

Suggested Changes/Amendments

in Electricity Laws, Regulations and Policies of
South Asian Countries for Promoting Cross-Border
Electricity Trade in the South Asian Region

(TF-1 Report)



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The changes/amendments suggested in Electricity Laws, Regulation and Policies of SA countries in this report are of suggestive in nature and do not necessarily reflects the view of the all the Task Force-1 Members, Technical Team at SARI/EI Project Secretariat and of the Consultant and the organisation each of them represents as no legal vetting of such Changes/Amendments has been carried out as part of this study. These suggested changes/amendments can be considered by each South Asian Country Governments as a base for aligning the legal, policy and regulatory frameworks prevailing in each South Asian Countries for promoting CBET in the region.

Electricity Laws, Regulation and Policies (English version only) of South Asian countries as exist in public domain as on February, 2015 has been reviewed and analyzed. Any changes/amendments made in Electricity Laws, Regulation and Policies of SA countries or any new Electricity Laws, Regulation and policies which has come into force after February, 2015 has not been reviewed and considered in this study.

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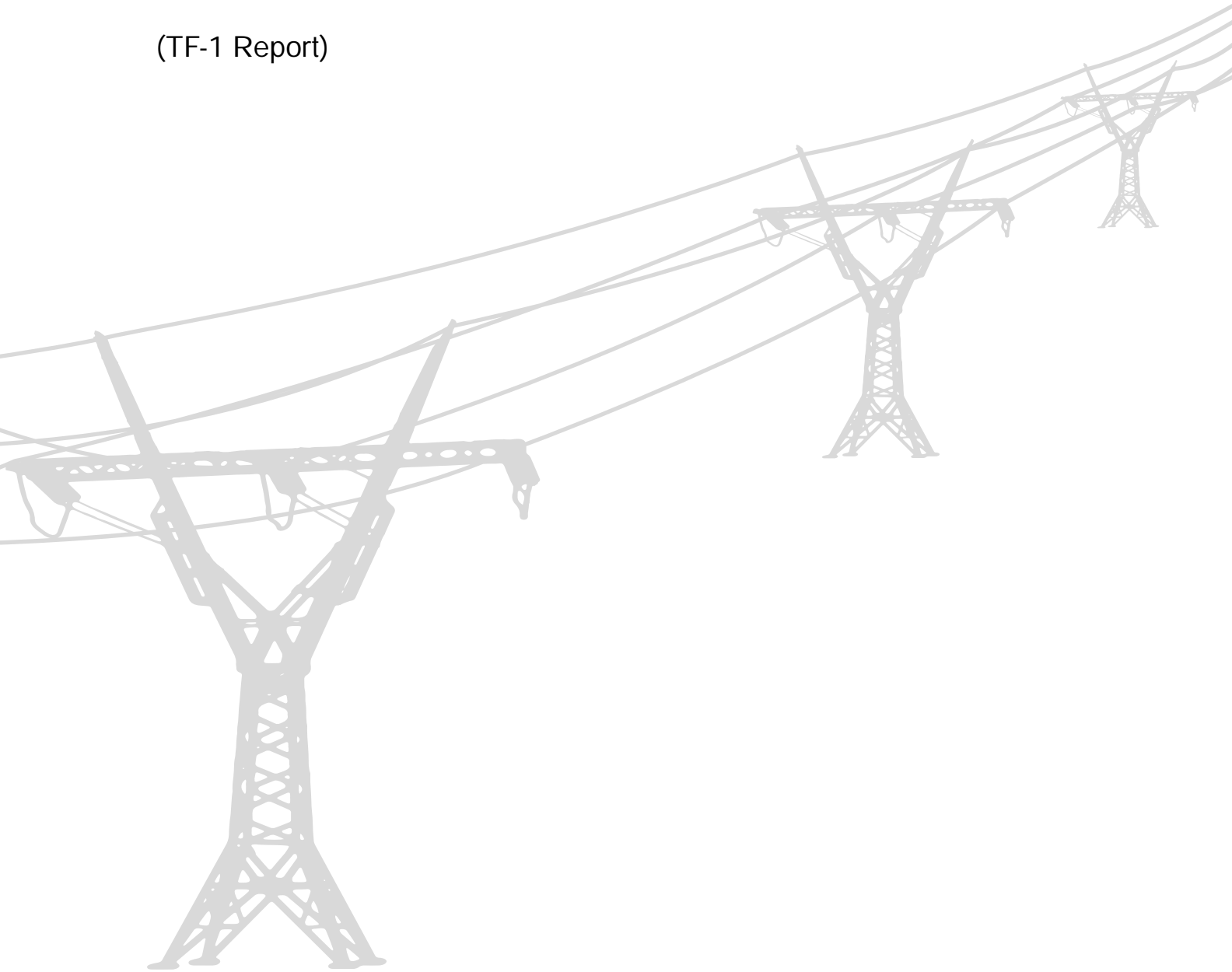




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Abbreviations

ACER	Agency for Cooperation of Energy Regulators
ADB	Asian Development Bank
ADR	Alternative Dispute Resolution
AERA	Afghanistan Electricity Regulatory Authority
AEIC	Afghanistan Energy Information System
AGT	Azerbaijan – Georgia – Turkey
ANDS	Afghanistan National Development Strategy
BEA	Bhutan Electricity Authority
BERC	Bangladesh Electricity Regulatory Commission
BPC	Bhutan Power Corporation
BPDP	Bangladesh Power Development Board
BRP	Balancing Responsible Party
CASA	Central Asia South Asia
CBET	Cross-Border Electricity Trade
CEA	Central Electricity Authority
CEB	Ceylon Electricity Board
CERC	Central Electricity Regulatory Commission
CLSG	Cote d'Ivoire, Liberia, Sierra Leone, and Guinea
CPTC	Cross-Border Power Transmission Company Limited
CWC	Central Water Commission
DABS	Da Afghanistan Breshna Sherkat
DGPC	Druk Green Power Corporation
DPR	Detailed Project Report
DRC	Democratic Republic of Congo
EA	Electricity Act
EBRD	European Bank for Reconstruction and Development
ECOWAS	Economic Community of West African States
EGAT	Electricity Generating Authority of Thailand
EPC	Engineering, Procurement and Construction



EPF	Electric Power Forum
ERERA	ECOWAS Regional Electricity Regulatory Authority
GCC	Gulf Coast Countries
GDP	Gross Domestic Product
GMS	Greater Mekong Sub-region
GOI	Government of India
GOL	Government of Laos
GW	Gigawatt
H.E	Hydro Electric
HGA	Host Government Agreement
HVDC	High Voltage Direct Current
IFI	International Financial Institutions
IGA	Inter-governmental Agreement
IPP	Independent Power Producers
IROA	Islamic Republic of Afghanistan
JBIC	Japan Bank for International Cooperation
KM	Kilometer
Lao PDR	Lao People's Democratic Republic
MEW	Ministry of Energy & Water
MIGA	Multilateral Investment Guarantee Agency
MoEA	Ministry of Economic Affairs
MoPEMR	Ministry of Power, Energy and Mineral Resources
MoU	Memorandum of Understanding
MPE	Ministry of Power and Energy
MW	Megawatt
NEA	Nepal Electricity Authority
NEPRA	National Electric Power Regulatory Authority
NEPS	North East Power System
NHPC	National Hydroelectric Power Corporation
NTDC	National Transmission Dispatch Company
NTPC	Nam Theun Power Company Limited





PEPCO	Pakistan Electric Power Company
PGCIL	Power Grid Corporation of India Ltd.
PGCB	Power Grid Company of Bangladesh
POSOCO	Power System Operation Corporation
PPA	Power Purchase Agreement
PRC	People's Republic of China
PRG	Partial Risk Guarantee
PTC	Power Trading Corporation
PUCSL	Public Utilities Commission of Sri Lanka
RGoB	Royal Government of Bhutan
RTC	Regional Transmission Company
SA	South Asia
SAARC	South Asian Association for Regional Cooperation
SADC	Southern African Development Community
SAFIR	South Asia Forum for Infrastructure Regulation
SAPP	South African Power Pool
SIEPAC	Central American Electrical Interconnection System
SJVN	Satluj Jal Vidyut Nigam Ltd.
STEM	Short Term Electricity Market
T&D	Transmission and Distribution
TSO	Transmission Service Operators
UI	Unscheduled Interchange
USAID	United States Agency for International Development
USD	United States Dollar
VAT	Value Added Tax
WAPP	West African Power Pool



Foreword

South Asia Regional Initiative for Energy Integration (SARI/EI) a program of USAID being implemented by IRADe aims to “Promote integration of Energy Systems and to enhance Cross-Border Electricity Trade (CBET) among the South Asian countries. The Program focuses on the three key outcomes for overall socio-economic progress of the region i.e. i) harmonization/coordination of Policy, Regulatory and Legal Issues, ii) advancement of Transmission Systems Interconnections and iii) establishment of South Asia Regional Electricity Markets. We began this journey three years ago at the Integrated Research and Action for Development. To address these issues, we at SARI/EI/IRADe constituted three dedicated Task Forces represented by government nominated members from South Asian Countries headed by a Project Steering Committee. All together 28 members from South Asia Countries are working for the last 3 years.



To achieve this, SARI/EI has commissioned a study under Task Force-1 on “Review of Electricity Laws, Regulations, Policies (EL&R&P) and legal structure of South Asia Countries (SACs) to identify areas that can hinder CBET and to recommend changes/amendments therein for consideration of the SACs”. It is heartening to see that Study has come out with the report on “Suggested Changes/Amendments in Electricity Laws, Regulations and Policies of South Asian Countries for Promoting Cross-Border Electricity Trade in the South Asian Region”. This is in addition to the Regional Regulatory Guidelines already developed by Task Force-1 under SARI/EI. Moreover to implement Regional Regulatory Guidelines, certain changes/amendments in electricity laws, policies and regulations are required and this report is aimed at the same.

This report breaks new ground by suggesting changes/amendments in electricity laws, policies and regulation on the thorny aspects challenging cross-border trade by addressing issues such as trading license, non-discriminatory open access, transmission pricing, transmission planning, settling the imbalance by energy accounting and scheduling, harmonizing of codes and most importantly taxes and duties harmonization, preferably transition to zero tax regime in the existing electricity laws, policies and regulation. These suggested changes/amendments can be considered by each South Asian Country Governments as a base for aligning the legal, policy and regulatory frameworks prevailing in each South Asian Countries for promoting CBET in the region. Further, country governments may also conduct detail legal review and take legal opinion for their needful. The report also has come out with the country wise proposed short-, medium- and long-term roadmaps for implementation. What is important is that these issues were debated among task force members from all countries along with international experts and USAID/SARI/IRADe Technical Team.

I would like to take this opportunity to commend the work done by Task Force-1 members, Technical Team at SARI/EI/IRADe Project Secretariat and Mercados Energy Markets India Pvt. Ltd/KPMG Advisory Services Pvt. Ltd. for preparing this report. I hope the findings of this report will be actively considered by the South Asian Country Governments.

I would also like to take this opportunity to thank United States Agency for International Development (USAID) for their generous support and cooperation all along.

Dr. Jyoti Parikh

Executive Director

Integrated Research and Action for Development



Foreword

The United States Agency for International Development (USAID), through its South Asia Regional Initiative for Energy Integration (SARI/EI) program, supports greater regional energy integration in South Asia. The region's rapid growth rate of six percent can be sustained only with increased and improved access to energy. However, countries in South Asia are struggling with power shortages, high reliance on fossil fuels, and antiquated transmission systems.



Since 2000, USAID's SARI/EI has been working to address these challenges to promote Cross-Border Electricity Trade (CBET) and enhance energy security in the region. Despite these efforts, South Asia is yet to engage in significant levels of power trading and remains one of the least integrated regions in the world. However, recently we have seen several positive developments in the region including the signing of the South Asian Association for Regional Cooperation (SAARC) Framework on Energy Cooperation; the India-Nepal power trade agreement with focus on regional trading; agreements to enhance the India-Bangladesh transmission links from 500 MW to 1000 MW; and power purchase agreements between the Nepal Government and Indian private sector to develop export oriented large-hydro based power plants. These recent developments are a strong signal that the region is finally ready to move towards a regionally integrated power grid.

One of the hurdles in power trading in the region is the incongruent nature of power sector policies and regulations across countries. SARI/EI commissioned a detailed study under its Task Force-1 to review and analyse the electricity laws, regulations, and policies in each SAARC country and recommend a Regional Regulatory Guideline for promoting cross-border electricity trade in South Asia. Adoption of the Regional Regulatory Guidelines will require changes in the existing electricity regulations and policies. This report recommends specific changes in the electricity regulations and policies of each country including short-, medium- and long-term roadmaps.

I would like to thank all the members of Task Force-1 (on harmonization of policies, regulations, and laws) for their time and expert guidance in developing this report. I look forward to their continued support in implementing these recommendations in their respective countries. I would also like to acknowledge SARI/EI Project Secretariat at IRADe for developing this excellent report. I am confident that implementation of the recommendations in this report will significantly advance CBET in the region.

Colin Dreizin
Regional Energy Director
SARI/EI, USAID



Preface

Cross-Border Electricity Trade (CBET) in South Asia is currently being undertaken in the form of bilateral trade and is limited between India-Nepal; India-Bangladesh and India-Bhutan. The trade has been mainly through bilateral G2G arrangements based on case-to-case negotiations. Policy and Regulatory Provisions, Institutional frameworks and few other aspects promoting/facilitating CBET exist in some South Asian Countries (SACs) but are not exhaustive in nature.



The SACs envisages a manifold increase in the quantum of Cross-Border Electricity Trade (CBET) by the end of next decade. This scenario is rapidly changing with several new transmission interconnections being proposed across South Asian Countries which will enable greater Integration of Power Systems of South Asian Countries (SACs). Such Integration shall also enable trading on a multi-lateral basis wherein two countries having no common border could trade electricity through a third country acting as transit route.

Recent developments in SAARC region from the perspective of CBET are extremely encouraging and gives the direction for increased CBET in the region in near future. During the 18th SAARC Summit held on 26-27 November 2014 at Kathmandu, eight member states of SAARC countries concluded the historic Framework Agreement of Energy (Electricity) Cooperation. The political climate is becoming increasingly more and more conducive for CBET both at the bilateral and as well as at the multilateral level. Further, the historic Power Trade Agreement (PTA) signed between India-Nepal, opens up whole range of new possibility for trade of electricity between Nepal-India and also gives an access to Nepal Power Developers to Indian Power Market. India-Bangladesh and India-Bhutan are taking steps to increase quantum of Cross-Border Electricity Trade (CBET) in manifold.

There is a need to have Common/Coordinated set of Regulations, Policies and Legal Framework which addresses the mechanism of interconnection, recognizes the CBET, Open access to transmission Network, licensing, dispute resolution, etc. The different set of Electricity Regulation, Policy and Legal frameworks in the SACs, are perceived impediment for CBET. Moreover the existing electricity regulatory, policy and legal frameworks of SACs primarily address domestic power sector issues and are not necessarily developed to address issues related to CBET.

Without consistent and coherent regional regulatory framework in place, investment opportunities and consequently large scale CBET between SAC nations that could benefit both importing and exporting nations may not happen. In the South Asian regional context, the risks associated with forging an intraregional, CBET project would be greatly minimized if each participating country adopts complementary regulatory frameworks to facilitate cross-border interconnection and electricity trade. It is important and prudent to develop coordinated regional mechanism for aligning the policy, legal and regulations for facilitating the CBET at a much higher level of trade in a sustainable manner. This implies establishment of common/coordinated norms, rules and protocols in technical, commercial, economic, and legal matters pertaining to CBET.

To address above issues, SARI/EI has constituted Task Force-1 on "Coordination of Policy, Regulatory and Legal frameworks" which is represented by Government Nominated Members from Energy/Power/Economy Ministries, Electricity Regulatory Commissions etc., of South Asian Countries. To address various policy, regulatory and legal issues with respect to CBET, SARI/EI has commissioned a demand driven



study on “Review of Electricity Laws, Regulations, Policies (EL&R&P) and legal structure of South Asia countries (SAC) to identify areas that can hinder Cross-Border Electricity Trade (CBET) and to recommend changes/amendments therein to promote CBET.

The study has conducted a detailed review and analysis of the Electricity Laws, Regulations, Policies and Legal structure prevailing in each SACs and has identified the minimum requirements/critical ingredients required to facilitate CBET. The study also undertook a detailed review of international power pools and regional trade arrangements to understand good practices around the world that would serve as a learnings to find out the basis on which initiatives across the South Asian Countries can be defined. Based on the above review and analysis, last year study had come out with Regional Regulatory Guidelines (RRGs) in the form of common regulations, rules and protocols in technical, operational and legal matters for promoting CBET in the South Asian Region.

To take forward the implementation Regional Regulatory Guidelines the study has come out with suggested changes/amendments clause/section wise in the existing Electricity Laws, Regulation and policies of SA countries for promoting CBET in South Asia Region across. These suggested changes/ amendments can be considered by each South Asian Country Governments as a base for aligning the legal, policy and regulatory frameworks prevailing in each South Asian Countries for promoting CBET in the region. Further as this changes/amendments are suggestive in nature, South Asia country governments may also conduct detail legal review and take legal opinion on the same for enactment. This report also covers country wise proposed long-, medium- and short-term roadmaps for implementation of these suggested changes/ amendments.

I hope this report on “Suggested Changes/Amendments in Electricity Laws, Regulations and Policies of South Asian Countries for Promoting Cross-Border Electricity Trade in the South Asian Region” will be very useful for South Asian Countries to take forward the process of coordination/harmonization of Electricity Regulation, Policies and laws of South Asian Countries for Promoting CBET.

Mr. V.K. Kharbanda
Project Director
SARI/EI/IRADe



Executive Summary

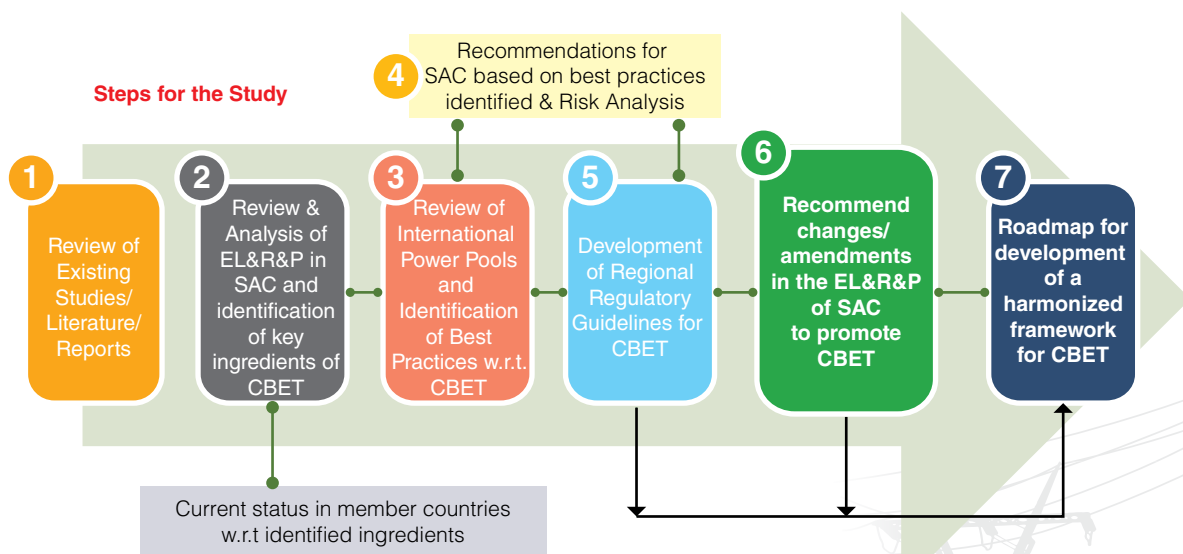
Globally, the interconnection of regional power systems has largely been driven by its ability to overcome electricity shortages benefiting economies significantly. These regional interconnections are intended to serve two objectives:

- **To create a large robust power system that will feed in the energy starved countries**
- **To exploit the diverse energy forms and supply sources** enabling in managing and hedging the supply risks occurring due to seasonal variation (in case of hydro) and force majeure circumstances like drought, lowering the cost of energy supply and achieving regional energy security

The concept of Cross-Border Electricity Trade (CBET) and regional energy/electricity cooperation has been in existence for more than a century. It has gradually evolved from establishment of bilateral interconnections to multilateral interconnections to sophisticated regional power markets. Bilateral and multilateral approaches to electricity trade emphasise on close coordination and amalgamation of efforts to create more robust regional power grids. **Harmonization of market structures, optimal usage of available capacity, non-discriminatory access, overall tariff framework, interaction among regulatory agencies, dispute resolution etc. are some of the vital issues for the success of smooth functioning of CBET.**

The region of South Asia (SA) has strong prospects for CBET. However, the region is yet to exploit these opportunities. Though some level of CBET exists in the region, it is still in primitive stages and needs further development. **Currently, CBET in SA takes place only between India–Bhutan, India–Nepal and India–Bangladesh. The trade has been through bilateral Government-to-Government (G2G) arrangements based on case-to-case negotiations.** Legal, Policy and Regulatory provisions, institutional frameworks and a few other aspects promoting/facilitating CBET exist but are not exhaustive in nature. **The region envisages a manifold increase in the quantum of electricity by the end of next decade. To achieve this the existing Electricity Laws, Regulation and Policies (EL&R&P) structures will need to incorporate the minimum regulatory/legal/policy requirements needed to enhance expansion of CBET, and eventually also incorporate provisions that promote CBET.** In the above context, under SARI/EI Task Force-1, a study on “Review of electricity laws, regulations, policies (EL&R&P) and legal

Figure 1: Steps followed in the Study





structure of south Asia countries (SAC) to identify areas that can hinder cross-border electricity trade (CBET) and to recommend changes/amendments therein for consideration of the SAC was carried out.

Given the above backdrop, as part of the study, the Electricity Laws, Regulations and Policies (EL&R&P)¹ were reviewed and analysed and the gaps from the perspective of facilitating/advancing CBET were identified. These gaps have been mapped on the minimum requirements/critical ingredients required to facilitate CBET. The key ingredients assessed are as follows: **(i) Recognition of Trade in National law (ii) Policy for Regional Electricity Trade (iii) Licensing Regimes (iv) Duties & Taxes (v) Transmission Plan and Charges (vi) Open Access in Transmission (vii) Commercial Mechanisms to Settle Imbalances (viii) Cross-border Tariff Determination and (ix) Dispute Resolution. The detailed steps followed is shown in Figure 1. The summary of the detailed review of existing electricity laws, policies, and regulations of SAC are attached as Annexure I.**

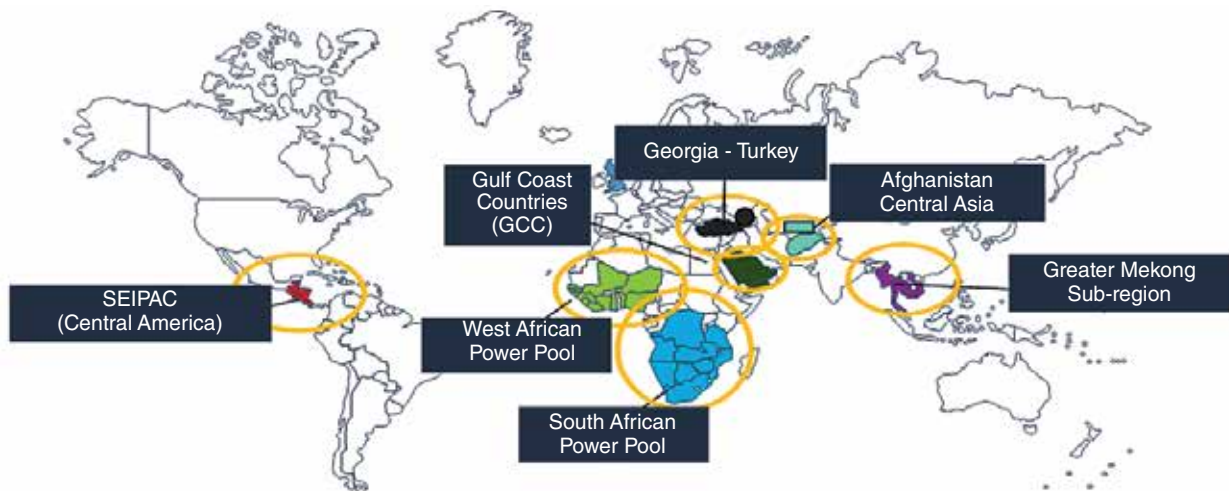
On the basis of the review, the following observations emerge:

1. **Trading** as an activity is recognized in policies and laws of most countries. However, a detailed definition of trade in respective laws may be desirable.
2. **Nodal Agencies** exist in most of the SAARC countries.
3. **Trading is a licensed activity in most of the countries.** The approval process unless very long should not be a constraint to cross-border trade.
4. **Generation is a licensed activity in most cases** but does not pose concern unless the process of obtaining license is too long.
5. **Currently there is no custom duty, export tax or transit tax** in regional electricity trade that poses a restriction on cross-border electricity trade.
6. **Transmission Plan:** Almost all countries have transmission plans either separately or as a part of their power sector master plans (in some countries CBET has been recognized). **However, the linkages with all countries where trade could be possible has not been defined.**
7. **Open Access to Transmission Network is crucial:** Non-discriminatory access to transmission system networks is one of the most important prerequisites of CBET. Apart from India, Bhutan and Bangladesh no other country recognizes OA.
8. **Mode of Interconnection and Harmonization Required:** While AC interconnection (e.g. India-Bhutan) would require harmonization of codes and system standards; DC interconnection (e.g. India-Bangladesh) would require installation of HVDC system (to convert AC to DC) which would in turn entail significant capital cost.
9. **Transmission Pricing:** Apart from Afghanistan, rest of the countries have some entity for determination of tariff either in the form of a regulator or a separate body. Transmission tariffs are either embedded in the retail tariff or are separately determined based on some mechanism. **In CBET transmission pricing will involve two elements** – transmission charges that are linked to asset commissioning and recovery of costs; transit fee which is largely driven by political motives and hence matter of negotiations. Clarity on both these aspects will be required.
10. **Commercial Mechanism to Settle Imbalances** exists only in Afghanistan, Bhutan and India, but is contract specific. For CBET to evolve, a common set of principles to settle imbalance across different countries would be needed where there is AC-AC connection.

¹ The Electricity Laws, Regulations and Policies (EL&R&P) of South Asian countries available in the public domain as on February, 2015 were only reviewed and analysed.



Figure 2: Various international power pool/integration reviewed



Keeping in view the above identified gaps and ingredients of CBET, the report undertakes the review of international power pools and regional trade arrangements to understand good practices that would serve as learnings, and on the basis which initiatives across the South Asian Countries can be defined. Figure 2 indicates various regions reviewed as part of the international review.

The ongoing trade in power pools like West African Power Pool (WAPP), South African Power Pool (SAPP); and trade arrangements in Greater Mekong Region (GMS), cross-border trade between Georgia-Turkey etc., are relevant examples of CBET for South Asia.

The review shows that trade initially is carried on bilateral basis, wherein the offtake of power is based on negotiation of long-term bilateral power purchase agreements (PPAs) between countries. Bilateral trade is the basic initial requirement for trade to commence, which subsequently creates confidence among the participants. The evolution of multilateral trade takes place from such basic framework as new interconnection increases and more countries join in trading. With surplus capacity available in the system the region then opts for short term trading for balancing and emergency support and finally graduates to a centralized regional trading similar to advanced European Power Pools.

The evolution of CBET from simple bilateral trade arrangements to a centralized trading system takes place under the ambit of regional commitments in the form of **Host Government Agreements, Bilateral and Multilateral Framework Agreements, Market Access Agreements/Codes; supported by an appropriate institutional, regulatory and legal framework at the regional level.** The experience of power pools and other regional electricity trade arrangements highlights the importance of **comprehensive, well drafted standard contracts that fully incorporates the consequences of contractual defaults and emergency events. It has been observed that well-designed PPAs that explicitly addresses the supply security, increase the prospects of success for large cross-border transactions.**

Key observations emerging from the international review are given below:

- **Inter-Governmental Commitment and Coordination** has been addressed through *Treaties, MOUs, Energy protocols, Inter-Governmental Agreements on trade, Policy Statement on Regional trade etc.* Further, **Cooperation on Regulatory and Contractual aspects** have been addressed through *Common set of regulatory guidelines, Electric Power Forums, Regional Power Trading Coordination Committees, Cooperation between regulators etc.*



- **Transmission Planning/infrastructure Development** through creation of *Regional Master Plans*, *Prioritization of export oriented projects*, *Private sector participation* etc.
- **Mechanism of Interconnection** based on nature of power system. *AC interconnection for synchronized systems and HVDC for unsynchronized and distant networks. Power system synchronization could be possible through harmonization of codes and system standards.*
- **Third party Open Access** could be achieved through *political commitment to liberalization; Legislative provisions for third party access, Conducive market structure (ownership separation), independent system operation, economically efficient pricing, Well organized transmission planning* etc.
- **Transmission Pricing** aspects have been dealt through specific mechanisms. *While in advance power pools countries have adopted economically efficient pricing techniques based on Locational Pricing or Nodal Pricing recognizing the importance of location specific congestion costs; pools which are still in their early stages have continued with the historical methods of Postage Stamp or MW-km based pricing.*
- **Settlement of Energy Imbalances** in most of the bilateral arrangements have been addressed through terms and conditions in the PPA. However, in some regions short term trade arrangements include provisions of Balance Responsible Parties (BRP)²
- **PPA/Contracts** have been dominated by *bilaterally negotiated long term agreements. Terms and conditions of contract – Pricing, payment, security, transit charges, settlement, dispute resolution* etc. form part of the contract. *In some cases, bilateral contracts are also complemented by short term contracts in the form of day ahead and intra-day contracts.*
- **Funding for CBET** has largely been done through *IFIs, Multilateral Development banks, Concessional debt financing and technical assistance, National contribution* etc.
- **Dispute Resolution** aspects have been addressed through *settlement procedures being part of Treaties and Agreements, Option for amicable settlement, International arbitration* etc.

