% of global coal exports)

3. POLICIES: CANADA, FRANCE, ITALY AND THE UNITED KINGDOM LEAD THE G20 COAL PHASE-OUT PLANS. BIGGEST COAL USERS AND EXPORTERS LACK SUFFICIENT ACTION.

This section compares G20 climate action to phase out coal. It draws on the policy ratings from the *Brown to Green Report* on: 1) decisions to reduce coal use or plans to phase out coal; and 2) advancing renewable energies. It looks further at 3) approaches for a socially and economically just transition and 4) governments' commitments to end public spending for coal (*for 15 categories see detailed information per country in table on page 15*).

i. Decision to reduce or phase out coal use

A government's decision to phase out coal sends strong signals to investors and thus prevents the lock-in of fossil fuel-based infrastructure. According to the IPCC Special Report, a near-total reduction in the use of coal and other fossil fuels for electricity generation by 2050 is necessary to limit global warming to 1.5°C, with reductions of approximately two-thirds by 2030. The Powering Past Coal Alliance recognises that the EU and OECD countries must phase out unabated coal-fired electricity generation no later than 2030, with the rest of the world no later than 2050.[29]

Canada, France, Italy and the United Kingdom lead the G20 with Paris-compatible plans for phasing out coal for power by or even before 2030. Germany is currently discussing phasing out coal by 2038, which would be a crucial achievement, but is not aligned with a 1.5°C pathway. The G20 countries with the highest use of coal, highest coal exports or most coal capacity in the pipeline are lacking either any action to reduce coal (Australia, Indonesia, Japan, South Korea, Turkey) and/or a long-term vision to phase out coal (India, China and South Africa).[30]

ii. Advancing renewable energies

The speed of the transition away from coal to a low-carbon, environmentally friendly alternative in the power sector depends on the speed, costs and scale for advancing renewable energies. According to the rating of the *Brown to Green Report 2018*, based on the Allianz Climate & Energy Monitor[31], governments can do the following to promote renewable energies:

1) **Define ambitious renewable energy targets:** In order to provide planning stability for investors, countries require long-term renewable energy targets compatible with the Paris Agreement goals. The Allianz Monitor 2018 rates countries' existing renewable energy generation targets against a path towards full decarbonisation by 2050 (Allianz Monitor 2018, Category 1.2) In order to achieve a large-scale decarbonisation by 2050 to limit global warming below 1.5°C, countries need to become 100% renewable – low-carbon alternatives such as nuclear, hydro and carbon capture and storage (CCS) have negative social and environmental impacts.

2) **Support renewable energy targets through effective policy environments:** To advance renewable energies and create enabling conditions for investors, an adequate

G20 RATING: COAL PHASE-OUT

	Low	Medium	High	Frontrunner
COAL PHASE-OUT	No consideration or policy in place for phasing out coal	Significant action to reduce coal use implemented or coal phase-out under consideration	Coal phase-out decided and under implementation	Coal phase-out date compatible with 1.5°C
	Australia Indonesia Japan Mexico Russia South Korea Turkey United States	Brazil China European Union (28) Germany India South Africa		Canada France Italy United Kingdom

Source: update of Climate Transparency, 2018

policy environment is required. The Allianz Monitor 2018 rates countries based on: a) their level of direct support policies and financial incentives to promote renewable energy deployment, for example, feed-in tariffs, auctions and renewable energy portfolio standards; as well as b) the factors ensuring renewable energy projects are realised, such as mid-term certainty of policy signals, streamlined administrative procedures for permitting, factors ensuring renewable energy plants are set up on time (e.g. pre-defined realization period, pre-qualification requirements and effective penalties if timelines are not met) and factors ensuring that electricity produced is used (e.g. presence of priority dispatch for renewables and compensation in case of curtailment) (Allianz Monitor 2018, Category 2).

