

CLIMATE TRANSPARENCY REPORT

COMPARING G20 CLIMATE ACTION TOWARDS NET ZERO

2021

THE HIGHLIGHTS



Fossil fuels subsidised throughout the recovery

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Raised ambition, but the G20 is not on track for a 1.5°C world

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Vulnerability of G20 members highlights the need to adapt now

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Hold the increase in the global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit to 1.5°C, recognising that this would significantly reduce the risks and impacts of climate change.

RAISED AMBITION, BUT THE G20 IS NOT ON TRACK FOR A 1.5°C WORLD



G20 members need to urgently strengthen climate action.

1.5°C

In 2030, global CO₂ emissions need to be 45% below 2010 levels, reaching net zero by around 2050.¹

ROADMAP TO A 1.5°C WORLD

The Intergovernmental Panel on Climate Change (IPCC) recently issued a ‘code red’ for the world to take urgent action to avoid the worst impacts of the escalating climate crisis and provided an updated estimate of the remaining global carbon budget. The data show that for a 67% chance of limiting warming to 1.5°C, the world has a remaining carbon budget of 400 GtCO₂ – or 10 years of emissions at 2020 levels.²

Collectively, the G20 is responsible for around 75% of global greenhouse gases (GHGs) including land use change and forestry.³ To limit the global temperature rise to 1.5°C, the G20, therefore, has an important leadership role to play by committing to emissions reduction targets and implementing policies that align with

1.5°C pathways. For developed countries, this includes providing climate finance to assist developing countries’ mitigation and adaptation actions.⁴

The combined mitigation effect of Nationally Determined Contribution (NDC) targets assessed by April 2021 is not sufficient and will lead to warming of 2.4°C by the end of the century.⁵ This underlines the urgent need for G20 members to strengthen current climate policies and action and submit more ambitious 2030 targets that align with mid-century net zero targets.

RAISED AMBITION REDUCING THE GAP

Net zero targets

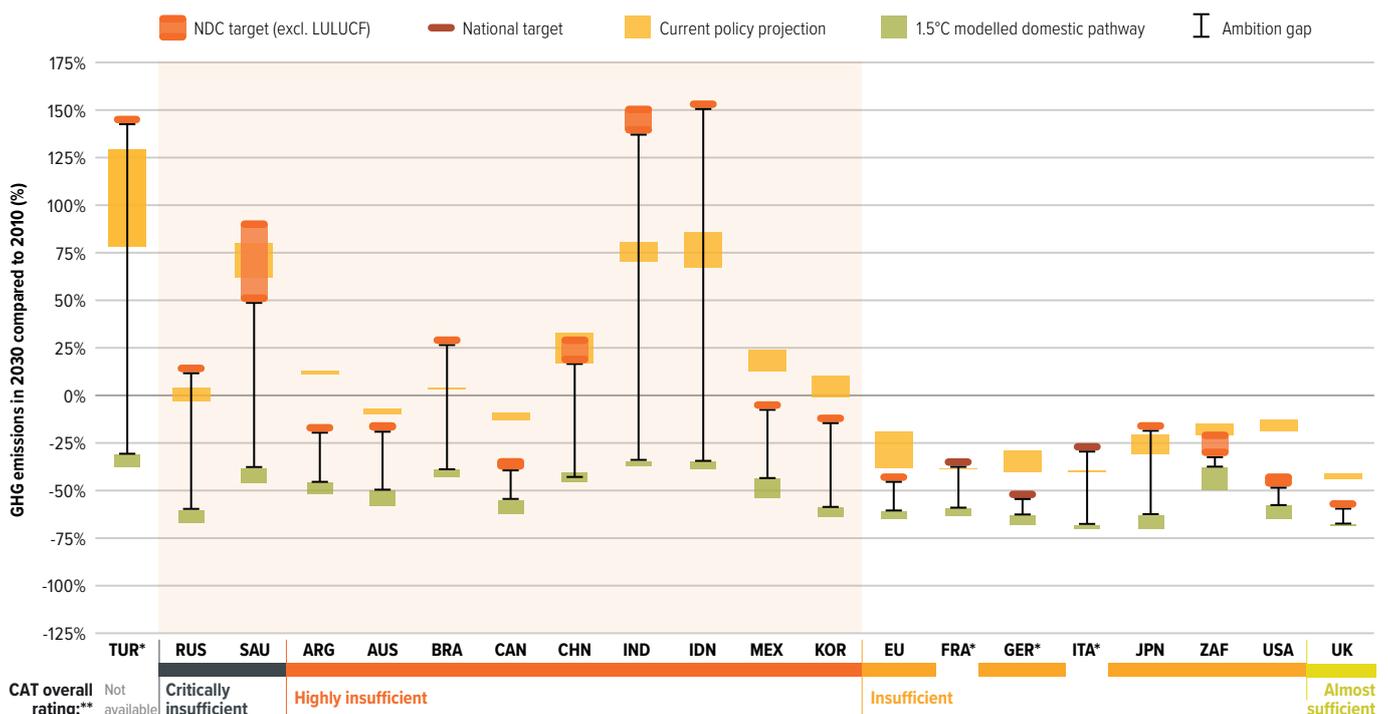
By August 2021, 14 G20 members had announced net zero targets by mid-century, covering 61% of global GHG emissions. If fully implemented, these targets would go a long way to limiting global temperature rise to 1.5°C. Canada, the EU, France, Germany,

Japan, South Korea and the UK – together accounting for 14% of global GHGs – have also enshrined their target in law (see Figure 2).⁶ However, more ambitious near-term targets that halve global CO₂ emissions by 2030 are critical to achieving these long-term targets.

NDCs

By September 2021, G20 members had officially submitted 13 NDC updates to the United Nations Framework Convention on Climate Change (UNFCCC) with six – Argentina, Canada, the EU (including France, Germany, and Italy), South Africa, the UK, and the USA – containing more ambitious 2030 targets than their last ones (see Figure 3). Three members – China, Japan, and South Korea – have also proposed higher ambition but have not yet officially submitted enhanced NDCs. The greatest decreases were in submitted NDCs from the USA and the EU, and in the NDC announced by China. This is promising as these are among the highest emitting members of the G20.⁷

Figure 1: G20 NDC targets, current policy projections, and 1.5°C modelled domestic pathways



*The national targets of France, Germany and Italy are represented here. As Turkey has yet to ratify the Paris Agreement, its submission remains an Intended Nationally Determined Contribution (INDC).

**Only Germany’s national target has been assessed and rated by CAT. Any rating associated with France and Italy is a rating of the EU’s NDC.

The **Ambition gap** is the gap between the NDC and the 1.5°C compatible range as modelled by the 1.5°C National Pathways Explorer and derived from 11 global models of the IPCC special report on 1.5°C. More detail at <http://1p5ndc-pathways.climateanalytics.org/about/>. The **CAT rating** here is a new, overall rating that combines several separately rated elements of policies and actions, domestic and internationally supported targets, ‘fair-share’ target and contribution to climate finance. Detailed assessments and explanation of methodology at <http://www.climateactiontracker.org/countries>

Source: CAT, 2021⁸; Climate Analytics, 2021⁹

Figure 2: Timing, status, GHG coverage, and use of offsets in current G20 net zero targets

	Law	Policy Document	No target
Net zero target covers all GHGs	▶ Canada, ▶ EU, ▶ France, ▶ Japan, ▶ UK	▶ USA, ▶ China (2060)	Australia, India, Mexico, Russia, Saudi Arabia, Turkey
No detail in net zero target on which GHGs are covered	▶ Germany (2045), ▶ South Korea	▶ Argentina, ▶ Brazil, ▶ Italy, ▶ South Africa, ▶ Indonesia (2060)	

▶ No international offsets* ▶ Unclear or undecided ▶ International offsets* included

*Reductions or removals outside of own borders. Note: 11 of the G20 members have a net zero target year of 2050, excl. China, Germany, and Indonesia.

Sources: Climate Watch, n.d.¹⁰ Energy & Climate Intelligence Unit, n.d.¹¹

Figure 3: Status of updated NDCs

Submitted a more ambitious NDC target	Proposed a more ambitious NDC target	Did not increase ambition in NDC target	Not yet submitted or proposed an updated NDC
Argentina (2 nd NDC), Canada, EU (incl. France, Germany, and Italy), South Africa, UK (1 st NDC), USA	China, Japan, South Korea	Australia, Brazil, Indonesia, Mexico, Russia	India, Saudi Arabia

Turkey's submission remains an Intended Nationally Determined Contribution (INDC) until it ratifies the Paris Agreement.

Source: Climate Action Tracker, 2021b¹²

In comparison, Australia, Brazil, Indonesia, Mexico and Russia have submitted NDCs with no change to their ambition, with Brazil and Mexico altering their baselines, which weakens their NDCs, as it will result in higher emissions in 2030.

BUT THE G20 IS NOT YET ALIGNED WITH A 1.5°C PATHWAY

All NDC updates submitted and announced up to April 2021 leave a significant emissions gap of about 23 GtCO₂e from a 1.5°C pathway, with the G20 collectively making up around two-thirds of this gap.

If all G20 members strengthened their 2030 NDCs along a 1.5°C compatible domestic emissions pathway (see Figure 1) and reached net zero targets by 2050, with a faster timeline for developed countries than

for developing countries, the current gap of 23 GtCO₂e could be narrowed by 64%. This would also result in a lower temperature of 1.7°C by 2100. This effort could get us about three-quarters of the way to limiting global warming to 1.5°C, compared with the estimated 2.4°C of warming under current targets.¹³

In CAT's new rating system, most G20 members' are rated overall as "Highly insufficient" or "Critically insufficient". Argentina, Australia, Brazil, Canada, China, India, Indonesia, Mexico and South Korea are rated overall as "Highly Insufficient", with Canada's domestic target and India's policies and action being the only elements within this group rated as "Almost sufficient". These G20 members need to introduce much more ambitious domestic and internationally supported targets, policies and action and, for developed countries, ramp up climate finance

contributions to support action in developing countries. Russia and Saudi Arabia are rated overall as "Critically insufficient", which means that if all governments took this approach, global warming would exceed 4°C.