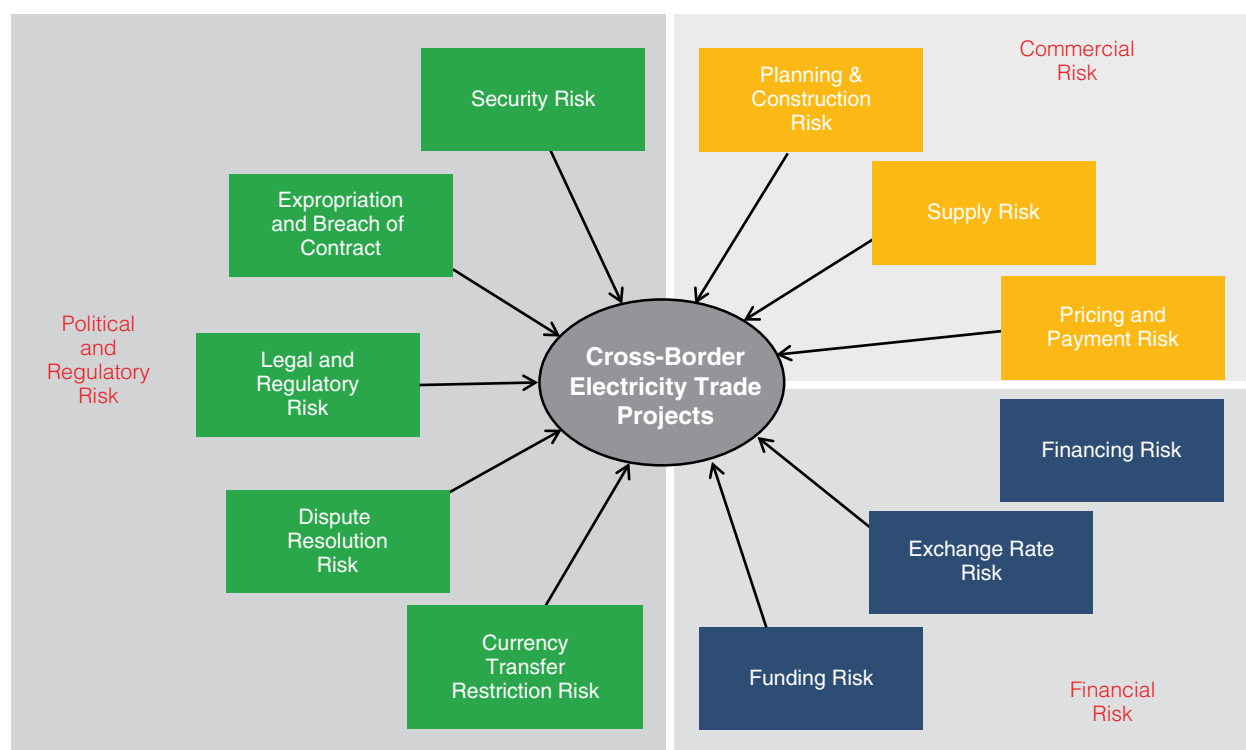
The overall experience from International review undertaken in this report brings out important lessons for other regions envisaging such arrangements. **One such aspect is that cross-border element greatly increases the risks due to geopolitical, economic and trade related factors. Even projects that appear to have conclusive rationale, in practice struggle to get financed and built. Project risks in general tend to be high in countries without wide experience on large project development. Hence, risk identification and balanced allocation is an important first step in developing the investment framework.**

CBET is subject to typical risks (Fig. 3) like Political Risks (**comprising Security, Expropriation, Breach of Contract**), Legal & Regulatory Risks (**Change in Law etc.**), Commercial Risks (**comprising Planning, Supply, Pricing & Payment**), Financial Risk (**Funding, Financing, Exchange rate**) and Dispute Resolution. These risks escalate substantially when projects span more than one country and implicate more than one major investment module, **such as a generation plant and cross-border transmission line. Hence it is important to ensure that these risks are reasonably mitigated for the investments to materialize.** Risks in most of the cross-border electricity trade power pools have been mitigated through

² In European Power pools, the TSOs enter into contracts with Balancing Responsible Parties (BRPs) which are either generators or consumers. These BRPs are then responsible for keeping the balance between injections and off-takes in their perimeter. The mechanism not only keeps the grid stable but also ensures supply security during emerging situations



Figure 3: Key Risks Associated with CBET projects



structured frameworks. **For example Inter-government agreements agreeing to such framework which incorporates following:**

- *Partial risk guarantees, MIGA guarantees, Sovereign Guarantees*
- *Provisions of compensation in the PPAs, pass through of cost etc.*
- *Arbitration in neutral third-country, establishment of a supra-national institution etc.*
- *Adequate payment security mechanism, documents including PPAs, TSAs bankable enough to ensure smooth flow of investment*

The perspectives obtained from the international experience of power pools are extremely useful for South Asia to evolve strategies for facilitating CBET. The key recommendation emerging from the review are summarized below:

- a) **Inter-Governmental Agreements and Multilateral MoUs:** Inter-Governmental Agreements would help protect and promote such projects and reduce the risks of policy/regulatory surprises and expropriation. **In addition to Inter-Governmental Agreements (IGAs), there is a need to have Host Government Agreements (HGAs) to ensure that the countries in which the investments are being made provide stable investment regimes and eliminate fiscal and regulatory surprises.** This is essential for investments where payoffs span several decades. **The Host Government Agreements would ensure that the countries in which the investments are being made provide stable investment regimes and eliminate fiscal and regulatory surprises.**
- b) **Stable framework to ensure investors' confidence:** Further, in order to gain investors' confidence, CBET would require greater certainty on contracting arrangements. **The relevant documents (power purchase agreements, transmission service agreements and payment security mechanism) should be bankable enough to gain investors' confidence. A commonly agreed investment protection framework should be there to ensure that contracts are honoured.**



- c) **Harmonization of grid codes:** For bilateral small scale transactions (say less than 1 GW) there is no major harmonization requirement, especially if the interconnections are DC. If AC interconnections are in place there would be higher deviation risks. Hence it is essential for South Asian countries to adopt common balancing and settlement arrangements to mitigate deviation risks. This will depend upon the type interconnection and also the scale of transactions. Risks in AC interconnections would be higher than in DC interconnection.
- d) **Market Access/Open Access:** An investment led trade like CBET would require greater certainty on market access in South Asian countries. It will become even more essential when CBET gradually moves to a centralized trading market or power exchanges. **Till the time power exchange traded volumes are low and the demand/supply does not majorly affect prices, there may not be major challenges to market access. However if the volumes start having influence on demand–supply and prices, then market access by sellers/buyers from third countries can face risks. Market access must be guaranteed adequately through power trade agreements (bilateral/multilateral) in such circumstances.** Hence, it is important to ensure that participating countries recognize the criticality of OA at the country level and introduce necessary provisions (legal, regulatory) in their system.
- e) **Harmonization of Taxes and Duties:** Currently there is no custom duty, export tax or transit tax in regional electricity trade that poses a restriction on cross-border electricity trade. **However, going forward as the region transcends to more complex trade forms (multilateral, centralized trading platform) complete harmonization of taxes and duties with respect to CBET across South Asia would be required through some formal arrangement.**
- f) **Regional Level Master Plan:** Currently, most of the SA countries have their respective master plans comprising both generation and transmission aspects. These master plans should be combined to develop a regional level master plan which should cover priority projects at the regional level and the required corresponding investments. **Alternatively, the respective master plans of the South Asian countries should include all investments linked to the CBET, and address these explicitly in their master plans.**
- g) **Standardized PPAs:** Standardized PPA should be **developed based on commonly agreed regulatory guidelines** and comprise provisions for **pricing, imbalance settlement, supply events of default, buyer events of default, payment terms and security; obligations and responsibilities under occurrence of various types of risks (political, regulatory, financial etc.); dispute resolution entities & procedures.** The prior existence of these provisions would help in attracting private sector participation and obtaining investor confidence.
- h) **Dispute Resolution:** Clearly defined and standardized dispute resolution procedures: Strong and clearly defined dispute resolution procedures are an absolute necessity since they govern and affect the existing and future trade relations between two countries. Repercussions of such disputes could result in discontinuation of electricity supply temporarily or permanently leading to high financial losses and demand supply imbalance. **For risk mitigation a transparent, fair and commonly accepted legal framework is essential. The relevant law and thus seat of litigation and arbitration must be acceptable to all participating countries. Commitment to such legal systems by all parties also creates investor confidence. Parties shall endeavour to settle the disputes through diplomatic channels.** Common dispute resolution procedures to be framed on a regional basis. This can be part of the regional regulatory guidelines proposed.
- i) **Establishment of a consultative body/forum:** In SA region there is no particular need for complete alignment of regulations or for a super-regulator. It is important to establish a consultative body/

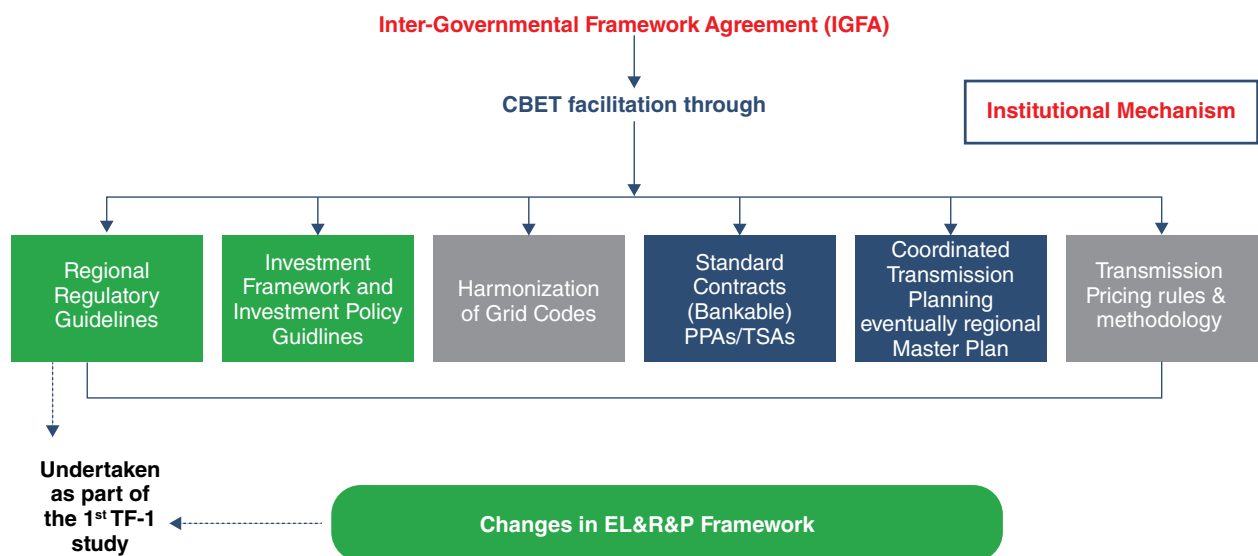


forum that produces guidelines for all regulators insofar as cross-border trade is concerned. **A South Asia Forum of Electricity Regulators could be established. The forum would be responsible for developing framework guidelines, terms and conditions of PPA and Standard contracts through expert groups and technical committees.** Development of PPA and transmission agreement itself is a long drawn exercise. Key aspects may be agreed as part of regional regulatory guidelines. Further, in order to ensure coordinated, reliable and secure operation of the interconnected transmission network, a body/forum of transmission system operators of SACs like South Asian Forum of Transmission Operators (SAFTO) could be established within the SAFER.

- j) **Prior Assessment of political risks and establishment of mitigation measures:** It is important to identify and assess the risks and relevant mitigation measures. The governments must enter into several MoUs and sovereign-to-sovereign agreements to mitigate the potential legal and political risks.

Based on the above and taking into account the recently signed SAARC framework agreement on Energy (Electricity) Cooperation, overall framework was evolved for promoting CBET in SA region which is shown in Figure 4. The findings/recommendations emerged from the review and analysis recognizes that harmonization/coordination of regulatory framework is critical for successful implementation of CBET among the SAC as well as the required appropriate institutional mechanism. The study proposes South Asian Forum of Electricity Regulators (SAFER)³ or any other appropriate regional institutional mechanism/forum to manage the process of coordination/harmonization policies, regulations and laws for promoting CBET in close coordination with various regional bodies including the proposed regional electricity regulatory authority⁴, the SAARC secretariat, technical committees, forums and other relevant SAARC entities and programmes in the area of facilitating power trade.

Figure 4: Overall framework for promoting CBET in SA region



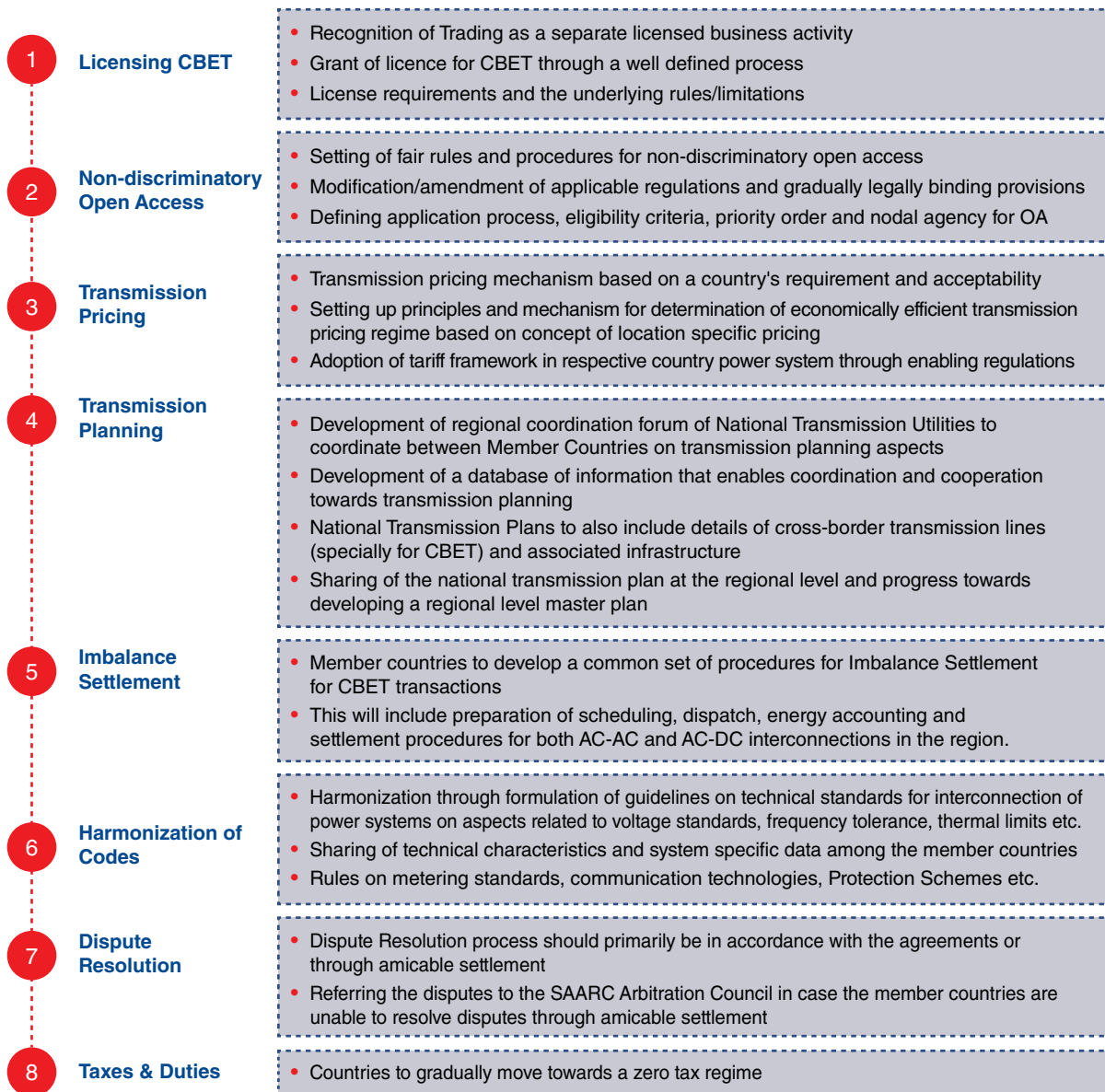
³ It is understood that there is already a discussion under SAARC on setting up a regional regulatory forum at the South Asia level. In case, this institution is set up, the responsibilities could be subsumed or taken up by such regional regulator/Regulator Forum. (In the First Meeting of the SAARC Energy Regulators held on 21-22 December at Dhaka, it was recognised that "Given the importance of the regional energy cooperation and promotion of cross-border electricity trade in the SAARC region, a Regional Energy Forum may be formed under the SAARC umbrella in the future." As well as during the 2nd Meeting of SAARC Energy Regulators held 07th to 10th February 2016 in Sri Lanka) <http://www.sundaytimes.lk/160214/business-times/saarc-energy-regulators-to-establish-regional-regulatory-body-for-cross-border-trade-182563.html>
<http://www.pucsl.gov.lk/english/news/public-utilities-commission-of-sri-lanka-pucsl-hosts-second-meeting-of-saarc-energy-regulators/>
<http://www.irade.org/Second%20Meeting%20of%20SARI-EI%20Delegation%20of%20SAARC%20Energy%20Regulators%20in%20Colombo,%20%20Sri%20Lanka.pdf>

⁴ <http://www.dhakatribune.com/bangladesh/2014/dec/23/plan-made-form-saarc-energy-regulatory-authority>



As mentioned earlier, the SAARC Inter-Governmental Framework Agreement (IGFA) for Energy Cooperation, signed on 27th November 2014 by the Foreign Ministers of the eight member states also provides a strong basis and a broad framework for ensuring consistency in approaches across some of the key parameters identified in the study.

Figure 5: A brief summary of the guidelines

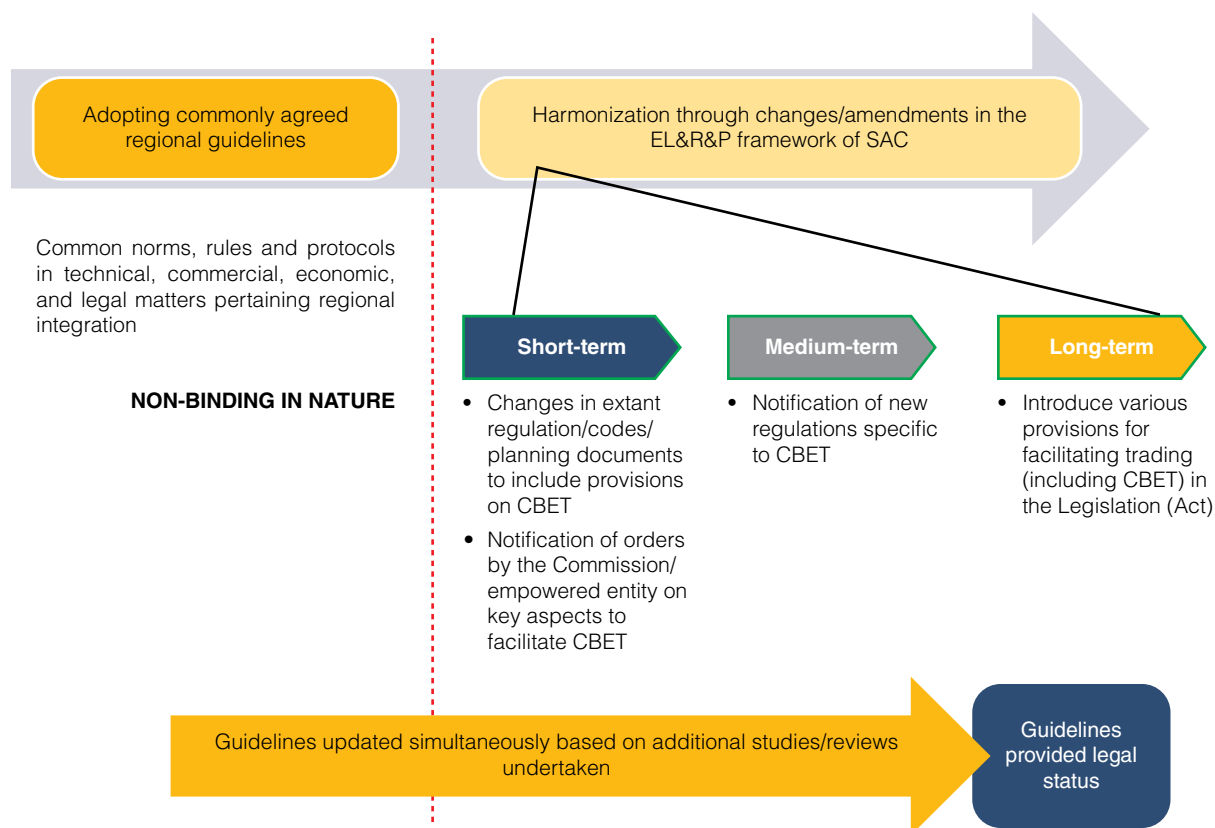


The above necessitate establishment of regional regulatory guidelines (developed and provided as part of this study⁵) in the form of common rules and protocols in technical, operational and legal matters pertaining to regional electricity integration and cross border electricity trade. These regulatory guidelines have been developed to establish clear regulatory environment for cross-border trading that provides reasonable certainty to the participants involved in cross-border trade transactions. The Guidelines and the supporting explanatory memorandum are described in the form of principles and process that needs to be adopted. A brief summary of the guidelines is provided in Figure 5.

⁵ [http://www.irade.org/IRADe-SARI-EI-Regional%20Regulatory-Guidelines%20\(July%202015\)-.pdf](http://www.irade.org/IRADe-SARI-EI-Regional%20Regulatory-Guidelines%20(July%202015)-.pdf)



Figure 6: Harmonization/Coordination through Changes/amendments in the EL&R&P for Implementation of RRGs



It is envisaged that to begin with, these regulatory guidelines agreed between the regional entities and endorsed by the national regulators, will be non-binding in nature and would not have a formal legal status. The flexible nature of the guidelines and focus only on specific aspects of CBET, would permit both the guidelines and the national regulatory framework to co-exist for a reasonable period of time. Gradually, a legal effect shall be provided to these guidelines through a structured framework. The above steps will require consensus building and hence will need to be facilitated through a strong institutional sponsor.

The adoption and implementation of Regional Regulatory Guidelines will require some changes/amendments in the existing Electricity Laws, Regulation and policies of SA countries. Under this study existing⁶ Electricity Laws, Regulation and policies of SA countries has been reviewed and analyzed⁷ in detail with respect to (a) the key ingredients identified and (b) regulatory guidelines. Based on the review and analysis this report has come out with suggested changes/amendments⁸ in the existing Electricity Laws, Regulation and policies of SA countries for promoting CBET in region across the key ingredients

⁶ Electricity Laws, Regulation and policies of SA countries as exist in public domain as on February, 2015 has been reviewed and analysed. Due care and extensive efforts has been made by the Task Force-1 Members, Technical Team at SARI/EI Project Secretariat and the Consultant to review the latest Electricity Laws, Regulation and policies sourced from the authentic sources, however the report does not guarantee any accuracy of the authenticity of the Electricity Laws, Regulation and policies of SA countries reviewed as part of these exercises. Only the English language version of the Electricity Laws, Regulation and policies of SA countries has been reviewed and analysed. Any changes/amendments made in Electricity Laws, Regulation and policies of SA countries or any new Electricity Laws, Regulation and policies which has come into force after February, 2015 has not been reviewed and considered in this study.

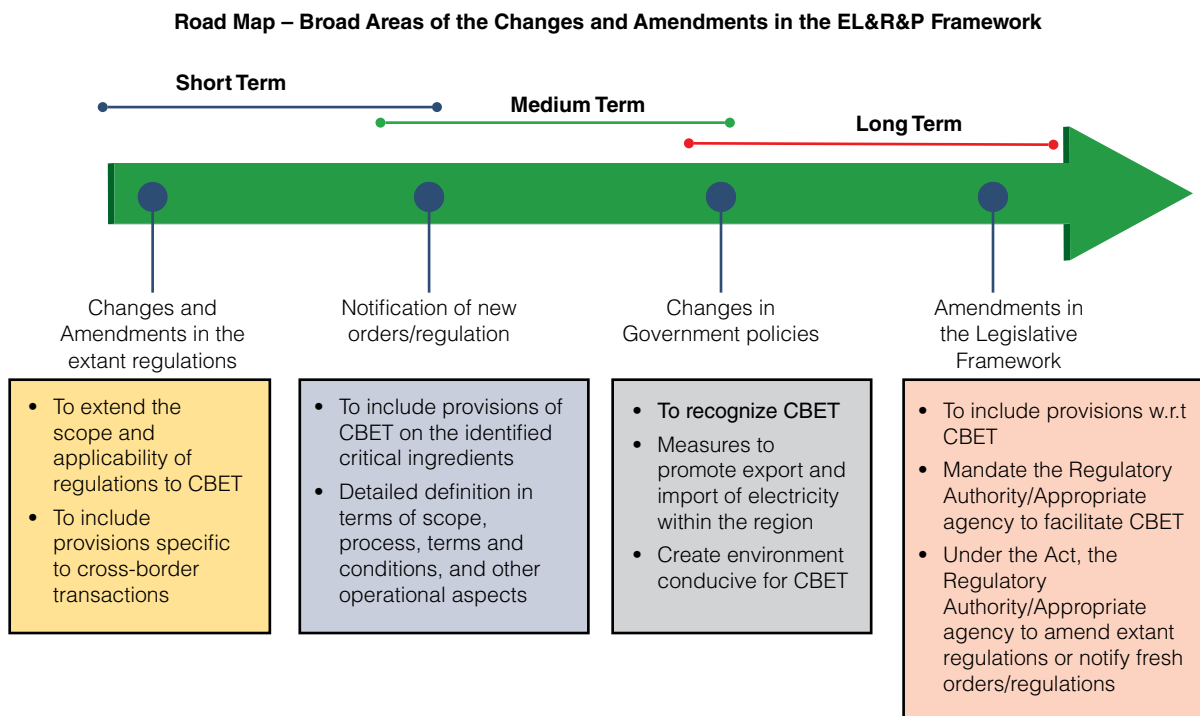
⁷ A detailed review of the EL&R&P was undertaken to assess the relevant provision w.r.t. to CBET existing status and to identify missing ingredients w.r.t. to CBET in the EL&R&P of south Asian countries with an objective towards promoting/advancing CBET in South Asian Countries is given in the Annexure I.

⁸ The changes/amendments suggested in Electricity Laws, Regulation and policies of SA countries in this report are suggestive in nature and do not necessarily reflects the view of the all the Task Force-1 Members, Technical Team at SARI/EI Project Secretariat and of the Consultant and the organisation each of them represents as no legal vetting of such Changes/Amendments has been carried out as part of this study. These suggested changes/amendments can be considered by each South Asian Country Governments as a base for aligning the legal, policy and regulatory frameworks prevailing in each South Asian Countries for promoting CBET in the region. Further country governments may also carry out appropriate legal review/opinion for implementation of this suggested changes/amendments.



identified and the regulatory guidelines. **This report details the suggested changes/amendments in the existing Electricity Laws, Regulation and Policies of each SA countries for promoting CBET in region.** Since changes in the law may be long drawn, due care was taken while suggesting changes/amendments and it is recommended that, critical ingredients imperative for CBET may be as much as possible in the SA countries be enforced through enactment of specific regulations/orders. **This report also has come out with the country wise short-, medium- and long-term roadmaps** for implementation. The broad area of changes/amendments in the EL&R&P across short-, medium- and long-term has been briefly outlined in Figure 7.

Figure 7: Broad Area of the Changes/Amendments in the EL&R&P Framework





Suggested Changes/Amendments in Electricity Laws, Regulation & Policies (EL&R&P) of South Asian Countries

The suggested changes/amendments in the existing Electricity Laws, Regulation and Policies of SA countries has been identified from the perspective of promoting CBET in region across the key ingredients identified and the regulatory guidelines ([http://www.irade.org/IRADe-SARI-EI-Regional%20Regulatory-Guidelines%20\(July%202015\)-.pdf](http://www.irade.org/IRADe-SARI-EI-Regional%20Regulatory-Guidelines%20(July%202015)-.pdf)). Since changes in the law may be long drawn process, it is recommended that critical ingredients imperative for CBET may be possibly enforced through enactment of specific regulations/orders as much as possible.⁹ The following section details the Clause/Section wise suggested changes/amendments in Electricity Laws & Regulation & Policies (EL&R&P) in each of the south Asian countries.

⁹ The suggested changes/amendments proposed in this section covers primarily the critical ingredients of CEBT identified and regulatory guidelines. There may be several other commercial or operational aspects where changes/amendments would be required, but are beyond the scope of this study. Country wise Table on Summary of the clause/section wise suggested changes/amendments in EL&R&P framework is provided in the Annexure II.



AFGHANISTAN



In Afghanistan, the electricity Legal, Policy and Regulatory framework is in early stages of development. The sector functions under the aegis of the Ministry of Energy and Water (MEW). The role of MEW includes (i) preparation and execution of sector policy and planning; (ii) preparation of the legal framework for the electricity sector (in coordination with other Ministries); and (iii) coordination of donor programmes and activities. All the electricity trading is currently handled by MEW.

A draft Law on electricity¹⁰ services was issued in 2009. The Law includes setting up of the Afghanistan Electricity Regulatory Authority (AERA) and defines its power and duties. It also covers aspects on licensing, technical standards and dispute resolution, network interconnection and access etc.