Several of the G20's big coal consumers or exporters – Australia, China, Indonesia, South Africa and Turkey – are rated only low or medium in terms of advancing renewable energies. They lack ambitious renewable energy targets and an adequate policy environment. Germany and India are the only G20 countries that rely heavily on coal whose renewable energy targets are rated ambitious and policy environments adequate. However, both still face challenges to integrate renewables into their power systems and need to extend the grid and increase storage capacities. No G20 country is aiming for 100% renewables in the power sector by 2050.

iii. Developing just transition approaches

Often, a coal phase-out requires broad political and societal support. It is important that it is considered just for those potentially adversely affected by it: workers, communities, enterprises, and lower-income households. What is therefore needed is a just transition of the workforce through compensation and retraining for those people who lose their jobs, and national policies to support the development of green and decent jobs.[32] Moreover, phasing out subsidies to coal and coal-fired power and establishing carbon pricing can lead to higher energy prices. To prevent social repercussions, subsidy reforms and carbon pricing can be complemented by compensation for lower-income households. Revenues generated from carbon pricing and from phasing out fossil fuel subsidies can support public goods such as energy access, health, education and sustainable infrastructure.[33]

In various G20 countries, the debate on just transition has started with the engagement of trade unions and the regions affected. There are national or regional government initiatives to learn from in Australia, Canada, China, the EU, France, Germany, Indonesia, South Africa and the United States. For example, Germany's multi-stakeholder Commission on Growth, Structural Change and Employment recommended in January 2019 that €40 billion be provided to coal-intensive states until 2038, to compensate and retrain coal workers and reduce the financial burden on electricity consumers, industry and utility companies. Similarly, Canada's Just Transition Task Force published its report in March 2019 with recommendations for a just transition plan for coal workers and communities.

G20 RATING: ADVANCING RENEWABLE ENERGIES

	Low	Medium	High	Frontrunner (1.5°C compatible)
RENEWABLE ENERGY	Ambition of targets and adequacy of policy environment (Allianz Monitor 2018, Category 1.2 and 2) Score: average 0-25	Ambition of targets and adequacy of policy environment (Allianz Monitor 2018, Category 1.2 and 2) Score: average 26-60	Ambition of targets and adequacy of policy environment (Allianz Monitor 2018, Category 1.2 and 2) Score: average 61-100	Ambition of targets and adequacy of policy environment (Allianz Monitor 2018, Category 1.2 and 2) Score: 61-100 plus 100% renewables in the power sector by 2050 in place
	Australia* Canada Indonesia Saudi Arabia United Kingdom* United States	China Italy Japan Mexico Russia* South Africa Turkey	Argentina Brazil France Germany India	

**These countries are among others rated low because they do not have a renewable energy target beyond 2020.*
Source: Climate Transparency, 2018; based on Allianz Monitor, 2018

iv. Committing to restrict public spending for coal

Phasing out coal also requires public finance institutions in G20 countries to end finance for coal mining and coal-fired power. A shift from fossil fuel-based to low-carbon, climate-resilient spending by these institutions is also an important signal for private financiers to align their investments.

An encouraging development in recent years has been the commitments from some multilateral development banks and nationally owned development banks to mainstream climate considerations into their operations and lending decisions.[34] Pressure from civil society organisations, including the Big Shift campaign which targets public finance institutions and builds on wider campaigns such as End Coal which aims to end coal in Europe, has played a big role in this development.[35]

The commitments of public finance institutions in G20 countries to end or restrict public spending for coal can be tracked through three categories:[36]

1. **Multilateral development banks (MDBs):** MDBs have a development mandate and are backed by large sums of public money from member governments. This allows them to provide finance to governments and the private sector at lower interest rates and better terms than commercial lenders.

   Germany and the United Kingdom (and formerly the United States) are the only two G20 countries that announced restrictions on coal financing in their role as shareholders of MDBs (over and above the 2013 commitments of the World Bank Group, European Investment Bank and European Bank for Reconstruction and Development to restrict coal-fired power finance).[37]

2. **National development agencies (NDAs) and development banks (NDBs):** These development finance institutions (DFIs) have development in their mandate, often providing support to the private sector to encourage investment. They can finance coal domestically and abroad.

   In 2013, the United States developed a policy to end public financing by DFIs for new coal-fired power plants overseas, except in rare circumstances; the United Kingdom and some non-G20 European countries joined in this. Germany's Development Bank (KfW), the Brazilian Development Bank (BNDES) and France's Development Agency (AFD) have guidelines restricting coal finance with the most ambitious being the AFD which aligned its entire lending with the Paris Agreement in 2017.[38]

3. **National/domestic export credit agencies (ECAs):** ECAs, usually an official or quasi-official branch of government, provide government-backed loans, credits and guarantees for the international operations of corporations from their home country. They back public finance for risky projects, including coal mines and power plants.

