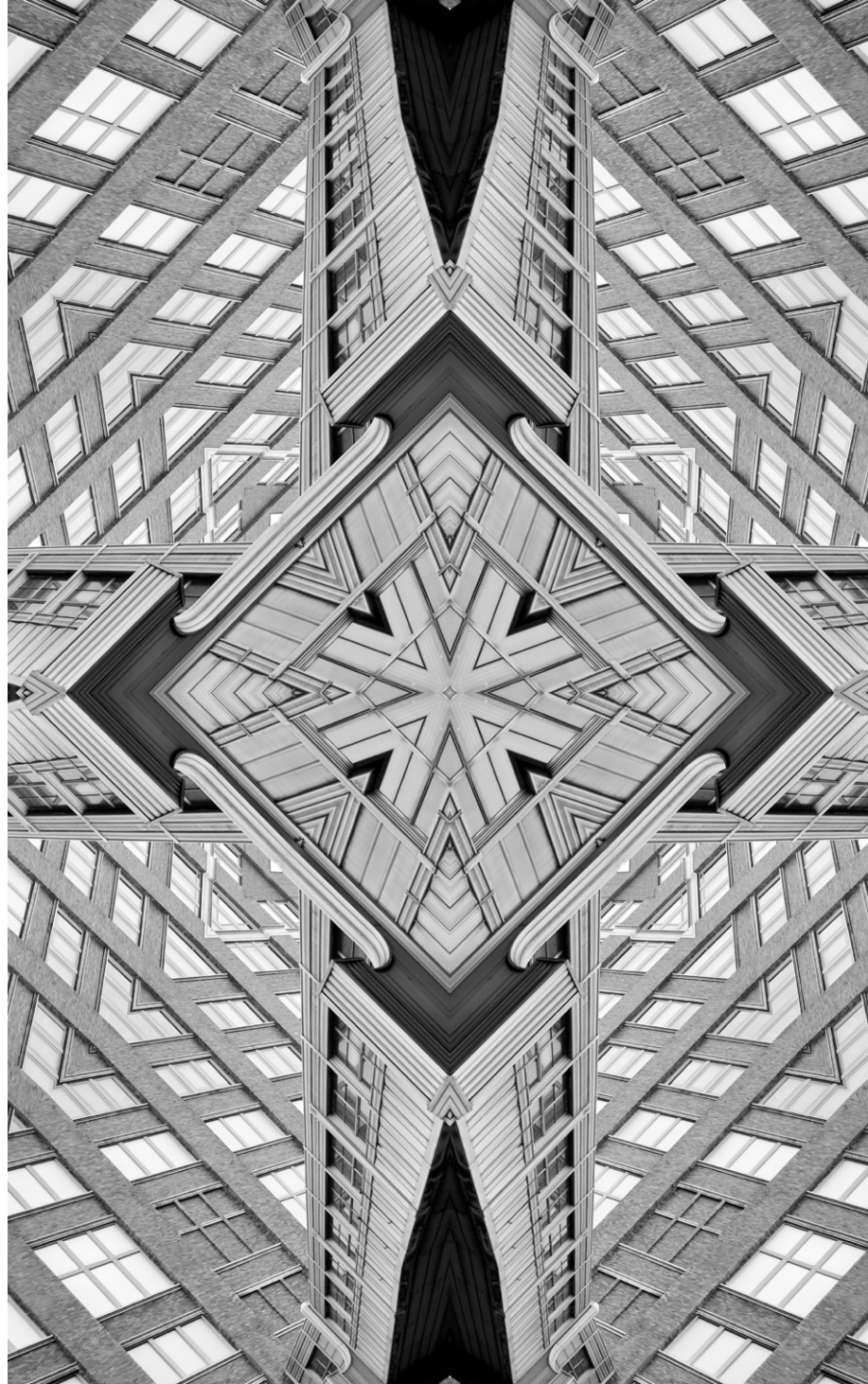


# Issue Brief

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# Driving the G20's Climate Agenda: Priorities for India's Presidency

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## Abstract

India has assumed the G20 presidency at a critical and opportune time in history, even as the half-yearly report card indicates that consensus-building in the grouping has been more difficult than India may have expected. This brief identifies six areas where India can manifest its capability to lead the building of an effective and plausible climate action plan. Globally, championing the tracking of per-capita emissions and fossil fuel-based power generation will be vital, whilst building on the momentum of successive G20 presidencies under countries from the Global South. Engagements with the G20's Business track towards private finance, ESG investments, and principles of circular economy must be operationalised. Lastly, it is imperative that India build its diplomatic heft in the field of climate action, to fuel its own growth trajectory.