While the Law is still under process of getting finalized as on November 2015, from CBET's perspective following measures need to be taken into consideration (the text highlighted in the red color below are the Provisions that need to be introduced):

- The Law is in draft stage, it covers several aspects of cross-border trade, however in a broad manner. **Certain modifications/additions can be done by elaborating more on the critical aspects of CBET, which in the current form have been broadly covered. The Law needs to be finalized and notified.**
- The draft Law requires the proposed Afghanistan Electricity Regulatory Authority (AERA) to regulate cross-border exchanges of electricity, subject to provisions of the Law and to conditions of international agreements. **Though the provisions of the Law support CBET, AERA needs to provide detailed definition to the critical aspects of CBET through regulations that elaborate these aspects in the form of rules, processes, mechanism etc.**
- The draft Law recognises international power trade and provides MEW the role of coordinating the same. MEW is required to engage in the negotiation of electricity sector treaties, develop policies governing international power trade, and facilitate talks regarding international trade agreements. **In future, responsibilities with respect to electricity trade could be transferred to DABS particularly those involving execution and negotiation of PPAs.**
- The draft Law provides for licensing the electricity trade. The AERA is required to issue license for
 - ▶ Domestic trade: Supply or trade of electricity when the volume of sales by a single supplier is more than 2% of the total market of Afghanistan
 - ▶ Import and export of electricity**Once established, AERA through separate notifications needs to define clear and transparent rules for licensing cross-border trading activities.**
- As per the draft Law, AERA is required to determine tariff methodologies. The Law also provides general principles and procedures for tariff setting. **From CBET's perspective AERA needs to define clear and transparent mechanism for determining transmission/transit charges.**
- The draft Law also provides for the development of a Grid code, Distribution code and Metering code by AERA. **From CBET's perspective it is important that technical standards, codes with respect to external interconnections are explicitly defined in the Grid code.**

¹⁰ SARI/EI Project Secretariat has received the latest information from Ministry of Energy and Water, Kabul, Afghanistan on 14th February, 2016 about the "Legislative Decree of the President of Islamic Republic of Afghanistan – About Endorsement of the Regulating Law of Electrical Energy Services" has been approved and however English version of the same is yet to be approved by the Ministry of Justice, Afghanistan.



- As per the draft Law, the licensee operating the transmission system must make available to any Person who seeks use of such system on equal terms to any other Person, at fair Tariffs and terms of access. **Such provisions of non-discriminatory open access needs to be clearly defined and elaborated by AERA, especially for access to exporting and importing entities to the National Grid.**
- Under Dispute Resolution, the draft Law provides for amicable settlement of the dispute, and also provides for referring the matter to the International Centre for Settlement of Investment Disputes (“ICSID”) or for Arbitration in accordance with the United Nations Commission on International Trade Law (“UNCITRAL”)¹¹ rules.
- From planning perspective, there exists detailed assessment of cross-border trade in Afghanistan. The Energy Sector Strategy (2007/08 - 2012/13), National Electricity Supply Program (NESP) (2013-2015) and Afghanistan Energy Master Plan 2013 recognises CBET and highlights the country as an Energy Transit Route. They detail out power sector assessment in terms of demand and supply forecasts, deficits, present status of the power system in the country and the current CBET with Iran, Tajikistan, Turkmenistan and Uzbekistan.

In addition to the above, other critical aspects like imbalance settlement which have not been dealt with in the draft Act needs to be introduced. Under all circumstances, setting up of AERA is absolutely essential in order to provide actionability to the provisions of the draft Act. AERA, once established, needs to define and elaborate all the critical aspects of CBET through notification of rules and regulations on the same.

Having said that, in the current scenario, with no Electricity Act or Regulator in existence, cross-border trade with neighbouring countries is being negotiated largely through bilateral route *(i) With Iran, Kyrgyzstan and Uzbekistan as an extension of existing contracts (ii) New PPAs under CASA-1000*. These agreements contain necessary provisions on Open Access, Transmission Pricing, Imbalance Settlement, Dispute Resolution etc. It is highly likely that in the short- and medium-term, CBET in Afghanistan will continue in the same manner through separate country agreements, without any immediate need of common/standard provisions on the key ingredients.

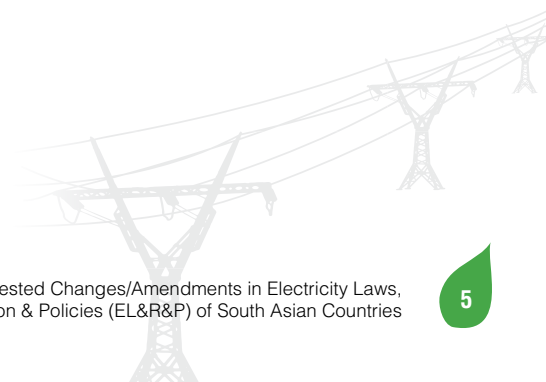
The CASA 1000 Master Agreement on Transmission System deals with some of the key ingredients in the following manner:

1.	Open Access
	<p>There exist rules/procedures for the provision of access to and use of the CASA 1000 Transmission System by member countries during the term of the Agreement</p> <ul style="list-style-type: none"> ● Provision of Open Access during a non-supply period wherein all transmission capacity available during a Non-Supply Period shall be allocated in accordance with the Open Access Rules; ● Parties to evaluate market demands for open access and appropriate prices for open access use; ● Determination of transit fee in relation to electricity which is transmitted through Afghanistan under the PPAs between third parties and the National Transmission and Dispatch Company (NTDC) under the Open Access Rules

¹¹ http://www.uncitral.org/uncitral/en/uncitral_texts/arbitration/2010Arbitration_rules.html



2. Imbalance Settlement
<p>There exist provisions on Imbalance Settlement for cross-border trade</p> <ul style="list-style-type: none">• Existence of Imbalance Charges• Seller Imbalance Event – Seller provides either more than 105% or less than 95% of the scheduled quantities;• Buyer Imbalance Event – Buyer takes more than 105% or less than 95% of the scheduled quantities;• On occurrence of imbalances, such party shall be liable to pay a sum to the Common Fund (Reserve Fund'), for each instance. For each event of deviation: USD 1000, more than 5 events/6th event- USD 5000. The reserve fund is operated by an operating committee.
3. Dispute Resolution
<ul style="list-style-type: none">• Written Notice of Dispute to the counter party• Executive Discussion in good faith within a timeframe• Under no resolution<ul style="list-style-type: none">• Expert determination – if referral is mutually agreed by the Parties to the Dispute• Arbitration – resolution by arbitration under the Rules of Arbitration of the International Chamber of Commerce





BANGLADESH



Sl.No.	Acts/Policies and Regulations	Summary of the suggested Changes/Amendments - Bangladesh
Legal and Regulatory Framework		
1.	Electricity Act 1910 and subsequent amendment 2012	a. Open Access (OA): OA Regulations proposed to be developed by the Commission to include adequate provisions for cross-border transactions, facilitating transparent access to the National Grid for exporting/importing entities.
2.	Bangladesh Electricity Regulatory Commission Act, 2003 and subsequent amendment in 2005	a. Licensing: Trading of electricity is proposed to be a licensed activity. b. Open Access (OA): BEREC to create enabling provisions (by notifying regulations/order) for the ISO to coordinate and confirm scheduling and dispatching of cross-border flows in a transparent manner in accordance with the applicable network codes and standards for CBET as provided in the Grid Code. c. Dispute Resolution: Matters with respect to contracts for CBET that are beyond Commission's jurisdiction may be referred to the SAARC Arbitration Council. However, other options of international dispute resolution procedures like UNCITRAL, ICSID and Singapore Arbitration etc. could also be explored.
3.	BERC Licensing Regulations, 2006 with subsequent amendments in 2011	*Document not available in English.
4.	Electricity Grid Code 2012	a. Open Access: The Grid code shall define technical specifications for external interconnectors and other standards/codes essential for cross-border flows. b. Transmission Planning: Reinforcement or extension of the existing Transmission System to be taken in consideration to the envisaged CBET. c. Imbalance Settlement: Suitable amendments to the existing Grid Code to include provisions related to imbalance settlement for CBET.
Policy and Planning		
1.	National Energy Policy 2004	a. Transmission Planning: Creation of a database containing information on transmission and generation infrastructure for CBET in consideration of the Power System Master Plan that discusses cross-border interconnection options for Bangladesh.
<p>Since Changes in the Acts is a long drawn process, enablement of essential factors/ingredients for CBET can be undertaken through drafting of separate regulations/notifications/orders for the following aspects:</p> <ul style="list-style-type: none"> i. Open Access (already proposed to be developed by the Commission) ii. Tariff Policy (for Transmission Pricing) iii. Imbalance Settlement iv. Taxes and Duties (all countries to move to a zero tax regime) 		



**SUGGESTED CHANGES/AMENDMENTS IN THE LEGAL AND REGULATORY FRAMEWORK:
DETAILED CLAUSE/SECTION WISE**

A. LICENSING

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Bangladesh Electricity Regulatory Commission Act, 2003 and subsequent amendment in 2005		
1.	<p>CHAPTER – 6</p> <p>Clause 27: License</p> <p>1. No person shall engage himself in the following business unless he is empowered by a license or exempted from having it under this Act or any other Act, such as:</p> <ol style="list-style-type: none"> Power generation; Energy transmission; Energy distribution and marketing; Energy supply; and Energy storage. <p>2. All persons empowered under Electricity Act, Presidential Order, Rural Electrification Act, DESA Act, Bangladesh Petroleum Act, or rules made thereunder for the power generation, and transmission, storage, supply and distribution of energy shall be treated as licensees under this Act and provisions of this Act shall be applicable to them.</p> <p>Clause 28: Issuance of license by the Commission — License may be issued to any person for the following purposes in a procedure prescribed by the Commission, such as:</p> <ol style="list-style-type: none"> For power generation; For energy transmission; For distribution and marketing of energy; For supply of energy; and For storage of energy. <p>29. Exemption from the requirement of licence —</p> <p>1. Commission may make regulations for giving exemption from the requirement of licence subject to the fulfilment of the specified conditions.</p> <p>2.</p> <p>3.</p> <p>30. Renewal, revision and cancellation of licence — Licence can be renewed, cancelled and revised by a process prescribed by regulation.</p> <p>31. General duties and powers of the licensee —</p> <p>32. Restrictions to the licensee —</p> <p>1. No licence without having prior permission in writing from the Commission shall acquire any undertaking by purchase or any other means.</p> <p>33. Annual accounts of licensee —</p>	<p>CHAPTER – 6</p> <p>Clause 27: License</p> <p>1. No person shall engage himself in the following business unless he is empowered by a license or exempted from having it under this Act or any other Act, such as:</p> <ol style="list-style-type: none"> Power generation; Energy transmission; Energy distribution and marketing; Energy supply; Energy storage and Trading of electricity. <p>2. All persons empowered under Electricity Act, Presidential Order, Rural Electrification Act, DESA Act, Bangladesh Petroleum Act, or rules made thereunder for the power generation, and transmission, storage, supply, distribution of energy and electricity trading shall be treated as licensees under this Act and provisions of this Act shall be applicable to them.</p> <p>Clause 28: Issuance of license by the Commission — License may be the following purposes in a procedure prescribed by the Commission, such as:</p> <ol style="list-style-type: none"> For power generation; For energy transmission; For distribution and marketing of energy; For supply of energy; and For storage of energy. For trading of electricity.



Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
2. BERC Licensing Regulations, 2006 with subsequent amendments in 2011		
1.	Appropriate changes to the existing licensing regulations may be required. (However, since the English version of the same was not available, the review was not carried out on the BERC Licensing Regulations, 2006 with subsequent amendments in 2011)	

B. OPEN ACCESS

Non-discriminatory OA Access and promotion of competitive market

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. 'Electricity Act 1910' and subsequent amendment 2012¹²		
1.	<p>Part 2, Clause 6: Power Market and Single Buyer</p> <p>1. The Commission shall take necessary steps to undertake and complete a detailed study through competent experts to examine the feasibility of introduction of an open market for power business in Bangladesh.</p> <p>2. It shall be the duty of the Commission, based on the outcome of the study, to decide on the introduction, operation and maintenance of an independent, fair and competitive market structure for bulk trading of electricity in the country.</p> <p>3. The Commission shall frame regulations in consultation with the Government, respective utilities and concerned organisations to provide guidance to the power market for its smooth functioning well before the said market becomes operational.</p> <p>4. The Commission shall facilitate transparency in the power market for the sale and transmission of electric energy, having due regard for the public interest, the integrity of the market, fair competition, and the protection of consumers.</p> <p>5. No entity shall, use or employ, directly or indirectly.....</p> <p>6. Notwithstanding any other provision of law, the Commission.....</p> <p>7. Until such time as a comprehensive power market.....</p> <p>Provided that the Commission shall take appropriate measures to facilitate smooth transition from the single buyer system to the open market system in consultation with the Government.</p>	<p>Part 2, Clause 6: Power Market and Single Buyer</p> <p>1. The Commission shall take necessary steps to undertake and complete a detailed study through competent experts to examine the feasibility of introduction of an open market for power business in Bangladesh. This will also include assessment of existing and future cross-border transactions.</p> <p>2. It shall be the duty of the Commission, based on the outcome of the study, to decide on the introduction, operation and maintenance of an independent, fair and competitive market structure for bulk trading of electricity in the country and for import & export of electricity.</p> <p>3. The Commission shall frame regulations in consultation with the Government, respective utilities and concerned organisations to provide guidance to the power market for its smooth functioning well before the said market becomes operational. These regulations shall include adequate provisions for cross-border transactions.</p> <p>4. The Commission shall facilitate transparency in the power market for the sale and transmission of electric energy, having due regard for the public interest, the integrity of the market, fair competition, and the protection of consumers.</p> <p>5. No entity shall, use or employ, directly or indirectly.....</p> <p>6. Notwithstanding any other provision of law, the Commission.....</p> <p>7. Until such time as a comprehensive power market.....</p> <p>Provided that the Commission shall take appropriate measures to facilitate smooth transition from the single buyer system to the open market system in consultation with the Government. Appropriate measures shall also be taken to facilitate and promote cross-border electricity trade.</p>

¹² <http://asialeds.org/sites/default/files/resource/file/33.pdf>



Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
2.	<p>Part 2, Clause 6(a): Cross-Border trade in Electricity</p> <p>1. The Board and/or the Single Buyer may import electricity from and export to any foreign state using the transmission system of the country with previous sanction of the Government at such rate as may be determined by the Government.</p>	<p>Part 2, Clause 6(a): Cross-Border trade in Electricity</p> <p>1. The Board and/or the Single Buyer/Multiple buyers (with transition from the single buyer system to the open market) may import electricity from and export to any foreign state using the transmission system of the country with previous sanction of the Government at such rate as may be determined by the Government. Such rates for transmission usage shall be determined using efficient and transparent methodologies. It shall inhibit monopoly and promote competition and transparency.</p>
3.	<p>Part 2, Clause 7, 2(d): Transmission utility and its functions</p> <p>1. To provide non-discriminatory open access to its transmission system for use by (i) any licensee or generating company on payment of the transmission charges; or (ii) any person, as and when such open access is provided subject to the provisions of Sub-section (3), on payment of the transmission charges and any surcharge thereon, as may be specified by the Commission;</p> <p>2. 7 (3) The Commission shall, in consultation with the licensees, and with the approval of the Government, issue necessary regulations in order to ensure open non-discriminatory access by all the concerned parties to the grid system in Bangladesh.</p>	<p>Part 2, Clause 7, 2(d): Transmission utility and its functions</p> <p>1. To provide non-discriminatory open access to its transmission system for use by (i) any licensee or generating company on payment of the transmission charges; or (ii) any person, as and when such open access is provided subject to the provisions of Sub-section (3), on payment of the transmission charges and any surcharge thereon, as may be specified by the Commission;</p> <p>1. 7 (3) The Commission shall, in consultation with the licensees, and with the approval of the Government, issue necessary regulations in order to ensure open non-discriminatory access by all the concerned parties to the grid system in Bangladesh. This shall include adequate provisions for cross-border transactions, facilitating transparent access to the National Grid for exporting/importing entities.</p>
4.	<p>Clause 8: Independent System Operator (ISO) and its functions/duties</p> <p>i. It shall also monitor grid operations, keep accounts of quantity of electricity transmitted through the national grid, and be responsible for carrying out real time operations for grid control and dispatch of electricity all over the country through secure and economic operation of the national grid in accordance with the Grid Code.</p> <p>ii. It may levy and collect such fee and charges from the generating utility or the transmission utility or the distribution utilities or other licensees as may be determined by the Commission.</p> <p>iii. A person who is not an electric utility and who enters into an access agreement with transmission utility must comply with the directions of the ISO.</p> <p>iv. Until such time as the ISO is constituted and becomes operational, the existing system of discharging of load dispatch functions and single buyer operation may continue on the basis of written order of the Government issued in consultation with the Commission.</p>	<p>Clause 8: Independent System Operator (ISO) and its functions/duties</p> <p>Note: The Commission shall create enabling provisions (by notifying regulations/order) for the ISO to coordinate and confirm scheduling and dispatching of cross-border flows in a transparent manner in accordance with the applicable network codes and standards for CBET as provided in the Grid Code.</p>



Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
2. Electricity Grid Code 2012		
1.	<p>Clause 1.2 – “The Grid Code covers all material technical aspects relating to Connections to and operation and use of the Transmission System... It seeks to avoid any undue discrimination between Users and categories of Users.”</p>	<p>Clause 1.2 – “The Grid Code covers all material technical aspects relating to Connections to and operation and use of the Transmission System including the operation of electric lines and electrical plant connected to the Transmission System in so far as is relevant to the operation and use of the Transmission System. It is designed to permit the planning, development, maintenance and operation of an efficient, coordinated and economical transmission system, to facilitate competition in the generation and supply of electricity, <i>to facilitate interconnection with power systems of neighbouring countries and hence coordinated development of a regional grid.</i> It is conceived as a statement of what is optimal (particularly from a technical point of view) for all Users as well as the Buyer in relation to the planning, operation and use of the Transmission System. It seeks to avoid any undue discrimination between Users and categories of Users.”</p> <p>Note: The Grid code¹³ shall define technical specifications for external interconnectors and other standards/codes essential for cross-border flows.</p>

C. TRANSMISSION PRICING

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. ‘Electricity Act 1910’ and subsequent amendment 2012		
1.	<p>Part III (28)- National Electricity Policy: “The Government shall, from time-to-time, at such intervals not more than five years, formulate, update and issue the National Electricity Policy including the tariff policy, in consultation with the Commission, with a view to providing basic guidance for development of the power system....”</p> <p>Current Method for Tariff Determination PGCB computes the net transmission charge based on cost plus methodology factoring the total investments incurred and the total energy wheeled. Charges are determined for 33 kV and 132 kV voltage levels. PGCB submits the proposed charges to BERG for approval.</p>	<p>Part III (28)- National Electricity Policy: “The Government shall, from time-to-time, at such intervals not more than five years, formulate, update and issue the National Electricity Policy including the tariff policy, in consultation with the Commission, with a view to providing basic guidance for development of the power system....”</p> <p><i>The tariff policy shall provide appropriate mechanism for determination of charges for transmission usage based on following principles:</i></p> <ul style="list-style-type: none"> – <i>Transparent allocation of costs</i> – <i>Compensate users for actual usage of system</i> – <i>Compensate owners of existing transmission assets</i> <p>The Commission (BERG) shall notify appropriate orders/regulations that will enable determination of single point charges for injection and withdrawal at external interconnections. Such location-based charges shall be similar to the POC charges devised by POSOCO in India.</p>

¹³ The Clause 5.9 of Grid Code 2012 talks about the International and Inter-regional Connection and Connection Agreements but do not specify any technical specifications for external interconnectors other standards/codes essential which are essential for cross-border flows.



D. TRANSMISSION PLANNING

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Grid Code 2012		
1.	<p>Clause 4. Transmission System Planning</p> <p>4.1 Introduction</p> <p>This Section identifies the method for data submissions by Users to the Licensee for the planning and development of the Transmission System. This Section also specifies the technical and design criteria and procedure to be applied by the Licensee in the planning and development of the Transmission System.</p> <p>A requirement for reinforcement or extension of the Transmission System may arise for a number of reasons, including but not limited to the following:</p> <ol style="list-style-type: none"> i. Development in a User's system already connected to the Transmission System ii. The introduction of a new Connection point between the User's system and the Transmission System iii. An increase in system capacity to remove operating constraints and maintain standards of security iv. Stability considerations v. Cumulative effect of any of the above <p>Accordingly, the reinforcement or extension of the Transmission System may involve work at an entry or exit point (Connection point) of a Generator or Distribution Utility to the Transmission System.</p> <p>Since development of all Users' systems must be planned well in advance to permit consents and way leaves to be obtained and detailed engineering design/construction work to be completed, the Licensee will require information from Users and vice versa. To this effect, the Planning Code imposes a time scale for exchange of necessary information between the Licensee and Users having regard, where appropriate, to the confidentiality of such information.</p> <p>Clause 4.2 Objective</p> <p>.....</p> <p>Clause 4.3 Perspective Plan</p> <p>.....</p>	<p>Clause 4. Transmission System Planning</p> <p>4.1 Introduction</p> <p>This Section identifies the method for data submissions by Users to the Licensee for the planning and development of the Transmission System. This Section also specifies the technical and design criteria and procedure to be applied by the Licensee in the planning and development of the Transmission System.</p> <p>A requirement for reinforcement or extension of the Transmission System may arise for a number of reasons, including but not limited to the following:</p> <ol style="list-style-type: none"> i. Development in a User's system already connected to the Transmission System. This becomes critical in case of cross-border transactions. ii. The introduction of a new Connection point between the User's system and the Transmission System iii. An increase in system capacity to remove operating constraints and maintain standards of security iv. Stability considerations v. Cumulative effect of any of the above <p>XX New cross-border links</p> <p>Accordingly, the reinforcement or extension of the Transmission System may involve work at an entry or exit point (Connection point) of a Generator or Distribution Utility to the Transmission System.</p> <p>Since development of all Users' systems must be planned well in advance to permit consents and way leaves to be obtained and detailed engineering design/construction work to be completed, the Licensee will require information (including information on planned cross-border transactions) from Users and vice versa. To this effect, the Planning Code imposes a time scale for exchange of necessary information between the Licensee and Users having regard, where appropriate, to the confidentiality of such information.</p> <p>Clause 4.2 Objective</p> <p>.....</p> <p>Clause 4.3 Perspective Plan</p> <p>.....</p> <p>Note: The existing Power System Master Plan mentions about the quantum of electricity envisaged to be imported from India, Nepal and Bhutan.</p>



E. IMBALANCE SETTLEMENT

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. 'Electricity Act 1910' and subsequent amendment 2012		
1.	<p>Clause 8: Independent System Operator (ISO)</p> <ol style="list-style-type: none"> 1. An Independent System Operator (hereinafter referred to as the ISO) shall be set up to ensure integrated operation of the power system throughout the country. 2. The ISO shall be company incorporated under the Companies Act, 1994 (Act No. XVIII of 1994) wholly owned by the Government. 3. It shall be responsible for optimum scheduling and dispatch of electricity from the generating stations in the country. 4. It shall comply with such principles, guidelines and methodologies in respect of transmitting and optimum scheduling and dispatch of electricity as provided for in the Grid Code to be specified by the Commission. 5. It shall also monitor grid operations, keep accounts of quantity of electricity transmitted through the national grid, and be responsible for carrying out real time operations for grid control and dispatch of electricity all over the country through secure and economic operation of the national grid in accordance with the Grid Code. 6. It may levy and collect such fee and charges from the generating utility or the transmission utility or the distribution utilities or other licensees as may be determined by the Commission. 	<p>Clause 8: Independent System Operator (ISO)</p> <ol style="list-style-type: none"> 1. An Independent System Operator (hereinafter referred to as the ISO) shall be set up to ensure integrated operation of the power system throughout the country. 2. The ISO shall be company incorporated under the Companies Act, 1994 (Act No. XVIII of 1994) wholly owned by the Government. 3. It shall be responsible for optimum scheduling and dispatch of electricity from the generating stations in the country as well as confirm scheduling and dispatching of cross-border flows in a transparent manner. 4. It shall comply with such principles, guidelines and methodologies in respect of transmitting and optimum scheduling and dispatch of electricity as provided for in the Grid Code to be specified by the Commission. 5. It shall also monitor grid operations, keep accounts of quantity of electricity transmitted through the national grid, and be responsible for carrying out real time operations for grid control and dispatch of electricity all over the country through secure and economic operation of the national grid in accordance with the Grid Code. 6. It may levy and collect such fee and charges from the generating utility or the transmission utility or the distribution utilities or other licensees as may be determined by the Commission.
Electricity Grid Code 2012		
1.		<p>Note: The Grid Code 2012 does not mention about any kind of imbalance settlement mechanism/ deviation settlement mechanism that provides for settlement of differences in the dispatch and withdrawal schedules.</p> <p>Suitable amendments should be made to the Grid Code to include provisions related to imbalance settlement for CBET.</p> <p>Further enablement of regulations related to imbalance settlement comprising charges of deviation, limits on deviation volume and consequences of violating limits; Accounting of Charges for Deviation; Schedule of Payment of Charges for Deviation, etc. can be introduced keeping in view the envisaged quantum of cross-border electricity trade with India, Nepal, Bhutan and other neighbouring countries.</p>



F. DISPUTE RESOLUTION

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. 'Electricity Act 1910' and subsequent amendment 2012		
1.	<p>Clause 52. Dispute Resolution, Arbitration and Compounding. (1) The procedures to be followed in the resolution of any dispute arising in connection with the supply or use of electricity under any provisions of this Act shall be such as the Commission shall set out by regulations.</p> <p>(2) Notwithstanding any provisions to the contrary in this Act or any other law for the time being in force, any disputes arising in connection with the supply or use of electricity, which the parties have not been able to resolve through the dispute resolution procedures formulated by the Commission under Sub-section (1) despite using their best efforts to do so, shall be referred to the Commission by any party to the dispute for arbitration.</p> <p>(3) Where any matter is referred to the Commission under Sub-section (2), or is, by or under this Act, directed to be determined by arbitration, the provisions of Section 40 of the Bangladesh Energy Regulatory Commission Act, 2003 (Act No. XIII of 2003) shall apply.</p>	<p>Note: The changes have been accounted for in the <i>Bangladesh Electricity Regulatory Commission Act 2003 subsequently amended in 2005.</i></p>
2. Bangladesh Electricity Regulatory Commission Act 2003 and subsequent amendment in 2005		
1.	<p>Clause 40. Arbitration - Settlement by the Commission—</p> <p>(1) Notwithstanding anything contained in the Arbitration Act, 2001 (Act No. 1 of 2001) or any other Act, any dispute arising between the licencees, or licencees and consumers, shall be referred to the Commission for its settlement:</p> <p>Provided that a contract, executed between the Government or any of its agency and a private company, in respect of energy, immediate before this Act comes into force, the conditions of the said contract shall be applicable for the settlement of the disputes.</p>	<p>Clause 40. Arbitration - Settlement by the Commission—</p> <p>(1) Notwithstanding anything contained in the Arbitration Act, 2001 (Act No. 1 of 2001) or any other Act, any dispute arising between the licencees, or licencees and consumers, shall be referred to the Commission for its settlement:</p> <p>Provided that a contract, executed between the Government or any of its agency and a private company, in respect of energy, immediate before this Act comes into force, the conditions of the said contract shall be applicable for the settlement of the disputes.</p> <p><i>Provided that for any dispute arising on account of contract for import and/or export of electricity where the commission believes that dealing with such dispute is beyond the Commission's jurisdiction, the commission may refer such dispute to the SAARC Arbitration Council. The SAARC Arbitration rules shall govern such Arbitration procedure.</i></p> <p>Note: The other options such as international dispute resolution procedures like UNCITRAL, ICSID and Singapore Arbitration etc. could also be explored.</p> <p>Note : Bangladesh Energy Regulatory Commission (BERC), Bangladesh, in exercise of the powers conferred by Section 59 of the Bangladesh Energy Regulatory Commission Act, 2003 (Act No. 13 of 2003), read with Section 40 thereof, the BERC has</p>



Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
		issued Bangladesh Energy Regulatory Commission Dispute Settlement Regulations, 2014 which talks about “Where a dispute could not be settled at the preliminary conference by compromise or reconciliation or amicable settlement, the Commission shall refer the dispute to an Arbitration Tribunal for settlement”. This regulation applies to the settlement of disputes arising between the licensees or between the licensees and consumers of Bangladesh as this regulation is framed in line with BERC Act 2003 and therefore it appears that this regulations does not cover CBET disputes. Therefore provided that for any dispute arising on account of contract for import and/or export of electricity where the commission believes that dealing with such dispute is beyond the Commission’s jurisdiction, the commission may refer such dispute to the SAARC Arbitration Council. The SAARC Arbitration rules shall govern such Arbitration procedure.

G. TAXES & DUTIES

Sl.No.	Clause/Section	To be added in appropriate laws, regulations and Policies
1.	No specific provision related to Taxes & Duties was noticed during the review and analysis of Laws, Regulations and Policies.	Note: No form of tax, custom duty or transit tax shall be applicable on export and import of electricity. Parties shall work towards removing, and mutually resolving issues relating to barriers, including tariff, levies, fees, taxes, duties or charges of similar effects, if any, in the cross-border exchange and trading of electricity. (This has been mentioned in the Regional Regulatory Guidelines and can be adopted)

H. OTHERS

Definitions

Sl.No.	Clause	Suggested Changes/Amendments
1. Bangladesh Electricity Regulatory Commission Act 2003 and subsequent amendment in 2005		
	Definitions, Clause 2: (bb) "licencee" means an individual who has received a licence under this Act for generation of electricity, transmission, marketing, distribution, storage and supply of energy.	Definitions, Clause 2: (bb) "licencee" means an individual who has received a license under this Act for generation of electricity, transmission, marketing, distribution, storage, trading (import and export of electricity) and supply of energy.
2. Electricity Grid Code 2012		
	2. DEFINITIONS AND ABBREVIATIONS - “User”: A person or establishment, including the Licensee, Buyer, Generator and the Supplier, who uses the Transmission System and who must comply with the provisions of the Grid Code.	2. DEFINITIONS AND ABBREVIATIONS - “User”: A person or establishment, including the Licensee, Buyer, Generator, Supplier and Traders who use the Transmission System (including import and export of electricity) and who must comply with the provisions of the Grid Code.



