



Policy Report

Financing the Energy Transition:

How Governments Can Maximise Corporate Investment

Executive Summary

The Global Stocktake, assessing whether the world is still on track to meet climate action targets to limit global temperature rise to 1.5°C will be front and centre at COP28.

To achieve this target, state parties are required to develop and implement Nationally Determined Contributions (NDCs), setting out how governments will respond, and adapt to, a rapidly changing climate. However, there is an alarming lack of detail in how countries aim to achieve even modest NDCs and many countries around the world are not close to meeting their targets¹.

Renewable electricity is essential to deliver the scale of emissions reductions needed. This is particularly important for the G20 nations, who collectively account for 78% of the world's greenhouse gas emissions². There is also a growing chorus of global corporates calling for greater access to renewable electricity with billions of dollars in investment waiting to be made³.

A positive step was taken in September 2023, when the G20 committed to pursue a tripling of renewable energy capacity globally by 2030 through existing targets and policies. However, this is not possible without removing policy barriers that lock in fossil fuels and without greater investment in the infrastructure needed. Ambitious renewable electricity targets and associated enabling policies can unlock significant corporate investment. The lack of such targets and policies in many countries is a huge missed economic opportunity. In 2022, Climate Group's *Ambition on Renewables* report highlighted some of the leaders and laggards in renewable electricity across the G20 countries⁴.

1 UNFCCC. (2022). *Nationally Determined Contributions Registry*. unfccc.int/ndcreg

2 United Nations Environment Programme (2019). *Emissions Gap Report 2019*. UNEP, Nairobi. wedocs.unep.org/bitstream/handle/20.500.11822/30797/EGR2019.pdf

3 *Policy Engagement*. (n.d.). RE100. www.there100.org/policy-engagement

4 *Ambition on Renewables in the G20: Report*. (n.d.). RE100. Retrieved November 2, 2023, from www.there100.org/ambition-renewables-g20-report



This report builds on this previous work to assess the policy barriers stopping eight of the G20 countries from unlocking investment opportunities. Three main barriers have been identified. Firstly, the availability of renewable electricity in any given country or region. Secondly, the accessibility of this electricity for corporates. Finally, the affordability of the electricity, both compared to existing fossil

fuel sources and in view of renewable electricity's lower costs. A cross-cutting barrier is also the challenge posed by restrictive regulatory environments and market barriers. Providing access to renewables, at prices that reflect their cost effectiveness, is vital for markets to benefit from the growing corporate investment opportunity.

To maximise the economic opportunities from investment in renewable electricity, and speed up the transition away from fossil fuels, we recommend that governments:



Incentivise and increase supply to ensure sufficient availability of renewables.

- Work with utilities or electricity suppliers to provide and improve options for corporate renewable electricity sourcing.
- Address permitting and siting issues that are unduly limiting opportunities for installation of new renewable electricity infrastructure.
- Promote direct investments in on-site and off-site renewable electricity projects.



Establish an enabling regulatory environment for corporate sourcing and accessibility of renewables.

- Increase the transparency and additionality of renewable energy certificates (RECs).
- Ease complicated PPA processes, including addressing the lack of transparency and incentives.
- Understand and amend the geographic and regional disparities in the availability of PPAs and harmonise PPA rules and contract processes.



Create a level playing field to ensure the affordability of renewables.

- Create a level playing field on which renewable electricity competes fairly with fossil fuel and reflects the cost-competitiveness of renewable electricity production.
- Remove fossil fuel subsidies to stop unfair competition with renewables and reduce the subsidy burden on taxpayers.



Well-thought-out policy is needed to reduce the cost of renewable energy development, improve the investment environment, and provide more competitive and affordable renewable energy to help maintain the international competitiveness of enterprises.

Han-Wen Fung, Director of Corporate Environment, Safety and Health Division, TSMC

Methodology



This policy report focuses on countries where the barriers and challenges to corporate use of renewable electricity are highly evident.

The countries considered in this report are Argentina, China, Japan, Indonesia, India, Mexico, South Africa, and South Korea. The analysis considers the main barriers of progress within the eight countries identified, outlining the impact of these barriers.

The research was based on data collected from over 400 RE100 member companies. RE100 is a global initiative bringing together the world's most influential businesses committed to 100% renewable electricity.

This data is also combined with insight from the consultation of members, local partners across many of the markets assessed, and government stakeholders. This evidence was backed up with publicly available international and local data sources. Data collected by CDP for the RE100 annual report on how members procure renewable electricity and the split of certificates/PPAs and contracts, was also used to assess the challenges that corporates face in procuring renewables.



Introduction

The transition to renewable electricity is the gold rush of the 21st century. An economic opportunity that far too many businesses, states, regions, and countries are overlooking in favour of business-as-usual. But yesterday's approach does not work for today's reality – the age of cheap fossil fuels is over.

The International Energy Agency (IEA), which earlier this year called for a tripling of renewable power capacity by 2030 to stay within the 1.5°C goal⁵, has described solar photovoltaic (PV) energy as “the cheapest form of electricity in history”⁶. Building new solar PV capacity in Europe is 10x cheaper⁷ than operating gas-fired power plants in the long-term and building renewables in the US is now cheaper than operating 209 out of its 210 coal plants⁸.

The war in Ukraine exposed the fragility of the existing fossil fuel-based energy system, with knock-on impacts on global energy supply and unprecedented price rises. Renewables

offer a way to avoid the price volatility of fossil fuels and the disproportionate influence of a few petrostates.

Time and again, renewable electricity has proven itself the cheaper alternative. Almost two-thirds, or 163GW, of new renewable power capacity added in 2021 had lower costs than the cheapest coal-fired power plants in G20 markets⁹. Despite this, many G20 countries are ignoring the overwhelming benefits of renewable electricity and have in place unfavourable policy and regulatory frameworks that are preventing the low cost of renewables from translating into reality in many of these countries.

5 *Tripling renewable power capacity by 2030 is vital to keep the 1.5°C goal within reach – Analysis*. (n.d.). IEA. www.iea.org/commentaries/tripling-renewable-power-capacity-by-2030-is-vital-to-keep-the-150c-goal-within-reach
6 Evans, S. (2020, October 13). *Solar is now “cheapest electricity in history”, confirms IEA*. Carbon Brief. www.carbonbrief.org/solar-is-now-cheapest-electricity-in-history-confirms-iea/
7 *New solar capacity 10 times cheaper than gas, says Rystad*. (2022, October 27). Pv Magazine International. www.pv-magazine.com/2022/10/27/new-solar-capacity-10-times-cheaper-than-gas-says-rystad/
8 Milman, O. (2023, January 30). *US renewable energy farms outstrip 99% of coal plants economically – study*. The Guardian. www.theguardian.com/us-news/2023/jan/30/us-coal-more-expensive-than-renewable-energy-study
9 IRENA. (2022, July). *Renewable power generation costs in 2021*. /Publications/2022/Jul/Renewable-Power-Generation-Costs-In-2021. www.irena.org/publications/2022/Jul/Renewable-Power-Generation-Costs-in-2021

Time and again, renewable electricity has proven itself the cheaper alternative.