India has had to deal with the conundrum of *development versus climate action* for some time now. Yet, “certainties are words from the past,”<sup>1</sup> and the ‘Summary for Policymakers’ of the IPCC’s Sixth Assessment Report (AR6) 2023, released in March, is a clarion call for urgent climate action. It warns that if the current development pathway is not reversed, global warming will exceed 1.5°C during the 21<sup>st</sup> century. This means that every incremental rise in global temperature from hereon will bear impacts that are more severe and frequent.

Approximately 3.6 billion of the world’s population reside in highly vulnerable climate contexts.<sup>3</sup> A majority of this population are in developing countries across the Global South and are particularly at extreme risk. Inequities, low capacity, and limited financial resources compounded with existing development challenges, constrain the ability of these countries to mitigate and adapt to uncertain climate risks.<sup>4</sup> The window of opportunity to act has already shrunk, and in the absence of more concerted efforts, the scenario will only likely worsen.

Leadership for climate governance will be key in fulfilling the task. The G20 presidency offers India an opportunity to take the lead in climate action and offer a low-carbon growth model that other economies could adopt. At the intersection of the priorities highlighted by India for its presidency—global value chains, infrastructure finance, technological disruptions, financial inclusion, trade, and agriculture—sits climate adaptation, resilience and energy transition. India is the only 2 degrees-compatible country in the G20 that is projected to meet its climate goals.<sup>5</sup> A number of important initiatives such as the International Solar Alliance (ISA), Coalition for Disaster Resilient Infrastructure (CDRI), and the National Green Hydrogen Mission, as well as the rise in renewable energy aid its efforts to decouple emissions from economic growth.

At the time of writing this brief, nearly half a year has passed since India assumed the G20 presidency and there are signs that building consensus is tougher than it may have first seemed. How can India leverage the remaining months of its G20 presidency to translate global climate goals into action? What key action points can help it further its climate agenda even as it builds its own diplomatic heft? This brief evaluates the G20’s collective weight and analyses the priority accorded to climate action by G20 presidencies so far. It delves into the learnings it offers for the Indian presidency, and recommends a six-point agenda for India.



# G20's Economic Weight and Climate Leadership

The G20 has strong social, economic, and political interest in limiting the rise of global temperature to 1.5°C on account of the impacts on livelihoods, labour productivity, health and human capital, and overall macroeconomic growth and activity. The collective economic heft of the G20 countries are a key lever for driving this global transition—after all, these economies account for 80 percent of cumulative global GHG emissions, 85 percent of global GDP, and 75 percent of foreign direct investment flows.<sup>6</sup>

Over the past decade, the G20 has expressed support for international climate negotiations by mobilising G20 platforms for deliberations and advocacy, and has established its own climate initiatives for translating global climate policies into country-level financial and economic strategies. However, climate action within the G20 countries is not on-track, and current commitments will reduce GHG emissions by only 10 percent by 2030.<sup>7</sup>

Progress on energy transition has also been slower than targeted, with only 30 percent of all energy produced in G20 countries coming from renewable sources. Even within renewables, nuclear and hydro have the largest shares—a cause for concern considering the negative externalities that nuclear and hydro power can have on the environment.<sup>8</sup>

As a long-standing advocate of equity, justice, and historical responsibility in addressing climate concerns, India has championed the cause of developing economies that remain lacking in multilateral and bilateral finance flows and technology transfers. India has declared ‘disruptive innovation for climate action’ a priority of its G20 presidency. These include long-term directions, immediate actions, and aligning financial flows with those directions and signals.



# Historical G20 Summits: Lessons for India's Presidency

**T**he G20 has taken various steps and directives in the past decade to advance the climate agenda. However, existing literature on the G20 has not adequately studied the group's commitment to the climate agenda over a longer time frame. As a group that brings together high-income countries from North America and Europe, middle/low-income countries from BRICS, and the Global South, the G20 is well-suited for building bridges, stocktaking, and advocating follow-on announcements from the regular Conference of the Parties (COPs). Table 1 summarises key assessment points on climate-specific actions and declarations undertaken by G20 Presidencies through its ministerial engagements over the last decade. The authors have analysed drafts of Leaders' Declarations released at the end of each Presidency.<sup>a</sup>

