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Enabling an Inclusive, People-Centric, and Ecologically Just Renewable Energy Transition in the G20

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Accelerating Climate Action and the Just Energy Transition

SUB-THEME 3

Abstract

Worldwide, countries are moving from fossil fuel-based energy to renewable energy (RE) to reduce greenhouse gas emissions and mitigate climate change. However, the transition to renewables comes with its own resource requirements, such as land and water, impacting local communities, Indigenous peoples, and the local ecology. Across regions with high RE potential there are patterns of loss of livelihood, conflicts during land transfer, concerns over competing utilisation of common resources such as water, and negative environmental impacts due to land diversions.[1] These are also witnessed by G20 countries. For instance, Mexico, with a 34% Indigenous population,[2] is facing challenges in RE deployment due to local opposition.[3] India is seeing rising reported conflicts with $7.75 billion investments affected in ongoing conflicts as of 2024.[4] Even mature RE markets such as the US are witnessing this challenge, with community opposition featuring in the top three reasons for project cancellations.[5]

As we move towards renewables, G20 countries have a unique opportunity to lead a transition to a cleaner and equitable future, with people and ecology at the core of its ambitions. This would set a critical precedent as we move away from historically extractive fossil fuel-based energy, with positive outcomes for people and the environment. The Brazilian G20 presidency in 2024 produced a list of principles for just and inclusive energy transitions,[6] such as promoting increased social dialogue and stakeholder participation and sustainable and inclusive economic growth for all. The South African G20 presidency in 2025 has also identified accelerated climate action and the just energy transition as a priority. This policy brief advances the current G20 agenda by providing actionable recommendations to operationalise the 2024 principles and attain a just and inclusive energy transition. To achieve this, we discuss the role of governance, introduce strategies such as low impact siting of land for renewable energy to minimise social and ecological impacts, engaging communities in decision-making, and prioritising models of benefit sharing for local communities. We also share best practices from G20 countries in people-centric renewable energy deployment to disseminate learnings for policymakers.

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[1] G Bhakti, Nicolacci Ornella, Singh Nivedita, Khosla Ayesha, Nijhawan Saksham and Mudaliar Atul 2024. "A G20 Compact for Responsible Renewable Energy Deployment" T20 Brasil https://t20brasil.org/media/documentos/arquivos/TF02_ST_01_A_G20_compact_for_r66ccc6d998343.pdf

[2] The Interamerican Association for Environmental Defense (AIDA) and The Mexican Environmental Law Center (CEMDA). 2012. "The challenges of deploying wind energy in Mexico. The case of Isthmus of Tehuantepec". The Interamerican Association for Environmental Defense (AIDA) https://aida-americas.org/en/challenges-deploying-wind-energy-mexico-case-isthmus-tehuantepec

[3] World Resources Institute 2021. "Mexico: Policymaking to ensure energy justice in renewables development" World Resources Institute. https://www.wri.org/update/mexico-policymaking-ensure-energy-justice-renewables-development#:~:text=As%20Mexico%20scales%20up%20solar,see%20as%20inadequate%20or%20unfair.

[4] Land Conflict Watch. n.d. *Land Conflict Watch: Conflicts Database.* Accessed November 26, 2024. https://www.landconflictwatch.org/all-conflicts.

[5] Nilson Robi, Hoen Ben, and Rand Joe. 2024. "Survey of Utility-Scale Wind and Solar Developers Report" Berkeley Lab https://emp.lbl.gov/publications/survey-utility-scale-wind-and-solar

[6] G20 Research Group 2024. "Principles for Just and Inclusive Energy Transitions." University of Toronto. https://www.g20.utoronto.ca/2024/241004-energy-principles.html

Diagnosis

The global renewable energy (RE) transition faces multiple challenges, including land procurement, grid access, and investment risks. As countries decarbonise through large-scale RE infrastructure deployment, the social and ecological impacts of this rapid transformation demand more careful and integrated consideration, ensuring that the move to a greener future avoids worsening disparities or adding environmental harms. This brief advocates for expanding the 'just transition' paradigm, offering recommendations to further advance inclusive energy system transformations within the G20.

