

KP @85 Festschrift Conference - Session 7

Date: 9th January, 2021 (Saturday) Time: 18:00 hrs - 20:20 hrs (IST)



Dr. Jyoti K Pa<u>rikh</u>

Executive Director, Integrated Research and Action for Development (IRADe)



Mr. Sushil Kumar Soonee

Advisor at Power System Operation Corporation Limited (POSOCO), India



Dr. Deb Chattopadhyay

Lead Power Systems Planning Group at the World Bank, Washington DC



Mr. V. K. Agrawal Technical Director, SARI-EI, Integrated Research and Action for Development (IRADe)



Dr. Priyantha Wijayatunga

Director (Energy Division), South Asia Regional Department, Asian Development Bank (ADB)



Dr. Kirit Parikh Chairman, Integrated Research and Action for Development (IRADe)



Mr. Pankaj Batra

Project Director, SARI-EI, Integrated Research and Action for Development (IRADe)



Mr. Vinay Saini

Area Convener, Integrated Research and Action for Development (IRADe)

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18:00 - 18:30 hrs	Presentation on "Assessing long term impacts of Solar, wind and storage technology cost decline on Indian Power System Choices "			<i>Mr. Vinay Saini,</i> Area Convener, Integrated Research and Action for Development (IRADe)		
18:30 - 19:00 hrs	Presentation on "Regional power trade: some results from world bank analysis"			Dr. Deb Chattopadhyay , Lead Power Systems Planning Group at the World Bank, Washington DC		
19:00 - 19:30 hrs	Presentation on "Role of Regional Institutional Mechanism towards enhancing Cross Border (CB) Electricity Trade in South Asia"			Mr. V. K. Agrawal , Technical Director, SARI-EI, Integrated Research and Action for Development (IRADe)		
19:30 – 20:15 hrs	Panel Discussion on "Challenges and barriers to cross border trade in South Asia"					
Session C	hair • D	Dr. Deb Chattopadhyay, Lead Power Systems Planning Group at the World Bank, Washington DC				

	•	Dr. Priyantha Wijayatunga, Director (Energy Division), South Asia Regional Department, Asian					
	Development Bank (ADB)						
Disquesents	•	• Mr. Sushil Kumar Soonee, Advisor at Power System Operation Corporation Limited (POSOCO), India					
Discussants	•	• Mr. Pankaj Batra, Project Director, SARI-EI, Integrated Research and Action for Development (IRADe)					
	•	Dr. Kirit Parikh, Chairman, Integrated Research and Action for Development (IRADe)					
	•	Dr. Jyoti K Parikh, Executive Director, Integrated Research and Action for Development (IRADe)					

0:15 – 20:20 hrs Closing Address & Vote of Thanks	• Dr. Jyoti K Parikh , Executive Director, Integrated Research and Action for Development (IRADe)
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Abstracts

Presentation 1 - " Assessing long term impacts of Solar, wind and storage technology cost decline on Indian Power System Choices "

Presenter – Mr. Vinay Saini, Area Convener, Integrated Research and Action for Development (IRADe)

Past studies have shown that India's increasing integration of renewable creates the market for cross border trade through enhancing the exploitation of south Asia's hydroelectric potential. However, declining costs of renewables reduces the cost of integrating renewables into the Indian grid. This has the potential to increase renewable integration into the Indian grid and further enhance hydro absorption from the south Asian market. To capture the impacts of declining solar, wind and storage technologies (REN) costs on Indian power systems, an electricity model is developed that will comprise of reference energy systems focusing on electricity capacity addition in India using the bottoms up technology-based model generator. The electricity model will help us predict power generation mix, capacity mix, penetration of Renewable up to 2045 under the different cost decline scenarios for RE. In addition, it will also provide insights into the emission reduction and investment requirement for the Indian power system for a selected scenario.

Presentation 2 - "Regional power trade: some results from world bank analysis"

Presenter – Dr. Deb Chattopadhyay, Lead Power Systems Planning Group at the World Bank, Washington DC

Regional power trade can deliver significant benefits from system cost and emissions reduction to increased access to electricity and climate resilience. There are significant barriers too that include a lack of political will, energy (in)security, incomplete understanding of benefits and a genuine uncertainty surrounding them, practical difficulty in realizing some of it e.g., reserve sharing, and a risk of cascaded outages that may lead to one system bringing down others with it. An informed dialogue backed up by robust analysis is critically important to establish the benefits and develop concrete actions that go beyond simply building the infrastructure.

The World Bank has undertaken a significant number of studies over three decades and financed a significant number of crossborder interconnection projects – most notably in Africa. A summary of benefits from seven regional analyses show significant benefits in the order of several billion dollars per year for each of these power pools. However, the reality is that these pools have not developed to anywhere near their potential with low level of liquidity even in cases where the physical infrastructure has been built to a reasonable extent. The softer aspects around planning, investment coordination and market-based trading can play a major role in increasing liquidity. An illustrative analysis built around the Upper Arun hydro project in Nepal shows that some exposure to market-based trading can be a useful aid to the project and to the interconnected system in terms of lifting liquidity in the market, supporting solar and wind development.

Presentation 3 - "Role of Regional Institutional Mechanism towards enhancing Cross Border (CB) Electricity Trade in South Asia"

Presenter – Mr. V. K. Agrawal, Technical Director, SARI-EI, Integrated Research and Action for Development (IRADe)

At present, the cross-border interconnections in South Asia are planned bilaterally, and these are being managed by interactions at the bilateral level. However, when trilateral/multilateral agreements and trade transactions come into existence, and the region moves towards a market form of CBET, the coordination between more than two countries may be more challenging. This calls for the creation of a regional institutional mechanism for transmission system planning and operation at the multilateral level. It is felt that a mechanism in the area of transmission planning, system management and market operation could play a useful role in facilitating and enhancing Cross Border Electricity Trade in South Asia. Internationally also we observe that a regional robust institution has played a strong role in integrated planning and advancement of cross border electricity trade, for example, ENTSOe in Europe, SAPP in Southern Africa, ASEAN Power Grid Coordination Committee (APGCC) in ASEAN region, to name a few. To start with the role of the proposed regional institutions, it is not envisaged as an overarching controlling body, but as a facilitating institution, which provides support to the rest of the regional stakeholders, with the ultimate objective of promoting cross border electricity trade in South Asia.

While many models exist towards such regional mechanism, taking into consideration the SA context, it is being envisaged that to start with these institutions would be more of a supporting, facilitating, and advisory body, and can be established as an association, on loosely formed framework. However, once they get some momentum and more acceptance for their roles and responsibilities, based on the mutual consultations and decisions, these can be converted to the institutions on more formal lines to a legally incorporated body.

In order to move further, the consultations and discussions can be carried out with the leading policy members of the BBIN and other willing countries and based on consultation and feedback from the stakeholders these institutions can ultimately be formed.