



This is a repository copy of *Climate change and energy transitions*.

White Rose Research Online URL for this paper:

<https://eprints.whiterose.ac.uk/210376/>

Version: Published Version

Book Section:

Dobson, H. orcid.org/0000-0003-3124-8546 (2024) *Climate change and energy transitions*. In: *Unpacking the G20: Insights from the Summit*. Political Science and Public Policy . Edward Elgar Publishing , pp. 84-102. ISBN 9781786433541

<https://doi.org/10.4337/9781786433558.00010>

© Hugo Dobson 2024. This is an open access work distributed under the Creative Commons AttributionNonCommercial-NoDerivatives 4.0 International (<https://creativecommons.org/licenses/by-nc-nd/4.0/>). Users can redistribute the work for non-commercial purposes, as long as it is passed along unchanged and in whole, as detailed in the License. Edward Elgar Publishing Ltd must be clearly credited as the rights holder for publication of the original work. Any translation or adaptation of the original content requires the written authorization of Edward Elgar Publishing Ltd.

Reuse

This article is distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs (CC BY-NC-ND) licence. This licence only allows you to download this work and share it with others as long as you credit the authors, but you can't change the article in any way or use it commercially. More information and the full terms of the licence here: <https://creativecommons.org/licenses/>

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.



eprints@whiterose.ac.uk
<https://eprints.whiterose.ac.uk/>

5. Climate change and energy transitions

5.1 OVERVIEW

The G20 accounts for over 70 per cent of global energy consumption and 80 per cent of emissions. There is a plethora of other reasons why it is well-positioned to play a role – if not the central role – in addressing the broadly defined issues under examination in this chapter. In terms of membership, the G20 includes the vast majority of leading energy producers,¹ many of the biggest coal producers,² some of the world's most significant oil exporters,³ major energy consumers,⁴ and nearly all of the top ten carbon polluters.⁵ In terms of agenda, these issues underpin the G20's other, more traditional areas of work in the economic and financial spheres. The G20 cannot deliver its overarching goal of promoting 'strong, sustained and balanced growth' without addressing climate change and energy governance. In terms of evolution, these issues are also tied up with the expansion of the G20's remit and development of its role from a crisis committee to a steering committee and beyond. Should the G20 lead in the reform of existing institutions, create new ones, or work with relevant partners to build the momentum towards these reforms? In this light, for some it is an appropriate forum to address energy governance because 'the G20 can be seen as a club at the hub of networks that can play a key role in improving the global governance of energy and China's presidency of the G20 in 2016 provides a unique opportunity for the G20 to prove its worth' (Andrews-Speed and Shi 2016, 198).

Ross Garnaut, Australian academic, former ambassador to China and lead on two reviews of climate change, advocated similar lines ahead of the Australian G20 presidency in 2014:

The G20 is ideally suited as the main forum for overcoming the 'free rider' problem of collective action on climate change. It contains all of the world's main greenhouse gas emitters and all the countries that are most important to effective global effort on climate change, as well as those that have been most active in the UN Framework Convention on Climate Change (UNFCCC). While the G20 contains the most influential developed and developing countries, it can stand outside the entrenched and stereotypical divisions that have become barriers to effective action within the UNFCCC, with its huge and unwieldy membership and traditions of symbolic posturing. (Garnaut 2014)

Moreover, Garnaut pointed to the G20's track record in this field:

At the 2009 Copenhagen climate convention, the G20 played an important role in establishing the objective of holding the contribution of human-induced climate change to 2 degrees Celsius. It formulated a strong position on removing fossil fuel subsidies, an important position that has seen some domestic reform worldwide, and one which should be reiterated. The G20 meeting in Russia in 2013 agreed to reduce hydrofluorocarbon emissions, under the Montreal Protocol, as a contribution to climate change mitigation. (Garnaut 2014)

It should also be remembered that these challenges have historically existed in a global governance gap with no natural home that could provide a coordinated, formal structure for addressing them. In the case of global energy governance, the existing architecture has been regarded as fragmented and outdated, as typified *inter alia* by the International Energy Agency (IEA) and Organization of Petroleum Exporting Countries (OPEC). A number of key energy importing and exporting countries, who are members of the G20, are not members of these organizations. China and India are only associates of the IEA; Russia is a member of neither. All this may well explain why the G20 has been considered an appropriate forum to address these challenges.

However, the G20's engagement with these issues has not been without complication. In fact, Sainsbury and Wurf (2016, 14) have argued that climate change has become 'one of the most controversial aspects of the G20 agenda'. Some G20 countries have been sceptical of the role that it can and should play in addressing climate change, preferring to see more formal and dedicated organizations undertake this work. India, for example, and a number of emerging economies have expressed a preference for the UNFCCC over the G20 (F. He and Sainsbury 2015, 248). Furthermore, Carin and Mehlenbacher's (2010) analysis raises questions for the G20 that strike at the heart of one of the major challenges it has faced – representation. Producers, consumers, emitters, good global citizens, the vulnerable and others all have a stake in these issues but are not represented within the G20. So, despite the high expectations outlined above, alongside a moral urgency to respond to these pressing existential issues of our time, the G20 has often been seen to have failed; for example, some accused it of fiddling while Rome burns at the time of the Los Cabos summit of 2012 (Carin 2012).