**Table 1**  
**Key Actions by G20 Presidencies**  
**(2013-2023)**

| <b>Presidency</b> | <b>Mentions of keywords<br/>[Energy; Others<br/>(climate, transition,<br/>global warming)]</b> | <b>Tangible<br/>declarations on<br/>climate-related<br/>agendas</b> |
|-------------------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| 2013 Russia       | Energy - 38; Others - 12                                                                       | 13 statements                                                       |
| 2014 Australia    | Energy - 13; Others - 5                                                                        | 2 statements                                                        |
| 2015 Turkey       | Energy - 27; Others - 9                                                                        | 2 statements                                                        |
| 2016 China        | Energy - 25; Others - 5                                                                        | 3 statements                                                        |
| 2017 Germany      | Energy - 19; Others - 5                                                                        | 3 statements                                                        |
| 2018 Argentina    | Energy - 15; Others - 8                                                                        | 2 statements (energy only)                                          |
| 2019 Japan        | Energy - 27; Others - 5                                                                        | 3 statements (energy only)                                          |
| 2020 Saudi Arabia | Energy - 17; Others - 9                                                                        | 5 statements                                                        |
| 2021 Italy        | Energy - 27; Others - 47                                                                       | 9 statements                                                        |
| 2022 Indonesia    | Energy - 38; Others - 46                                                                       | 6 statements                                                        |

*Source: Authors' own, based on G20 Leaders' Declarations, 2013-2022.<sup>9</sup>*

<sup>a</sup> Leaders' Declarations are documents compiled at the end of each Presidency, summarising and highlighting key points of deliberation throughout the year, and reflecting commitments and resolutions undertaken for further action.

# Historical G20 Summits: Lessons for India's Presidency

Table 1 shows that for up to four years after the watershed 2015 Paris Agreement, the climate agenda remained limited to energy-related discussions and declarations; there was bare minimum reference to climate finance, financing transitions, technology transfers, or emissions reduction strategies. Of the G20 members, emerging economies such as Russia, Turkey and China have placed more emphasis on energy than countries such as Australia, Argentina and Japan. That the next three G20 presidencies are being held by India, Brazil (2024) and South Africa (2025) must act as a strong indication to the world on upcoming mobilisation strategies towards climate action.

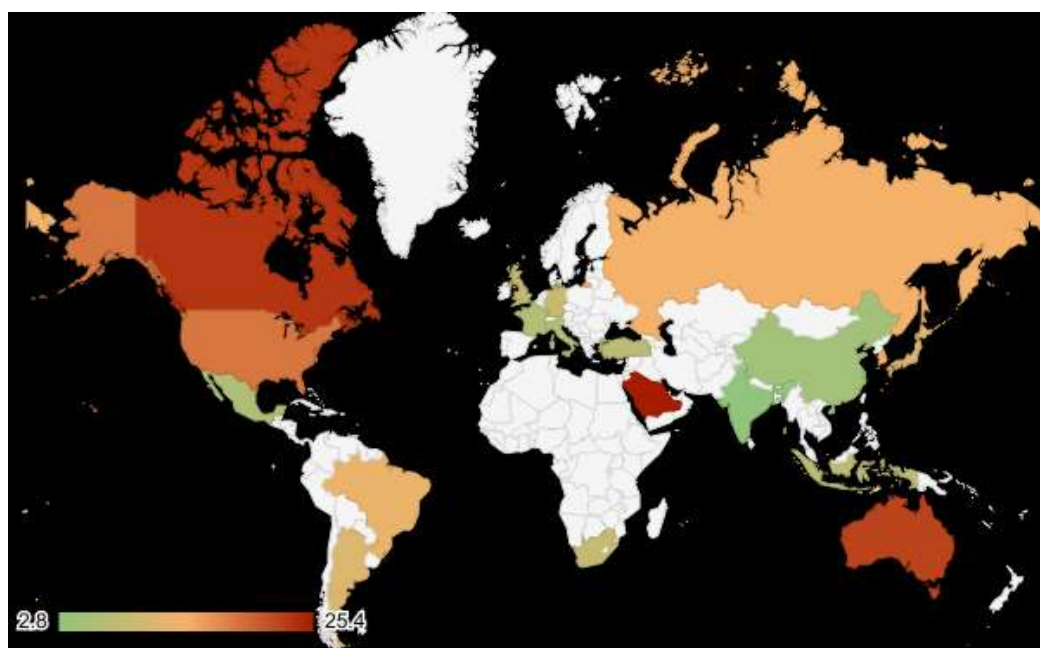
“As a group that brings together high-income countries, middle/low-income countries, and the Global South, the G20 is well-suited for building bridges.”