   In a policy in 2015 covering 35 export credit agencies in OECD countries, the OECD determined categories of coal plants ineligible for export credits. As of January 2019, these guidelines were extended to allow only financing for large coal-fired power plants with "ultra-supercritical technology",[xi] or with an emissions intensity of below 750g of carbon dioxide per kilowatt hour (CO_2/kWh), which excludes for example every operating coal-fired power plant in Australia and India. The G20 OECD countries whose export credit agencies are currently participants in this arrangement are Australia, Canada, certain European Union countries (France, Germany, Italy and the United Kingdom), Japan, Korea, Turkey and the United States. Mexico is the only G20 OECD country that is not involved.[39]

   ECAs in Canada, France and the United States have their own export policies that go beyond the OECD regulations. For example, Export Development Canada stated in its new climate change policy: "No new financing for coal-fired power plants, thermal coal mines or dedicated thermal coal-related infrastructure – regardless of geographic location".[40]

   Despite these restrictions the highest levels of ECA coal financing comes from Japan, China, South Korea, Germany, France and India.

ix Very efficient technologies

Policies supporting coal phase-out in G20 countries

Rating:
- low
- medium
- high
- frontrunner

	Coal phase-out commitments	Renewable energy policies	Just transition approaches	Commitments to restrict public finance to coal and coal-fired power
Argentina	**Rating: not applicable**	**Rating: high**	**No government action**	**No commitments to restrict coal financing**
	The share of coal in Argentina's energy mix is negligible.	The government aims to increase the share of renewables in the electricity mix from 2% to 20% by 2025. It has awarded projects of approximately 5,000 MW, half the power required to reach the 2025 target, although finance for initial investment poses a challenge. In 2017, the government published a 2030 Energy and Climate Change action plan.	Effective implementation of just transition policies in Argentina is impeded by a lack of assessment of social and job vulnerabilities, as well as proper inclusion of unions in climate change policy development, making it difficult to include just transition in government agendas. Therefore, despite the participation of civil society (including labour organisations) on panel discussions promoted by government agencies within the framework of adaptation and mitigation policies (e.g. the expanded Climate Cabinet), the concept of just transition loses strength or is distorted. Neither specific decisions nor methodologies have been discussed.	MDB level National development agencies and banks Domestic export credit agencies Export credit restriction in OECD
Australia	**Rating: low**	**Rating: low**	**Some government action**	**No commitments to restrict coal financing**
	There is currently no policy to accelerate the phase-out of coal in Australia. At the same time a number of older coal-fired power plants have been shut down and there are plans to close more stations as they come to the end of their planned lifetimes. Nine coal power stations have been retired in the past five years, including Hazelwood, a 1,600-MW lignite coal-fired plant. In addition, new coal power generation capacity is now widely seen as unviable by the private sector. This illustrates the economic challenges that coal plants face in Australia against continuously decreasing costs of renewables and storage.	A combination of global trends and support from electricity market participants are helping to drive the cost competitiveness of renewables in Australia. However, there are virtually no policies apart from the renewable energy target, which will expire in 2020 and, according to current plans, not be replaced.	Major Australian unions (the CFMEU and ACTU) agreed to negotiate a comprehensive agreement (the Latrobe Valley Worker Transfer Scheme) with the Victoria state government and three privately owned power stations aimed at managing and preventing job losses, rather than simply mitigating their effects. The agreement provides for placing Hazelwood workers in alternative jobs, and commits partner companies to minimise job losses, retrain workers and implement early retirement schemes, allowing more opportunities for younger workers who want to remain in the industry.	MDB level National development agencies and banks Domestic export credit agencies Export credit restriction in OECD