Kokotsis (2017) has expertly outlined the troughs and peaks in the G7/8's championing of global climate governance over four decades from its first meaningful engagement in 1979, in the absence at the time of any intergovernmental mechanism for addressing the issue. The G20's engagement with climate change, as well as the wider context and existing processes, have also evolved slowly but over a shorter time frame. For example, after COP15 (Copenhagen) took place in December 2009, attention turned to the two

G20 summits that immediately followed in 2010: Toronto (June) and Seoul (November). In these early days of the G20's existence at the leaders' level, when it had functioned relatively successfully as a crisis committee in addressing the GFC, discussion was shifting to what kind of role it might metamorphose into. So, engagement with an issue like climate change (or development, as explored in the previous chapter) was not only wrapped up within ongoing work as part of the UNFCCC and COP but also within this specific debate on the G20's future.

Yet, this has failed to build the momentum on climate change that the G20 is capable of or to result in concrete action. In the words of Andrew Elek (2010), 'G20 leaders should look before they leap into negotiation over climate change or anything else.' The issue of climate change financing, in particular, demonstrates the slow progress within the G20. In light of estimates that developing countries would need US\$150 billion a year in support before they could begin to cut emissions, the 2009 London G20 agreed to establish a fund to finance climate mitigation in developing countries. However, firm commitments only came forth slowly.⁶ Little progress had been made on the issue of climate financing; so much so that by the 2021 Rome G20, the Canadian environment minister, Jonathan Wilkinson, and the German state secretary, Jochen Flasbarth, were co-chairing a COP process to encourage developed nations to meet this financial target.

In contrast, the G20 has sought to address energy issues since its establishment at the leaders' level with the issue appearing at every summit. However, Wilson (2015, 98) argues that this has been in the context of vaguely worded statements or non-binding, unenforceable commitments that address low-hanging fruit that are already being targeted. This chapter will outline this curate's egg of G20 engagement with these two issues before identifying country-specific responses to each of them in turn.

5.2 THE G20, CLIMATE CHANGE AND ENERGY TRANSITIONS

At the first G20 Washington summit in the midst of the GFC, it is no great surprise that climate change and energy received minimal attention beyond a token effort to namecheck other issues at the end of the final declaration: 'We remain committed to addressing other critical challenges such as energy security and climate change, food security, the rule of law, and the fight against terrorism, poverty and disease' (G20 Information Centre 2008a).

A few months later in London, a difference of opinion emerged between the host, the UK prime minister, Gordon Brown, and some of the emerging economies on placing climate change on the agenda (Kirton 2013, 269–296). Although heralded as the high point of the G20 as a crisis committee, the

leaders' declaration only included two short paragraphs on low-carbon economy and climate change at the very end, with vague and soft commitments:

We agreed to make the best possible use of investment funded by fiscal stimulus programmes towards the goal of building a resilient, sustainable, and green recovery. We will make the transition towards clean, innovative, resource efficient, low carbon technologies and infrastructure. We encourage the MDBs to contribute fully to the achievement of this objective. We will identify and work together on further measures to build sustainable economies.

We reaffirm our commitment to address the threat of irreversible climate change, based on the principle of common but differentiated responsibilities, and to reach agreement at the UN Climate Change conference in Copenhagen in December 2009. (G20 Information Centre 2009c)

The Pittsburgh summit that followed later in the same year treated climate change and energy much more substantially. The preamble to its final declaration included a commitment that would be repeated regularly in future summit documentation: 'We will spare no effort to reach agreement in Copenhagen through the UNFCCC negotiations' (G20 Information Centre 2009a).

Later in the declaration, energy security and climate change were given their own dedicated section with two paragraphs focused on climate change:

As leaders of the world's major economies, we are working for a resilient, sustainable, and green recovery. We underscore anew our resolve to take strong action to address the threat of dangerous climate change. We reaffirm the objective, provisions, and principles of the UNFCCC, including common but differentiated responsibilities. We note the principles endorsed by Leaders at the Major Economies Forum in L'Aquila, Italy. We will intensify our efforts, in cooperation with other parties, to reach agreement in Copenhagen through the UNFCCC negotiation. An agreement must include mitigation, adaptation, technology, and financing.

We welcome the work of the Finance Ministers and direct them to report back at their next meeting with a range of possible options for climate change financing to be provided as a resource to be considered in the UNFCCC negotiations at Copenhagen. (G20 Information Centre 2009a)

The majority of this section focused on energy security with commitments summarized in the preamble and the commitment to phase out fossil fuel subsidies providing the headline:

To phase out and rationalize over the medium-term inefficient fossil fuel subsidies while providing targeted support for the poorest. Inefficient fossil fuel subsidies

encourage wasteful consumption, reduce our energy security, impede investment in clean energy sources and undermine efforts to deal with the threat of climate change.

We call on our Energy and Finance Ministers to report to us their implementation strategies and timeline for acting to meet this critical commitment at our next meeting.

We will promote energy market transparency and market stability as part of our broader effort to avoid excessive volatility. (G20 Information Centre 2009a)

This commitment to phase out fossil fuel subsidies was reiterated at the subsequent Toronto summit but, as at Pittsburgh, the leaders' declaration failed to dedicate a section to these issues and instead made a handful of references to them in passing. Nevertheless, Pittsburgh represented a more substantial treatment than the previous two summits and provided the template for future summits after Toronto, especially under the South Korean co-presidency, as will be outlined below.

In 2011, the Cannes summit declaration included sections entitled 'Improving the Functioning of Energy Markets' and 'Pursuing the Fight against Climate Change' that repeated the G20's commitments on the UNFCCC and fossil fuel subsidies and encouraged a number of measures, for example financing action against climate change from a diverse range of sources. The following year at Los Cabos, the G20 reiterated their pledges to combat climate change and fulfil commitments made at the most recent meetings of COP16 (Cancun) and COP17 (Durbin). Bak (2017) highlights Los Cabos as a watershed in that reference was made to the economic impact of climate change in addition to the regular commitments to the treaty-based system of addressing climate change: 'Climate change will continue to have a significant impact on the world economy, and costs will be higher to the extent we delay additional action' (G20 Information Centre 2012a).

