

South Asia Regional Initiative for Energy Integration (SARI/EI)

**Need of a Regional Regulatory Institution &
Review of work done earlier:
Key findings of SARI/EI work on South Asia Forum of
Electricity/Energy Regulators (SAFER)**



**South Asian Energy Regulators Exchange: Towards institutionalizing a regional
energy regulators forum**

16th and 17th Dec 2019, New Delhi, India



Outline

- ❑ **Necessity towards Regional Regulatory Institution**
- ❑ **SARI/EI Work on developing Regional Regulatory Institutional Mechanism**
 - ❑ **Regional Regulatory Guideline**
 - ❑ **Roundtable on "South Asia Forum of Electricity Regulators (SAFER)", held on 06th August 2015**
 - ❑ **White Paper and Report on "South Asia Forum of Electricity/Energy Regulators (SAFER)"**
 - **Key Findings:-**
 - **International experiences on electricity regulatory agencies/associations/forums**
 - **Existing forums in South Asia Region (SAR)**
 - **Proposed Regulatory Institutional Mechanism**



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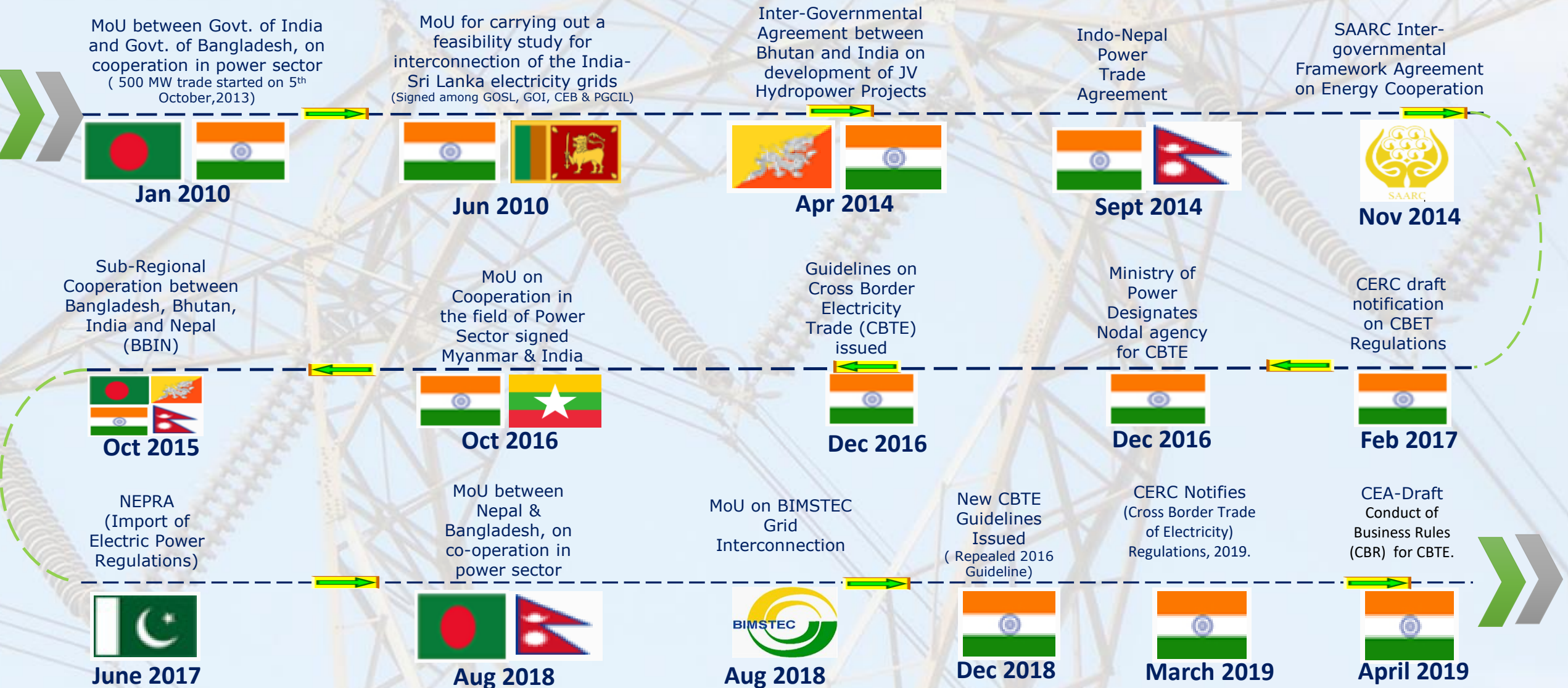
SARI/EI