## 1. Championing per-capita emissions reductions as an indicator of climate action

Recent estimates for greenhouse gas emissions for 2022 peg the estimate at 58 giga tonnes (GT). To keep to the targeted limit of a 1.5-degrees temperature rise, the world needs to cut down annual emissions<sup>10</sup> by 3GT per year for the next three decades. Given that the targets for 2021 and 2022 were missed, the rate of emissions reduction has to now pick up pace.<sup>11</sup> The two components of emissions—aggregate national emissions and per-capita emissions—are both key to emissions reduction, depending on the country and demography in question.

**Figure 1**  
**Per-Capita CO<sub>2</sub> Emissions of G20 Countries (2022)**



Source: World Emissions Clock (2022), by World Data Lab.<sup>12</sup> See Appendix 1 for the data.

Note: Red represents countries with a high per-capita emissions count, and green are those with low per-capita emissions. Orange is for the middle-order.

# India's Opportunity to Drive Outcomes

Among the G20 economies, Saudi Arabia has the highest emissions—more than six times per capita than India. On account of India's development trajectory, it is the lowest per-capita emitter (PCE) amongst the G20 nations. Efforts to bring down per-capita emissions are likely to cause a sharper fall in aggregate national emissions due to the multiplier benefits of the population. Evidence demonstrates that much of India's physical capital growth between 1994 and 2014 has taken place at the cost of its natural capital.<sup>13</sup> As a country that has advocated for the fair implementation of targets under the Paris Agreement accounting for historical responsibility and CBDR, India must build a development paradigm that will aim for a synergy of the four forms of capital—physical, social, human and natural—which are also the bedrock of the Sustainable Development Goals.<sup>14</sup> India must drive the global narrative towards setting the peak dates for per-capita emissions reductions, in line with global net-zero targets for national aggregate emissions to ensure a fair and speedy achievement of targets by developed nations.

## 2. Mainstreaming principles of circular economy

The concept of 'circular economy' is hinged on sustainability—i.e., to aim to turn all goods used into other goods that can be re-used. India, for example, generated 3.5 million tonnes of plastic waste in 2019-20 alone, of which only 12 percent was recycled and 20 percent was burned. The remaining 68 percent would have found their way to the environment (both land and water), or dump sites. The implications are massive: three out of every four river monitoring stations in India are recording alarming levels of heavy toxic metal contamination.<sup>15</sup> Of the 33 stations monitoring the Ganga river, for example, levels of toxic metal contaminants in 10 are very high, posing hazards to public health.

Indeed, India has much ground to cover on waste management and air pollution control. The weak enforcement of the single-use plastic ban and the sustained high AQI levels in Indian cities must be tackled, as urban areas are the heart of economic activity and consumption.<sup>16</sup> Effective land, water and air pollution tools are essential, beginning with the greening of public procurement practices and processes in India, which account for nearly 15 percent of the national expenditure.

# India's Opportunity to Drive Outcomes

## 3. Driving action on the Loss and Damage Fund

A report on the V20, a group of 58 most climate-vulnerable countries, highlights that for the 'most at-risk countries', economic losses due to climate change caused their growth rate to decline by 50 percent between 2000 and 2019.<sup>17</sup> The setting up of the Loss and Damage Fund at the Conference of the Parties (COP)-27 in Egypt in 2022, led to its formal inclusion in the text of the agreement. Vulnerable countries will now be able to receive financial assistance for both economic and non-economic losses resulting from extreme weather/climatic events linked to anthropogenic activity.

Questions remain. First, who is going to manage the L&D fund? Second, which countries are eligible and which countries will contribute? Third, how does the world quantify non-economic losses—are they limited to biodiversity and habitat losses, or do they also include heritage, social and cultural assets? Will they cover losses as measured at a point in time or is there a framework to calculate inter-generational and long-term damages to people and households? Further, given the experience so far with climate finance flows being more in the form of non-concessional loans rather than grants, the operationalisation of a loss and damage fund too, is a case for caution and a reminder to pay close attention to the financial implications of an L&D fund.

The ambiguity is on two accounts: (i) most of the details and operationalisation have been left to a transactional committee that is yet to meet at the time of writing; and (ii) most countries are yet to create clear and definitive green taxonomies. A well-defined green taxonomy is critical for various reasons: it helps outline the sectors, projects and assets that are classified as green, it can minimise the incidence of information asymmetries in markets, eliminate plural/subjective interpretations of green finance, and minimise the risk of greenwashing.<sup>18</sup> The global asset value that uses Environmental, Social, and Governance (ESG) data in the investment decision-making process has doubled in the last four years, and was predicted to reach US\$ 40.5 Trillion in 2020.<sup>19</sup> It is therefore urgent to ensure that the lack of clear taxonomies does not contribute to greenwashing.<sup>b</sup>

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<sup>b</sup> 'Greenwashing' refers to fraudulent/ manipulative claims to mislead the general public into believing that companies, sovereigns or civic administrators are doing more for the environment than they actually are. This may involve making a product or policy seem more environmentally friendly or less damaging than it is in reality.