Another innovation was the creation of a G20 study group on mobilizing resources to support climate finance.

The 2013 St Petersburg summit focused heavily on sustainable energy policy and the leaders' declaration included a substantial section on the issue (G20 Information Centre 2013b). It also established the Energy Sustainability Working Group (ESWG) that was co-chaired by India and Australia and submitted a final report to the G20 leaders at the following year's Brisbane summit. The St Petersburg summit leaders' declaration reiterated verbatim the impact of climate change on the world economy made at Los Cabos and previous G20 commitments on climate change as well as welcoming the report of the G20 study group on climate finance established at the previous summit.

The following year's Brisbane summit saw the Australian prime minister, Tony Abbott, seek to narrow the agenda to economic growth, at the expense of other issues including climate change. However, he lost control of the narrative in the face of pressure from the US, some European countries and CSOs

(Slaughter 2017, 287), as well as a rapidly changing context immediately prior to the summit, which is explained in more detail below. In the end, the antepenultimate paragraph in the leaders' communiqué stated:

We support strong and effective action to address climate change. Consistent with the UNFCCC and its agreed outcomes, our actions will support sustainable development, economic growth, and certainty for business and investment. We will work together to adopt successfully a protocol, another legal instrument or an agreed outcome with legal force under the UNFCCC that is applicable to all parties at the 21st Conference of the Parties (COP21) in Paris in 2015. We encourage parties that are ready to communicate their intended nationally determined contributions well in advance of COP21 (by the first quarter of 2015 for those parties ready to do so). We reaffirm our support for mobilising finance for adaptation and mitigation, such as the Green Climate Fund (GCF). (G20 Information Centre 2014b)

In contrast, the Brisbane summit included a full session of discussion devoted to the subject of energy for the first time, which resulted in two concrete outcomes (Van de Graaf 2017, 2014). First, the G20 Energy Efficiency Action Plan highlighted six priorities in energy efficiency and emissions performance around which the G20 and other countries could collaborate in tandem with the existing institutions of global energy governance: (1) vehicles, (2) networked devices, (3) financing, (4) buildings, (5) industrial energy management, and (6) electricity generation. It described itself as 'a practical plan to strengthen voluntary energy efficiency collaboration in a flexible way [allowing] countries to share knowledge, experiences and resources by choosing, on an opt-in basis, preferred activities that best reflect their domestic priorities' (G20 Information Centre 2014c). The obvious criticisms that were levelled at the action plan related to its voluntary and opt-in nature. Second, the G20 announced nine principles on energy collaboration, by which it pledged to work together to:

1. Ensure access to affordable and reliable energy for all.
2. Make international energy institutions more representative and inclusive of emerging and developing economies.
3. Encourage and facilitate well-functioning, open, competitive, efficient, stable and transparent energy markets that promote energy trade and investment.
4. Encourage and facilitate the collection and dissemination of high-quality energy data and analysis.
5. Enhance energy security through dialogue and cooperation on issues such as emergency response measures.
6. Rationalise and phase out inefficient fossil fuel subsidies that encourage wasteful consumption, over the medium term, while being conscious of the necessity to provide targeted support for the poor.
7. Support sustainable growth and development, consistent with our climate activities and commitments, including by promoting cost-effective energy efficiency, renewables and clean energy.

8. Encourage and facilitate the design, development, demonstration and widespread deployment of innovative energy technologies, including clean energy technologies.
9. Enhance coordination between international energy institutions and minimise duplication where appropriate. (G20 Information Centre 2014d)

Sainsbury and Wurf (2016, 15) regard these principles as having secured the buy-in of Russia and Saudi Arabia and constituting ‘real progress made on the substantive energy governance problem, especially on how to structure global discussions on energy’.

The 2015 Antalya summit took place just before COP21 opened in Paris at the end of November. Under the Turkish presidency, the first meeting of energy ministers took place in Istanbul a month before Antalya. Subsequent G20 presidencies of China, Argentina, Japan, Saudi Arabia, Italy and Indonesia all continued with this new ministerial meeting. The German presidency of 2017 did not hold an energy ministerial in 2017 because of the attention accorded the issue within the leaders’ summit; the Italian presidency organized a joint ministerial meeting of energy and climate change ministers in 2021. In any case, its first meeting in Istanbul resulted in a voluntary toolkit of measures to support countries in adopting renewable energies. Bak (2017) regards the Antalya leaders’ summit that followed as ‘pivotal’ because of the connection the leaders’ declaration drew between climate change and the financial system: ‘We ask the FSB to continue to engage with public- and private-sector participants on how the financial sector can take account of climate change risks’ (G20 Information Centre 2015a).

Despite high expectations that China was in a position to and might be willing to lead under its G20 presidency of 2016, the results disappointed. The Hangzhou summit leaders’ communiqué only referred to climate change in a paragraph that was prefaced by sustainable development, sandwiched between two paragraphs on the UK’s Brexit referendum and the refugee crisis, and all bundled together under a section entitled ‘Further Significant Global Challenges Affecting the World Economy’. The paragraph did little to advance the G20’s engagement with the issue of climate change beyond the usual exhortations to action around the UNFCCC and Paris Agreement alongside loopholes for individual countries. In contrast, the communiqué was more detailed and focused when it came to its treatment of energy (G20 Information Centre 2016b).