 **IRADE** Integrated Research and
Action for Development

Necessity towards Regional Regulatory Institution



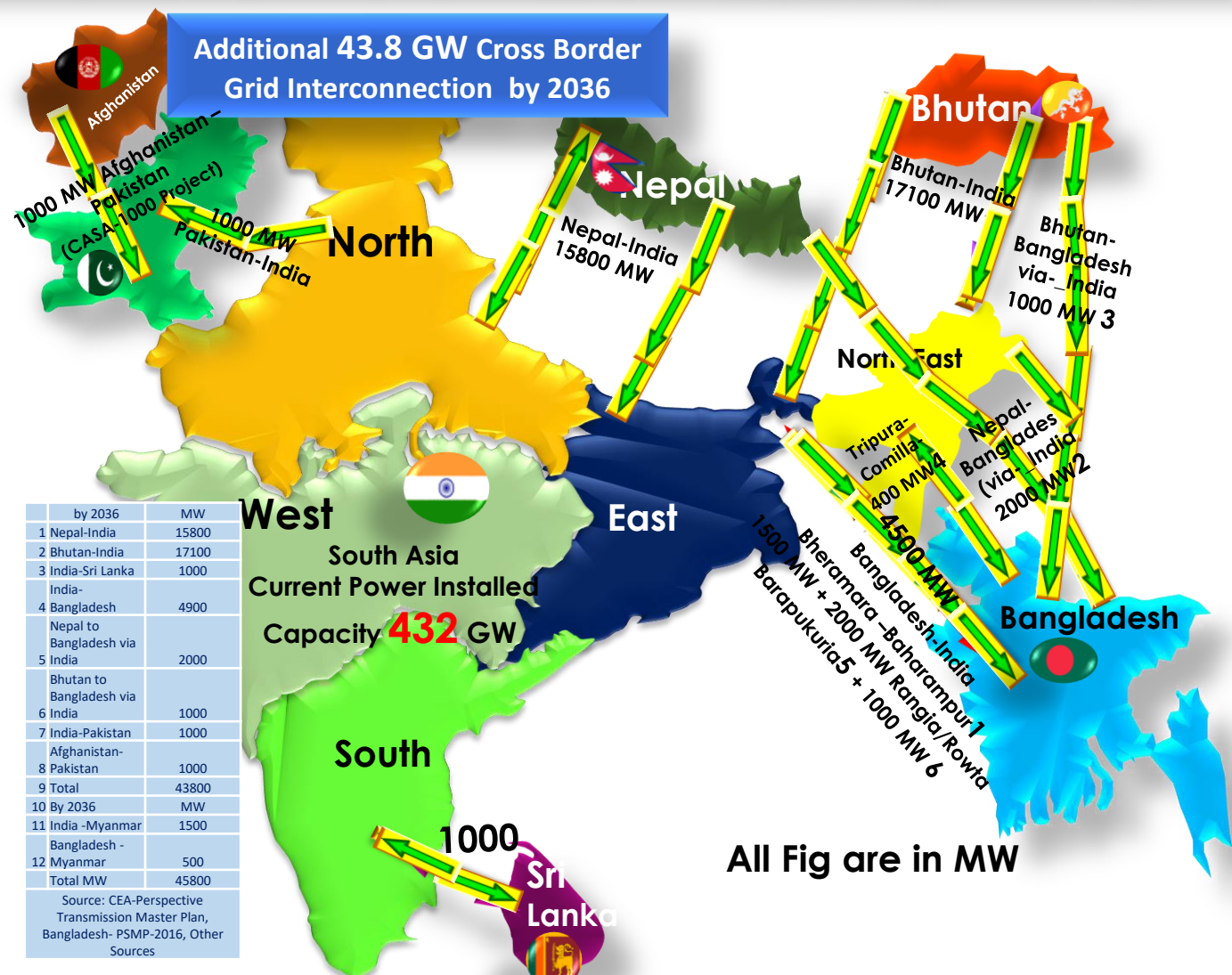
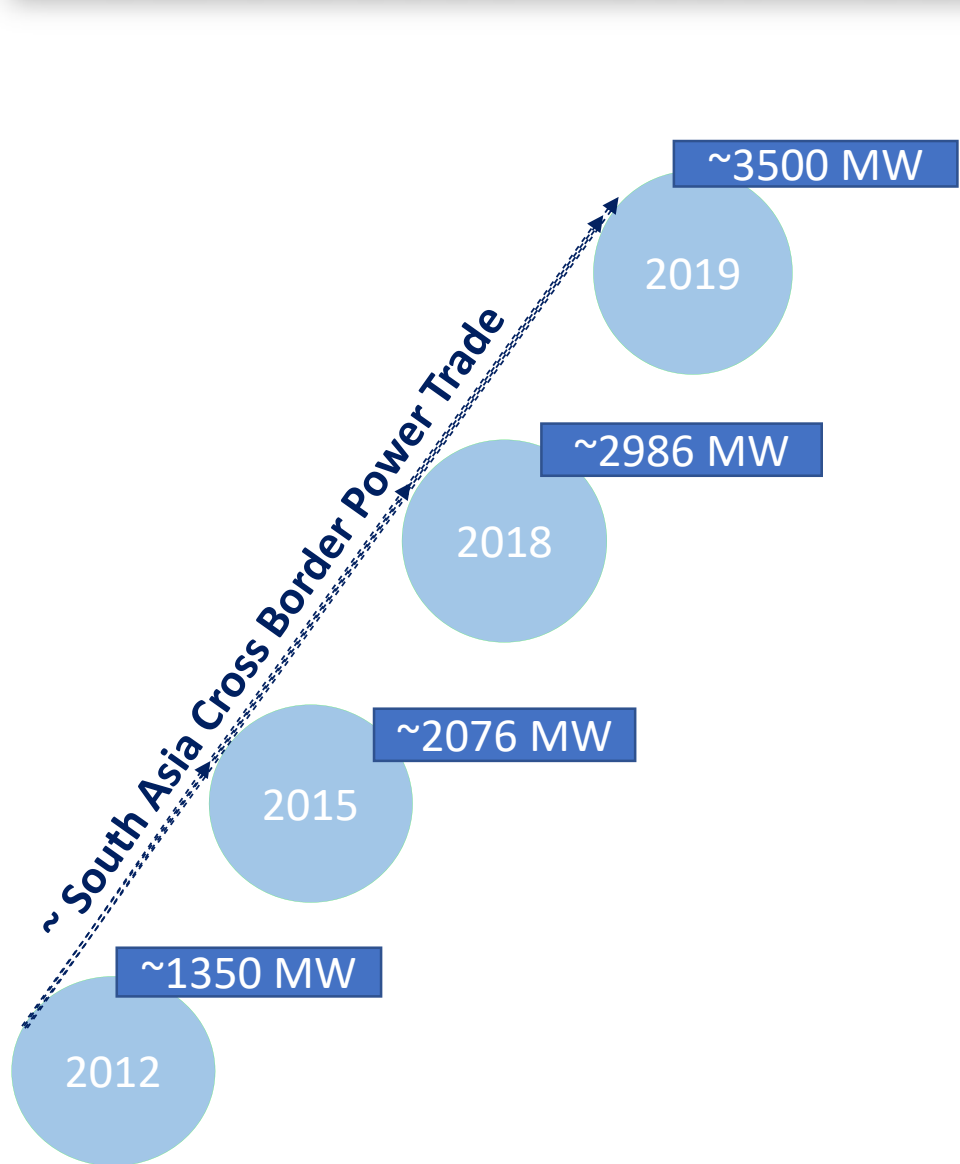
Significant Developments in Energy Cooperation, CBET- Key Policy & Regulatory Development



