



WORLD SUSTAINABLE DEVELOPMENT SUMMIT 2022

**TOWARDS A RESILIENT PLANET:
ENSURING A SUSTAINABLE AND EQUITABLE FUTURE**

February 16-18, 2022



**Bloomberg
Philanthropies**

CIF CHILDREN'S
INVESTMENT FUND
FOUNDATION

“Fostering Energy Transitions in India”

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February 18, 2022 and 14.45 – 16.15 hours | Duration: 90 minutes

About the World Sustainable Development Summit (WSDS)

The **World Sustainable Development Summit (WSDS)** is the annual flagship Track II initiative of **The Energy and Resources Institute (TERI)**. Instituted in 2001, in 2021, the Summit series marked 20 years in its journey of making ‘sustainable development’ a globally shared goal. Over the past two decades, the Summit platform has pioneered conversations by bringing together governments, scholars, corporates, youth groups, thought leaders, and civil society representatives from across the world.

The present state of planetary health and humanitarian crises calls for revisiting the agenda around global action and equity. The 21st edition of the WSDS is being held under the umbrella theme of “**Towards a Resilient Planet: Ensuring a Sustainable and Equitable Future**” from **16th to 18th February 2022** in a virtual format.

Background note

“Fostering Energy Transitions in India”

India’s electricity sector is expected to grow and transform enormously over the next few decades, driven by the ambition for rapid economic growth through to mid-century, and a determined push to alleviate living standard via widespread electrification of the country. At the same time, long held views about the future of India’s energy system are being challenged by rapid reductions in the cost of variable renewable electricity (VRE) and a strong policy push towards greener & cleaner electricity sector and commitment to achieve net zero target by 2070. It is fair to say that as per Government’s vision, coal-fired electricity generation is no longer seen as India’s only pathway of delivering affordable electricity and domestic energy security.

The transition of the power sector will be of special importance as it is the largest contributor to the total CO₂ emissions in the country today, constituting approximately 50% per cent of the

country's fuel related emissions. While the per capita emissions in India are significantly lower than world's per capita emission, the sheer scale of total electricity required to meet the societal developmental needs and the impact of fuel choices on local and global pollution will have serious implications on long-term planning and in the optimal and efficient use of resources.

Increasing the percentage of renewable energy in the grid poses significant grid integration and infrastructure problems. It multiplies the difficulty of balancing supply and demand, necessitating the upgrading of grid infrastructure and operational flexibility. The additional costs of this transitions are quite important; their impact on consumer tariffs would be extremely important for a developing country like India, impacting customers' capacity and desire to pay for usage. The cost and reliability of power supply would be a major determinant of increased productive consumption, with downstream effects on industrial growth and incomes, because electricity prices make up a large portion of both enterprises' overall operating costs and are a limiting factor for retail consumption.

In this context, long-term view spanning decades into the future is necessary to develop and manage complex policy measures that ensure investment and operational decision-making which can lead to sustainable and cost-effective ways of energy supply and demand. To that end, long-term demand- supply modelling exercise is crucial in predicting the future energy utilization patterns and trends. It may contribute to strategy formulation and energy policy recommendations with respect to effective utilization of energy resources, improvements in energy efficiency and energy reliability, and emissions reductions

To discuss key issues, challenges and way forward in above back drop, a thematic track is planned in the World Sustainability Development Summit (WSDS) 2022. The key intent of this discussion forum is to facilitate a panel discussion with distinguished experts to facilitate this transition which could enrich our research and provide a larger perspective for further reflections. Basis this deliberation, brainstorming and consolidation of multiple views, TERI would create a thought note which could guide future policy, research and action on the ground.

Key questions

- (i) Who are the key stakeholders that can play an important role in making India's transition to net zero economy?
- (ii) What are the key challenges envisaged towards integrating renewable energy at national and state level?
- (iii) How can Indian utilities unlock the full benefit of distributed energy resources and energy storage systems for their operations?
- (iv) What are the measures to enhance/upgrade current power system planning models/practices to develop long term energy models of future?
- (v) How utilities in a federal governance structure can work together in developing strategies/policies that help in creating flexibility options in the power system?
- (vi) What are the next steps in introducing competition for ancillary services in India?