SUGGESTED CHANGES/AMENDMENTS IN THE POLICY AND PLAN: DETAILED CLAUSE/ SECTION WISE

A. TRANSMISSION PLANNING

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. National Energy Policy 2004¹⁴		
	<p>Clause 7.5 Power Policy</p> <p>7.5.1 Demand Forecast</p> <p>a.</p> <p>b. An agreed overall projection on demand is to be developed and used for all planning purposes. The projection is to be updated and if needed readjusted periodically based on achievement of targets.</p> <p>c. A database on the power sector is to be developed which shall be continuously updated.</p>	<p>Clause 7.5 Power Policy</p> <p>7.5.1 Demand Forecast</p> <p>a.</p> <p>b. An agreed overall projection on demand is to be developed and used for all planning purposes. The projection is to be updated and, if needed, readjusted periodically based on achievement of targets.</p> <p>c. A database on the power sector is to be developed which shall be continuously updated. The database shall contain information on transmission and generation of infrastructure for cross-border trade and shall take into consideration the Power System Master Plan that discusses cross-border interconnection options for Bangladesh.</p>
1.	<p>7.5.2 Long-Term Planning and Project Implementation</p> <p>a.</p> <p>b.</p> <p>c. An overall master plan for electricity is to be developed incorporating the least cost generation expansion plan, transmission plan and distribution plan and phasing of projects. This master plan shall be the basis for all development programs and projects of the power sector.</p>	<p>7.5.2 Long-Term Planning and Project Implementation</p> <p>a.</p> <p>b.</p> <p>c. An overall master plan for electricity is to be developed incorporating the least cost generation expansion plan, transmission plan to support import and export of electricity and distribution plan and phasing of projects. This master plan shall be the basis for all development programs and projects of the power sector.</p>

¹⁴ http://www.petrobangla.org.bd/NEP_2004_fulldoc.pdf



BHUTAN



Sl.No.	Acts/Policies and Regulations	Summary of the suggested Changes/Amendments– Bhutan
Legal and Regulatory Framework		
1.	Electricity Act 2001	<p>a. Licensing: The Act recognises trade of electricity as a licensed activity.</p> <p>b. Open Access: Transmission Licensee to provide for open access.</p> <p>c. Transmission Pricing: Bhutan Electricity Authority (BEA) to provide for appropriate mechanisms for determination of charges for transmission usage based on the principles of Transparent allocation of costs; Compensate users for actual usage of system and Compensate owners of existing transmission assets.</p>
2.	Grid Code Regulations 2008	<p>a. Open Access: To include provisions for non-discriminatory open access.</p> <p>b. Transmission Planning: Planning Code, Grid Planning Studies, Planning Data and Implementation of Transmission Plan to extend its existing coverage to include provisions for CBET.</p> <p>c. Imbalance Settlement: Imbalance Settlement Mechanism shall be explicitly defined through enactment of separate regulations/orders under the Act.</p>
3.	Tariff Determination Regulation, 2007 (Updated as of August 2013)	<p>a. Transmission Pricing: The current regulations provide for negotiations (on a case-to-case basis) based tariffs for electricity exported from Bhutan. Hence no change is being proposed.</p>

Policy and Planning		
1.	Bhutan Sustainable Hydro-power Development Policy 2008	<p>a. Open Access: Bhutan Power Corporation (BPC) to provide for non-discriminatory transmission access for export of surplus power to India.</p> <p>b. Dispute Resolution: Last resort of dispute settlement to be the SAARC Arbitration Council.</p>
2.	Dispute Resolution Procedure 2009	<p>a. Last resort of dispute settlement may be the SAARC Arbitration Council. However, other options of international dispute resolution procedures like UNCITRAL, ICSID and Singapore Arbitration etc. could also be explored.</p>

Since Changes in the Acts is a long drawn process, enablement of essential factors/ingredients for CBET can be undertaken through drafting of separate regulations/notifications/orders for the following aspects:

- i. Open Access**
- ii. Imbalance Settlement**
- iii. Taxes and Duties**



SUGGESTED CHANGES/AMENDMENTS IN THE LEGAL AND REGULATORY FRAMEWORK: DETAILED CLAUSE/SECTION WISE

A. LICENSING

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Electricity Act 2001		
1.	<p>Part 3–Clause 18: 18.1: No person or entity shall engage in construction, generation, transmission, system operation, distribution, sale, export or import of electricity without a license issued under this Act.</p> <p>Clause 22: Application for license 22.1 A corporation may apply to the Authority for the issue of a license authorising one or more of the following activities as are specified in the license:</p> <ul style="list-style-type: none"> i. To generate electricity; ii. To transmit electricity; iii. To bulk supply; iv. To distribute electricity; v. To supply electricity; vi. To trade in electricity; and vii. To acquire a license from another party. 	<p>No change required</p> <p>Licences granted to generators also specifically cover licence to DGPC to carry out Generation, Supply, Import or Export of electrical energy from the plant. In case of export-oriented projects, it covers license to export. E.g. Dagachhu¹⁵. Hence, no change needed.</p>
2. Grid Code Regulation 2008		
1.	<p>Clause 3.3 Role of Bhutan Electricity Authority Sub Clause 3.3.1</p> <ul style="list-style-type: none"> i. ii. To process application and issue, modify and revoke licenses for generation, transmission, system operation, export, import, distribution and sale of electricity 	<p>Existing Regulation recognises CBET (i.e. export, import of electricity). Therefore no changes/ amendments are required.</p>

B. OPEN ACCESS

Non-discriminatory OA Access and promotion of competitive market

Sl.No.	Existing Clause	Suggested Changes/Amendments
1. Electricity Act 2001		
1.	<p>Part 2 -Clause 11: Functions of the Authority 11.1 Functions of the Authority are:</p> <ul style="list-style-type: none"> i. to develop regulations, standards, codes, principles and procedures, which include, but are not limited to the following: <ul style="list-style-type: none"> a. Performance standards, including minimum technical and safety requirements for construction, operation and maintenance of generation, transmission and distribution facilities; 	<p>Part 2 -Clause 11: Functions of the Authority 11.1 Functions of the Authority are:</p> <ul style="list-style-type: none"> i. to develop regulations, standards, codes, principles and procedures, which include, but are not limited to the following: <ul style="list-style-type: none"> a. Performance standards, including minimum technical and safety requirements for construction, operation and maintenance of generation, transmission and distribution facilities;

¹⁵ Licence conditions to construct, generate, supply, import and export electrical energy in the kingdom of Bhutan granted to Dagachhu hydro power corporation limited pursuant to the electricity act of Bhutan, 2001. <http://www.bea.gov.bt/wp-content/uploads/2013/02/Dagachhu.pdf>



Sl.No.	Existing Clause	Suggested Changes/Amendments
	<p>b. Tariff-setting, including tariffs for generation not regulated by power purchase agreement, transmission, distribution and retail sale. These regulations should also comprise terms and conditions for connection fees and investment contribution from customers, and for provision of access to the transmission grid and distribution networks;</p> <p>c.</p> <p>Clause 11.2: The Authority shall, in the performance of his functions:</p> <p>i.</p> <p>ii.</p> <p>iii. ensure non-discriminatory access to the transmission and distribution system;</p> <p>PART 3 - Clause 38: Transmission license</p> <p>38.1 A holder of a transmission license shall provide access to all existing and potential users of the transmission grid on the payment of fees and other charges for grid services as may be approved by the Authority.</p>	<p>b. Tariff-setting, including tariffs for generation not regulated by power purchase agreement, transmission, distribution and retail sale. These regulations should also comprise terms and conditions for connection fees and investment contribution from customers, and for provision of access to the transmission grid and distribution networks including for import and export of electricity;</p> <p>c.</p> <p>Clause 11.2: The Authority shall, in the performance of his functions:</p> <p>i.</p> <p>ii.</p> <p>iii. ensure non-discriminatory access to the transmission and distribution system;</p> <p>PART 3 - Clause 38: Transmission license</p> <p>38.1 A holder of a transmission license shall provide non-discriminatory open* access to all existing and potential users of the transmission grid on the payment of fees and other charges for grid services as may be approved by the Authority.</p> <p>*Note: Enablement of non-discriminatory open access can be explicitly defined through enactment of separate regulations/orders under the Act. Specific provisions on access to National transmission network for importing/exporting entities can be defined separately in such regulations/orders. This may be deemed necessary since changes in law may be long drawn.</p>

2. Grid Code Regulation 2008

1.	<p>Clause 3.3 Role of Bhutan Electricity Authority</p> <p>Clause 3.3.1 As per the provisions of the Act, the functions assigned to the Authority relevant to the Grid Code Regulation, shall be:</p> <p>i. To develop regulations, standards, codes, principles and procedures, which include, but not limited to the following:</p> <p>a.</p> <p>b. Terms and conditions for provision of access to the Transmission System and distribution networks; and</p> <p>c.;</p> <p>Clause 3.3.2: The Authority shall, in the performance of his functions:</p> <p>i.</p> <p>ii. ...</p> <p>iii. ensure non-discriminatory access to the transmission and distribution system;</p>	<p>Clause 3.3 Role of Bhutan Electricity Authority</p> <p>3.3.1 As per the provisions of the Act, the functions assigned to the Authority relevant to the Grid Code Regulation, shall be:</p> <p>i. To develop regulations, standards, codes, principles and procedures, which include, but not limited to the following:</p> <p>a.</p> <p>b. Terms and conditions for provision of access to the Transmission System and distribution networks including that for import and export of electricity; and</p> <p>c.;</p> <p>Clause 3.3.2: The Authority shall, in the performance of his functions:</p> <p>i.</p> <p>ii.</p> <p>iii. ensure non-discriminatory open access to the transmission and distribution system;</p>
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Sl.No.	Existing Clause	Suggested Changes/Amendments
	<p>Clause 3.4: Role of System Operator</p> <p>3.4.1 As per Section 39 of the Act, the Authority may designate a person to be a “System Operator”, who shall:</p> <ul style="list-style-type: none"> i. ii. iii. iv. Monitor the import and export of electricity; v. vi. vii. <p>3.4.2 The System Operator shall not, in the performance of its functions, show undue preferences or discrimination against any person.</p> <p>3.5.3 The Transmission Licensee shall provide access to all existing and potential Users of the Transmission System on the payment of fees and other charges for the Transmission System services as may be approved by the Authority.</p>	<p>Clause 3.4: Role of System Operator</p> <p>3.4.1 As per Section 39 of the Act, the Authority may designate a person to be a “System Operator”, who shall:</p> <ul style="list-style-type: none"> i. ii. iii. iv. Monitor the import and export of electricity; v. vi. vii. <p>3.4.2 The System Operator shall not, in the performance of its functions, show undue preferences or discrimination against any person.</p> <p>3.5.3 The Transmission Licensee shall provide **non-discriminatory open access to all existing and potential Users of the Transmission System on the payment of fees and other charges for the Transmission System services as may be approved by the Authority.</p> <p>**Note: Enablement of non-discriminatory open access can be explicitly defined through enactment of separate regulations/orders under the Act. Specific provisions on access to National transmission network for importing/exporting entities can be defined separately. This may be deemed necessary since changes in law may be long drawn.</p>

C. TRANSMISSION PRICING

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. The Electricity Act of Bhutan, 2001		
1.	<p>Part 2-Clause 11.1: Functions of Bhutan Electricity Authority</p> <p>iv. To determine, or approve tariffs proposed by the licensees, and review existing tariffs.</p> <p>Part 2-Clause 14:Tariff Regulation</p> <p>14.1 Tariff Regulation</p> <p>The Authority may regulate</p> <ul style="list-style-type: none"> iii. Charges for connection to, and the use of any transmission system iv. Tariff for generation not regulated by power purchase agreement. 	<p>Part 2-Clause 11.1: Functions of Bhutan Electricity Authority</p> <p>iv. To determine, or approve tariffs proposed by the licensees, and review existing tariffs.</p> <p>Part 2-Clause 14:Tariff Regulation</p> <p>14.1 Tariff Regulation</p> <p>The Authority may regulate</p> <ul style="list-style-type: none"> iii. Charges for connection to, and the use of any transmission system, including both domestic and external users (in case of cross-border trade) iv. Tariff for generation not regulated by power purchase agreement.



Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
	<p>v. Other such prices and charges in respect of goods and services provided by Licensees in accordance with the following principles:</p> <p>a. fairness to both service customers and service providers; b. there shall be no unjust discrimination against service customers or those who wish to use the services; c. the tariffs should reflect the actual cost of efficient business operation; d. guidelines on the tariffs determination must be conducive to efficiency improvement in the business operation</p> <p>Clause 17.1 The powers and function of the Minister under this Act are</p> <p>iii. to set general policies on tariff determination and service provision of Licensee.</p>	<p>Note: With reference to the clauses mentioned, the Authority shall provide appropriate mechanism for determination of charges for transmission usage based on following principles:</p> <ul style="list-style-type: none"> – Transparent allocation of costs – Compensate users for actual usage of system – Compensate owners of existing transmission assets

2. Tariff Determination Regulation, 2007 (Updated as of August 2013)

1.	<p>Clause 1.5:</p> <p>All electricity tariffs for sale of electricity shall comply with the terms of this regulation, except for:</p> <ul style="list-style-type: none"> i. Import of electricity from other countries; ii. Export of electricity to other countries; 	<p>Note: Tariff Regulations apply to generation, transmission and distribution of electricity in Bhutan. In case of generators exporting power to other countries, the tariff may be negotiated and agreed on case-to-case basis. Hence no change required in the existing regulations.</p>
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D. TRANSMISSION PLANNING

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Grid Code Regulation 2008		
1.	<p>Clause 3.2.2: Ministry shall also formulate the Power System Master Plan for development of the electricity system and co-ordinate for the optimum utilisation of resources.</p> <p>Clause 4: Planning Code</p> <p>Clause 4.1: Introduction</p> <p>4.1.1</p> <p>4.1.2 This section specifies the policy and procedures which shall be applied in planning of the Transmission System.</p> <p>Clause 4.2 Objective</p> <p>The objectives of the planning code are to:</p> <ul style="list-style-type: none"> i. Specify the principles, procedures and criteria which shall be used in the planning and development of the Transmission System; ii. Promote co-ordination amongst all the Licensees in any proposed development of the Transmission System; iii. Identify the planning studies to be performed; and iv. Provide methodology and information exchange amongst the Licensees in the planning and development of the Transmission System. 	<p>Clause 3.2.2: Ministry shall also formulate the Power System Master Plan for development of the electricity system and co-ordinate for the optimum utilisation of resources.</p> <p>Clause 4: Planning Code</p> <p>Clause 4.1: Introduction</p> <p>4.1.1</p> <p>4.1.2 This section specifies the policy and procedures which shall be applied in planning of the Transmission System.</p> <p>Clause 4.2 Objective</p> <p>The objectives of the planning code are to:</p> <ul style="list-style-type: none"> i. Specify the principles, procedures and criteria which shall be used in the planning and development of the Transmission System; ii. Promote co-ordination amongst all the Licensees in any proposed development of the Transmission System including cross-border transmission links; iii. Identify the planning studies to be performed taking into consideration existing and planned cross-border electricity trade; and iv. Provide methodology and information exchange amongst the Licensees in the planning and development of the Transmission System.



Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
	<p>Clause 4.3 Scope</p> <p>This section applies to the Transmission Licensee, Generation Licensees and the Distribution Licensees connected to and/or using and involved in developing the Transmission System.</p> <p>Clause 4.4</p> <p>Clause 4.5: Grid Planning Studies</p> <p>4.5.1 The System Operator shall prepare aggregated medium term (5 years) and long-term (10 years) load forecasts for the overall system. These plans shall include the identification of likely power and energy balances and the possibilities of export as well as capacity and/or energy deficits during the planning period.</p> <p>4.5.2 The System Operator shall review and revise all plans for the expansion of the generation capacity. Based on these plans, the System Operator shall prepare a medium-term expansion plan for the generation capacity comparing the different alternatives and identifying an estimated least cost expansion plan.</p> <p>4.5.3 The Transmission Licensee shall conduct Grid Planning Studies to ensure the safety, reliability, security, sufficiency and stability of the Transmission System. Grid Planning Studies shall:</p> <ol style="list-style-type: none"> i. Assess the impact on the Transmission System or to any User system of any demand forecast or any proposed addition or change of equipment facilities in the Transmission System and to identify the corrective measures to eliminate the deficiency in the Transmission System. All transmission connections with the Transmission System shall be taken into consideration while performing the Planning studies; ii. iii. iv. v. vi. vii. 	<p>Clause 4.3 Scope</p> <p>This section applies to the Transmission Licensee, Generation Licensees and the Distribution Licensees connected to and/or using and involved in developing the Transmission System including cross-border transmission links.</p> <p>Clause 4.4</p> <p>Clause 4.5: Grid Planning Studies</p> <p>4.5.1 The System Operator shall prepare aggregated medium term (5 years) and long-term (10 years) load forecasts for the overall system. These plans shall include the identification of likely power and energy balances and the possibilities of export as well as capacity and/or energy deficits during the planning period.</p> <p>4.5.2 The System Operator shall review and revise all plans for the expansion of the generation capacity. Based on these plans, the System Operator shall prepare a medium-term expansion plan for the generation capacity comparing the different alternatives and identifying an estimated least cost expansion plan.</p> <p>4.5.3 The Transmission Licensee shall conduct Grid Planning Studies to ensure the safety, reliability, security, sufficiency and stability of the Transmission System. Grid Planning Studies shall:</p> <ol style="list-style-type: none"> i. Assess the impact on the Transmission System or to any User system of any demand forecast or any proposed addition or change of equipment facilities in the Transmission System and to identify the corrective measures to eliminate the deficiency in the Transmission System. All transmission connections (including existing and planned cross-border interconnections) with the Transmission System shall be taken into consideration while performing the Planning studies; ii. iii. iv. v. vi. vii.



SI.No.	Existing Clause/Section	Suggested Changes/Amendments
	<p>Clause 4.7: Planning Data</p> <p>4.7.1 All Licensees and Users shall provide all data as required by the System Operator to execute the coordinated planning of the operation and expansion of the system. Such data should include, but not necessary be limited to:</p> <ul style="list-style-type: none"> i. Load forecasts; ii. Technical and economical characteristics of generation units, including capital and operational costs of the units; and iii. Technical and economical characteristics of the relevant transmission and distribution systems. <p>4.7.2</p> <p>4.7.3</p> <p>Clause 4.8: Implementation of Transmission Plan</p> <p>The investment programme to install new transmission lines, reactors and capacitors shall be prepared by the Transmission Licensee in consultation with the concerned agencies and submit the same to the Authority for approval. The completion of these works, in the required time frame, shall be ensured by the Transmission Licensee.</p>	<p>Clause 4.7: Planning Data</p> <p>4.7.1 All Licensees and Users shall provide all data as required by the System Operator to execute the coordinated planning of the operation and expansion of the system. Such data should include, but not necessary be limited to:</p> <ul style="list-style-type: none"> i. Load forecasts; ii. Technical and economical characteristics of generation units, including capital and operational costs of the units; and iii. Technical and economical characteristics of the relevant transmission and distribution systems including that for import and export of electricity. <p>4.7.2</p> <p>4.7.3</p> <p>Clause 4.8: Implementation of Transmission Plan</p> <p>The investment programme to install new transmission lines (including that for import and export of electricity), reactors and capacitors shall be prepared by the Transmission Licensee in consultation with the concerned agencies and submit the same to the Authority for approval. The completion of these works, in the required time frame, shall be ensured by the Transmission Licensee.</p>
<p>2. National Transmission Grid Master Plan (NTGMP)</p>		
	<p>National Transmission Grid Master Plan (NTGMP) recognises power trade (both export & import) with India. The Plan mentions about planned projects likely for export, corresponding transmission links, etc. Additionally, it also mentions about grid reinforcements in India would be undertaken in a phased manner, corresponding to the commissioning schedule of various hydropower projects in Bhutan.</p>	



E. IMBALANCE SETTLEMENT

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Grid Code Regulation 2008		
1.	<p>Clause 7: Scheduling and Dispatch Code</p> <p>Clause 7.1 Introduction</p> <p>7.1.1 The entire Bhutan Grid operates in synchronism with the Indian Grid and the major generation in Bhutan is envisaged to be exported to the Indian Grid as per Memorandum of Understanding between the Royal Government of Bhutan and Government of India.</p> <p>The Scheduling and Dispatch Code for Bhutan has to be technically compatible with the Scheduling and Dispatch Code of the Indian Electricity Grid Code Regulation.</p> <p>Clause 7.2 Objective</p> <p>7.2.1 This section deals with the procedures to be adopted for scheduling of the various generating stations in Bhutan, export to India and drawal by various Distribution Licensees within the country on a daily basis with the modality of flow of information between the agencies involved in the process.</p> <p>Clause 7.3 Scope</p> <p>7.3.1 This Section shall apply to the System Operator, Generation Licensees, Distribution Licensees and Large Consumers.</p> <p>7.3.2 The scheduling and dispatch procedure for scheduling of drawal by the Indian purchasers from Bhutan shall be as per the bilateral agreements between the contracting parties.</p>	<p>Note: Imbalance Settlement Mechanism shall be explicitly defined through enactment of separate regulations/orders under the Act. The regulations shall include various provisions such as Methodology for determination of imbalance/deviation charges, Limits on deviation volume and consequences of violating limits, Accounting of charges for deviation; Schedule of payment of charges for deviation, etc. which accordingly will be applicable on CBET.</p>

F. TAXES & DUTIES

Sl.No.	Existing Clause/Section	To be added in the appropriate laws, regulations and policies
1.	No clause related Taxes & Duties are available in the reviewed laws, regulations and policies.	<p>Additional Clause</p> <p>No form of tax, custom duty or transit tax shall be applicable on export and import of electricity. Parties shall work towards removing, and mutually resolving issues relating to, barriers, including tariff, levies, fees, taxes, duties or charges of similar effects, if any, in the cross-border exchange and trading of electricity.</p>

SUGGESTED CHANGES/AMENDMENTS IN POLICY AND PLAN: DETAILED CLAUSE/SECTION WISE

A. DISPUTE RESOLUTION

Sl.No.	Existing Clause	Suggested Changes/Amendments
1. Bhutan Sustainable Hydropower Policy 2008		
1.	<p>Clause 7: Dispute Resolution</p> <p>7.1: Any difference and/or disputes arising at any time between the parties shall be resolved through mutual negotiations, failing which the matter may be resolved through dispute resolution mechanism as specified in the Project Development Agreement (PDA) and concession agreement (CA).</p>	<p>Clause 7: Dispute Resolution</p> <p>7.1: Any difference and/or disputes arising at any time between the parties shall be resolved through mutual negotiations, failing which the matter may be resolved through dispute resolution mechanism as specified in the Project Development Agreement (PDA) and concession agreement (CA).</p> <p>If unresolved, the exporting/importing country may choose to refer the dispute to the SAARC Arbitration Council. The SAARC Arbitration Rules shall govern the arbitration procedure.</p>



Sl.No.	Existing Clause	Suggested Changes/Amendments
2. Dispute Resolution Procedure 2009		
	<p>Clause 2: Scope and Coverage</p> <ul style="list-style-type: none"> i. This procedure shall apply to settle disputes between Licensees and between Licensees and Customers relating to the enforcement of the Electricity Act of Bhutan, 2001 and Regulations, Codes, Standards and Licenses thereof. ii. Nothing in this procedure shall prejudice any right of the parties to have recourse to dispute settlement procedures available under any other Laws of the Kingdom of Bhutan. iii. Once dispute settlement proceedings have been initiated under this procedure or under any other Laws concerning a particular right or obligation of such parties arising under the Electricity Act of Bhutan, 2001, the forum selected by the complaining party shall be used to the exclusion of any other forum for such disputes. 	<p>Clause 2: Scope and Coverage</p> <ul style="list-style-type: none"> i. This procedure shall apply to settle disputes between Licensees and between Licensees and Customers relating to the enforcement of the Electricity Act of Bhutan, 2001 and Regulations, Codes, Standards and Licenses thereof. ii. Nothing in this procedure shall prejudice any right of the parties to have recourse to dispute settlement procedures available under any other Laws of the Kingdom of Bhutan. iii. Once dispute settlement proceedings have been initiated under this procedure or under any other Laws concerning a particular right or obligation of such parties arising under the Electricity Act of Bhutan, 2001, the forum selected by the complaining party shall be used to the exclusion of any other forum for such disputes. iv. In case of dispute between parties (where parties are engaged in importing and exporting of electricity) shall be resolved through mutual negotiations, failing which the matter may be resolved through dispute resolution mechanism as specified in the Project Development Agreement (PDA) and concession agreement (CA). If unresolved, the exporting/importing country may choose to refer the dispute to the SAARC Arbitration Council. The SAARC Arbitration Rules shall govern the arbitration procedure.





INDIA



Sl.No.	Acts/Policies & Regulations	Summary of the suggested Changes/Amendments-India
Legal & Regulatory Framework		
1.	Electricity Act 2003	a. Licensing: Cross-Border Electricity Trading to be a licensed activity. b. Open Access: The Central Electricity Regulatory Commission shall facilitate cross-border trade through amendments in extant regulations on open access, power trading, competitive markets etc.
2.	Procedure, Terms & Conditions for grant of trading license & other related matters) Regulations, 2009 & subsequent Amendment 2012	The recent amendment in the regulations only mentions about the import and export of electricity. The regulations shall extend its existing coverage to include various provisions (on Qualification, Capital adequacy and liquidity requirement, Disqualification, Procedure for Grant of license, Submission of information, Standards of Performance, Revocation of license, etc.) and shall be applicable in a suitable form for CBET.
3.	Open Access in Inter-state Transmission Regulations, 2004	The Regulations to be applicable to CBET.
4.	Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010	Changes/amendments to extend the regulations to include all cross-border interconnections and determination of charges at various external nodes.
5.	(Deviation Settlement Mechanism & related matters) Regulations, 2014	To be applicable to CBET. The Regulation shall be suitably amended to incorporate necessary provisions related to CBET.
6.	Indian Electricity Grid Code 2010 with subsequent amendments in 2012 and 2014)	The IEGC shall include standards and codes for external interconnection with neighbouring countries to facilitate cross-border trade. The Grid Code shall be suitably amended to define technical specifications for external interconnectors and other standards/codes essential for cross-border flows.
Policy and Planning		
1.	National Electricity Policy 2005	a. Licensing: Function of CERC to include issuing of license for CBET. b. Open Access: Additional Clause to include specific provision on OA w.r.t cross-border electricity trade with neighboring countries. The Central Regulatory Commission shall provide facilitative framework for non-discriminatory open access to exporting/importing countries.
2.	National Electricity Plan 2013	No changes required as the Plan takes into consideration CBET.
3.	The Tariff Policy, 2006	The Commission shall through notification of appropriate orders enable POSOCO to determine charges for use of National transmission system by exporters/importers for the purpose of cross-border trade. POSOCO shall determine Point of Connection charges at various external interconnection points.

Note: Considering that India is the largest country in the South Asia and is located centrally to power system of rest of the South Asian Countries and more importantly most of the Cross-Border Interconnection (Current and Future) will be with Indian Power System (for bilateral power trade) or routed through India Power System (for regional power trade), India may frame specific policy (by Ministry of Power) and regulations (by CERC) on Cross-Border Electricity Trade in South Asia. This will also help in actionable implementation of the SAARC framework agreement on Energy (Electricity) Cooperation as well as power trade agreement signed between India and Nepal and other bilateral electricity/energy cooperation initiatives among South Asian Countries.