The UK is the only G20 member with a domestic target that aligns with a 1.5°C modelled domestic pathway in 2030; however, the overall rating is "Almost sufficient" as its policies and action are not yet 1.5°C aligned nor is it meeting its 'fair-share' target or climate finance contribution. Following closely are the EU, Germany, Japan, South Africa, and the USA, which are rated overall as "Insufficient". From this group, the EU and Germany are the only ones rated as "Almost sufficient" for both their targets and their policies and action. However, none are meeting their 'fair-share' targets or climate finance contributions.¹⁴



NDC Transparency Check recommendations¹⁵

The NDC Transparency Check assesses the quality of NDCs relating to whether a party's communication is *clear, transparent, and understandable* in terms of the requirements set out in the Paris Agreement, its accompanying decision (1/CP.21), and Annex I to decision 4/CMA.1.

1. Describe ambition and fairness

Provide detailed information, sustained by emissions reduction analysis, on how the current or updated NDC a) comprises a fair and ambitious contribution to global efforts to mitigate climate change, and precisely how it is a progression on the last NDC mitigation target or action, and b) will reflect the "highest possible ambition", taking into account common but differentiated responsibilities and respective capabilities.

2. Provide a precise description of the target

Explain how the reference indicators are defined, the assumptions behind the business-as-usual (BAU) projections, the coverage of the target, and the implementation period.

3. Make a link to Paris Agreement goals

Describe when emissions are projected to peak (or have peaked) and refer to national policy/ies commitment to net zero emissions.

4. Share the planning process

Provide information on institutional arrangements for developing and implementing the NDC, including consultation processes that allow for public participation and engagement with local communities and indigenous peoples in a gender-responsive manner.

5. Describe implementation plans

Provide information on which policies and measures will be implemented to achieve target(s).

KEY ACTIONS FOR G20 MEMBERS

- ✔ G20 members that have not yet done so need to adopt mid-century net zero targets that are embedded in law.
- ✔ G20 members that do not have 1.5°C aligned targets need to submit stronger ones before COP26, and all G20 members need to strengthen climate policies and actions to meet 1.5°C pathways.
- ✔ Developed countries need to ramp up climate finance contributions to assist developing countries' climate action.

FOSSIL FUELS SUBSIDISED THROUGHOUT THE RECOVERY



The G20 missed the opportunity to shift away from fossil fuels through recovery investments.

FROM CRISES TO OPPORTUNITIES

The COVID-19 pandemic continues to devastate families and communities – around 4.7 million people worldwide had died by September 2021.¹⁶ While lockdowns and social restrictions have made life difficult for billions of people, these responses also caused fewer car journeys, flights, and entire industries shutting down.¹⁷ As a result, energy-related CO₂ emissions declined steeply, by 6% in 2020, but are already projected to rebound strongly, by 4% in 2021.¹⁸ Nonetheless, the convergence of global health, economic and climate crises has led to an opportunity for governments to “recover better” by aligning medium-term recovery objectives with longer-term social and environmental objectives to achieve a clean, green, and resilient recovery.

MISSED OPPORTUNITIES FOR A GREEN RECOVERY

Since the beginning of the COVID-19 pandemic, the G20 has mobilised USD 14.2tn in total stimulus spending, to keep health services, households and businesses afloat (see Figure 4). When implementing recovery packages, governments missed the opportunity to transition to low carbon economies. Only USD 300bn of the USD 1.8tn total recovery spending was directed to the much-heralded “green” recovery.

Canada, France and Germany are identified as ‘current leaders’ of the green recovery and, based on recent announcements, the EU would also fall into this group (see Figure 5). The majority of G20 members are, however, categorised as ‘missing opportunities’ or having ‘potential to act’. Non-OECD G20 members face greater

challenges to rebuild after multiple crises, having to grapple with chronic problems and inequalities such as access to funds, debt constraints and extreme poverty.¹⁹ These members, except China, are mainly identified as having ‘potential to act’ as they allocated less than 2% of their respective GDP to recovery spending, of which less than 5% is for green investments. In contrast, OECD G20 members, plus China, who were mainly identified as ‘missing opportunities’, allocated a higher proportion (of between 2-14%) of their respective GDP to recovery, but less than 30% was for green investments.

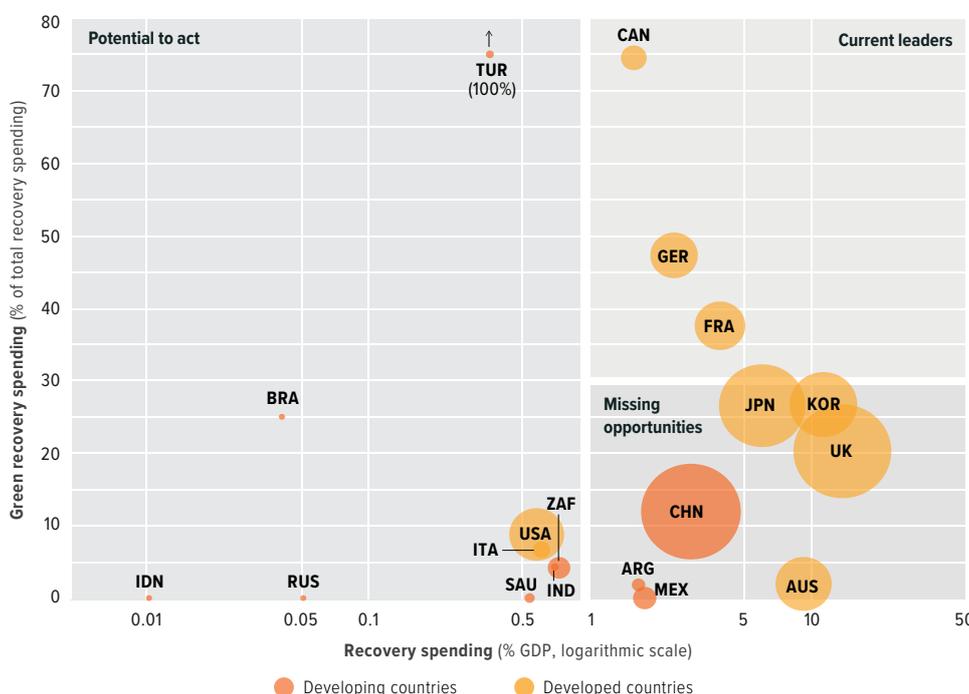
Figure 4: G20’s total COVID-19 rescue and recovery spending (January 2020-August 2021)



To avoid double counting, the EU is not included when adding up total spending.

Source: Own analysis based on: Global Recovery Observatory, August 2021²⁰

Figure 5: G20 green recovery spending (January 2020-August 2021)



The European Commission recently endorsed a budget of more than USD 1tn for 2021-2027 recovery spending, including 37% allocated to a green transition. This means that the EU would fall into the ‘current leaders’ group in the graph. To avoid double counting, the EU is not included.

Green recovery spending is based on potential impact on long- and short-term emissions, air pollution, natural capital, quality of life, and inequality. **Recovery spending** includes incentive and investment measures, such as worker retraining and job creation or transport and energy infrastructure investment. **Current leader** means countries that allocated above 1% GDP to recovery spending, and above 30% of recovery spending was for a green recovery. **Missing opportunities** means countries allocated above 1% GDP to recovery spending, but less than 30% of recovery spending was for a green recovery. **Potential to act** means countries spent less than 1% GDP on recovery spending. **Bubble sizes** represent total value of recovery spending.

Source: Own analysis based on: Global Recovery Observatory, August 2021²¹

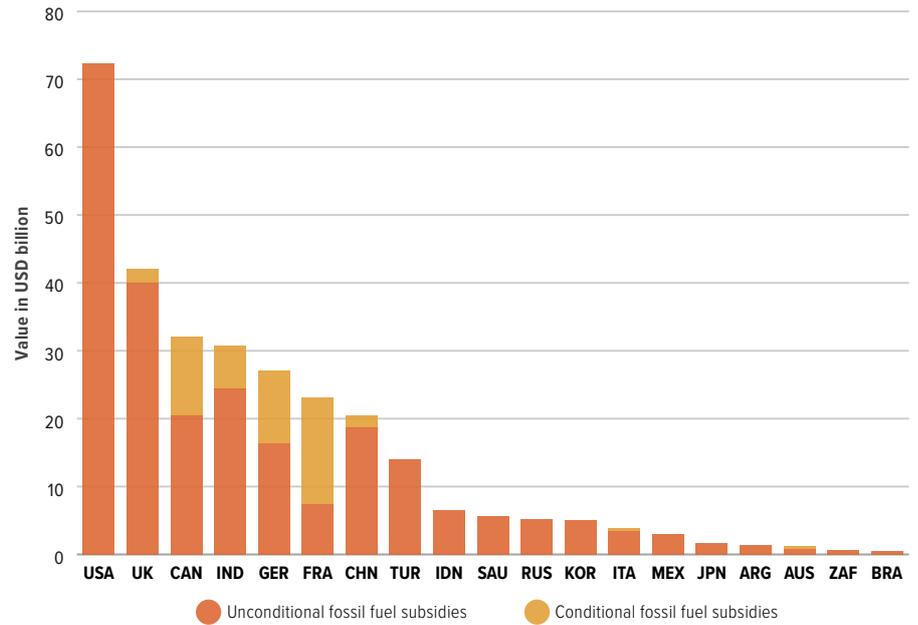
MEANWHILE, FOSSIL FUEL SUBSIDIES CONTINUED

