

# Green Growth and Energy Security in India

## *Political Economy Transformation and Challenges*

Jaipur, Rajasthan, June 19, 2015

### Background

Consumer Unity & Trust Society (CUTS International) has taken up this initiative to explore clean energy strategies related to energy security in India and deliberate on opportunities and political economy challenges. The purpose is to analyse key drivers of growth and development, so that state of its availability and barriers related to energy security can be identified and rectified.

As part of this initiative, CUTS with support from the Friedrich-Ebert-Stiftung (FES, India) would organise three national conferences at Jaipur, Kolkata and Delhi and parliamentary forums at Delhi to build consensus for the energy security through green growth in India. Towards the end of this initiative, CUTS would prepare a policy paper on the issues related to the green growth, which would highlight key policy recommendations to address India's energy security challenges.

### About the Conference

Given the above, CUTS organised a National Conference on "Green Growth and Energy Security in India: Political Economy Transformation and Challenges" on Friday, June 19, 2015 at Jaipur. The purpose of the conference was to deliberate on strategies for creating a political mandate and mobilise decision makers and society for clean energy transformations. The conference was comprised of National and State level representatives from government, regulatory agencies, media, industry, civil society organisations, research organisations, etc.

### Inaugural Session

**Pradeep S Mehta, Secretary General, CUTS International**, delivered the welcome address and argued that India is faced with this unique challenge of bridging the demand-supply gap and revolutionising the power generation bases with a major share of contribution of renewables, simultaneously. He claimed that with two-third of current power being generated using fossil fuel sources, the energy decision-making is quite challenging. The situation calls for a new deal for energy security to balance between developmental and environmental priorities. The Government recognises the need and opportunities and have prioritised clean energy development, he opined. Yet, the question remains whether current initiatives are adequate to result in energy transformation in the country. In his closing remarks, he emphasised on the need for India to value its natural resources and emphasise on sustainable growth while balancing the implications on the environment.

**Vishvanath Hiremath, Chairman, Rajasthan Electricity Regulatory Commission** emphasised that the challenges in different segments of electricity supply chain are big but not insurmountable. While technical fixes can address infrastructure related challenges, there is a greater need for consumer education, awareness and engagement as the sector becomes more and more complex. Emphasising on the role of consumer organisations, Mr Hiremath sought CUTS' and other relevant non-state actors input for improving consumer education, awareness and education in Rajasthan. In

a positive move, RERC has, in its recent tariff order earmarked a budget of INR 50 lakhs per discom for consumer education and awareness.

**Marc Saxer, Resident Representative, Friedrich Ebert Stiftung**, in his address highlighted that “international debate on energy transformations is over, and the renewables have won.” He further added that “the debate about ‘if’ is over, now we are entering into a discussion of ‘how’ to achieve energy transformations.” Mr Saxer also pointed out three recent developments at global level that support the optimism. First, is drop in price of clean energy. In recent years, in many countries, the generation cost of renewables has come at parity, or even lower in some cases, compared with the conventional power. Second, is development of household and industrial storage facility that provides a solution for intermittent nature of renewable generation. Finally, political will seems to be aligned towards energy transformations i.e. focus more on clean energy. The recent pledge from G7 countries to move out of carbon economy by end of the century is a positive development in the global political economy scenario.

The challenges for energy security are known; these challenges have proven solutions. Considering each society is unique, no universal blueprint can be promoted. Each society needs a tailored strategy for green growth and energy security. Facts, figures and technical capacities are important, but not enough. Political economy systems and processes will be crucial in determining adoption and success of a green growth strategy in India and elsewhere.

### **Session I: Political economy transformations and Energy Security: Need for a Coherent Green Growth Strategy**

**V S Ailawadi, Chief Mentor, Corporate & Regulatory Affairs, Tata Teleservices Limited** stated that there has been excessive rise in import of coal to meet the huge energy demand in the country. This has led to several distortions with the major challenge regarding storage of coal in India. Net import of coal has steadily increased from 36.60 MTs during 2005-06 to 166.29 MTs during 2013-14. To make the situation worse, Coal India Limited continues to enjoy monopoly and is trying to take undue advantage of this situation thereby disturbing the bidding process. Eventually end users, i.e., the consumers have to pay the price for such uncertainty in the market. Thus, there is a need to liberalise the energy sector and encourage participation of the private entities. Mr Ailawadi further mentioned about alternative solution for sustainable growth through harnessing power from renewable source of energy to meet the energy demand. He encouraged private participation that would use enhanced technology and innovation to meet the supply demand gap. It would eventually bring down the expense of production, thereby securing affordable energy supplies.