SUGGESTED CHANGES/AMENDMENTS IN LEGAL & REGULATORY FRAMEWORK: DETAILED CLAUSE/SECTION WISE

A. LICENSING

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. The Electricity Act 2003		
1.	<p>PART I-PRELIMINARY</p> <p>2. Definition</p> <p>(26): “electricity trader” means a person who has been granted a license to undertake trading in electricity under Section 12;</p> <p>Section 14: Grant of License</p> <p>The Appropriate Commission may, on an application made to it under Section 15, grant a license to any person -</p> <p>a. to transmit electricity as a transmission licensee; or</p> <p>b. to distribute electricity as a distribution licensee; or</p> <p>c. to undertake trading in electricity as an electricity trader, in any area as may be specified in the license</p>	<p>PART I-PRELIMINARY</p> <p>2. Definition</p> <p>(26): “electricity trader” means a person who has been granted a license to undertake trading in electricity under Section 12. This shall also include cross-border trading”</p> <p>Section 14: Grant of License</p> <p>The Appropriate Commission may, on an application made to it under Section 15, grant a license to any person -</p> <p>a. to transmit electricity as a transmission licensee; or</p> <p>b. to distribute electricity as a distribution licensee; or</p> <p>c. to undertake trading in electricity as an electricity trader, in any area as may be specified in the license,</p> <p>Note: Cross-border trading shall be recognised and accordingly various provisions (on eligibility, procedure, grant of license, power & duties, exemptions, revocation of license, modification and enforcement of license etc.) shall also be applicable in a desired form on cross-border trading.</p> <p>Further, the Commission shall facilitate cross-border trade through amendments in extant regulations/notification of separate orders on cross-border trading activities.</p>
2. Procedure, Terms and Conditions for grant of trading licence and other related matters Regulations, 2009 and subsequent Amendment 2012		
	<p>CHAPTER I: PRELIMINARY</p> <p>2. Definitions and Interpretation-</p> <p>1 (k) “¹⁶inter-State trading” means transfer of electricity from the territory of one State for re-sale to the territory of another State and includes electricity imported from any other country for re-sale within India or exported to any other country subject to compliance with applicable Laws and clearance by appropriate authorities¹⁷</p>	<p>With reference to the clause, the Commission shall facilitate cross-border trade (import and export) through amendments/modification in the extant regulations. Accordingly various provisions (on Qualification, Capital adequacy and liquidity requirement, Disqualification, Procedure for Grant of license, Submission of information, Standards of Performance, Revocation of license, etc.) shall be applicable in a desired form on cross-border trading. Provisions specific to cross-border trade shall also be included as required.</p>

¹⁶ <http://www.cercind.gov.in/2016/regulation/18.pdf>

¹⁷ Substituted vide First Amendment Regulations, 2012 w.e.f. 11.10.2012

B. OPEN ACCESS

Non-discriminatory OA Access and promotion of competitive market

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. The Electricity Act 2003		
1.	<p>PART I-PRELIMINARY</p> <p>2. Definition</p> <p>(47) “open access” means the non-discriminatory provision for the use of transmission lines or distribution system or associated facilities with such lines or system by any licensee or consumer or a person engaged in generation in accordance with the regulations specified by the Appropriate Commission</p> <p>PART V: Transmission of Electricity-Interstate Transmission</p> <p>Section 38: Central Transmission Utility and functions</p> <p>(2) The functions of the Central Transmission Utility shall be</p> <p>(d) to provide non-discriminatory open access to its transmission system for use by-</p> <p>i. any licensee or generating company on payment of the transmission charges; or</p> <p>ii. any consumer as and when such open access is provided.....</p>	<p>PART I-PRELIMINARY</p> <p>2. Definition</p> <p>(47) “open access” means the non-discriminatory provision for the use of transmission lines or distribution system or associated facilities with such lines or system by any licensee or consumer or a person engaged in generation in accordance with the regulations specified by the Appropriate Commission</p> <p>PART V: Transmission of Electricity-Interstate Transmission</p> <p>Section 38: Central Transmission Utility and functions</p> <p>(2) The functions of the Central Transmission Utility shall be</p> <p>(d) to provide non-discriminatory open access to its transmission system for use by-</p> <p>i. any licensee or generating company on payment of the transmission charges and any licensee or generating company engaged in cross-border trade on payment of the transmission charges; or</p> <p>ii. any consumer as and when such open access is provided.....</p> <p>The Central Commission shall facilitate cross-border trade through amendments in extant regulations on open access, power trading, competitive markets etc.</p>
2. Open Access in Inter-state Transmission Regulations, 2004¹⁸ (Principal Regulations)		
1.	<p>Extent of Application</p> <p>3. “These regulations shall apply for access to inter-state transmission system”</p>	<p>Extent of Application</p> <p>“These regulations shall apply for access to inter-state transmission system to both domestic players as well as external exporting/importing entities undertaking cross-border power transactions”</p> <p>With reference to above, the Commission shall use its powers to amend regulation for inclusion of such provisions that facilitates cross-border trade and non-discriminatory access to the transmission system to any entity that intends to use the system for the purpose of wheeling power for cross-border power transactions.</p> <p>The following provisions in the extant regulations on Nodal agency, Eligibility criteria, Application process, Priority order of Open Access consumers, Allotment of Transmission capacity, Applicable charges etc. shall be extended to cross-border trading.</p>

¹⁸ <http://www.cercind.gov.in/Regulations/Open-Access-Regulations-2004-and-Amendments-Incorporated.pdf>



C. TRANSMISSION PRICING

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Sharing of Inter-State Transmission Charges and Losses Regulations, 2010¹⁹		
1.	<p>CHAPTER 1: PRELIMINARY</p> <p>2. Definitions-</p> <p>Clause 1(i)- Basic Network shall mean the power system of the country at voltage levels 132 kV and above and 110 kV where generators are connected, HVDC transmission network and all Generator and loads connected to it</p> <p>Clause 1(k)- Deemed Inter State Transmission System (Deemed ISTS) means such transmission system which has regulatory approval of the Commission as being used for interstate transmission of power and qualified as ISTS for the purpose of these Regulations unless otherwise specified</p> <p>Clause 1(l)- Designated ISTS Customers ('DIC's) means the users of any segments/elements of the ISTS and shall include all generators, state transmission utilities, SEBs or load serving entities directly connected to the ISTS including Bulk Consumer and any other entity/person;</p>	<p>CHAPTER 1: PRELIMINARY</p> <p>Definitions-</p> <p>Clause 1(i)- Basic Network shall mean the power system of the country at voltage levels 132 kV and above and 110 kV where generators are connected, HVDC transmission network and all Generator and loads connected to it, points of external interconnection with neighbouring countries.</p> <p>Clause 1(k)- Deemed Inter State Transmission System (Deemed ISTS) means such transmission system which has regulatory approval of the Commission as being used for interstate transmission of power, transmission system used for cross-border power transmission and qualified as ISTS for the purpose of these Regulations unless otherwise specified.</p> <p>Clause 1(l)- Designated ISTS Customers ('DIC's) means the users of any segments/elements of the ISTS and shall include all generators, state transmission utilities, SEBs or load serving entities directly connected to the ISTS including Bulk Consumer, entities involved in cross-border electricity trade and any other entity/person;</p> <p>Relevant provisions shall be amended and new provisions shall be included w.r.t cross-border trade. Accordingly the regulations shall enable Power System Operation Corporation (POSOCO) to determine Point of Connection charges at various external interconnection points.</p>

D. IMBALANCE SETTLEMENT AND SYSTEM OPERATION

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Deviation Settlement Mechanism and related matters Regulations, 2014²⁰		
1.	<p>Clause 4: Scope</p> <p>These regulations shall be applicable to sellers and buyers involved in the transactions facilitated through short-term open access or medium-term open access or long-term access in inter-State transmission of electricity.</p>	<p>Clause 4: Scope</p> <p>These regulations shall be applicable to sellers and buyers involved in the transactions facilitated through short-term open access or medium-term open access or long-term access in inter-State transmission, including import and export with neighbouring countries.</p> <p>Note: The Regulation shall be suitably amended to incorporate necessary provisions related to CBET.</p>

¹⁹ http://cercind.gov.in/Regulations/Transmission_Regulations_on_transmission_charges_and_losses_2010.pdf

²⁰ <http://www.cercind.gov.in/2014/regulation/noti132.pdf>



Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
2. Indian Electricity Grid Code 2010²¹ with subsequent amendments in 2012²² and 2014²³		
1.	<p>CHAPTER 1-GENERAL</p> <p>1.1 Introduction</p> <p>The Indian Electricity Grid Code (IEGC) is a regulation made by the Central Commission in exercise of powers under clause (h) of sub-section (1) of Section 79 read with clause (g) of Sub-section (2) of Section 178 of the Act. The IEGC also lays down the rules, guidelines and standards to be followed by various persons and participants in the system to plan, develop, maintain and operate the power system, in the most secure, reliable, economic and efficient manner, while facilitating healthy competition in the generation and supply of electricity.</p>	<p>CHAPTER 1-GENERAL</p> <p>1.1 Introduction</p> <p>The Indian Electricity Grid Code (IEGC) is a regulation made by the Central Commission in exercise of powers under clause (h) of sub-section (1) of Section 79 read with clause (g) of Sub-section (2) of Section 178 of the Act. The IEGC also lays down the rules, guidelines and standards to be followed by various persons and participants in the system to plan, develop, maintain, operate the power system, in the most secure, reliable, economic and efficient manner, while facilitating healthy competition in the generation and supply of electricity. The IEGC shall also include standards and codes for external interconnection with neighbouring countries to facilitate cross-border trade.</p> <p>Note: The Grid Code shall be suitably amended to define technical specifications for external interconnectors and other standards/codes essential for cross-border flows through external interconnection.</p>

E. DISPUTE RESOLUTION

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Electricity Act 2003²⁴		
1.	<p>PART XVI-DISPUTE RESOLUTION-Arbitration</p> <p>Clause 158:</p> <p>Where any matter is, by or under this Act, directed to be determined by arbitration, the matter shall, unless it is otherwise expressly provided in the license of a licensee, be determined by such person or persons as the Appropriate Commission may nominate in that behalf on the application of either party; but in all other respects the arbitration shall be subject to the provisions of the Arbitration and Conciliation Act, 1996.</p>	<p>Note: Disputes related to cross-border transactions to be resolved in accordance with the procedures mentioned in existing agreements/contracts. Over a period of time, such disputes shall be referred to and resolved by the SAARC Arbitration Council. The SAARC Arbitration Rules shall govern the arbitration procedure.</p>

F. TAXES & DUTIES

Sl.No.	Clause	Suggested Changes/Amendments to be incorporated in appropriate laws, policies, regulations
1.		No form of tax, custom duty or transit tax shall be applicable on export and import of electricity. Parties shall work towards removing, and mutually resolving issues relating to, barriers, including tariff, levies, fees, taxes, duties or charges of similar effects, if any, in the cross-border exchange and trading of electricity.

²¹ http://cercind.gov.in/2010/ORDER/February2010/IEGC_Review_Proposal.pdf

²² http://www.cercind.gov.in/2012/sharing_regulation/IEGC_First_Amendment_26_12_2011.pdf

²³ <http://www.cercind.gov.in/2014/regulation/noti18.pdf>

²⁴ http://aptel.gov.in/pdf/The%20Electricity%20Act_2003.pdf



G. OTHERS

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Power Market Regulations, 2010²⁵		
1.	<p>Part 2- Scope of Regulation and Extent of Application</p> <p>Clause 5-</p> <p>i. These regulations shall apply to all market participants including -</p> <p>ii. Grid connected entity(ies) such as but not limited to Generating companies,</p> <p>iii. Distribution Licensees, consumers who have been granted open access.</p> <p>iv. Electricity Traders;</p> <p>v. Power Exchanges and Clearing Corporations approved by the Commission;</p> <p>vi. Members of Power Exchanges;</p> <p>vii. Members of Clearing Corporation;</p> <p>viii. Other Exchanges and</p> <p>ix. Any other transacting party</p>	<p>Part 2- Scope of Regulation and Extent of Application</p> <p>Clause 5-</p> <p>i. These regulations shall apply to all market participants including -</p> <p>ii. Grid connected entity(ies) such as but not limited to Generating companies,</p> <p>iii. Distribution Licensees, consumers who have been granted open access.</p> <p>iv. Electricity Traders;</p> <p>v. Power Exchanges and Clearing Corporations approved by the Commission;</p> <p>vi. Members of Power Exchanges;</p> <p>vii. Members of Clearing Corporation;</p> <p>viii. Other Exchanges and</p> <p>ix. Any other transacting party including those involved in import and export of power</p> <p>Hence, the Commission shall facilitate cross-border participants to transact on the Power Exchange through amendments in extant regulations/notification of separate orders</p>
2. Indian Electricity Grid Code 2010 with subsequent amendments in 2012 and 2014		
1.	<p>Clause 1.2</p> <p>Facilitation for functioning of power markets and ancillary services by defining a common basis of operation of the ISTS, applicable to all the Users of the ISTS.</p> <p>Clause 1.3 Scope</p> <p>Any neighbouring country inter-connected with Indian (National) Grid shall be treated as a separate control area.</p>	<p>Clause 1.2</p> <p>Facilitation for functioning of power markets and ancillary services by defining a common basis of operation of the ISTS, applicable to all the Users of the ISTS. This shall additionally include basis of operation of regional entities connected to the Grid through external interconnections.</p> <p>Note: Suitable basis of operation of such external control areas shall be defined in the Grid Code through amendments. This shall include provisions on following:</p> <ul style="list-style-type: none"> • Planning code: Information exchange required between the planning agencies and the various participants in cross-border trade for load forecasting, generation availability, and power system planning etc. • Connection code: Specifies minimum technical and design criteria to be complied with by cross-border participants and any user connected to the system or seeking connection to the National Grid. • Operating code: Security aspects to be followed by users, procedures to be adopted following a major grid disturbance. • Scheduling and Dispatch code: procedure to be adopted for scheduling and dispatch of generation for cross-border trade and scheduling for other cross-border transactions through open access with the process of the flow of information between relevant agencies. • Role of organizations and their linkages w.r.t cross-border transactions.

²⁵ http://cercind.gov.in/Regulations/PowerMarketRegulation_20Jan2010.pdf

SUGGESTED CHANGES/AMENDMENTS IN POLICY AND PLAN: DETAILED CLAUSE/SECTION WISE

A. LICENSING

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. The National Electricity Policy, 2005²⁶		
1	<p>Clause 5.7.1 (a)- “It is the function of the Central Electricity Regulatory Commission to issue license for inter-state trading which would include authorisation for trading throughout the country”.</p> <p>Clause 5.7.1 (f)- Enabling regulations for inter and intra State trading and also regulations on power exchange shall be notified by the appropriate Commissions</p>	<p>Clause 5.7.1 (a)- “It is the function of the Central Electricity Regulatory Commission to issue license for inter-state trading which would include authorisation for trading throughout the country. It shall also include authorisation of cross-border trading activities.</p> <p>Clause 5.7.1 (f)- “Enabling regulations for interstate, intra State and cross-border trading and also regulations on power exchange shall be notified by the appropriate Commissions</p> <p>Note: The Commission shall accordingly make necessary amendments in extant regulations on trading license or notify separate orders to include provisions of license on cross-border trading activities.</p>

B. Non-discriminatory open access

Non-discriminatory OA Access and promotion of competitive market

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. National Electricity Policy, 2005²⁷		
1.	<p>Clause 5.3.3- “Open access in transmission has been introduced to promote competition amongst the generating companies who can now sell to different distribution licensees across the country. This should lead to availability of cheaper power. The Act mandates non-discriminatory open access in transmission from the very beginning. When open access to distribution networks is introduced by the respective State Commissions for enabling bulk consumers to buy directly from competing generators, competition in the market would increase the availability of cheaper and reliable power supply. The Regulatory Commissions need to provide facilitative framework for non-discriminatory open access.....”</p> <p>Clause 5.3.4- “...Non-discriminatory open access shall be provided to competing generators supplying power to licensees upon payment of transmission charge to be determined by the appropriate Commission. The appropriate Commissions shall establish such transmission charges.....”</p> <p>Clause 5.3.6- “...The necessary regulatory framework for providing non-discriminatory open access in transmission as mandated in the Electricity Act 2003 is essential for signalling efficient choice in locating generation capacity and for encouraging trading in electricity for optimum utilisation of generation resources and consequently for reducing the cost of supply...”</p>	<p>(Additional clause): The clause shall include specific provision on OA w.r.t cross-border electricity trade with neighbouring countries. The Central Regulatory Commission shall provide facilitative framework for non-discriminatory open access to exporting/importing countries. Further, the Commission shall ensure that users of the system are required to pay such tariff for usage of system which is based on efficient pricing mechanism.</p>

²⁶ http://www.powermin.nic.in/whats_new/national_electricity_policy.htm

²⁷ http://www.powermin.nic.in/whats_new/national_electricity_policy.htm



C. TRANSMISSION PRICING

Sl.No.	Existing Clause/Section	Suggested changes/amendments
1. The Tariff Policy, 2006²⁸		
1.	<p>Clause 7.1: Transmission Pricing</p> <p>1) A suitable transmission tariff framework for all inter-State transmission, including transmission of electricity across the territory of an intervening State as well as conveyance within the State which is incidental to such inter-state transmission, needs to be implemented with the objective of promoting effective utilisation of all assets across the country and accelerated development of new transmission capacities that are required.</p> <p>(2) The National Electricity Policy mandates that the national tariff framework implemented should be sensitive to distance, direction and related to quantum of power flow. This would be developed by CERC taking into consideration the advice of the CEA. Such tariff mechanism should be implemented by 1st April 2006.</p> <p>(3) Transmission charges, under this framework, can be determined on MW per circuit kilometer basis, zonal postage stamp basis, or some other pragmatic variant, the ultimate objective being to get the transmission system users to share the total transmission cost in proportion to their respective utilisation of the transmission system. The overall tariff framework should be such as not to inhibit planned development/augmentation of the transmission system, but should discourage non-optimal transmission investment.</p>	<p>Clause 7.1: Transmission Pricing</p> <p>1) A suitable transmission tariff framework for all inter-State transmission, including transmission of electricity across the territory of an intervening State as well as conveyance within the State which is incidental to such inter-state transmission, transmission of electricity as consequence of cross-border trade with the neighbouring countries, needs to be implemented with the objective of promoting effective utilisation of all assets across the country and accelerated development of new transmission capacities that are required.</p> <p>With reference to the clauses mentioned, the Commission shall through notification of appropriate orders enable POSOCO to determine charges for use of National transmission system by exporters/importers for the purpose of cross-border trade.</p> <p>POSOCO shall determine Point of Connection charges at various external interconnection points.</p>

C. TRANSMISSION PLANNING

Sl.No.	Existing Clause/Section	Suggested changes/amendments
1. National Electricity Plan 2013 and Perspective Transmission Plan for Twenty Years (2014-2034)		
1.		<p>Note: The National Electricity Plan covers transmission scheme details for power projects in Bhutan, Nepal, Bangladesh and Myanmar, transmission lines that need to be augmented for Import of electricity from Bhutan. Further it comprises perspective transmission Plan for evacuation of Power from projects in Bhutan, Myanmar, Nepal transmission system under implementation stage and details of transmission system for import of surplus power from Bhutan, 2020.</p> <p>The Plan does not cover cross-border trade with other neighbouring countries such as Pakistan and Sri Lanka.</p> <p>Further the Perspective Transmission Plan for Twenty Years (2014-2034) prepared by Government of India, Ministry of Power in association with Central Electricity Authority, PGCIL and POSOCO details the Inter-Regional Transmission Capacity (including SAARC Exchanges) up-to 2033-34. It covers transmission interconnections between India-Bhutan, India-Nepal, India-Bangladesh, India-Sri Lanka, India-Pakistan.</p> <p>Hence no changes required.</p>

²⁸ http://www.aegcl.co.in/National_Tariff_Policy.pdf



NEPAL



Sl.No.	Acts/Policies & Regulations	Summary of the suggested Changes/Amendments-Nepal
Legal & Regulatory Framework		
1.	Electricity Act 2049 (1992)	a. Licensing: CBET to be a licensed activity. b. Taxes & Duties: Parties shall work towards removing, and mutually resolving issues relating to, barriers, including tariff, levies, fees, taxes, duties or charges of similar effects, if any, in the cross-border exchange and trading of electricity.
2.	Electricity Rule 2050	a. Licensing: Procedure for obtaining a License.
Policy and Planning		
1.	Hydropower Development Policy 2001	a. Licensing: CBET to be a licensed activity. b. Transmission Pricing: Currently, the Electricity Tariff Fixation Commission (ETFC) does not specify separate charges for transmission usage including use of National Grid for cross-border trading activities. Hence the NEA in consultation with ETFC shall notify appropriate orders that will enable determination of single point charges for injection and withdrawal at external interconnections.

Note: Disputes related to cross-border transactions to be resolved in accordance with the procedures mentioned in existing agreements/contracts. Over a period of time, such disputes shall be referred to and resolved by the SAARC Arbitration Council. The SAARC Arbitration Rules shall govern the arbitration procedure. However, other options of international dispute resolution procedures like UNCITRAL, ICSID and Singapore Arbitration etc. could also be explored.

Since Changes in the Acts²⁹ is a long drawn process, enablement of essential factors/ingredients for CBET can be undertaken through drafting of separate regulations/notifications/orders for the following aspects:

- i. **Open Access (Specific provisions on access to National transmission network for importing/exporting entities shall be defined separately.)**
- ii. **Imbalance Settlement**

SUGGESTED CHANGES/AMENDMENTS IN LEGAL & REGULATORY FRAMEWORK: DETAILED CLAUSE/SECTION WISE

A. LICENSING

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Electricity Act 2049 (1992)³⁰		
1.	Clause 3- Survey, Generation, Transmission or Distribution of Electricity: No person shall be entitled to conduct survey, generation, transmission or distribution of electricity without obtaining license under this Act. Provided that no license shall be required to be obtained by a national or a corporate body for the generation, transmission or distribution of electricity up to 1000 kilowatt and for conducting necessary survey thereof. Before generating, transmitting or distributing hydroelectricity of the capacity ranging from 100 kilowatt to 1000 kilowatt, information to that effect shall be given to the prescribed officer in a manner as prescribed.	Clause 3- Survey, Generation, Transmission or Distribution of Electricity: No person shall be entitled to conduct survey, generation, transmission, distribution, import or export of electricity without obtaining license under this Act.

²⁹ As a part of this study exercise, study team was aware of the fact that a New Draft Electricity Act and Electricity Regulatory Commission acts is pending before the Parliament in Nepal. Therefore suggested changes/amendments proposed may be considered in the Draft Electricity Act and Draft Electricity Regulatory Commission acts suitable and appropriately.

³⁰ http://www.moen.gov.np/pdf_files/Electricity_Act_2049-english.pdf



Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
2.	<p>Clause 4: Provisions of License: (1) A person or a corporate body, who desires to conduct survey, generation, transmission or distribution of electricity, shall be required to submit an application to the prescribed officer along with the economic, technical and environmental study report and with other prescribed particulars on the relevant subject.</p> <p>Provided that such study report shall not be required to be included while applying for the license to conduct the survey relating to electricity.</p> <p>(2) On receipt of an application pursuant to Sub-section (1) the prescribed officer shall have to examine or cause to examine necessary enquiries and shall have to issue license to the applicant according to the format as prescribed within 30 days of receipt of such application in case of license for conducting survey relating to electricity and within 120 days in as of license for generation, transmission or distribution of electricity.</p> <p>(3) A person or a corporate body, who is doing generation, transmission or distribution of electricity prior to the commencement of this Act, shall be required to submit an application along with prescribed particulars to the prescribed officer within one year from the date of the commencement of this Act except otherwise provided in the proviso clause of Section 3.</p> <p>(4) On receipt of an application pursuant to Sub-section (3) the prescribed officer after examining necessary enquiries, shall issue the license according to the format as prescribed within 60 days of receipt of such application.</p>	<p>Clause 4: Provisions of License: (1) A person or a corporate body, who desires to conduct survey, generation, transmission, distribution or import & export of electricity, shall be required to submit an application to the prescribed officer along with the economic, technical and environmental study report and with other prescribed particulars on the relevant subject.</p> <p>Provided that such study report shall not be required to be included while applying for the license to conduct the survey relating to electricity.</p> <p>(2) On receipt of an application pursuant to Sub-section (1) the prescribed officer shall have to examine or cause to examine necessary enquiries and shall have to issue license to the applicant according to the format as prescribed within 30 days of receipt of such application in case of license for conducting survey relating to electricity and within 120 days in as of license for generation, transmission, distribution or import & export of electricity.</p> <p>(3) A person or a corporate body, who is doing generation, transmission, distribution or import & export of electricity prior to the commencement of this Act, shall be required to submit an application along with prescribed particulars to the prescribed officer within one year from the date of the commencement of this Act except otherwise provided in the proviso clause of Section 3.</p> <p>(4) On receipt of an application pursuant to Sub-section (3) the prescribed officer after examining necessary enquiries, shall issue the license according to the format as prescribed within 60 days of receipt of such application.</p>
3.	<p>Clause 5: Terms of License: (1) The term of license to be issued for the survey of electricity may be of 5 (Five) years in maximum.</p> <p>(2) The term of license to be issued for generations, transmission or distribution of electricity may be of 50 (Fifty) years in maximum.</p> <p>(3) In case a license is issued for a term less than prescribed term in Sub-section (1) or (2), it shall be required to be renewed before one year of expiry of the term stipulated in the license.</p> <p>(4) If the license is not renewed pursuant to Sub-section (3) such license shall be void.</p>	<p>Clause 5: Terms of License: (1) The term of license to be issued for the survey of electricity may be of 5 (Five) years in maximum.</p> <p>(2) The term of license to be issued for generations, transmission, distribution or import & export of electricity may be of 50 (Fifty) years in maximum.</p> <p>(3) In case a license is issued for a term less than prescribed term in Sub-section (1) or (2), it shall be required to be renewed before one year of expiry of the term stipulated in the license.</p> <p>(4) If the license is not renewed pursuant to Sub-section (3) such license shall be void.</p>
4.	<p>Clause 7: Matters to be observed by the Licensee: Matters to be observed by the licensee in relation to survey, generation, transmission or distribution of electricity shall be as prescribed.</p>	<p>Clause 7: Matters to be observed by the Licensee: Matters to be observed by the licensee in relation to survey, generation, transmission, distribution or import & export of electricity shall be as prescribed.</p>



Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
2. ELECTRICITY REGULATION, 2050 (1993)³¹		
1.	<p>Clause 15: Examination of Application:- (1) The Secretary by him/herself or through the Electricity Development Department shall examine or' cause to examine the application seeking license for production, transmission or distribution of electricity received pursuant to Rules 12, 13 or 14 to see whether or not the applicant has submitted the necessary documents, particulars or report to be submitted under the Act and these Rules.</p> <p>(2) While examining the application pursuant to sub-rule (1), if it is found that the applicant has not submitted any documents, particulars or report which ought to have been submitted, a notice shall be given to the applicant within Forty Five days from the date of submission of the application specifying a reasonable time-limit to submit such documents, particulars or report.</p> <p>(3) In case the Electricity Development Department gives notice specifying the time-limit to submit some documents, particulars or reports pursuant to sub-rule (2), the date, when such matters are received, shall be deemed as the date of submission of application for the purpose of Sub-section (2) of Section 4 of the Act.</p>	<p>To be Added:</p> <p>Application to be submitted to obtain a License for Import & Export of Electricity</p> <p>Any person or corporate body, who is interested to import & export electricity, shall have to submit an application stating the following particulars relating to the proposed import & export electricity to the Secretary through, the Electricity Development Department in the format as prescribed in Schedule</p> <p>Clause 15: Examination of Application:- (1) The Secretary by him/herself or through the Electricity Development Department shall examine or' cause to examine the application seeking license for production, transmission, distribution, import & export of electricity received pursuant to Rules 12, 13, 14 & XX³² to see whether or not the applicant has submitted the necessary documents, particulars or report to be submitted under the Act and these Rules.</p> <p>(2) While examining the application pursuant to Sub-rule (1), if it is found that the applicant has not submitted any documents, particulars or report which ought to have been submitted, a notice shall be given to the applicant within Forty Five days from the date of submission of the application specifying a reasonable time-limit to submit such documents, particulars or report.</p> <p>(3) In case the Electricity Development Department gives notice specifying the time-limit to submit some documents, particulars or reports pursuant to Sub-rule (2), the date, when such matters are received, shall be deemed as the date of submission of application for the purpose of Sub-section (2) of Section 4 of the Act.</p>

³¹ http://www.moen.gov.np/pdf_files/Electricity_Regulation_2050-english.pdf

³² XX refers other similar/relevant clauses of electricity regulation, 2050 (1993) Note: All the clauses/section could not be comprehensively reviewed/Analysed as legal vetting was not a part of this assignments.



Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
	<p>Clause 16: Public Notice to be Published:- (1) On receipt of application seeking to obtain license for production, transmission or distribution of electricity pursuant to Rules 12, 13 or 14, the Electricity Development Department shall, after making necessary examination of application under Rule 15, publish a notice stating the necessary particulars for the information of general public.</p> <p>(2) Any person may furnish his/her reaction stating reasons thereto to the Electricity Development Department within Thirty Five days from the date of publication of notice pursuant to Sub-rule (1), if the construction and operation of the proposed project is likely causing adverse effect.</p> <p>(3) If any reaction is received pursuant to Sub-rule (2), upon considering such reactions, the conditions which should be followed by the applicants shall be mentioned in the license.</p> <p>Clause 17: To Issue a License:- The Secretary, after completing or causing to complete the procedures pursuant to Rule 15 and 16, on the applications submitted for production, transmission or distribution of electricity pursuant to Rules 12, 13 and 14, shall issue the license to the applicant in accordance with the demand of applicant or making necessary amendment in the format as prescribed in Schedules 9 (A), 9 (B) or 9 (C) respectively for production, transmission or distribution of electricity.</p>	<p>Clause 16: Public Notice to be Published: (1) On receipt of application seeking to obtain license for production, transmission, distribution, import and export of electricity pursuant to Rules 12, 13, 14 or XXX³³, the Electricity Development Department shall, after making necessary examination of application under Rule 15, publish a notice stating the necessary particulars for the information of general public.</p> <p>(2) Any person may furnish his/her reaction stating reasons thereto to the Electricity Development Department within Thirty Five days from the date of publication of notice pursuant to Sub-rule (1), if the construction and operation of the proposed project is likely causing adverse effect.</p> <p>(3) If any reaction is received pursuant to Sub-rule (2), upon considering such reactions, the conditions which should be followed by the applicants shall be mentioned in the license.</p> <p>Clause 17: To Issue a License:- The Secretary, after completing or causing to complete the procedures pursuant to Rule 15 and 16, on the applications submitted for production, transmission, distribution import and export of electricity pursuant to Rules 12, 13, 14 and XX³⁴ shall issue the license to the applicant in accordance with the demand of applicant or making necessary amendment in the format as prescribed in Schedules 9 (A), 9 (B), 9 (C) or XX³⁵ respectively for production, transmission, distribution, import & export of electricity.</p>

B. OPEN ACCESS

Non Discriminatory Open Access

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Agreement Between the Government of Nepal and the Government of the Republic of India on Electric Power Trade, Cross-Border Transmission Interconnection and Grid Connectivity.		
1.	Article II (b) The Parties shall allow non-discriminatory access to the cross-border interconnection(s) for all authorised/licensed participants in the common electricity market.	The Electricity Rules 2050, hydropower development policy 2001 and the Electricity Act 2049 (1992) does not mention about Open Access. Note: Such enablement of non-discriminatory open access shall be explicitly defined through enactment of separate regulations/orders under the Act. Specific provisions on access to National transmission network for importing/exporting entities shall be defined separately.