The G20 has continued to pour money into the fossil fuel industry, with a total of USD 298bn committed in subsidies from January 2020 to August 2021, which is almost equal to the G20’s total green recovery allocation of USD 300bn (see Figure 6). These subsidies also ignore previous G20 promises to remove inefficient fossil fuel subsidies.²² The majority, or USD 248bn, has gone towards unconditional fossil fuel subsidies with no ‘green strings’ attached, and the rest to conditional ones. Oil and gas have benefited from the highest proportion of subsidies at USD 219bn, whilst coal and fossil-fuel-based hydrogen have received USD 47bn and USD 11bn, respectively. China and India each announced subsidies of approximately USD 15bn aimed at expanding coal mining domestically, whilst Canada, France, Germany, the UK and the USA provided subsidies of more than USD 200bn to support oil and gas. However, more transparency about these figures is needed as Brazil, Japan, Saudi Arabia, South Africa, South Korea, Turkey, and the UK have been categorised as ‘opaque’ in terms of the full extent of fossil fuel funding and “hidden” subsidies.²³

GREEN SPENDING IN FOCUS

Green market creation, green energy, green transport, natural capital, green buildings, and green research and development were among the sectors that benefited, with G20 members including Canada, China, Germany, France, Japan, South Korea, the UK and the USA accounting for the majority of spending (see Figure 7). However, to reach net zero emissions by mid-century and prevent emissions surging to a new record, investments of USD 1tn per year from 2021-23 are needed across the power, industry, transport and building sectors, where only 35% of these investment needs are currently being met.²⁵

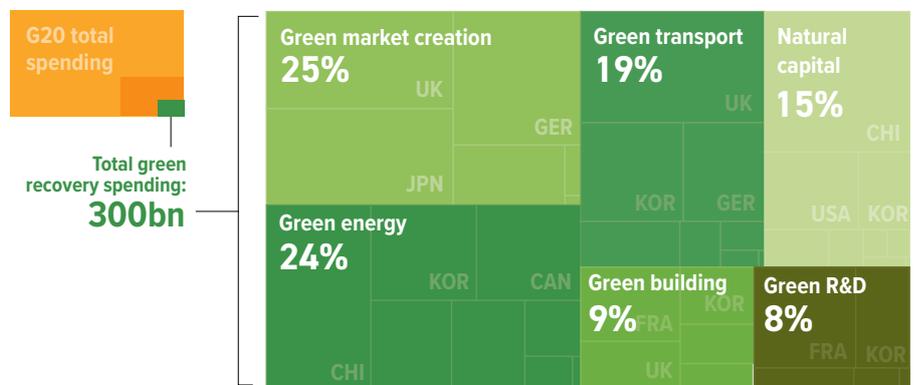
Figure 6: Conditional and unconditional fossil fuel subsidies in the G20 (January 2020-August 2021)



Policies are classified as **unconditional** if they support production and consumption of fossil fuels without any climate targets or additional pollution reduction requirements, while policies with climate targets or additional pollution reduction requirements are categorised as **conditional**.

Source: Energy Policy Tracker, 2021²⁴

Figure 7: Total vs green spending and proportion of G20 member (excl. EU) spending in various green sectors (January 2020-August 2021)



To avoid double counting, the EU is not included when adding up total spending.

Green market creation: Investments promote the creation of green markets through a) increased clean energy market participation, b) modernisation and transition investments, and c) capacity investment. For instance, investments that prompt the integration of more renewable energy generation into electricity markets, or investments which catalyse new green transitional industries.

Source: Own analysis based on: Global Recovery Observatory, August 2021²⁶

KEY ACTIONS FOR G20 MEMBERS

- ✔ G20 members need to introduce conditionality or “green strings” for recovery spending and reinforce policy regulations and incentives that align with near-term climate targets.
- ✔ G20 members that are still supporting fossil fuel industries need to redirect subsidies towards sector transformation and investments in renewable energy and other green sectors.
- ✔ Developing countries need support from developed G20 members to mobilise additional finance to encourage investment in green sectors.



Increase the ability to adapt to the adverse effects of climate change and foster climate resilience and low-GHG development.

VULNERABILITY OF G20 MEMBERS HIGHLIGHTS THE NEED TO ADAPT NOW



Urgent implementation of plans and strategies is needed to reduce climate risk.

LIVING IN A CLIMATE EMERGENCY

Global warming will reach or exceed 1.5°C in the early 2030s in nearly all emissions scenarios considered by IPCC AR6. Under the very low emissions scenario, however, it will drop slightly to 1.5°C by the end of this century.²⁷ In 2021, G20 members are already experiencing first-hand the 'locked-in' climate impacts of a warming world, with record-breaking fires, floods, droughts, extreme cold and heatwaves.²⁸ 2020 was recorded as one of the hottest years on record, and the last decade as the hottest ever.²⁹ Urgently allocating resources and planning to reduce vulnerability and strengthen resilience is of importance for all G20 members, but especially for the most vulnerable ones.³⁰ From 2020-2030, it is estimated that an investment of USD 1.8tn in just five areas – early warning systems, climate-resilient infrastructure, dryland agriculture, mangrove protection and water generation – would result in net benefits of USD 7.1tn.³¹

HIGHER TEMPERATURES INCREASE CLIMATE RISK

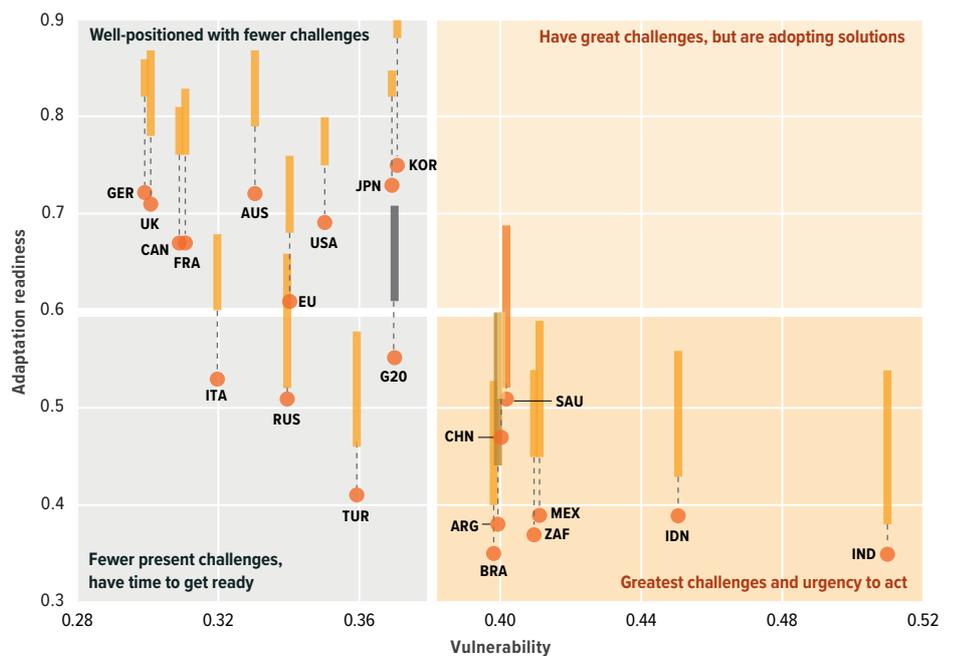
Chronic impacts and extreme weather events result in high human and economic costs, which can be compounded by underlying inequalities, poorly funded infrastructure and the effect of multiple crises, including COVID-19.³² Between 1999 and 2018 there have been nearly 500,000 fatalities and close to USD 3.5tn of economic costs due to climate impacts worldwide, with China, India, Japan, Germany, and the USA being hit particularly hard in 2018. Even if we meet 1.5°C, and certainly if we exceed it, the G20 will be exposed to even greater-than-average weather- and climate-related impacts. Australia, Brazil, France, Italy, Mexico, and Turkey will likely be exposed to severe water scarcity or droughts, and it is expected that Australia, India, Mexico, Saudi Arabia, and South Africa will have many more days with extreme high temperatures. Most G20 members could experience agricultural impacts, such as reduced crop duration, decreased rainfall, and an increase in damaging hot spells for key crops, all of which could lead to intensified local and global food insecurity.³³

DEVELOPING COUNTRIES FACE GREATEST CHALLENGES TO ADAPT

Across the G20, developing countries have the highest level of vulnerability to climate change but the lowest level of readiness and, therefore, face the greatest challenges (see Figure 8). Argentina, Brazil, China, India, Indonesia, Mexico, Saudi Arabia and South Africa are exposed to higher levels of vulnerability in the water and food sectors, including projected change of cereal yields,

low agricultural adaptive capacity and change of annual runoff. These countries, plus Turkey, are also not ready to take on adaptation actions by leveraging public and private sector investments, mainly due to issues of corruption, regulatory quality, rule of law, or lower levels of innovation.³⁴ However, recent extreme weather events have shown that developed countries must also improve their adaptation readiness and their ability to handle the worsening impacts of a fast-changing climate.

Figure 8: G20 members' readiness to adapt



Key
 2050 Projection:
 ← SSP1
 ← SSP2
 ← SSP3
 ● Observed (2018)

This graph shows the **2018 observed Readiness Index** and **2050 projected Readiness Index** describing a country's ability to improve climate resilience. The readiness component of the Index created by the Notre Dame Global Adaptation Initiative (ND-GAIN) encompasses social, economic and governance indicators to assess a country's readiness to deploy private and public investments in aid of adaptation. The overlaid **2050 projections** are qualitative and quantitative representations of a range of possible futures. The range of scenarios shown here in lines are qualitatively described as a sustainable development compatible scenario (SSP1), a middle-of-the-road (SSP2), and a 'Regional Rivalry' (SSP3) scenario.