When Germany assumed the G20 presidency on 1 December 2016, Donald Trump was already president-elect. In June 2017, a month before the Hamburg summit, he officially announced the intention to withdraw from the Paris Agreement, thereby raising expectations that this issue would dominate the summit. The result was a ‘near-consensus’ with the G19 signing up to the

Hamburg Climate and Energy Action Plan for Growth, and the US under Trump constituting the outlying ‘plus 1’ (Bak 2017). Under this 19+1 format, the action plan reaffirmed the G19’s intention to move forward together and adopt a range of concrete measures with the goal of facilitating the implementation of UNFCCC, the Paris Agreement and the 2030 Agenda for Sustainable Development (G20 Information Centre 2017c). The resulting leaders’ declaration acknowledged the US position and attempted to mitigate the implications. At the same time, the German presidency took the opportunity to reinforce the collective and ‘irreversible’ position of the other G20 leaders in relation to the Paris Agreement:

We take note of the decision of the USA to withdraw from the Paris Agreement. The USA announced it will immediately cease the implementation of its current nationally-determined contribution and affirms its strong commitment to an approach that lowers emissions while supporting economic growth and improving energy security needs. The USA states it will endeavour to work closely with other countries to help them access and use fossil fuels more cleanly and efficiently and help deploy renewable and other clean energy sources, given the importance of energy access and security in their nationally-determined contributions.

The leaders of the other G20 members state that the Paris Agreement is irreversible. ... We reaffirm our strong commitment to the Paris Agreement, moving swiftly towards its full implementation in accordance with the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances and, to this end, we agree to the G20 Hamburg Climate and Energy Action Plan for Growth ... (G20 Information Centre 2017a)

The Argentinian presidency held a meeting of energy ministers in June 2018. Their communiqué continued the German presidency’s emphasis on the importance of energy transition and the G20’s leadership in ‘transform[ing] our energy systems into affordable, reliable, sustainable and low GHG emissions systems as soon as possible’. Yet, at the same time, it highlighted

the approach of Argentina’s G20 Presidency, which recognises that there are different possible national paths to achieve cleaner energy systems — while promoting sustainability, resilience and energy security — under the term ‘transitions’ (in plural). This view reflects the fact that each G20 member — according to its stage of development — has a unique and diverse energy system as starting point, with different energy resources, demand dynamics, technologies, stock of capital, geographies and cultures. (G20 Information Centre 2018c)

The leaders’ declaration that resulted from the Buenos Aires summit later that year largely reiterated much of the energy ministers’ communiqué (G20 Information Centre 2018b). Climate change was treated in three paragraphs that reinforced the link between economic development and climate change, sought to build momentum towards COP24 (Katowice), reiterated the irrevers-

ibility of the Paris Agreement, committed the G20 leaders to its full implementation and acknowledged the position of the US.

As regards the formalization of the G20's structures for addressing these issues, the Argentinian presidency established a climate sustainability working group in 2018. The following year, the Japanese presidency also demonstrated a readiness to innovate in summit design by holding the first-ever G20 Ministerial Meeting on Energy Transitions and Global Environment for Sustainable Growth, attended by environment and energy ministers in the Japanese Alps in June 2019. It adopted the G20 Karuizawa Innovation Action Plan on Energy Transitions and Global Environment for Sustainable Growth, but on a voluntary basis, and welcomed

the G20 Japanese Presidency's initiative aimed at spurring innovation in the context of climate change by launching an international conference, called Research and Development 20 for clean energy technologies ('RD20') to promote international collaborative relationships among leading R&D institutes from G20 members. We recognize that R&D collaboration under existing initiatives is also important to advancing innovation. (G20 Information Centre 2019a)

The Osaka summit leaders' declaration included a dedicated section on 'Global Environmental Issues and Challenges' that included two paragraphs on climate change. The first stressed the multi-stakeholder approach and reiterated the G20's support for the existing mechanisms of global governance and the irreversibility of the Paris Agreement. The second was dedicated to outlining both sides of the position of the US, Japan's key bilateral ally, and is outlined in more detail below (G20 Information Centre 2019b).

In a single paragraph on energy, the G20 leaders reiterated elements of the Karuizawa Innovation Action Plan on Energy Transitions and Global Environment for Sustainable Growth, and acknowledged

the importance of energy transitions that realize the '3E+S' (Energy Security, Economic Efficiency, and Environment + Safety) in order to transform our energy systems into affordable, reliable, sustainable and low GHG emissions systems as soon as possible, recognizing that there are different possible national paths to achieve this goal. Recalling the G20 Ministerial Meeting on Energy Transitions and Global Environment for Sustainable Growth Communique, we acknowledge the role of all energy sources and technologies in the energy mix and different possible national paths to achieve cleaner energy systems ... In light of recent events highlighting concern about safe flow of energy, we acknowledge the importance of global energy security as one of the guiding principles for the transformation of energy systems, including resilience, safety and development of infrastructure and undisturbed flow of energy from various sources, suppliers, and routes. We recognize the value of international cooperation on a wide range of energy-related issues including energy access, affordability and energy efficiency, and energy storage. We reaffirm our joint commitment on medium term rationalization and phasing-out

of Inefficient Fossil Fuel Subsidies that encourage wasteful consumption, while providing targeted support for the poorest. (G20 Information Centre 2019b)

In addition to climate change and energy, the G20 leaders sought to address the marine environment, as discussed in Chapter 6.