* http://www.mfa.gov.bt/rbedelhi/?page_id=28

** <http://www.mea.gov.in/bilateral-documents.htm?dtl/6349/agreement>

Future Outlook- South Asia Power Grid: Transmission Capacity- 2036/2040



Compiled from [CEA-Perspective Transmission Master Plan, Bangladesh-PSMP-2016](#), Other Sources 1 Bangladesh-India Bheramara-Baharampur-Existing 500 MW
 2 From Nepal 1,000 by 2030 Power import by using Case 3 T/L (upgrade to 765kV AC)
 and From Nepal (Purnea-Barapukuria), 1,000 by 2025, Power import by using Case 3 T/L (initially 400kV AC) 3 Bhutan-Bangladesh via-India 1000 MW-Bongaigaon/Rangia -Jamarpur 1,000 by 2030-Power import from Bhutan
 4 400 MW by 2020 (100 MW existing) Construction of HVDC (500MW) in Comilla Construction of HVDC (500MW) in Comilla S/S. Some load (100 MW) in Comilla (N) S/S will be disconnected from Indian System 5 1000 MW by 2023 and 1000 MW by 2025 (Power Import Using Case 2 T/L (± 800KV HVDC) 6 1000 MW by 2030 Bibiyana-Meghalaya (PSPF)
 7 At the Proposal Stage , detailed planning to be done.

Necessity towards Regional Regulatory Institution

- Power & energy sector are **highly regulated** in South Asia (SA).
- SA countries- different stage of evolution; legal, regulatory & Policy Framework. **Need complementing regulatory frameworks.**
- Strong **Political –Economy** of the Power/Energy Sector, Strategic nature.
- Development of Cross border projects, **Mitigation of Investment risks** requires a robust legal, regulatory and Policy Framework.
- While each country is sovereign by itself, there is a **need to coordinate/ harmonise** the laws/rules/regulations related to CBET.
- Harmonised policy and regulatory framework **brings consistency, predictability and Minimize perception** of regulatory and Policy risks.

CERC CBTE regulation relied upon existing Regulation and Policy Frameworks

- 
1. Tariff Policy
 2. Tariff Regulations
 3. Open access Regulation
 4. Connectivity Regulation
 5. Metering Regulation
 6. Sharing of Inter State Transmission Charges and Losses
 7. DSM Regulations
 8. Scheduling and Dispatch rule
 9. Others



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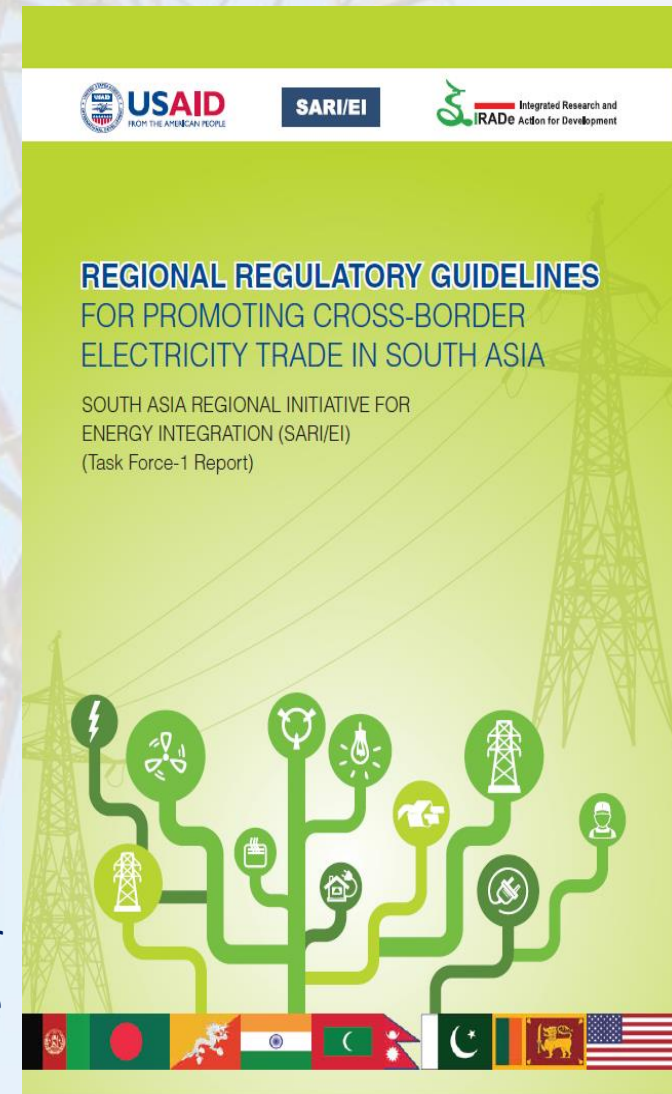
SARI/EI

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SARI/EI Work on developing Regional Regulatory Institutional Mechanism