Source: Own analysis based on Andrijevic et al., 2020³⁵; ND-GAIN database (n.d.)³⁶

KEY ACTIONS FOR G20 MEMBERS

- ✔ G20 members urgently need adaptation plans and strategies in place across key systems – including food, water, health, ecosystems, habitat and infrastructure – and should strengthen their social, economic and governance readiness to accelerate implementation of these plans.
- ✔ G20 members need to balance funding for adaptation, not only with loss and damage for locked-in impacts, but also with resources allocated to mitigation.
- ✔ Developed countries need to increase climate finance contributions to assist developing countries through bilateral and multilateral channels and with regular reviews.



Hold the increase in the global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit to 1.5°C, recognising that this would significantly reduce the risks and impacts of climate change.

REBOUNING EMISSIONS SIGNAL A RETURN TO BUSINESS AS USUAL



Drastic cuts in CO₂ emissions from the energy sector can be achieved by rapidly phasing out fossil fuels and stimulating growth in renewable energy.



In 2030, global CO₂ emissions need to be around 45% below 2010 levels and reach net zero by around 2050. Global energy-related CO₂ emissions must be cut by 40% below 2010 levels by 2030 and reach net zero by 2060. The share of fossil fuels globally needs to fall to 67% of global total primary energy by 2030 and to 33% by 2050, and to substantially lower levels without carbon capture and storage.³⁷

TRANSFORMING THE ENERGY SECTOR IS KEY TO A LOW-CARBON ECONOMY

CO₂ emissions from the energy sector make up 78% of all GHG emissions (including land use change and forestry), with the highest proportion coming from the power sector, followed by industry and transport.³⁸ Increased energy efficiency, reduced demand (including lifestyle and consumption shifts), fuel switching, and electrification – in tandem

with decarbonisation of the power sector – will be necessary in all major sectors for the energy sector to be 1.5°C compatible.

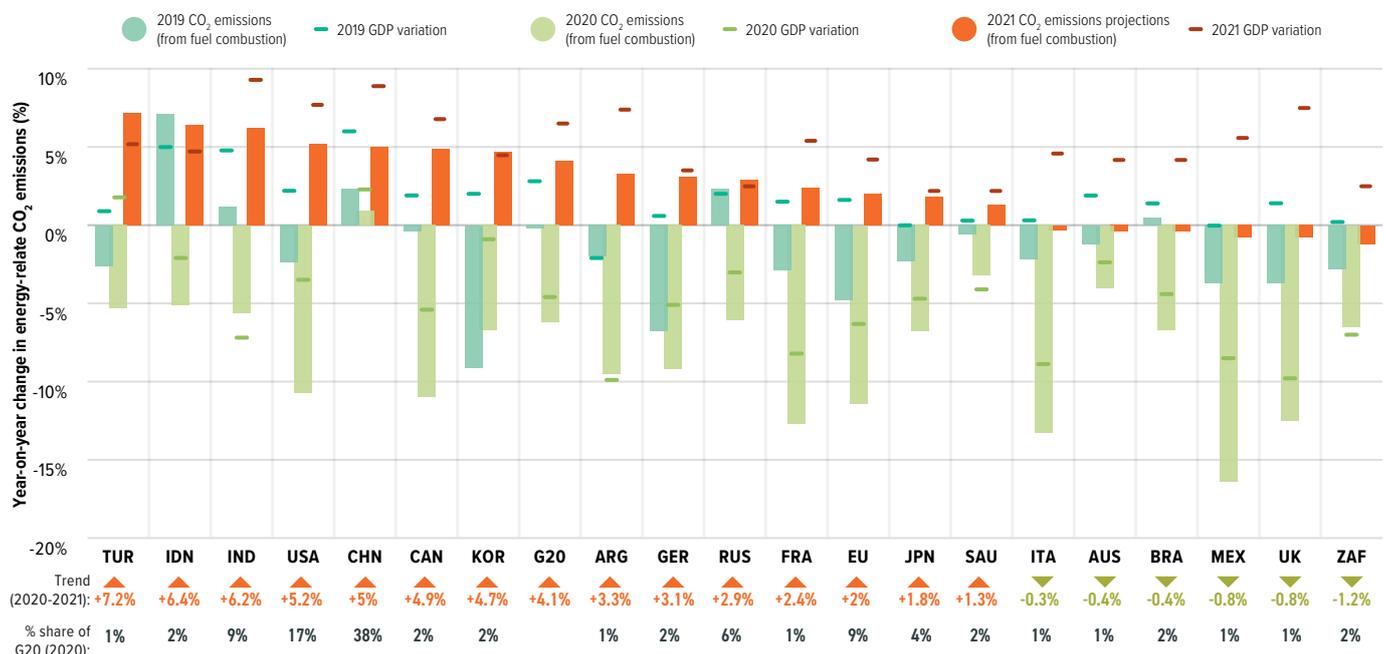
BUT CO₂ EMISSIONS ARE REBOUNING TO PEAK LEVELS

Due to the COVID-19 pandemic, in 2020, energy-related CO₂ emissions dipped across the G20 by 6% compared to 2019 levels, which was stronger than the 5% decrease in GDP. In 2021, CO₂ emissions are projected to rebound by 4% across the G20; however, this is less than the projected GDP increase of 7% (see Figure 9). Nearly half of this rebound is being driven by the power sector and a quarter by the transport sector. In OECD G20 members, the projected rebound in 2021 will not fully offset the decline in 2020, despite the USA's significant rebound of 5%. For non-OECD G20 members, 2019 emissions levels, however, are likely to be exceeded. Argentina, China, India and Indonesia are projected to exceed their 2019 emissions levels, which is significant given that their combined energy-related CO₂ emissions accounted for almost half of G20 CO₂ emissions in 2020.³⁹

RENEWABLES ACCELERATE

The G20 has however increased its average share of renewables (excluding large hydro) in its total primary energy supply (TPES) mix by 32% from 2015-2020 to the current value of 7% in 2020 (see Figure 10). From 2019-20, the G20's share of renewables (including large hydro) increased from 9% to 10%, and this trend is projected to continue, rising to 12% in 2021.⁴⁰ Despite the pandemic, there has been significant growth among G20 members in solar and wind power, with new records being set in terms of overall installed capacities. For example, in 2020, newly installed capacity of 108 GW of wind power almost doubled compared to 2019 installations of 56 GW. This has been driven mainly by Australia, Brazil, China, the EU and the USA. Solar photovoltaics (PV) have also shown strong growth in 2020, with new installations in Brazil, China, the EU and the USA totalling 85 GW.⁴¹ The outlook for renewables is also good, with both solar PV and wind power projected to continue growing during 2021 as projects restart. As a result, between 2015-2020, the carbon intensity of the energy sector has decreased overall by 4% across the G20.⁴²

Figure 9: Energy-related CO₂ emissions and GDP variation (2019-2021)



Due to rounding, some graphs may sum to slightly above or below 100%.

Source: Enerdata, 2021

BUT COAL IS GOING UP AGAIN

The average share of fossil fuels in the G20's TPES was 80.8% in 2020 but is projected to increase slightly to 81.2% in 2021 as demand for coal, oil, and gas returns to "normal". From 2015-2020, the share of fossil fuels in TPES decreased from 82.9% to 80.8%, driven by a reduction in the G20's total coal consumption of 8%, due to reduced energy demand, and the implementation of coal phase-out policies in the UK (-78%), Italy (-63%), Germany (-45%), the EU (-42%), and Canada (-28%). However, coal consumption is projected to

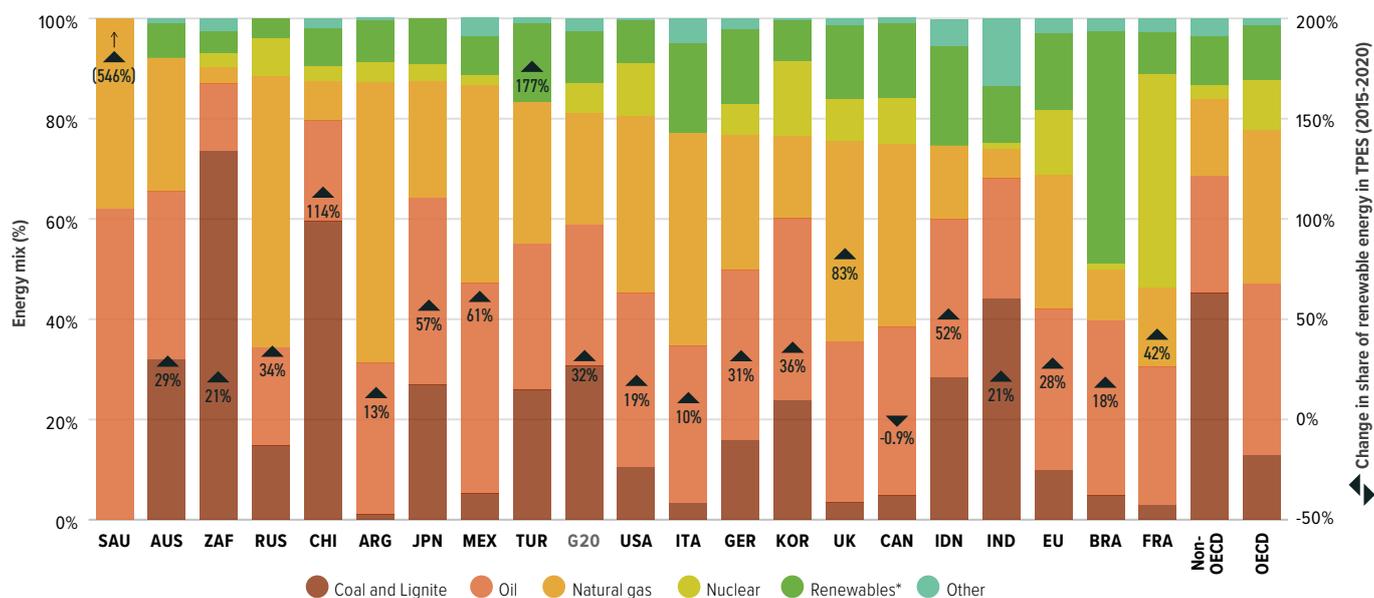
rise by almost 5% in 2021, with much of this growth concentrated in China (61%), the USA (18%) and India (17%).⁴³ Globally, China remains the highest producer and consumer of coal, responsible for half of all coal.⁴⁴