The G20's importance to the energy transition

The G20 countries make up 78% of global emissions, so not only must they play a central role in reducing emissions, but also in driving collective action around the world¹⁰. At the 2023 summit, the G20 countries committed to pursuing and encouraging efforts to triple renewable energy capacity globally through existing targets and policies¹¹. This positive signal now needs to be translated into action.

At present several G20 countries are falling behind on both ambition and action to tackle this critical issue. As leading global markets, these countries have an important role to play in setting the standard for the transition towards net zero, and how to capitalise on the transition.

The analysis finds that government decision making, together with regulatory and market structures, is hindering huge renewables potential and long-term energy security – rather than any intrinsic technical, physical, or economic barriers.

While each country is unique in its market structure, geography, energy demands and more, this report highlights some of the key shared regulatory and market barriers that are blockers to progress. With the renewable energy market expected to hit \$2.15 trillion by 2025¹² and sustainable investment surpassing \$35 trillion in 2020, there are immense market opportunities for countries that are working with businesses to prioritise sustainability and drive towards net zero¹³.

10 Observer Research Foundation. (2023, February 20). *Climate Performance Index: A Study of the Performance of G20 Countries in Mitigation*. Orfonline. www.orfonline.org/research/climate-performance-index/
11 G20. (2023). *G20 New Delhi Leaders' Declaration [Review of G20 New Delhi Leaders' Declaration]*. www.g20.org/content/dam/gtwenty/gtwenty_new/document/G20-New-Delhi-Leaders-Declaration.pdf
12 Rafi, T. (n.d.). *Council Post: Why Corporate Strategies Should Be Focused On Sustainability*. Forbes. Retrieved November 2, 2023, from www.forbes.com/sites/forbesbusinesscouncil/2021/02/10/why-corporate-strategies-should-be-focused-on-sustainability/?sh=129df1b27e9f
13 GSIA /. (n.d.). www.gsi-alliance.org/

1. Availability

Incentivise and increase supply to ensure sufficient supply of renewables on the grid

Table 1: Percentage of electricity generation by source in 2022¹⁴

Country	Fossil fuels	Renewables
Argentina	63.3%	30.5%
China	65.1%	30.2%
Japan	73%	22%
Indonesia	80.4%	19.6%
India	77%	20.5%
Mexico	74.3%	22.8%
Republic of Korea	63.6%	8.7%
South Africa	86.2%	9.1%

The most prevalent challenge faced by corporates when looking to source renewable electricity is its lack of supply in specific markets¹⁵. The table above highlights how renewables compare to fossil fuels, demonstrating how far behind countries are compared to their national commitments and keeping within 1.5°C.

Economies of scale are important in determining the cost of renewables in a market. Costs tend to be higher in new markets when the local renewables industry is small, but costs have been shown to fall dramatically as the scale of the industry increases and its experience

grows within a market. Only by going 'all in' to achieve this scale will markets lower the cost of renewables and gain the associated economic benefits.

There are several factors that contribute to the failure to increase the supply of renewables on the grid to meet demand. These include insufficient enabling and incentivising frameworks for the development of new renewables, alongside a lack of investment in appropriate infrastructure, transmission and distribution networks and deficient supportive regulation¹⁶.

¹⁴ *Electricity Data Explorer | Open Source Global Electricity Data.* (n.d.). Ember. ember-climate.org/data/data-tools/data-explorer/

¹⁵ (2023). *Driving renewables in a time of change* [Review of *Driving renewables in a time of change*]. www.there100.org/driving-renewables-time-change

¹⁶ (2023). *Driving renewables in a time of change* [Review of *Driving renewables in a time of change*]. www.there100.org/driving-renewables-time-change

1.1 Lack of new renewables and age of existing projects

Global electricity demand is expected to increase by 3.3% in 2024 alone, meaning new renewables are needed to come onto the grid to meet this demand¹⁷. By relying on older systems to deliver current demand, many countries will find themselves having to rely on expensive imports of fossil fuels to meet the expected increase in demand. This not only increases the burden to the state and subsequently end-users but jeopardises steps being made to increase energy security as fossil fuel prices are notoriously volatile and its continued use is counter-productive in the phase out of fossil fuels.

For example, in Japan much of the existing renewables supply comes from projects over 15 years old. What is lacking is an enabling policy environment that expands the supply of renewables coming onto the grid¹⁸. At the end of 2022, Japan's Green Transformation (GX) Implementation Council released its "Basic Policy for the Realization of GX". The 5th Basic Plan kept the percentage share for renewables at 36–38%, the same as the previous Basic Energy Plan¹⁹. This is a missed opportunity to ensure renewables play a central role in Japan's future energy supply.

Japan has also yet to commit to a coal phase out date and continues to rely heavily on costly imports of coal which represents an energy security risk by

relying on other countries for its continued electricity supply with a significant cost to its economy²⁰. According to BloombergNEF, Japan spent more than 3% of its GDP annually, or \$1.8 trillion, on fossil fuel imports between 2010 and 2022²¹. A study by Lawrence Berkeley National Laboratory found that Japan can meet 90% of its electricity needs through solar, wind and battery technology by 2035²². In 2019 clean electricity made up just 24% of Japan's power needs. However, Japan could become an energy exporter rather than importer, by maximising the significant potential of its offshore wind energy, estimated to reach over 9,000TWh²³. This would meet nine times Japan's projected electricity demand by 2050.

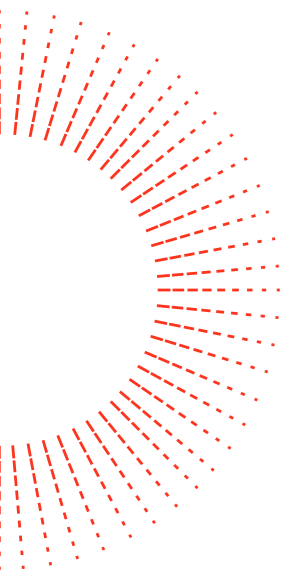
Robust regulations, such as those explored in this report, set out a pathway to increased ambition that would support Japan, and other governments, to better attract investors and businesses looking for long-term assurances that net zero and renewables are a priority.

1.2 Permitting and siting

Permitting and siting constraints present significant restrictions to locating and securing approval for new renewables projects. This makes the development of new renewable projects difficult for developers and unattractive for investors, stifling the increased supply.

