

Monthly Newsletter

August 2023



Dear Reader,

It gives us great pleasure to bring to you the August 2023 edition of the R M Consulting Newsletter that has **“Energy Transition in India”** as its theme.

The highlight of this Newsletter is a special column written by former Coal India Chairman Mr Partha S Bhattacharyya on how India, home to almost 18 percent of the global population, should go about the process of energy transition to make it sustainable, just, and beneficial for the country’s 1.4 billion citizens.

Besides Mr Bhattacharyya’s article, the Newsletter also features two write-ups by the R M Consulting team on:

- The need to make our MSMEs resilient to climate-related risks keeping in mind the pivotal role of micro, small, and medium enterprises in the Indian economy, and
- The necessity to focus deeply on increasing the availability of quality trained manpower to make a successful clean energy transition.

As always, we would look forward to your comments and feedback on the Newsletter.

Best wishes,

Team R M Consulting



India must assert its right to fair share of residual carbon space

With slightly over a month to go for the G20 Leaders' Summit to be held in New Delhi on September 9-10, 2023 where discussions on the issues of Climate Change and Energy Transitions are expected to feature prominently, **former Coal India Chairman Mr Partha S Bhattacharyya** shares, with **R M Consulting**, his perspective on how India (current holder of the G20 Presidency) should go about its own process of energy transition to make it just, equitable, sustainable, and in keeping with the development aspirations of the country's 1.4 billion citizens who make up close to 18 percent of the global population.



Partha S Bhattacharyya
Former Coal India Chairman

India must assert its right to fair share of residual carbon space

Partha S Bhattacharyya

The energy environment landscape globally is dominated by the discourse on climate change arising from global warming.

Over the decades, this has emerged as a major challenge to the sustenance of the human race. The urgency to arrest the pace of rise in global temperature prompted all major nations, including India, to pronounce Nationally Determined Contributions (NDCs) as forward-looking targets set voluntarily for meeting the challenge of global warming and climate change in COP21 at Paris in 2015.

The primary targets set by India were as follows:

- To raise the share of non-fossil fuel-based power generation capacity to 40% by 2030 from a miniscule level in 2015.
- To reduce the emission intensity of GDP by 33% by 2030 compared to the benchmark prevailing in 2005.

These NDCs from India needs to be viewed in the context of the following:



a) Besides global warming and climate change that dominate the global discourse in the energy environment landscape, the Indian compulsion of meeting the rapidly rising energy requirement of a fast-growing large economy occupies the centre stage of the discourse with equal, if not higher emphasis.

The latter is obviously linked

to the development of the economy and raising the quality of life of the average citizen, the key indicator for which is the per capita power consumption. At around 1400 units/annum, this is one of the lowest globally, a third of the World average, a fourth of China and anywhere from a fifth to a tenth of advanced countries.

b) It is generally accepted that instead of current emissions, cumulative emissions since industrialization (1850 onwards) have a more direct bearing on the contribution of each country to global warming. Such share for India at around 4% is far below the share of the US, EU, Russia, and China. It stands to reason that the countries with a larger share in cumulative emission, and therefore in global warming, than India, come up with stronger NDCs and make all efforts to achieve the same.

c) The position on-ground has unfolded differently. Despite the factors stated in paras a) and b), India is well poised to achieve the NDCs ahead of schedule. In comparison, the US, which is the largest emitter of GHG in cumulative terms, stepped away from the Paris agreement only to reenter in 2021 after a change of Presidency. One of the main targets of advanced economies was a pledge to finance climate goals of developing nations. This was reinforced again in COP26. However, this largely remains an unmet target so far. Also, coal usage in advanced countries, after taking a dip, rebounded back in 2022. Globally, coal-based power generation slid from 40% to 35% till 2020 but rebounded back to 36% last year, much higher than the share of any other source of primary energy.

d) In the context of the foregoing, India's claim, on considerations of equity and fairness, to a higher share of residual carbon space to develop faster is compelling and undeniable. Also, on considerations of geo-political stability, an economically strong India is an imperative.

Fast forward to COP26 at Glassgow in 2021.

Encouraged by the trend of performance against 2015 NDCs, India further strengthened it's 2030 climate commitments. The target for non-fossil fuel-based power capacity was enhanced to 50%. This necessitated setting the renewable power capacity target to 500GW. The achievement, as at present, is around 150 GW. The aspired growth in capacity addition thus translates into a CAGR of around 19%.



