

POLICY BRIEF

Opportunities for International Co-operation on India's Just Energy Transition

Taxation, Re-regulation, Community-based Models

Just Transition is the buzzword of the hour. Emerging from labour movements in the 1990s, discussions around the term have broadened over the years from a focus on workforce to a whole-of-society approach. In India (and elsewhere) it has come to cover a trove of principles and concepts, ranging from discussions on international equity between countries, down to the local adaptation of vulnerable communities to climate change. At its core, two key principles should guide the Just Transition towards low carbon societies: the need for social dialogue and the fair cost/benefit distribution that 'leaves no one behind'.¹ In India, discussions are largely mitigation-centred, namely on the equitable transition away from fossil fuels and related questions of financing.² At the same time, phasing out coal in particular remains a sensitive issue given India's low per-capita emissions of around 2 tonnes carbon dioxide (less than half the world's average), its growing industries, and the development needs of a growing population.³ Thus, despite discussions of Just Transition, there is no official Just Transition strategy in place yet.

Aspects of Just Transition have also become a feature of international co-operation. The term is mentioned in the Paris Agreement's preamble and was recently elevated through the United Arab Emirates Just Transition Work Programme, an initiative of the United Nations Framework Convention on Climate Change (UNFCCC) promoting just and equitable pathways to achieve the goals of the Paris Agreement.⁴ Perhaps most prominently, Just Energy Transition Partnerships (JET-Ps) have been negotiated between the International Partners Group to accelerate the fossil phase-out in countries such as South Africa and Indonesia. Notably, for India, the process is stagnating, reportedly due to its coal focus and insufficient scale of funding.⁵ Bilaterally, elements of Just Transitions are addressed in formats such as the US-India Climate and Clean Energy Agenda 2030 Partnership, the EU-India Clean Energy and Climate Partnership (CECP), and the Indo-German Green and Sustainable Development Partnership (GSDP) of 2022. Policy-makers' interest in Just Transition is progressing, despite stagnating JET-P negotiations between India and the G7.

Building on the general mitigation focus of Just Transition debates, this brief highlights three interlinked issues at the core of an enabling environment for a Just Energy Transition (JET) in India as part of any national, bilateral, or multilateral approach: i) alternative sources of finance, ii) the need for strengthened regulatory frameworks, and iii) the importance of community-based models.

All three issues warrant greater attention of policy-makers in the Global North. The rapid expansion of renewables in India is necessary but not inherently just or sustainable. Yet, there is ample opportunity for India to intensify its ongoing co-operation with countries of the Global North to become a JET leader by

¹ See for instance: Climate Investment Funds, 2021, [Supporting Just Transitions in India](#) (accessed 30 July 2024); Vasudha Foundation, 2023, [Decoding 'Just Transition' in India: The Conceptual Underpinnings](#) (accessed 30 July 2024).

² Kumar, N., Tandon, S., 2023, 'Operationalising Just Transition in India: Financing Challenge and Options', in: M. Mohanty, R. Sarkar (eds.), *The Role of Coal in a Sustainable Energy Mix for India*, Delhi: Routledge India, pp. 329-342 (accessed 30 July 2024).

³ International Energy Agency, 2023, [The Changing Landscape of Global Emissions](#) (accessed 30 July 2024).

⁴ United Nations, 2024, [United Arab Emirates Just Transition Work Programme](#) (accessed 31 July 2024); United Nations, 2015, [Paris Agreement](#) (accessed 30 July 2024).

⁵ Climate Home News, 13. September 2023, [Why India is Rebuffing a Coal-to-clean Deal with Rich Nations](#) (accessed 30 July 2024).

fostering environmentally sound and socially inclusive development models of the future. To this end, the brief recommends concrete measures to address the three issues mentioned above in national policies and as a matter of international co-operation.

1 Financial needs and taxation

Much like the range of Just Transition concepts mentioned above, there is no singular methodology to estimate the costs for a JET in India's energy sector and empirical studies are still rare. What is certain is that financial requirements are vast. The current government target of 500 GW installed non-fossil fuel energy capacity by 2030 requires almost USD 300 billion for renewables infrastructure alone. This is a conservative estimate not taking into account specific JET costs, such as re-skilling, and is too little to ramp up capacities in line with a 1.5C compatible pathway.⁶ A first comprehensive study of the transition of the country's coal sector estimates costs of USD 1.2 trillion until 2050, split almost equally between energy (including green repowering and battery storage) and non-energy (including community resilience and economic diversification) components.⁷ Given the study's limited scope, this further puts the Indian government's UNFCCC demand for at least USD 1 trillion annual global climate financing for developing countries into perspective.⁸ JET pathways, their costs and appropriate funding mechanisms, need to be studied in their own right.