- 17 Executive summary – Electricity Market Report – Update 2023 – Analysis. (n.d.). IEA. www.iea.org/reports/electricity-market-report-update-2023/executive-summary
- 18 (2023). *Driving renewables in a time of change* [Review of *Driving renewables in a time of change*]. www.there100.org/driving-renewables-time-change
- 19 Japan's "GX: Green Transformation Policy" is a Missed Opportunity to Respond to the Current Climate and Energy Crises | Proposal | Renewable Energy Institute. (n.d.). www.renewable-ei.org. Retrieved November 7, 2023, from www.renewable-ei.org/en/activities/reports/20221227.php
- 20 Hodgson, C. (2023, May 21). G7 disappoints on climate progress without deadlines on gas and coal use. *Financial Times*. www.ft.com/content/18ae7257-dd02-4965-9de9-faec5e339be2
- 21 Japan Can Meet Net-Zero Goal With Minimal Reliance on Hydrogen, Report Shows. (2023, July 25). BloombergNEF. about.bnef.com/blog/japan-can-meet-net-zero-goal-with-minimal-reliance-on-hydrogen-report-shows/
- 22 New Berkeley Lab study shows that plummeting costs of solar, wind, and batteries can accelerate Japan's clean and independent electricity future by 2035 | Electricity Markets and Policy Group. (n.d.). emp.lbl.gov. Retrieved November 2, 2023, from emp.lbl.gov/news/new-berkeley-lab-study-shows-plummeting-costs
- 23 "Offshore Wind in Japan: The Untapped Potential." n.d. Zero Carbon Analytics. Accessed November 2, 2023. zerocarbon-analytics.org/archives/energy/offshore-wind-in-japan-the-untapped-potential#:~:text=Japan%20has%20enormous%20offshore%20wind





Land use is frequently cited when restricting the expansion of renewables, especially in countries with challenging geographies such as mountainous terrain or limited space, or smaller countries where land use is at a premium. Often these concerns are unfounded due to the advances and flexibility in types of renewables.

For example, as floating wind turbines become more commercially viable, offshore wind is no longer restricted to shallow seas. This opens vast new opportunities with available land. Solar panels can be installed on rooftops, floating on reservoirs or lakes, and even on working agricultural land (bringing with it a host of other benefits such as increased animal welfare and greater crop yields). There are also examples where occupied land is being used to host solar panels such as in France, which requires all car parks with space for more than 80 vehicles to be covered in solar panels²⁴.

In South Korea, the physical landscape is often cited as a barrier to renewables expansion. 129 of the country's 226 local governments (57%) have ordinances

requiring solar facilities to be located at a minimum distance (anywhere between 100 to 1,000 meters) from residential areas and roads. Siting issues in the country aren't just limited to solar PV as offshore wind developments face bureaucracy with no integrated development laws, resulting in developers having to obtain permits from as many as 10 administrative agencies under 29 different laws. These bureaucratic challenges are stopping the country from exploiting up to 624GW in offshore wind capacity²⁵.

By easing permitting and siting limitations, countries can create favourable environments for the development of renewables, helping to increase their prevalence and therefore reduce costs, making the process cheaper as more renewables are connected. To open investment opportunities, South Korea and other G20 governments would benefit from reviewing existing and new permitting and siting regulations to ensure they are not overly restrictive to renewables and are appropriate to the specific characteristics and risks presented by the technologies concerned.

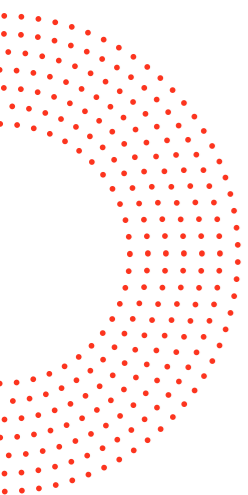
1.3 Grid capacity, infrastructure and access to the transmission and distribution network

To meet the needs of 21st century economies, of growing populations and electricity demands, it is vital that countries invest to upgrade their electricity grids. This is not just a renewable electricity issue. Underinvestment in ageing grids is a challenge that needs to be addressed whatever the power source to continue to meet the growing demands of businesses and economies. There is an opportunity – and a need – to ensure investment incorporates existing and future renewables into a country's grid. Existing grids tend to transmit steady volumes of electricity from a small handful of locations. As we modernise grids, they need to be designed to support a range of renewables sources.

This modernisation can take different forms, such as physical upgrades. However, many of the changes needed are regulatory to move away from the existing preferential treatment given to fossil fuels and better enable renewables to have access to the grid, rather than the existing preferential treatment given to fossil fuels. Grids also need expanding to take on more electricity to meet growing industrial demand. Grid capacity, and effectiveness of transmission and distribution networks, are hampering significant supplies of renewables from coming online around the world, which are needed to meet increased requirements.

To meet the needs of 21st century economies, of growing populations and electricity demands, it is vital that countries invest to upgrade their electricity grids.

²⁴ *France to require all large car parks to be covered by solar panels.* (2022, November 9). The Guardian. www.theguardian.com/world/2022/nov/09/france-to-require-all-large-car-parks-to-be-covered-by-solar-panels
²⁵ Global Wind Energy Council. 2021. *Review of Offshore Wind Technical Potential in South Korea.* [gwec.net/wp-content/uploads/2021/06/South-Korea_Offshore-Wind-Technical-Potential_GWEC-OREAC.pdf](https://www.gwec.net/wp-content/uploads/2021/06/South-Korea_Offshore-Wind-Technical-Potential_GWEC-OREAC.pdf)



In Indonesia, for example, a lack of grid capacity and a limited, regulated market is one of several challenges preventing renewables projects from coming onto the grid. As an archipelago of more than 17,000 islands and islets, Indonesia has challenges in building sufficient grid capacity and appropriate transmission and distribution networks to fully supply its 278 million citizens and burgeoning economy. Getting this right will be critical to ensuring a just energy transition for the country so that no area is left without electricity.

According to a report by the World Economic Forum and RE100, a lack of frameworks in Indonesia for wheeling means that Independent Power Producers (IPPs) struggle to directly provide consumers with renewable electricity²⁶. This results in challenges for IPPs getting electricity from the point of production to consumption, which is also holding up investment in new projects. The report highlighted that allowing IPPs to use the government-owned utility company, PLN, could open up 400GW of renewable potential and associated investment, owing to increased appetite from investors.

With nearly 100 RE100 members operating in the country, there's a significant market and investment opportunity waiting for the government. It should seek to enable new renewables projects to expand supply and secure private investment in its utility grid. Indonesia is home to 40% of the world's potential geothermal resources, with nearly 24 GW of potential energy. It currently uses a little over 2GW, thereby missing the economic opportunities of this untapped resource for willing corporate buyers²⁷.

South Africa also has notable renewable electricity potential, but challenges with grid and transmission issues. Grid limitations mean that currently only around 30GW of renewables can be added to the grid. This is far short of the 190GW needed by 2050 to reach net zero²⁸.

Most of the country's renewable electricity installations are in the Northern Cape, due to the province's vast wind and solar resources where there are 45 operational renewable projects. Yet despite these natural resource advantages, these projects have not been able to connect to the transmission grid in the Northern Cape as it ran out of capacity²⁹.

The government's Renewable Independent Power Producer Programme (REIPPP) has stimulated more renewables development, with 256 billion South African Rand (USD\$17.32 billion) being committed through REIPPP³⁰. While this clearly demonstrates the power of investment into renewables in South Africa, the grid is struggling to incorporate the additional capacity³¹. Adding to the backlog issues, there's currently 64GW of wind and solar PV projects being considered for development, with 57GW proposed in an area that only has 5GW of residual grid capacity available.

