

## ENERGY SECURITY AND GREEN GROWTH IN INDIA ARE WE ON THE RIGHT PATH?

October 05, 2015 | New Delhi

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### Event Report

#### BACKGROUND

Consumer Unity & Trust Society (CUTS) has taken up the initiative to explore clean energy strategies to ensure energy security in India, thereby deliberating 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 this backdrop, CUTS had organised a National Conference on "Green Growth and Energy Security in India: Political Economy Transformation and Challenges" in Jaipur on Friday, June 19, 2015. The second one took place in Kolkata on Saturday, August 29, 2015. The purpose of the conference was to sensitise the germane stakeholders on the need for a green growth approach thereby identifying a coherent strategy towards achieving the shared goal of sustainable energy development and green growth in India. The conference comprised of National and State level representatives from government, regulatory agencies, media, industry, civil society organisations etc. The final event took place in New Delhi on October 05, 2015 with discussions mainly focusing on how to carry forward the lessons learnt from the previous two events and incorporate the same to transform the present conventional ideology towards achieving green growth.

#### INAUGURAL SESSION

**Pradeep S Mehta, Secretary General, CUTS International** welcomed the dignitaries and subject experts to deliberate on the mentioned topic. He initiated the discussions by emphasising on the energy requirement as the key driver of growth in a developing country like India. However, 30 percent of consumers don't have access to electricity due to huge gap between demand and supply. With distribution companies in the mess and struggling to survive, harnessing power from renewable energy seems to be the obvious solution. Mr Mehta also referred to the Intended Nationally Determined Contributions (INDC), a programme initiated by United Nations Framework Convention on Climate Change where countries have to voluntarily submit their respective INDC to combat the issue of climate change. India has been very dynamic in this regard and has proposed its INDC in run up to the up-coming conference in Paris, 2015. India in its INDC has pledged to reduce emissions intensity of its GDP by 33-35percent by 2030 from the 2005 level, and aims to achieve about

40percent cumulative electric power installed capacity from non-fossil fuel-based energy resources in the same timeframe.

Climate change is a major challenge for developing countries including India that faces large scale climate variability and is exposed to enhanced risks from climate change. India has to realise that the economic growth and development have to be very well guided by the key concerns of sustainability. It was stressed that renewable energy is the future and it is high time that we derive methods to bridge the gap between demand and supply of electricity. With this, he opened the floor for discussion on the following three issues:

- Implications of energy security
- Political and economic challenges
- Green growth strategies and transformation to achieve the same

**Marc Saxer, Residential Representative, Friedrich-Ebert-Stiftung** stated that there are several challenges related to energy sector in India. The geo-politics is equally important with third industrial revolution taking place in the backdrop. The debate has now shifted from 'IF' we should pursue renewable energy to 'HOW' it should be pursued. Condemning the political cartelisation for fossil fuel subsidy, Mr Saxer stressed the need for green energy revolutions to meet India's energy security. He further mentioned that the transformation will not be smooth as there will be resistances. Thus, the transformation is not just about technical change, but also equally about political struggles.

However, there are changes taking place in the world politics which is leading more number of consumers to consider RE as the future source of energy. Even the present Prime Minister of India, Narendra Modi is very optimistic about the RE and has been emphasising on its huge potential that will drive the nation in becoming a global leader. Mr Saxer also pointed out few recent developments at global level that depicts optimism in this sector. 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 source of power. There has been development of household and industrial energy storage technology by Tesla Motors that provides a solution for intermittent nature of renewable generation through solar and wind energy. Transformation into clean energy will have positive implications on Global Renewable Energy research and implementation work. To conclude, Marc encouraged the need to derive green solutions taking into consideration all political, technical, social and economic challenges.

**Jairam Ramesh, MoP and Former Ministry of Environment, Forests and Climate Change** thanked Pradeep Mehta to bringing up “Green Growth” for discussions as it was considered a taboo. It is a traditional concept which was not much appreciated by many. However, the present times are different and much improved, given that close to 30 per cent of daily electricity is being generated from renewable energy. He mentioned four reasons for the need to transform India towards clean energy i.e. Demography, Climate change, Public health, and Sustainable livelihood.

