

Beyond Hallelujah to Renewable Energy

An update on India's Climate commitments and Response

Ajay K Jha, PAIRVI/Beyond Copenhagen

23rd March, 2018

India's Global Commitments

India is a signatory to the Paris Agreement adopted by the global community in Nov 2015. Under the Agreement, it has committed to (i) reduce emission intensity of its GDP by 33-35% by 2030 over 2005 standards, (ii) achieve 40% of energy by non fossil sources, and (iii) to create a sink of 2.5 to 3GT co2e by afforestation on 5 Mha and improving forest quality on 5 Mha.¹ Under Copenhagen Accord (2011) India had voluntarily committed to reduce its energy intensity by 25% by 2020 over 2005 standards. India has also committed to scale up its installed renewable energy to 175 GW (100GW solar+65 GW wind +10 GW small hydro+5GW biomass) by 2022.

Policy and institutional actions; A number of efforts have been taken to achieve commitments made, which can be summarized as below;

- Prime Minister's Council on Climate change constituted (June, 2007)
- National Action Plan on climate change launched (June, 2008)
- Expert group on low carbon strategies for Inclusive growth (EGLCSIG) to provide recommendations for 12th FYP submitted its report (April 2014)
- In Union Budget 2010-11, a clean energy cess of INR 50/ton on both domestic and imported coal was introduced, a National Clean Energy Fund was created from the proceeds. Gradually the cess was increased to INR 400/ton
- Subsidies on petroleum products have been reduced significantly beginning in 2010 with petrol, followed up removing subsidies on diesel in 2014. Restrictions have been also placed on subsidized LPG to consumers have been also.
- The Ministry of Power (MoP) and Bureau of Energy Efficiency (BEE) introduced Perform, Achieve and Trade (PAT) a market based incentive scheme of "cap and trade" for energy intensive industries, aimed at saving 6.886 MToe (2012)²
- National Electric mobility mission plan (NEMMP, 2020) launched in 2013 to promote adoption of hybrid vehicles and electric cars. In the Union Budget 2015-16 INR 75 crore (USD 12.5 M) was earmarked for faster Adoption and Manufacturing of electric vehicles (FAME) scheme.³
- The government also introduced a National Adaptation Fund for Climate Change (NAFCC) in April 2015 with an initial outlay of INR 100 crore (USD 16.67 M) to support adaptation.
- Besides, India has also introduced State Energy Conservation Fund, Renewable Purchase Obligation (RPO) for state electricity boards, Renewable Energy Certificates (RECs), standards and labeling programmes for household appliances, energy conservation building codes etc.

¹ For more details, please see India's INDC at <http://www4.unfccc.int/ndcregistry/PublishedDocuments/India%20First/INDIA%20INDC%20TO%20UNFCCC.pdf>

² India Climate Report, Shakti foundation (July, 2015)

³ ibid

Performance on Global Commitments (NDCs) and Domestic Policy

India's climate commitments (except RE) though ambitious as compared to many major countries US, EU, China but can be delivered without much efforts. Climate action tracker notes that India will overachieve its NDC commitments with the existing policies.⁴ However, there are a number of irritants and problem areas that need urgent attention;

1. Renewable energy, rapid growth but below targets: India has an installed energy capacity of 330.86 GW (as on 31st Dec, 2017) of which 66% is contributed by Thermal.⁵ As far as power is concerned 92% of its electricity comes from fossil fuels. India has witnessed rapid growth in Renewables. By end of 2017, renewables constituted 18% of India's installed power capacity of 331 GW, up from 13% in 2014.⁶ However, This is much below of what is required. During 2017-18, 4.8 GW was added till November 2017 as against a target of 14 GW. To stay on course to meet the target India will have to add 3 GW every month till March 2018, capacity equal to what it used to add in four months earlier. During 2016-17, as against the target of 16.66 GW grid connected installed capacity, it added only 11.3 GW, falling by a 32% against the target.⁷