**Shakti Sinha, Former, Principal Secretary (Finance & Planning, Power), CMD Delhi Transco, Government of Delhi** noted that energy security in India is a serious issue, and thus, needs to be answered through policy measures and strategies. It would ensure stability and security for the Indian economy and access to secure energy supply for meeting basic energy needs. He appreciated the efforts by the India government on passing *Coal Mines Special Provisions Bill* and the *Mines & Minerals Development and Regulation (MMDR) Bill* that would encourage private enterprises to freely participate, thereby boosting investments into the country. He also mentioned that implementation of coal laws would empower government to allow private companies to undergo mining activities and sell the same in the open market which would curtail four decades of state monopoly.

In addition, he also mentioned that distorted tariffs set by the companies to supply power at a minimal cost might adversely affect the operation of such entities. It is so because the production of electricity would be much higher than the tariff received from the end users. Currently, power producers are not in a position to bear the burden of providing free electricity to consumers and this might ultimately lead to shut down of such power distribution entities.

Citing recent report of World Bank on ‘More Power to India: The Challenge of Distribution’, he stated that electricity distribution to the end-consumer in India needs reforms, in order to achieve its target ‘electricity to all by 2019’. The study reported end consumer electricity distribution as the weak link of the sector. He highlighted that encouraging healthy competition in the distribution sector would ultimately benefit the end users.

**Madhura Joshi, Associate Fellow and Area Convenor, CeRES, TERI** reported that as per the recent study conducted by TERI “Energy Security Outlook” in 2015, coal imports have grown substantially. TERI’s projections using the market allocation model indicates that in 2031–32 we could be importing a total quantity of 900 million tonnes. The key issues affecting energy security on the demand aspects include lack of access to energy, particularly in the rural areas where the dependence on traditional forms of energy are still very high.

Thus, there is a need to increase the investment in technology, and that would require private participation and expertise the sector. Restructuring the coal sector has already been proposed as one of the measures to be taken up by the present government. However, the proposed new structure and its implications on the current energy industry needs to be considered carefully. Ms Joshi emphasised on the need to encourage both, supply as well as demand side management to ensure that the sector performs efficiently and optimally. Further, it requires thinking ahead of time and visionary planning, that takes into account current technology advances and the possibilities they could hold for the future.

**Yashraj Khaitan, Founder & CEO, Gram Power** introduced his venture ‘Gram Power’ which he co-founded with his friend. This initiative enables villagers to generate, store and integrate energy out of biomass, solar or wind on-site. Gram Power model helps rural consumers to bypass conventional grid supplies, and is cost efficient as compare to kerosene. More than 400 mn Indians live without access to reliable power, and installation of ‘Smart micro grids’ in villages will make electricity accessible to them.

In a centralised electricity systems such as the national grid, around 65 percent of electricity gets wasted due to theft, pilferage, heat loss in transmission lines and power stations. Thus, at Gram Power, they use technology that is able to detect and reduce energy theft and pilferage to increase energy distribution efficiency. Apart from generating grassroots employment, it makes power affordable, and enables consumers to use their disposable income to purchase power. It has already electrified 10 villages in Rajasthan and is looking forward to increase its access through state and central renewable energy ministries. He concluded by saying that government should come along and encourages such initiative by private entities and should also work together to eliminate energy shortage in Rajasthan.

**Akhilesh Magal, Head Advisor, Solar Energy, GERMI** mentioned that India’s renewable energy goals hinge on a vibrant open access market. This can become a reality only when power prices are completely deregulated for the players to participate and invest in the energy sector. He added that

the cross subsidies should be eliminated so that people pay actual cost of the power consumed. For the section of the society which cannot afford to pay the actual cost, a subsidy can be transferred directly to their bank accounts linked to their Aadhaar Card. He concluded by saying that isolating DISCOMs from any political pandering of power prices would improve the financial health of the DISCOMs. It will provide them with the opportunity to invest into clean power and compete with solar and wind developers. Reformed power sector would ultimately help India to achieve its renewable energy goals.

### Floor Discussion

The discussion was emphasised on the following issues during the floor intervention:

- proper implementation of the existing regulations
- encouraging healthy competition by allowing private utilities to participate in the market
- efforts from the state government and central government to produce electricity from renewable resources that is commercially viable as well as affordable to end users

## Session II: Political Economic Challenges and Opportunities for Clean Energy Transformations & Green Growth

Initiating the discussion, chair of the session, **Rao Rajendra Singh, Member Legislative Assembly, State of Rajasthan** highlighted few political challenges *vis-à-vis* power sector in India. He mentioned that these challenges and opportunities needs to be evaluated and addressed through appropriate stakeholder consultation. He dissented the opinion that power sector should be kept away from the political domain. He contended that politicians are representatives of peoples and it is their duty to ensure that government policies and programmes are implemented for the greater good of public.

