A Double Whammy

Conundrum of Energy Transition for Social Transition or for Climate Action or Both?

The article explores the critical role of people-centric, decentralized energy transitions in driving both social change and climate action, particularly in India's aspirational districts. **Anandajit Goswami** argues that while localized energy solutions like solar microgrids can improve livelihoods and reduce local emissions, their global impact on climate change remains limited, requiring a careful balance between development goals and climate commitments.

Is energy transition a necessary condition for social transition and climate action? Energy transition can only be a necessary condition for social transition when it is people-centric and just. Moreover, it will only result in scaling up for climate action if it leads to a marginal change first and then proceed towards radical change thereafter cascading to a transformational change.

For large-scale implementation, initial subsidy support through various business models such as blended finance, public-private partnerships, grant-based models may be required to subsidize 75 per cent of the electricity provision cost for the households and villages. These areas rely on decentralized solar microgrids to meet their lighting needs along with their demand for electricity for dehulling, irrigation, and education. Often the investment subsidy needed to scale up for decentralized microgrid-connected households in off-grid aspirational districts of India can be to the tune of 45 per cent.

Thus, subsidies for decentralized electricity provision can act as a social multiplier, particularly in the aspirational districts of Bihar, Jharkhand, and Uttar Pradesh. The following experience and learning emanate from one of the projects conducted by the Ashoka Centre for People Centric Energy Transition on

clean rural energy transition financing.[1,2]

However, it is undeniable that subsidized decentralized electricity can act as a catalyst for development, lifting villages out of poverty by supporting education, agricultural and horticultural livelihood creation, income generation, safe habitat, improvised primary healthcare services and sanitation conditions. Thereby, a transition to cleaner sources of energy generation through decentralized solar-based microgrids and enabled by various initial subsidy-based financing models

1 Ashoka Website

2 Clean Energy Transition Financing – Is it for Energy or Social Transition? - Pioneer Edge | Uttarakhand News in English | Dehradun News Today| News Uttarakhand | Uttarakhand latest news

comprising blended finance, public and private, philanthropic financing can provide a boost towards social transition.

However, while a subsidy-supported solar microgrid can serve as a necessary causal factor of social transition and change in these locations, it may not be a sufficient enabler driving large-scale climate action. Can such localized shift in the villages of aspirational districts of India significantly reduce global carbon emissions, even though it can affect the local pollution by reducing the carbon emissions from diesel-based pump sets?

Global Impact and Development Priorities

Even at a local level this can be considered as a form of climate action through people-centric energy transition. However, its scaling effects on global emissions may not be significant in terms of overall impact. These small changes can act as nudges towards a larger policy change to create a higher-scale impact of climate action. Local success stories of climate action through people-centric, decentralized clean energy transition can inspire a government to move towards large-scale renewable energy generation targets. Such policy signals can thereby act as levers in international climate negotiations, influencing global climate action. However, changes of this magnitude take time and no such action by developing and least developed countries can be taken at the cost of the development and equity priorities.

In this context, the Economic Survey of India of 2024 raised a critical concern regarding the prioritization process and the order of attainment of India's climate and developmental goals. This year's Economic Survey cited the work of Mike Hulme, stating — "It is quite easy to imagine future worlds in which global temperature can exceed 2°C warming which is 'better' for human well-being, political stability, and ecological integrity; for example, than other worlds in which, by all means and at all costs, global temperature was stabilized at 1.5°C but with political instability and human civilizational damage and ecological disintegrity." [3]

The Economic Survey of 2024, highlighted that prioritizing a strict temperature-bound climate goal of 1.5°C without balancing the developmental costs of such a goal on low-income and developing countries may not be morally ethical. From the perspective of human well-being, political stability, and ecological integrity, such an approach requires careful balance. This concern is further reinforced by Richard Tol's 2024 study, which indicates that the welfare-equivalent income loss due to a 2.5°C warming relative to pre-industrial times is consistently higher for developing countries.

Equity and People-Centric Energy Transition

A focus on income, wealth, equity and distribution goals is equally important for developing countries to create their future resilience to fight the adverse impacts of climate change and global warming. However, a narrow focus on temperature-based climate goals and energy transition can often overlook the equity and distributive justice aspects crucial for developing nations, deviating from people-centric energy transition

3 A balancing act in climate goals - Opinion News | The Financial Express

and climate action goals. A non-aligned, non-holistic approach and a focus on climate action through renewable energy transition may hinder the developmental goals of people in developing countries. As Vaclav Smil (2014) highlights — any transition from one dominant fuel to another, whether at the national, global, or local level is inherently a prolonged process. It might take 50 to 60 years to happen with constant perseverance by generations.[4] A transition from fossil fuels to renewable energy is not an exception.

Moreover, these transitions are often shaped by conflicts and may, whether intentionally or unintentionally, fail to be people centric. A study by Sovacool *et al.* (2022)[5] analysed that clean energy transition in seven carbon-intensive regions in Asia, Europe, and North America. Based on a data set of 130 case studies, the research shows how tactics (such as litigation or protest) can impact outcomes (such as remuneration, policy change, concessions, or labour protections) for different fossil fuels to clean energy transitions like solar, wind, hydro, and nuclear.

Role of Social Enablers and Institutional Responses in Clean Energy Transition

The research highlights the importance of actors, social nudges in terms of tactics like litigations, meetings, protests, and national and international institutional responses to national, supra-national, and global pressures impacting the fossil fuel to clean energy transition. The research through a cultural, sociotechnical, and comparative perspective based on the data of 130 case studies proves that goals of people-centric clean energy transition are often refracted through local, subnational, and national institutions catalysed through local mobilizations which are either in support or opposed to fossil fuel to clean energy transition.

These findings further substantiate Vaclav Smil's work in 2014 and strengthen the need to have strong social enablers and nudges for a clean energy transition in developing countries to happen which are generally time-consuming and can last for 50 to 60 years. However, as countries progress along the gradual pathway, a more strategic approach would be to reduce energy and material consumption in both developing and developed countries. This must be accompanied by the equitable wealth and income distribution between the developed and developing countries and within developing countries. In the long term, such measures can contribute to ecological integrity, political stability, and equity, helping to mitigate the adverse impacts of climate change on poverty and development in the future.

Balancing Degrowth, Energy Transition, and Social Transformation

Ecological integrity can be achieved through Mission LiFE of India, which focuses on reducing energy and material consumption. The degrowth literature suggests that a steady state of economic growth can be maintained by progressively reducing emission intensity, resource, and material consumption in the growth path. On average, India has achieved an economic growth rate of 7–8 per cent, alongside an increase in non-fossil fuel based generation along with an emission growth rate of 4 per cent showing that a country can degrow while simultaneously pursuing economic growth and a people-centric energy transition balancing the goals of climate action.

However, the long-term success of such a path will necessarily be a function of social nudges that progressively reduce energy and material consumption across the production, consumption and demand cycle of economic goods and services. Until this balance is fully realized, the question remains — energy transition for social transition or for climate action or for both? This dilemma will continue to be a double-edged sword for developing and the least developed countries. ■

Anandajit Goswami is a Research Fellow at AC-PET, Ashoka University. Views expressed in this article are personal views of the author.

4 A balancing act in climate goals - Opinion News | The Financial Express

5 https://www.sciencedirect.com/science/article/pii/S0959378022000115