AND GAS IS A BRIDGE TO NOWHERE

Between 2015-2020 the G20's average natural gas consumption increased by 12% and is projected to remain at similar levels in 2021. OECD and non-OECD G20 members have both played a role in this increase at

19% and 8%, respectively. China (+69%), South Korea (+19%), India (+17%), Canada (+16%), Germany (+14%), the USA (+12%) and the EU (+11%) are driving the increase as countries that are pursuing coal phase-out policies simply switch from coal to natural gas.⁴⁵ This is a risky move, though, with a high likelihood of stranded gas assets as the transition to a low-carbon economy accelerates.⁴⁶ The USA is currently the highest producer and consumer of global gas and oil, being responsible for more than 20%.⁴⁷

Figure 10: Total Primary Energy Supply (TPES) mix (level: 2020, percentage change: 2015-2020)



This graph shows the fuel mix for total primary energy supply, including energy used not only for electricity generation, heating, and cooking, but also for industrial and transport fuels.

*Renewables include wind, solar, hydro, geothermal and biomass (excl. residential biomass use).

Source: Enerdata, 2021

Just Transitions: recent developments

A Just Transition⁴⁸ is an important part of the transition to a low-carbon economy.

Canada: The Canadian Coal Transition Initiative helps communities and workers affected by Canada's move to a low-carbon economy in Alberta, Saskatchewan and Atlantic Canada. In 2021, Canada also launched discussions on proposed just transition legislation.⁴⁹

South Africa: A Presidential Commission has committed funds and resources to diversifying coal-dependent economies and introducing a range of reskilling, social protection and job creation incentives across new green sectors. Part of this initiative is to enable social dialogue and build support to establish more tangible measures around a just transition.⁵¹



EU: As part of the European Green Deal, a Just Transition Mechanism (JTM) has been proposed to ensure that the transition to a climate-neutral economy takes place in a fair way. It provides targeted support to help mobilise at least EUR 65-75bn over the period 2021-2027 in the most affected regions, to alleviate the socio-economic impact of the transition.⁵⁰

South Korea: The 2050 Carbon Neutral Strategy lays the framework for both a phase-out of coal-fired power plants and a just transition for persons who are economically dependent on the country's fossil fuel industries. This includes retraining workers from these industries to prepare them for opportunities in new low-carbon industries. Furthermore, the Strategy calls for mobilising financial resources for climate-vulnerable communities.⁵²

KEY ACTION FOR G20 MEMBERS

- ✓ G20 members need to prioritise investment in renewable energy – also to avoid stranded fossil fuel assets – and accelerate coal phase-outs across the G20.

TRANSFORMATIVE POLICIES URGENTLY NEEDED IN KEY SECTORS TO CURB RISING EMISSIONS

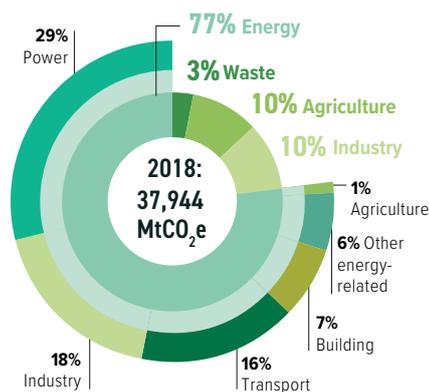


Transformative and innovative policies and action in all sectors can accelerate the transition to a low-carbon future.

DEEP AND FAST EMISSIONS CUTS REQUIRED ACROSS ALL SECTORS

The power generation, industry and transport sectors produce the majority of GHG emissions in the G20 (see Figure 11).⁵³ The transformation of all sectors is pivotal to achieving net zero CO₂ emissions by around 2050 as well as decreases in all GHG emissions rapidly thereafter, including actions to maintain and expand critical global carbon sinks such as forests.

Figure 11: G20 GHG emissions by sector (2018)



Source: Enerdata, 2021

POWER

Coal phase-out urgent whilst renewables grow through the pandemic

1.5°C Between 2030 and 2040, all the regions of the world need to phase out coal-fired power generation. By 2040, the share of renewable energy in electricity generation needs to be increased to at least 75%, and the share of unabated coal reduced to zero.^{54, 55}

G20 energy-related CO₂ emissions – power sector (2020)



Annual growth rate:
 -5.3% in 2020
 -1.9% in 2019
 +1.3% 2009-2018

Source: Enerdata, 2021

The power sector currently accounts for the highest share (at 38%) of G20 energy-related CO₂ emissions, including heat from electricity production. Fossil fuels are used for 60% of electricity needs, including coal

(38%), natural gas (20%), and oil (2%), whilst the rest is from renewables, including large hydro (28%) and nuclear (11%). In 2020, CO₂ emissions in the power sector decreased by 5% due to reduced electricity demand during the COVID-19 pandemic. However, in 2021, emissions from the power sector are projected to rebound by 5% compared to 2020, due to increased demand.⁵⁶

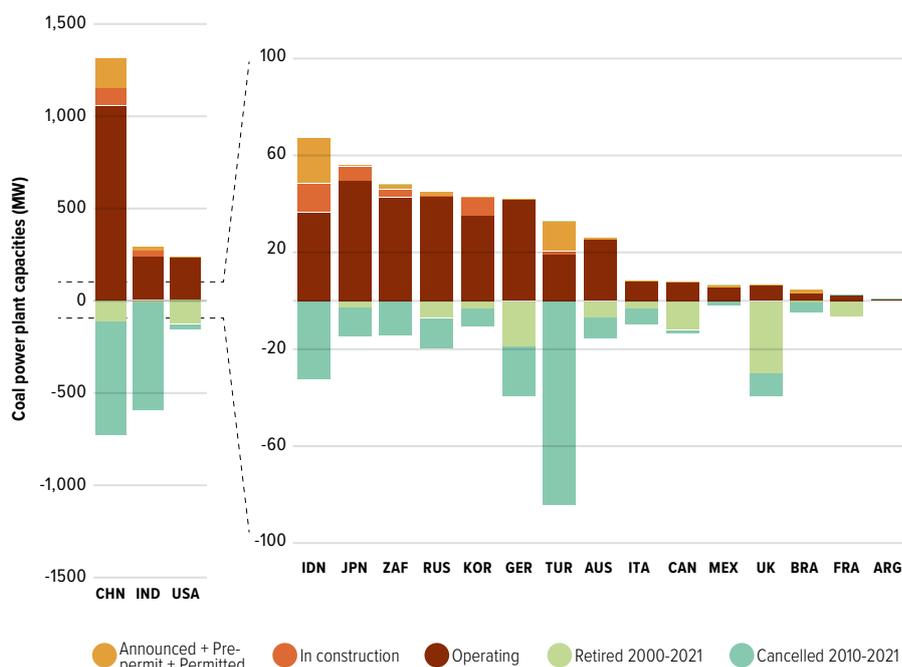
Reducing the emissions intensity of electricity generation is a key mitigation strategy, especially as global power demand is expected to at least double by 2050 compared to 2018.⁵⁷ G20 emissions intensity has been decreasing from 2015-2020. However, Australia, China, India, Indonesia, Saudi Arabia and South Africa registered above G20 average emissions intensity levels in 2020.⁵⁸

China currently accounts for over half of the G20's total coal capacity, followed by India and the USA (see Figure 12). China also has the highest planned coal capacity (163 GW), followed by India (21 GW), Indonesia (18 GW), and Turkey (12 GW). G20 members have, however, started to take steps to phase out coal, with France, Italy and the UK all rated as

'frontrunners' for coal phase-out policies, with phase-out dates for coal by 2030. Despite these steps forward, all G20 members will need to commit to phase out coal between 2030 and 2040 to meet the long-term temperature goal in the Paris Agreement.⁶⁰

From 2015-2020, the share of renewables in the G20's power mix increased by 20% (see Figure 13). In 2020, renewables reached 28.6% of the G20's power mix, and this is projected to grow to 29.5% in 2021. This growth was partly due to decreased electricity demand in 2020,⁶¹ but also due to ongoing implementation of renewable energy policies and incentives as well as the falling cost of renewables.⁶² Even though progress is being made, this growth rate will need to accelerate significantly to reach 75% of the global power mix by 2040. Large and small hydro accounts for the highest proportion of the G20's renewables (54%), followed by wind (23%) and solar (12%).⁶³ The EU, Germany, and the UK had the highest share of solar and wind power in 2020, but the UK alone is rated a 'frontrunner', as it has both short-term policies and long-term strategies for 100% renewables in place.