With limited fiscal space of countries and the immense capital requirements of the transition, private sector financing continues to be regarded as key for JET, in particular its profitable mitigation part. Among the financial strategies to mobilise private investments are financial and policy de-risking efforts, the role of philanthropies, as well as robust environmental, social, and governance standards.⁹ However, JET associated policies, such as welfare schemes and community protection policies, arguably require a more active role of public finance and national and sub-national governments in the transition process. In part, because some JET areas are unviable for corporate investors; in part, because some are too essential to be commercialised. Private and philanthropic capital can complement but will not substitute essential public financing of JETs for the comprehensive sustainable development of the affected regions.¹⁰

Taxation is a key instrument to widen fiscal space and is currently the subject of much international debate. It is noteworthy that India has historically had a high level of wealth concentration with the number of billionaires growing rapidly in the past years, providing ample opportunity to raise funds while addressing inequality.¹¹ For instance, a 2% tax on the net wealth of the 162 wealthiest families in 2022–2023 would have raised revenue equivalent to 0.5% of the net national income.¹² This money could finance investments in key areas, such as education, health, and energy, all closely linked to the sustainable development JETs aim. In fact, a majority of Indians support taxing the super-rich to tackle the climate crisis, potentially opening policy space for domestic and international reforms.¹³

⁶ Ember, 2023, [Beyond Tripling: India Needs \\$101bn Additional Financing for the Net-zero Pathway](#) (accessed 30 July 2024).

⁷ iFOREST, 2023, [Just Transition, Just Finance](#) (accessed 30 July 2024).

⁸ United Nations, Government of India, 2024, [India's Submission on the New Collective Quantified Goal \(NCOG\)](#) (accessed 30 July 2024).

⁹ Tandon, S., 2022, 'Scaling Up Sustainable Finance in India', in: D. Schoenmaker, U. Volz (eds.), 2022, [Scaling Up Sustainable Finance and Investment in the Global South](#), Paris/London: CEPR Press, pp. 263–279 (accessed 31 July 2024).

¹⁰ E3G, 2024, [Just Energy Transition Partnerships – What Donors Must Do to Drive Progress](#) (accessed 30 July 2024).

¹¹ The Indian Express, 2024, [Maximum City Has Maximum Billionaires in India, Fastest Growing Club in the World](#) (accessed 30 July 2024).

¹² Bharti, N., et al., 2024, [Income and Wealth Inequality in India, 1922–2023: The Rise of the Billionaire Raj](#) (accessed 30 July 2024); Centre for Financial Accountability, 2024, [Where People's Money Should be Spent? People's Manifesto by Vikalp Sangam](#) (accessed 30 July 2024).

¹³ The Hindu Businessline, 24 June 2024, [74% Indians Support Taxing Super-rich to Address Global Inequality, Climate Change: Survey](#) (accessed 30 July 2024).

Recommendations

International co-operation on climate finance to support JETs in countries like India warrants a focus on changes to international taxation regimes. Governments should **support a global minimum tax on billionaires**, with a number of countries, including Germany, Brazil, and South Africa signalling support.¹⁴ A recent proposal by the EU Tax Observatory suggests billionaires pay an annual income tax equivalent to a small percentage of their wealth. At even 2% this could generate an estimated USD 250 billion annually and seems like a pragmatic approach to tap into yet underused sources of revenue in times of multiple crises, inflation, and economic distress. The proposal argues that such a tax standard is technically feasible and could be implemented by participating countries through various domestic instruments.¹⁵

As an additional measure, governments should **support reforms of corporate taxation**. The Tax Justice Network proposes a 'Minimum Effective Tax Rate' to address undertaxed profits, aligning with the OECD Pillar 2 minimum tax plan, but with key variations. It suggests taxing profits where economic activity occurs and at statutory rates, potentially yielding higher revenues and fairer global distribution. This approach could significantly benefit countries of the Global South, with India in particular standing to gain USD 13 billion instead of USD 4 billion as expected under the OECD Global Base Erosion rules.¹⁶ Other measures include the creation of an assets and wealth registry and aggressively combating tax evasion. The Brazilian G20 Presidency as well as the prominence of climate finance for the upcoming COP29 present an opening to build international awareness and eventually agreement on these measures.

Taxation of corporations and wealthy individuals could raise substantial revenue domestically. To ensure additional international funding for climate action, in particular for countries in the Global South, clear commitments and instruments at the national and international level need to complement the recommendations above. Tax revenue needs to be linked to redistributive, green, and socially just policies within and between countries. This way, progressive taxation could be a central mechanism to finance just transition efforts, linked to renewables expansion but also much beyond.