Rating:
- low
- medium
- high
- frontrunner

	Coal phase-out commitments	Renewable energy policies	Just transition approaches	Commitments to restrict public finance to coal and coal-fired power
Brazil	**Rating: medium**	**Rating: high**	**No government action**	**Some commitment to restrict coal financing**
	The Brazilian Development Bank announced that it will no longer finance coal-based power plants, but the government plans to increase coal power to 3.5 GW installed capacity in 2026.	Brazil already has a high share of hydropower in the electricity mix. It aims to increase the share of other renewables to 23% by 2030, and solar power to more than 13 GW capacity by 2026, compared to only a few MW in 2017. The government has not yet set a renewable target for 2050.	Public debate on just transition in Brazil has so far been limited, despite its relevance in a developing country. CUT, a prominent trade union in Brazil, currently leads the just transition debate from the workers' perspective, and is part of the trade union delegation to the COP (led by the ITUC). Brazil's National Adaptation Plan to Climate Change, published in 2016, recognises the need to achieve a just transition, albeit without a clear strategy on how to do this.	MDB level National development agencies and banks Domestic export credit agencies Export credit restriction in OECD The Brazilian Development Bank BNDES has announced it will no longer support coal plants.
Canada	**Rating: frontrunner**	**Rating: low**	**Substantial government action**	**Some commitment to restrict coal financing**
	Canada has announced the phase-out of coal by 2030	Canada has a high share of hydropower in its electricity mix but has not set itself a 100% renewable target, and the share of other renewable sources is still very low. Responsibility for renewable support schemes lies at provincial level.	The Pan-Canadian Framework, Canada's long-term climate plan, calls for "a commitment to skills and training to provide Canadian workers with a just and fair transition to opportunities in Canada's clean growth economy". In early 2019, a federal taskforce published recommendations for a just transition for coal workers and communities. The task force recommends that the government develop, implement and monitor a just transition plan; adapt national legislation; establish a long-term research fund; establish locally driven transition centres; create a pension bridging programme for workers, a funding programme for workers staying in the labour market and an inventory with labour market information; establish a just transition programme for affected workers; and meeting directly with affected communities.	MDB level National development agencies and banks Domestic export credit agencies Export credit restriction in OECD In addition to the OECD Arrangement, Canada's export credit agency EDC will not finance coal plants in Equator Principle designated countries unless equipped with CCS.

Rating:
- low
- medium
- high
- frontrunner

	Coal phase-out commitments	Renewable energy policies	Just transition approaches	Commitments to restrict public finance to coal and coal-fired power
China	**Rating: medium**	**Rating: medium**	**Some government action**	**Some commitment to restrict coal financing**
	The government has no phase-out plans for coal yet but aims to reduce the share in the energy mix from currently 64% to 58% by 2020. The government introduced strict requirements for the construction of new coal power plants in 2016, to stop construction in provinces with over-supply of electricity. China's air pollution policies, recently strengthened through the 2018–2020 Air Pollution Plan, have already resulted in reduced coal use. In 2019, the government will launch trial periods for a new emissions trading scheme for the power sector.	China has no 2050 renewables target but is aiming to reach 680 GW of installed renewable capacity by 2020. China is expected to surpass its 2020 solar energy target, thanks to a successful feed-in tariff system but the government decided to reduce feed-in tariff rates for 2018.	Reducing coal could affect employment. Currently there are nearly 3.5 million workers in coal mining. The Chinese government has allocated 30 billion yuan (US$4.56 billion) over the next three years to support the closure of small, inefficient coal mines and redeploy around 1 million workers. It is not known how the fund will help these workers.	MDB level National development agencies and banks ? Domestic export credit agencies Export credit restriction in OECD China's Green Credit policy and associated regulations pushed all Chinese public and private banks to reduce financing to highly polluting industries, including coal. However, it must be noted that these restrictions were not rigid. A US-China joint statement included a restatement of this principle, that China would strengthen "regulations with a view to strictly controlling public investment flowing into projects with high pollution and carbon emissions…".
European Union	**Rating: medium**	**Rating: not available**	**Some government action**	**Information not available**
	Ten EU member states representing 26% of the installed coal capacity have already committed to closing their power plants by 2030 at the latest. The reform of the EU's Emissions Trading Scheme adopted in early 2018, already resulting in much higher prices of emissions allowances, may accelerate this process on economic grounds.	The EU aims to source 20% of energy from renewable sources by 2020, and has set individual targets for each member state; a 2030 target of 32% is currently going through the legislative process. Support policies for renewables are member states' competence but the EC has adopted guidance for support schemes, e.g. suggesting the use of auctions.	The European Commission (EC) included the concept of just transition in its "Communication on the Energy Union", according to which a just energy transition will require "retraining or up-skilling of employees in certain sectors and, where needed, social measures at the appropriate level". In December 2017, the Commission established the Platform for Coal Regions in Transition to assist EU member states and regions in structural and technological transition in coal regions. Just transition has also been referenced in the EU's Governance directive; this requires taking its aspects into consideration in the process of decarbonisation.	