The 'just transition' concept has evolved significantly since it was first acknowledged by the UN Framework Convention on Climate Change in 2020.[7] Applied to the energy sector, it entered climate negotiations in 2015, and its importance was emphasised at COP21 in Paris.[8] While historically focused on employment shifts from grey to green sectors, energy access, and carbon inequality, the notion of a just transition has come to include aspects of social dialogue, stakeholder participation, policy inclusiveness, and shared prosperity. [9]

The COP28 pledge to triple global installed RE capacity to 11 000 GW by 2030,[10] coupled with COP29's emphasis on grid and storage,[11] will precipitate a sharp rise in demand for vital resources, especially land, marine space, and water. This surge

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[7] Research and Information System for Developing Countries (RIS) 2024. "Just Transition' Initiatives by G20". G20 Digest Vol. 2, No.2&3, pp 75-90 https://ris.org.in/G20Digest/G20digest-sep2022.html

[8] G20 Research Group 2024. "Principles for Just and Inclusive Energy Transitions." University of Toronto. https://www.g20.utoronto.ca/2024/241004-energy-principles.html

[9] ibid 2

[10] COP 28 2023. "COP28: Global Renewables and Energy Efficiency Pledge." COP 28 https://www.cop28.com/en/global-renewables-and-energy-efficiency-pledge

[11] COP29 Azerbaijan 2025. "COP29 Global Energy Storage and Grids Pledge." *COP29 Azerbaijan*. https://cop29.az/en/pages/cop29-global-energy-storage-and-grids-pledge

is causing conflicts in communities hosting large solar and wind projects over local/Indigenous rights and ecosystem integrity, hampering deployment and causing costly delays.

For example, Indigenous farmers in Mexico are opposing solar projects on communally owned lands due to inadequate consultation and fears of environmental degradation.[12] In another instance, a 400MW solar project in California's Desert Centre, the largest designated solar energy zone in the US, faced community concerns in 2024 regarding biodiversity preservation and groundwater depletion.[13] Moreover, in India a pumped storage project covering 624ha of land is contested by tribal communities anxious about losing access to forest produce, which is crucial to their income, livelihood, and identity.[14]

To fully unlock RE's potential as a clean, equitable, and sustainable solution, these impacts of large-scale deployment demand immediate and comprehensive attention. Responsive approaches to RE development that consider local communities and ecosystems are critical to mitigate social and environmental risks as global capacity expands to meet growing energy demand. Strategies for minimising such impacts and making deployment 'responsible' include low-impact land siting, project benefit-sharing mechanisms, and regenerative ecological practices, among many others. The transition presents an opportunity for governments, RE companies, and civil society organisations to reimagine energy extraction and production, shifting

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[12] Emilio Godoy 2021. "Indigenous Communities in Mexico Fight Energy Projects" Global Issues. https://www.globalissues.org/news/2021/03/19/27403.

[13] Wyatt Myskow 2024. "As Solar Booms in the California Desert, Locals Feel Overburdened" InsideClimate News. https://insideclimatenews.org/news/16102024/california-desert-solar-development-burden/

[14] PTI 2025. Green energy or survival? Rajasthan's forest-dependent communities at a crossroad. Deccan Herald https://www.deccanherald.com/india/rajasthan/green-energy-or-survival-rajasthans-forest-dependent-communities-at-a-crossroad-3535246

toward a people-centric, community value-enhancing, and ecologically sustainable energy system.[15]

Role of the G20

With 90% of global cumulative RE capacity[16] and responsibility for 80% of global energy consumption and its CO_2 emissions,[17] G20 nations are critical to driving a green energy transition centred on social justice and environmental stewardship.