Responding to the theme of the Conference “Whether we are on the right path?” he focused on the following three Ms:

- Measurement: there must be a system of measurement to know whether are we going on the right direction towards achieving green energy or not?. The objective must provide for an analytical framework to monitor such trajectory towards the road to

transformation. Success has been achieved by countries such as Mexico, Costa Rica which had incorporated such qualitative objectives.

- Modelling Framework: there has to be a modelling framework and monitoring must be done to know whether the rules set are being followed or not?. For example, decreasing the level of pollution will eventually benefit the objective to achieve public health.
- Management: Finally, managing the trajectory set out of various regulations, standards, instruments and institutions set to reach the objective of green growth.

The above three tools would help us analyse the path to achieve green growth and energy security in India. There is a need to make our energy evolution sustainable from an economic, security of supply and environmental perspective. Mr Ramesh concluded by suggesting that one can gain experience from Germany which has excelled in planning business models on renewable energy.

**Suresh Prabhakar Prabhu, Union Minister of Railways, Government of India** cited that “Public awareness is the key to create political constituency for green transformation”. Mr Prabhu emphasised that green growth is important but at the same time we have to deal with challenges, such as poverty and population. According to him, adding GDP numbers at the cost of environmental damages is not sensible as it increases the cost for adaptation.

Responding to Jairam Ramesh's 3 Ms, he said we further need a 4<sup>th</sup> M, i.e. money, in addition to these tremendously vital 3Ms. Mr Parbhu suggested that the savings generated by using renewable energy sources could be used to create a fund to deal with the problem of climate change. During his tenure as an environment minister, he had published a white paper on environment issues where he suggested integration of environmental concerns early at the stage of economic planning. Responding to a question on how railways is taking steps to achieve green growth, he replied that the social impact being an integral component of the Environmental Impact Assessment (EIA), is being given due attention before undertaking any Railway project. Also, railways have set a target of generating 1,000MW of Solar Energy and 200 MW of wind energy to substitute part of its own energy needs in the next five years. Mr Prabhu concluded by stating that the aim is to reduce the carbon footprint of the Indian Railways by promoting renewable energy sources in a big way by working along with Ministry of Power to achieve greater results.

**Floor Discussion**: During the floor discussion, the speakers stressed on how India being different from other nations, should not repeat the mistakes done by industrialised countries. It was suggested that India should factor in environmental considerations and costs early in the developmental planning. On this path of transformation, there cannot be only one solution, neither can it be imposed. The solution towards attaining green growth has to evolve through a democratic process. The speakers applauded that India has the most progressive legislations around environment; however, the implementation is far from desired level. The session concluded with an optimistic note stating, India with planned strategies can manage the growth trajectories by mobilising and optimally utilising its intellectual energy.

## SESSION I: “Are We on the Right Path to Achieve Energy Security & Address Climate Challenges?”

The first session discussed India’s approach towards addressing the issues of energy security and climate change. The focus of the deliberations was to assess India’s plan vis-a-vis the objectives and whether the current approach would be adequate or do we require a course correction. The session was chaired by Kirit Parikh, Chairman, Integrated Research and Action for Development. The panelists included Abhilakh Singh, General Manager, Indian Renewable Energy Development Agency Ltd.; V S Ailawadi, Chief Mentor, Corporate & Regulatory Affairs, Tata Teleservices Limited; Ramesh Jalan, Resource Person, Climate Change Community, United Nations Development Programme; T. Harinarayana, Director, Gujarat Energy Research and Management Institute; Karthik Ganesan, Senior Research Associate, Council on Energy, Environment and Water and Anant Sudarshan, India Director, Energy Policy Institute at Chicago University.