Regional Regulatory Guidelines for Promoting CBET

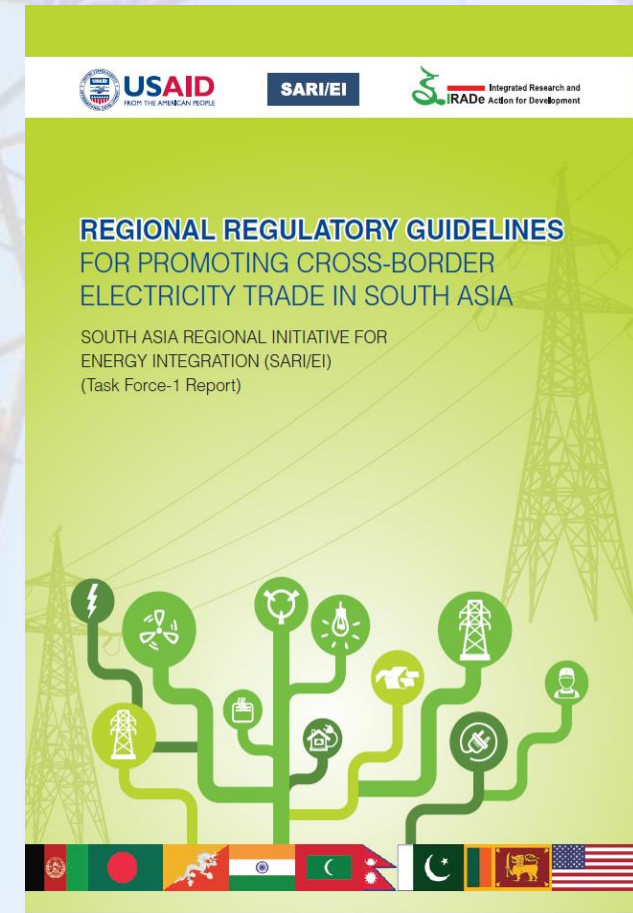
- SARI/EI Task Force-1 carried out a “detailed and comprehensive **review and analysis of Electricity Laws, Policies & Regulatory framework of SA Countries** from the perspective of Cross Border Electricity Trade (CBET)”
- It **published a Regional Regulatory Guidelines (RRGs) in July 2015, recommended - form South Asian Forum of Electricity Regulators (SAFER) to manage regulatory coordination**
- **SAFER Objectives:** “Forum focused to work towards a consistent and harmonized/coordinated regulatory framework for CBET within the SAARC nations”.
- **SAFER Vision Statement:** To be a world class Regional Forum that catalyzes enabling conditions for regional energy integration in the SA region.
- **SAFER Mission Statement :** To provide a multi-stakeholder platform among SACs to convene, deliberate and provide recommendations to the country governments on overcoming barriers to advancement of CBET in the region.



Regional Regulatory Guidelines for Promoting CBET

Functions of SAFER

- **Facilitate harmonized/coordinated electricity sector regulations to advance CBET in South Asia Region.**
- **Deliberate and make recommendations on regulatory issues such as regional regulatory guidelines/ regulatory opinions etc.,**
- **Facilitate regulatory capacity building among members at both national and regional levels through information sharing and skills training.**
- **Act as a clearing house of information and data bank including dissemination of global & regional best practices.**
- **To act as a platform responsible for the facilitation of cross cutting regulatory issues for comprehensive regional energy integration in the long run.**



<https://sari-energy.org/wp-content/uploads/2015/06/IRADE-SARI-EI-Regional-Regulatory-Guidelines-July-2015-.pdf>

Roundtable on "Catalysing Cross Border Electricity Trade in South Asia: South Asia Forum of Electricity Regulators (SAFER)", 06th August 2015

Based on the **Regional Regulatory Guidelines, a consultative** Roundtable on "Catalysing Cross Border Electricity Trade in South Asia: South Asia Forum of Electricity Regulators (SAFER)", 06th August 2015

The meeting convened key stakeholders such as:

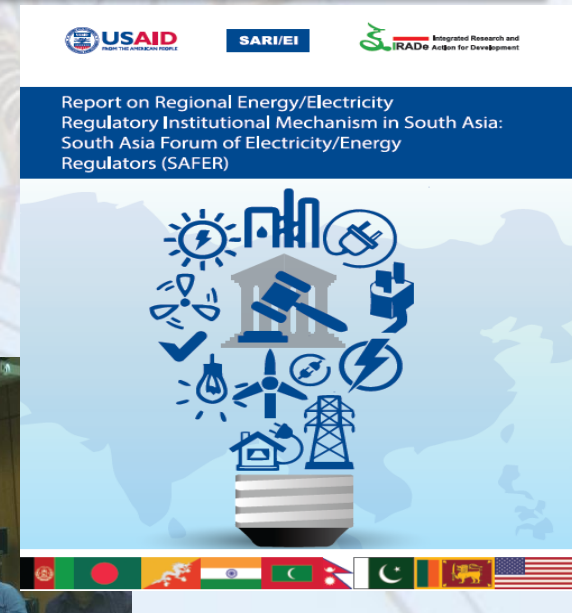
- India's Central Electricity Regulatory Commission (CERC);
- South Asia Association for Regional Cooperation (SAARC), Energy Centre;
- Bangladesh Energy Regulatory Commission (BERC), Bangladesh,
- Ministry of Economic Affairs, Bhutan,
- Indian Renewable Energy Development Authority (IREDA), India;
- Power Trading Cooperation, India (PTC),
- Indian Energy Exchange (IEX);
- Power Finance Corporation, India (PFC);
- Rural Electrification Corporation (REC), India;
- National Hydro Electric Corporation Ltd. (NHPC) India;
- Power System Operation Corporation Ltd., India (POSOCO) among other dignitaries and guests.



The meeting came to conclusion that SARI/EI will be working on a **detailed whitepaper on the regional regulatory institution** and the way forward for formation of such a regional regulatory body/forum

White Paper/Report on Regional Energy/Electricity Regulatory Institutional Mechanism in South Asia: South Asia Forum of Electricity/Energy Regulators (SAFER)

- **A White Paper/Report on South Asia Forum of Electricity/Energy Regulators (SAFER) was prepared in a consultative Manner.**
- **Study Reviewed & analysed international experiences** of regulatory forums/institutional mechanisms including their structure, role /responsibilities, functions etc.
- **Analysed forums/institutional mechanisms prevailing in SA Countries** such as South Asia Forum of Infrastructure Regulation ,SAARC, BIMSTEC