The following year's Saudi presidency of the G20 was disrupted and dominated by Covid-19. Nevertheless, one of the three thematic pillars of the Saudi presidency was 'Safeguarding the Planet', organized under six subheadings of: (1) managing emissions for sustainable development; (2) combating land degradation and habitat loss; (3) preserving the oceans; (4) fostering sustainable and resilient water systems globally; (5) promoting food security, and (6) cleaner energy systems for a new era. As was to be expected, the leaders' declaration extended the usual support to the UNFCCC and COP26 (Glasgow), which was eventually postponed to 2021 because of the pandemic. The Saudi presidency promoted the concept of a 'circular carbon economy' to reduce carbon emissions based on the 4Rs of reduce, reuse, recycle and remove. Although this approach was controversial and criticized by many, including the EU, for relying too heavily on unproven carbon capture, reuse and storage, a compromise was reached in the leaders' declaration whereby the G20 leaders endorsed this approach and accorded it a paragraph of its own but reiterated an emphasis on phasing out inefficient fossil fuels, despite Saudi opposition and its omission from the energy ministers' communiqué earlier in the year. Although expectations were low ahead of the Riyadh summit and outcomes were meagre, the show of unity by G20 leaders was regarded by some as hopeful once Italy assumed the G20 presidency and Trump left the White House.⁷

Under the Italian presidency, the Rome summit became a stepping stone to the rescheduled COP26, which took place immediately afterwards, and an opportunity to do some of the heavy lifting ahead of Glasgow by reaching a shared understanding among G20 members. To this end, the leaders' declaration stated that '[w]e remain committed to the Paris Agreement goal to hold the global average temperature increase well below 2°C and to pursue efforts to limit it to 1.5°C above pre-industrial levels' (G20 Information Centre 2021a). However, and almost as if the intention was at least to do no harm ahead of Glasgow, a vaguely worded statement was included under a section on energy and climate, 'acknowledging the key relevance of achieving global net zero greenhouse gas emissions or carbon neutrality by or around mid-century and the need to strengthen global efforts required to reach the goals of the Paris Agreement' (G20 Information Centre 2021a). As an aside, the G20 leaders no longer 'endorsed' the circular carbon economy as had been the case under the Saudi presidency but rather *took into account* different approaches. In any case, the leaders headed to Glasgow with an eventual agreement still a possibility.

The Indonesian presidency coincided with the Russian invasion of Ukraine and resulting disruption to energy supplies and prices. On these issues and in light of SDG-7 (ensure access to affordable, reliable, sustainable and modern energy for all), the leaders recognized their leadership role at the Bali summit of November 2022. They committed to seek solutions to achieve energy market stability, transparency and affordability, strengthen energy supply chains and energy security, and diversify energy mixes and systems. In addition, the Indonesian presidency announced its Just Energy Transition Partnership (JETP) with a number of G20 partners at the Bali summit of November 2022. The JETP pledged to raise US\$20 billion over the following three to five years in order to fund Indonesia's energy transition from fossil fuels to renewable sources, reduce emissions and contribute to limiting global warming to 1.5°C. This was the second JETP; the first, with South Africa, was announced at COP26 in Glasgow, to support South Africa's decarbonization. The G20 Bali leaders' declaration also reiterated the 'commitment to achieve global net zero greenhouse gas emissions/carbon neutrality by or around mid-century, while taking into account the latest scientific developments and different national circumstances', as well as limiting temperature rises to 1.5°C (G20 Information Centre 2022a).

A number of trends have run through both the G20's treatment of these issues since 2008 and their reception at the time. These include support for the existing structures and treaties, for example reiteration of support for the UNFCCC, while seeking to innovate in the G20's internal processes and ways of working. Energy, rather than climate, issues often appear to receive the lion's share of attention, but in both cases the link is often drawn back to the core business of the G20: finance and economy. Some analysts see the G20 as having a potential leadership role in this area, in addition to China being well placed to lead on energy governance through the G20 by dint of the size of its economy and its level of energy consumption. However, it should do so by seeking to work with and reform the existing institutions, rather than creating rival mechanisms (Yu 2017; see also Andrews-Speed and Shi 2016; Sainsbury and Wurf 2016).

5.3 CLIMATE CHANGE

Kim and Chung (2012) have singled out the G20's informality, flexibility and ability to influence others as factors that enable it to play a central role in climate change governance and implementing concrete, related policies. In light of this, G20 members that are comfortable with this format and keen to expand the G20's agenda are likely to play a leading role. However, those that prefer the more formal and legalistic mechanisms of global governance and are keen to keep the G20's agenda focused on its core business will tend to follow

or even obstruct progress on climate change. At the same time, hard-nosed national interest should not be forgotten as a central factor in understanding G20 members' engagement with climate change. And yet, the opportunities and challenges associated with demonstrating international leadership afforded by the assumption of the G20 presidency can turn traditional blockers into enablers and even vice versa at times.

As a result of this complicated picture, a lack of consensus within the G20 on extending the G20's agenda and role beyond the focus on the GFC as a crisis committee to embrace climate change meant that it took some time for the issue to become embedded within the G20's remit. Some G20 members were early and vocal supporters, for example the EU. At Antalya, ahead of COP21 in Paris, the EU's approach emphasized 'raising climate change as a strategic priority in political dialogues, including at G7 and G20 meetings and the UNGA' to secure a post-2020 global climate change agreement (EU 2015a). Similarly, but earlier, UK government officials attempted, but failed, at the 2009 London summit to include a commitment to spend a substantial share of economic stimulus on low-carbon recovery projects.⁸ Among the middle powers of Mexico, Indonesia, South Korea, Türkiye and Australia (MIKTA), South Korea was proactive in dedicating sections to climate change and green growth in the Seoul summit document and built on the treatment at Pittsburgh by reiterating the G20 leaders' commitment to UNFCCC and the phasing out of fossil fuels but with stronger language in terms of the importance of these issues: 'Addressing the threat of global climate change is an urgent priority for all nations. We reiterate our commitment to take strong and action-oriented measures and remain fully dedicated to UN climate change negotiations' (G20 Information Centre 2010a).