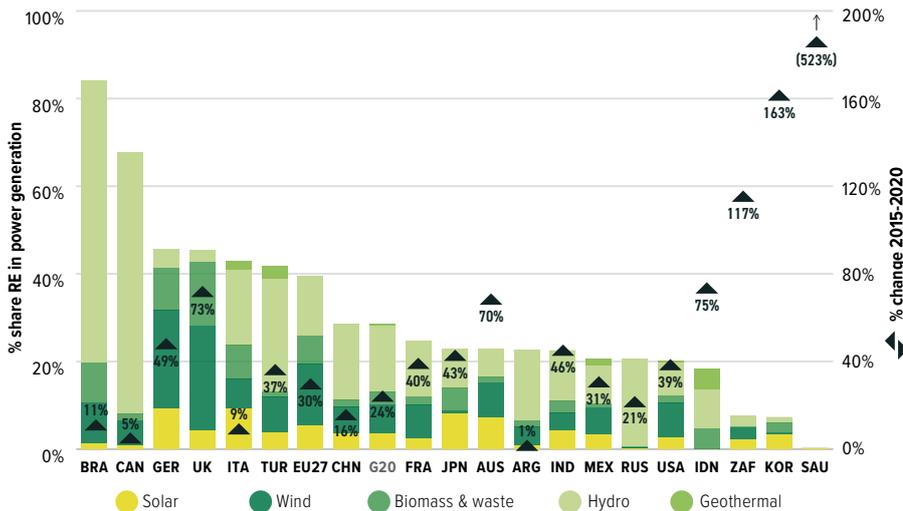
Figure 12: Current coal power capacities of G20 members (as of July 2021)



Note: Some G20 members have a very low to no coal power capacity (see Figure 10).

Source: Global Energy Monitor, 2021⁵⁹

Figure 13: Share of renewables in power generation in 2020 and % change in share of renewables, incl. large hydro (2015-2020)



Note: Saudi Arabia (523%), South Korea (163%) and South Africa (117%) have had the highest increases over the last five years, but renewables in their overall energy mix remain at 0.2%, 7.2%, and 7.6%, respectively.

Source: Enerdata, 2021

TRANSPORT

More electric vehicles and modal shifting needed

1.5°C The share of low-carbon fuels in the transport fuel mix globally must increase to between 40% and 60% by 2040 and between 70% to 95% by 2050.⁶⁴

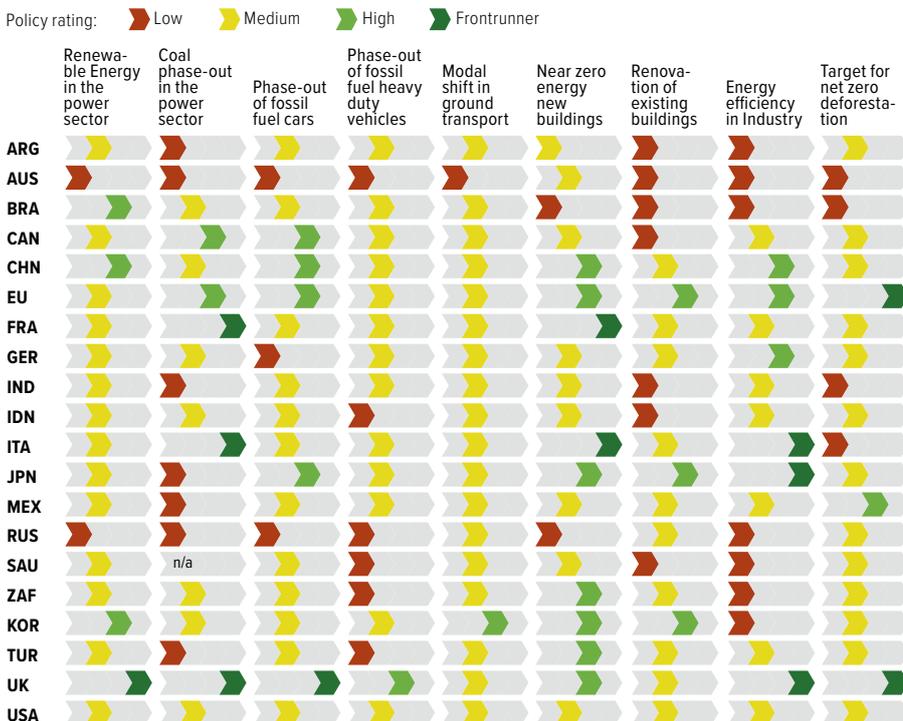
G20 energy-related CO₂ emissions – transport sector (2020)



Source: Enerdata, 2021

The transport sector is responsible for close to a fifth of the G20's energy-related CO₂ emissions – driven mainly by consumption of oil – with road travel accounting for two-thirds of these emissions, mainly from passenger vehicles.⁶⁵ From 2009-2018, emissions increased by 1.7% per year and by 1% in 2019. In 2020 there was a significant decline due to the pandemic but, in 2021, emissions are projected to rebound to near pre-pandemic levels.⁶⁶ To decarbonise the transport sector, G20 members will need to engage in mass electrification, switching to low-carbon fuels, and modal shifting. Across the G20, the current average market share of electric vehicles (EVs) in new car sales remains low at 3.2% (excluding the EU), with Germany, France, and the UK having the highest shares of EVs.

Figure 14: Summary of policy ratings across sectors



Source: Climate Analytics, 2021⁶⁷

INDUSTRY

Steel and cement key to reducing emissions

1.5°C Industrial emissions need to be reduced by 65-90% from 2010 levels by 2050.⁶⁸

G20 energy-related CO₂ emissions – industry sector (2020)



Source: Enerdata, 2021

CO₂ emissions in the industrial sector result from direct emissions (conversion of energy), indirect emissions (electricity and co-generated heat), and process emissions (mainly from iron, steel, or cement). From 2009-2018, in the G20, CO₂ emissions from industry have grown by 1.2% per year. In Argentina, Brazil, Mexico, Russia, and Saudi Arabia, from 2012-2017, there has been an increase in emissions intensity of industry, in part due to a shift in heavy industry moving to emerging and developing countries along with differences in technological standards and regulations.⁶⁹ Although challenging to decarbonise, the production of steel and cement accounts for nearly half (44%) of global CO₂ emissions from industry worldwide and is, therefore, pivotal to transforming the industrial sector.⁷⁰

BUILDINGS

Energy efficiency and electrification using low-carbon electricity needed

1.5°C By 2040, global emissions from buildings need to be reduced by 90% from 2015 levels, and reach 95-100% below 2015 levels by 2050.^{71, 72}

G20 energy-related CO₂ emissions – building sector (2020)



Source: Enerdata, 2021

The building sector is responsible for close to a quarter of G20 energy-related CO₂ emissions. Building emissions occur directly (for heating and cooking) and indirectly (for air conditioning and appliances). From 2005-2018, energy-related emissions from the building sector increased by 0.5% per year. Emissions intensity of existing residential and commercial buildings has, however, been gradually falling across major emitting economies partly due to improved energy efficiency and higher levels of electrification using low-carbon electricity.⁷³

On average, building emissions per capita across the G20 are 1.4 tCO₂/capita, a decrease of 2.9% between 2015-2020, but this is not a fast enough decrease.⁷⁴ In particular, the USA (4.9 tCO₂/capita) and Australia (4.1 tCO₂/capita) have the highest building emissions per capita in the G20, reflecting the high share of fossil fuels, especially natural gas and oil, used for heat generation.⁷⁵

LAND USE

Loss of forest areas adding to the climate crisis

1.5°C Global deforestation needs to be halted and changed to net zero CO₂ removals by around 2030.⁷⁶

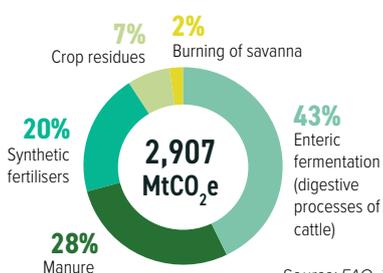
Forests can be a source of emissions when cut down, or a carbon sink when more trees, that take into account local ecosystems, are either added to the landscape or protected. The G20 has lost a total of 3.7 Mha per year of forest area between 2015-2020 (excluding Australia, France, Japan, Saudi Arabia, the UK, and the USA for which data is unavailable). Afforestation activities have also increased between 2015 and 2020, leading to a net gain of +0.1 Mha per year to the G20's total forest area. Nonetheless, from 2015-2020, Argentina, Brazil, Canada, Indonesia, Mexico, and South Africa all registered net losses of forest area, with Brazil and Indonesia driving global deforestation with massive losses of 1.5 Mha and 0.6 Mha per year, respectively, diminishing critical global carbon sinks. In Brazil and Indonesia, not only demand for land for food production but also the removal of environmental protections and regulations has contributed to increased deforestation. Of note, Australia is the only advanced G20 economy on a list of 24 global deforestation hotspots⁷⁷ with an average forest loss of 0.4 Mha per year between 2010-2015.⁷⁸

AGRICULTURE

Livestock driving increase in agricultural emissions

1.5°C Methane emissions (mainly enteric fermentation) need to decline by 10% by 2030 and by 35% by 2050 (from 2010 levels). Nitrous oxide emissions (mainly from fertilisers and manure) need to be reduced by 10% by 2030 and by 20% by 2050 (from 2010 levels).⁷⁹

Figure 15: G20 GHG emissions from agriculture, excl. energy (2018)



Source: FAO, 2021⁸⁰

Emissions from agriculture accounted for 10% of the G20's total GHG emissions in 2018 and 1.8% of the G20's energy-related CO₂ emissions. The bulk of agricultural emissions

arise from methane and nitrous oxide, with the main drivers being enteric fermentation (43%), livestock manure (28%), and synthetic fertilisers (20%) (see Figure 15).⁸¹

Figure 16: Summary of 5-year trends and current decarbonisation ratings

Current decarbonisation rating:* ● Very high ● High ● Medium ● Low ● Very low

Emissions intensity of the power sector: 2015-2020 (gCP2/kWh % change)



Growth in share of renewables in power generation (incl. large hydro): 2015-2020 (% change)



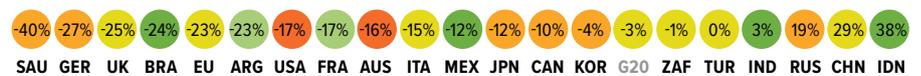
Transport emissions per capita (excl. aviation): 2015-2020 (tCO₂/capita % change)



Aviation emissions per capita: 2013-2018 (tCO₂/capita % change)



Building sector emissions per capita: 2015-2020 (tCO₂/capita % change)



Emissions intensity of industry: 2012-2017 (kgCO₂e/US\$2015 GVA % change)



*Current year is 2020 except for Aviation emissions per capita (2018) and Emissions intensity of industry (2017).