Further, due to the market set up and bundling of electricity generation, transmission and distribution by Eskom, the state-owned utility, only 32GW of grid capacity is immediately available to IPPs wishing to build renewable plants outside of the main wind and solar regions³².

The need for grid expansion and upgrade is evident, but it is critically important that renewables receive equal access to the network against fossil fuels, and that measures are put in place to ensure power can be transmitted from the point of development to the point of consumption. It is critical that once these upgrades have been made, the appropriate regulation is in place to ensure access to the grid for the new renewables that are coming online.



What is wheeling?

Wheeling is the transport of electricity from a generator to an end-user in a separate location. This can be done when both generator and end-user are within the same transmission system (wheel-through) or when end-user is outside the boundaries of the transmission system (wheel-out)

26 World Economic Forum. (2022). *Policy Opportunities to Advance Clean Energy Investment in Indonesia* [Review of Policy Opportunities to Advance Clean Energy Investment in Indonesia]. www3.weforum.org/docs/WEF_Policy_Opportunities_to_Advance_Clean_Energy_Investment_2022.pdf

27 Briefing, A. (2022, July 28). *An Overview of Indonesia's Geothermal Energy Sector*. ASEAN Business News. www.aseanbriefing.com/news/an-overview-of-indonesias-geothermal-energy-sector/

28 BCG, Business Unity South Africa, and National Business Initiative. 2022. *Review of It All Hinges on Renewables – the Massive and Urgent Energy Transformation South Africa Needs*. web-assets.bcg.com/97/41/4d07e1cf41b6a3d1236c09a1bf82/press-release-it-all-hinges-on-renewables.pdf

29 Ngcuka, J. E. and O. (2023, January 28). *POWER CRISIS: How the ANC's years-long delays on renewables plunged SA into darkness and scuppered plan to end blackouts*. Daily Maverick. www.dailymaverick.co.za/article/2023-01-28-how-the-ancs-years-long-delays-on-renewables-plunged-sa-into-darkness-and-scuppered-plan-to-end-blackouts/

30 Ibid.

31 Creamer, T. (n.d.). *Eskom has 32 GW of grid capacity, but not where most renewables investors want it*. Engineering News. Retrieved November 2, 2023, from www.engineeringnews.co.za/article/eskom-has-32-gw-of-grid-capacity-but-not-where-most-renewables-investors-want-it-2022-06-17

32 Ibid.



Countries demonstrating clear commitments, detailed roadmaps and ambitious plans are in a strong position to have an attractive market for outside investment.

1.4 Investment uncertainty and lack of confidence in government ambition

Countries demonstrating clear commitments, detailed roadmaps and ambitious plans are in a strong position to have an attractive market for outside investment. By removing regulatory barriers that hinder renewables, and by having favourable policies in place, governments can assure investors that their electricity market is open to business.

In Scotland, offshore wind projects attracted USD\$54.8 billion in foreign direct investment in just 2022 alone³³. Favourable policies that make it easier to build offshore wind resulted in the UK being the most successful country for foreign direct investment in wind power in 2022³⁴. Continued investment helps to bring the cost of renewables down, meaning more can be installed, bringing the costs down further. This virtuous cycle can help renewables' cost-competitiveness with fossil fuels and bring the costs for imported electricity down.

Conversely, the opposite is also true. If government actions or laws do not back up their ambition, investors become wary and are less likely to put up capital in a market with mixed signals. Targets must transmit into plans.

Mexico stands as an example of where ambition to increase renewables has not translated into outside investment. While the government has set an ambition to double renewables capacity by 2030, between 2020 and 2021 installed capacity only increased by 4% - far short of what is required for such an ambitious goal.³⁵ This is unsurprising given the confusing signals given to potential investors. The country has no net zero target or law in place, and in 2022 the government was forced to submit an updated NDC after a Mexican court found its 2021 submission was insufficient³⁶.

In July 2020, Mexico's state-owned Federal Electricity Commission (CFE) announced it would buy 2 million metric tons of coal³⁷,

while the government set to develop laws which limit private-sector investment in renewables in favour of prioritising natural gas and state utilities³⁸. In 2018, the year President Andrés Manuel López Obrador came to power, the country attracted USD\$5 billion in foreign direct investment in its energy sector. By 2021 this was just USD\$600 million³⁹.

The legislative proposals in the government's Energy Bill, and the surrounding debate, have created uncertainty for private investment in, and

procurement of, renewables. While the bill was eventually defeated, the ambition of the government to deliver renewables remains ambiguous leading to a lack of clarity for investment⁴⁰.

The challenges in Mexico highlight that even if a country has net zero laws in place, sending mixed signals on renewable electricity or adopting a pro-fossil fuels approach to the market, can impact much needed investment in a modern, clean energy sector.

33 Intelligence, fDi. (n.d.). *UK heads global renewables FDI league table*. www.fdiintelligence.com/content/rankings-and-awards/uk-heads-global-renewables-league-table-82307

34 Ibid.

35 (n.d.). *Mexico - Renewable Energy*. www.trade.gov. Retrieved November 2, 2023, from www.trade.gov/country-commercial-guides/mexico-renewable-energy#:~:text=In%202020%2C%20the%20installed%20capacity

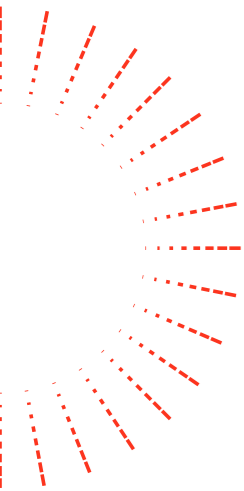
36 Ferris, N. (2023, September 6). *How Mexico came to have the weakest climate policy in the G20*. Energy Monitor. www.energymonitor.ai/policy/how-mexico-came-to-have-the-weakest-climate-policy-in-the-g20?cf-view

37 *Mexico to buy 2 million tons of coal for power plants*. (2020, July 14). AP News. apnews.com/article/9889b72c1abb0e84adf687f26f03c5c3

38 *US is ready to escalate Mexico energy dispute* | Argus Media. (2023, March 24). www.argusmedia.com. www.argusmedia.com/en/news/2432808-us-is-ready-to-escalate-mexico-energy-dispute

39 Lopez, O. (2022, August 17). *Mexico Sees Its Energy Future in Fossil Fuels, Not Renewables*. *The New York Times*. www.nytimes.com/2022/08/17/world/americas/mexico-president-renewable-energy.html

40 Murray, C. (2022, April 18). *Mexican president's radical energy reform defeated in congress*. *Financial Times*. www.ft.com/content/728da54c-d2c5-43ee-9943-c3e22bb43bb0?shareType=nongift



1.5 Key findings

The analysis illustrates that arbitrary permitting and siting regulations can impact the additional space needed for renewables, as in South Korea. Prioritising grid infrastructure and flexibility, which would benefit countries such as Indonesia and South Africa, is critically important for capitalising on abundant sources of renewable electricity that are restricted from coming online. Confusing signals from governments, such as Mexico, also demonstrate how millions of dollars of investment can dry up because of uncertainty in a government's direction of travel. These issues can act as disincentives that not only prevent new renewables from being developed, but also prevent wider

investment into the economy. Without new regulations, or the removal of existing outdated ones, countries are risking billions of dollars in investment in their energy infrastructure and wider economies.

