



Thematic track on

“Electricity Transition in India – National as well as state level Interventions”

Date: February 10th, 2021

Time: 13:30 hrs. – 15:15 hrs. (IST)

India is among the countries which have most ambitious renewable energy targets in the world. India has already committed for 175GW of renewable energy (RE) capacity by 2022 and planning to attain the RE capacity to 450GW by 2030. Lower renewable tariffs, recent solar energy bid of Rs 2/kWh, have boosted the confidence of stakeholder in achieving these targets cost effectively. The introduction of variable renewables like wind and solar into the Indian power mix however creates new challenges of balancing these variable sources of supply in terms of short-term operations and longer-term system planning and investments. The growth of variable RE (solar and wind) and the increasing penetration of distribution-side energy resources such as solar PV, batteries, and electric vehicles, create an even more challenging context in which power system planning as well as operations must be conducted.

In recent times, many studies such as – (a) **“Optimal generation capacity mix for 2029-30”** by CEA, (b) ***Renewable Power Pathways: Modelling the Integration of Wind and Solar in India by 2030*** by TERI, (c) ***Greening the grid*** by NREL and POSOCO, etc., related to national level power system planning have been conducted in India depicting RE integration challenges and suggested policy measures for long as well as near term. The state level interventions are gathering attentions but mostly in states that are either RE rich state or promoting RE addition in their power procurement portfolio. Most of the aforementioned studies indicate importance of state level power procurement planning not only in terms of meeting demand in the long term but also in terms of required flexibility in system operation necessitated on account of large scale integration of variable renewable energy (VRE).

Power system planning requires various cost optimisation models, and the analytical data generated by them, to carry out both capacity and operation planning at the national and sub national level for short as well as long term. Existing methods used for RE integration planning at state level particularly require coordination between planning agencies and operational agencies, along with improved tools, advance algorithms, and support of data management.

To discuss key issues, challenges and way forward in above back drop, a thematic track is planned in the World Sustainability Development Summit (WSDS) 2021. A panel discussion with distinguished national and international experts will deliberate key interventions required to facilitate the transition. The overarching issues to be discussed in the panel discussion are –

- Challenges due to RE integration at national and state level
- Long term vision/strategy for power system
- Power procurement options and strategies
- Current power system planning models/practices and way forward.
- Policy support required in term of flexibility options