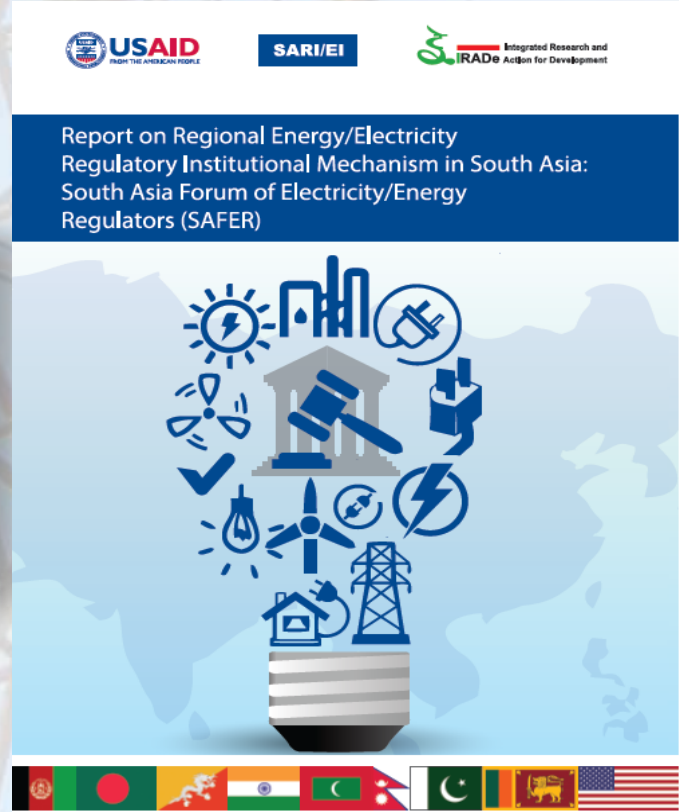


White Paper Consultation Meeting with BERC, Bangladesh-19th October 2016



White Paper Consultation Meeting with Ministry of Energy, Nepal, 16th September 2016

Key Findings of the Report



Key Findings of the Report- Comparative of International experiences

Region	EUROPE <small>Agency for the Cooperation of Energy Regulators</small>	Greater Mekong Sub-region (GMS) <small>(Regional Power Trade Coordination Committee)</small>	Western Africa <small>(Economic Community of West African States)</small>	Southern Africa <small>Regional Electricity Regulators Association of Southern Africa</small>
Name of Institution	Agency for Cooperation of Energy Regulators (ACER)	Regional Power Trade Coordination Committee(RPTCC)	ECOWAS Regional Electricity Regulatory Authority (ERERA)	Regional Electricity Regulators Association of Southern Africa (RERA)
Geographical area	28 - Countries Community body for integration of EU markets in electricity & natural gas	6 –Countries : Responsible for establishment of Greater Mekong Sub-region (GMS) regional power market. manages regional power trade, exchange of information	14- Countries Independent electricity regulator in Western Africa, regulator of regional CBET.	13- Countries Association of electricity regulators, facilitate harmonization of regulatory policies, legislation, standards
Organization Structure	<ul style="list-style-type: none"> Director- Manages and represents Agency. Director supported by Working and Expert Groups. Board of Regulators, Administrative Board, Board of Appeal. Six Departments- Director office, Admin, Electricity, Gas , Market Surveillance, Integrity and Transparency 	<ul style="list-style-type: none"> Two Groups: The Focal Group(FW)- Coordination & implementation activities. The Planning Working Group(PWG)- Identify priority connection, standards. FG and PWG representative of Govt. utilities There are also many Working Group on Performance Standards and Grid Codes (WGPG) and Working Group on Regulatory Issues (WGRI) 	<ul style="list-style-type: none"> Regulatory Council (RC)- decision-making & managerial body RC- 3 members headed by Chairman & 2 members. RC supported by a pool of experts responsible for the regulatory matters. RC supported by a Unit for HR, Administration & Finances. 	<p>Combination of Electricity Energy and multisector (energy/water) regulators</p> <ul style="list-style-type: none"> RERA reports to SADC Directorate of Infrastructure Services. Various Technical Committees and Sub Committees

The BoR plays a key role within ACER. It decides on the regulatory policy of ACER. It has a substantial influence on the decisions, opinions and recommendations of the Agency.

WGPG renamed as Working Group on Planning and Operations (WGPO) in the 25th Meeting of RPTCC (Cambodia, Lao PDR, Myanmar, People's Republic of China, Thailand, Viet Nam)

ECOWAS : Economic Community of West African States

Need of a Regional Regulatory Institution & Review of work done earlier Key findings of SARI/EI work on South Asia Forum of Electricity/Energy Regulators (SAFER) /Rajiv/Head-Technical/SARI/EI/IRADE

Relation between ERGEG, ACER, CEER & EU



ACER Agency for the Cooperation of Energy Regulators

ACER- Established **3 September 2009**, fully operational from **3 March 2011**, Enhanced Mandate in **2019 (with more power)**

- Coordinates work of NRAs at EU level
- EU-wide network and market rules
- Regional/cross-regional initiative coordination
- Monitors the work of ENTSOs (Established in **2008**)

Complementary Role

Council of European Energy Regulators (CEER).

2000-10 NRAs voluntarily signed "MoU" to form CEER.

- Facilitate the creation of an EU-Internal Energy Market.
- Consultation, coordination and cooperation of NRAs, co-operation, information exchange, assistance amongst NRAs;
- Contribute to advancement of research on regulatory issues.

After 2009, Focus on a) Enhancing the capability of EU NRAs b) research on regulatory issues c) share experiences & d) to identify good regulatory practices

The European Regulators' Group for Electricity and Gas (ERGEG)

Set up by the European Commission, **2003**, as its **advisory body to assist** on creation & functioning of internal energy market, Member-NRAs, ERGEG dissolved on 1 July 2011.





Functioning of CBET markets

Best Practice sharing, Enhance Capability of NRAs, Training

National Regulatory Authorities (NRAs)

The European Commission is the executive branch of the European Union, responsible for proposing legislation, implementing decisions, upholding the EU treaties and managing the day-to-day business of the EU. The European Council is a collective body that defines the European Union's overall political direction and priorities. It comprises the heads of state or government of the EU member states, along with the President of the European Council and the President of the European Commission. ACER's focus is on what is required in the legislation and CEER does everything else in energy regulation.