Renewables Focus

The policy framework provides substantial advantages to renewable power in terms of capital subsidies, accelerated depreciation, 'Must Take' directions to discoms, relief from bearing share of T&D losses etc. On the contrary, coal-based power is subjected to severe headwinds. Levy of GST compensation cess of Rs.400 pt for meeting the shortfall in GST collection of certain States is an example. The payout on this account alone from the coal sector is around Rs 40,000 crore per annum. Next in line is the incommensurately high rail freight on coal to meet the burden of cross-subsidizing passenger freight. These factors are eating into the cost competitiveness of coal-based power vis-a-vis renewable power, compelling coal-based plants to operate at low PLF, thereby further raising the cost of coal-based power.

Aided by the tailwinds in favor of renewable power and headwinds against coal-based power, renewable derived a cost advantage and is currently quite

below the coal-based power. However, the high cost of storage continues to deter full 24*7 utilization of renewable power. Also, large import dependence on countries like China for various capital items like solar panels has emerged as a constraint. Technological break-through for cheaper storage and creation of large capacities for manufacture of components should help easing out of these constraints in due course.



In most developed nations where growth in power demand is minimal, addition to renewable capacity accompanies phasing out of fossil fuel-based power capacity. The Indian scenario is very different. Fast growth in power demand has rendered addition to renewable capacity not a substitute but a complement to coal-based capacity. In fact, growth in both renewable and coal-based capacity, albeit much faster for renewable, has been established as an imperative to meet the per capita power consumption, which continues to rise fast even after factoring the impact of efficiency improvement in electrical appliances and electric bulbs.

Considering all these factors, the Central Electricity Authority (CEA) has run a sophisticated software program to arrive at the optimal energy mix in 2030. It shows not only a massive rise in renewable capacity, but also a modest 30% rise in coal-based capacity by 2030. For India to become energy secure, the rise in coal-based capacity may need to continue beyond 2030 for a few more years.

Imperatives for India



India consumes around 1 bnT of coal currently. Based on the CEA projections for coal-based power, the consumption is likely to rise to around 1.3 bnT by 2030 and reach a plateau of 1.5 bnT anywhere between 2035 to 2040. Tapering of coal consumption from this level may commence a few years later. This projection duly factors in the massive ongoing and future efforts to usher in renewable power at breakneck speed.

It is apparent from the position explained that India has at least two decades to plan and commence execution of a 'Just Transition'. A favourable position that the country enjoys is the heterogeneity of the mix of mines. If the mines are arranged in ascending order of annual coal production, the top 50% least producing mines contribute just 8% of total coal produced but engages over 60% of the aggregate manpower, mostly unskilled or semiskilled and in the older age group. These mines with large manual operations incur huge losses even as the coal companies are profitable. Hence, a planned phaseout of these mines without providing replacement for superannuating employees can substantially reduce the task of Just Transition. After a decade, planning will be required for Just Transition in far lesser number of mostly mechanized mines deploying skilled labor. The land released from closure of the mines can be restored, reclaimed, and made fit for alternative use, including agriculture or afforestation. The manpower requirement for such activities can be sourced from the superannuated and contractual employees. The finances required for this purpose can be provided partially by the coal companies from the savings accruing from closure of loss-making mines and from a share of the Royalty income of the State Government or GST Compensation cess levied by the Union Govt.

The country should adopt a holistic position regarding coal usage as well as thrust on renewable in future COPs, including COP28. India, while doing better than most countries in pursuing climate goals, must assert its right to a fair share of the residual carbon space to meet the development aspirations of its people. This position will justify usage of coal in increasing quantities for at least two decades, even though renewable capacity addition continues exponentially.

(The author is former Chairman of Coal India.)

Time to make our MSMEs more climate-resilient



Synopsis

As a key pillar of the economy and a huge job generator, MSMEs being provided greater focused assistance to deal with climate-related risks can make these enterprises strongly placed to contribute in a bigger way to the success of signature initiatives such as 'Make in India' etc. and, also, able to create more employment opportunities for the country's ever-increasing workforce.

Team R M Consulting

As discussions on the issues of climate change and clean energy transitions gain pace among key stakeholders in India, it may be good if these deliberations could lead to more visible and tangible hand-holding support being extended to the country's MSME segment to help these businesses become more climate-resilient and able to make an easier shift to clean energy sources.

Extreme weather events have been on the rise in India due to the country's vulnerability to climate change (<https://pib.gov.in/PressReleasePage.aspx?PRID=1943216>).

As the bulwark of the economy and a huge generator of both blue-collar and white-collar jobs

(<https://msme.gov.in/sites/default/files/MSMEANNUALREPORT2022-23ENGLISH.pdf>), MSMEs being provided more focused assistance to deal with climate-related risks and reduce their dependence on fossil fuels can help these enterprises reach greater heights and more strongly placed to contribute to the success of signature initiatives such as 'Make in India', etc.