The G20 could facilitate discussion towards implementing a shared vision for responsible RE expansion. Member states could be supported in evaluating their national RE policies and practices, using collectively identified criteria or methodological approaches, to promote adherence to rigorous standards for site selection, impact assessments, and stakeholder consultations, particularly concerning risks from fast-tracked project timelines. The 10 voluntary Principles for Just and Inclusive Energy Transitions, adopted by the G20 Energy Transitions Working Group and endorsed in the G20 Brazil Leader's Declaration of 2024, provide a basis for such a review, covering areas such as energy planning, social dialogue and participation, social protection, policy inclusiveness, and sustainable, inclusive economic growth. However, as the previous section highlighted, the widespread and consistent observance of a majority of these principles is not yet evident on the ground. Therefore, drawing from our work in India,[18] we propose actionable

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[15] Chowdhury, Parineet Kaur, Nicole Almeida, and Akanksha Tyagi. 2025. How can India Enable a People-centric Clean Energy Transition? Framework for Responsible Renewable Energy Deployment. New Delhi, India: Council on Energy, Environment and Water (CEEW), India. https://www.ceew.in/publications/how-can-india-deploy-renewable-energy-for-people-centric-clean-energy-transition

[16] IEA 2023. *Renewables 2023: Executive Summary*. International Energy Agency. https://www.iea.org/reports/renewables-2023/executive-summary.

[17] IRENA 2025. "G20+ Countries Hold the Key to the Global Renewable Target by 2030." *International Renewable Energy Agency (IRENA)*. https://www.irena.org/News/pressreleases/2025/Mar/G20-plus-Countries-Hold-the-Key-to-the-Global-Renewable-Target-by-2030.

[18] Chowdhury, Parineet Kaur, Nicole Almeida, and Akanksha Tyagi. 2024. "Framework for Responsible Renewable Energy Development." Council on Energy, Environment and Water (CEEW) https://www.ceew.in/publications/how-can-india-deploy-renewable-energy-for-people-centric-clean-energy-transition

recommendations for G20 leaders that are adaptable to diverse national contexts and offer a strategic blueprint to guide the translation of these principles into responsible RE deployment, progressively realising their widespread application.

Recommendations

1. Empower responsible and low-impact RE siting

The G20 should champion the following actions:

- **Create and ensure the accessibility of high-quality, comprehensive environmental databases** detailing biodiversity hotspots, protected areas, and endangered species. Simultaneously, governments should require environmental and social impact assessments and apply advanced spatial planning tools to identify optimal project locations that minimise both social and ecological disruption.[19]

- **Initiate robust community engagement and consultation[20] with environmental experts** to enhance the effectiveness of such tools and to collaboratively define clear 'go' and 'no-go' zones for RE development. Furthermore, the proactive involvement of local institutions will facilitate the integration into project planning of local knowledge regarding historical land-use patterns and community-specific socio-ecological dependencies. Improving land governance in many developing countries, notably by rectifying the absence of current digitised land records,[21] is of

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[19] Kiesecker, Joseph M., Nupur Bapuly, Shivaprakash KN, Kei Sochi, Anthony Ortiz, Juan Lavista Ferres, Caleb Robinson, James Oakleaf, Aishwarya Bhattacharjee, Anand Madhav Mishra, and Vishnu Pandey. *Balancing a Trifecta of economic development, environmental sustainability, and social inclusivity: A policy framework for Low-Impact siting to facilitate India's sustainable energy transition*. T20 Brazil, 2024. https://www.t20brasil.org/media/documentos/arquivos/TF02_ST_01_BALANCING_A_TRIFECT66ccc94a3584d.pdf.

[20] In line with the principle of 'Social dialogue and stakeholder participation'

[21] Kriticos, Sebastian 2019. *Keeping It Clean: Can Blockchain Change the Nature of Land Registry in Developing Countries?"* World Bank Blogs.

high priority. Inconsistent property records and unclear ownership hinder land procurement and increase the risk of expropriation.[22] The G20 should thus spearhead initiatives for regional investment in land titling and record modernisation. Investing in secure land tenure systems will not only mitigate these risks but also foster more equitable market transactions.

- **Ensure a cohesive, whole-of-government approach** for just and low-impact land siting.[23,24] This necessitates close collaboration among multiple government departments at central/federal and state/local levels, and across relevant sectors (going beyond energy to water, agriculture, fisheries, tourism, etc.) to create synergies among diverse development objectives and establish clear regulatory guidance for RE companies.