**Kirit Parikh** began the session by highlighting the impending effects of our over-dependence on non-renewable resources. If our economy continues to grow at the annual rate of 5 percent we would run out of these resources in 40-45 years. Thus, the rationale solution would be to invest in alternative renewable energy resources. It was essential to continue work in the area of nuclear energy, however in the interim we must focus on other sources as well and solar and wind. While we can adopt technologies from abroad, it was equally important to take substantive action ourselves and advance our local research efforts as well. At the same time, Mr Parikh mentioned the importance of pushing various forms of cleaner energy production such as underground coal gasification, ultra-supercritical boilers etc. and improving research effort to improve efficiency of solar. He also mentioned the need to focus on oil and transportation as well and work towards improving efficiency of motorised vehicles, increasing public and electric transportation etc.

**Abhilakh Singh** began by stating the need to acknowledge that there are no quick fix solutions to the many challenges existing in the power sector. There is a need for fundamental and sectoral changes and the state governments have a major role to play. India is today the 5<sup>th</sup> largest consumer and at the current rate would soon become one of the most import dependent nations. The nation had rightfully embraced renewable and it was receiving the desired attention on all fronts. Wind energy is one of the pillars of growth for renewable energy and onshore wind had reached commercial stage and with the extensive coastline this technology needs to be scaled up. In terms of rooftop solar, he mentioned that it should be promoted without subsidy; however the interest rates could be lowered.

**Ramesh Jalan** began by highlighting that 2015 would be the year when the world got together to develop a universal agenda for growth. It is estimated that by 2050 around half of the population would be residing in cities, however we at present are not equipped to handle the needs. He gave the example of transportation which will be critical and we would need more efficient means for instance electric vehicles etc. There is a need to change the mindset of people to adopt a low carbon lifestyle. The (Intended Nationally Determined Contributions) INDCs as proposed by India is comparable to the U.S. and China. While 25 percent in India lives without electricity we have proposed a 33-35 percent reduction in greenhouse gases. If we need to sustain the economic growth of the country, adaptation and resilience needs to go hand in hand in order to achieve energy security.

**T. Harinarayana** discussed the need for innovation to achieve energy security. He said while the focus was on solar and wind energy, geothermal has not been developed effectively. He mentioned some mechanisms which could be explored for reducing air-conditioning systems. About 3 metres below ground the temperature is approximately 26 degrees while the ground temperature is 45 degrees and this temperature variance can be tapped during winters and summers. In terms of solar energy, the panels can be placed above each other which help saves space. He mentioned the development of a solar energy potential map for India which is being developed by his organisation. He also discussed the potential of solar panels on agricultural land in such a way that the sunlight on the plants decreases only slightly which also helps their growth. This experiment is underway in four different locations.

**Anant Sudarshan** mentioned that the weak areas in India were implementation and compliance. He then discussed an example from the textile industry in Surat that pooled in money for a single large efficient boiler to serve all units. This action saved fuels and there were environmental benefits, however, such actions were not incentivised by the laws of the land. As per the regulations, emissions tests are done periodically and in case of non-compliance, penalties are levied. The relationship between regulators and industry has been adversarial; however, the change from criminal penalties to civil has been a positive step. Under the current tariff structure and existing subsidies, the distribution companies are losing money on every unit sold. For instance, in Maharashtra, due to the agricultural subsidies which are politically difficult to reduce/ remove, the option left for the discoms is rationing of supply. He mentioned it was time to ask hard questions on implementation and we needed right incentives and reforms.

**V S Ailawadi** emphasised the need to move on from the earlier model to the green growth model. Energy security has to encompass all available sources and utilise them efficiently. The solar programme is ambitious and the energy available is abundant with technology driving it. We need to have the right instruments and have a sustainable policy framework in place. There is a need to bring about a mindset change and he provided the instance of Germany where domestic consumers pay more while in India it is the commercial consumers that pay a higher rate. He mentioned the need for structured changes in the distribution model such as distribution and supply segregation and the Electricity Act also provided for open access.

