

ACCELERATING CLEAN ENERGY IN INDIA

10 AM – 4:30 PM; 26 March 2019,

Viceroyal Hall Hotel Claridges, New Delhi.

Context: India has set ambitious renewable energy targets, to be achieved in next few years. Despite progress towards some of these targets, significant barriers continue to hold back the pace of adoption of renewable energy; especially rooftop solar. In the meantime, much of India's electricity supply continues to come from fossil-fuelled, thermal power plants. While this supply remains important, many of these power plants are highly polluting, and consume large amounts of water for their cooling needs. Even while India transitions to a clean energy future, the air and water implications of the existing generation fleet needs to be urgently addressed, as it directly impacts human well-being.

Accelerating Clean Energy (ACE), WRI India's flagship event brings together energy sector experts, policymakers and practitioners to discuss these issues and solutions to address them.

The first edition of ACE was convened by WRI India in November 2017, in partnership with the World Institute of Sustainable Energy (WISE) and the Shakti Sustainable Energy Foundation. The event witnessed senior government representatives, clean energy experts, and the private sector leaders explore policy and business models for corporate India to procure renewable energy.

On 26 March 2019, WRI India is organizing the second edition of ACE to discuss:

1. **Market mechanisms to scale rooftop solar** among commercial and industrial (C&I) consumers, looking specifically at market-based options to address barriers faced by India's Small and Medium Enterprises (SMEs) and larger C&I consumers in scaling up on-site solar in India.
2. **Reducing the negative externalities of thermal power plants:** focusing on air pollution from, and water consumption by thermal power plants; and the efforts by the government of India in mitigating these externalities; as well as the readiness of the market to respond to these challenges.

Session Descriptions

Session 1 – On-site solar for C&I consumers – potential for market mechanisms

India has a rooftop solar target of 40 GW to be achieved by 2022. India uses Solar Renewable Purchase Obligations (RPOs) as a policy push strategy to achieve these targets. It also uses pull strategies in the form of net-metering policies in various states that enable procurement of excess rooftop solar power from C&I consumers by the electricity Distribution Companies (DISCOMs).

As per CEA¹ there were 43.8 million C&I consumers with a collective demand of 213 GW in India. If the distribution utilities of these consumers were to comply with their [7.25% solar RPO in 2019-20](#), the capacity required would be in the range of 15.4 GW. This translates into a seemingly small 0.35 kW/ consumer.

Considering the potential increase in baseline consumers from 2016, India's rooftop solar target should, theoretically, be achieved without much additional effort. However, the reality is that despite the drastic cost reductions and the policy push from government, the country's installed rooftop solar capacity [as of September 2018 was as low as 3.4 GW](#).

¹ All India Electricity Statistics - General Review 2017

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We estimate that the total number of C&I consumers above the 1 MW capacity in India stands at 1.8 million and an additional 42 million C&I consumers are MSMEs. Currently, the MSMEs' best option to access affordable renewable energy is on-site solar PV. However most of these MSMEs are not able to utilize their rooftop solar potential, due to lack of creditworthiness, or absence of legal ownership of the site premises. In addition, even larger companies face challenges in exploiting their full rooftop solar potential due to limitations imposed by the local utility.

Therefore, the panel will deliberate on the potential of market-based options to solve the barriers faced by SMEs, larger consumers and the utilities as well, and help in scaling up on-site solar in India.

Session 2 –How do we mitigate externalities and move to a cleaner power system?

In 2015, the Ministry of Environment Forests and Climate Change (MoEFCC), had proposed norms aimed at mitigating the release of air pollutants from fossil-fuel based thermal power plants, and mandating specific water consumption targets for all fossil-fuel based thermal power plants, which were initially supposed to be met by December 2017.

This deadline hasn't been met, and the MoEFCC has now committed to commence implementation of these norms from 2018, and to ensure completion by 2022.

The MoEFCC has also issued notifications for thermal power plants mandating health assessment of citizens and impact assessment on agriculture and large water bodies for obtaining environment clearances. As can be seen from the summary of developments in this crucial endeavour, although there is some progress, there is evidently a need for more to be done.

Further, although energy from renewable sources emerges as the natural alternative as a low-water-intensity mode of generating electricity, the water requirements for the operation and maintenance of solar PV panels remains an under-discussed and unregulated topic.

Hence, this session will discuss the mitigation methods for these externalities of power plants to understand implementation challenges and opportunities.

Who should attend:

- Companies who are looking to scale up their Renewable Energy (RE) procurement and RE developers—particularly rooftop solar
- Utilities, generators, government departments and regulators looking to (1) create enabling conditions for uptake of rooftop solar in their respective domains (2) reduce the externalities of the power sector in their respective domains
- Financial investors who are interested in (1) developing innovative financing products for RE uptake and (2) Understanding the risks associated with power plant externalities
- Researchers and community representatives who are associated with the energy sector