Key Findings of the Report- Comparative International Experiences: key focus areas

Area	 ACER <small>Agency for the Cooperation of Energy Regulators</small>	 RPTCC <small>RPTCC (Regional Power Trade Coordinator Committee)</small>	 ERERA <small>Electricity Regulators Association of Southern Africa</small>	 RERA <small>Regional Electricity Regulators Association of Southern Africa</small>
Key focus areas	<ul style="list-style-type: none"> Foster cooperation among Regulatory Agencies Ensure market integration, Harmonisation of regulation, non-binding in nature (framework guidelines) Issue opinions & recommendations, Monitoring Cooperation, Regional Centres ,Market; Coordinates regional and cross-regional initiatives 	<ul style="list-style-type: none"> Basic rules for bilateral trading Overall policy on day-to-day management of power trade 	<ul style="list-style-type: none"> Regulations of Cross Border Electricity exchange Monitor regional market; Assist NRs on capacity building & technical issues. 	<ul style="list-style-type: none"> Regulatory Guidelines for CBET, Regulatory cooperation, Capacity building & information sharing on Cross Border Electricity Exchanges
	<ul style="list-style-type: none"> Harmonisation of transmission tariff, System operation, connectivity, capacity allocation, network codes, <u>5 June 2019 Regulation-more powers , approving power</u> 	<ul style="list-style-type: none"> Establish short, medium, long term initiatives for Cross border Energy GMS Grid Code System Expansion , Transmission Master Plan Feasibility Study 	<ul style="list-style-type: none"> Tariff setting methodology for regional power pool, Compliance with the principle of freedom of electricity transit 	<ul style="list-style-type: none"> Transmission pricing, operating agreements, Balancing market operations; Ancillary services
Funding Support	EU	Multilateral support, WB/ADB support	Member states	<p style="text-align: center;">Grid codes Procedures</p> <p style="text-align: center;">Multilateral support, USAID</p>

Existing forums in South Asia Region (SAR)



Experiences of Existing Institutions/forums in South Asia

Name of Institution	 SAFIR
Geography	Association of infrastructure regulators from SAR nations except Maldives
Organization Structure	Steering Committee, Executive Committee, SAFIR Working Group
Focus Area	Conducts flagship core course & capacity building programmes for all infrastructure

 SAARC
Regional organization of all the 8 countries of South Asia.
Council of minister, Standing Committee, Program Committee, Technical Committee, SAARC Secretariat, SAARC Energy (Electricity) Regulators, SAARC Council of Experts of Energy (Electricity) Regulators
Multi-sector focus : Agriculture, Economic & Trade, Energy, Environment Finance etc.

 BIMSTEC
Regional organization comprising 7 member states Bay of Bengal initiatives for multisectoral techno economic cooperation
BIMSETC Summit, Ministerial Meeting, Senior Officials Meeting, BIMSTEC Working Group (BWG), Expert Group, BIMSTEC Expert Group on Energy
Each member country is assigned with specific sector. Energy is led by Myanmar

Proposed Regulatory Institutional Mechanism in SAR-South Asia Forum of Electricity/Energy Regulators (SAFER)

Proposed Regulatory Institutional Mechanism in SAR-South Asia Forum of Electricity/Energy Regulators (SAFER)

- ▶ *The proposed regulatory forum (SAFER) will act as a neutral, apolitical forum/platform for regulators and experts to assemble, brainstorm, strategize and recommend specific steps to address the multiple barriers to CBET.*
 - ▶ *Regulatory opinions and technical assistance*
 - ▶ *Acting as a platform for cross-cutting deliberations across policy, regulatory, technical, legal and other aspects*
 - ▶ *Acting as data bank/knowledge repository for relevant aspects on cross border electricity trading.*
 - ▶ *Providing inputs on policy and regulations*

SAFER: Key Subjected to be covered

Power market regulations and Licensing,

Harmonization of Codes

Transmission Planning and Non-discriminatory Open Access

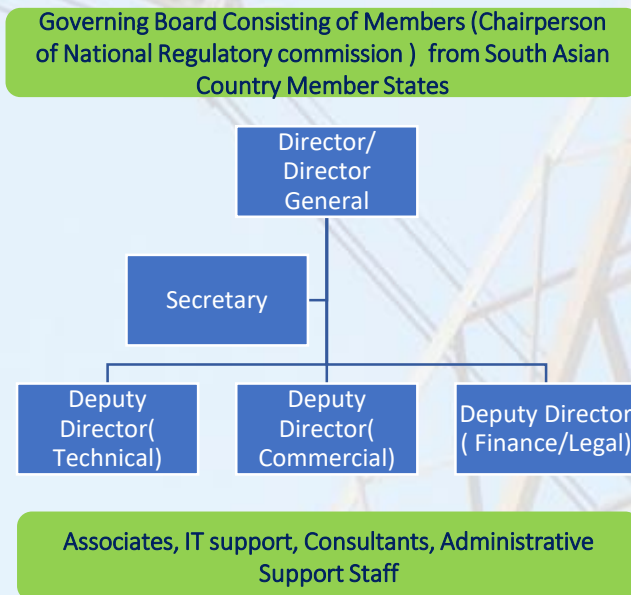
System Security and Reliability

Scheduling, Accounting and Imbalance Settlement

Resolution of the Issues of Common Interest

South Asia Forum of Electricity/Energy Regulators (SAFER): Organization Structure

- 1. Chairman of National Regulatory commission of South Asian Countries can be the member of this SAFER forum.**
- 2. Chairmanship can be rotation basis. Minimum two meetings in a year.**
- 3. As it evolves a robust organisation framework may evolve as below in future**



Options-South Asia Forum of Electricity/Energy Regulators (SAFER):

Options

Option I: Within existing regional body/forum/association to begin with at the Level of Chairman of National Regulatory commission of South Asian Countries.