# India's Opportunity to Drive Outcomes

Green finance is traditionally perceived to be riskier due to the low state of general capacity within governments to administer and monitor green-compliances. In the case of India, compounding this risk is the absence of a green taxonomy that will determine the eligibility of economic activities/projects/assets for such financing. India's green taxonomy must clearly outline sectors such as affordable housing (building and construction), transport and mobility, and waste management as sectors of high priority, and design the taxonomy as per the renewed 1.5-degrees predicted temperature rise recently signalled by IPCC, an improvement over the previous 2.0 degrees. India must act quickly to formalise this taxonomy, to (i) improve the creditworthiness of the country's public authorities and the private sector, and (ii) further global discourse towards defining and operationalising loss and damage.

As a staunch advocate for operationalising the Loss and Damage framework, India must harness its scientific and economic evaluation strategic thinking to demonstrate a quantification of losses and damages on account of natural disasters faced by the country in the past few years. India must build its academic and theoretical knowledge through the Think-20 (T20) track within G20, to formulate a methodology for this quantification. It could collaborate with Global South economies such as Indonesia, Brazil, South Africa and Mexico—who all have incurred huge fiscal costs in recent years due to disasters caused by events such as hurricanes, cyclones and floods.

## 4. Harnessing B20 to outline a wider role for the private sector

Low-carbon projects face high upfront transaction costs that then translate into numerous risks, especially in developing countries, reflecting uncertainty about environmental regulations. Such risks include cost overruns, delays, transaction costs, permit risks, and contract renegotiation, particularly for less mature technologies. The creditworthiness of most emerging market economies is also a critical point.<sup>20</sup> One way of easing this is to create conducive investment ecosystems that incentivise private sector participation and engagement on green finance.

Over the past decade, India has experienced a decline in private sector investments, especially in public infrastructure.<sup>21</sup> It needs to address this gap in public financing. Effectively harnessing private sector finances will be key to stay on-track for the country's NDC targets. This can be explored through tax-related incentives for non-fossil fuel-based technology, higher incentives through public procurement, and lower regulatory compliances.

# India's Opportunity to Drive Outcomes

Furthermore, India should widen its engagements with domestic business houses through mobilising the B20 (Business 20) track within G20. Energy is one sector where Indian corporations have begun making strides, and there is growing consensus among businesses on the need to lower their carbon footprint through emissions reductions.<sup>c</sup> India's Presidency will extend requisite momentum to India Inc. to enhance such commitments through a G20-B20 collaborative dialogue, to demonstrate the role of the Indian corporate sector as an equal partner towards building a green and sustainable economy.

The area of corporate disclosures on climate change risks and financial reporting has also not sized up adequately. Most companies still do not appear to be including the financial impacts of such commitments, or indeed climate change risks, in their financial statements.<sup>22</sup> A survey of 107 global listed companies across sectors of Oil and Gas (33 percent), Transportation (17 percent), Utilities (13 percent), Cement (7 percent), Consumer Goods and Services (7 percent), and Other industrials (23 percent, including mining, chemicals and steel) has found that almost 73 percent did not follow-through from discussions of climate risks or emissions targets to their treatment in the financial statements. Nor did they explain the differences for the same. Climate risk-related disclosure mandates are a rare phenomenon across most economies, and they are struggling to strike a balance between stricter mandates and avoiding greenwashing.

“Effectively harnessing private sector finances will be key to stay on-track for the country's NDC targets.”

<sup>c</sup> Among the companies that have publicly declared net-zero targets include Reliance Industries, the Adani Group, TCS, HDFC Bank, Wipro, Mahindra & Mahindra, JSW Energy, ITC, and Dalmia Cement. 64 companies have pledged to reduce GHG emissions under the Science-Based Target Initiative (SBTi), a global alliance that enables businesses to establish their individual climate pledges. See: Nidhi Singal, “India Inc.'s Big Bet on Net Zero,” *Business Today*, June 10, 2022, <https://www.businesstoday.in/magazine/corporate/story/india-incs-big-bet-on-net-zero-340471-2022-07-06>

## 5. Bringing perspective to 'net-zero'

The ideas of carbon neutrality, coal phase-outs and net-zero have become more popular in the past several years. Still, 30 percent of the primary energy supply of the G20 countries continues to be derived from coal. In many G20 countries, coal continues to account for a majority share in the energy mix and is the largest contributor to GHG emissions.