Embarking on such an initiative, with commercial banks also engaged in this endeavour, could also hasten the pace of job creation in a country where the number of people in the working age group of 15-59 years is forecast to rise more than 34 percent from 735 million in 2011 to 988.5 million in 2036 (https://www.mospi.gov.in/sites/default/files/publication_reports/women-men22/WomenMen2022.pdf). Extending support to MSMEs so that they can effectively deal with the climate change-related challenge, moreover, could help in the realization of the 2070 national Net Zero goal.

In an interaction with R M Consulting earlier, Dr Mukund Rajan, former Tata Group Brand Custodian and Chairman of the Environment, Social and Governance-focused platform ECube Investment Advisors, had also advocated the need for support being extended to SMEs on the climate issue since they typically tended to be poorly informed about some of the challenges related to climate change, and the new technologies that are emerging to resolve these. Their inability to access adequate finance compounded the difficulty faced by these enterprises to make the course corrections necessary to tackle the problems posed by climate change, Dr Rajan had then pointed out (<https://rmconsulting.in/blogs/f/on-climate-change-we-need-a-whole-of-society-approach?blogcategory=Climate+Change>).

Most recently, Reserve Bank of India (RBI) Deputy Governor M Rajeshwar Rao, too, during a panel discussion on "Climate Implications for Central Banking" organized by the IMF and Center for Social and Economic Forum, talked of "handholding of the smaller firms and MSMEs" to help these firms understand, assess, and plan better for climate-related issues and the associated financial risks (<https://rbidocs.rbi.org.in/rdocs/Speeches/PDFs/CSEPIMFCLIMATE76432537F2BB4820B55B3D40C3BB4DC2.PDF>).

In closing, it may be relevant to mention that helping the vibrant MSME segment navigate the challenges that climate change may throw in its path is not akin to doing a favour to India's micro, small and medium enterprises. Being there for the MSMEs as they confront the difficulties posed by climate change is in our own larger interests because of all that has been said earlier.

Clean energy transition | Ramping up quality manpower need of the hour



Synopsis

India needs to rapidly scale the availability of quality trained manpower that is necessary to capitalize on the potential economic opportunity that a transition to clean energy presents.

Team R M Consulting

In 2022, an article titled “India’s clean energy transition is rapidly underway, benefiting the entire world” written jointly by International Energy Agency (IEA) Executive Director Dr Fatih Birol and then NITI Aayog CEO Mr Amitabh Kant had said that “a transition to clean energy is a huge economic opportunity”.

“India is particularly well placed to become a global leader in renewable batteries and green hydrogen. These and other low-carbon technologies could create a market worth up to \$80 billion in India by 2030,” they had forecast in the said article (<https://www.iea.org/commentaries/india-s-clean-energy-transition-is-rapidly-underway-benefiting-the-entire-world>).

Given this backdrop, it may be in the fitness of things if key stakeholders in government, business, academia, and civil society could come together to devise a strategy roadmap, with timelines and responsibilities defined, through which India could rapidly scale the availability of quality trained manpower that

is necessary to capitalize on the potential economic opportunity that a transition to clean energy presents.

Sustainability specialists, renewable energy engineers, solar energy installation and system engineers, along with climate technologists, are among those that would be required in large numbers to ensure that India can effectively utilize the clean energy transition process to improve the quality of life of its 1.4 billion citizens, especially of those living on the margins. The absence of these professionals in adequate numbers or of them not being of the desired standard would not just make it harder to go about the energy transition process but could also make it that much more difficult to ensure that all citizens can benefit equally from the shift to clean energy.

From the government side, it would be ideal if the Ministry of Education [along with the University Grants Commission (UGC) and the All India Council for Technical Education (AICTE)] could take the lead in the manpower development initiative for the clean energy transition exercise. With the Ministry of Power, Ministry of New and Renewable Energy, Ministry of Environment, Forest and Climate Change, etc., also being actively consulted for this purpose.

Leading educational institutions, and apex industry bodies of the country like CII, Ficci, and Assocham, too, should be involved in the project. Besides, civil society organizations and independent experts working in the domains of climate change and clean energy transition.

With almost 18 percent of the global population and one of the biggest economies in the world, India is well placed to emerge as an example for other nations on how to go about the process of a sustainable energy transition that is just and benefits all. It would be unfortunate if a dearth of quality sustainability professionals, renewable energy engineers, etc., comes in the country's way of achieving this goal.

R M Consulting in the Media

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**STATE RESEARCH FOUNDATIONS
AN IDEA WHOSE TIME HAS COME**

The state-level Ministries of Science and Technology, and Education, could take the lead in setting up State Research Foundations in their respective regions, with the governance mechanism modelled on the lines of what has been decided for the National Research Foundation.

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<https://ictconnect.in/Article.aspx?articletitle=state-research-foundations-an-idea-whose-time-has-come>

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