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SARI/EI



South Asia Regional Initiative for Energy Integration

Regulatory Issues and Challenges in Cross Border Electricity Trade—Role of Regional Regulatory Guidelines & Way Forward

Third Meeting of the SAARC Energy Regulators

21st -22nd September, 2016

Islamabad, Pakistan



SARI/EI : A Bottom Up Approach Framework

SARI/EI/IRADe (Secretariat)



Highly Consultative & Participatory Approach

TASK FORCE - 1
Coordination of Policy, Legal and Regulatory Framework

TASK FORCE- 2
Advancement of Transmission Systems Interconnection

TASK FORCE-3
South Asia Regional Electricity Markets

Project Steering Committee

- ❑ Apex body, provides strategic direction for SARI/EI program
- ❑ PSC member includes:
 - Govt. Nominated –Secy./JS./Director/Chairman Level officials
 - Director Level Representatives of regional institutions such as SAARC, Representatives of multilateral donors (e.g. ADB & WB)
 - Independent Energy Experts/Diplomats



Intergovernmental Technical Task Forces: Heart of the Program

- ❑ Government Nominated Members (national governments, electricity utilities, regulatory commissions, power market institutions, etc)
- ❑ Task force meetings: Follows Highly structured, consultative, participative approach
 - Demand-driven approach
 - Identifying needs for technical analysis, studies



Continuous Engagement
15 no. of TF meetings

3rd PSC and 4th TF-1 Meeting



2nd PSC Meeting



Regulators Workshop in Kathmandu



1st TF-1 Meeting



1st TF-2 Meeting



SARI/EI Framework for advancing CBET in South Asia

SAARC Framework Agreement on Energy (Electricity) Cooperation

CBET facilitation through

Institutional Mechanism

Regional
Regulatory
Framework

Regional
Investment
Framework
and
Investment
Policy
Guidelines

Harmoni
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Grid
Codes

Assess
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Trading
Potentia
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Model
framework
for Open
Access &
Trading
License
Regime

Transmis
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Pricing
Rules &
Methodol
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Model
Regulation
for Power
Market
Developm
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Standar
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SAs)

Mock
Exerci
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SARP
EX

**Undertaken as
part of the TF-1
and has been
Published**

**Suggested Changes/Amendments in Electricity
Laws, Regulations and Policies (L&R&P) of South
Asian Countries.**

**Analytical
studies-Macro-
Economic
Benefits of
CBET**



Major Publications



Cross-Border Electricity Trade in South Asia: Challenges and Investment Opportunities

South Asia Investor's Workshop on 'Cross-Border Electricity Trade'
24th-25th SEPTEMBER 2014, NEW DELHI, INDIA



Cross-Border Electricity Trade in South Asia: Key Policy, Regulatory Issues/Challenges and the Way Forward
Background Paper

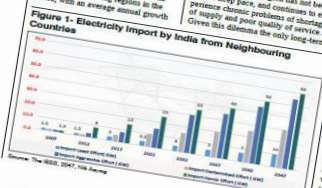
Workshop on the Sustainable Development of Power Sector and in the South Asian Region
January 15-16, 2014



ExpertSpeak
Need to institutionalize cross border electricity trade in South Asia

Visay Kumar Kharbanda, Project Director and Rajiv Puri, Head Technical, SARI/EI/IRADe, feel that the only long-term solution for balanced growth of energy sector in South Asia is the sustained increase in regional energy cooperation among these nations.

All the South Asian countries are currently facing power and energy shortages which are negatively impacting the economy. Adequate supply of energy is pre-requisite for all the development projects in South Asia ranging from research, education, healthcare, quality of life, and prosperity in the region. In recent past, South Asia has been one of the fastest growing regions in the world, with an average annual growth rate of 6% as measured by GDP per capita. Yet despite this impressive economic growth, the energy sector is unable to keep pace, and continues to experience chronic problems of shortage of supply and poor quality of service. Given this dilemma the only long-term solution is the sustained increase in regional energy cooperation among South Asian nations.