Option II: Independent body/forum /association

1. Constituting SAFER under the existing South Asia Forum of Infrastructure Regulations (SAFIR) can be considered.
 2. SAFIR Working Group (already working on various technical activities) can be the technical arm of the South Asia Forum of Electricity/Energy Regulators (SAFER).
 3. To add the SAFIR Working Group, Various Expert Committees on relevant subject can be formed to address various issues.
- SARI/EI will be able to provide initial Knowledge support, secretariat and other logistics support towards operationalising of the SAFER

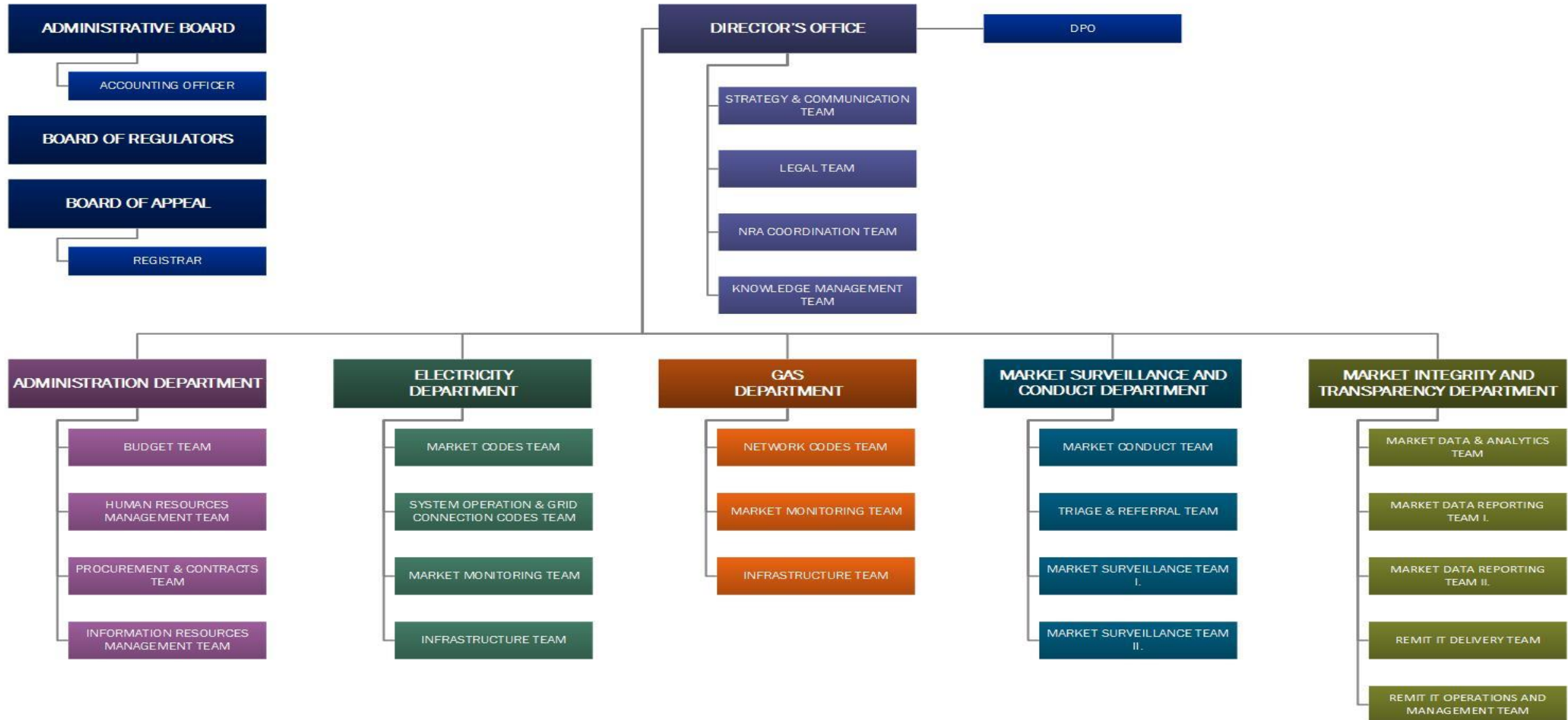
Thank You

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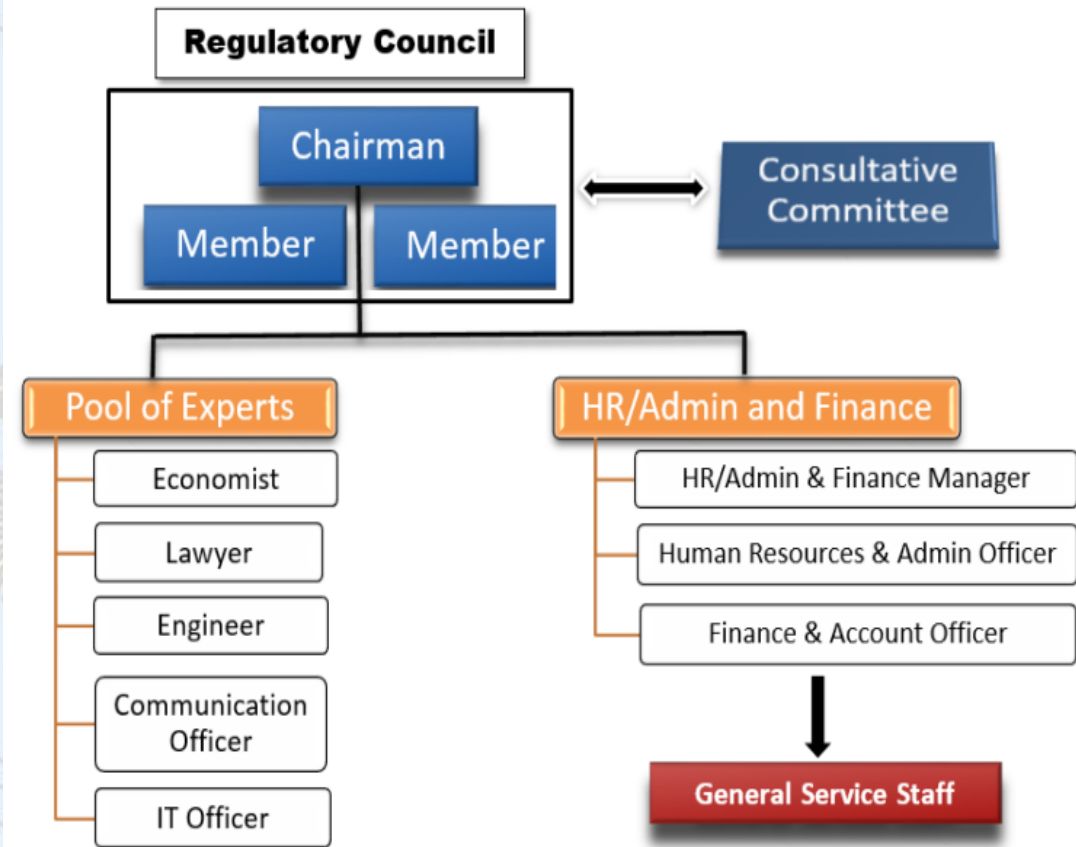
SARI/EI/IRADe PROJECT SECRETARIAT, B-44, Shivalik, Malviya Nagar, New Delhi-110 017, India