2 Regulatory frameworks and institutions

Strong political support for more than a decade has substantially contributed to de-risking investments in renewables and driven interest in the sector.¹⁷ As a result, solar installed capacity grew from around 2.8 GW to 84 GW in the past ten years,¹⁸ despite prevailing issues, including indebted distribution companies and lacking grid integration. Yet, to achieve the country's ambitious targets and put it along a 1.5C compatible track an even more rapid expansion is required. At the same time, there is growing awareness of some of the challenges that have accompanied the growth of India's renewables sector and an interest in the re-regulation of renewables.¹⁹

¹⁴ The Guardian, 24 April 2024, [World's Billionaires Should Pay Minimum 2% Wealth Tax, Say G20 Ministers](#) (accessed 30 July 2024).

¹⁵ Zucman, G., 2024, [A Blueprint for a Coordinated Minimum Effective Taxation Standard for Ultra-high-net-worth Individuals](#) (accessed 30 July 2024).

¹⁶ Chancel, L., Bothe, P., Voituriez, T., 2023, [Climate Inequality Report 2023](#), World Inequality Lab Study 2023/1, here p. 108 (accessed 30 July 2024).

¹⁷ Singh, V. P., Nair, M., Raja, S., 2021, [How have India's RE Policies Impacted its Wind and Solar Projects?](#) (accessed 30 July 2024).

¹⁸ Ministry of New and Renewable Energy India, 2024, [Year Wise Achievements](#) (accessed 30 July 2024).

¹⁹ Heinrich-Böll-Stiftung India, 2019, [Powering Ahead](#) (accessed 30 July 2024); Mongabay, 20 April 2023, [As Renewable Sector Grows, Need for Regulating It Comes to the Fore](#) (accessed 30 July 2024).

Land has long been one of the most contentious issues in India's energy transition. Solar and wind expansion are central to just transition models, promising green growth, employment, and energy to run the industries of the future. But green energy infrastructure in India will need an estimated 95,000 km² land by 2050 – the size of the state of Bihar – that is often inhabited, used for agriculture, or is of particular ecological importance.²⁰ At worst, mitigation measures' land use might compete with rather than complement other essential Sustainable Development Goals (SDGs), including food security and biodiversity.²¹ Studies from around India have indicated shortcomings in particular of large-scale renewable projects in matters of orderly land acquisition, participation, waste, and water usage.²²

Alternative models to ameliorate in particular land-issues are currently being explored, including rooftop solar as well as streamlined lease and recording standards.²³ Agrivoltaics in particular has become a recent subject for international co-operation efforts.²⁴ Companies' social responsibility measures have also sought to benefit communities around projects and some large-scale developers have reported more participatory processes.²⁵ Notwithstanding these efforts, the enabling environment for private investments through increasingly market-friendly regulation that have spurred growth until now must not come in conflict with the objectives of a just transition, but enable fair and participatory processes. JETs seek to realise this potential through sustainable development, deeply interlinked with other SDGs. A robust and ambitious regulatory framework is essential to achieve this objective.

Recommendations

Governments need to **ensure that climate, energy, and development co-operation and international private sector engagement align with JET principles**. To avoid harm to people or the environment, thorough environmental and social impact assessments as well as long-time monitoring must be required for all co-operation projects, even if not stipulated by national law. The appropriateness of existing regulations used by development agencies and banks needs to be critically evaluated. Also, greater support for alternative project models could ameliorate existing conflicts (see chapter 3). Additionally, international partners must ensure that businesses working and investing in the Indian renewables sector (and elsewhere) effectively adhere to stringent human rights and due diligence standards through, e.g., ambitious green taxonomies for investors or liabilities up and down the supply chain. Thereby the governments can improve the protection of land and forest rights, indigenous rights and so on, which should also feature as part of national climate policies.²⁶

Recognising the importance of JETs in India and appropriate regulatory frameworks, **governments should initiate a dedicated just transition forum** for exchange with India. The forum could function as regular dialogue between Indian and international stakeholders, such as governments, non-governmental organisations, academia, and international organisations, on the complexities and contextual nature of JETs. Particularly pertinent in this regard is the exchange about past and present transition processes as well as the respective political economy and historical structures of inequality surrounding development interventions. Given the stalled JET-P negotiations and the fact that many countries are in various stages of transitions, the forum could be a space for mutual learning and first point of contact, providing resources on regulations, data, and stakeholder landscape. Such a bi- or multilateral format could be integrated into existing initiatives, e.g., the EU–India Strategic Partnership or as a dedicated Working Group of the Indo–German Energy Forum.

