

# Sustainable Development of Power Sector and Enhancement of Electricity Trade in the South Asian Region

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*Policy, Regulatory Issues/Challenges and the way forward*

## **Background**

The South Asian region collectively accounts for over one-fifth of the world's population, and is one of the fastest growing in the world. The power sectors of the nations in South Asian region are at different stages of evolution in Policy, Regulatory frameworks. On cross border trade front, at present, limited bilateral Cross-Border Electricity Trade (CBET) is underway between Bangladesh-India, Bhutan-India, and Nepal-India, There are various factors that can have influence on CBET including development of infrastructure with respect to interconnection and complementary regulatory, policy, pricing, and market mechanisms. The discussion in different sessions focussed on these aspects related to CBET in South Asian Region

## **Inaugural Session**

The inaugural session of the conference was commenced in the presence of various dignitaries. A brief of the discussion by the panellists of the inaugural session is as follows

### **Dr. Jyoti Parekh, Executive Director, IRADe**

The welcome address was delivered by Dr. Jyoti Parekh. The potential of the South Asian region considering the power generation has been emphasized. The role of power trade in the South Asian region in transforming the economy and having social impact has also been put forward.

### **Mr. Mark Newton, Director (Acting), USAID**

Mr. Mark Newton highlighted that the growth that the South Asian region has shown over the last decade and the concentration of high proportion of the world population in the region has been quite significant factor in the growth of demand of power in the region. Currently the per capital energy requirement in the South Asian region is lower than the global average and is set to increase.

Considering the above scenario the importance of CBET and the investment in power sector has been highlighted. Mr Newton also discussed the key achievements in CBET in the region over the last few years and the key initiatives that have been taken. In the concluding remarks Mr. Newton highlighted that the conference will be a step ahead in the right direction towards CBET in South Asian region.

**Mr. Samdrup Thinley, Chairperson, SAFIR & CEO, Bhutan Electricity Authority (BEA)**

Mr. Thinley addressed the gathering focusing on the willingness of the South Asian countries to come forward and strengthen the relations in terms of CBET. He focussed on the unique challenges each of the country is facing that require certain provisions in the regulatory framework of the country. However these differences, due to the uniqueness of the position of the countries, should not be considered as hindrance rather the key parameters need to be focussed that can enhance CBET. He emphasized on the role the independent regulator will play in terms of predictability and credibility in the long run may be created. This will be important from the point of view of reducing risk perceptions with respect to regulations.

Moving forward from the bilateral trade that has taken place, the South Asian countries need to move forward in terms of the technical parameters.

**Mr. Pradeep Kumar Pujari, Secretary (Power)**

Mr. Pujari stressed on the role of the regulatory framework for the coordinated effort for the CBET in the region. He discussed the three elements from the SAARC Framework for Energy Cooperation signed in 2015 i.e. enable CBET on voluntary basis, enable buying and selling entities to engage in CBET and transmission constituents to plan development of transmission network. The conference will enable a step forward in this direction. The various scenarios related to CBET such as that related to power trade through exchanges has been highlighted and gradual development in this direction is important.

**Mr. Gireesh B Pradhan, Chairman CERC**

The role of infrastructure development has been highlighted to sustain the economic growth that has been shown by the region. The complementary nature of the energy resources in the region has been the biggest strength of the South Asian region and the optimal utilisation will bear fruitful results for the economic development. On the other side the increase in demand

of power shows the growth potential and the role of sharing of energy resources. The role of regulator, considering the electricity as commodity, is quite important and has been the reason for the growth of bilateral trade of India with several neighbouring countries. SAFIR, which has been actively bringing in the regulators from the region on one platform, will be crucial and substantial in this context.

**Ms. Shubha Sarma, Secretary (CERC)**

Ms Shubha Sarma delivered the vote of thanks for all the delegates, panellists and the esteemed guests of the conference.