During 2016-17, India added 5.5 GW of wind-power capacity—its largest addition ever—exceeding the target by 38%. However, since then till November 2017, India fell short of its target by 88%, adding 0.46 GW instead of 4 GW. Similarly, India added 5.52 GW—the largest ever—of solar-power capacity till November 2017, but missed its target of 10 GW for 2017-18 by 44.8%. Rooftop solar projects are supposed to provide 40% (40 GW) of India's solar target of 100 GW by 2022. The government has sanctioned 1.7 GW of such projects and no more than 0.86 GW capacity has been installed in 2017. At this rate, it will take up to 2064 to meet the 2022 target.⁸

The growth of renewables will also be hugely dependent on energy subsidies as incentives. According to a report by IISD, ODI and ICF, less than 7% of the energy subsidies went to renewables in 2015-16.⁹

Last but not the least, even though India's 175GW target looks ambitious, actually it falls far short of providing clean energy to majority of people in the face of its rising electricity demand. Between 2014 to 2030, it is estimated that solar and wind will grow at the rate of 3% per annum, which is only half of the growth in overall electricity production.¹⁰

2. Reducing emission intensity; Enhancing energy efficiency and reducing emission intensity is the second biggest task on the table. India has pledged to reduce emission intensity of its GDP by 30-35% by 2030 over 2005 standards. This target was as a matter of fact the lowest hanging fruit. Emission intensity has been reduced by 14% between 2005-10.¹¹ The Expert Group on Low Carbon Strategies for Inclusive Growth (EGLCSIG) had projected that 45% reduction in emission intensity was possible. Climate Action Tracker projects that by 2030 emission intensity should be 51%-53% below 2005 standards exceeding its NDC commitments.

3. Forest related commitments and increasing carbon sinks; India's NDC relies on ambitious projections of forest cover increases that would enhance net sequestration by 2.5 to 3 GT CO₂e by planting new forests in 5 Mha and improve the quality of extant forests in an equal area. This is not a reasonable goal.¹² By MOEFCC's own admission

⁴<http://climateactiontracker.org/countries/india.html>

⁵ Central Electricity Authority of India (2017)

⁶ At present, India's renewable energy capacity is around 61 GW (October last year). Wind dominates the renewable energy pie with 33 GW of installed operational capacity, followed by solar (15.5 GW), small hydro (4.4 GW), bio-power (8W). India needs to grow by 20-22 GW every year till 2022 to achieve 175 GW target, which seems an uphill task

⁷ Budget 2018; After Record Growth India's Renewable Progress Slips, BhaskarTripathy, IndiaSpend, January 25, 2018

⁸ ibid

⁹ ibid

¹⁰<http://climateactiontracker.org/countries/india.html>

¹¹ PIB, GOI

¹² India faces long and winding path to green climate solutions, ReinmarSeidler and Kamaljit S Bawa, PNAS, November, 2016

India is likely to have a carbon sink of only 1.9 GTco_{2e} by 2030.¹³ Many experts also refute the claim of the Ministry about the increasing forest cover. Forest Survey of India (FSI) also includes single species tree farms, fruit orchards and coffee plantation in the forest category.¹⁴ These land use vastly differ from native forests in their bio-diversity values and sequestration rates.

4. National Action Plan on Climate Change and State Action Plan/s in limbo: Despite passage of ten years of the launch of the National Action Plan, by own admission of the government there is not much progress in the National Plan except for Missions on solar energy, enhanced energy efficiency. The government had also declared to four new missions on wind energy, coastal health and energy from waste, however, we are yet to have any details on how it has been planned and whether and when it will see the light of the day. By now almost all the states have also developed their climate change action plans. However, due to lack of political will, finances, and clear direction, most of these plans remain on paper. Much of the climate actions proposed, except for those which were already on sectoral department's plans, remain unfunded. G Padmanabhan, project Officer, UNDP says that all the states have made SAPCC and got it approved from the government of India, but none of them are actually implementing them.¹⁵ Also, while much of the mitigation actions are to be taken at state levels; there is no plan for the division of mitigation action among the central government and state governments, as state plans are mostly focused on adaptation.