**Karthik Ganesan** began the discussion by highlighting the dependence on biomass in rural India. As per a survey done in six of the poorest states, LPG was the sole cooking fuel among only five percent of the rural population. A large proportion had a connection but were not utilising it due to issues of lack of maintenance due to which they move back to their old systems. There is a need to think about delivering this in a manner so as to create a livelihood model. There is a need for maintenance, regular payments etc. which could create employment at the village level. The money spent by governments in support of renewable energy has been traditionally low and if we need massive change this too would need to change. The devices used for generating energy from different renewable sources need different minerals etc. and if we want to bring manufacturing to India we need to give thought to those as well.

**Floor Discussion:** One of the aspects debated during the floor discussion was whether such green growth models were more for the rich rather than for poor and vulnerable communities. The panel highlighted that the emissions from rural communities was very minimal, however

they do have their own aspirations and there is a need to provide urban facilities in rural India as well. In terms of their opinion on INDCs, Kirit Parikh felt we are being fairly ambitious and their attainability would be dependent on the strategies. Karthik Ganesan provided the example of Singapore which was a water starved country but due to sustainability concerns an extremely expensive technology was employed to treat wastewater. However, every unit of water consumed was priced to account for this expense. Another issue raised was regarding the largest consumer and polluter – the government. The panel believed that green growth could be pushed through procurement strategies and it should not be done only on the basis of cost. Distribution reforms were another area of discussion as these have been used as a vehicle for political agenda. Increase in tariff was not the only solution but inefficiencies in the system needed to be reduced.

The discussions highlighted the need for a comprehensive strategy to address the challenges of energy security which takes into account adoption of renewable sources but also focus on improving the current systems. Innovation was another key highlight of the discussions which was essential to achieve our goals and few examples were given by the panelists which could be scaled up. Mindset change was also a critical aspect so that people can accept some difficult transitions for instance subsidy removal.

## SESSION II – High Level Discussion on “Paradigm Discourse Steering as a Tool for Policy Shaping”

This session mainly dealt with shaping policies for India that support energy security and climate change through paradigm discourse steering. The session was chaired by Sanjay Baru, Director for Geo-economics and Strategy, International Institute for Strategic Studies. Among the speakers Marc Saxer, Resident Representative of Friedrich-Ebert-Stiftung, India, gave a formal power point presentation titled ‘How to create political will for change?’ Other honourable speakers were Narendra Taneja, National Convener, Energy cell, Bhartiya Janata Party; Vinod Vyasulu, Consulting Economist, Centre for Budget and Policy Studies; Ray R Sudweeks, First Secretary for Energy Affairs, Embassy of the United States of America and S P Gon Chaudhuri, Director, Ashden India Renewable Energy Collective. All the speakers provided the participants a thorough introspect into the paradigm of energy security and green growth in India and how the policy making has and should be shaped to ensure successful outcomes.

**Sanjay Baru** introduced the panellists and provided them with an introduction to the scope of the session. He briefly spoke about shaping public opinion towards climate change and energy security, raising more green consciousness.

**Marc Saxer** delivered a presentation on “How to create political will for change?” Mr Saxer explained the paradigm for present discussion and problems that arise while steering through paradigm shifts towards change. Policies are most difficult and almost impossible to implement in hostile paradigms and benefits are accrued by those who have the least role in the struggle for change. The growth of a country or its green growth for that matter depends on how the government of that country interprets ‘opportunity’. The paradigm discourse in India to achieve and secure affordable, efficient and reliable energy can be made only through policy making. But this has various traps in India, like isolation traps was defined as

the tendency of leaving out the actors of change and policy making in isolation; and technical traps which were due to fast changing governments. Mr Saxer pointed out that these two traps should be resolved before chalking out the policies by, firstly, bringing together the groups that have expertise and interest in the matter (participatory policymaking) and secondly, the policies once made should be effectively implemented irrespective of the change in governments either at state or union level (need for political will and vision). Also providing examples of solar energy adoption in Germany, Mr Saxer emphasised that the policies should be politically, economically and technically viable. Therefore, for successful paradigm shifts discourse is the only instrument that brings together all the actors, implementers, interests, visions and ideas. On his final remarks Mr Saxer presented that how we expect our future to be is proportional to how we define our goals, and this is called paradigm discourse steering, which is actually not very actively seen happening here in India. It was estimated that active discourse for about next 40 years in India will make ground for effective policy making and successful paradigm shifts.