In India too, coal production and coal-power generation has grown by 16 percent as of FY2023,<sup>23</sup> indicating that renewables are not growing fast enough to prevent the commissioning of new coal power plants and the reduction in coal-based power generation. India has a great distance to cover before it begins a 'phase-down'. Table 2 summarises the commitments made by G20 countries to phase out coal use, and the inconsistencies with their legal and policy actions.

**Table 2**  
**Policy Actions to Formalise Net-Zero and Phasing Out/Down of Coal Use**

| Classification                                                          | Countries                                                       | Policy actions                                                                                             |
|-------------------------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Category 1:<br>Phasing out coal                                         | Canada, UK, Germany, EU, Japan, Russia, South Korea, and France | Policy actions to eliminate coal from the energy mix and electricity mix; Net-zero target embedded in law. |
| Category 2:<br>Phasing down coal                                        | Saudi Arabia, China, Turkey, USA, Australia, and Italy          | Net-zero pledged and included in national policy documents.                                                |
|                                                                         | India, Indonesia, Brazil, South Africa and Argentina            | Net-zero pledged, but no inclusion in policy/law.                                                          |
| Category 3:<br>No targets for coal phase-down in energy/electricity mix | Mexico                                                          | Net-zero target year yet under discussion.                                                                 |

Source: Authors' own, based on The Net-zero Scorecard 2022<sup>24</sup> and individual country coal policies.



# India's Opportunity to Drive Outcomes

The most critical pillar of a net-zero target is reductions in carbon emissions, achieved primarily through the phasing down of coal-fired power plants, and reduction of coal's share in the national energy mix. Table 2 shows that G20 still has much ground to cover on these fronts, with sizeable economies not having a concrete roadmap in place to reach net-zero.

While net-zero targets may sound like a uniform goal, differences in the data of carbon neutrality and differential policy options chosen to reach there make it difficult to monitor outcomes. Within the G20, South Africa has the highest share of coal in domestic energy supply (68 percent), followed by China (64 percent), Australia (51 percent), and India (44 percent). Absolute energy supply from coal in the G20 as a whole has been largely constant between 2012 and 2017, with only a negligible decrease of 0.9 percent during that period.<sup>25</sup> To be sure, coal is not the only emissions-producing fuel source, and the global narrative towards 'net-zero' must include all fossil fuels.

Australia, for example, has set a target of net-zero for the year 2050 and falls within category 2 in Table 2, suggesting that the country is a frontrunner. Fossil fuels accounted for 71 percent of its total electricity generation in 2021, including coal (51 percent), gas (18 percent) and oil (2 percent).<sup>26</sup> Advanced economies are held to a 2030 phase-out of coal domestically, but Germany has stated its own target for a longer timeframe up to 2038; this target is closer than the rest of EU, which is the year 2045.<sup>27</sup> India, for its part, despite its charted growth and development trajectory has committed to a 2070 net-zero target, with renewable energy sources generating 50 percent of its electricity requirements by 2030. Working towards this goal, India has amped up its investments in renewable energy.<sup>28</sup>

“30% of the primary energy supply of G20 countries continues to be derived from coal.”

# India's Opportunity to Drive Outcomes

## 6. Leveraging multilateralism to direct future pathways on climate action

As a member country of BRICS and amongst the nations from the Global South, India is being presented an opportunity to lead the narrative on climate-related challenges that persist partly because of the inability or unwillingness of developed nations to extend adequate financing. The positioning of consecutive G20 presidencies, starting with Indonesia in 2022, followed by India this year, and Brazil and South Africa in the next two, may be coincidental but it is a strategic opportunity for these countries to define a set of agendas that they would collectively determine but individually push for in each of their presidencies. Continuity in policy could also ensure that the stance adopted will invariably be collective. India is well-positioned to anchor this informal but critical collective, and lay out the common agendas that could be of mutual benefit for the consecutive presidencies. This will stabilise a steady five-year path to the achievement of such stated outcomes.<sup>29</sup>

The G20 is often criticised for being 'toothless'<sup>30</sup> and lacking continuity in its policy mandate. The succession of consequent G20 presidencies is in itself a low-hanging fruit for India to ensure it breaks away from this trend, assert its position as a country with diplomatic prowess, and ensure policy continuity from Indonesia to South Africa, leaving an imprint on the G20 discourse.