To increase the availability of renewables, governments need to work with utilities and electricity suppliers to provide options for corporate renewable electricity sourcing. This also involves state-owned utility companies evolving from their historic roles as guardians of large, centralised fossil fuel plants to more diverse energy companies where renewables are a core part of their business.



Promoting direct investments in on-site and off-site renewable electricity projects can be achieved by addressing the following key barriers:



Permitting and citing restrictions for new renewable electricity projects



Uncertain investment environment



Lack of investment in infrastructure, transmission, and distribution



Unequal grid access for renewable electricity

2. Accessibility

Establish a regulatory environment that enables accessible options for corporate procurement of renewable electricity

Sufficient renewable electricity flowing into the grid is the foundation of any net zero strategy, but more is needed. For countries to fully benefit from the economic potential of renewables, corporates need to be able to access and purchase this electricity. What is needed is credible and transparent purchasing options that ensure corporates can meet their own demand and reporting targets, as well as satisfy their customer base and wider stakeholders.

There are several procurement options and tracking methods available, each with their own benefits depending on what stage a country is at in its corporate renewables journey. The most common of these include:

- **Electricity Attribute Certificates (EACs):** formal certifications that an equal amount of renewable electricity that a user has procured, has been produced somewhere in the world⁴¹. Each EAC represents one megawatt of renewable electricity that has been added to a grid. In different regions these are also known as Renewable Energy Certificates (RECs), International RECs (I-RECs), and Guarantees of Origin (GOs).
- **Electricity supplier contracts:** A contract with a supplier describes a conventional supply arrangement with an electricity supplier for the supply of renewable electricity. Energy and energy attributes are bundled together in their delivery to the corporate buyer.
- **Power Purchase Agreements (PPAs):** procurement of renewable electricity from, and contracting with, generators themselves.



What is accessible renewable electricity?

For countries to fully benefit from the economic potential renewables bring, renewables need to be truly accessible to corporates. This means providing credible and transparent purchasing and tracking options that ensure corporates can meet their own demand.

Unfortunately, these options are currently not all readily accessible across the eight countries assessed in this report. For RE100 members these issues are one of the top barriers globally. A lack of credible renewable electricity procurement options is undermining the accessibility of renewables even where progress is being made to increase supply.

It is important to note that even where the options are seemingly available, they are not always readily accessible to corporates, or have limitations in place. For example, in November 2022 Amazon was the first, and so far, only, corporate to sign a PPA in Indonesia⁴². There are a diverse range of reasons why tracking and procurement options are restricted. This can be due to limiting regulations, complicated procedures for procurement, geographical disparities, and issues over transparency around options and processes, which are explored more in detail below.

⁴¹ RE100's Technical Criteria requires that "the EACs must be issued to generation located in the same market for electricity as the electricity supply being decarbonized by the corporate buyer".

⁴² Amazon to off-take power from 210 MW of PLN solar parks in Indonesia. (n.d.). Renewablesnow.com. Retrieved November 8, 2023, from renewablesnow.com/news/amazon-to-off-take-power-from-210-mw-of-pln-solar-parks-in-indonesia-804564/



While multiple tracking and procurement possibilities do technically exist in the countries assessed in this report, in practice RE100 members account a lack of options, meaning that policies are not translating into reality for companies. It is therefore important that governments are aware of, and address, these practical challenges to ensure that any policies developed translate into authentic tracking and purchase options for corporates. Without supportive policies, corporates are limited

in accessing any enhanced supply that might be made available and undermine continued investment.

To advance the energy transition and capitalise on demand and investment in renewables, governments need to ensure that renewables are being developed and brought onto the grid, and that these are easily accessible through a variety of procurement options.

2.1 Transparency and additionality of energy attribute certificates

Energy Attribution Certificates (EACs) are a critical component of a transparent, credible renewable electricity market. They are an essential accounting tool, providing the foundation of all unique credible claims

Unbundled versus bundled EACs.

According to RECS International, the only discernible difference between bundled and unbundled EACs is that bundled EACs are sold by the party selling the power in the same contract. Unbundled EACs are sold separately.



Our preference is to generate renewable electricity on site or use PPAs, green tariffs, or certificates for renewables generated locally. Where regulations are too restrictive or where market mechanisms aren't available is where we face challenges in securing 100% renewable electricity. That's why we're calling for renewable electricity capacity to be tripled globally by 2030 and advocating for liberalisation of energy markets through RE100. This will help our suppliers to shift to renewables too.

Francois Tasmowski, Business Operations Sustainability Director – Climate, Unilever.

of renewable electricity use, and are the basis of advanced procurement options such as PPAs.

EACs exist in some form or another across many of the G20 countries focused on in this report, but in some cases, these suffer from issues of transparency and additionality. In Indonesia, where EAC auctions are infrequent, companies need to predict ahead of time what their consumption will be and buy accordingly. This may lead to discrepancies between energy purchased and their actual consumption, resulting in either higher energy bills than what's needed, or increased demand being met with fossil fuels. By increasing the frequency of EAC auctions, businesses minimise their need for long-term predictions so are more able to accurately match their consumption.

While EACs are a critical component of a functioning renewables market, in some countries RE100 members report the only

available option is procuring unbundled EACs which limits options for corporates and preference for additionality.

Given corporates report that this lack of options is a key barrier, governments should do what they can to expand the options available to businesses. For example, governments should base their EAC systems on internationally recognised standards, such as the I-REC Standard or the European Energy Certificate System. These have been highly successful in providing an effective template for EAC design, and helping to provide international consistency and alignment that contributes to building trust and reducing bureaucracy for buyers. By aligning with international standards, EACs can withstand scrutiny levelled at them. International standardisation and alignment also pave the way for cross-border trade in renewables – a vital component in future electricity markets.

2.2 Power Purchase Agreements (PPAs): Addressing lack of transparency and incentives

Power Purchase Agreements (PPAs) are an electricity sourcing mechanism that enables the direct purchase of renewables between buyer and supplier, thereby supporting the continued development of new renewables.

In 2021, corporate buyers signed 8GW worth of renewable Power Purchase Agreements across the EU⁴³. That's equivalent to 17.5%⁴⁴ of the total renewable capacity installed that year⁴⁵, or enough to power seven million homes⁴⁶. Corporate PPAs have been signed in 21 of the 27 EU countries⁴⁷. With expectations that this demand will only increase in the EU and other countries that make PPAs accessible to corporate users, there are opportunities for significant growth in renewable electricity, should transparency and availability issues be resolved.