5. Finances, a major constraint: India has huge financial requirements. According to an estimate India needs USD 2.5 Billion to implement the NDCs till 2030.¹⁶ However, this is just a tip of the iceberg. The EGLCSIG had estimated that India will need USD 37.16 Billion to implement the NAPCC. MOEFCC estimates that implementing all SAPCCs will require a budgetary support of USD 188.6 Billion. In the absence of any foreseeable external public climate finance, it would be very difficult, if not impossible, to mobilize finance of such scale. As far as domestic climate finance is concerned, India yet, does not have any clarity except for National Clean Energy and Environment Fund (NCEEF) and National Adaptation Fund for Climate Change (NAFCC). NCEEF was founded from the proceeds of the clean energy cess imposed on both domestic and imported coal in 2009-10 to support research and development on clean energy. Although the cess has been raised from INR 50 per ton to INR 400 per ton in 2016-17; out of an amount of Rs 53,967.23 crore collected as clean-energy cess over six years to 2016-17, less than 30% had been transferred to the NCEEF, according to a December 2017 audit report by the CAG.¹⁷ From the amount transferred to the NCEEF, less than one-third was spent on the projects with lion's share of it going to augment budgetary support to the Ministries of MNRE, water resources and Ganga rejuvenation, power and environment, forest and climate change. More than 97% of the MNRE budget came from the NCEEF in the 2017-18 budget. In fact, none of the projects supported by the NCEEF relate to R&D on clean energy, the original objective of the Fund. However, the biggest disappointment is that unspent amount of INR 56,700 crore is being diverted to the states to make up their loss of revenue for implementing the GST.¹⁸ As regards, NAFCC, they grant small projects up to INR 25 crore to states to support adaptation. This meager amount is the only that SAPCCs have on adaptation besides budgetary support to various departments.

¹³ Forest, tree cover in India up 1 per cent: Report, Statesman News Service | New Delhi | February 12, 2018 7 at <https://www.thestatesman.com/india/forest-tree-cover-india-1-per-cent-report-1502584339.html>

¹⁴ India faces long and winding path to green climate solutions, Reinmar Seidler and Kamaljit S Bawa, PNAS, November, 2016

¹⁵ State Action Plan of Climate Change launched in Uttarakhand, June 21, 2016, the Economic Times at <http://economictimes.indiatimes.com/news/environment/global-warming/state-action-plan-climate-change-launched-in-uttarakhand/articleshow/528347711.cms>

¹⁶ PIB, GOI, 2017

¹⁷ Budget 2018; After Record Growth India's Renewable Progress Slips, Bhaskar Tripathy, IndiaSpend, January 25, 2018

¹⁸ Budget 2018; After Record Growth India's Renewable Progress Slips, Bhaskar Tripathy, IndiaSpend, January 25, 2018

6. SDGs, no firm step yet: India also adopted the SDGs in September 2015. Speaking in the SDGs Summit, Prime Minister declared that much of the India's development agenda is already mirrored in the SDGs. However, even after two years of start of the implementation of the SDGs, India is yet to have a clear road map and whether India will prioritize implementation on few (cherry picked) SDGs or pursue the real spirit of leave non one behind by pursuing all goals and targets. India presented a (sugarcoated) Voluntary National Report (VNR) in the UNHLPF (July, 2017) on the SDGs, which reiterated India's commitment to the SDGs, but highlighted only few flagship schemes of the government rather than doing a meticulous exercise on progress, achievements and real challenges. An exercise started to identify national indicators for the SDGs in early last year still remains incomplete. In the meantime, all the states have been asked to develop their own Vision 2030, and many of them have started doing it, but they have very little connection with the State Action Plan/s on Climate Change. Reportedly, states are also doing an exercise to scale up their SAPCCs in the light of the Agenda 2030. One hopes that the twain shall meet.