**Session 1: Country Presentation / Remarks by Panellists on “Policy and Regulatory Framework and Enhancement of Electricity Trading in South Asia”**

In this session the panel discussion focussed on the role of coordinated regulatory and policy frameworks among the South Asian countries in sustainable development of regional energy resources and enhancement of Cross-Border Electricity Trade. The discussion was oriented towards key policy and regulations governing power sector in South Asian countries, key policy/regulatory issues and challenges being faced and the roadmap that may be followed for the development of coordinated policy and regulatory framework. The session was chaired by Mr. Ajay Shankar, Ex. Secretary, GOI. A brief of the discussion by the panellists is as follows:

**SARI/EI/IRADe- Mr. V.K. Kharbanda, Project Director**

The theme presentation on Regional Regulatory Guidelines highlighting the growth potential of CBET in South Asian Region was presented.

**Bhutan- Mr. Karma P Dorji, Chief Engineer, DHPS, Ministry of Economic Affairs**

The presentation highlighted the potential for hydro power generation in Bhutan and thus emphasized on the importance of CBET with respect to Bhutan. The importance of CBET is in common benefits and enhanced grid security. Further the key provisions and issues, particularly policy issues, were discussed. The key provisions included the regulatory framework related to power trading, open access, transmission planning, regional energy trade and dispute resolution. On the other hand the issues that can have an impact on CBET, as mentioned in the presentation are unpredictability in the market, DSM intricacies and

increasing importance of ancillary power markets. Lastly recent initiatives that have been taken, with respect to the power market in Bhutan, were also discussed.

**India- Mr. S.K. Chatterjee, Jt. Chief (RA) Central Electricity Regulatory Commission (CERC)**

The presentation focussed on development of CBET in South Asia by understanding the regulatory interventions, growth and the challenges in the Indian power markets. It has been observed that the Indian power market has grown significantly over the last decade owing to the opening of the market for generation and formidable growth in the transmission network. It has been highlighted further potential in the market is being harnessed by evolving on the competition in retail supply. The key challenges for the power markets include high distribution losses, cross subsidy and security concerns. The key aspects that have been highlighted for sustainable development include tariff rationalization & energy access, role & focus on renewable energy and market design. Lastly recent initiatives in CBET with Nepal, Bhutan and Bangladesh were highlighted.

**Sri Lanka- Mr. Damitha Kumarasinghe, Director General, Public Utilities Commission**

The presentation focussed on highlighting keys issues related to CBET that need to be addressed by the regulatory framework in Sri Lanka and the opportunities that can be explored. This has been coupled with the potential of CBET in Sri Lanka wherein the importance of connectivity with Indian transmission system has been mentioned. The opportunities created by such connectivity which is already planned include attractive prices in Indian power exchanges, harnessing potential of renewable energy in Sri Lanka. On the other hand there are certain challenges like no open access is there in Sri Lanka, single buyer (CEB) and change in law in relation to Least Cost Long Term Generation Expansion Plan.

**Nepal- Mr. Sher Singh Bhat, Deputy Managing Director, Nepal Electricity Authority**

The presentation provided brief overview of the regulatory framework in Nepal. Further gaps that have been identified in the development of power trade were highlighted. These include working on the planning and development of transmission system, developing power markets by removing bottlenecks such as distribution monopoly, long gestation period for development of hydropower and unreliable renewable potential in the country. It has been mentioned that CBET will enable removing such bottlenecks in the development of power market. Lastly roadmap for policy and regulatory coordination was provided such as

ministerial level monitoring and development of common guidelines. The initiatives that are being taken have also been discussed.

The closing remarks were given by Mr. A.S. Bakshi, Member, CERC highlighting the enormous potential that is there in South Asian region as emphasized in the country presentations. He also opines that it is the opportune time for taking step forward to encourage power trading in South Asian region.

## **Session 2: International Experiences in Power Market Development and Cross Border Electricity Trade: Lesson Learned from Emerging and Developed Markets**

The speakers in this session presented the overview of the Power Market Development in other region of the world both from the Emerging and Developed Markets. They key lessons learnt from this session included the Process of Evolution of competitive domestic and regional power markets and Regional Energy Cooperation, Organizational, governance and institutional arrangements for development power markets, Challenges and Learning from the operational aspects of power trading for development competitive regional power market and Techniques practiced for cross border with respect to transmission allocation, market operations and management, power trading strategies, pricing mechanisms and congestion management. The session was chaired by Mr. Rakesh Nath, Ex-Member, APTEL. A brief of the discussion by the panellists is as follows:

### **Dr. Priyantha Wijayatunga, Principal Energy Specialist, Asia Development Bank, Manila**

The key features of Great Mekong Sub-Region including energy potential, historical background, strategic framework, connectivity and power trade have been discussed. Based on these aspects the lessons learnt and challenges have been highlighted. The challenges that have been witnessed are maintaining balance between domestic demand versus export, managing gaps among the power systems and regulatory regimes and managing the social and environmental impacts of hydropower development. Based on these challenges certain steps have been taken which has influenced the growth of CBET in GMS. These include strong political support, cooperation at technical level and private participation. It has been mentioned that the markets move from Bilateral cross-border to Grid-to-grid power trading to

multiple seller–buyer model. The Great Mekong Sub-Region is moving from first to second stage i.e from Bilateral cross-border to Grid-to-grid power trading.

**Dr. Frank A Felder, Director, Center for Energy, Economic & Environmental Policy, Edward J. Bloustein School of Planning and Public Policy, USA.**

The presentation highlights importance and role of political support, evolution of market support, role of regulatory institutions and complications in the electricity market have been discussed based on the market experience of PJM energy market. It has been emphasized that the political and public support is necessary in transition period to remove or manage ambiguities and achieving economic efficiency. It has been mentioned that the electricity markets evolve over a period of time which is linked to achieving economies of scale, reliability and economic value for consumers. The role of regulatory institutions includes independence of regulator, system operator and addressing of stakeholder issues through stakeholder forums. IT platforms are the drivers of the development of electricity markets which should be the major concern of regulatory institutions.

**Mr. S.K. Soonee, Chief Executive Officer, POSOCO**

The Indian experience with respect to the development of power market in the country is discussed. Based on this discussion the key success factors for the development of electricity markets have been highlighted which includes Streamlined Scheduling and Settlement Mechanism, Transparent and Non-discriminatory Implementation and Compliance Monitoring and Regulatory Oversight apart from other factors. A step further, key aspect with respect to the operations of the cross border trade has been highlighted. The key areas in this aspect are system security, recovery procedures, transfer capability assessment, congestion management and formation of coordination groups

**Eng. Musara BETA SAPP Chief Market Analyst**

The presentation provided an insight on the experiences on the regional power market and development in South African Power Pool (SAPP) comprising of 12 countries. The objectives with which the SAPP was developed included CBET, regional cooperation and attract investment. The generation mix, transmission connectivity and the balance provided to the power pool as a result of the excess generation in one region and deficit in other. The key aspects related to transmission pricing have also been discussed.

The closing remarks were given by Dr. Jyoti Parikh, Executive Director, IRADe. The value addition and widening of perspective for power trading in the South Asian region based on the development of understanding on challenges, learning and operational aspects from the existing cross border trading in different regions of the world.

### **Session 3: Panel Discussion: Way Forward for Sustainable Development of Power Sector and Enhancement of Electricity Trade in the South Asian Region**

The conference concluded with remarks from the panellists. The panellists included Mr. Samdrup Thinley, Chairperson, SAFIR & CEO, Bhutan Electricity Authority (BEA), Mr. Ajay Shankar Ex Secretary, Government of India, Mr. A R Khan, Chairman, Bangladesh Electricity Regulatory Commission and Mr. Saliya Mathew, Chairperson, Public Utilities Commission of Sri Lanka. The session was chaired by Dr. Kirit Parekh, Chairman IRADe

The key aspect from the viewpoint of all the panellists focussed on three aspects. These include

1. Need of collaborative efforts for promoting the CBET. The sessions by various experts cited the different aspects which need to be enhanced in order to ensure sustainable growth in the CBET.
2. The impetus provided by the recent bilateral transactions which is the encouraging situation for further growth in CBET.
3. The roadmap that may be followed in order to ensure growth in the CBET in the South Asian Region

The closing remarks were provided by the session chair Dr. Kirit Parikh, Chairman, IRADe, India. The views of the delegates from the member south Asian countries, including India, were highly appreciated. He emphasized on the way forward on positive and collaborative outlook for the trading of power in the South Asian region. The session concluded with the Thanking note by Mr. V K Kharbanda.