The question is not whether PPAs are technically possible – it is about ensuring that the right conditions are in place for companies to access them.

South Korea is an example of where are PPAs available, but designed in a manner that is challenging for businesses to use.

Until recently, corporates were required to pay a network usage fee to the state utility company, KEPCO, as well as paying a transmission and distribution fee when signing a PPA. The government's 10th Basic Energy Plan at the start of 2023 sought to remove some of these contractual obligations within PPAs, which created unfair conditions such as double charging. However, the recent announcement of a proposed updated pricing scheme (Renewable Energy Users' Electivity Rate, KEPCO, 1st January 2023) would impose a base rate onto corporates that can be up to 1.5 times higher than the standard industrial electricity rate. This would make PPA prices uncompetitive with fossil fuel prices. At the time of writing, the decision from KEPCO and the Ministry of Trade, Industry and Energy (MOTIE) on the adoption of this new pricing scheme into policy is still pending.

Argentina, on the other hand, has made initial, positive steps towards corporate investment through PPAs, with some of the best renewable energy potential in the world. Yet it has struggled with economic challenges⁴⁸. The government's 'Guidelines for an Energy Transition Plan to 2030' presents a promising picture for investment into increasing renewable generation capacity, and transmission networks. The government's auction programme, RenovAr has a goal to increase Argentina's share of renewable energy production to 20% by 2025 and was a success when it initially launched in 2016, creating 3.7GW of wind power capacity from 63 projects. But a worsening economic context in the country has resulted in projects struggling to secure funding, with six 20-year PPAs being cancelled in 2021⁴⁹. Despite these setbacks, there are encouraging signs of growth. However with the country holding its first public tender for renewables in four years in 2023 and the state utility provider, Compañía Administradora del Mercado Mayorista Eléctrico Sociedad Anónima, (CAMMESA) entering into a PPA with 10 northern provinces to deploy 2.5GW⁵⁰.



- 43 Halm, I. van. (2022, October 6). *How Europe's energy crisis has impacted corporate renewable PPAs*. Energy Monitor. www.energymonitor.ai/finance/corporate-strategy/how-europes-energy-crisis-has-impacted-corporate-renewable-ppas/
- 44 *New report reveals EU solar power soars by almost 50% in 2022* – SolarPower Europe. (n.d.). www.solarpowereurope.org. www.solarpowereurope.org/press-releases/new-report-reveals-eu-solar-power-soars-by-almost-50-in-2022
- 45 *Wind energy in Europe: 2021 Statistics and the outlook for 2022-2026*. (2022, February 24). WindEurope. windeurope.org/intelligence-platform/product/wind-energy-in-europe-2021-statistics-and-the-outlook-for-2022-2026/
- 46 *Deals signed for offshore wind energy to power seven million homes* | TheBusinessDesk.com. (2023, January 19). Yorkshire. www.thebusinessdesk.com/yorkshire/news/2104178-deals-signed-for-offshore-wind-energy-to-power-seven-million-homes
- 47 Ferris, N. (2023, October 26). *Data insight: 21 out of 27 EU countries have now registered corporate renewable PPAs*. Energy Monitor. www.energymonitor.ai/tech/renewables/data-insight-21-out-of-27-eu-countries-have-now-registered-corporate-renewable-ppas
- 48 World Bank Group. 2018. *Review of ARGENTINA Renewable Energy Auctions*. thedocs.worldbank.org/en/doc/263381518200588533-0100022018/original/BriefsGuaranteesArgentinaAuctions.pdf
- 49 *BNamericas – Argentina begins to cancel renewable energy ...* (n.d.). BNamericas.com. www.bnamericas.com/en/features/argentina-begins-to-cancel-renewable-energy-projects
- 50 Jacobo, J. T. (2023, September 28). *Argentina to add 2.5GW of renewables in 10 northern provinces*. PV Tech. www.pv-tech.org/argentina-to-add-2-5gw-of-renewables-in-10-northern-provinces/

2.3 Geographic/regional disparity in PPA availability and processes

The nature of the electricity load required by corporates in many countries means that electricity demand is often spread across different regions and localities within one country. Where PPAs might be readily accessible in one region, it might be much harder, or not possible, in others. This results in a patchwork of PPA agreements in any given country, causing confusion and additional bureaucracy to a corporation. Both China and India have regional disparities in the availability and cost of PPAs, but this issue is not exclusive to them.

In June 2023, China's installed capacity of renewable energy had reached 1.3TW and the country is developing a diversified market transition mechanism⁵¹. However, companies report complexities and difficulties in finding and signing bilateral PPAs, known locally as Green Power Trading. State level powers, and differing regulatory limitations, currently make the process of accessing PPAs particularly complicated for companies⁵². RE100 members report that their ability to purchase PPAs varies depending on regional policies.

At the end of 2022, at least 28 provinces had carried out Green Power Trading, while 14 provinces issued provincial green power trading rules. Except for a few provinces, such as Zhejiang, Jiangsu, Guangdong, and Guangxi, that carried out intra-provincial transactions on a monthly basis, most Chinese provinces are conducting intra-provincial transactions on an ad hoc basis. This makes it difficult for buyers to plan their purchases in advance, limiting long-term electricity planning. Additionally, China's current Green Power Trading contracts generally do not exceed one year, and long-term power trading contracts are still under study. The establishment and maturity of long-term contract mechanisms will bring greater certainty to corporate procurement and incentivize more corporate buyers to purchase green power.

For India, which has devolved regulatory powers, there is a significant variation in the sources of renewable electricity being used, with different options available in different states. This results in many states, especially Maharashtra, Telangana, Andhra Pradesh, Tamil Nadu, and Karnataka, having



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The main barrier for us in using more renewables is accessibility. Currently government policy means that the annual green electricity market does not open at the beginning of the year. This means that companies are not able to buy green electricity for the first few months of a new year. There are promising signs of this improving, but we need to see this move faster.

Jenny He, Quality Assurance Engineer, Sungrow Power Supply

discrepancies on the purchasing of PPAs. For example, charges such as transmission and wheeling, surcharge, banking, and others are levied in a different manner by distribution companies (DISCOMs) under approval from their respective electricity regulators. Due to difference in interpretation and implementation of central government acts, policies and guidelines, renewable electricity buyers are faced with managing a diverse set of regulatory hurdles.

To address these regulatory divergences, the central government has issued Green Open Access (OA) guidelines, intended to help respective states amend their own Open Access policies, and frameworks to work towards an aligned policy landscape across India. Many of the states have issued drafts of their Open Access frameworks but have not yet formally implemented them.

Additionally, RE100 members also report that some states including Maharashtra, Telangana, and Andhra Pradesh do not provide a favourable policy for third-party wheeling from renewable electricity sources. Coupled with the challenge of cross-state PPAs, many members cite

arbitrary grid usage charges resulting from a range of issues. These issues can range from the individual state's energy economics, electricity provider obligations to certain end-user consumers, legacy issues within the electricity system, and the difficult economic situations that many of India's DISCOMs find themselves in. These challenges all present significant obstacles to corporates looking to supply their business with renewables and limit the challenges of red tape.

