



Task Force 02

SUSTAINABLE CLIMATE ACTION AND INCLUSIVE JUST ENERGY TRANSITIONS

A G20 Compact for Responsible Renewable Energy Development

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Abstract

The renewable energy (RE) sector will make a global low-carbon future possible. However, the explosive growth of RE around the world may come with a risk of aggravating existing patterns of energy transitions that have typically been characterized by inequality and exclusion. The sector has a golden opportunity to ensure a people-centered energy transition that prioritizes environmental stewardship and the rights of people and communities.

Increased RE will exert pressure on natural lands, biodiversity, and resources on which Indigenous Peoples and vulnerable communities rely. A World Bank estimate suggests a 300% rise in demand for minerals crucial for solar photovoltaic, under a 2-degree climate scenario. This means vast amounts of land may be disturbed or degraded, risking wildlife, waters, and other resources, as well as the surrounding communities and workers.

Advancing an inclusive and just transition to RE will require both government support and participation of the private sector – RE buyers, developers and financiers. It should protect and empower communities and ensure that they are active participants and beneficiaries across all stages of the project life cycle. Policy can play a vital role in setting minimum requirements; offering incentives for multiple land-use RE projects, inclusive project siting, robust research and development mechanisms, establishing best practices that appraise ecology and social justice; and fostering international cooperation.

The Brazilian Presidency of the G20 in 2024 has established three key priorities: social inclusion and the fight against hunger and poverty; sustainable development and energy transitions; and reform of global governance institutions. The energy transition presents a myriad of opportunities, including supporting the fight against hunger, poverty, and inequality. Additionally, in 2023, G20 countries collectively accounted for almost 90% of the global cumulative RE power capacity. Each G20 nation can play an essential role in



ensuring a just, and environmentally safe RE transition, while working with RE developers, financiers and investors, and commercial and industrial electricity consumers.

This policy brief proposes principles necessary for responsible RE deployment to be brought to action via the T20 and G20 infrastructure.



Diagnosis of the Issue

The G20 New Delhi Leaders' Declaration of 2023 agreed to ramp up global efforts to triple RE capacity. This was followed by formal pledges from 124 countries at COP28 to reach 11,000 GW by 2030. Businesses too have ramped up their procurement of RE to meet ambitious emissions reduction targets, and their market participation has generated transformative demand signals. In the US alone, corporate buyers have played a critical role in driving the evolution of the energy market by voluntarily procuring over 77 GW of new RE capacity since 2014. In Europe, this figure amounts to 36.2 GW; in Asia Pacific, 31 GW¹.

As countries and businesses work to meet RE targets, more utility-scale RE projects will be required. These will be land-intensive² and will increase the environmental and socio-economic risks associated with them. Freehanded practices can become a threat to high-value natural assets and communities, particularly those who have been historically marginalized, like Indigenous Peoples and ethnic minorities. For instance, a study on

¹ More on the scaling up and development of RE can be found here - [CEBA Deal Tracker - CEBA \(cebuyers.org\)](#)

² An India-based [study](#) by the Institute for Energy Economics and Financial Analysis suggests a net-zero scenario requires 50,000-70,000 sq. km for solar projects and 15,000-20,000 sq. km for wind projects by 2050. Worringham, Charles. "Renewable Energy and Land Use in India by Mid-Century." Institute for Energy Economics and Financial Analysis, September 2021. https://ieefa.org/wp-content/uploads/2021/09/Renewable-Energy-and-Land-Use-in-India-by-Mid-Century_September-2021

India, suggests that about 68% of existing solar projects are sited on agrarian land, and about 19% of RE projects on natural ecosystems.

The RE sector also faces challenges of unfair labor practices, human rights violations, and social conflicts. Cobalt and lithium have caught public attention as reports of child labor in mines in the Democratic Republic of Congo and violation of Indigenous Peoples' rights in South America have surfaced in global media.