Present status
Cross Border Electricity Trade (CBET) in South Asia is currently being undertaken in the form of bilateral trade and MVV agreements: India-Nepal (250 MW), and India-Bhutan (1400 MW approx). The CBET historically has been on case to case negotiations, through bilateral agreements, through bilateral trade and MVV agreements. It is expected that going forward the CBET in South Asia will be more of market oriented. Region is rich in hydropower potential of 350 GW (of which only 14% has been developed) through CBET. CBET has the potential to improve energy security of the



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Challenges in Cross Border Electricity Trade

International Review : Key Challenges and risk for CBET

Key Challenges

1. Political Conesus : Regional Cooperation and Recognition of CBET/Trade in the National Policy, Law

2. Government Commitment & Policy Coordination

3. Financial Challenges, Investment , Financial Viability

4. Mechanism of Inter-connection

5. Market form of Trade

6. Regional Cooperation on Regulatory and Contractual Aspects

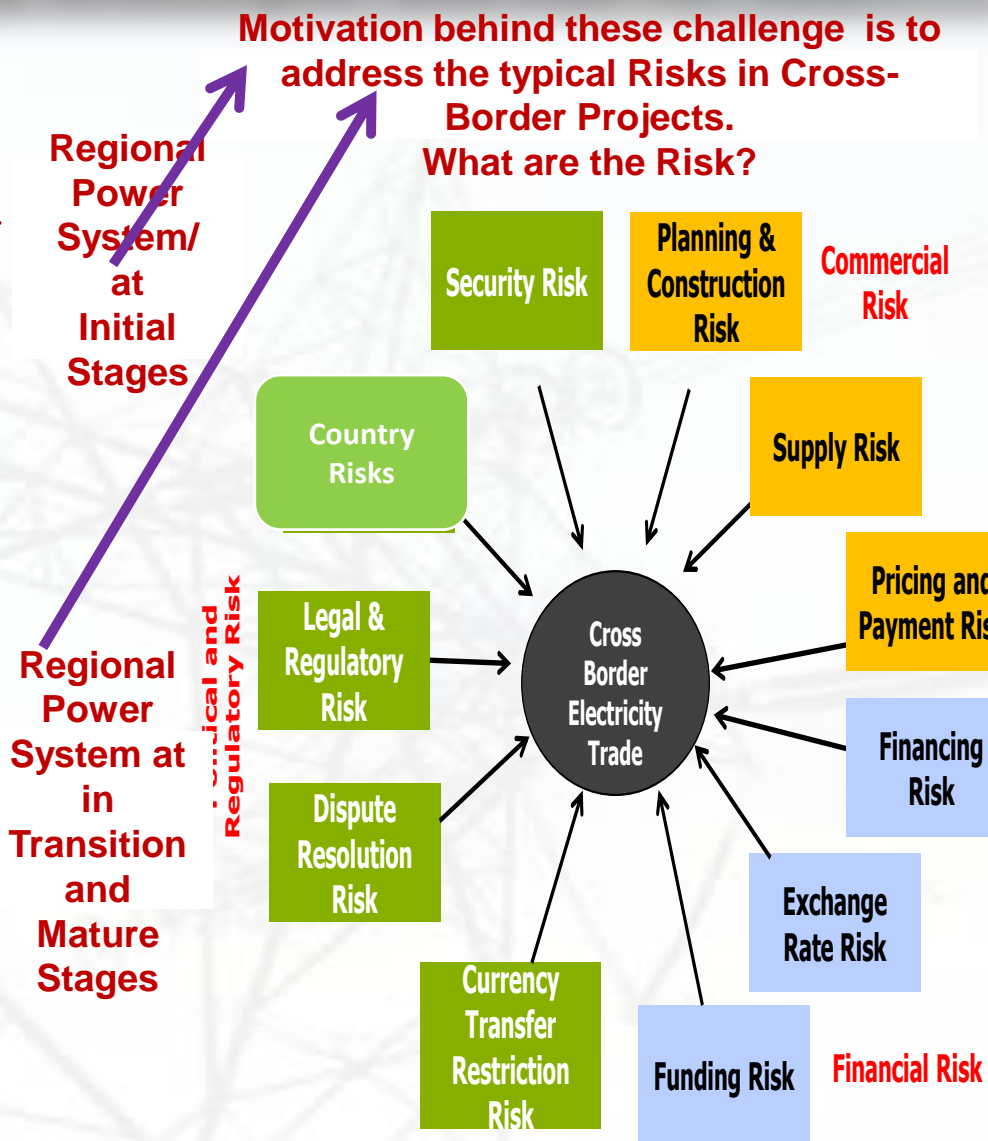
7. Open Access in Transmission

8. Transmission Charges/Pricing

9. Transmission Plan

10. Commercial Mechanisms to Settle Imbalances

11. Dispute Resolution



Regulatory Aspects in Cross Border Electricity Trade

Specific Regulatory Aspects Requiring Harmonization and Coordination for Facilitating CBET

- 1. Licensing for cross border trading***
- 2. Open access to Tx network***
- 3. Transmission pricing regime***
- 4. Transmission planning***
- 5. Imbalance settlement mechanism***
- 6. Harmonization of Codes***
- 7. Dispute Resolution***
- 8. Duties and tax regimes***