The G20 must thoroughly use the platforms to advance action on climate finance and financing for energy transitions. India must lead the way by expanding advocacy for more alliance-based actions, not limited to just finance flows but also covering transfers of technology. The International Solar Alliance, the Indian Ocean Rim Association, and the Climate and Disaster Resilient Infrastructure (CDRI) are some examples of how subject-based international or regional coalitions were set up and mobilised as starting points for advocacy. These collaborative learning experiences can contribute towards bridging gaps between countries, enabling capacity building, innovations, and the development of customised and individual policy pathways towards a just and equitable transition.

# Conclusion

India has much work to do domestically, and the national momentum that is prevailing on account of the G20 presidency must be utilised to push critical agendas. It is an opportune time for activism on all fronts by the Government, to push the B20, C20, W20, L20, T20 and Y20 tracks effectively towards more effective climate action.

At best, the G20 is a track for advocacy and consensus-building; India must utilise the sub-tracks for precisely this. A critical part of the agenda is to drive investability of domestic renewables and other key sectors to ensure a favourable business and investment climate that can attract greater inflows. India's ability to ramp up domestic progress and deliver on its ambitious climate targets will remain one of its greatest advantages whilst shoring up international action. Formalising the discourse towards a post-pandemic green recovery agenda falls on India's shoulders as the first to hold the T20 presidency after Covid-19. As young India aspires to find its feet in a world of normalcy, the old order must fulfill its promise to set the house in order. 

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## Appendix 1

### Per capita emissions of G20 countries

|              |      |
|--------------|------|
| Turkey       | 7.4  |
| Mexico       | 6.1  |
| Italy        | 6.2  |
| Argentina    | 11   |
| Saudi Arabia | 25.4 |
| Canada       | 23.5 |
| Australia    | 22.4 |
| USA          | 18.6 |
| Brazil       | 12.9 |
| Japan        | 11.2 |
| Germany      | 9.1  |
| Indonesia    | 7.6  |
| India        | 2.8  |
| UK           | 8.3  |
| China        | 4.7  |
| Russia       | 14   |
| South Africa | 8.7  |
| France       | 6.2  |
| South Korea  | 14.4 |



- 1 Samir Saran, “Thinking Progress: Making ‘G20’ Fit for 2020s,” Observer Research Foundation, December 02, 2022, <https://www.orfonline.org/expert-speak/thinking-progress-making-g20-fit-for-2020s/>
- 2 Intergovernmental Panel on Climate Change, Climate Change 2022: Impacts, Adaptation and Vulnerability, Contribution of Working Group
- 3 Intergovernmental Panel on Climate Change, Climate Change 2022: Impacts, Adaptation and Vulnerability, Contribution of Working Group
- 4 Climate Transparency, The Climate Transparency Report 2020
- 5 Lena Donat, “Japan’s G20 Presidency: Innovation For Climate Action,” *GermanWatch*, 2019, [https://www.germanwatch.org/sites/default/files/Japan%27s%20G20%20Presidency\\_Innovation%20for%20Climate%20Action.pdf](https://www.germanwatch.org/sites/default/files/Japan%27s%20G20%20Presidency_Innovation%20for%20Climate%20Action.pdf)
- 6 Bo Li, Bert Kroese, “Bridging Data Gaps Can Help Tackle the Climate Crisis,” *IMFBlog*, 2022, <https://www.imf.org/en/Blogs/Articles/2022/11/28/bridging-data-gaps-can-help-tackle-the-climate-crisis>
- 7 International Monetary Fund, Climate Change Indicators Dashboard - Renewable energy production, IMF, 2022, <https://climatedata.imf.org/pages/access-data>.
- 8 G20 Research Group, G20 Leaders Declaration/Communique Repository, <http://www.g20.utoronto.ca/>
- 9 United Nations Environment Programme, *Emissions Gap Report 2022: The Closing Window – Climate crisis calls for rapid transformation of societies*, UNEP, 2022, <https://www.unep.org/resources/emissions-gap-report-2022>
- 10 Homi Kharas et al., “Tracking emissions by country and sector,” *Brookings*, November 29, 2022, <https://www.brookings.edu/blog/future-development/2022/11/29/tracking-emissions-by-country-and-sector/>
- 11 “World Emissions Clock,” *World Data Lab*, <https://worldemissions.io/>
- 12 United Nations Environment Programme, “Inclusive Wealth Report,” UNEP, 2018, <https://www.unep.org/resources/inclusive-wealth-report-2018#:~:text=The%20results%20of%20the%20IWR,rate%20of%201.8%25%20per%20year.>
- 13 Nilanjan Ghosh, “Between Growth-fetishism and Green Recovery,” *Ecology, Economy and Society—the INSEE Journal* 5 (2): 5-13, July 2022.
- 14 Sayantani Biswas, “On World Environment Day, a report reveals a worrying tale for India’s coastline,” *Livemint*, June 5, 2022, <https://www.livemint.com/news/india/on-world-environment-day-report-reveals-a-worrying-tale-for-india-s-coastline-read-here-11654428579262.html>