Similarly, Indonesia can be included in this category, as demonstrated by President Susilo Bambang Yudhoyono's speeches at the 2009 Pittsburgh summit (Dobson 2011a).⁹ The Mexican government was in favour of placing climate change on the G20 agenda at Toronto, and under its 2012 presidency highlighted six objectives of which the sixth was 'advancing green growth and the fight against climate change'. Although for some this was little more than 'hollow reference' (Goodliffe and Sberro 2012, 4), the resulting leaders' declaration dedicated two paragraphs to the issue (G20 Information Centre 2012a). As mentioned above, under the Mexican presidency, the G20 made explicit reference to the economic impact of climate change and the G20 study group on climate finance was established.

In contrast, and as mentioned above, the Australian government led by Prime Minister Tony Abbott, who had repealed climate change policies at home, sought to contain the discussion of climate change and place the focus on a narrow economic agenda at the 2014 Brisbane summit. Harris Rimmer (2015) relates the narrative whereby 'a recalcitrant host and leader' lost control

of the narrative and became regarded as an obstacle to addressing climate change in the face of mounting pressure from G20 partners, especially the US and China. In the immediate run-up to the Brisbane summit, the US and China made a joint announcement at the APEC meeting in Beijing of their intention to collaborate bilaterally in addressing climate change. The announcement included concrete targets whereby the US, on the one hand, would ‘achieve an economy-wide target of reducing its emissions by 26%–28% below its 2005 level in 2025 and to make best efforts to reduce its emissions by 28%’. On the other hand, China intended ‘to achieve the peaking of CO₂ emissions around 2030 and to make best efforts to peak early and intends to increase the share of non-fossil fuels in primary energy consumption to around 20% by 2030’. The intention behind the timing of the announcement was to ‘inject momentum into the global climate negotiations and inspire other countries to join in coming forward with ambitious actions as soon as possible’ (White House 2014a). Yet, rather than embracing this momentum, Abbott’s government regarded the joint US–China initiative as ‘unexpected and unwanted’ (Davies 2014), and one EU official was reported to have declared publicly that discussions at Brisbane were akin to ‘trench warfare’ (Carin and Callaghan 2015, 137). Ultimately Abbott met with limited success and the US and EU, as well as China, managed to ‘push Australia much further than it wanted to go on climate change’ (Downie 2017, 1500; Downie and Crump 2017, 689; Crump and Downie 2018, 38).

In addition, the emerging economies of Brazil, China, India and Russia have also been blockers at times, emphasizing the formal mechanism of the UNFCCC over the G20 as the preferred mechanism to address climate change (Carin et al. 2010; Debaere et al. 2014). Admittedly, at the 2016 Hangzhou summit, China demonstrated leadership on climate change through the creation of a ‘green financing system’ and by identifying thirty-five action points as part of a roadmap to develop various green financial instruments and initiatives, including the launch of a national-level green development fund. The leaders’ communiqué committed

to complete our respective domestic procedures in order to join the Paris Agreement as soon as our national procedures allow. We welcome those G20 members who joined the Agreement and efforts to enable the Paris Agreement to enter into force by the end of 2016 and look forward to its timely implementation with all its aspects. (G20 Information Centre 2016b)

So, on occasions, China has collaborated with the US or taken the opportunity afforded by the role of host to demonstrate leadership on climate change. However, for the most part, it has been opposed to the G20 dealing with

climate change and regards the UN as the appropriate place to deal with it (Kirtton 2016).

China and Russia's commitment can also be gauged by their levels of engagement. The Rome G20 of October 2022 was an immediate precursor to the COP26 meeting in Glasgow and demonstrated the informal role the G20 can play in forging a consensus ahead of a formal meeting. However, Russia and China's decision to attend the Rome summit virtually impacted on the ability of the G20 to forge this consensus ahead of Glasgow. To be sure, and as mentioned above, the leaders' declaration reaffirmed commitments to the Paris Agreement and its goal of limiting global warming to 'well below 2°C and to pursue efforts to limit it to 1.5°C above pre-industrial levels'. On the one hand, the leaders called for 'meaningful and effective actions and commitments by all countries', while acknowledging on the other hand 'differentiated responsibilities and respective capabilities, in light of different national circumstances'. The G20 also 'acknowledg[ed] the key relevance of achieving global net zero greenhouse gas emissions or carbon neutrality by or around mid-century', thereby avoiding the concrete target of 2050 and remaining in line with the positions of China and Saudi Arabia (G20 Information Centre 2021a). The compromise was clear in UN Secretary-General António Guterres's statement that '[w]hile I welcome the G20's commitment to global solutions, I leave Rome with my hopes unfulfilled but at least not buried forever'.¹⁰