ACER Organization Chart



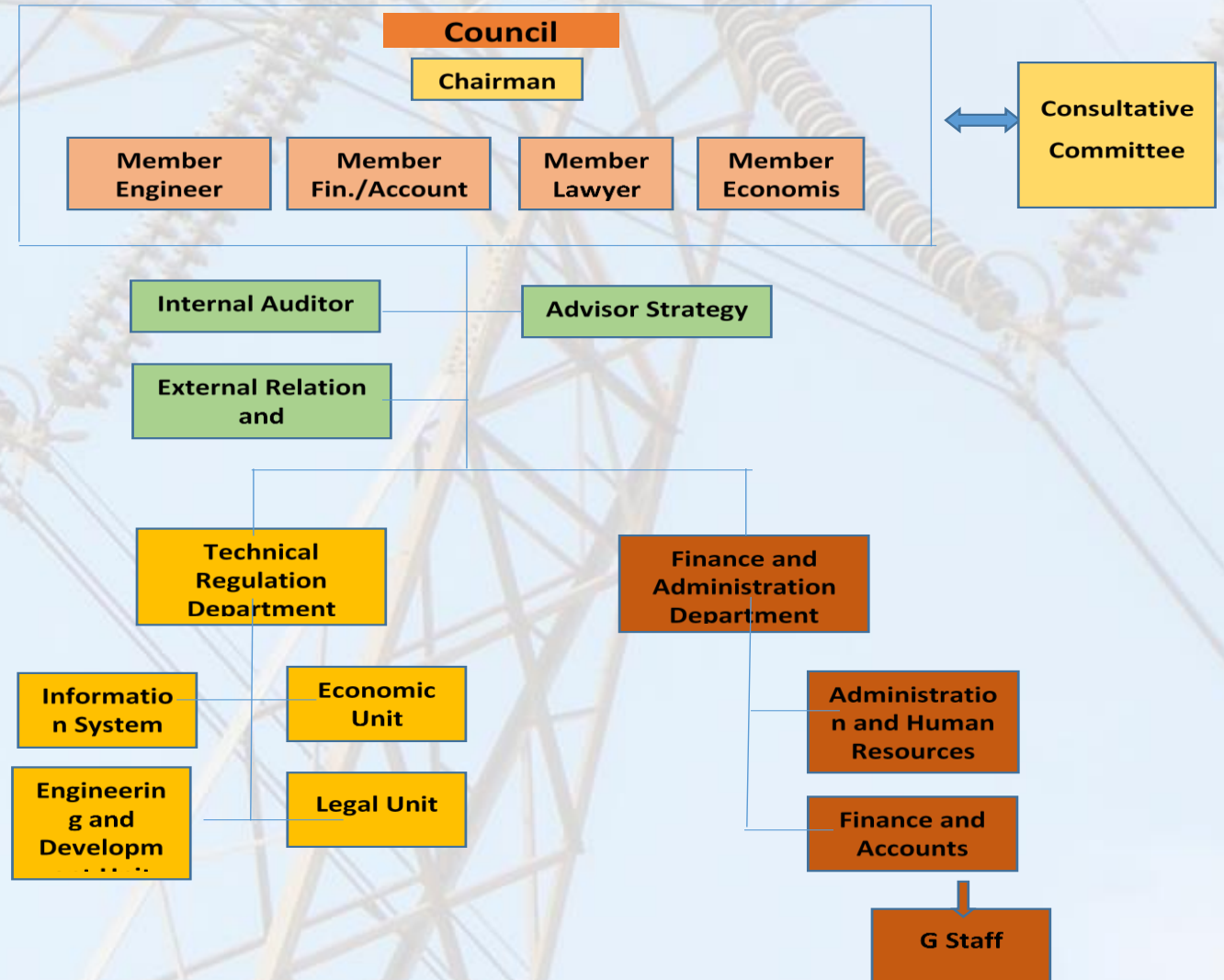
ECOWAS Regional Electricity Regulatory Authority (ERERA)

ERERA Short Term Organogram



Approved by the Regulatory Council on February 4, 2011

Medium Term



Relation between ERGEG, ACER, CEER & EU



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REGULATION (EU) 2019/942 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 5 June 2019

- New Regulation provides ACER a stronger role in the development of network codes and the coordination of regional decision-making.
- Assigns a number of new tasks related to **regional operational centres, the supervision of nominated electricity market operators and the assessment of generation adequacy and risk preparedness.**

New task

- **Approving and amending methodologies** for European generation adequacy assessment;
- Analysing proposals for new national adequacy assessments;
- **Monitoring market performance**, in particular ‘flexibility barriers’ at national level;
- **Creating a methodology for the security of supply** indicators;
- **Deciding upon** the configuration of **new regional operation centres (ROCs)** and, once they become operational, **monitoring and analysing their performance** on a regular basis;
- Developing **methodologies and rules** for improving the efficiency of cross-border wholesale electricity markets;
- **Establishing an EU entity for distribution system operators (EU DSO)** and ensuring its smooth functioning; and,
- **Approving and amending methodologies** for the identification of regional electricity crisis scenarios.