Rating:
low
medium
high
frontrunner

	Coal phase-out commitments	Renewable energy policies	Just transition approaches	Commitments to restrict public finance to coal and coal-fired power
France	**Rating: frontrunner**	**Rating: high**	**Some government action**	**Some commitment to restrict coal financing**
	In January 2018, President Macron announced that France will shut down all coal plants by 2021, two years earlier than planned. The revised multi-annual energy plan covering 2018–2023 and 2024–2028 may provide a detailed phase-out plan.	France strives towards 32% renewable energy in 2030 (100% renewables by 2050 are 1.5°C compatible). In 2018, the French government presented a ten-point plan to accelerate new wind projects and double its wind power capacity within five years.	"Just transition" entered the French political discourse following President Macron's election in 2017, with the formation of the Ministry of Ecological and Inclusive Transition. France's Climate Plan prioritises closing the four remaining coal power stations by 2022; national coal and shipping unions have expressed opposition to this deadline. The plan calls for a "managed transition", emphasising the need to support affected workers in the short and medium terms. Subsequently, the draft finance bill for 2019 plans to create a ten-year compensation fund to make up for the loss of revenue for local authorities caused by the closure of coal power stations. Meanwhile, similar local support schemes have already been agreed with nine other regions, which support local mitigation projects or green start-ups, rather than wholesale industrial restructuring.	MDB level National development agencies and banks Domestic export credit agencies Export credit restriction in OECD Restrictions on bilateral development finance for coal. Restrictions on export credits for coal plants without CCS and with no CO_2 storage.
Germany	**Rating: medium**	**Rating: high**	**Substantial government action**	**Some commitment to restrict coal financing**
	Germany is expected to miss its 2020 GHG emission reduction target of 40% compared to 1990 levels, mainly due to the remaining large share of coal in the energy mix and rising transport emissions. A multi-stakeholder commission tasked by the government recommended in January 2019 to phase out coal at the latest by 2038. The government is now working on respective laws and financing frameworks.	Germany aims to produce 80% of electricity from renewable sources by 2050. The government switched from a feed-in tariff system to an auctioning scheme in 2017.	Around 20,000 workers would be affected if the government decides to phase out lignite coal use, to reach the targets of the Paris Agreement. The government pledged €1.5 billion (US$1.72 billion) for the period 2017–2021 to ease structural changes. It acknowledges that more funding will be needed beyond 2021, and has set up a commission on "growth, structural change and employment" to address coal phase-out. The commission recommended in January 2019 that €40 billion be provided to coal-intensive states until 2038, to compensate and retrain coal workers and reduce the financial burden on electricity consumers, industry and utility companies.	MDB level National development agencies and banks Domestic export credit agencies Export credit restriction in OECD Restrictions on coal finance at bilateral institutions. KfW-Ipex bank restrictions still allow for coal plants under 500 MW and over 500 MW if they meet a minimum efficiency standard.

Rating:
low
medium
high
frontrunner

	Coal phase-out commitments	Renewable energy policies	Just transition approaches	Commitments to restrict public finance to coal and coal-fired power
India	**Rating: medium**	**Rating: high**	**No government action**	**No commitments to restrict coal financing**
	India is heavily dependent on coal power and, according to the 2017 National Electricity Plan (NEP), net additions of 45 GW will be added by 2027, although it notes that these plant additions will be needed for peaking power rather than baseload.	India's clean energy programme has doubled renewable capacity between 2014 and 2017. The country aims to have 175 GW of installed renewables capacity by 2022. The NEP expects the installed capacity of renewables to reach 265 GW by 2027, which would place India ahead of its NDC target for 2030.	The concept of "just transition" is not prevalent in India's climate policy discourse. India is undergoing massive transitions: urbanisation, industrialisation, formalisation and labour force growth. India needs to create about 32 million jobs per year. The success of these macro-scale transitions is policy-makers' main concern. Coal is a significant part of the economies of some poorer states (Jharkhand, Orissa and Chhattisgarh). According to official employment figures, 355,000 workers were employed in coal mines, out of a workforce of about 450 million. Coal mine employment fell about 1.8% per year, while productivity grew about 6% per year (it remains half the global average). Coal value chain employment is estimated to be just over 1 million jobs. "Just transition" is dependent on the success of the current macro-transitions.	MDB level National development agencies and banks Domestic export credit agencies Export credit restriction in OECD
Indonesia	**Rating: low**	**Rating: low**	**Some government action**	**No commitments to restrict coal financing**
	The government expects that 56 GW of new capacity will be needed in the next decade, and plans to cover 26.8 GW of this by coal. No coal phase-out is under consideration.	Indonesia plans to increase the share of new and renewable energy in the primary energy mix to 31% by 2050. The government offers feed-in tariffs for various renewable technologies but the rate is based on the average generation cost of electricity (including subsidised coal power), which renders unsubsidised renewable energy projects uneconomical in some regions.	Indonesia is the world's fourth largest producer of coal and the tenth largest producer of natural gas, and is increasingly reliant on oil imports. In 2015, Indonesia introduced a new fuel pricing mechanism that effectively reduces subsidies on imported oil and gasoline. In 2018, the government introduced a price cap for domestic coal use for electricity. The price cap is $70/ton for coal that is of high calorific value. Before this policy was introduced, the state-owned utility PLN bought coal based on the market price. While it is difficult to determine impacts on employment, the reduced budget allocation to fuel subsidies allowed greater spending on socially linked programmes to boost growth and reduce poverty indirectly, including developing a universal health coverage programme.	MDB level National development agencies and banks Domestic export credit agencies Export credit restriction in OECD

