

# Green Growth and Energy Transformation

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## Discussion Points for the Roundtable on Saturday, 30<sup>th</sup> April 2016

### 1. Introduction

In India energy security concerns are closely linked with economic development. Therefore, India's march towards green growth has largely been defined by energy efficiency and renewable energy.

Presently, generation capacity of India stands at an estimated 281 GW of which 60 percent (170 GW) comes from coal based power plants while thermal power (coal, gas and diesel) together make up nearly 70% or 191 GW. Hydroelectric power too contributes to a significant percentage with a total installed capacity of 42 GW. The total installed capacity of grid interactive renewable energy is just 36 GW which consists of solar, wind, biomass and small hydro projects<sup>1</sup>.

Recurring shortage of coal in the past, volatile oil prices and global pressure to cut emissions further created the need to have a greater share of renewable energy in the overall energy mix. Accordingly, the government of India has set an ambitious target to build 100 GW of solar energy capacity by 2022 along with 60 GW of wind power. The Prime Minister also recently launched a global solar alliance of 120 –odd countries stating India's intention towards collaborative action and adopting cleaner development.

Many other steps have been taken by the central government such as increasing the coal cess to fund clean energy, subsidies and incentives for solar and wind projects, subsidies for rural electrification, setting up of Bureau of Energy Efficiency, launching of National Mission on Enhanced Energy Efficiency, introduction of market based mechanism of perform, achieve and trade (PAT) to ensure energy efficiency in large industries, market transformation for energy efficiency to accelerate use of energy efficient appliances, energy efficiency financing platform, development of fiscal instruments to promote energy efficiency and identification of 15 energy intensive industries which account for 25% of national GDP and 45% of commercial energy use in India<sup>2</sup>.

These steps indicate a simultaneous approach (energy efficiency & renewable energy) towards green growth in India and the ultimate objective of cleaner and efficient energy can be achieved with a combination of three crucial elements. Firstly, there has to be an appropriate demand. Second, there has to be proportionate supply and third, the institutions, agencies and bodies looking after generation, transmission and distribution must perform in coordination and efficiently.

Revelations such as those highlighted in a recent report by Bridge to India<sup>3</sup> indicate that India may only add 40-60 GW of solar capacity until 2022 as against the government target of 100 GW. This indicates that there is a need to reassess all three crucial elements needed for green growth.

Green growth strategies will also have an impact on employment generation as newer skills will be needed to manage new ways of production. Accordingly, it will also need to be assessed what kind of human capital would be needed to propel green growth. In a country like India which is currently struggling to skill close to half of its population, this question assumes enormous significance.

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<sup>1</sup> Renewable Energy – Future Growth by Tanmoy Adhikari, IL&FS, Panorama, Volume 1, Edition, January- March 2016

<sup>2</sup> [http://www.orfonline.org/wp-content/uploads/2015/12/Spotlight\\_SDGs-1.pdf](http://www.orfonline.org/wp-content/uploads/2015/12/Spotlight_SDGs-1.pdf)

<sup>3</sup> Bridge to India's Solar handbook 2016

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Amongst other actors, businesses and financial institutions too will have to set newer examples not just towards their social responsibility but also their economic and environmental responsibilities. This is also a significant aspect as Government of India and many state governments are working assiduously towards increasing the share of manufacturing in the Indian economy.

## **2. Green Growth and Energy Transformation in Rajasthan**

India is blessed with states like Rajasthan that receive plentiful sunshine with 300-330 clear sunny days comparable to deserts of California, Nevada, Colorado and Arizona. In addition it has vast stretches of waste and barren land which makes it as one of India's leading states in tapping wind energy for power generation. Besides, it also has viable quantity of mustard husk and Julie flora for generation of Biomass energy.

Keeping this and the preceding discussion in view, it becomes important to examine how four policy initiatives in Rajasthan have fared since they were launched. These would include state level polices on solar (2014), wind (2012) and biomass (2010) and Rajasthan Investment Promotion Scheme (2014-19). While the first three pertain to the supply side the fourth can be related to demand.