2. Foster shared prosperity through benefit-sharing[25]

G20 nations should advance policies ensuring that RE development yields tangible socio-economic gains for host communities, notably through mechanisms like benefit-sharing, which are designed to improve local livelihoods and quality of life:

- **Establish clear regulatory frameworks that support diverse benefit-sharing models.** Such frameworks should encompass measures like promoting

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https://blogs.worldbank.org/en/developmenttalk/keeping-it-clean-can-blockchain-change-nature-land-registry-developing-countries

[22] Field, Erica 2007. *"Entitled to Work: Urban Property Rights and Labor Supply in Peru."* The Quarterly Journal of Economics 122 (4): 1561–1602. https://doi.org/10.1162/qjec.2007.122.4.1561.

[23] In line with the principle of 'Implement secure and sustainable solutions'

[24] United Nations Conference on Trade and Development (UNCTAD) 2024. "The Role of G20 in Promoting Green and Just Transitions." UNCTAD https://unctad.org/publication/role-g20-promoting-green-and-just-transitions#:~:text=It%20stresses%20the%20importance%20for,the%20G20%20and%20development%20countries

[25] In line with the principle of 'Social dialogue and stakeholder participation' and 'Sustainable and inclusive economic growth for all'

decent employment opportunities for local residents,[26] promoting equity-sharing in land procurement processes, supporting community-led skills development initiatives,[27] and fostering the creation of co-owned RE projects that empower communities as integral stakeholders and partners. G20 countries should look to successful examples like South Africa's Renewable Energy Independent Power Producer Programme, which mandates contributions to local economic development within a 50km radius of the project and stipulates a minimum 2.5% community shareholding for historically disadvantaged communities.[28] Administered by the Department of Energy's largely autonomous Independent Power Producer unit, this programme proved effective by ensuring reduced administrative burdens, maintaining clear and regular stakeholder communications, and providing a transparent power procurement framework, thereby stimulating investment and private sector participation.[29]

- **The G20 should drive greater responsibility by defining clear parameters of responsible deployment,** such as the scale of programmes targeting regional development, and nudge financiers and procurers of RE to utilise these parameters to assess a company's

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[26] To be done in line with the principle of 'Social protection' and 'Quality jobs and workforce development'
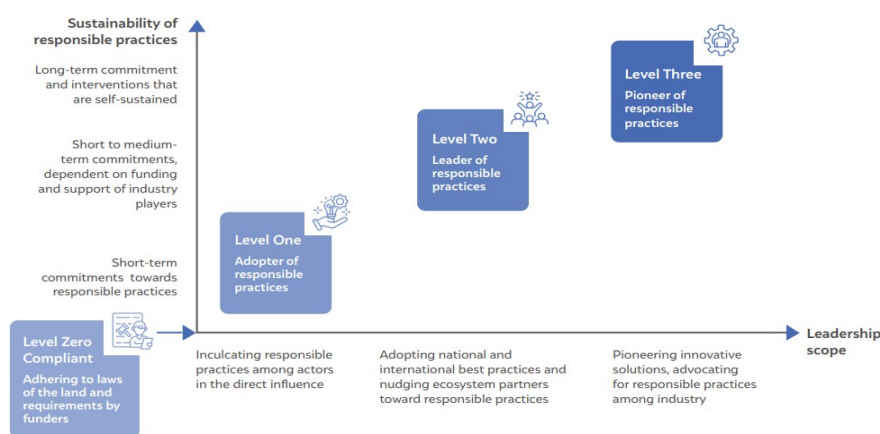
[27] Ibid. 12

[28] Biswas, Anna, Avela Pamla, Holle Wlokas, José Vega, Juan Pablo Cárdenas, Mbeo Ogeya, Michele Ferenz, Pinaki Halder, Pochoy Labog, Rafael Fonseca, Ricardo Cruz, and Yumnaa Firfirey 2024. "Practitioner Insights on the Just Transition to Renewable Energy" JustRE Alliance. https://www.forumforthefuture.org/Handlers/Download.ashx?IDMF=959905d7-29c5-4331-bfe9-2c9c20190265.