Source: Enerdata, 2021⁸²

KEY ACTIONS FOR G20 MEMBERS

- ✔ **Power:** Further stimulate and scale up growth in renewables whilst committing to a rapid phase-out of fossil fuels.
- ✔ **Transport:** Introduce policies and measures aimed at fuel switching to low-carbon fuels, mass electrification and modal shifting. Sales of internal combustion engine (ICEs) vehicles should be banned by 2035 to limit temperatures to 1.5°C.⁸³
- ✔ **Industry:** Increase energy and material efficiency (fuel switching to low-carbon sources such as electrification, green hydrogen), increase material recycling, reduce demand, and decarbonise production.
- ✔ **Buildings:** Encourage retrofitting and electrifying existing buildings to reduce energy demand. Require all new buildings to meet high energy-efficiency standards and be equipped with heating and cooling technologies that either are, or can be, zero emissions.
- ✔ **Land use:** Implement net zero deforestation targets and policies, protected area networks, deforestation-free supply chains, and forest-friendly infrastructure.
- ✔ **Agriculture:** Improve productivity to feed a growing population, shift high-meat diets towards plants, slow the growth of food and agricultural land demand by reducing food loss and waste.



Make finance flows consistent with a pathway towards low-GHG emissions and climate-resilient development.

FINANCIAL REGULATIONS IMPROVING, BUT PUBLIC FOSSIL FUEL FINANCE CONTINUES



Financial actors, from central banks to export credit agencies, are finally integrating climate into their operations. But continued public support for coal, oil, and gas must end immediately to have a chance of reaching climate targets.

1.5°C International public finance for coal must end immediately in all G20 members to halt the development of coal power. Investment in green energy and infrastructure needs to outweigh fossil fuel investments by 2025.

Making all finance flows align with a low-carbon climate-compatible pathway is one of the key objectives of the Paris Agreement.⁸⁴ Due to the relative size of their economies and emissions, G20 governments have a key role to play in showing leadership on this agenda, by putting in place the right price signals and channelling all public finance away from high-carbon activities and assets towards clean, climate-compatible ones, and incentivising private finance flows to follow suit.

FINANCIAL POLICIES AND REGULATIONS

Progress on financial policies and regulations is moving at different speeds across the G20.⁸⁵ Some G20 members have continued taking steps to align their financial systems with sustainable development and address financial risks related to climate change. There has been momentum on greening the financial sector at the international level,

for example, through the G20 sustainable finance working group and the Financial Stability Board’s (FSB) climate risk roadmap.⁸⁶ However, more concerted efforts are needed, such as the standardisation of green finance practices, promotion of disclosure standards for carbon and environmental risks, and implementation of national sustainable finance roadmaps to transform the financial sector into a sustainable one.

Significant regulatory and policy developments were seen in France, Canada, Japan, the USA, South Korea, the UK and the EU (see Figure 17).

Some encouraging progress has also been seen in Australia, China, Germany, India, and Mexico where the central banks and financial regulatory authorities have stepped up to manage climate-related risks and opportunities within their financial sector, through issuing relevant guidance and strategies, or joining international networks that coordinate action in this area.^{95, 96, 97, 98, 99}

While most other G20 members have acknowledged the effects of climate change on their financial sector, progress has been slow on green finance initiatives. No major policy or regulatory level green finance commitments were identified in Russia, Saudi Arabia, or Turkey (aside from limited evidence

on efforts to stimulate green bonds or establish an ESG framework).^{100, 101, 102}

FISCAL POLICIES

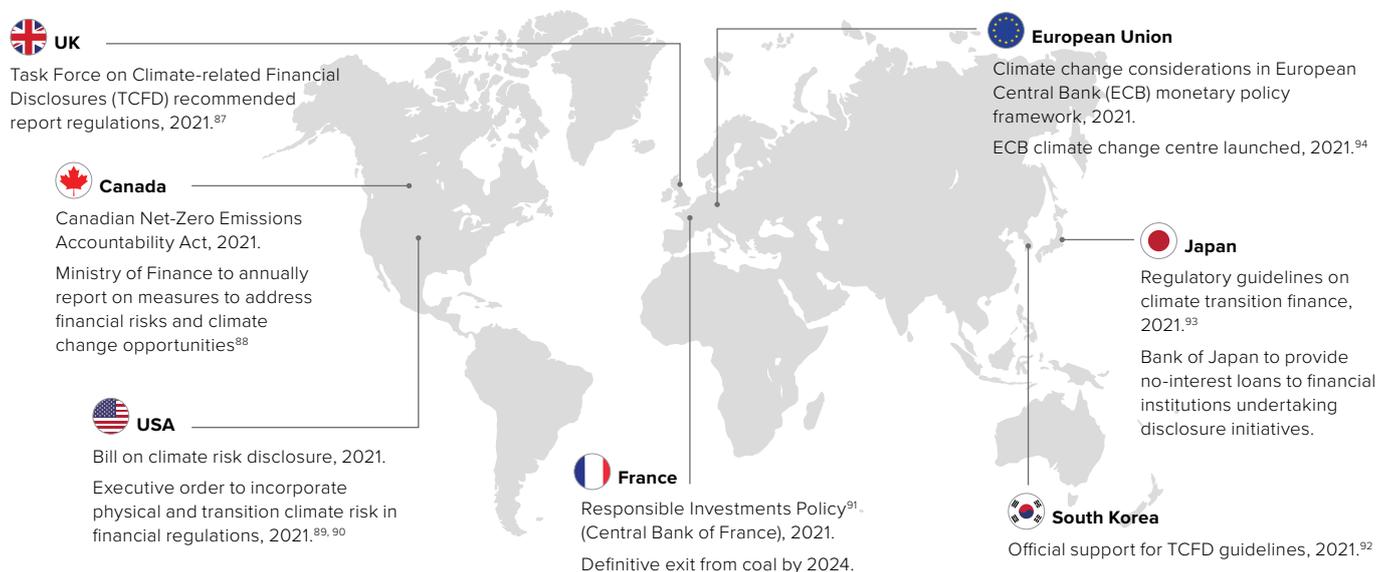
Appropriate taxation and pricing instruments constitute incentives to align finance flows and investment with a climate-compatible future. Removing budgetary support and tax exemptions for fossil fuels and putting in place effective carbon pricing schemes are key steps to this end, alongside complementary fiscal policies supporting adaptation and a just transition.

Fossil fuel subsidies remain very high

The continued provision of subsidies for the production and consumption of fossil fuels by G20 governments hinder the low-carbon transition by creating perverse incentives for their extraction and use, thereby prolonging the life of fossil fuel assets.

In 2009, G20 members committed to “rationalise and phase out over the medium-term inefficient fossil fuel subsidies that encourage wasteful consumption”.¹⁰³ However, progress has been limited. In 2019 alone, G20 members, excluding Saudi Arabia,¹⁰⁴ provided at least USD 152bn in subsidies for the production and consumption of coal, oil, and gas (see Figure 18).¹⁰⁵

Figure 17: Regulatory and policy developments in G20 members to align financial systems with climate action



Note: This figure illustrates examples of some key actions in G20 members, but is not exhaustive of all recent developments in this area. Source: Authors’ own, based on various sources

Five-year trends (2015-2019) for fossil fuel subsidies as a share of each country's GDP (which helps correct against currency and oil price fluctuations) show various extents of decrease in most G20 members, most notably for Argentina,¹⁰⁶ China and Saudi Arabia (of between 57% and 70%), but an increase in several others, especially in Mexico, Russia and France (in the order of 29-68%), while remaining fairly stable in Canada and Turkey.

Almost 40% of the total subsidies over the past years have been directed to petroleum.

According to preliminary aggregate estimates,¹⁰⁷ government support for the production and consumption of fossil fuels in G20 economies, excluding Saudi Arabia for which comparable data is not available, decreased by 9% from 2019. This reduction was mostly due to COVID-19 impacts, such as the fall in consumption of transport fuels brought about by mobility restrictions, and a 10% decrease in support to the fossil fuel production sector, driven by the drop in oil demand and the ensuing OPEC quotas of production in response.¹⁰⁸ However, this decrease may well be offset by several examples of large sums of government support devoted to fossil fuel production, in the form of sizeable bailouts to state oil and electricity companies, once these are officially reported. During 2020, G20 members pledged at least USD 252bn to fossil fuel energy as part of their energy-related funding commitments and COVID-19 economic response.¹⁰⁹

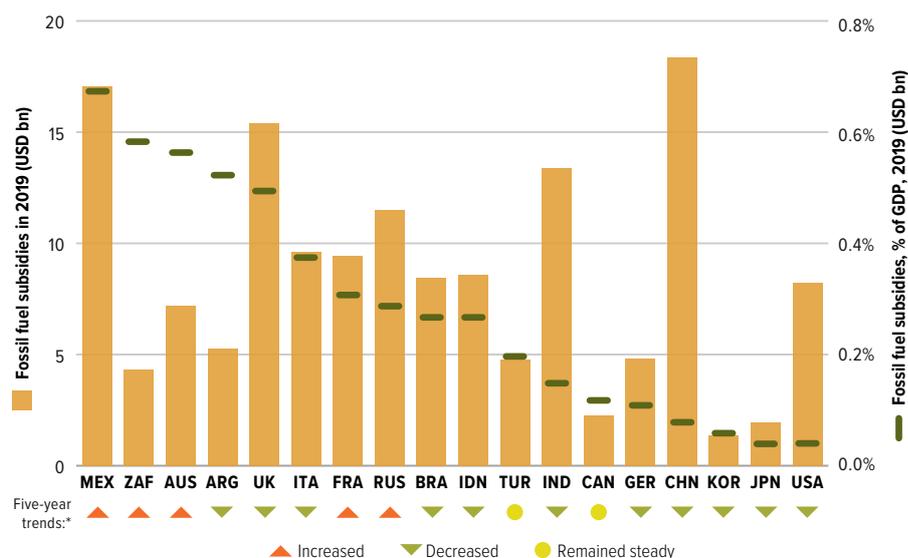
Most countries now have carbon pricing

Pricing carbon effectively can encourage emitters across the entire economy to put in place efficiency measures and low-carbon transition plans. Currently, a total of 13 G20 members (as opposed to only 10 five years ago) have in place some form of explicit national carbon pricing scheme, such as carbon taxes and emissions trading schemes (ETS). Brazil, Indonesia, Russia and Turkey are currently considering introducing such a scheme and some are currently trialling pilot schemes. In 2020, explicit carbon pricing schemes generated total revenue of USD 47bn in the G20, with France and Japan recording the highest amounts of USD 9.3bn and USD 6.2bn, respectively.