³³ XXX refers other similar/relevant clauses of electricity regulation, 2050 (1993) Note: All the clauses/section could not be comprehensively reviewed/Analysed as legal vetting was not a part of this assignments.

³⁴ XX refers other similar/relevant clauses of electricity regulation, 2050 (1993) Note: All the clauses/section could not be comprehensively reviewed/Analysed as legal vetting was not a part of this assignments.

³⁵ XX refers other similar/relevant clauses of electricity regulation, 2050 (1993) Note: All the clauses/section could not be comprehensively reviewed/Analysed as legal vetting was not a part of this assignments.



C. TRANSMISSION PRICING

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Electricity Act 2049 (1992)		
	<p>Clause 16: Electricity Charge and Other Charges to be Realised: (1) Government of Nepal or the licensee may realise electricity tariff or other charges as assessed pursuant to Section 17 from persons, using such services, in consideration of the services rendered to them. (2) Electricity charge and other charges pursuant to Sub-section (1) shall be realised as prescribed.</p> <p>Clause 17: Assessment of Electricity Tariff and Other Charges: (1) Government of Nepal shall constitute a Tariff Fixation Commission for the purpose of fixing electricity tariff and other charges. (2) The commission constituted pursuant to Sub-section (1) shall consist of at least five persons from among the representative of the Government of Nepal, economist and those involved in the generation, transmission and distribution of electricity and the consumers. (3) The commission, pursuant to Sub-section (1), shall fix the electricity tariff and other charges on the basis of the rate of depreciation, reasonable profit, mode of the operation of the plant, changes in consumer's price index, royalty, etc. (4) The licensee shall not be entitled to realise electricity charges and other charges and in excess of what has been fixed or any other charges other than those fixed pursuant to Sub-section (3). (5) The commission pursuant to Sub-section (1) may, in order to complete its function, call for the concerned company, person, institution or corporate body, the necessary information and document and it shall be their duty to give such information and document. (6) While fixing electricity tariff and other charges pursuant to Sub-section (3) the commission, constituted pursuant to Sub-section (1), may classify the types of consumer and fix the tariff accordingly. (7) The working procedure of the commission, constituted pursuant to Sub-Section (1), shall be as prescribed.</p> <p>Clause 18: Separate Tariff and Other Charge may be Assessed: (1) Notwithstanding anything written in Section 17, one who distributes electricity in isolation of the national grid, shall be entitled to fix the electricity tariff and other charges for the electricity so distributed. (2) While fixing electricity tariff and other charges pursuant to Sub-section (1), it may be so fixed that all investments made on electricity generation, transmission or distribution is paid back in average of 25 years by deducting the depreciation cost and a dividend of 25 percent on share capital is earned.</p>	<p>Clause 16: Clause 17: Clause 18: Separate Tariff and Other Charge may be Assessed: (1) Notwithstanding anything written in Section 17, one who distributes electricity in isolation of the national grid, shall be entitled to fix the electricity tariff and other charges for the electricity so distributed. (2) While fixing electricity tariff and other charges pursuant to Sub-section (1), it may be so fixed that all investments made on electricity generation, transmission or distribution is paid back in average of 25 years by deducting the depreciation cost and a dividend of 25 percent on share capital is earned. (3) In case of cross-border trading activities.</p> <p>Note: Currently, the Electricity Tariff Fixation Commission (ETFC) does not specify separate charges for transmission usage including use of National Grid for cross-border trading activities as ETFC only regulates the retail tariff.</p> <p>Hence the NEA in consultation with ETFC shall notify appropriate orders that will enable determination of single point charges for injection and withdrawal at external interconnections.</p>

D. TRANSMISSION PLANNING

Sl.No.	Existing Clause/Section/Practices	Suggested Changes/Amendments
1.	Transmission and System Operation Business Group³⁶ of NEA is entrusted with the key responsibilities of generation and transmission system planning, system operation, operation and maintenance of national grid and cross-border trading of power. The system planning department carries out load forecasting, generation expansion planning and transmission system planning and real time system operation. Similarly, Generation Operation and Maintenance Business Group³⁷ of NEA carries out all overall operation and maintenance of national grid and power trade department executes the trading of power with IPPs and also carries out the business activities of power exchange and trading of power with India.	Nepal is taking steps to unbundle NEA and create a separate Transmission Company³⁸ i.e. National Grid Company and once it is formed, Transmission Planning may be entrusted with the Transmission Company.
1. Grid Code (Internal Document of the government and not a law)		
1.	<ul style="list-style-type: none"> Grid Code Chapter 3 dedicated for System Planning Transmission planning follows the operational limits provided in the Grid Code Transmission planning is carried out by System Planning Department Government of Nepal approves investments in transmission 	Note: Since this document is not available in the public domain, it is difficult to recommend changes here.

E. IMBALANCE SETTLEMENT

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Agreement Between the Government of Nepal and the Government of the Republic of India on Electric Power Trade, Cross-Border Transmission Interconnection and Grid Connectivity		
1.	Article II (a) The Parties shall mutually work out a coordinated procedure for secure and reliable operation of the national grids interconnected through cross-border transmission interconnection(s) and prepare scheduling, dispatch, energy accounting, settlement and procedures for cross-border power trade and unscheduled interchange.	The Electricity Rules 2050, hydropower development policy 2001 and the Electricity Act 2049 (1992) does not mention about Imbalance Settlement. <i>Imbalance Settlement Mechanism shall be explicitly defined through enactment of separate regulations/orders under the Act.</i>

F. DISPUTE RESOLUTION

Sl.No.	Existing Clause/Section	Suggested changes/amendments
1. Foreign Investment and Technology Transfer Act, 1992³⁹		
1.	Disputes to be resolved between the governments as per the conditions mentioned in the agreement. Section 7.3.3. "According to the Section 7 of this Act, if any dispute could not be settled by mutual consultations, it shall be settled by arbitration in accordance with the prevailing arbitration rules of the United Nations Commission on International Trade Law (UNCITRAL). The arbitration shall be held in Kathmandu. The laws of Nepal shall be applicable in the arbitration. As per 7.4 of this Act, notwithstanding anything contained above, disputes arising in regard to foreign investment made in the industries with investment as prescribed may be settled as mentioned in the foreign investment agreement'.	To be included: <i>Disputes related to cross-border transactions to be resolved in accordance with the procedures mentioned in existing agreements/contracts. Over a period of time, such disputes shall be referred to and resolved by the SAARC Arbitration Council. The SAARC Arbitration Rules shall govern the arbitration procedure.</i> Note: since new draft electricity act is pending before parliament, therefore new electricity act can also include the above provision related to dispute resolution suitably and appropriately.

³⁶ http://nea.org.np/images/supportive_docs/Transmission%20and%20System%20Operation%20Business%20Group.pdf

³⁷ http://nea.org.np/images/supportive_docs/Generation%20Operation%20and%20Maintenance%20Business%20Group.pdf

³⁸ <http://www.nepalenergyforum.com/unbundling-of-nea-starts/>

³⁹ <http://www.nepalembassy.in/Foreign%20Investment%20and%20Technology%20Transfer%20Act.pdf>



G. TAXES & DUTIES

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Electricity Act 2049 (1992)		
1.	<p>Clause 22: Import and Export of Electricity: (1)....</p> <p>(2) The licensee desiring to export electricity generated on its own to the foreign country may do so by entering into an agreement with Government of Nepal on such matter.</p> <p>(3) The exporter of electricity pursuant to Sub-section (2) shall have to pay export duty as prescribed to Government of Nepal.</p>	<p>Clause 22: Import and Export of Electricity: (1)....</p> <p>(2) The licensee desiring to export electricity generated on its own to the foreign country may do so by entering into an agreement with Government of Nepal on such matter.</p> <p>(3) The exporter of electricity pursuant to Sub-section (2) shall not have to pay any export duty, custom duty or taxes as prescribed to Government of Nepal</p> <p>(4) Parties shall work towards removing, and mutually resolving issues relating to, barriers, including tariff, levies, fees, taxes, duties or charges of similar effects, if any, in the cross-border exchange and trading of electricity.</p>
2. Agreement between the Government of Nepal and the Government of the Republic of India on Electric Power Trade, Cross-Border Transmission Interconnection and Grid Connectivity⁴⁰		
1.	<p>ARTICLE-IV</p> <p>(a) The Parties shall cooperate on the various aspects of policy harmonisation for the realisation of cross-border interconnections, grid connectivity and power trade. Both Parties shall work towards removing, and mutually resolving issues relating to, barriers, including tariff, levies, fees, taxes, duties or charges of similar effects, if any, in the cross-border exchange and trading of electricity.</p>	

H. OTHERS

Import & Export of Electricity

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Electricity Act 2049 (1992)		
	<p>Clause 22: Import and Export of Electricity: (1) If the licensee desiring to distribute electricity by importing the same within the Nepal, may do so by obtaining prior approval of Government of Nepal as prescribed.</p>	No changes are required.
2. Electricity Rule 2050		
1.	<p>Permission for Import of Electricity: (1) If the licensee, who has obtained license for production, transmission or distribution in accordance with these Rules, is interested to import the electricity into Nepal, he/she shall have to submit an application together with the agreement made thereto to the Electricity Development Department to get the prior permission of Government of Nepal.</p> <p>(2) The name of the country from where the electricity is to be imported, standard of voltage of electricity to be imported, quantity, area of transmission or distribution, period of importing the electricity and other necessary matters shall have to be mentioned in the application to be submitted pursuant to Sub-rule (1).</p> <p>(3) Government of Nepal after making necessary examination, may, upon receipt of the application pursuant to Sub-rule (1), give its permission to import the electricity either in accordance with the demand of the applicant or with required amendment.</p>	No changes are required.

⁴⁰ http://www.moen.gov.np/pdf_files/PTA-English-21-Oct-2014.pdf



Fixing of Quality Standard of Electricity

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
2. Electricity Act 2049 (1992)		
1.	<p>Clause 23: Fixing of Quality Standard of Electricity (1) Government of Nepal may, by a notification published in the Nepal Gazette, fix the quality standard of electricity, which is generated, transmitted and distributed pursuant to this Act.</p> <p>(2) While generating, transmitting or distributing electricity, the quality standard as prescribed pursuant to Sub-section (1) shall be maintained.</p> <p>Clause 25: Volt level and other Technical Matters:</p> <p>(1) For the purpose of electricity generation, transmission or distribution, the volt level and other technical matters shall be as prescribed.</p> <p>(2) The person who conducts electricity generation, transmission or distribution shall maintain the prescribed standard pursuant to Sub-section (1).</p>	<p>Clause 23: Fixing of Quality Standard of Electricity (1) Government of Nepal may, by a notification published in the Nepal Gazette, fix the quality standard of electricity, which is generated, transmitted, distributed, imported and exported pursuant to this Act.</p> <p>(2) While generating, transmitting, distributing, importing and exporting electricity, the quality standard as prescribed pursuant to Sub-section (1) shall be maintained.</p> <p>Clause 25: Volt level and other Technical Matters:</p> <p>(1) For the purpose of electricity generation, transmission, distribution, import and export of electricity the volt level and other technical matters shall be as prescribed.</p> <p>(2) The person who conducts electricity generation, transmission, distribution, import and export of electricity shall maintain the prescribed standard pursuant to Sub-section (1).</p>

SUGGESTED CHANGES/AMENDMENTS IN POLICY AND PLAN: DETAILED CLAUSE/SECTION WISE

A. LICENSING

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Hydropower Development Policy 2001⁴¹		
1.	<p>6.12.3 (a) The provision of license shall be as follows:</p> <ol style="list-style-type: none"> 1. Study/survey License 2. Generation License 3. Transmission License 4. Distribution License <p>6.12.7 License may be granted to export electricity from projects with installed capacity of more than 100 MW and deemed appropriate by His Majesty's Government. The license for such a project shall be issued by His Majesty's Government through invitation of proposals or through negotiation with the applicant, who has submitted application for the license.</p> <p>6.12.8 The license shall be issued by the Ministry of Water Resources.</p> <p>6.12.9 The grounds for granting the license shall be made transparent.</p> <p>6.12.10.....</p>	<p>6.12.3 (a) The provision of license shall be as follows:</p> <ol style="list-style-type: none"> 1. Study/survey License 2. Generation License 3. Transmission License 4. Distribution License 5. Export & Import of Electricity <p>6.12.7 License may be granted to export electricity from projects with installed capacity of more than 100 MW and deemed appropriate by His Majesty's Government. The license for such a project shall be issued by His Majesty's Government through invitation of proposals or through negotiation with the applicant, who has submitted application for the license.</p> <p>6.12.8 The license shall be issued by the Ministry of Water Resources.</p> <p>6.12.9 The grounds for granting the license shall be made transparent.</p> <p>6.12.10.....</p>

⁴¹ http://www.nea.org.np/images/supportive_docs/hydropower_development_policy_2001.pdf



Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
	<p>6.12.11 Term of the License.</p> <p>6.12.11 (1).....</p> <p>6.12.11 (2) The hydropower generation license:</p> <p>6.12.11 (2) (a).....</p> <p>6.12.11 (2) (b) The export-oriented hydropower project: Thirty years from the date of issuance of the generation license</p> <p>6.12.11(3) The Electricity Transmission and Distribution License:.....</p> <p>6.12.11 (4)...</p> <p>6.12.11 (5)...</p>	<p>6.12.11 Term of the License.</p> <p>6.12.11 (1).....</p> <p>6.12.11 (2) The hydropower generation license:</p> <p>6.12.11 (2) (a).....</p> <p>6.12.11 (2) (b) The export-oriented hydropower project: Thirty years from the date of issuance of the generation license</p> <p>6.12.11(3) The Electricity Transmission and Distribution License:.....</p> <p>6.12.11 (4)...</p> <p>6.12.11 (5)...</p> <p>(XX) The Export and Import License</p> <p>Note: Other conditions of the License viz., term of the license, etc. shall be stipulated in the Policy by the Ministry.</p>

B. TRANSMISSION PRICING

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Hydropower Development Policy 2001		
	<p>Clause 5.17: The existing institutions in the public sector shall be re-structured to create competitive environment by encouraging the involvement of community/cooperative institutions, local bodies and private sector in generation, transmission and distribution of hydropower in order to extend reliable and qualitative electricity service throughout the Kingdom at a reasonable price.</p>	<p>Clause 5.17: The existing institutions in the public sector shall be re-structured to create competitive environment by encouraging the involvement of community/cooperative institutions, local bodies and private sector in generation, transmission and distribution of hydropower in order to extend reliable and qualitative electricity service throughout the Kingdom and at a reasonable price. This shall also include electricity imported and exported under cross-border transactions with neighbouring countries.</p>

C. IMPORT & EXPORT OF ELECTRICITY

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Hydropower Development Policy 2001		
1.	<p>6.11 Provision on Export of Electricity:</p> <p>6.11.1 If the electric energy generated in the country is to be exported abroad, it shall be done as per the agreement entered into between the exporter and His Majesty's Government.</p> <p>6.11.2 If His Majesty's Government thinks necessary, it may, on mutual understanding, purchase the power up to 10 per cent of the electricity generated from the export-oriented projects for domestic consumption.</p> <p>6.11.3 Electricity shall be exported by identifying the export oriented projects and developing such projects through the private sector. For this purpose, necessary study shall be conducted towards extending power system at the bilateral and regional level.</p> <p>6.11.4</p> <p>6.11.5</p> <p>6.11.6 His Majesty's Government may, if necessary, render appropriate assistance to conclude a power purchase agreement for the power to be exported abroad.</p>	<p>No changes are required.</p>



PAKISTAN



Sl.No.	Acts/Policies and Regulations	Summary of the suggested Changes/Amendments-Pakistan
Legal and Regulatory Framework		
1.	Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 subsequently amended in 2011.	<p>a. Licensing: CBET to be a Licensed Activity.</p> <p>b. Open Access and Transmission Pricing: NEPRA shall notify regulation/order to promote competition and enable non-discriminatory access to the transmission system including for cross-border power flows and determines transmission charges for the same.</p> <p>c. Dispute Resolution: Any dispute arising on account of contract for import and/or export of electricity where the Authority believes that dealing with such dispute is beyond the Authority's jurisdiction, the Authority may refer such dispute to the SAARC Arbitration Council. However, other options of international dispute resolution procedures like UNCITRAL, ICSID and Singapore Arbitration etc. could also be explored.</p>
1.	NEPRA Licensing (Application and Modification Procedure) Regulations, 1999	Licensing: To include Application and Modification Procedure for CBET.
2.	Grid Code 2005	<p>a. Open Access: Entities engaging in import and export of electricity shall be granted Open Access to the transmission system in accordance with the provisions applicable to such cross-border transactions.</p> <p>b. Transmission Planning: Planning Process established by NTDC to include specific transmission system reinforcements, upgrading, and expansion projects (for purpose of domestic and cross-border electricity trade). The Transmission System Expansion Plan to shall include projects for domestic and cross-border electricity trade.</p> <p>c. Imbalance Settlement: NEPRA shall notify detailed Balancing Mechanism. The mechanism shall also include commercial settlement procedure (including incentive, penalty).</p>
3.	NEPRA (Tariff Standards and Procedure) Rules, 1998	Transmission Pricing: The principles and standards for tariff determination provided in the rules shall also be applicable to tariff for cross-border transactions. Prices to be sensitive to distance, direction and quantum of power flow.
Policy and Planning		
4.	Guidelines on determination of charges for wheeling of electricity from one point to another	Similar charges shall also be required to be paid under cross-border power trade arrangements utilising the transmission system for wheeling of power.
5.	National Power Policy 2013	Transmission Plan: Develop a transmission plan and an energy database. The transmission plan shall comprise a phased approach to plan for development of external interconnections for cross-border transactions.
6.	National Power System Expansion Plan 2011-2030	Note: The National Power system Expansion Plan 2011-2030 comprises of electricity import from Iran and CASA project. It shall also include cross-border trade opportunities within the South Asian region.

Since Changes in the Acts is a long drawn process, enablement of essential factors/ingredients for CBET can be undertaken through drafting of separate regulations/notifications/orders for the following aspects:

i. Taxes and Duties (all countries to gradually move to a zero tax regime) (ii) Non-Discriminatory Open Access

SUGGESTED CHANGES/AMENDMENTS IN LEGAL AND REGULATORY FRAMEWORK: DETAILED CLAUSE/SECTION WISE

A. LICENSING

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997⁴² subsequently amended in 2011⁴³		
1.	<p>CHAPTER I GENERAL</p> <p>Clause 2: Definitions:</p> <p>(xvi) "licence" means a licence issued for generation, transmission or distribution under this Act</p> <p>CHAPTER II-ESTABLISHMENT OF AUTHORITY</p> <p>Clause 7: Powers and Functions of the Authority</p> <p>(1)....</p> <p>(2)....</p> <p>(a) grant licences for generation, transmission and distribution of electric power;</p> <p>Chapter III: Licences</p> <p>Clause 15: Generation licence.....</p> <p>Clause 16: Distribution licence</p>	<p>CHAPTER I GENERAL</p> <p>Clause 2: Definitions:</p> <p>(xvi) "licence" means a licence issued for generation, transmission, distribution, trading (including export and import) of electricity under this Act</p> <p>CHAPTER II-ESTABLISHMENT OF AUTHORITY</p> <p>Clause 7: Powers and Functions of the Authority</p> <p>(1)....</p> <p>(2)....</p> <p>(a) grant licences for generation, transmission, distribution, trading (including export and import) of electricity of electric power;</p> <p>Chapter III: Licences</p> <p>Clause 15: Generation licence</p> <p>Clause 16: Distribution licence</p> <p>Clause XX: Trading License</p> <p>The shall also include licence for export and import of electricity</p> <p>1. No person shall, except under the authority of a license issued by the authority under this Act and subject to the conditions specified in this Act and as may be imposed by the Authority, engage in import and export of electric power.</p> <p>2. An application for a license for import and export of electric power shall be in accordance with the NEPRA Licensing (Application and Modification Procedure) Regulations, 1999 and its subsequent amendments.</p> <p>Note: Trading as a distinct licensed activity shall be recognised and accordingly various provisions (on eligibility, procedure, grant of license, power and duties, exemptions, revocation of license, modification and enforcement of license etc.) shall be applicable in a desired form on trading. This shall also include specific provisions on cross-border trade.</p> <p>The Commission shall facilitate cross-border trade through amendments in existing regulations [NEPRA Licensing (Application and Modification Procedure) Regulations, 1999] on licensing or through notification of separate orders on the subject.</p>

⁴² <http://www.nepra.org.pk/Legislation/Act/Regulation%20of%20Generation%20Transmission%20and%20Distribution%20of%20Electric%20Power%20Act%201997%20along%20with%20all%20amendments.pdf>

⁴³ [http://www.nepra.org.pk/Legislation/1-Act/8th%20Amendment%20\(No.%20F22\(14\)2012-Legis.\).PDF](http://www.nepra.org.pk/Legislation/1-Act/8th%20Amendment%20(No.%20F22(14)2012-Legis.).PDF)



Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
2. NEPRA Licensing (Application and Modification Procedure) Regulations, 1999		
1.	<p>Part II: Clause 3: Application for License: (g) in case of:</p> <p>a) generation licence applications, the type, technology, model, technical details and design of the facilities proposed to be acquired, constructed, developed or installed;</p> <p>b) distribution and transmission licence applications,</p> <p>i. the type, technology, model, technical details and design of the facilities proposed to be acquired, constructed, developed or installed;</p> <p>ii. a territorial map of the service area proposed to be covered;</p> <p>iii. particulars in respect of the availability, sources, rates and evidence of commitments from the sources of electric power.</p>	<p>Part II: Clause 3: Application for License: (g) in case of:</p> <p>a) generation licence applications, the type, technology, model, technical details and design of the facilities proposed to be acquired, constructed, developed or installed;</p> <p>b) distribution and transmission licence applications,</p> <p>i. the type, technology, model, technical details and design of the facilities proposed to be acquired, constructed, developed or installed;</p> <p>ii. a territorial map of the service area proposed to be covered;</p> <p>iii. particulars in respect of the availability, sources, rates and evidence of commitments from the sources of electric power.</p> <p>c) Trading license applications</p> <p>i. eligibility, procedure, grant of license,</p> <p>ii. power and duties,</p> <p>iii. Modification and enforcement of license etc.</p> <p>iv. exemptions, revocation of license.</p>

B. OPEN ACCESS

Non-discriminatory OA Access and promotion of competitive market

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 subsequently amended in 2011.		
1.	<p>CHAPTER III - LICENCES</p> <p>Clause 18: Responsibilities of National Grid Company. — (1) The national grid company shall be responsible to operate and provide safe, reliable transmission and inter-connection services on a non-discriminatory basis, including to a bulk-power consumer who proposes to become directly connected to its facilities.</p>	<p>CHAPTER III - LICENCES</p> <p>Clause 18: Responsibilities of National Grid Company. — (1) The national grid company shall be responsible to operate and provide safe, reliable transmission and inter-connection services on a non-discriminatory basis, including to a bulk-power consumer who proposes to become directly connected to its facilities. This shall also include non-discriminatory access to national grid for the purpose of cross-border trade.</p> <p>Note: NEPRA shall notify regulation/order to promote competition and enable non-discriminatory access to the transmission system to any entity that intends to use such system for the purpose of wheeling power (including cross-border power flows).</p>
2. Grid Code 2005		
1.	<p>Open Access</p> <p>NTDC shall operate the Transmission System in the spirit of "Open Access". By "Open Access" is meant that all Code Participants (extant and potential) shall be treated fairly and equitably without any discrimination or prejudice.</p>	<p>Open Access</p> <p>NTDC shall operate the Transmission System in the spirit of "Open Access". By "Open Access" is meant that all Code Participants (extant and potential) shall be treated fairly and equitably without any discrimination or prejudice. Similarly entities engaging in import and export of electricity shall be granted Open Access to the transmission system in accordance with the provisions applicable to such cross-border transactions.</p>



Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
	<p>Open Access requires that NTDC shall develop a set of procedures for the receipt and management of requests for new connection to its Transmission System.</p> <p>NTDC shall prepare and submit to NEPRA, for information, a uniform set of rules describing the management of the list of requests for new connections.....</p>	<p>Open Access requires that NTDC shall develop a set of procedures for the receipt and management of requests for new connection to its Transmission System.</p> <p>NTDC shall prepare and submit to NEPRA, for information, a uniform set of rules describing the management of the list of requests for new connections.....</p> <p>CASA 1000 project provides for open access to energy corridor for all the member countries.</p>

C. TRANSMISSION PRICING

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 subsequently amended in 2011		
1.	<p>Clause 31: Tariff</p> <p>“..... the Authority (NEPRA) shall determine and prescribe procedures and standards for determination, modification or revision of rates, charges and terms and conditions for generation of electric power, transmission, inter-connection.....”</p> <p>The Authority while determining the standards shall</p> <p>(a) protect consumers against monopolistic and oligopolistic prices;</p> <p>(b) keep in view the research, development and capital investment programme costs of licensees;</p> <p>(c) encourage efficiency in licensees operations and quality of service;</p> <p>(d) encourage economic efficiency in the electric power industry;</p> <p>(e) keep in view the economic and social policy objectives of the Federal Government; and</p> <p>(f) determine tariffs so as to eliminate exploitation and minimise economic distortions</p>	<p>With reference to the clauses mentioned, the Act shall provide appropriate mechanism for determination of charges for transmission usage based on following principles:</p> <ul style="list-style-type: none"> – Transparent allocation of costs – Compensate users for actual usage of system – Compensate owners of existing transmission assets <p>NEPRA through notification of appropriate orders/amendment of guidelines, shall determine transmission charges applicable to cross-border transactions for wheeling of power on the National Grid.</p>
2. NEPRA (Tariff Standards and Procedure) Rules, 1998		
1.	<p>Part III: Standard and Guidelines</p> <p>(3) Tariffs shall be determined, modified or revised on the basis of and in accordance with the following standards, namely</p> <ul style="list-style-type: none"> - tariffs should allow licensees the recovery of any and all costs prudently incurred to meet the demonstrated needs of their customers.....; - tariffs should allow licensees a rate of return which promotes continued reasonable investment in equipment and facilities for improved and efficient service; - tariffs should reflect marginal cost principles to the extent feasible, keeping in view the financial stability of the sector; - the Authority shall have a preference for competition rather than regulation and shall adopt policies and establish tariffs towards that end; 	<p>With reference to the clause, the charges for wheeling shall be determined as per the principles defined in the rules.</p> <p>Currently, the power trade arrangement between Afghanistan and Pakistan includes transmission charges to be paid for wheeling power in the National transmission system (CASA Master agreement). The tariff framework shall be sensitive to distance, direction, and related to quantum of power flow. The Authority shall also determine such charges for cross-border transactions with other countries based on such principles.</p>



Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
3. Guidelines on determination of charges for wheeling of electricity from one point another.		
	<p>Point iii: For direct sales, the power producers shall be required to pay “Wheeling charges” or Use of System charges”, determined by the NEPRA, for the use of transmission.....</p>	<p>Point iii: For direct sales, the power producers shall be required to pay “Wheeling charges” or Use of System charges”, determined by the NEPRA, for the use of transmission..... Similar charges shall also be required to be paid under cross-border power trade arrangements utilising the transmission system for wheeling of power.</p>

D. TRANSMISSION PLANNING

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Grid Code 2005		
	<p>PC 4.2 Procedures for Transmission System Expansion NTDC shall establish a planning process that leads to the recommendation of specific transmission system reinforcements, upgrading, and expansion projects. Specific projects shall be defined according to established planning criteria contained in this Grid Code, and in response to load growth, and the NTDC Plan. The TSEP shall be presented to NEPRA each year as part of the “Annual System Reliability Assessment and Improvement Report”, and shall be in terms of specific projects. The projects shall be identified in terms of: new transmission lines, new transmission circuits, new grid stations, new transformer installations, sub-station bus expansions, voltage control projects, circuit breaker upgrading projects, elimination of congestion bottlenecks, and system stability improvement projects.....</p>	<p>PC 4.2 Procedures for Transmission System Expansion NTDC shall establish a planning process that leads to the recommendation of specific transmission system reinforcements, upgrading, and expansion projects (for purpose of domestic and cross-border electricity trade). Specific projects shall be defined according to established planning criteria contained in this Grid Code, and in response to load growth, and the NTDC Plan. The TSEP shall be presented to NEPRA each year as part of the “Annual System Reliability Assessment and Improvement Report”, and shall be in terms of specific projects. This shall include projects for domestic and cross-border electricity trade and shall be identified in terms of: new transmission lines, new transmission circuits, new grid stations, new transformer installations, sub-station bus expansions, voltage control projects, circuit breaker upgrading projects, elimination of congestion bottlenecks, and system stability improvement projects.</p>



E. IMBALANCE SETTLEMENT

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Grid Code 2005		
1.	<p>Clause OC 5.1: Operating Margins</p> <p>OC 5.1.1 Operating Code No. 5 sets out the types and amounts of Reserve, which make up the Operating Margin that the System Operator may make use of under certain operating conditions to cover for the uncertainties in Demand Forecasting and power plant availability/unavailability or sudden outages of generation and transmission facilities.</p> <p>OC 5.1.2 This sub-code applies to NTDC and to Code Participants which in OC5 means:</p> <ol style="list-style-type: none"> Generators under Central Dispatch of NTDC. Other Users/Code Participants bound by the Grid Code. <p>OC 5.2.1 The Operating Margin consists of:</p> <p>OC 5.3 Operating Reserve in Real Time</p> <p>OC 5.3.1 The amount of Operating Reserve required in real time shall be pre-determined by the System Operator. Any shortfalls in power plant availability, demand level, and the loss of the largest Generator in a power plant and the effect of the loss of or the increase in load demand on an external interconnection are to be taken into account when determining the total amount of Operating Reserve</p> <p>OC 5.5.1 By 1500 hours (3 p.m.) each Wednesday, the System Operator shall issue each Generator in respect of its power plants a Weekly Operational Policy for the week commencing 10.00 a.m. for the following Monday. The Weekly Operational Policy shall cover Generators that are available from standstill to start by low frequency relay settings of which will be determined from time to time by the System Operator.....</p> <p>OC 5.5.2 The Weekly Operational Policy shall include an indication of the level of Operational Reserve to be used in connection with operation of the Balancing Mechanism (to be notified by the Authority) in the times scale defined in OC</p> <p>5.5.1. The document shall also include details of Operational Reserve that may be provided by Externally-connected systems and also indicate the possible level of High Frequency Response to be utilised by the System Operator in connection with the operation of the Balancing Mechanism.</p>	<p>Clause OC 5.1: Operating Margins</p> <p>OC 5.1.1 Operating Code No. 5 sets out the types and amounts of Reserve, which make up the Operating Margin that the System Operator may make use of under certain operating conditions to cover for the uncertainties in Demand Forecasting and power plant availability/unavailability or sudden outages of generation and transmission facilities.</p> <p>OC 5.1.2 This sub-code applies to NTDC and to Code Participants which in OC5 means:</p> <ol style="list-style-type: none"> Generators under Central Dispatch of NTDC. Other Users/Code Participants bound by the Grid Code, including participants involved in cross-border trade <p>OC 5.3 Operating Reserve in Real Time</p> <p>OC 5.3.1 The amount of Operating Reserve required in real time shall be pre-determined by the System Operator. Any shortfalls in power plant availability, demand level, and the loss of the largest Generator in a power plant and the effect of the loss of or the increase in load demand on an external interconnection (including cross-border interconnections) are to be taken into account when determining the total amount of Operating Reserve</p> <p>OC 5.5.1 By 1500 hours (3 p.m.) each Wednesday the System Operator shall issue each Generator in respect of its power plants a Weekly Operational Policy for the week commencing 10.00 a.m. for the following Monday. The Weekly Operational Policy shall cover Generators that are available from standstill to start by low frequency relay settings of which will be determined from time to time by the System Operator.....</p> <p>OC 5.5.2 The Weekly Operational Policy shall include an indication of the level of Operational Reserve to be used in connection with operation of the Balancing Mechanism (to be notified by the Authority) in the times scale defined in OC</p> <p>5.5.1. The document shall also include details of Operational Reserve that may be provided by Externally-connected systems (including cross-border interconnections) and also indicate the possible level of High Frequency Response to be utilised by the System Operator in connection with the operation of the Balancing Mechanism</p> <p>Note: NEPRA shall notify detailed Balancing Mechanism in accordance with the above provisions. The mechanism shall also include commercial settlement procedure (including incentive, penalty) and other such provisions deemed necessary by the Authority.</p>



F. DISPUTE RESOLUTION

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 subsequently amended in 2011		
1.	Clause 11: Tribunals. — The Authority may, from amongst its professional staff, establish special tribunals for resolving contractual disputes between licensees or such other matters as the Authority may assign.	Clause 11: Tribunals. — The Authority may, from amongst its professional staff, establish special tribunals for resolving contractual disputes between licensees or such other matters as the Authority may assign. This shall also include disputes arising from cross-border transactions. Provided that for any dispute arising on account of contract for import and/or export of electricity where the Authority believes that dealing with such dispute is beyond the Authority's jurisdiction, the Authority may refer such dispute to the SAARC Arbitration Council. The SAARC Arbitration rules shall govern such Arbitration procedure.