Rating:
- low
- medium
- high
- frontrunner

	Coal phase-out commitments	Renewable energy policies	Just transition approaches	Commitments to restrict public finance to coal and coal-fired power
Italy	**Rating: frontrunner**	**Rating: medium**	**No government action**	**Some commitment to restrict coal financing**
	Italy's 2017 National Energy Strategy, which is under revision, plans to phase out coal in power generation by 2025, but the government has not taken any implementing measures.	No 2050 renewable target exists. In an effort to reduce energy dependency, Italy's 2017 National Energy Strategy envisages an increase of renewables in electricity demand from 39% currently to 55% by 2030. The strategy is to be revised in 2019.	Around 90% of Italy's coal supply is imported, and therefore the coal phase-out may have less of an impact on upstream workers, compared with other G20 nations. Nevertheless, while not referring to explicit just transition policy, the National Energy Strategy (2017) does call for "timely actions to retrain workers and create new jobs and skills". In June 2018, Italy's new Prime Minister, Giuseppe Conte, pledged to "work to speed up the process, already in progress, of the 'decarbonisation' of [Italy's] production system".	MDB level National development agencies and banks Domestic export credit agencies Export credit restriction in OECD
Japan	**Rating: low**	**Rating: medium**	**No government action**	**Some commitment to restrict coal financing**
	Under the current 2030 Strategic Energy Plan, Japan plans to reduce its share of coal power in the electricity mix to 26% (from 32% in 2016). At the same time, Japan actively seeks to build new coal power plants at home and abroad.	Japan aims to increase the share of renewables in the electricity mix to between 22% and 24% by 2030 (from 15% in 2016), which is likely to be achieved with existing policies. So far, the government has not adopted a 2050 renewables target.	The Japanese government published its draft long-term strategy on 23 April 2019. The strategy refers to a just transition without specifying details.	MDB level National development agencies and banks Domestic export credit agencies Export credit restriction in OECD
Mexico	**Rating: low**	**Rating: medium**	**No government action**	**No commitments to restrict coal financing**
	Mexico joined the Power Past Coal Alliance at COP23, yet it plans to add new coal-fired capacity in 2020. The newly elected government announced the purchase of 400 M tons of coal from producers in the Carbonífera Region.[44]	The government has set a target to increase the share of renewables in the electricity mix to 35% by 2024 and to 50% by 2050 (aspirational only), and has introduced an auctioning system for energy, capacity and clean energy certificates. However, the newly elected government decided to cancel the nation's fourth long-term energy auction for renewables.[45]	Since 2018, there have been no policies on just transition. Nevertheless, the next administration has an opportunity to make policies to distribute the social benefits of the energy transition. For example, it has expressed an intention to increase job creation and participation of communities and users in renewable energy projects, emphasising medium, small-scale and distributed generation.	MDB level National development agencies and banks Domestic export credit agencies Export credit restriction in OECD