Additionally, given that a uniform global market standard for RE development does not exist, projects vary substantially in the management of externalities and the benefits they offer for climate, nature, and communities. Thus, it becomes crucial to create a standard with a definition of what “responsible” or “purpose-led” practices are that appraise the well-being of both people and the planet as a gap in the RE ecosystem. Without intentionally coordinated public and private sector action driven by these standards, there is an unmitigated risk of creating new environmental problems and aggravating existing patterns of inequality and exclusion worldwide.

With G20 nations accounting for almost 90% of the global cumulative RE power capacity, it is only appropriate for them to play an influential role. As highlighted from examples in the US, Europe, and Asia, the private sector responds to incentives. Thus, making the lack of adequate investment and financing for responsible RE a challenge. G20 countries can create new incentives that are coupled with targeted requirements to mobilize foreign and domestic capital towards responsible RE development. Private sector too, i.e. the RE buyers, financiers and project developers, has an incredible opportunity leveraging triple bottom-line practices that complement national, regional, and local governments' efforts towards responsible RE and support the fight against poverty. And thus, considerations of environmental stewardship and social justice in RE deployment will ensure the sector serves its purpose holistically. With the right policies

in place, all actors in the energy transition will help bring self-reliance, economic diversification, ecological safety, and resilience to our energy systems.

Recommendations

The key recommendations for G20 countries to help realize these opportunities are as follows:

1. Adopting responsible land-use practices:

RE projects should practice responsible land-use at all stages of the project cycle. This includes:

- Siting projects where maximum emissions displacement is possible (i.e., where the grid has a high-emissions factor) and/or on areas identified as low-impact, such as:
 - Already degraded lands and built environments.
 - Tools like the Site Renewables Right can be used for effective land siting especially in cases of critical ecosystem and biodiversity.
 - Where no communities are displaced or have their lands taken.
- Siting projects in communities with low access to electricity, high unemployment rates, or where fossil fuels were a primary source of revenue.
- Implementing agri-voltaics in small scale projects to tackle food insecurity, support family farming, and generate power, as found by a Fraunhofer Institute of Solar Energy Systems study. G20 countries can support experimentation, adoption and scaling of agri-voltaics through innovating benefits sharing and ownership

business models. With focus on preventing any loss of landless farm labor livelihoods.

- Developing long-term community benefits plans with communities, legally binding.
- Land rehabilitation and restoration after project closure.

2. Adopting labor well-being practices:

The RE industry is expected to create 14 million jobs by 2030 under a scenario of net-zero emissions by 2050. Ensuring decent work and quality RE jobs is vital. This means establishing a universal living wage, creating lasting and family-sustaining careers, and ensuring worker rights are upheld across the entire project life cycle and supply chain.

Member countries can establish stringent due diligence requirements for RE project developers, such as third-party social audits. Strengthening worker rights, occupational health and safety, and providing grievance mechanisms for workers is recommended. Success will also require stronger international cooperation across global RE supply chains. Enforcement and legal protection of human rights and labor laws is critical, as established by the International Labour Organization (ILO) and United Nations.

In line with the New Delhi Leaders' Declaration, G20 countries should map workforce skill gaps and set policy priorities to address and uplift and support local communities. Resources should be directed at those whose jobs the energy transition has eliminated (the IEA estimates 5 million job losses) and groups that have been traditionally excluded like women, youth, and ethnic minorities. Identifying and directing financial support to existing reskilling and upskilling programs with a proven track record and connecting project developers to these organizations for hiring talent is a recommended pathway.

3. Defining responsible RE:

Defining responsible RE can help bring consensus and clarity around the concept and expectations of responsibility in the RE sector. A definition that factors in the local context will build trust among stakeholders and bring accountability by clarifying roles and responsibilities, thereby mitigating the risks associated with project development and operation. Such an approach will incentivize and enable industry actors to be fair and transparent in pursuit of their goals. For example, the Clean Energy Buyers Institute's (CEBI)³ procurement toolkit reflects best practices as identified by a group of 85+ multi-stakeholders mainly based in the US context. These set of principles and requirements could be contextualized by the G20 countries for their respective RE markets.