In addition, it will also be worthwhile to deliberate on what role the regulatory bodies and, generation, transmission and distribution companies can play in achieving the transformation to renewable energy and more efficient use of both conventional and non-conventional energy.

Given the above, the following points will be relevant for the discussion:

### **2.1 Is there a need to have state wise break up to meet the targets on Renewable Energy?**

- ✓ Should the target of 175 GW of Renewable Energy be staggered on the basis of states' potential and capacity? Is there a need to further break up targets within the state for better implementation, monitoring and evaluation?

### **2.2 Are other policies well aligned with the policies on Energy?**

- ✓ Of late Rajasthan Government has announced a plethora of polices for development of Rajasthan. Apart from those mentioned already, some of those would include new tourism policy, new MSME policy, new mineral policy, new land allotment policy, new agro – processing policy, new IT & ITEs policy, town ship policy and PPP in infrastructure, amongst others. Are these policies aligned with the policies and initiatives on Renewable Energy and Energy Efficiency?

### **2.3 Is there a case for Rajasthan to meet its potential on Renewable Energy?**

This point essentially pertains to demand and entails the following sub points:

- ✓ Is industrial demand picking up in Rajasthan?
- ✓ Are existing consumers willing to move towards using renewable energy and also adopt energy efficient measures?
- ✓ Is there a seamless mechanism for Rajasthan to trade energy with other states?

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- ✓ Renewable Purchase Obligation (RPO) was introduced to ensure a minimum renewable energy component in energy consumption? However, despite it being mandatory, Rajasthan has not yet complied with it fully. What does this indicate?
- ✓ How successful are the state level policies on renewable energy? This point assumes significance as most RE installations have been under the central scheme with power purchase guaranteed by NTPC, thus raising questions about inadequate demand at the state level?
- ✓ Is there a need to generate awareness amongst consumers to increase demand for renewable energy and energy efficiency?

## **2.4 Does regulator have a role in promoting Renewable Energy?**

- ✓ Is the regulator's role typically mired into complex legalities, procedures and rules? In such a scenario, how can regulator play a role towards promotion of renewable energy? Can the regulator take independent decisions?

## **2.5 Is there a need of stronger unions of project developers for renewables?**

- ✓ What influence do unions play in tariff decisions? Is there a need to create stronger unions for renewable energy players?

## **2.6 Is there an active coordination between state and central agencies on the common goal of Energy Efficiency?**

## **2.7 What is the extent of litigation related to energy matters which have bearing on promotion of renewable energy and energy efficiency? Is there a way to reduce the burden of litigation?**

## **2.8 Is there adequate public participation in decisions related to tariff and promotion of Renewable Energy and Energy Efficiency?**

## **2.9 What kind of monitoring and review mechanisms exist for the following? Is there a need to strengthen them?**

- ✓ To measure progress on MoUs between Rajasthan Government and private players on renewable energy
- ✓ To review performance of discoms?
- ✓ To report real time data on generation and scheduling?

## **2.10 What is an appropriate mix of large and small scale projects in renewable investments portfolio?**

## **2.11 What is the extent of ease of doing business to promote Renewable Energy projects in Rajasthan?**

This point essentially entails the following sub points:

- ✓ Ease of allotment of land

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- ✓ Ease of accessing finance? Is there is a need to revisit subsidy mechanisms for Renewable Energy projects? Should there be a direct capital subsidy or an interest subsidy on loans?
- ✓ Availability of adequate infrastructure (transmission, distribution, evacuation, power banking facility, energy storage)

### **2.12 Is there coordination between Rajasthan Skills Mission, Bureau of Investment Promotion and Energy Departments?**

### **3. Conclusion**

The discussion points mentioned above are not exhaustive yet they are important in order to ensure green growth and energy transformation. Some of these points or additional ones may represent cause and effect relationship. Therefore, there is a need to identify key issues which represent root problems and prioritise action on those key issues. Addressing those issues will have a positive effect on the entire ecosystem necessary to achieve the desired goal.