²⁰ IEEFA, 2021, [Renewable Energy and Land Use in India by Mid-century](#) (accessed 30 July 2024).

²¹ Mongabay, 4 September 2023, [The Balance between Expanding Renewable Projects and Feeding India's Population](#) (accessed 30 July 2024).

²² World Resources Institute, 2021, [India: A Large-scale Solar Park on Drought-prone Agricultural Land](#) (accessed 30 July 2024).

²³ Halder, P., 2024, [Ground Realities: Making Land Work for Renewable Energy](#) (accessed 30 July 2024).

²⁴ See for instance: [India Agrivoltaics Alliance](#), 2024 (accessed 30 July 2024).

²⁵ IREDA, 2024, [Corporate Social Responsibility](#) (accessed 30 July 2024).

²⁶ Peoples'20, 2023, [Advancing Community Ownership in Renewable Energy](#) (accessed 30 July 2024).

The rapid expansion of renewables in India is laudable, but without proper regulation, the sector risks reproducing some of the social, environmental, and rights concerns that have plagued the fossil industries it seeks to replace. Conversely, well-designed and proactive regulation for a people-centred transition will power sustainable development, increase public acceptance for climate policies, and promote pioneering business models that bring 'green' and 'just' together.

3 Power to the people: decentralisation and community leadership

Meeting India's renewable energy targets in a just and sustainable manner requires a mix of different approaches. In this context, it is vital to utilise the potential of decentral and community-led models to increase renewables expansion and address local development needs. As mentioned above, the current pattern of renewables expansion in India is skewed towards large-scale, grid connected corporate projects, which have spurred the remarkable growth of the sector. However, studies have repeatedly documented their mixed outcomes for local communities and the environment.²⁷ Conversely, de-centralised and community-led approaches offer a range of competitive benefits, including democratising energy, improving self-reliance, as well as creating economic opportunities for rural and marginalised areas.²⁸

The Indian government has already sought to support decentralised models, such as targeting a share of 40 GW for rooftop and off-grid solar of its 175 GW renewables target in 2022.²⁹ Moreover, dedicated programmes focus on decentral energy access for farmers and co-operate with farmers associations and local self-government bodies (panchayats).³⁰ Various state-level initiatives have also supported use cases, including for decentral generation, agricultural pumps, and EV charging.³¹ Although these initiatives have shown promise, they often lack funding, long-term support, and greater community involvement, leading to suboptimal outcomes.³²

In this context, high-level political recognition and support for community leadership in JETs can provide new momentum to existing schemes and multiply benefits. Democratising the energy transition will improve benefits for underserved communities, in line with India's development goals. While more research on the impacts of local self-governance of JET policies is necessary, elected institutions, such as panchayats and municipalities alongside independent co-operatives seem essential for a holistic, people-centred approach that addresses social needs through localised solutions, provides jobs and livelihoods, and tackles marginalisation.³³ Community-led models can address some of the central bottlenecks that have hampered the expansion of India's power sector. 'Community solar' models for instance could pool household demand and reduce off-take risks, increase grid stability, and lower costs for distribution companies.³⁴ At

²⁷ Menon, A., 2022, [Given Land for Power. Pavagada Residents Now Powerless](#) (accessed 30 July 2024); Goodman, J., 2024, [Decarbonising Electricity](#) (accessed 30 July 2024).

²⁸ Sharma, K. R., Bhatia, P., 2023, 'How Just and Democratic Is India's Solar Energy Transition?', in: P. Kashwan (ed.), *Climate Justice in India*, Cambridge: Cambridge University Press, pp. 50–73 (accessed 30 July 2024).

²⁹ Mercom India, 2023, [India Missed 2022 Renewables Target as Rooftop Solar and Wind Fell Short](#) (accessed 30 July 2024).

³⁰ Government of India, 2024, [PM-KUSUM \(Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan\) Scheme](#) (accessed 30 July 2024).

³¹ CPI, 2021, [The Future of Distributed Renewable Energy in India](#) (accessed 30 July 2024).

³² Bedi, H. P., 2021, 'Solar Power for Some? Energy Transition Injustices in Kerala, India', in: *Environment and Planning E: Nature and Space*, vol. 5(3), pp. 1146–1163 (accessed 30 July 2024).