Other G20 members have found the role of host challenging at times, especially the need to balance competing demands so as to ensure a successful summit in relation to the issue of climate change. For example, as mentioned above, the German government accommodated Trump and his declared intention to withdraw from the Paris Agreement through unilateralism at the 2017 Hamburg summit. The leaders' declaration noted the US decision before proceeding to reaffirm the commitment of the remaining nineteen to, and the irreversible nature of, this agreement. At the 2019 Osaka summit, the Japanese government went further in accommodating the US, its closest bilateral ally, while seeking to preserve the solidarity of the nineteen.¹¹ It was criticized for the comparatively diluted language in the leaders' declaration that omitted 'global warming' and 'decarbonization', allegedly as a result of pressure from the Trump administration.¹² The order was also flipped from that of the Hamburg summit. First, it consolidated the consensus among the G19 that the Paris Agreement was irreversible and their commitment to its full implementation. This was mediated by the following paragraph, which was an expanded statement outlining the Trump administration's unilateral position and achievements in the field of climate change:

The US reiterates its decision to withdraw from the Paris Agreement because it disadvantages American workers and taxpayers. The US reaffirms its strong commit-

ment to promoting economic growth, energy security and access, and environmental protection. The US's balanced approach to energy and environment allows for the delivery of affordable, reliable, and secure energy to all its citizens while utilizing all energy sources and technologies, including clean and advanced fossil fuels and technologies, renewables, and civil nuclear power, while also reducing emissions and promoting economic growth. The US is a world leader in reducing emissions. US energy-related CO₂ emissions fell by 14% between 2005 and 2017 even as its economy grew by 19.4% largely due to the development and deployment of innovative energy technologies. The US remains committed to the development and deployment of advanced technologies to continue to reduce emissions and provide for a cleaner environment. (G20 Information Centre 2019b)

5.4 ENERGY TRANSITIONS

As demonstrated above, the G20 has been more proactive in addressing the challenges around energy transitions than those of climate change. For example, from 2009 to 2011, four G20 energy working groups were established, with the first two groups focused on fossil fuels established within the Finance Track and the latter two within the Sherpa Track: (1) a 'fossil fuel subsidies' working group (chaired by the US); (2) a 'fossil fuel price volatility' working group (chaired by France and Korea); (3) a working group focused on 'global marine environment protection', chaired by Russia; and (4) a 'clean energy and energy efficiency' working group (Van de Graaf and Westphal 2011, 25–26). The G20's focus in these early years was narrow and concerned with addressing price volatility, improving efficiency and access to new technologies, and green growth (Downie 2015, 122). Nevertheless, with the structures in place, this focus evolved thereafter along the lines outlined above.

However, once again, clear divisions among G20 members emerge over the related issue of energy transitions from fossil-based systems of energy production and consumption to renewable energy sources. Sometimes these divisions mirror the extent to which its members are comfortable operating in an informal and flexible forum like the G20. However, as is the case with climate change outlined above, this is not the sole determining factor. Uncompromising national interests among energy producers and consumers on the one hand, and the desire to demonstrate global leadership on the other hand, are also at play. For example, as would be expected under Russia's G20 presidency, as a major exporter of oil and gas, the 2013 St Petersburg summit was heavily focused on sustainable energy policy and the leaders' declaration included a substantial section on the issue.

On the specific issue of phasing out fossil fuel subsidies, a fault line has emerged between G20 members on the basis of their level of development. This is understandable as developing countries have higher levels of subsidies and need to make greater efforts to achieve any commitments to phase out

fossil fuel subsidies (Van de Graaf and Westphal 2011, 27). So, at a one-day UN-sponsored climate change summit held on 22 September 2009, the eve of the Pittsburgh G20, Obama pledged to ‘work with my colleagues at the G20 to phase out fossil fuel subsidies so that we can better address our climate challenge’.¹³ Ahead of the Pittsburgh summit, reports suggested that five years might be the time frame for this action and resistance was expected from China, India, Russia and Saudi Arabia as countries that subsidize fossil fuels in order to keep consumer energy prices low, which in turn increases emissions.¹⁴ At the end of the summit, the G20 pledged ‘to *phase out and rationalise* over the medium term inefficient fossil fuel subsidies while *providing targeted support for the poorest*’ (G20 Information Centre 2009a, emphasis added). Developing countries with coal-based energy demands, such as India, resisted any concrete road map or binding commitments to eliminate subsidies and argued that the G20’s final language be revised to that highlighted above.¹⁵ However, this fault line is not immutable as it was Indonesia, rather than the US, who agreed to lead the summit discussion at Pittsburgh.

The leaders’ declaration also asked their energy and finance ministers to report back at the following year’s summit in Toronto with details of their implementation strategies and timelines. Ahead of Toronto, it was reported that the Canadian government, as G20 host, was trying to balance domestic considerations against a desire to embellish its reputation and exhibit good international citizenship by making progress on commitments made at Pittsburgh. To this latter end, it was supported by the US, the UK and the EU. The Australian prime minister, Kevin Rudd, found himself in a similar position to his Canadian counterpart, facing opposition at home from the domestic mining industry, while seeking to demonstrate progress on the phasing out of fossil fuel subsidies at Toronto. Specifically, the Canadian government was contemplating a reduction in tax breaks for the oil and gas sectors. At the same time, it sought to make progress on the definition of a fossil fuel subsidy by embracing both consumer and production subsidies.¹⁶ The highest spenders on consumption subsidies among the G20 are Argentina, Brazil, China, India, Mexico, Russia, Saudi Arabia and South Africa, whereas the richer G20 members tend to provide production subsidies (Van de Graaf and Westphal 2011, 27–28). However, the definitions of fossil fuel subsidies and timescales for their removal were moveable feasts and never defined by the G20. Some countries have sought to nudge the G20 in this direction. For example, at the June 2016 North American leaders’ summit in Ottawa, Canada, Mexico and the US pledged to phase out inefficient fossil fuel subsidies by 2025. They also called on other G20 leaders meeting in Hangzhou later in the year to do the same.