Synchronisation of regulations, and the availability of PPAs between different states, would not only reduce unnecessary bureaucracy for corporate buyers but it would also mean a much shorter learning curve for companies seeking to buy renewables in multiple parts of the same country. It would limit the amount of over-spending on electricity and ensure the electricity businesses are paying for is renewable, and not having to be supplemented by fossil fuels because of underbuying. Efforts toward national synchronisation of PPA regulations would have a much-needed positive impact on the uptake of PPAs, streamlining bureaucracy and reducing cost for buyers.

51 我国可再生能源装机超过煤电---国家能源局. (n.d.). www.nea.gov.cn. Retrieved November 6, 2023, from www.nea.gov.cn/2023-08/04/c_1310735564.htm

52 Shutong Lu, et al., Corporate Green Power Procurement in China: Progress, Analysis, and Outlook: 2022 Annual Report, RMI, 2023.

2.4 Key findings

The analysis highlights the challenges in the process of finding and signing PPAs that meet a company's needs. There is also a need for wider regulations that enable renewable power to be purchased and transported to the point of consumption.

Self-generation or procurement from new projects through long-term, direct or project-specific contracts, are central to corporate buyers themselves driving the transition to zero carbon grids.

To address corporate concerns around a lack of credible procurement options for renewables, governments should consider tackling the following barriers by:



Increasing the transparency and additionality of renewable energy certificates (RECs).



Easing the complicated PPA processes, including the lack of transparency and incentives.



Addressing the geographic and regional disparities in the availability of PPAs and their processes.

Only by addressing these barriers can governments create an environment that supports simple, credible, and transparent pathways for corporates to source renewable electricity.

Transparency and credibility must be at the centre of any government's system for corporate procurement.

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At AstraZeneca we want to invest with impact and scale across our global site network. Today it is overly complicated to make the most impactful long-term renewable energy agreements. To deliver the real-world greenhouse gas reductions so desperately needed, for our own operations and our suppliers and customers, we need to increase the availability and accessibility of new renewables, especially through the likes of PPAs, and support the development of robust and granular EAC markets and reporting.

Ben Norbury, Global Climate Lead, AstraZeneca.

3. Affordability

Create a level playing field to ensure the affordability of renewables

The United Nations cites a level playing field for renewable electricity as one of its top five recommendations to jump-start the renewables transition⁵³. Yet, in many countries, renewables are at a significant disadvantage compared to fossil fuels. Renewables face regulatory restrictions, additional charges for the transmission of green electricity, unfair pricing mechanisms and significant subsidies going towards fossil fuels. In 2022, the International Institute for Sustainable Development (IISD) found that G20 countries paid out \$1.4 trillion in subsidies to coal, oil, and gas⁵⁴.

Despite solar and wind being the cheapest forms of electricity in history in a fair market, the cost of renewables is the number one barrier cited by RE100 members to reaching their 100% targets. The demand signal from corporates is strong, with billions of dollars waiting to be invested, but governments are failing to make the most of this opportunity and expand their existing supply to meet the demand.

This report has already touched on several reasons for the high price discrepancies across countries which often hinge on some of the key issues mentioned above regarding availability and accessibility. The high cost or price of renewables for corporates is an issue often cited in Argentina, Japan, Mexico, South Africa, and South Korea. What's common across all these geographies is that the cost competitiveness of the production of renewables is not translating into the price for the end consumer. Much of this can be attributed to a lack of government ambition around renewables, often preventing

action on many of the barriers already listed, while retaining favourable regulatory and market conditions for fossil fuels.

In many countries, regulation and market structures still heavily favour fossil fuels, highlighting the inaction or unwillingness from governments to enable the transition. Alongside the barriers referenced throughout this report, ineffective pricing mechanisms are also preventing renewables from competing on a level playing field despite the low cost of production. As the cheapest forms of electricity in history, renewables like wind and solar PV should be delivering their cost benefits to consumers around the world. But this is not the case. According to IRENA, the levelised cost of ownership (LCOE) for new onshore wind projects in 2022 was 52% lower than the cheapest fossil fuel-fired solution⁵⁵.

3.1 Lack of government ambition and action

Ambition on renewables across the G20 countries is a mixed picture. On the one hand, there are many positive steps being taken but, on the other hand, there is much more scope on what can be done. All G20 countries can improve turning their commitments and ambitions into more concrete and sustainable action.

The *Ambition on Renewables* report, released in 2022, analysed how the G20 nations (minus the EU and including Spain as a permanent guest of the G20) rank in terms of progress and ambition on renewable electricity in the last decade⁵⁶.

⁵³ United Nations. (2021). *Five ways to jump-start the renewable energy transition now*. United Nations. www.un.org/en/climatechange/raising-ambition/renewable-energy-transition

⁵⁴ Niranjana, A. (2023, August 23). G20 poured more than \$1tn into fossil fuel subsidies despite Cop26 pledges – report. *The Guardian*. www.theguardian.com/environment/2023/aug/23/g20-poured-more-than-1tn-on-fossil-fuel-subsidies-despite-cop26-pledges-report

⁵⁵ *Renewable Power Generation Costs in 2022*. (2023, August 29). Wwww.irena.org. www.irena.org/Publications/2023/Aug/Renewable-Power-Generation-Costs-in-2022

⁵⁶ *Ambition on renewables in the G20: Report*. (n.d.). RE100. www.there100.org/ambition-renewables-g20-report

Leaders	Climbers		Stragglers	
A	B	C	D	E
Countries with the highest renewables in overall power capacities. Countries have economy-wide renewable targets and/or net zero/carbon neutral strategies.	Countries with high renewables in overall power capacities. No full consideration for economy-wide renewable targets and/or net zero/carbon neutral strategies.	Countries with moderate renewables in overall power capacity deployment. Little or no consideration of economy-wide renewable targets and/or net zero/carbon neutral strategies.	Countries with limited renewables in overall power capacity deployment. Little or no consideration of economy-wide renewable targets and/or net zero/carbon neutral strategies.	Countries with no renewables in overall power capacity deployment. Little or no consideration of economy-wide renewable targets and/or net zero/carbon neutral strategies.
China, Germany, Italy, Spain, United Kingdom	France, Japan, Australia, United States of America	Turkey, India, South Africa, Mexico	Brazil, Indonesia, Canada, Republic of Korea, Argentina	Saudi Arabia, Russian Federation

Using collated data, the 20 countries were ranked from A to E based on their ambition and progress in deploying renewables, in particular renewable power capacities.



Some of the areas studied include net zero targets, renewable power target ambition, share of renewables in total installed capacity in 2021, and renewable capacity additions in 2021.

The report found that ambitious renewables targets correlate with more progress towards net zero and a more attractive environment for corporate investment in renewables. By changing policies and energy infrastructures, as well as providing adequate levels of financing, many countries around the world can significantly increase their attractiveness for corporate sourcing of renewable power. However, some of the highly ranked countries are still strongly connected to investment in new fossil fuels or delays in phasing out fossil fuel generators. These steps are incompatible with the scale and pace of change needed.