4. Investing and financing responsible RE:

The EU's Green Industrial Plan and the US Inflation Reduction Act (IRA) have successfully mobilized private capital to the RE industry through provisions for investment and production tax credits, regulatory frameworks aimed at accelerating deployment, among others. Since the IRA was passed in August 2022, a total of 388 new clean energy projects have been announced in the US, totaling US\$310B in new investments. In the EU, more electricity was produced from wind and solar than from gas for the first time over the last year. In India, foreign direct investment (FDI) in the RE

³ CEBI's Beyond the Megawatt (BTM) Initiative maximizes the environmental and social outcomes of the clean energy transition by leveraging the influential demand of energy customers through the procurement of clean energy.

sector permitted 100% under automatic route amounted to US\$70B⁴ in the last eight years with zero investment in coal power since 2013.

Markets respond to incentives, and the G20 nations can take these a step further by linking them to purposeful and responsible practices. The precise best practices to incentivize can depend on the national context but should generally follow the mitigation hierarchy for natural capital and seek to advance the prosperity of communities that have not traditionally benefited from previous industrial revolutions. Coordination among non-governmental organizations (NGOs), governmental agencies with environmental oversight, and community-centric organizations will help identify the most effective areas to incentivize responsible RE.

5. Social welfare programs:

Some communities may get affected by loss of jobs, and for some the RE transition might impact their incomes, and the security afforded under a net-zero pathway. Government's assistance and industrial support are critical to ensure that workers and communities who have traditionally relied on the fossil fuel sectors, or lived around the mining regions, are not left behind.

Conditional cash⁵ transfers are available in many countries. G20 countries can revamp these programs with behavior-change incentives, including:

⁴ More can be found here – [Arjun Joshi, “FDI in Indian Renewable Energy Sector,” MERCOM, June 3, 2022, https://www.mercomindia.com/fdi-in-indian-renewable-sector-up.](https://www.mercomindia.com/fdi-in-indian-renewable-sector-up)

⁵ Best practices of Conditional Cash Transfer Programs in Latin America and Caribbean

- Enrollment in workforce development programs as described above
- Running small-scale farms underneath or adjacent to solar panels
Subscribing to community-solar programs
- Innovation through energy-related social entrepreneurship programs

To ensure universal energy access by 2030, more rural electrification programs⁶ that offer low-cost clean energy are needed, along with enhanced interconnection and off-grid/micro-grid solutions tailored to the specific needs of local communities. Funding for smaller community development banks is one way to channel resources to these communities.

RE project developers should hold early, ongoing, meaningful and effective stakeholder engagement for effective design of social programs and empowering affected peoples and communities to participate in decision-making for projects as right holders. Community self-determination is the only pathway for sustainable development and the G20 nations have the power to make this a reality.

⁶More on the program can be found here - <https://powertrust.com/case-study/india/>

Scenario of Outcomes

Building on the policy recommendations, which reflect a strong nexus between government and industry for development of responsible RE practices, four exploratory scenarios have been developed ranging from baseline integration to high integration and effective implementation. Each of the scenarios have predominant conditions or key drivers, (see figure) that impact how the policy is executed on ground leading to the outcome.