Rating:
low
medium
high
frontrunner

	Coal phase-out commitments	Renewable energy policies	Just transition approaches	Commitments to restrict public finance to coal and coal-fired power
Russia	**Rating: low**	**Rating: medium**	**No government action**	**No commitments to restrict coal financing**
	The government aims to increase the share of coal in electricity generation by 16% to 17% until 2035, which implies a 24% increase of coal consumption by 2035. There are no phase-out plans for coal power.	According to its 2009 Strategy for Development of Renewable Energy, Russia aims to increase the share of renewables in the electricity mix from around 1% currently to 2.5% by 2020. The previous target of 4.5% by 2024 has been abandoned and there are no longer-term targets for renewable energy. Russia supports renewables through long-term capacity agreements, continuing at least for the next decade.	Several Russian provinces and towns depend on fossil fuel industries, such as Kemerovo Oblast province, which is vulnerable to coal sector job losses, should the international coal market decline dramatically. In the past, Russia responded with social migration for displaced workers (particularly from coal mining) after the collapse of the Soviet Union and heavy industries. It remains to be seen how the government will act to aid workers displaced through mitigation measures and/or energy system restructuring.	MDB level National development agencies and banks Domestic export credit agencies Export credit restriction in OECD
Saudi Arabia	**Rating: not applicable**	**Rating: low**	**No government action**	**No commitments to restrict coal financing**
	Saudi Arabia does not use coal for power generation.	Saudi Arabia aims to source 10% of electricity from renewables by 2023, equivalent to an installed capacity of 9,500 MW. No longer-term plan exists. The government uses auctioning schemes to support the development of renewables.	The "Saudi Vision 2030" was unveiled in 2016. It called for raising the share of non-oil exports from 16% to 50% of export value by 2030, as well as expanding the role of renewable energy in the Saudi energy system and localising the renewable energy and industrial equipment sectors. Potential impacts on workers and communities in the oil and gas sector are not clear, with limited evidence of public discourse on just transitions in Saudi Arabia. However, the Vision had aimed to create 1.2 million private sector jobs by 2020, and to cut unemployment from 11.6% to 9%. At the Bangkok Climate Conference 2018, Saudi Arabia described a just transition as "central to their ecological future".	MDB level National development agencies and banks Domestic export credit agencies Export credit restriction in OECD

Rating:
- low
- medium
- high
- frontrunner

	Coal phase-out commitments	Renewable energy policies	Just transition approaches	Commitments to restrict public finance to coal and coal-fired power
South Africa	**Rating: medium**	**Rating: medium**	**Some government action**	**No commitments to restrict coal financing**
	South Africa relies heavily on coal power. The 2019 updated draft Integrated Resource Plan (IRP) for electricity[46] envisages the completion of major plants and the construction of new coal power plants in the 2020s, but also assumes that the share of coal will be reduced to 20% of the electricity supply by 2050.	According to the 2019 updated draft IRP (as yet unadopted), South Africa plans to expand renewable energy from 3.3 GW currently to above 20 GW installed capacity by 2030; or about 29% of installed capacity by then. No 2050 renewables target has been adopted so far. A programme to support renewable energy through power purchase agreements for independent power producers was put on ice in 2016 and while some projects were signed in 2018, no new procurement rounds have been instigated.	South Africa's economy is highly coal-dependent, and the coal mining sector employs 80,000 workers. South Africa has high levels of poverty and unemployment; ensuring a just transition has therefore been explicitly recognised as a priority in national policy. Moreover, South Africa is the only country to directly refer to "an inclusive and just transition" in its NDC. Currently a social dialogue process has been launched by South Africa's National Planning Commission to develop just transition sustainable development pathways, but explicit transition policies for workers and communities are not yet in place.	MDB level National development agencies and banks Domestic export credit agencies Export credit restriction in OECD
South Korea	**Rating: low**	**Rating: low**	**No government action**	**Some commitment to restrict coal financing**
	After assuming power in 2017, the new government decided to temporarily shut down coal power plants older than 30 years for shorter periods, and to decommission these in 2022. New coal power plants will be built until 2022, but the government decided to change some of the planned units into liquefied natural gas (LNG). Overall, coal use is expected to peak at 42 GW by 2022 and then decrease to 39.9 GW in 2030.	South Korea aims to increase the share of renewables in the electricity mix to 20% by 2030. According to its 2017 Electricity Plan this would require an increase of installed capacity from 11.3 GW in 2017 to 58.5 GW in 2030. The government revised the Renewable Portfolio Standard by prioritising wind power and incentivising renewable power plants to have a shared profit model with communities.	Discussions on whether to go ahead with the planned construction of Kori 5 and 6 nuclear reactors sparked much public debate on the impacts of plant closures on workers. Notably, Korean unions representing energy, transport and public sector workers announced a call for a "just energy transition", stating their support for the phase-out of coal and nuclear, but that a "roadmap for energy transition that ensures public accountability and strengthens democratic control of the energy industry" must also be developed. The 8th Basic Plan for Long-Term Electricity Supply and Demand 2017–2031, released late 2017, did not appear to include explicit planning for a just transition.	MDB level National development agencies and banks Domestic export credit agencies Export credit restriction in OECD