Regional Regulatory Framework for CBET

1

Licensing for CBET: (*Important Regulatory Tool for Trading*)

- Recognition of Trading as a **separate licensed business activity**
- Grant of license for CBET **through a well defined process**
- **License requirements** and the underlying rules/limitations

2

Open access to transmission system: (*Competitive Market*)

- **Setting of fair rules and procedures** for non-discriminatory open access
- **Modification/amendment of applicable regulations and gradually legally binding provisions**
- Defining **application process, eligibility criteria, priority order** and nodal agency for OA

3

Transmission Pricing: (*cost reflective & efficient*)

- Transmission pricing mechanism based on a **country's requirement and acceptability**
- Setting up **principles and mechanism for determination of economically efficient transmission pricing regime** and gradually adopting methods based on the concept of location specific pricing
- Adoption of **tariff framework in respective country power system through enabling regulations**

4

Imbalance Settlement: (*transparent common procedure*)

- Member Countries to **develop a common set of procedures for Imbalance Settlement for CBET transactions**
- This will include **preparation of scheduling, dispatch, energy accounting and settlement procedures** for both AC-AC & AC-DC interconnections in the region

Regional Regulatory Framework for CBET

Regional Regulatory Framework for CBET

Regional Regulatory Framework for CBET

5

Transmission Planning: (coordinated Regional Planning)

- **Development of a regional coordination forum of National Transmission Utilities** to coordinate between Member Countries on transmission planning aspects
- **Development of a database of information that enables coordination** and cooperation towards transmission planning
- **National Transmission Plans** to also **include details of cross border transmission lines** (specifically for CBET) & associated infrastructure
- **Sharing of the national transmission plan** at the regional level and progress towards **developing a regional level master plan**

6

Harmonization of codes: (safe and reliable regional integrated system operation)

- **Harmonization through formulation of guidelines on technical standards for interconnection of power systems** on aspects related to voltage standards, frequency tolerance, thermal limits etc.
- **Sharing of technical characteristics and system specific data** among the member countries
- **Rules on metering standards, communication technologies, Protection Schemes** etc.

7

Taxes & Duties: (for fostering investment and removing trade barriers)

- Countries to **gradually move towards a zero tax regime**

8

Dispute Resolution: (transparent and fair legal framework)

- **Dispute Resolution process** should primarily be in accordance with the **agreements or through amicable settlement**
- **Referring the disputes to the SAARC Arbitration Council** in case the member countries are unable to resolve disputes through amicable settlement

Way forward -Regional Regulatory Guidelines

***SARI/EI** Task Force-1 has Recommended and developed Regional Regulatory Guidelines which is one of the outcome of the TF-1 study on Review of Electricity Laws, Policies and Regulatory framework of SAC to identify critical requirements of CBET and recommend changes/amendments therein for consideration of the SA countries.*

- ❖ *These regulatory guidelines **apply to CBET among the South Asian countries.***
- ❖ *These guidelines are **non-binding in nature and are aimed to provide national regulators of SAC with a consistent set of guidelines** applicable to CBET*
- ❖ *The **guidelines deal only with limited areas where need for such common guidelines has been felt** by the SAC and are not meant to be comprehensively dealing with all matters related to CBET. **For all other purpose, respective national regulations, rules and guidelines shall apply.***

Way forward -Regional Regulatory Guidelines in line with Inter-Governmental Framework Agreement (IGFA)

The **SAARC Inter-Governmental Framework Agreement (IGFA) for Energy Cooperation**, signed by Foreign Ministers of the eight member states provides a strong basis for ensuring consistency in certain identified areas of trade as follows

- *Article 4 (Duties & Taxes)*
- *Article 11 (System Operation and Settlement Mechanism)*
- *Article 12 (Transmission Access)*
- *Article 15 (Regulatory Mechanisms)*

It is important to provide actionability to the Articles by **defining them into operating rules and common guidelines w.r.t CBET transactions** and Regional Regulatory Guidelines provide actionability to **SAARC Inter-Governmental Framework Agreement (IGFA) for Energy Cooperation** .

Way forward : Regional Regulatory Guidelines

- ❖ ***Appropriate Institutional Mechanism is required for facilitating and working towards enabling the guidelines and facilitating the required changes to be made in the national regulatory framework. Such entity shall work in close coordination with the National Energy/Electricity Regulators and SAARC for the same. Study has proposed a Forum i.e South Asia Forum of Electricity SAFER for the Coordination, and facilitate the implementation of the RRGs.***
- ❖ ***Now since SAARC Council of Experts of Energy Regulators-Electricity (CEERE) is proposed to be formed - CEERE may adopt and take Regional Regulatory Guidelines a base for further harmonization/coordination.***



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Thank You