**Sanjeev Ahluwalia, Advisor, Observer Research Foundation** acknowledged that there are enough resources in India, but challenge lies in its effective management. Thus, the biggest question is “how to manage resources to achieve maximum outcome with minimum pain?.” There is a growing tendency to by-pass government in several arenas, however to witness any big change, government support is essential. He mentioned that India is considered as a small player in the global scenario, but as an emerging economy it desires to compete at the international market. Developed countries are moving towards developing green energy technologies. Therefore, to compete in the global market, India also needs to transform its entire engineering around clean energy and prove its relevance.

He also stated that if India wants to move towards green energy, then we largely have two options- first, is nuclear energy which has its own limitations & consequences and second, is renewable source of energy. He mentioned that in the present scenario, nuclear power is the fourth-largest source of electricity in India after thermal, hydro and renewable sources of electricity. As of 2010, India has 19 nuclear power plants in operation generating 4,560 MW while four other are under construction and are expected to generate an additional 2,720 MW. On the other hand, renewable energy options are considered to be costlier, however, rationalising subsidies and using that amount for building a strong renewable energy base instead of conventional energy, the present challenge can be addressed.

**Vinod K Kala, Founder & Managing Director, Emergent Ventures** noted that there is misconception about RE option being costlier. However, considering external costs of other energy options such as hydro, thermal and health, environment, water, natural resources costs involved, these are costlier than RE option such as solar. India has many green growth options which are economical and with technological developments there is scope of further improvement. Solar energy generation cost has almost reached the parity levels with thermal generation. In remote areas, RE based small grids are more economical and sustainable than grid connectivity.

He emphasised that major barrier for RE development is its high investment cost as banks are charging high rate of interest on RE investments. Hence, there is a need for public financing model in RE sector such as government bonds. In the long run, RE models are likely to become economically viable, eventually contributing towards energy security in India.

**M M Vijayvergia, Chairman & Managing Director, CVK Solar** informed that Rajasthan has great potential for solar energy. He said that the transmission loss is less in solar as compared to the main grid generated locally. Further, solar energy is the most reliable source of energy and its diminishing cost of generation is making it more economical. Solar power is not only green but also empowering local people in desert areas in term of economy and social development of that area. Solar energy provides diversification to the energy sources and thus contributes in securing energy security of India. He stressed on the need for effective implementation of renewable purchase obligations of Discoms as many have failed to follow these guidelines.

**Anoop Singh, Associate Professor, Indian Institute of Technology, Kanpur** mentioned that India is the first country to have a separate ministry for renewable energy, which indicated the importance and political will of the nation towards introducing renewable energy in India. Further statutory enactment such as Electricity Act 2003, Renewable Purchase Obligations (RPO) also sets legislative environment for India power sector development. However, implementation of these regulations have always been a challenge. He stated that India is aiming high to include solar energy in its energy basket but it is a difficult task to find good quality solar equipment in the market easily for the end users i.e., consumers. There is a list of approved manufacturers by concerned government agencies which reduces innovation in the industry and makes the products inaccessible to consumers. Therefore, there is need to open the market for manufacturing of RE products.

He further said that efforts needs to be targeted towards successful promotion of RE in the country. There lies a huge gap between policies of different ministries/department working in energy sector. To promote RE, the significant policies and service (ecosystem) should also be promoted to elevate demand for RE products in the market.

**Rao Rajendra Singh** concluded the session by stating that the oldest hand on renewable is democracy, which gets renewed every five years by the citizens of the country. It is a system of larger public interests rather than private gains. Politics should be seen in that way. He also highlighted the need to develop modern technologies in RE and explore other RE options such Jatropa, bio-mass etc.

#### **Floor discussion**

- Storage of power is a genuine issue and arrangements need to be done to provide storage facility to balance the voltage fluctuation.

- There are RPO obligation targets to purchase eight percent of their power generation from solar sources by March 2019 in India but SERC should make necessary regulations to operationalise such obligations.
- 83 small solar grids were established in Rajasthan with huge investments which later were handed over to DISCOMs and currently most of them have become defunct. Thus, government should make efforts to make such grids operational and profitable.