3.2 Key findings

For governments to capitalise on the opportunity presented by the ever-expanding demand for renewables, it is critical that renewables are enabled and prioritised over fossil fuels. Governments are holding back the energy transition needed by continuing to invest in, and prioritise, fossil fuels alongside expanding renewables. One result of this is an inflation of the price of renewables to the consumer, so that the proven low cost of development does not translate into competitive prices for corporates. In a world where the availability of cost-competitive renewables is becoming an increasingly important

criteria for investment decisions, such as where to locate operations, and where to find suppliers that fit with buyers' climate principles and commitments, some governments are undermining their own economic interests by not creating fair market conditions for renewables.

To create a level playing field, on which renewable electricity competes fairly with fossil fuels, and reflects the cost competitiveness of renewables, governments should consider the barriers listed throughout this report.

It is also strongly recommended that governments:



Give a clear signal to investors by increasing ambition and action focused on renewables.



Provide transparency on pricing mechanisms and remove double charging and other artificial price hikes.

Conclusion and Recommendations

Inaction is not an option. Many countries around the world are still struggling to shake their fossil fuel habits and understand the true economic potential of widespread, easy to access renewables.

Those who do not invest risk losing out on corporate investment and economic growth. For those that seize the opportunities presented, there are powerful prospects for governments and businesses.

By adopting the recommendations in this report, billions of dollars in investment could be unlocked

for G20 countries, with the overall goal of combatting climate change and helping countries reach their net zero targets.

While this report focuses on eight of the G20 governments, the barriers and opportunities highlighted are common across a broad range of energy markets.

This report calls on governments to consider the following recommendations to enhance the corporate availability of renewables in their respective countries.



Incentivise and increase supply to ensure sufficient availability of renewables.

- Work with utilities or electricity suppliers to provide and improve options for corporate renewable electricity sourcing.
- Address permitting and siting issues that are unduly limiting opportunities for installation of new renewable electricity infrastructure.
- Promote direct investments in on-site and off-site renewable electricity projects.



Establish an enabling regulatory environment for corporate sourcing and accessibility of renewables.

- Increase the transparency and additionality of renewable energy certificates (RECs).
- Ease complicated PPA processes, including addressing the lack of transparency and incentives.
- Understand and amend the geographic and regional disparities in the availability of PPAs and harmonise PPA rules and contract processes.



Create a level playing field to ensure the affordability of renewables.

- Create a level playing field on which renewable electricity competes fairly with fossil fuels and reflects the cost-competitiveness of renewable electricity production.
- Remove fossil fuel subsidies to stop unfair competition with renewables and reduce the subsidy burden on taxpayers.

Implementing these recommendations will help open capital flows to support a country's energy transition and the achievement of its net zero goals. Opening markets to corporate sourcing of renewables has also been demonstrated to increase global competitiveness, as a growing number of corporates look to achieve 100% renewable electricity goals and locate their operations and their supply chains in those geographies where this is possible.

The economic and commercial opportunities for countries that make renewable electricity readily available to corporates are immense. Continuing to promote fossil fuels, at the expense of renewables, or by not adequately supporting renewables through policies and market structures, is a dead-end road. Governments risk losing economic opportunities in favour of an outdated business-as-usual approach.



CLIMATE GROUP

About Climate Group

Climate Group drives climate action. Fast. Our goal is a world of net zero carbon emissions by 2050, with greater prosperity for all. We focus on systems with the highest emissions and where our networks have the greatest opportunity to drive change. We do this by building large and influential networks and holding organisations accountable, turning their commitments into action. We share what we achieve together to show more organisations what they could do. We are an international non-profit organisation, founded in 2004, with offices in London, Amsterdam, Beijing, New Delhi, and New York. We are proud to be part of the [We Mean Business coalition](#). Follow us on Twitter [@ClimateGroup](#).

CLIMATE GROUP RE100

About RE100

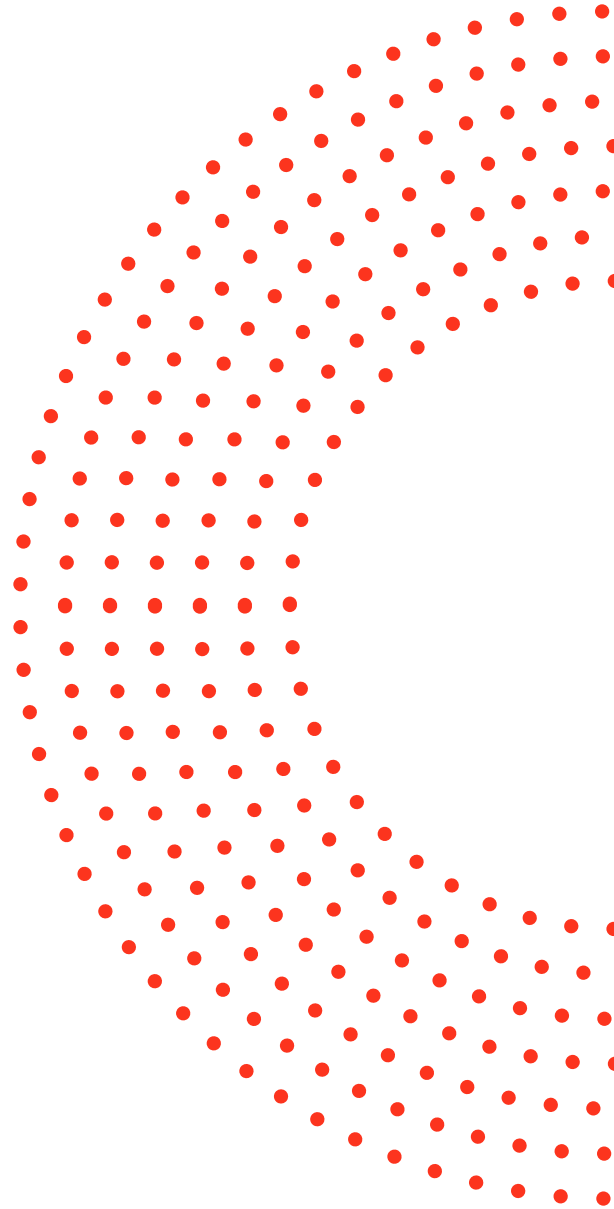
RE100 is a global initiative bringing together the world's most influential businesses committed to 100% renewable electricity. Led by [Climate Group](#), our mission is to drive change towards 100% renewable grids, both through the direct investments of our members, and by working with policymakers to accelerate the transition to a clean economy. The initiative has over 400 members, ranging from household brands to critical infrastructure and heavy industry suppliers. With a total revenue of over US\$6.6 trillion, our members represent 1.5% of global electricity consumption, an annual electricity demand higher than that of the UK. RE100 was established in partnership with CDP.

Authors: Nick Ringrow, Madeline Pickup

Contributors: Sam Kimmins, Champa Patel, Toby Walker, Amanda Burton

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