



POSITION PAPER ON INDIA'S CLEAN ENERGY REALITIES SINCE PARIS

BACKGROUND

Climate change and its disastrous effects is something every policy maker is aware off. Therefore, every country is moving towards incorporating the principles of green economy into their policies. In India too, several steps are being taken to combat climate change and take appropriate actions. Some of these have already been put into action: National and State Action Plans on Climate Change have been put in place which include National Solar Mission - a comprehensive policy aimed at incentivising solar power generation up to 100 GW by 2022 (this has been up-scaled from the previous target of 20 GW set by the erstwhile UPA government), Smart Cities initiative to create 100 smart cities, Dedicated Freight Corridors – a project expected to reduce emissions by about 457 million ton CO₂ equivalent over a 30-year period, Urban Mass Rapid Transport Systems with a significant potential to reduce CO₂ emissions, National Electricity Mobility Mission 2020 geared towards promoting hybrid and electrical mobility, and Vehicle Fuel Efficiency Programme , amongst others, which aims at keeping 50 million tons of CO₂ out of the atmosphere.

The Prime Minister of India at the Paris Climate Change Conference, COP21 had voluntarily pledged to:

- reduce the carbon intensity of growth by 33-35% over 2005 levels
- raise the share of Non-Fossil fuel power to 40% by 2030
- produce 175 GW of RE by 2022

The Prime Minister also mentioned that the forest cover in India would be expanded to absorb 2.5 billion tonnes worth of Carbon Dioxide and fossil fuel dependence would be reduced by levying taxes as well as cutting subsidies. Taking a step forward to encourage investments inrenewable energy and to develop the market in India, the Central Government started the annual Global Renewable Energy Investors' Meet & Expo, named RE-Invest since 2015.

POLICY INITIATIVES

A number of new policy initiatives have also been put in place. Some of the examples are:

- **Reverse Auctioning** – It is a new approach to promote deployment of renewable energy. This basically reverses the role of buyer and seller and benefits ultimate consumer as it lets the competitive market discover the price for RE and lowers the price of RE to grid parity level, thus protecting the consumers against overpayment
- **Draft Mini/Micro Grid Policy** – it aims to mainstream RE based micro grids through developing enabling investment space in micro grids and encouraging private participation, in order to gain access to affordable energy services and improve the local economy.
- **Proposed Direct Subsidy for renewable energy manufacturers** – Since policies aimed at promoting local content and restricting imports are prohibited at WTO, India will directly subsidize domestic solar panel manufacturers. Direct subsidies to manufacturers will offset the high cost of solar power due to the expensive solar panels. This, in turn, boosts the domestic manufacturing industry and also will generate employment opportunities.
- **Surya Mitra Mobile App** - The APP is a high-end technology platform which can handle thousands of calls simultaneously and can efficiently monitor all visits of Suryamitra's¹. The 'suryamitras' are trained professionals, who provide support to the entrepreneurs, and have joined the Mobile App in several states. This initiative aims to enhance employment of trained youths in solar PV technology and also to the businesses of solar entrepreneurs through quality servicing, maintenance and repairing. Ministry of New and Renewable Energy (MNRE) has set a target of 50,000 'suryamitras' of skilled manpower in the next 3 years².
- **Bids for storage based solar energy projects** - As the country adds vast volumes of solar capacity, the concerns regarding grid connectivity have increased. Thus, there is an attempt being made by the government to address this problem through integrated solar PV installations with storage capacity systems at a large scale. The first ever bids invited in this regard include the two projects of 50 MW each in Andhra Pradesh and for four projects of 50 MW each in Karnataka³.
- **Green bonds** have emerged as one of the ways to raise capital to promote sustainable development-linked infrastructure. They are being resorted to provide Indian sustainability financing requirements given the overreliance on the banking sector which suffers from an asset liability mismatch. The Export Import Bank of India has recently raised money through a larger US\$500 million green bond from international investors. The bond will finance renewable energy and low carbon transport projects⁴.

¹<http://pib.nic.in/newsite/mbErel.aspx?relid=146033>

²<http://pib.nic.in/newsite/PrintRelease.aspx?relid=146033>

³<http://www.livemint.com/Industry/rct4UJaqTyVgLvNyFBstL/India-seeks-bids-for-300-megawatt-of-solar-projects-with-sto.html>

⁴http://unepinquiry.org/wp-content/uploads/2016/04/Delivering_a_Sustainable_Financial_System_in_India.pdf

Another area in which work is being undertaken is circular economy, which is an alternative concept to linear resource system of 'take, make and dispose' focused on energy efficiency and material efficiency. Essentially, the model emphasises on resource efficiency which inter alia would also include waste to energy initiatives. It essentially explains the natural flow by re-introduction of products into the value chain after their disposal. The core of this model is waste re-design and innovation and it discusses reuse, remanufacture and recycling. The circular economy paradigm in Indian context can be perceived as a process of elevating the operation of reuse, refurbishment and recycling in biomass, bagasse and waste to energy.

The above are just some of the appropriate steps being undertaken in India. However, it must be said that clean energy will be a huge part of green economy but the task of greening economies is daunting as financing would still be a major challenge. For meeting the infrastructure deficit itself, the investment needs in a business as usual scenario is estimated at \$100 trillion. This translates into about \$5 trillion per year. This in itself is a daunting number. But if we wish to move towards greening of economies, which we must, this estimate goes up to about \$115 trillion. Now let us look at the lending capacity of the multilateral financial institutions. World Bank, the largest of them, lends around \$40 billion a year for not just infrastructure but also every other sector that it covers. Asian Infrastructure Investment Bank (AIIB) and New Development Bank (NDB) are projected to have a cumulative loan portfolio of \$124 billion and \$61 billion respectively by 2025⁵.