### Session III: Politics Matters: How to Create a Political Mandate?

**Pradeep S Mehta**, Chair of the Session, opened the stage for discussion by putting forth a few questions to the audience. He discussed about the actions that can be implemented to bring green energy transformation and convenient means to tackle political economic challenges to build consensus amongst end users. In addition, he cited a statement by Indira Gandhi “Poverty is the biggest polluter”. India is facing challenges to fulfill basic necessities such as food, clothes and shelter while developed countries are thinking rationally to make optimum utilisation of green energy. He stressed that people participation is necessary to achieve green growth in India and consumer organisation such as CUTS among others are making continuous endeavours to achieve this goal of providing clean energy. He also mentioned that there is a need to create public awareness regarding the significance of green energy.

He mentioned that there is an absence of cogent planning and implementation, thereby emphasising on the need for proper implementation of existing policies and regulations to achieve the goal of green growth and energy security in India.

**Mahendra P Lama, Pro Vice Chancellor, Indira Gandhi National Open University, New Delhi** mentioned the relevance of green energy and stressed on how to achieve political consensus amongst policy makers. He expressed concerns on overlooking RE as a peripheral issue. He further emphasised on the need to bring such discussions into our national dialogue. Referring to the federal structure of India, he highlighted concerns on pushing the agenda at a national level. Even though it reaches the legislators, it fails to be properly implemented at the ground level. He was discouraged to highlight that there was no curriculum available on sustainable development in India and such initiatives were rather discouraged. To conclude, he mentioned that the government must work together towards eliminating hurdles and encouraging use of clean energy.

**R P Goswami, Director, Ministry of New and Renewable Energy, Government of India** stated that the government has the will to introduce renewable form of energy as well as take several efforts to promote the use of clean energy. He mentioned that earlier subsidies were higher in renewable energy to promote the sector, however as the government witnessed growth of this sector and it decided to slowly end the subsidies. Further, the government has introduced the National Solar Mission which aims to promote the development and use of solar energy for power generation and other uses. He also mentioned that prices for solar modules have declined by almost 80 per cent since 2008 and wind turbine prices have declined by more than 25 per cent during the same period. He concluded by appreciating the efforts of the government aimed at creating a liberal environment for foreign investment in renewable energy projects.

**Axel Harneit-Sievers, Director, Heinrich Böll Stiftung, India** called out the relevant stakeholders to look beyond the subsidies in renewable energy and find better alternatives to make it commercially viable and easy accessible for the end users. Citing the example of Germany he stated

that there have been massive buy-in of green energy sources, especially solar power, by public without any sort of government subsidies and promotion and India can absorb certain feasible lessons from Germany. He suggested that if renewable energy is made prevalent among public then it would certainly become a matter of political economy. He concluded by accentuating on the need for modern technology packages to create a popular demand among the public at large.

### Floor Discussion

The following relevant issues were deliberated and discussed:

- Need for political, administrative and financial will to make usage of renewable energy economically viable.
- Reasons due to which DISCOMs suffer heavy transmission and distribution losses and efforts made by the state government to help them improve their performance and efficiency.
- Need to increase public participation in green energy sector
- Need for policy makers to address conflicting and contradictory policies among different ministries and agencies.
- IT centers opened in all Panchayats in Rajasthan which are supposed to run on solar power, however most of them are not following it, thereby creating wrong impression among public about solar power system and abstaining from adopting it.
- Transformation to non-conventional source of energy and viable methods to adopt it.
- Need towards promoting decentralized distribution and degeneration of energy.

### Valedictory Session

**Ashwini K Swain, Director, CUTS Institute for Regulation & Competition** mentioned that there is a need to place green energy in the local context and allocated resources towards public education and awareness . Each society is unique, and there is no universal blueprint for such kind of development. Thus, we need to conceptualise a growth plan for ourselves. All political economy transformation and challenges are specific to the countries & the regions and that need to be addressed at the local level.

### Closing Remarks

**Marc Saxer**, highlighting the importance of political will for change, mentioned that, those who want change, need to work to bring that change. The policy can be designed differently, more inclusively, if there is a will to bring desired change. There has to be certain discourse which need to be followed at different level. Mr Saxer also announced that, FES in partnership with CUTS will take this agenda forward and establish a network of experts on the issue of Green Growth and Energy Security. This network will consist policymakers, thinktanks, media houses, academic institutes, subject experts etc.

**Udai S Mehta, Director, CUTS International** thanked all the participants and speakers and highlighted that green growth is not all about renewable energy resources. The purpose is to provide last mile connectivity to the poorest people and make electricity accessible and available to everyone.

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