- 15 *The Indian Express*, “Mumbai the second most polluted city in the world,” February 14, 2023, <https://indianexpress.com/article/cities/mumbai/mumbai-second-post-polluted-city-world-8445251/>
- 16 Vulnerable Twenty Group, “Climate Vulnerable Economies Loss Report,” June 2022, <https://www.v-20.org/resources/publications/climate-vulnerable-economies-loss-report>
- 17 Renita D’Souza, “Perspectives on a green taxonomy for India,” *ORF Expert Speak*, November 11, 2022, <https://www.orfonline.org/expert-speak/perspectives-on-a-green-taxonomy-for-india/>
- 18 Sophie Baker, “Global ESG-data driven assets hit \$40.5 trillion,” *Pensions & Investments*, July 2, 2020, <https://www.pionline.com/esg/global-esg-data-driven-assets-hit-405-trillion>
- 19 Hourcade, J.C, et al., “Scaling up climate finance in the context of Covid-19,” South Korea: Green Climate Fund, 2021, [https://www.greenclimate.fund/sites/default/files/document/scaling-climate-finance-context-covid-19-executive-summary\\_0.pdf](https://www.greenclimate.fund/sites/default/files/document/scaling-climate-finance-context-covid-19-executive-summary_0.pdf)
- 20 Rakesh Mohan, Deputy Governor, Speech on “Infrastructure Development In India: Emerging Challenges,” *Reserve Bank of India*, 2003, <https://rbidocs.rbi.org.in/rdocs/Speeches/PDFs/40405.pdf>
- 21 Barbara Davidson and Rob Schuwerk, *Flying Blind: The glaring absence of climate risks in financial reporting*, Carbon Tracker, 2021, <https://carbontracker.org/reports/flying-blind-the-glaring-absence-of-climate-risks-in-financial-reporting/>
- 22 Press Information Bureau, “Details of Coal Production & Coal based Power Generation upto November, 2022,” December 14, 2022, <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1883343#:~:text=Details%20of%20Coal%20Production%20%26%20Coal%20based%20Power%20Generation%20upto%20November%2C%202022&text=The%20all%20India%20coal%20production,in%20the%20year%202020%2D2021>
- 23 Net Zero Scorecard, “Net Zero Emission Race 2023 Scorecard,” Energy & Climate Intelligence Unit, <https://eciu.net/netzerotracker>
- 24 Hannah Schindler, “Managing the Phase-out of Coal A Comparison of Actions in G20 Countries,” *Briefing Paper*, May 2019, Climate Transparency, <https://www.climate-transparency.org/wp-content/uploads/2019/05/Managing-the-phase-out-of-coal-DIGITAL.pdf>
- 25 Department of Climate Change, Energy, the Environment and Water, “Electricity Generation,” Government of Australia, <https://www.energy.gov.au/data/electricity-generation>

# Endnotes

- 26 World Resource Institute, “Germany’s Coal Commission Guiding an Inclusive Coal Phase-Out,” WRI, April 1, 2021, <https://www.wri.org/update/germanys-coal-commission-guiding-inclusive-coal-phase-out>
- 27 Fatih Birol and Amitabh Kant, “India’s clean energy transition is rapidly underway benefiting the entire world,” *International Energy Agency*, January 10, 2022, <https://www.iea.org/commentaries/india-s-clean-energy-transition-is-rapidly-underway-benefiting-the-entire-world>
- 28 Rajiv Bhatia, “Geopolitics, G20 and India’s Choices,” *Gateway House*, August 25, 2022, <https://www.gatewayhouse.in/geopolitics-g20-and-indias-choices/>
- 29 Andy Mukherjee, “All talk and no action,” *Business Standard*, September 7, 2015, [https://www.business-standard.com/article/opinion/all-talk-and-no-action-115090701191\\_1.html](https://www.business-standard.com/article/opinion/all-talk-and-no-action-115090701191_1.html)

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