Cumulatively, all multilateral development banks have pledged to finance \$400 billion, or around \$135 billion a year, to finance Sustainable Development Goals (SDGs)⁶. Net development assistance from OECD countries to the developing countries totaled \$135 billion⁷. Even if we look at global FDI flows, which were \$1.3 trillion 2014, the numbers don't add up to the financing gap that we see. In India the Expert Group set up under the former Planning Commission of India to evolve 'Low Carbon Strategies for Inclusive Growth' estimated the cumulative costs of implementing low carbon strategies in India at around US\$834 billion⁸.

There is also the question of accountability of the Advanced Economies (AEs) in the greening of economies. Much of the global warming has occurred due to use of fossil fuels and wasteful consumption followed by these countries over many decades. By doing so, they have been able to provide basic amenities like power and water to their citizens. The developing countries which are now in the process of providing these to their citizens are burdened with commitments to reduce warming which carry a huge cost. This cost adds up because of three factors:

- Non-use of natural resources, like coal which is locally available, for producing power and moving to imported natural gas or costly non-renewables.
- Importing costly technologies from the advanced economies. The cost of imported technologies includes the cost of IPR which is often monopolistic in nature.
- The pace of providing basic amenities to the poor and the marginalised slows down because of the increased costs.

⁵<https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/10097.pdf>

⁶<http://www.worldbank.org/en/news/press-release/2015/07/10/international-financial-institutions-400-billion-sustainable-development-goals>

⁷<http://www.oecd.org/dac/stats/development-aid-stable-in-2014-but-flows-to-poorest-countries-still-falling.htm>

⁸http://unepinquiry.org/wp-content/uploads/2016/04/Delivering_a_Sustainable_Financial_System_in_India.pdf

Thus, there is an urgent need for determining how this gap would be bridged, especially for the developing countries and how the AEs would share more equitably the burden of greening of the economies which inter alia includes clean energy and energy efficiency.

CHALLENGES

However, there are other challenges other than financing that one faces in India. These challenges have been identified by CUTS International as part of their on-project on Green Growth and Energy Transformation in two States in India i.e. West Bengal and Rajasthan.

- **Challenges for investors:**The ambiguity in the tariffs of solar projects across the country is a cause of trouble for the investors. Aggressive bidding has brought down the prices of solar power immensely, which is resulting in making the sector less attractive for the investors.
- **Challenges in Generation:**Almost majority of the states in the country have defaulted on their Renewable Purchase Obligations (RPO) for the fourth year in a row. RPO targets are decided by Centre but it fails to consider the difference in the RE generation potential of the various states. Further, there is disagreement amongst states on the forced solar and non-solar RPO targets.
- **Challenges in Transmission:**The Green Corridor Project, announced by the Central Government to facilitate a dedicated transmission network for renewable energy, has been revised twice since 2013⁹. While policy initiatives are being undertaken to promote the generation of renewable energy, the transmission component has lost the ground. The lack of appropriate transmission infrastructure would render renewable projects at the same crossroads where conventional projects are i.e. no takers and congested grid. .
- **Challenges at the level of Consumers:**Consumers lack awareness regarding the long term benefits of using solar equipment's and various business models which could be adopted as per the availability of resources. Further, the capacity of the consumers to pay for clean energy is also an issue.
- **Additional Challenges in Financing:**There are difficulties in calculating realistic costs and benefits of renewable energy projects, as their viability depends on the location and context. This further translates into financial challenges for energy planners. Apart from this, at the institutional level, most banks and institutions have complicated and inconvenient procedures which discourage probable investors. Further, owing to resistance on part of the Discoms to buy the RE power from the generators, there is an increased reluctance among financial institutions to lend considering uncertainty about repayments.

CONCLUSION

Thus, it can be deduced from the discussion that the above challenges relate to different stakeholders and hence there is a need to engage them in a constructive dialogue on a sustained basis. To expect government alone to deliver on this count is not a viable option but at the sametime involvement of government is essential in the stakeholder dialogue to political will for

⁹http://www.business-standard.com/article/economy-policy/tough-challenges-ahead-for-renewable-energy-sector-116050901437_1.html

energy transformation. Therefore, a social alliance of different actors is needed and CUTS has already taken the initiative in this direction with establishment of **Seed Communities on Green Growth and Energy Security in West Bengal and Rajasthan.**

Seed Communities on Green Growth and Energy Security was established with a view to bring changes in the prevailing condition of non-inclusiveness in policy making exercise and also inadequate framing of implementation design for policies. In order to resolve these systemic gaps, there is need for such neutral, non-partisan platform to be created where all stakeholder representatives could be brought together with the purpose of a dialogue resulting in action oriented agenda. Complimenting this with personnel with expertise on the issues (like academicians and other public/private sector experts) a firm basis for effective and inclusive policy making could be created. The inclusive nature of the process would take into account concerns of all affected sections and would provide good measure of legitimacy to the outcomes. The initiative has been implemented in two states of Rajasthan and West Bengal and soon CUTS will also extend it to the national level.