G. TAXES & DUTIES

Sl.No.	Clause	To be added
1.		No form of tax, custom duty or transit tax shall be applicable on export and import of electricity. Parties shall work towards removing, and mutually resolving issues relating to, barriers, including tariff, levies, fees, taxes, duties or charges of similar effects, if any, in the cross-border exchange and trading of electricity.

SUGGESTED CHANGES/AMENDMENTS IN POLICY AND PLAN: DETAILED CLAUSE/SECTION WISE

A. TRANSMISSION PLANNING

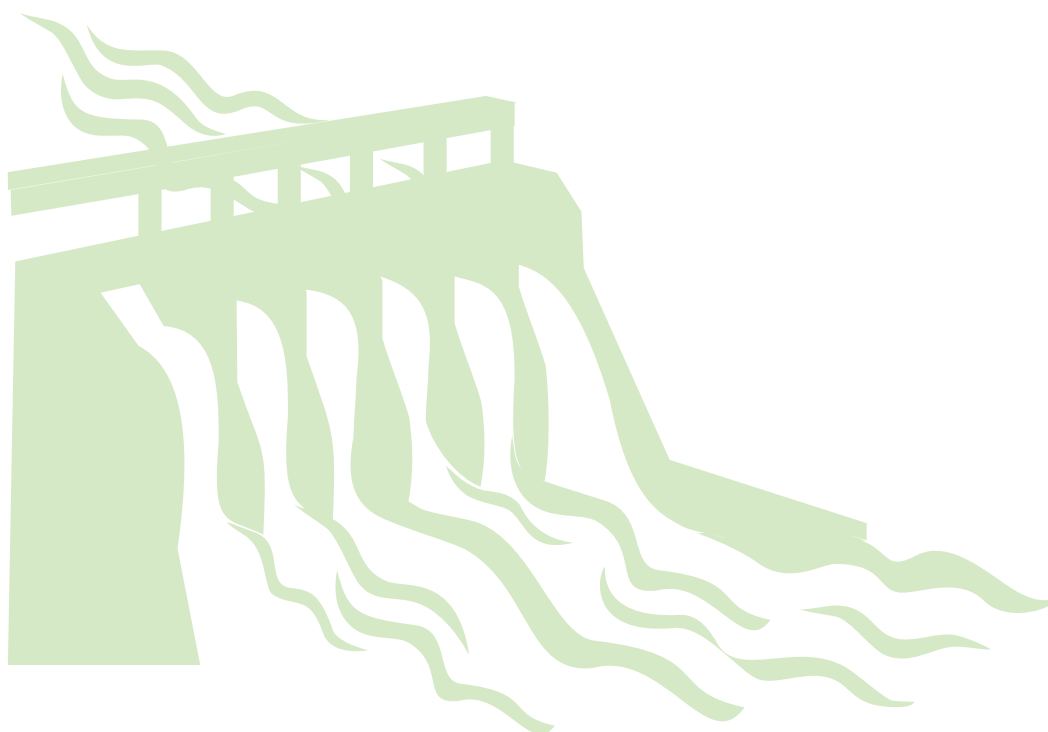
Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
2. National Power Policy 2013		
1.	Clause 4. Goals To achieve the long-term vision of the power sector and overcome its challenges, the Government of Pakistan has set the following nine goals: i. Build a power generation capacity that can meet Pakistan's energy needs in a sustainable manner ii. Create a culture of energy conservation and responsibility iii. Ensure the generation of inexpensive and affordable electricity for domestic, commercial, and industrial use by using indigenous resources such as coal (Thar coal) and hydel iv. Minimise pilferage and adulteration in fuel supply v. Promote world class efficiency in power generation vi. Create a cutting edge transmission network vii. Minimise inefficiencies in the distribution system viii. Minimise financial losses across the system ix. Align the ministries involved in the energy sector and improve the governance of all related federal and provincial departments as well as regulators	Clause 4. Goals To achieve the long-term vision of the power sector and overcome its challenges, the Government of Pakistan has set the following nine goals: i. Build a power generation capacity that can meet Pakistan's energy needs in a sustainable manner ii. Create a culture of energy conservation and responsibility iii. Ensure the generation of inexpensive and affordable electricity for domestic, commercial, and industrial use by using indigenous resources such as coal (Thar coal) and hydel iv. Minimise pilferage and adulteration in fuel supply v. Promote world class efficiency in power generation vi. Create a cutting edge transmission network vii. Minimise inefficiencies in the distribution system viii. Minimise financial losses across the system ix. Align the ministries involved in the energy sector and improve the governance of all related federal and provincial departments as well as regulators x. Develop a transmission plan and an energy database. The transmission plan shall comprise a phased approach to plan for development of external interconnections for cross-border transactions.



Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
2. National Power System Expansion Plan 2011-2030		
1.		Note: The National Power System Expansion Plan 2011-2030 comprises of electricity import from Iran and CASA project. It shall also need to include cross-border trade opportunities within the South Asian region.

B. TRANSMISSION PRICING

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Guidelines on determination of charges for wheeling of electricity from one point to another		
	<p>Point iii: For direct sales, the power producers shall be required to pay “Wheeling charges” or Use of System charges”, determined by the NEPRA, for the use of transmission.....</p>	<p>Point iii: For direct sales, the power producers shall be required to pay “Wheeling charges” or Use of System charges”, determined by the NEPRA, for the use of transmission..... <i>Similar charges shall also be required to be paid under cross-border power trade arrangements utilising the transmission system for wheeling of power.</i></p>





SRI LANKA



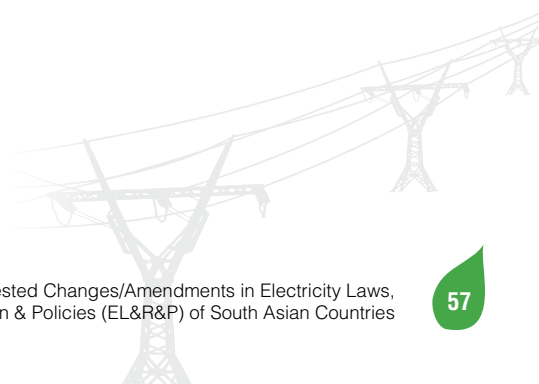
Sl.No.	Acts/Policies and Regulations	Summary of the suggested Changes/Amendments-Sri Lanka
Legal and Regulatory Framework		
1.	The Sri Lanka Electricity Act, No. 20 of 2009 (and subsequent amendment in 2013)	<p>a. Licensing: CBET is proposed to be a licensed activity.</p> <p>b. Open Access: PUCSL to notify regulation/order to promote competition and enable non-discriminatory access to the transmission system (including for cross-border power flows).</p> <p>c. Transmission Pricing: Transmission prices for cross-border transactions to be based on such principles that compensate users for actual usage of system. Prices to be sensitive to distance, direction and quantum of power flow.</p> <p>d. Dispute Resolution: Provided that for any dispute arising on account of contract for cross-border trade of electricity where the commission believes that dealing with such dispute is beyond the commission's jurisdiction, the commission may refer such dispute to the SAARC Arbitration Council. The SAARC Arbitration rules shall govern such arbitration procedures.</p>
2.	The Electricity (Applications for Licenses and Exemptions) Regulation, 2009	Necessary changes to be introduced to apply provisions on details of the application form, documents accompanying the application and other requisite information pertaining to grant of license on trading activity. Trading activity shall also include import and export of electricity.
3.	Regulatory Manual, PUCSL, 2014	Open Access: On the basis of the rules specified in the manual, the Commission (PUCSL) shall use its powers and notify regulation/order to promote competition and enable non-discriminatory access to the transmission system.
4.	Electricity (Dispute Resolution Procedure) Rules	Provided that for any dispute arising on account of contract for cross-border trade of electricity where the commission believes that dealing with such dispute is beyond the commission's jurisdiction, the commission may refer such dispute to the SAARC Arbitration Council. The SAARC Arbitration rules shall govern such arbitration procedures. However, other options of international dispute resolution procedures like UNCITRAL, ICSID and Singapore Arbitration etc. could also be explored.
Policy and Plan		
5.	General Policy Guidelines on the electricity industry for PUCSL	Transmission Pricing: Transmission prices for cross-border transactions to be based on such principles that compensate users for actual usage of system. Prices to be sensitive to distance, direction and quantum of power flow.
6.	National Energy Policy and Strategies of Sri Lanka, 2008	<p>a. Open Access: The Government shall promote cross-border trade and guide the Commission on various aspects of CBET for its smooth implementation.</p> <p>b. Transmission Planning: National Energy Database to include projects of regional importance and the Transmission Development Plan to take into account external interconnections for cross-border electricity trade.</p>



**SUGGESTED CHANGES/AMENDMENTS IN LEGAL AND REGULATORY FRAMEWORK:
DETAILED CLAUSE/SECTION WISE**

A. LICENSING

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. The Sri Lanka Electricity Act, No. 20 of 2009		
1.	<p>Chapter III, Part 1: Licensing</p> <p>7 (1) A person shall not -</p> <p>a. generate electricity;</p> <p>b. transmit electricity; or</p> <p>c. distribute and supply or distribute or supply electricity for the purpose of giving a supply to any premises or enabling a supply to be given to any premises,</p> <p>d. trade electricity</p> <p>unless he is authorised to do so by a license granted under this Act.....</p>	<p>Chapter III, Part 1: Licensing</p> <p>7 (1) A person shall not -</p> <p>a. generate electricity;</p> <p>b. transmit electricity;</p> <p>c. distribute and supply or distribute or supply electricity for the purpose of giving a supply to any premises or enabling a supply to be given to any premises; or</p> <p>d. trade electricity (including cross-border trade)</p> <p>unless he is authorised to do so by a license granted under this Act.....</p> <p>Trading as a distinct licensed activity shall be recognised and accordingly various provisions (on eligibility, procedure, grant of license, power and duties, exemptions, revocation of license, modification and enforcement of license etc.) shall be applicable in a desired form on trading. This shall also include specific provisions on cross-border trade.</p> <p>The Commission shall facilitate cross-border trade through amendments in existing regulations on licensing or through notification of separate orders on the subject.</p>





Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
2. The Electricity (Applications for Licenses and Exemptions) Regulation, 2009		
1	<p>Clause 2- An Application for the issue of—</p> <p>a. a generation license to generate Electricity over and above 25 MW, shall be in such form as specified in Part I of Schedule A to these Regulations and be accompanied by the documents and information as specified in Part II of that Schedule</p> <p>b. a generation license to generate electricity up to 25 MW, shall be in such form as specified in Part I of Schedule B to these Regulations and be accompanied by the documents and information as specified in Part II of that Schedule</p> <p>c. a transmission license, shall be in such form as specified in Part I of Schedule C to these Regulations and be accompanied by the documents and information as specified in Part II of that Schedule</p> <p>d. a distribution license, shall be in such form as specified in Part I of Schedule D to these Regulations and be accompanied by the documents and information as specified in Part II of that Schedule</p> <p>.....</p>	<p>Clause 2- An Application for the issue of—</p> <p>a. a generation license to generate Electricity over and above 25 MW, shall be in such form as specified in Part I of Schedule A to these Regulations and be accompanied by the documents and information as specified in Part II of that Schedule</p> <p>b. a generation license to generate electricity up to 25 MW, shall be in such form as specified in Part I of Schedule B to these Regulations and be accompanied by the documents and information as specified in Part II of that Schedule</p> <p>c. a transmission license, shall be in such form as specified in Part I of Schedule C to these Regulations and be accompanied by the documents and information as specified in Part II of that Schedule</p> <p>d. a distribution license, shall be in such form as specified in Part I of Schedule D to these Regulations and be accompanied by the documents and information as specified in Part II of that Schedule</p> <p>e. a trading license, shall be in such form as specified in Part I</p> <p>Necessary changes to be introduced to apply provisions on details of the application form, documents accompanying the application and other requisite information pertaining to grant of license on trading activity. Trading activity shall also include import and export of electricity.</p>

B. OPEN ACCESS

Non-discriminatory OA Access and promotion of competitive market

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. The Sri Lanka Electricity Act, No. 20 of 2009		
1.	<p>Clause 4 (1): Objectives</p> <p>The Commission shall discharge the functions assigned to it by or under this Act in a manner which it considers is best calculated</p> <p>.....</p> <p>f. to promote competition, where appropriate</p>	<p>Clause 4 (1): Objectives</p> <p>The Commission shall discharge the functions assigned to it by or under this Act in a manner which it considers is best calculated</p> <p>.....</p> <p>f. to promote competition, where appropriate by notifying enabling regulations/orders necessary to introduce such competition.</p>



Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
2.	<p>Clause 53 (1): Rules (1) The Commission may make rules in respect of all matters for which rules are required or authorised to be made under this Act</p> <p>Clause 54 (1), (2): Regulations (1) The Minister may on the recommendation of the Commission, make regulations under this Act in respect of all matters required by this Act to be prescribed or in respect of which regulations are required or authorised by this Act to be made (2) Every regulation made under this section shall be published in the Gazette, and shall come into force on the date of such publication or on such later date as may be specified therein.</p>	<p>With reference to Clauses 53 (1) and 54 (1), (2) the Commission (PUCSL) shall notify regulation/ order to promote competition and enable non-discriminatory access to the transmission system to any entity that intends to use such system for the purpose of wheeling power (including cross-border power flows).</p>
2. National Energy Policy and Strategies of Sri Lanka		
1.	<p>Clause 3.2– Ensuring Energy Security Regional Cooperation will be promoted in different forms including viable cross-border energy transfer with neighbouring countries.</p>	<p>The Government shall promote cross-border trade and guide the Commission on various aspects of CBET for its effective implementation.</p>
3. Regulatory Manual, PUCSL, 2014		
	<p>Working towards competitive markets Clause 4.4.1: “Anti-competitive practices can potentially cover a number of circumstances. Some of the activities which we will be particularly concerned about include price fixing, or activities which</p> <ul style="list-style-type: none"> • remove or substantially damage a competitor in the market • prevent a new competitor coming into the market • stop a market player from taking part in competitive conduct 	<p>Working towards competitive markets Clause 4.4.1: “Anti-competitive practices can potentially cover a number of circumstances. Some of the activities which we will be particularly concerned about include price fixing, or activities which</p> <ul style="list-style-type: none"> • remove or substantially damage a competitor in the market • prevent a new competitor coming into the market • stop a market player from taking part in competitive conduct • discriminates between users on use of transmission system <p>With reference to Clause 4.4.1, the Commission (PUCSL) shall use its powers and notify regulation/ order to promote competition and enable non-discriminatory access to the transmission system to any entity that intends to use such system for the purpose of wheeling power (including cross-border power flows).</p>

C. TRANSMISSION PRICING

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. General Policy Guidelines on the electricity industry for PUCSL		
1.	<p>Electricity Tariff (16, 17)</p> <p>“Electric generation prices at bulk purchase points will be as stated.....ensuring fairness to both consumers and licensees....”</p>	<p>The Commission shall notify appropriate orders/regulations that will enable determination of transmission charges and shall be sensitive to distance, direction, and related to quantum of power flow.</p>
2. The Sri Lanka Electricity Act, No. 20 of 2009		
1.	<p>Part II: Power and Duties of licensees</p> <p>Clause 30 (1) This section shall apply to-</p> <p>(a) tariffs or charges levied by the transmission licensee for the transmission and bulk sale of electricity (hereinafter referred to as “transmission and bulk sale tariffs”); and</p> <p>(b) tariffs or charges levied by the distribution licensee for the distribution and supply of electricity (herein after referred to as “distribution and supply tariffs”)</p> <p>Chapter II Clause 3 (d)– Functions of the Commission</p> <p>(a) to regulate tariffs and other charges levied by licensees and other electricity undertakings, in order to ensure that the most economical and efficient service possible is provided to consumers</p> <p>Chapter III, Part 2, Clause 30 (2) – Tariffs</p> <p>Transmission and bulk sale tariffs and distribution and supply tariffs, as the case may be, shall, in accordance with conditions specified in the relevant license.</p> <p>(a) be set by the relevant licensee in accordance with a cost reflective methodology approved by the Commission</p> <p>(b) permit the relevant licensee to recover all reasonable costs incurred in the carrying out of the activities authorised by its license on an efficient basis</p> <p>Current Method for Tariff Determination</p> <p>The Transmission tariff is a component of bulk supply tariff and includes the following:</p> <p>(a) Forecast Transmission Capacity Tariff – determine the Forecast Transmission Capacity tariff per month for each year of the Tariff Period by dividing the Transmission System Allowed Revenues by the forecast System Peak Demand (MW)</p> <p>(b) Forecast Transmission Loss Factor– calculate the forecast total losses for each Time Interval, by subtracting from the total energy received by the Transmission System, the total energy supplied from the Transmission System to the Distribution Licensees and Bulk Supply Customers</p>	<p>Part II: Power and Duties of licensees</p> <p>Clause 30 (1) This section shall apply to-</p> <p>(a) tariffs or charges levied by the transmission licensee for the transmission and bulk sale of electricity (hereinafter referred to as “transmission and bulk sale tariffs”); wheeling of electricity for the purpose of cross-border sale and purchase; and</p> <p>(b) tariffs or charges levied by the distribution licensee for the distribution and supply of electricity (herein after referred to as “distribution and supply tariffs”)</p> <p>With reference to the clauses, the Commission shall provide appropriate mechanism for determination of charges for transmission usage based on following principles:</p> <ul style="list-style-type: none"> – Transparent allocation of costs – Compensate users for actual usage of system – Compensate owners of existing transmission assets <p>The Commission shall notify appropriate orders/regulations that will enable determination of transmission charges and shall be sensitive to distance, direction, and related to quantum of power flow.</p>



D. TRANSMISSION PLANNING

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. National Energy Policies and Strategies of Sri Lanka, 2008		
1.	<p>Clause 4.11: The National Energy Database and the analysis on Energy Sector performance shall be updated and published every year. Summary information of these shall be available on a website, and detailed information will be provided on request.</p>	<p>Clause 4.11: The National Energy Database (including projects of regional importance or cross-border transactions) and the analysis on Energy Sector performance shall be updated and published every year. Summary information of these shall be available on a website, and detailed information will be provided on request.</p>
2. Grid Code 2014		
1.	<p>Section 1 – Transmission Planning</p> <p>Clause 2.5 Transmission System</p> <p>The transmission system is connected with the Generating stations wherever these are located. Lines at HV (i.e. above 33 kV) are drawn between the following network locations:</p> <ol style="list-style-type: none"> from a Generating station to another Generating station from a Generating station to a Grid substation from a Grid substation to another Grid substation from a Grid substation to customers supplied at HV from captive power plants to Grid substations <p>2.6 Transmission Development Plan</p> <p>Transmission Development Plan is a statement that will address the following, but not limited to:</p> <ol style="list-style-type: none"> the capability of the Transmission system to meet the demand of current and future loads connected to or to be connected to the Transmission System system constraints in meeting such demands in accordance with the defined Transmission Planning criteria short-term and long-term infrastructure needs identified using the best possible engineering analysis to overcome such constraints, to accommodate recommended options in the Long-term Generation Expansion Plan and also to fulfil GOSL policy objectives appropriate capital expenditure requirements for the implementation of the proposals in (c), with justification that such expenditure is commensurate with the benefits to be realised, thus striking a balance between the costs and the Transmission System performance. 	<p>Section 1 – Transmission Planning</p> <p>Clause 2.5 Transmission System</p> <p>The transmission system is connected with the Generating stations wherever these are located. Lines at HV (i.e. above 33 kV) are drawn between the following network locations:</p> <ol style="list-style-type: none"> from a Generating station to another Generating station from a Generating station to a Grid substation from a Grid substation to another Grid substation from a Grid substation to customers supplied at HV from captive power plants to Grid substations from Grid to external interconnections <p>2.6 Transmission Development Plan</p> <p>Transmission Development Plan is a statement that will address the following, but not limited to:</p> <ol style="list-style-type: none"> the capability of the Transmission system to meet the demand of current and future loads connected to or to be connected to the Transmission System system constraints in meeting such demands in accordance with the defined Transmission Planning criteria short-term and long-term infrastructure needs identified using the best possible engineering analysis to overcome such constraints, to accommodate recommended options in the Long-term Generation Expansion Plan and also to fulfil GOSL policy objectives appropriate capital expenditure requirements for the implementation of the proposals in (c), with justification that such expenditure is commensurate with the benefits to be realised, thus striking a balance between the costs and the Transmission System performance. <p>The Transmission Development Plan shall also take into account external interconnections for cross-border electricity trade.</p>



Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
	<p>2.15 TRANSMISSION DEVELOPMENT PLAN</p> <p>The Transmission Licensee shall submit to PUCSL, a report titled “Long-term Transmission Development Plan current year, current year +5 and current year+10”, which would consist of the following sections:</p> <ol style="list-style-type: none"> 1. Executive Summary 2. Demand forecast 3. Load Flow Study and Contingency Study Plan as specified in Section 2.11.5. 4. Short circuit study report as specified in Section 2.11.6. 5. Excerpts from the Transient Stability Study Report identifying the system constraints and solutions 6. Excerpts from the Steady State Stability Study Report identifying the system constraints and solutions 7. Voltage Stability Study Report as specified in Section 2.11.9. 8. Load Security Study Report as specified in Section 2.11.10. 9. Reliability Study Report as specified in Section 2.13. 10. Report on protection performance of the Transmission system 11. Progress and the revisions to the previous Development Plan 12. Recommended Transmission Development Plan 13. Single line diagram of the Transmission System indicating the existing and proposed lines, generating stations, substations and key equipment, for the current year+1, current year+5 and current year+10 14. Map of Sri Lanka showing the existing Transmission System and the proposed System, showing lines, grid substations, and other key equipment, in the minimum, for the current year+1, current year+5 and current year+10. <p>Power System Planning</p> <p>Clause 2.24.1- Policy Analysis</p> <p>The Plan shall include analysis of policies required as a consequence of (i) policy guidelines issued by the Commission, or (ii) general policies and strategies required to fulfil the requirements given in the Sri Lanka Electricity Act, the License, or the National Energy Policy, or (iii) specific interventions by which the Transmission Licensee can demonstrate that the resulting plan may be of lower cost than the least-cost reference case.</p> <p>Examples for policies to be analyzed are (a) meeting a specified strategic fuel mix in generation by a given milestone year, (b) meeting a target ratio of non-conventional renewable energy included in the generation mix, (c) interventions to modify the load profiles by such strategies as demand-side management, and (d) interconnections with other countries</p>	<p>2.15 TRANSMISSION DEVELOPMENT PLAN</p> <p>The Transmission Licensee shall submit to PUCSL, a report titled “Long-term Transmission Development Plan current year, current year +5 and current year+10”, which would consist of the following sections:</p> <ol style="list-style-type: none"> 1. Executive Summary 2. Demand forecast 3. Load Flow Study and Contingency Study Plan as specified in Section 2.11.5. 4. Short Circuit Study Report as specified in Section 2.11.6. 5. Excerpts from the Transient Stability Study Report identifying the system constraints and solutions 6. Excerpts from the Steady State Stability Study Report identifying the system constraints and solutions 7. Voltage Stability Study Report as specified in Section 2.11.9. 8. Load security Study Report as specified in Section 2.11.10. 9. Reliability Study Report as specified in Section 2.13. 10. Report on protection performance of the Transmission System 11. Progress and the revisions to the previous Development Plan 12. Recommended Transmission Development Plan 13. Single line diagram of the Transmission System indicating the existing and proposed lines, generating stations, substations and key equipment, for the current year+1, current year+5 and current year+10 14. Map of Sri Lanka showing the existing Transmission System and the proposed system, showing lines, grid substations, and other key equipment, in the minimum, for the current year+1, current year+5 and current year+10 <p>(XX) Proposed external interconnections for cross-border electricity trade.</p> <p>With reference to Clause 2.24.1, regarding policies on interconnections with other countries, the Grid code shall define technical specifications for external interconnectors and other standards/codes essential for cross-border flows.</p>



E. IMBALANCE SETTLEMENT

Imbalance Settlement and System Operation

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Grid Code 2014		
1.	<p>Clause 5.5: Dispatch Procedures</p> <p>The dispatch procedures shall be based on the following principles:</p> <p>(a) Licensees to submit the information required for day ahead dispatch and real time dispatch, according to the System Operator requirements.</p> <p>(b) The System Operator to validate data, confirm or reject data, to communicate (notify) the Day Ahead Schedule, the Ancillary Services schedule and other results of the dispatch process, and</p> <p>(c) The System Operator to issue Dispatch Instructions, including request for load disconnection, during real time operation.</p> <p>.....</p> <p>.....</p> <p>5.8.1 Obligations of Generation and Distribution Licensees</p> <p>.....</p>	<p>Clause 5.5: Dispatch Procedures</p> <p>The dispatch procedures shall be based on the following principles:</p> <p>(a) Licensees to submit the information required for day ahead dispatch and real time dispatch, according to the System Operator requirements.</p> <p>(b) The System Operator to validate data, confirm or reject data (for cross-border trade as well), to communicate (notify) the Day Ahead Schedule, the Ancillary Services schedule and other results of the dispatch process, and</p> <p>(c) The System Operator to issue Dispatch Instructions, including request for load disconnection, during real time operation (for cross-border trade as well)</p> <p>.....</p> <p>.....</p> <p>5.8.1 Obligations of Generation and Distribution Licensees</p> <p>.....</p> <p>Note: Imbalance Settlement Mechanism shall be explicitly defined through enactment of separate regulations/orders under the Act. The regulations shall include various provisions such as Methodology for determination of imbalance/deviation charges, Limits on deviation volume and consequences of violating limits, Accounting of Charges for Deviation; Schedule of Payment of Charges for Deviation, etc. which accordingly will be applicable on CBET.</p>