The G20 mechanism for acting on fossil fuel subsidies was based on voluntary peer review whereby countries were buddied up and, under the chair

of the OECD, were asked to self-report and review each other. This process began with China and the US, and thereafter included Argentina, Canada, Germany, Indonesia, Italy and Mexico. However, at the Osaka G20, the extent of the group's phasing out of fossil fuel subsidies came under scrutiny, as Japan broke with tradition and, as G20 president, did not volunteer for the peer review mechanism. In addition, CSOs, international organizations and the world's media have repeatedly shed light on the increase in fossil fuel subsidies among G20 countries. For example, the IMF highlighted the trillions of dollars still spent by G20 countries despite the pledges made at the Pittsburgh G20 in 2009.¹⁷ Similarly, coinciding with the 2015 Antalya summit, the Overseas Development Institute (ODI) released a report that mapped out for the first time the scale of G20 countries' fossil fuel subsidies at US\$444 billion a year in total (ODI 2015). Again, ahead of the Osaka G20, the ODI released a report accusing the G20 governments of increasing funding for coal-fired power plants from US\$17 billion in 2014 to US\$47 billion in 2017.¹⁸

It was not until the Rome G20 in 2021 that leaders committed to 'put an end to the provision of international public finance for new unabated coal power generation abroad by the end of 2021', despite initial objections from Türkiye that were ultimately withdrawn and with China already on board after Xi Jinping's pledge to the UNGA in September not to finance any new overseas coal-fired power projects. As regards the domestic use of coal, the leaders' declaration was less specific and pledged support for 'those countries that commit to phasing out investment in new unabated coal power generation capacity to do so as soon as possible' (G20 Information Centre 2021a).¹⁹

Energy efficiency was the theme of one of the four G20 energy working groups established between 2009 and 2011, as mentioned above. Although flirting with controversy in trying to downgrade the discussion of climate change in the run-up to the 2014 Brisbane summit, the Australian government promoted discussions around the G20 Energy Efficiency Action Plan, which was focused on two areas of work. One work package headed by the US was focused on 'developing recommendations, for G20 consideration, including for strengthened domestic standards in G20 countries in as many areas as possible related to clean fuels, vehicle emissions and vehicle fuel efficiency, and for green freight programs' (G20 Information Centre 2014c). The other was headed by the UK and was focused on 'the energy efficiency of networked devices ... [and] consideration of options for goals for reducing the global standby mode energy consumption of networked devices' (G20 Information Centre 2014c). Reports ahead of the Brisbane summit suggested that China, Russia, Brazil and South Africa were only tentatively committed to these and other processes.²⁰

Energy prices had also long been a concern of the G20 long before the Russian invasion of Ukraine in February 2022 resulted in a spike that drove

a cost-of-living crisis around the world. For example, at the 2012 Los Cabos summit, China proposed that the G20 oversee the coordination to render the global energy market more ‘secure, stable and sustainable’ (Hirst and Frogatt 2012, 3, cited in Downie 2015, 122). The US used the 2021 Rome summit to place pressure on oil-producing countries to increase their production to bring down prices. The following year, the Indonesian presidency could not ignore this issue but obviously had to negotiate the diplomatic challenge around Russia’s membership of the G20 and ensuring the group continued to hang together. This consideration did not encumber the G7 leaders, who under the German presidency were able to issue a strong statement of support for Ukraine at the Schloß Elmau summit of June 2022.

5.5 SUMMARY

The idea that informal, deliberative forums of the world’s leading states have a potential role to play in climate change and energy transitions is largely accepted. More specifically, Slaughter argues that the G20 demonstrates potential not only because of its smaller membership but also as a result of its operational evolution: ‘... the G20 uniquely includes economically significant states in a form of global summitry which involves institutionalised transnational and transgovernmental webs of formal and informal policy making activity in conjunction with the activity of G20 leaders’ (2017, 285).

As a result, the leaders’ meeting is only the tip of the iceberg and the debate and policy proposals around climate change and energy transitions continue in various other G20-related forums that engage a wide range of formal and informal, state and non-state actors, which all have an important role to play in creating something akin to what has been described as a ‘hybrid focal point’ (Cooper 2019). Although this can encourage individual country responses, or delegate to newly created or already existing mechanisms of global governance, the challenge remains of establishing a systematic process by which this can happen effectively to deliver concrete outcomes and plug the global governance gap outlined at the beginning of this chapter.

NOTES

1. China, the US, Russia, Saudi Arabia, Canada, India, Australia, Indonesia and Brazil.
2. China, India, the US, Indonesia, Australia, Russia, South Africa, Germany.
3. Saudi Arabia, Russia, the US, Canada.
4. China, the US, India, Russia, Japan, Canada, Germany, Brazil and South Korea.
5. China, the US, India, Russia, Japan, Germany, South Korea, Saudi Arabia and Indonesia.
6. *The Canadian Press*, 24 September 2009.

7. *Climate Home News*, 23 November 2020.
8. *The Guardian*, 3 April 2009.
9. *Agence France-Presse*, 28 January 2011.
10. *The Guardian*, 31 October 2021.
11. *The Independent*, 29 June 2019.
12. *The Financial Times*, 25 June 2019.
13. *Reuters*, 22 September 2009.
14. *National Post*, 24 September 2009.
15. *Indian Express*, 27 June 2010.
16. *The Hamilton Spectator*, 25 May 2010.
17. *The Guardian*, 4 August 2015.
18. *The Financial Times*, 25 June 2019.
19. *The Guardian*, 31 October 2021.
20. *The Guardian*, 4 November 2014.