Scenarios and key drivers	Levels of policy integration				
	Responsible land-use	Labour well being	Defining responsible RE	Investing and financing responsible RE	Social welfare
Business as usual Mindset: Short term profit maximization. Power dynamics: Top heavy influence. Decision making: Exclusive of affected communities. Financial support: Linked to expanding supply chains of RE. Social support: Localized convergence to schemes to meet current demand.	Very low	Very low	Very low	Very low	Very low
Incremental change Mindset: Struggle between short-term profits and long-term resilience. Power dynamics: Top heavy. Decision making: Indication of distributed decision making. Financial support: Low support for responsible RE but incentivize local economies. Social support: Low collaboration and some convergence of welfare scheme.	Very low	Low	Low	Low	Low
Technology driven Mindset: Optimistic pro-technology Power dynamics: Some indication of inclusivity. Decision making: Distributed with risks of inequitable representation. Financial Support: Incentives for acquiring better technologies, funding for market evolution, skilling, community infrastructure. Social support: Increasing social cohesion, convergence of social welfare schemes.	Low	Medium	Medium	High	Medium
Transformative Mindset: Willingness to disrupt the status quo. Power dynamics: Equitably distributed. Decision making: Emergent and collaborative. Financial support: New economic approaches and policies and policies balancing short-term profits and in long-term resilience. Social support: Increased social cohesion, continuous strengthening of CSO and convergence of welfare schemes for transforming RE landscape.	Very high	Very high	Very high	Very high	High

Scale and rationale

Very low: Siloed policy integration that does not deliver on intent/ not executed in an effective manner to realise responsible RE.	Low: Some integration of policies that fall short on the effectiveness to realise responsible RE.	Medium: Integration of policies that show indication of partly supporting realization of responsible RE but fall short on the ambition.	High: Higher integration of policies for development of responsible RE but slow/no effect at a desired systemic level.	Very High: Highest level of collaborative and emergent integration of policies for development of responsible RE that are transformative at a systemic level.
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Business-as usual: Short-term profit maximization is prioritized over environmental and social considerations, with governments focusing on accelerating domestic development of RE to meet national and international climate obligations. Policies will support industry over communities and social welfare schemes and skill programs will be implemented to tackle increasing workforce demands of the industry. Workforce inequities will intensify due to increase in demand for large numbers of skilled workers. This could lead to the prevailing scenario of high intra-country migration, low women participation, job insecurity, social exclusion of marginalized groups, environment degradation, and health risks.

Incremental change: An active mindset to address the environmental and social issues of RE development, with a struggle to balance it with short-term profit maximization. Policy execution will only lead to incremental shifts in a ‘business as usual’ approach, with social and ecological considerations left to voluntary adoption. Financial instruments will support incentivising local economies, niche innovation and community based or nature-based solutions, but scaling issues due to lack of market and policy support will exist. The private sector might adopt a “checklist” approach to publicly accepted RE standards. Worker inequalities and limited rights for informal workforce and marginalized communities would lead to socio economic disparity and delay responsible transition. It is required that the policies that support collaboration and governance restructuring for distributed decision-making between various stakeholders be enforced to overcome such challenges.

Technology driven: A pro-technology view is predominant that gives excessive weight to novel and creative tech-based, data-driven solutions, overlooking the complexity of socio-economic and environmental issues. Policies and financial instruments in this scenario would support acquiring better technologies, along with

funding for circular value chains, decentralized markets for reuse and recycling, community energy infrastructure etc., bringing positive results for the RE sector. But a high focus on tech driven systems can contribute to perpetuating social inequities and exasperate injustice when accessibility is not increased. Some communities and sections of the workforce would benefit from specialized skill development programmes and social incentive schemes, with marginalized communities left behind. To ensure that the policy actions account for broader systemic wins, focus should be on developing an inclusive workforce, community welfare programs and strengthening collaboration between different levels of governance structures and civil society.

Transformative: Integrated and collaborative implementation of policies for a socially inclusive and ecologically regenerative future, characterized by a willingness to disrupt the status quo of a profit-first mentality, for broader societal benefits. Governments would play a critical role in integrating long-term resilience with RE development by implementing people-centric policies, new governance models, and shared resource-ownership. Decision-makers and stakeholders would play an emergent role in shaping future evolution by developing circular economy models, anticipatory transition funds, socio-economic support structures etc., to accelerate a paradigm shift. Financial sector and industry will bring in new economic approaches to support locally driven economies, technology innovation for responsible RE, and community employment programs to balance long term resilience and profits. This approach will not be free from challenges, therefore, regulatory oversight and strengthening of civil society will be essential to ensure equitable distribution of capital and benefits to avoid conflicts.

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