Among the latest updates, China launched its long-awaited national carbon ETS for the power sector (July 2021), the German government officially launched (January 2021) a national "cap-and-trade" system for the heating and road transport sectors (which are currently not covered by the EU ETS), and a UK ETS (as of January 2021) replaced the UK's participation in the EU ETS following Brexit.^{110, 111, 112}

However, emissions coverage greatly varies and the price of carbon remains generally too low across the G20 to be in line with

Figure 18: 2019 G20 members fossil fuel subsidies (absolute values and per-unit of GDP shares) and 2015-2019 subsidy trends



*Trends were assumed to have remained steady for increases or decreases within a +/- 10% range. Note: Saudi Arabia is not included as comparable data is unavailable.

Source: OECD inventory of fossil fuel, 2020.¹¹³ For more information on the data, see the Methodology note.

Figure 19: Coverage and average price of explicit carbon pricing schemes in G20 members

Country	Coverage	Price (USD)
Argentina	20%	9.5
Australia	0%	n/a
Brazil	0%	n/a
Canada	31%	32.8
China	0%	n/a
France	74%	54.0
Germany	39%	32.5
India	0%	n/a
Indonesia	0%	n/a
Italy	39%	32.5
Japan	68%	2.7
Mexico	46%	3.3
Russia	0%	n/a
Saudi Arabia	0%	n/a
South Africa	80%	9.5
South Korea	74%	19.4
Turkey	0%	n/a
UK	62%	32.5
USA	0%	n/a
EU	39%	32.5

Coverage*

- High: >66%
- Medium: 33%-66%
- Low: <33%
- None: 0%

Price

- Sufficient: >USD 40*
- Low: USD 11-39
- Very low: USD 1-10

*Coverage criteria based on that which was used in the BNEF Climate Policy Factbook

Notes: This table only includes national-level schemes and their prices. It does not include sub-national schemes, the inclusion of which would increase the overall level of coverage and pricing of carbon in a country. For example, according to the BNEF report Climate Policy Factbook, in countries with significant sub-national schemes, the overall coverage and prices can vary the levels and are as follows: Canada: 78%, USD 31/tCO₂; China: 43%, USD 6/tCO₂; USA: 8%, USD 6/tCO₂.¹¹⁴ For EU countries, the table includes the EU ETS as well as any national scheme prices, and it assumes that the EU ETS coverage is uniform across EU members and equal to the EU average coverage of 39%. When a country has both its own national carbon pricing scheme and the EU ETS, the one with the highest nominal price was chosen to determine the price in the table.

Source: Analysis based on data provided by IACE, 2021.¹¹⁵ For more information, see the Methodology note.

climate aims (see Figure 19). France is the only G20 member whose carbon price is above the USD 40/tCO₂e threshold by 2020 recommended by the High-Level Commission on Carbon Prices. A few G20 members (Canada, Germany, Italy, South Korea, the UK and the EU) have a carbon price that is defined as "low" (USD 11-39/tCO₂e),

while carbon prices in the rest of the G20 remain below the USD 10/tCO₂e threshold. When emissions coverage is considered for national-level explicit carbon pricing schemes, only schemes in France, Japan, South Africa and South Korea currently cover more than 66% of domestic emissions.

Finally, the EU recently released a proposal for a new Carbon Border Adjustment Mechanism (CBAM), a climate measure that should prevent the risk of “carbon leakage” (the practice of moving carbon-intensive production abroad to avoid paying the price of carbon). In their July 2021 communiqué, G20 Finance Ministers also mentioned the need for closer collaboration on carbon pricing mechanisms.¹¹⁶

PUBLIC FINANCE FOR FOSSIL FUELS

Governments channel financing through public finance institutions, including national and multi-lateral development banks and export credit agencies, by providing direct funding and encouraging private investments by lowering the cost of and risk for capital. Steering this financing away from high-carbon assets and towards appropriate adaptation and mitigation activities is crucial to aligning with the Paris Agreement’s goals.

International public finance for fossil fuels continues

During 2018-19, G20 members provided USD 50.7bn per year of public finance for fossil fuels.¹¹⁷ Over three-quarters of this financing was for oil and gas. The highest providers of public finance were Japan (USD 10.3bn/yr), China (just over USD 8bn/yr), and South Korea (just under USD 8bn/yr) (see Figure 20).

There has, however, been encouraging progress in terms of G20 members restricting public spending on fossil fuels through public finance institutions (PFIs). Multilateral development banks (MDBs) and nationally-owned development banks have made commitments in recent years to mainstream climate considerations in their operations and lending. Most recently, in May 2021, G7 nations made a commitment to end the use of public finance for new, unabated international coal power plants.¹¹⁸ South Korea also made a similar commitment.¹¹⁹ In addition, the US Treasury has announced a significant step away from international coal and gas projects through MDBs.¹²⁰ In September 2021, China also committed to end coal financing overseas.¹²¹

However, to support the phase-out of these fuels in line with climate goals, such restrictions must be rapidly expanded to include oil and gas. The UK government has shown leadership by announcing in December 2020 that it would no longer provide any fossil fuel finance internationally, though with lack of clarity on natural gas projects.¹²² This follows similar commitments by the EU’s PFIs. The European Investment Bank (EIB) banned financing for all fossil fuels in 2019, but with exemptions for certain types of natural gas projects.¹²³ In July 2021, the European Bank for Reconstruction and Development (EBRD) committed to stop investing in upstream oil and gas projects by the end of 2022, to align its activities with the Paris Agreement.¹²⁴

Figure 20: G20 public finance for fossil fuels (USD millions per year, 2018-19 average)



Coal: coal extraction or coal-fired power generation. **Oil and gas:** oil and gas extraction, processing or gas-fired electricity. **Other:** where support is provided for fossil fuels but the allocation between the types of fuel is unknown, or it is provided to coal, oil, and gas activities (combined).

Source: Oil Change International, 2020¹²⁵

International climate finance is still lacking

Australia, Canada, the EU, France, Germany, Italy, Japan, the UK, the USA are considered Annex II under the UNFCCC and are, therefore, obliged to provide climate finance to non-Annex II countries. They reported an annual average international public support amount of USD 43bn between 2017-18, which only increased by 2% between 2018-19.^{126, 127}

Japan is the largest contributor of climate finance among G20 members, at over USD 12bn in 2017-18, which includes so-called ‘clean’ coal as climate finance. Flows are delivered predominantly through the Japanese Bank for International Cooperation (JICA). Germany and France follow, at USD 8.4bn and USD 6.6bn, respectively, making use of KfW and the French Development Agency (AFD).

A number of non-Annex II countries of the G20 are voluntarily contributing climate finance (Brazil, China, India, Indonesia, Mexico, Russia, South Africa and South Korea). Russia has provided data on climate finance provision while other countries have pledged multilateral climate change funds.

COP26 in 2021 marks the official start of negotiations towards the new climate finance goal. The new goal will need to

exceed the target of USD 100bn a year from 2020 that developed countries committed to mobilise for developing countries from public and private sources. At the G7 Summit in July 2021, Canada, France, Germany, Italy, Japan, the UK and the USA reaffirmed their commitment to the USD 100bn through 2025.¹²⁸ And, in September 2021, the European Commission committed an additional EUR 4bn (USD 5bn) by 2027 to support low-income and climate vulnerable countries.¹²⁹ Yet many estimates suggest they are still falling short of the target^{130, 131, 132} and countries are not doing their ‘fair-share’.¹³³

With climate finance needs estimated to be far beyond USD 100bn a year, it will be critical to develop trust between Global South and G7/G20 members for this goal to be met. Many Annex II G20 countries will need to show clear commitments to greater climate finance ambition than the current target, and must use robust transparency and accountability mechanisms to ensure resources are effectively spent on quality projects. In this respect, the G7 commitment to end overseas development aid (ODA) for new coal is a key step in ensuring all finance flows are aligned with the Paris Agreement goal.

KEY ACTIONS FOR G20 MEMBERS

- ✓ Initiatives integrating climate risk and reporting into their financial systems must move from voluntary to compulsory reporting, and price and coverage of carbon pricing schemes must be increased.
- ✓ G20 members must eliminate continued subsidies as well as domestic and international public finance for fossil fuels.
- ✓ The nine G20 members who are required to provide climate finance to developing countries need to deliver the delayed USD 100bn and reaffirm their commitment for sufficient and high-quality financing that meets the needs of recipients.

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