³³ Joshi, G., Yenneti, K., 2020, 'Community Solar Energy Initiatives in India: A Pathway for Addressing Energy Poverty and Sustainability?', in: *Energy and Buildings*, vol. 210 (accessed 31 July 2024); Sharma, K. R., Bhatia, P., 2023, 'How Just and Democratic Is India's Solar Energy Transition?' in: P. Kashwan (ed.), *Climate Justice in India*, Cambridge: Cambridge University Press, pp. 50–73 (accessed 30 July 2024).

³⁴ Tyagi, B., Kuldeep, N., 2023, [Community Solar for Advancing Power Sector Reforms and the Net-zero Goals](#) (accessed 30 July 2024).

the grassroots level, initiatives such as the Barefoot College have empowered local women through training programs on how to build and repair solar panels and other electronics, creating a source of income and breaking down gender barriers along the way.³⁵

Recommendations

Governments should **acknowledge and promote the pivotal role of community leadership and decentralisation in JETs**. They are ideally democratic processes that ensure the benefits of a green future are shared by all. This requires trust and a transition in power relations to create lasting public acceptance for policies. Stakeholders, in particular locals, need a long-term perspective, meaningful participation, reliability of energy and cost advantage (including job opportunities) over conventional forms of energy. To realise this, key components for a community-driven and democratic transition process include revenue-sharing models and co-ownership of energy infrastructure, ideally targeting a revenue and equity share of at least 50% for communities. This requires capacity-building and the creation of independent governance institutions in co-operation with stakeholders like unions, farmers' associations, village councils, and municipalities. Inclusive democratic control can accelerate renewables uptake with a fair cost/benefit distribution. Governments should acknowledge and strengthen the central role of decentralisation and community leadership in bi- and multilateral agreements, such as the Indo-German Green and Sustainable Development Partnership and the UNFCCC process.

To realise the above-mentioned approach, governments need to work jointly on an **enabling environment for decentral and people-centred climate action** to target long-term systemic developments, focusing on sustained financing and concrete benefits for local populations. In particular, financing remains a bottleneck for small-scale, community-led projects. Relatively high up-front capital costs, skill training, and capacity-building for locals are required but often denied given their unprofitability and competitive disadvantage versus large scale commercial projects. Development agencies and banks need to strengthen targeted financing mechanisms that de-risk these alternative project models, including through co-financing, insurances, and dedicated grants. The highly localised nature of community-led projects requires thorough stakeholder consultations. Governments in the Global North should also use their sway in international institutions, such as Multilateral Development Banks, to mainstream ambitious just transition principles supporting local ownership and decentralisation beyond existing efforts.³⁶

The energy transition is not just a technical process of shifting between forms of energy but deeply political, touching the socio-economic structures and interests of a complex set of stakeholders, from the local to international level. To ensure a fair and inclusive transition, the participation of (vulnerable) stakeholders in policy-making, with meaningful agency, is essential. Yet, individual or collective action must not absolve the state (and the international community) of its responsibility to provide fundamental safeguards, goods, and services. Moreover, decentralisation is no panacea for empowerment but can at worst reproduce rather than undo forms of socio-economic marginalisation.³⁷ Decentralised, community-led project models are still crucial elements of JET programmes to catalyse deep-seated equitable socio-economic development and to democratise energy systems.

³⁵ Responsible Energy Initiative, 2021, [Renewable Energy to Responsible Energy: A Call to Action](#) (accessed 30 July 2024).

³⁶ MDBs currently have shortcomings in their alignment with the goals of the Paris Agreement, including for Just Transition considerations, see Grimm, J., Argueta, B., Gebel, A. C., 2024, [Multilateral Development Banks' Paris Alignment Methodologies](#) (accessed 30 July 2024).

³⁷ Akter, S., Bagchi, K., 2021, 'Is Off-grid Residential Solar Power Inclusive? Solar Power Adoption, Energy Poverty, and Social Inequality in India', in: *Energy Research and Social Science*, vol. 82 (accessed 30 July 2024).

4 Conclusion

India needs to find its own way for a socially just and ecologically sustainable energy transition. It has the leeway, capacity, and international clout to chart a distinct approach to development and climate action that prioritises justice and sustainability while ensuring growth and prosperity. The opportunities outlined above, from progressive taxation regimes to re-regulation and community-centred project models, demonstrate the key role international co-operation can play to support such a development trajectory. In times of poly-crises and shifting geopolitical power structures, it remains imperative for the Global North and South to work jointly on ambitious climate action. This requires substantial commitments, in particular on financing JETs abroad and clear political will on deeper and broader co-operation. If correctly calibrated, an enabling environment for a JET in India will set the country on track to emerge as a leader for the sustainable, socially just development models of a green future, to the benefit of its people and the international community.

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