Rating:
low
medium
high
frontrunner

	Coal phase-out commitments	Renewable energy policies	Just transition approaches	Commitments to restrict public finance to coal and coal-fired power
Turkey	**Rating: low**	**Rating: medium**	**No government action**	**No commitments to restrict coal financing**
	Turkey announced the opening of 30 GW of new coal-fired power plants by 2023, with more than 60 GW planned in total. The government provides subsidies and purchase guarantees for coal power.	Turkey has a feed-in tariff, capacity auctions, pre-licensing auctions and other support schemes in place for different renewable energy sources, and plans to include 30% renewables in total installed capacity by 2023.	The Turkish presidency during the Labour 20 Summit in 2015 committed to ensuring the representation of developing countries in G20 processes and urged international leaders to move towards low-carbon economies through G20 cooperation on just transition strategies. Yet, despite a focus on energy efficiency and renewable energy roll-out over the past decade, Turkey has not implemented policies towards a comprehensive, socially oriented and inclusive approach for the energy transition.	MDB level National development agencies and banks Domestic export credit agencies Export credit restriction in OECD
United Kingdom	**Rating: frontrunner**	**Rating: low**	**No government action**	**Some commitment to restrict coal financing**
	In early 2018, the government announced that all unabated coal power plants would be shut down by 2025 at the latest.	Power sector emissions in 2017 were 65% lower than in 1990 but there is no long-term plan after 2020 for renewable energy. The Contract for Difference supports the deployment of large-scale renewable projects. Feed-in tariffs for smaller projects are to end in March 2019.	Just transition discourse in the UK has been mostly isolated to trade unions and civil society. A recent report by the Environmental Audit Committee noted that the "UK Government seems uninterested in raising the profile of the [Sustainable Development] Goals [incl. SDG 8, decent work and jobs], having undertaken no substantive work to promote them domestically". In terms of policy, both the 2017 Industrial Strategy White Paper and 2018 Clean Growth Strategy fail to mention just transition and have limited reference to the role of trade unions. In contrast, the Trades Unions Congress (TUC) has undertaken research and produced considerable work on just transition, including a Climate Change Policy that sets out demands for a Just Transition Strategy from government. The TUC continues to push for dialogue, via the Ministerial Advisory Group on Manufacturing, the Trade Union Sustainable Development Advisory Committee, and the Coal Forum.	MDB level National development agencies and banks Domestic export credit agencies Export credit restriction in OECD The United Kingdom issued a policy statement similar to the US and Nordic joint statement restricting coal finance overseas, but it did not apply to export credits.

Rating:
low
medium
high
frontrunner

	Coal phase-out commitments	Renewable energy policies	Just transition approaches	Commitments to restrict public finance to coal and coal-fired power
United States	**Rating: low**	**Rating: low**	**Some government action (at state level)**	**Some commitment to restrict coal financing**
	The US government has no plans to phase out coal in power generation. The Trump administration vowed to revive the coal industry, and has started processes in 2017 to repeal the Clean Power Plan of the previous government.	The US has no 2050 target for renewable energy. In 2018 the government introduced tariffs on the import of solar panels that led renewable energy companies to freeze or cancel investments of around US$2.5 billion.	Activity and discourse varies at state level. States in the Appalachian coal region (e.g. Kentucky, West Virginia) established the Power Plus initiative in 2015 to support economic diversification, including worker retraining and benefits. By contrast, California currently has no official policy to manage its transition away from oil.	MDB level National development agencies and banks Domestic export credit agencies Export credit restriction in OECD Joint US statement with Nordic countries: ending public financing for new coal-fired power plants overseas (at MDBs and in bilateral finance) except in rare circumstances.

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