I-AEE
INDIAN ASSOCIATION FOR ENERGY ECONOMICS

# 1st Online Debate

# India's Energy Transition – Aspirations, Preparedness and Way Forward

**June 26,2021 10.30- 12.00 IST**

## Background

Assisted by increasing share of renewable energy (RE) in the electricity sector, and adoption of cleaner technology for thermal generation, India is on course to achieving the 33-35% reduction in emission intensity of GDP by 2030, a commitment it assented to under the Paris Agreement[2]. The national RE capacity target has also been ramped up from 175 GW of RE capacity by 2022 to 450 GW by 2030. Given the current RE capacity of 95 GW (24.82% of total capacity) and 46 GW of large hydro, there is much work to be done to reach the target. In the late October 2020, the Indian Prime Minister articulated 7 drivers of India's Energy Transformation, which apart from the above mentioned RE target, also emphasised mobility and digital innovation across all energy systems.

Increasing share of RE in the power system raises concerns for the system operator due to variability and uncertainty associated with RE generation, particularly that on account of wind and solar. Need for system resilience to such uncertainties and flexibility of the system constituents to address the same, remains one of the key aspects underlining greater integration of RE sources. Availability of transmission corridor to evacuate RE generated from grid-connected sources to load centres, and the readiness of the local distribution network to assimilate greater penetration of behind the meter RE generation, along with possibility of applying dynamic tariffs and P2P trading, are some of the key aspects that beg attention of the regulators, policymakers as well as the utilities. The top-down approach generally emphasises the importance of flexibility of the system constituents including storage, a bottom-up operational perspective that captures the role of networks in enabling this "flexibilization" remains elusive.

The role of electricity networks to deliver the energy transition cannot be overstated, especially in the context of the wide areas these networks cover, the growing trend towards urbanisation, 'electrifying' the rural energy demand and a rising per capita energy consumption, albeit from relatively lower level.

The number of studies, simulations and analyses that aims to address some of the concerns identified above, underpin policy decisions and investors' response. While such studies

primarily provide a top-down approach, the real operational challenges need localised efforts that addresses technological aspects while also nudging evolution of the governance structure in the sector.

India's energy transition forms the overarching backdrop as I-AEE's launches a series of dialogues to bring together noted industry leaders, regulatory and policy makers and academia drawing upon national as well as international expertise.

The upcoming discussion is focused around the lessons that could be learnt within Indian electricity networks about integrating RE resources. Insights from a simulation study carried out for the City of Los Angeles (The LA 100 Study) highlight the need for a granular approach to understand the emerging issues and, identify solutions that fit in that local context.

## Agenda

June 26, 2021 10.30 to 12.00 IST

| IST | Session | |
|---|---|---|
| **10:30 –10:40** | Welcome address<br>'Introducing the Indian Association of Energy Economics (I-AEE)' | Dr. Sushanta Chatterjee<br>President, I-AEE |
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| **10:40 –10:45** | Introduction to the session | Prof. Anoop Singh<br>Vice President, I-AEE |
| **10:45 – 11:30** | **Panel Discussion**<br>***Speakers:***<br>• Dr. Jaqueline Cochran, Director, Grid Planning and Analysis Center, NREL<br>• Mr. S. R. Narsimhan, Director, System Operations, POSOCO<br>• Dr. Praveer Sinha, CEO, Tata Power<br>• Asst.Prof. Himanshu Jain, Assistant Professor, IIT Roorkee | **Moderated by**<br><br>Dr.Pradyumna Bhagwat<br>I-AEE Board Member |
| **11:30 – 11.55** | Q&A with audience | |
| **11.55 – 12.00** | Closing remarks | Mr.S K Soonee<br>I-AEE Board Member |

Event registration link: **https://forms.office.com/r/cB5aaPVA13**

## About I-AEE

The Indian Association of Energy Economics (I-AEE) is a chapter of the International Association of Energy Economics (IAEE).

IAEE's mission is to enhance and disseminate knowledge that furthers understanding of energy economics and informs best policies and practices in the utilization of energy sources.

IAEE's objective is to provide for the mutual association of people interested in energy economics in order to create a forum for professional, multi-national, multi-disciplinary discussion and to provide a means of professional communication and constructive dialog.

I-AEE would follow suit and develop an independent forum bringing together Indian energy economics practitioners and academicians to discuss, develop and collaborate to further our collective knowledge in this domain.

# Indian Association of Energy Economics

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