[29] Key design elements of the framework included: allowing several bid winners, which incentivized participation; including large capacity allocations and the rolling bidding process, building confidence in the program; developing complementary policies to fast-track the program and reduce administrative barriers; requiring bids to be fully underwritten by debt to reduce challenges associated with underbidding; and ensuring reasonable profits through connection with tariff caps. However, the implementation has been contentious, with the community trust not necessarily translating to the host community ownership. This has critical lessons for the G20 countries. (Firfirey Yumnaa 2024. OPINION | Community Ownership – strengthening this cornerstone of SA's Just Energy Transition. Initiative for Social Performance in Renewable Energy. https://inspire-excellence.net/opinion-community-ownership-strengthening-this-cornerstone-of-sas-just-energy-transition/#:~:text=The%20government's%20Renewable%20Energy%20Independent,depending%20on%20the%20bid%20window.) (Montmasson-Clair, Gaylor & Ryan, Georgina. 2014. Lessons from South Africa's renewable energy regulatory and procurement experience. Journal of Economic and Financial Sciences. 7. 507-526. 10.4102/jef.v7i4.382.)

commitment to responsible practices. The G20 can serve as a key platform to promote a common understanding of responsible deployment among member states and to showcase best practices from leading countries for broader emulation by others. Our four-level responsibility framework, developed through research in India, offers an instructive model for doing so.

Figure 1. Levels of action

Source: Chowdhury et al. 2025[30]

3. Embed responsibility in project tendering and bidding

The G20 should promote the establishment of clear, transparent criteria for project approvals, tendering, and bidding. These criteria must ensure that social and ecological parameters are explicitly integrated with assessments of technical and economic feasibility. Such criteria should further mandate that detailed project reports, finalised at project inception, specify local employment generation targets and concrete benefit-sharing mechanisms.

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[30] Chowdhury, Parineet Kaur, Nicole Almeida, and Akanksha Tyagi. 2025. How can India Enable a People-centric Clean Energy Transition? New Delhi, India: Council on Energy, Environment and Water (CEEW), India. https://www.ceew.in/publications/how-can-india-deploy-renewable-energy-for- people-centric-clean-energy-transition

Moreover, bidding processes must incorporate comprehensive ecological restoration plans and define clear operational safeguards for projects located in ecologically sensitive zones. Valuable insights can be derived from leading examples like Spain's Institute for Just Transition (ITJ). The ITJ integrates social and economic considerations into government tenders for RE projects by mandating community impact assessments, proactive worker transition plans, and firm commitments to local economic development.[31] Notably, in 2023 Spain reinforced these requirements by linking grid access to demonstrable compliance with just transition criteria,[32] effectively prioritising projects that champion social and economic fairness.

4. Catalyse responsible finance for renewable energy

To operationalise the principle of 'financial empowerment for responsibility', the G20 should take concrete steps to unlock responsible finance. Achieving the COP28 pledge to triple global RE capacity by 2030 necessitates a doubling of average annual investment in G20+ countries[33] to about $1 080 billion between 2024 and 2030.[34] This financial mobilisation is an opportunity to strategically direct a portion of these funds towards supporting the increased efforts and initial investments required for responsible RE deployment.

The G20 should establish a pooled fund to pilot and scale responsible RE deployment models. This will provide crucial early-stage support for developers

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[31] Real Instituto Elcano 2024. "From Phasing Out to Phasing In: Lessons from Spain's Just Transition Governance Framework." *Real Instituto Elcano*. https://www.realinstitutoelcano.org/en/analyses/from-phasing-out-to-phasing-in-lessons-from-spains-just-transition-governance-framework/.

[32] Just Transition Finance Lab 2025. "*Spain Case Study: Lessons for a Just Energy Transition*". Just Transition Finance Lab. https://justtransitionfinance.org/wp-content/uploads/2025/02/Just-Transition-Finance-Lab_Spain-case-study.pdf

[33] This includes G20 countries and 15 additional countries in Asia and Central America

[34] IRENA 2025. "G20+ Countries Hold the Key to the Global Renewable Target by 2030." *International Renewable Energy Agency (IRENA)*. https://www.irena.org/News/pressreleases/2025/Mar/G20-plus-Countries-Hold-the-Key-to-the-Global-Renewable-Target-by-2030.

embracing inclusive practices. The G20 can also encourage multilateral development banks to offer favourable terms and credit support to developers, particularly in the Global South.

T20 South Africa convenors

The Institute for Global Dialogue (IGD)

The South African Institute of International Affairs (SAIIA)

The Institute for Pan-African Thought and Conversation (IPATC)