**Narendra Taneja** as a response to Marc's presentation mentioned that the political, economy and social challenges here in India are more unique than in Germany. As evidence, Mr Taneja mentioned that a majority of the Indian population in India that has no access to electricity or gas and to the 1.4 billion people below energy poverty line majority being in the Asiatic region. Explaining the context, M Taneja said that those who do not have access to basic consumable energy are not the part of the discourse yet. They cannot be explained the context of our paradigm or the benefits of green growth. Mr Tanjea pointing out his Party's Renewable energy agenda and ambitions assured their responsibility towards the climate debate to be held in Paris this December. The speaker seeing no substitution to oil or gas in coming 70-80 years maintained, that for paradigm shifts and successful policies towards green growth, India needs help from Germany, US and other nations that have been successfully tackling the energy and climate challenges and that his party's government is looking forward to it.

**Vinod Vyasalu** pointed out that the whole discourse is on energy supply and security but not how that energy is being used. Efficient and optimum use of available energy is also the important debate. Quoting Mr Taneja's statement for production of 175 thousand MW electricity from renewable energy, Mr Vyasalu said that if you supply more India's knowhow to consume more. Instead energy consumption should be tracked between different sectors. Mr Vyasulu also pointed out that there have not been any mentions about usability of spent fuel which is a waste product in nuclear plants, as a source of energy. The path to green growth involves ending the energy apartheid, decrease in per capita carbon footprint and finally to ensure implementation of policies by checking for faulty provisions in the policies itself.

**Ray Sudweeks** applauded the timely discussion and congratulated CUTS for recognising the need for same. Mr Sudweeks said that it is more crucial to act right now, paradigm shifts should happen right now, to reduce negative externalities, to strengthen goals on climate change, and strive for coalitions between nations now, because some years from now there would be no pathway back. Posing a solution to the problem of population indifferent to the present discourse, there is more transparent efforts and public awareness at more active level are the only way out. Mr Sudweeks concluded by mentioning the word 'crisis' in China and Korea is taken to have two interpretations firstly danger and secondly opportunity, therefore

the danger of not taking action now and inevitably suffering later has given us the opportunity to work together towards the goal of green growth and climate change.

**S P Gon Chaudhuri** taking cue from the title of the seminar itself said that aggressive politics and policy initiatives, India is for sure on the right path. Mr Chaudhuri pointed out that only problem is that targets have not been defined in India, the target sector, the target approx consumption to be met, how to go about the whole theme of green energy and renewable sources, and other things that set a right path. Stressing on achievable targets that should be set, there has to be a positive effect on implementing agencies. Mr Chaudhuri also questioned whether the future of Discoms is thought off before making political decisions, giving subsidies, shifting to solar, renewable sources, etc. The conventional source of energy should also be preserved as it has reach throughout the country which other sources have failed to do so. Solar energy is viable for all states and even distribution of the solar power initiatives. Energy security and climate change are national topics, so policies and initiatives aimed towards them should be made for a nation as whole, but with State specific solutions and inputs in the policy.

**Floor Discussion:** The floor discussion was mostly relating to tax rebates for energy conservation by major consumer sectors, optimum use of energy in agriculture sector, absence of interest in discourse about energy conservation in elite class, and practicality of implementing ideas of green growth enlightened the attendees. The session was informative and a successful discourse on the chosen paradigm. The session was concluded with relevant opinions and various challenges pointed, thereby deriving lessons from German policy to the Indian actualities and learning about the ideal targets, their path to achievability, understanding the need for a trajectory towards green growth and energy security goals for India. Thus, the session was aptly a high level discussion on the correct paradigm.