F. DISPUTE RESOLUTION

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. Sri Lanka Electricity Act, No. 20 of 2009 (and subsequent amendment in 2013)		
1.	<p>Clause 39. (1) The following disputes arising in connection with the supply or use of electricity shall be referred to the Commission by any party to the dispute:</p> <p>(a) a dispute between a licensee and a tariff customer arising under Sections 25 to 30 or Schedules I, II or III to this Act;</p> <p>(b) any dispute (other than a dispute referred to in paragraph (a)) between a licensee and –</p> <p>(i) a tariff customer;</p> <p>(ii) another licensee, or</p>	<p>Clause 39. (1) The following disputes arising in connection with the supply, or use of electricity shall be referred to the Commission by any party to the dispute:</p> <p>(a) a dispute between a licensee and a tariff customer arising under Sections 25 to 30 or Schedules I, II or III to this Act;</p> <p>(b) any dispute (other than a dispute referred to in paragraph (a)) between a licensee and –</p> <p>(i) a tariff customer;</p> <p>(ii) another licensee, or</p>



Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
	<p>(iii) any other affected party, which the parties have not been able to resolve through any dispute resolution procedure prescribed by the Commission, despite the licensee using its best efforts to do so.</p> <p>(2) On a reference under paragraph (a) of Sub-section (1), the Commission shall mediate and resolve the dispute and on a reference under paragraph (b) of Sub-section (1), the Commission shall mediate and resolve the dispute, unless it decides that it is more appropriate for the dispute to be determined either by the courts or through arbitration.</p> <p>“(2A) In mediating and resolving any dispute under Sub-section (2), the Commission may where it considers it expedient to do so, refer such dispute for purpose of resolution to a Panel of Mediators consisting of three persons appointed by the Commission, one of whom shall be either a member of the Commission or a member of the staff of the Commission or a public officer, who shall function as the Chairman of such Panel. The Panel of Mediators shall make every endeavour to resolve the dispute referred to it and bring about a settlement among the parties to the dispute and conclude its deliberations within the time, as shall be specified by the Commission.</p> <p>(3) The practice and procedure to be followed in the resolution of any such dispute shall be such as the Commission shall set out by rules made under this Act.</p> <p>(4) Where any dispute arising under Section 27 is to be resolved by the Commission under this section, the Commission may give directions as to the security (if any) to be given pending the determination of the dispute.</p> <p>(5) A resolution by the Commission under this section -</p> <p>(a) may include such incidental, supplemental and consequential provisions (including provisions requiring either party to pay a sum in respect of the costs or expenses incurred by the Commission) as the Commission considers appropriate; and</p> <p>(b) shall be final and shall be enforceable so far as it includes such provisions as to costs or expenses incurred by the Commission in the District Court of Colombo, as if it were a decree entered by that court for the payment of money.</p> <p>(6) In including a provision as to costs and expenses in a resolution under this section, the Commission shall have regard to the conduct and means of the parties and any other relevant circumstances.</p>	<p>(iii) any other affected party, which the parties have not been able to resolve through any dispute resolution procedure prescribed by the Commission, despite the licensee using its best efforts to do so.</p> <p>(2) On a reference under paragraph (a) of Sub-section (1), the Commission shall mediate and resolve the dispute and on a reference under paragraph (b) of Sub-section (1), the Commission shall mediate and resolve the dispute, unless it decides that it is more appropriate for the dispute to be determined either by the courts or through arbitration.</p> <p>“(2A) In mediating and resolving any dispute under Sub-section (2), the Commission may where it considers it expedient to do so, refer such dispute for purpose of resolution to a Panel of Mediators consisting of three persons appointed by the Commission, one of whom shall be either a member of the Commission or a member of the staff of the Commission or a public officer, who shall function as the Chairman of such Panel. The Panel of Mediators shall make every endeavour to resolve the dispute referred to it and bring about a settlement among the parties to the dispute and conclude its deliberations within the time, as shall be specified by the Commission.</p> <p>(3) The practice and procedure to be followed in the resolution of any such dispute shall be such as the Commission shall set out by rules made under this Act.</p> <p>(4) Where any dispute arising under Section 27 is to be resolved by the Commission under this section, the Commission may give directions as to the security (if any) to be given pending the determination of the dispute.</p> <p>(5) A resolution by the Commission under this section -</p> <p>(a) may include such incidental, supplemental and consequential provisions (including provisions requiring either party to pay a sum in respect of the costs or expenses incurred by the Commission) as the Commission considers appropriate; and</p> <p>(b) shall be final and shall be enforceable so far as it includes such provisions as to costs or expenses incurred by the Commission in the District Court of Colombo, as if it were a decree entered by that court for the payment of money.</p> <p>(6) In including a provision as to costs and expenses in a resolution under this section, the Commission shall have regard to the conduct and means of the parties and any other relevant circumstances.</p> <p>(7) Provided that for any dispute arising on account of contract for cross-border trade of electricity where the commission believes that dealing with such dispute is beyond the commission’s jurisdiction, the commission may refer such dispute to the SAARC Arbitration Council. The SAARC Arbitration rules shall govern such arbitration procedures.</p>



Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
2. Electricity (Dispute Resolution Procedure) Rules		
	<p>Clause 17: In these rules the context otherwise requires:</p> <p>“Act”.....</p> <p>“Commission”.....</p> <p>“Dispute” disputes arising in connection with the supply, or use of electricity as referred to in Sub-section (1) of Section 39 of the Act</p>	<p>Clause 17: In these rules the context otherwise requires:</p> <p>“Act”.....</p> <p>“Commission”.....</p> <p>“Dispute” disputes arising in connection with the supply, cross-border electricity trade or use of electricity as referred to in Sub-section (1) of Section 39 of the Act</p> <p>Additional clause: For any dispute arising on account of contract for cross-border trade of electricity where the commission believes that dealing with such dispute is beyond the commission’s jurisdiction, the commission may refer such dispute to the SAARC Arbitration Council. The SAARC Arbitration rules shall govern such arbitration procedures.</p>

G. TAXES & DUTIES

Sl.No.	Clause/Section	Suggested Changes/Amendments
1.		No form of tax, custom duty or transit tax shall be applicable on export and import of electricity. Parties shall work towards removing, and mutually resolving issues relating to, barriers, including tariff, levies, fees, taxes, duties or charges of similar effects, if any, in the cross-border exchange and trading of electricity.

H. OTHERS

Sl.No.	Clause/Section	Suggested Changes/Amendments
1. Sri Lanka Electricity Act, No. 20 of 2009 (and subsequent amendment in 2013)		
	<p>Chapter II: Functions of the Commission</p> <p>Clause 3 (1), (a)</p> <p>“to advise the Government on all matters concerning the generation, transmission, distribution, supply and use of electricity in Sri Lanka”</p> <p>Clause 3 (1), (b)</p> <p>“to exercise licensing, regulatory and inspection functions, as the case may be, in respect of matters provided for in this Act, to regulate the implementation codes of practice and other requirements imposed by or under this Act relating to the generation, transmission, distribution, supply and use of electricity in Sri Lanka.</p>	<p>Chapter II: Functions of the Commission</p> <p>Clause 3 (1), (a)</p> <p>“to advise the Government on all matters concerning the generation, transmission, trading, distribution, supply and use of electricity in Sri Lanka”</p> <p>Clause 3 (1), (b)</p> <p>“to exercise licensing, regulatory and inspection functions, as the case may be, in respect of matters provided for in this Act, to regulate the implementation codes of practice and other requirements imposed by or under this Act relating to the generation, transmission, distribution, trading, supply and use of electricity in Sri Lanka.</p> <p>The Commission shall direct and advice on all such matters concerning trading activities including cross-border trade with neighbouring countries.</p>



Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
2. Grid Code 2014		
	<p>Grid Connection Code</p> <p>Clause 3.1: Introduction</p> <p>The Grid Connection Code (GCC) establishes minimum technical criteria with respect to design, connection, performance, protection and telecommunication requirements that need to be complied with, by the</p> <p>Establishment of such criteria will assure a safe, stable and secure Transmission System and will also ensure a transparent and non-discriminatory process for connection to all prospective grid Users.</p>	<p>With reference to the clause, suitable minimum technical criteria with respect to design, connection, performance, protection and telecommunication requirements for external interconnections need to be established in the Grid Code. Applicability and scope of the Grid Code need to cover aspects related cross-border trade.</p> <p>Accordingly, technical aspects responsible for safe and reliable operation of the Grid including Standard Voltage and Frequency, Power quality and security standards, protection arrangements, Voltage levels, Connection points etc. shall also cover cross-border trade scenarios.</p>

SUGGESTED CHANGES/AMENDMENTS IN POLICY AND PLAN: DETAILED CLAUSE/SECTION WISE

Non-discriminatory OA Access and promotion of competitive market

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. National Energy Policy and Strategies of Sri Lanka		
1.	<p>Clause 3.2- Ensuring Energy Security</p> <p>Regional Cooperation will be promoted in different forms including viable cross-border energy transfer with neighbouring countries.</p>	<p>The Government shall promote cross-border trade and guide the Commission on various aspects of CBET for its effective implementation.</p>

Transmission Pricing

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. General Policy Guidelines on the electricity industry for PUCSL		
1.	<p>Electricity Tariff (16, 17)</p> <p>“Electric generation prices at bulk purchase points will be as stated.....ensuring fairness to both consumers and licensees....”</p>	<p>The Commission shall notify appropriate orders/regulations that will enable determination of transmission charges and shall be sensitive to distance, direction, and related to quantum of power flow.</p>

Transmission Planning

Sl.No.	Existing Clause/Section	Suggested Changes/Amendments
1. National Energy Policies and Strategies of Sri Lanka, 2008		
1.	<p>Clause 4.11: The National Energy Database and the analysis on Energy Sector performance shall be updated and published every year. Summary information of these shall be available on a website, and detailed information will be provided on request.</p>	<p>Clause 4.11: The National Energy Database (including projects of regional importance or cross-border transactions) and the analysis on Energy Sector performance shall be updated and published every year. Summary information of these shall be available on a website, and detailed information will be provided on request.</p>



Country wise Short-, Medium- and Long-Term Roadmap

South Asian countries differ in terms of stage and implementation of reforms. While countries like India, Bangladesh, and Pakistan have made reasonable progress in implementing the first-generation policy reforms⁴⁴ and are already in the process of introducing the second-generation reforms, those like Nepal, Bhutan, Sri Lanka, and Afghanistan are yet to initiate or are in the early stage of implementation of the first generation reforms. Considering the above, countrywide roadmaps under short-, medium- and long-term have been developed and provided below. Since the definition of short-, medium- and long-term requirements in the EL&R&P framework differ from one country-to-country, there are also differences in terms of doable actions for these countries.

⁴⁴ In the context of power sector, the first-generation policy reform implies introduction of independent regulation, unbundling of vertically integrated utilities into more accountable units, encouraging private sector participation into the sector, and so on. The second-generation reform measures involve furthering the measures initiated during the early reform period. These include improving institutions and governance by expanding market-based allocation of resources, improving transparency through better disclosure and market discipline, reforming regulation to minimize opportunities for rent seeking, and encouraging efficiency improvement.

Afghanistan

The Electricity Law of Afghanistan is in draft stage and it covers certain aspects of cross-border trade. Modifications/additions needs to be done by elaborating more on the critical aspects of CBET, which in the current form have been broadly covered. The Law needs to be finalized soon and notified.

Medium term (within 4 years)	Long term (>4 years)
<ol style="list-style-type: none"> 1. Empowered ministry (Ministry of Commerce) to establish provisions facilitating zero tax regime (through modification of relevant trade policy or commerce law). 2. Enactment of Electricity Law and setting up of the Independent Regulator in accordance with the Law. 3. Till the time a Regulator is not established, Ministry of Energy and Water/DABS may adopt regional regulatory guidelines on following <ul style="list-style-type: none"> • Non-discriminatory open access • Imbalance Settlement mechanism • Transmission Pricing <p>and develop regulation on the above.</p> <p>Above shall be undertaken in accordance with the Regional Regulatory Guidelines on CBET.</p>	<ol style="list-style-type: none"> 1. The Regulator apart from its other duties notify regulations on following <ul style="list-style-type: none"> • Determination of transmission/transit charges • Third party access to the National Grid • Imbalance Settlement mechanism 2. Setting up an Independent system operator. 3. Functional unbundling of DABS through separation of transmission business from generation business.

Bangladesh

Short Term (1-3 years)	Medium term (within 5 years)	Long term (>5 years)
<ol style="list-style-type: none"> 1. Adopt/adapt the Regional Regulatory Guidelines on the critical aspects of CBET. 2. Empowered ministry (Ministry of Commerce) to establish provisions facilitating zero tax regime (through modification of relevant trade policy or commerce law). 3. Frame Open Access regulations (by BERC) with coverage defined in Regional Regulatory Guidelines. 4. Frame regulations (by BERC) on determination of transmission charges, including charges for cross-border transactions. 5. PGCB⁴⁵ to undertake comprehensive scheduling and dispatching activities for cross-border flows and Going forward the functions to be handed over to an independent system operator. 6. Amendment of Electricity Grid Code w.r.t following: <ul style="list-style-type: none"> • Technical specifications for external interconnectors, other standards/codes etc. 	<ol style="list-style-type: none"> 1. Setting up an Independent System Operator to undertake scheduling and dispatching activities. 2. PGCB to be part of the proposed regional coordination forum of national transmission utilities under SAFER. 	<ol style="list-style-type: none"> 1. Suitable amendment in the Electricity Act 1910 to include provisions on: <ul style="list-style-type: none"> • trading as a distinct licensed activity. • include CBET in the assessment of power market design (as and when this is evolved). • dispute resolution in case of cross-border trade. 2. Suitable amendment in the BERC Act 2003, to enable BERC to: <ul style="list-style-type: none"> • issue trading licenses for CBET. • frame OA regulations. • develop mechanism to deal with system imbalances.

⁴⁵ Currently the scheduling and dispatching activities for cross-border flows is through NLDC, PGCB of Bangladesh



Short Term (1-3 years)	Medium term (within 5 years)	Long term (>5 years)
<ul style="list-style-type: none"> • Provisions related to imbalance settlement for CBET. To be bilaterally agreed initially, however, eventually needs to be regionally coherent mechanism⁴⁶ • Scheduling and dispatch related coordination with neighboring countries • Rules for development of coordinated Transmission Plan with inclusion of CBET. <p>7. Modification of the National Transmission Plan to include transmission system/ external interconnections for possible regional trade scenarios with South Asia member countries.</p>		

Bhutan

Short Term (within 4 years)	Medium Term (within 5 years)
<p>1 to 2 Years:</p> <ol style="list-style-type: none"> 1. Adopt/adapt the Regional Regulatory Guidelines on the critical aspects of CBET. 2. Empowered ministry (Ministry of Economic Affairs) to establish provisions facilitating zero tax regime (through modification of relevant trade policy or commerce law). 3. Frame Open Access regulations under the existing provisions of the Electricity Act 2001. 4. Updation of the National Transmission Plan for Transmission system/ external interconnections for emerging possible trade scenarios with all the South Asia member countries. <p>2 to 4 years:</p> <ol style="list-style-type: none"> 1. Setting up an Independent System Operator to undertake system operation and control activities currently undertaken by BPC. 2. BEA to frame regulations on determination of transmission charges, including charges for cross-border transactions. 3. BEA to frame regulations on imbalance settlement mechanism. 4. The transmission department of BPC to be part of the proposed regional coordination forum of national transmission utilities under SAFER. 5. Amendment of Electricity Grid Code Regulation 2009 w.r.t following: <ul style="list-style-type: none"> • Technical specifications for external interconnectors, other standards/codes etc. • Provisions related to imbalance settlement for CBET. To be bilaterally agreed initially, however, eventually needs to be regionally coherent. • Scheduling and dispatch related coordination with neighboring countries. • Rules for development of coordinated regional Transmission Plan. 	<ol style="list-style-type: none"> 1. Suitable amendment in the Electricity Act 2001 to include: <ul style="list-style-type: none"> • BEA to facilitate import and export of electricity by introducing necessary provisions on CBET in following areas. • BPC to provide open access to all entities including those involved in CBET • Introduce competition in the trading license business. • Principles for determination of transmission/transit charges for cross-border transactions • Imbalance settlement mechanism to be applicable to CBET. • Dispute resolution in case of cross-border trade.

⁴⁶ Bangladesh is very keen on Regional Electricity Trade and exploring the possibility power import from Nepal and Bangladesh. <http://energybangla.com/bd-moves-import-500mw-power-nepal/>
http://www.business-standard.com/article/news-ians/gmr-to-sell-500-mw-energy-to-bangladesh-from-nepal-115030400893_1.html
<http://www.nepalenergyforum.com/bangladesh-to-invest-1-0b-in-bhutan-hydropower/>

India

Short Term (1-2 year)	Medium term (2-4 years)	Long term (>4 years)
<ol style="list-style-type: none"> 1. Adopt/adapt the Regional Regulatory Guidelines on the critical aspects of CBET. 2. Empowered Ministry (Ministry of Commerce/External Affairs) to establish provisions facilitating zero tax regime. 3. Power market regulation 2010 to be amended extending scope the scope to CBET and facilitate transaction on Exchange. Hence power exchanges in India to be allowed to accept participation of entities involved in CBET. 4. Open Access in interstate transmission regulation 2004 to be amended to include specific provisions on cross-border transactions. 5. Deviation settlement mechanism & related matters regulations 2014 to be amended to include specific provisions on cross-border flows. 	<ol style="list-style-type: none"> 1. Power Grid to be part of the proposed regional coordination forum of national transmission utilities under SAFER. 2. Indian Electricity Grid code 2010 to be amended to include following: <ul style="list-style-type: none"> • Standards and codes for external interconnections • Basis of operation of external control to be defined • Provisions on planning, connection, scheduling and dispatch 3. The National transmission plan developed by CEA to include Transmission system/external interconnections for possible trade scenarios with all the South Asia countries^{*47}. 	<ol style="list-style-type: none"> 1. Suitable amendment in the Electricity Act 2003 to include: <ul style="list-style-type: none"> • CBET to be recognized as licensed business activity. • CERC to facilitate CBET by introducing relevant provisions in extant regulations on OA, Power trading, Competitive markets etc. • PGCIL to provide non-discriminatory OA to the network for cross-border transactions.

Note: Considering that India is the largest country in the South Asia and is located centrally to power system of rest of the South Asian Countries and more importantly most of the Cross-Border Interconnection (Current and Future) will be with Indian Power System (for bilateral power trade) or routed through India Power System (for regional power trade), therefore India may frame specific policy (by Ministry of Power) and regulations (by CERC) on Cross-Border Electricity Trade in South Asia. This will also help in actionable implementation of Multilateral agreements such as the SAARC framework agreement on Energy (Electricity) Cooperation as well as the bilateral agreements such as power trade agreement signed between India and Nepal and other bilateral energy/electricity cooperation initiatives among South Asian Countries.

^{*47} Perspective Transmission Plan for Twenty Years (2014-2034) prepared by Government of India, Ministry of Power (Prepared in association with Central Electricity Authority, PGCIL and POSOCO) takes in to account the SAARC countries.



Nepal

Short Term (1-2 years)	Medium term (2-4 years)	Long term (>4 years)
<ol style="list-style-type: none"> 1. Empowered ministry (Ministry of Commerce) to establish provisions facilitating zero tax regime (through modification of relevant trade policy or commerce law). 2. In the interim period, till the regulator is not established, functioning of the ETFC needs to be strengthened to enable it to determine transmission charges. 3. Modification of the national transmission plan to include Transmission. System/ external interconnections for possible trade scenarios with member countries. 	<ol style="list-style-type: none"> 1. Hydro development policy 2001 to be amended with adequate provisions on licensing CBET. 2. Electricity Rules 2050 to include procedure for obtaining license for import and export of electricity. 3. Till the time a Regulator is not established, NEA with expert consultation shall frame guidelines on following: <ul style="list-style-type: none"> • Non-discriminatory third party access in transmission. • Imbalance Settlement mechanism • Determination of transmission/transit charges. 	<ol style="list-style-type: none"> 1. Suitable amendment in the Electricity Act 2049 (1992) to recognize the critical aspects of CBET viz. <ul style="list-style-type: none"> • Trading a distinct licensed activity • Provisions on non-discriminatory OA • Imbalance settlement • Transmission/transit charges 2. Enactment of the new Electricity Law (it is understood that this is being planned) Possibly the new law already recognizes the critical aspects of CBET. 3. Under the new Law, establish a fully functional Electricity Regulator. 4. Under the new law, setting up an Independent System Operator to undertake system operation and control activities currently undertaken by NEA.

Pakistan

Short Term (1-3 years)	Medium term (within 5 years)	Long term (>5 years)
<ol style="list-style-type: none"> 1. Empowered ministry (Ministry of Commerce) to establish provisions facilitating zero tax regime (through modification of relevant trade policy or commerce law). 2. Adopt/adapt the Regional Regulatory Guidelines on following: <ul style="list-style-type: none"> • Non-discriminatory third party access for cross-border trade. • Imbalance Settlement mechanism for cross-border trade. • Determination of transmission/transit charges for cross-border transactions. 3. National Power system expansion plan 2011-2030 to include CBET opportunities within SA region. 	<ol style="list-style-type: none"> 1. NEPRA Licensing (Application & Modification Procedure) Regulations, 1999 to amended to recognize trading as a licensed activity and enable CBET. 2. Grid code 2005 to be amended to include following: <ul style="list-style-type: none"> • Standards and codes for external interconnections • NTDC to provide non-discriminatory OA to cross-border trade • Provisions on planning, connection, scheduling and dispatch of cross-border transactions 3. NEPRA to frame Open Access regulations with adequate provisions for CBET. 4. NEPRA to develop a regionally coherent commercial mechanism to treat imbalances. 5. NTDC to be part of the proposed regional coordination forum of national transmission utilities under SAFER. 	<ol style="list-style-type: none"> 1. Suitable amendment in the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 to include: <ul style="list-style-type: none"> • CBET to be recognized as licensed business activity • The regulator (NEPRA) to promote competition and facilitate CBET by framing regulations on non-discriminatory OA and determine charges for the same. • The transmission system owner (NTDC) to provide non-discriminatory OA to the network including for cross-border transactions.

Sri Lanka

Short Term (1-3 years)	Medium term (within 5 years)	Long term (>5 years)
<ol style="list-style-type: none"> Empowered ministry (<i>Ministry of Commerce</i>) to establish provisions facilitating zero tax regime (<i>through modification of relevant trade policy or commerce law</i>). Adopt/adapt the regulatory guidelines on following: <ul style="list-style-type: none"> Non-discriminatory third party access for cross-border trade Imbalance Settlement mechanism for cross-border trade Determination of transmission/transit charges for cross-border transactions 	<ol style="list-style-type: none"> Grid code 2014 to be amended to include following: <ul style="list-style-type: none"> Standards and codes for external interconnections CEB to provide non-discriminatory OA to cross-border trade Provisions on planning, connection, scheduling and dispatch of cross-border transactions PUSCL to frame Open Access regulations with adequate provisions for CBET (PUSCL). PUSCL to develop a regionally coherent commercial mechanism to treat imbalances. National Energy Database to include projects of regional importance and the Transmission Development Plan to take into account external interconnections for cross-border electricity trade. The transmission department of CEB to be part of the proposed regional coordination forum of national transmission utilities under SAFER. 	<ol style="list-style-type: none"> Suitable amendment in the Sri Lanka Electricity Act: <ul style="list-style-type: none"> CBET to be recognized as licensed business activity PUSCL to promote competition and facilitate CBET by framing regulations on critical aspects of CBET CEB to provide non-discriminatory OA to the network including for cross-border transactions



Annexure I

Summary of the detailed review of the EL&R&P to assess the relevant provision w.r.t. to CBET and to identify missing ingredients in EL&R&P of South Asian countries with an objective towards promoting/advancing CBET in South Asian countries.

A detailed review of the EL&R&P was undertaken as described below to assess the relevant provision of w.r.t. to CBET existing status and to identify missing ingredients with an objective towards promoting/advancing CBET in South Asian Countries.

1.1. Afghanistan

The electricity sector in Afghanistan unlike the other South Asian Countries in initial stages of development. The sector functions under the aegis of the Ministry of Energy and Water (MEW). The role of MEW includes (i) preparation and execution of sector policy and planning; (ii) preparation of the legal framework for the electricity sector (in coordination with other Ministries); and (iii) coordination of donor programs and activities. All the electricity trading is currently handled MEW but may be soon transferred to DABS.

The power sector is dominated by the public entity DABS (vertically integrated). The current strategy is based on enhancing public investment in generation, T&D in the country through bilateral and multilateral cooperation. Currently, there is no provision for introduction of competition in the sector and the issue of access to network has not arisen. Severe shortage of electricity and limited access leaves room for growth in import of electricity. Access to its transmission network is important as Afghanistan can serve a South Asia transit nation for import of electricity from Central Asia as envisioned in the energy sector strategy of the country. The existing provisions facilitating CBET is mentioned in Table A1.1 below.

Table A1.1: Relevant Provisions w.r.t CBET

Electricity Law/Policy/Regulation	Relevant provisions w.r.t CBET
Power Consumption Law of 1982	Mentions about power imports, generation, transmission and distribution.
Electricity Sector Policy, 2003	The policy was the first document, which initiated the power sector reforms in the country. The purpose and objectives of Electricity Sector Policy 2003 of Afghanistan, is to provide the organisational structure and the legal and regulatory framework.
Inter-Ministerial Commission for Energy (ICE)	Established by Presidential Decree signed in December 2006 was appointed as a coordinated policy making body for the energy sector.
Energy Sector Strategy	The Government of Afghanistan in 2008 issued an energy sector strategy as a part of the Afghanistan national development strategy (ANDS). This outlines the strategy for growth of energy sector and envisions greater private participation and improved performance in the sector. The strategy identifies a greater role of Afghanistan for Regional Cooperation particularly with Central Asia including serving as an energy transit corridor.
Energy Sector Strategy (2007/08 - 2012/13), National Electricity Supply Program (NESP) (2013-2015) and Afghanistan Energy Master Plan 2013	<ul style="list-style-type: none"> Recognises CBET and highlights the country as an Energy Transit Route. The Master Plan details out a power sector assessment in terms of demand and supply forecasts, deficits, present status of the power system in the country and the current CBET with Iran, Tajikistan, Turkmenistan and Uzbekistan.



Electricity Law/Policy/Regulation	Relevant provisions w.r.t CBET
Draft law on electricity services was issued in 2009	<ul style="list-style-type: none"> Setting up of the Afghanistan Electricity Regulatory Authority (AERA), defines power and duties of proposed AERA, states the procedures to be followed in carrying out these powers and duties, and describes the related duties, which remain with the Ministry of Energy and Water (MEW). Mentions Generation as a licensed activity, provisions for dispute resolution.
Taxation of import/export transit of electricity and commercial licensing	Currently import of electricity does not attract an import duty.

1.2. Bangladesh

The enabling policy framework and Acts governing the Bangladesh Electricity Sector are the **Electricity Act 1910 (EA 1910), National Energy Policy 2004 and Bangladesh Electricity Regulatory Commission (BERC) Act 2003**. The licensing and nodal authorities are BERC and the Power Division in MoPEMR (The Ministry of Power, Energy and Mineral Resources). The Power Division of MoPEMR is responsible for the affairs related to development of the electricity sector in Bangladesh. The operating entities are Bangladesh Power Development Board (BPDB)⁴⁸, Power Grid Corporation of Bangladesh (PGCB)⁴⁹, IPPs and Transmission Licensee. The National Energy Policy 2004 envisions development of a regional energy market to ensure energy security and emphasises cross-border electricity trade with neighboring countries. Table A1.2 below further discusses the existing policy and regulations w.r.t CBET in Bangladesh.

Table A1.2: Relevant Provisions w.r.t CBET

Electricity Law/Policy/Regulation	Relevant provisions w.r.t CBET
Bangladesh Energy Regulatory Commission Act, 2003	As per Bangladesh Energy Regulatory Commission (BERC) Act 2003, role of BERC is to create an atmosphere conducive to private investment in the generation of electricity, and transmission, transportation and marketing of gas resources and petroleum products, to ensure transparency in the management, operation and tariff determination in these sectors, to protect consumers interest and to promote the creation of a competitive market. This also provides for defining the dispute settlement procedures.
Electricity Act 1910	The revised Electricity Act 1910 (EA 1910) has provisions for CBET. Clause 6A- 'Board and/or the Single Buyer may import electricity from and export to any foreign state using the transmission system of the country with previous sanction of the Government at such rate as may be determined by the Government' The act further mentions about conditions for issuance of license and dispute resolution procedures.
National Energy Policy 2004	To develop a regional energy market for rational exchange of commercial energy to ensure energy security. Regional/International cooperation on energy may be explored for minimising the gaps in energy supply of the countries in the region by developing a regional energy market. Further this policy also explicitly provides for non-discriminatory open access to T&D system by the licensee. It also identifies the role of electricity trade with neighboring countries.

⁴⁸ BPDB is a government entity responsible for a major portion of electricity generation in the country. The subsidiaries of BPDP include: Ashuganj Power Station Co. Ltd (APSCCL); Electricity Generation Company of Bangladesh Ltd (EGCB); North West Power Generation Company Ltd (NWPGL)

⁴⁹ PGCB is a sole company created for development, operation, and maintenance of the transmission system in the country. The PGCB was created as a part of restructuring reforms to bring in commercial environment and increase efficiency. The BPDB holds 76% share in the company.



Electricity Law/Policy/Regulation	Relevant provisions w.r.t CBET
Taxes on Import/Export/Transit of electricity and commercial licensing	<p>The existing policy framework does not provide for imposition of any export tax or import duties, on electricity. As per a recent PPA between NTPC Vidyut Vyapar Nigam Limited (NVVN), a subsidiary of NTPC limited and BPDB, the former would sell upto 250 MW electricity to the latter. As per this agreement any incidence of export tax or import duty is to be borne by the purchaser.</p>
Private Sector Generation Policy	<p>IPP projects will be implemented on Build-Own-Operate (BOO) basis. In the event of a sponsor chosen on the basis of an unsolicited proposal, similar provision on performance guarantees and specified time period for financial closure will apply.</p> <p>Fiscal Incentives: The private power companies shall be exempt from corporate income tax for a period of 15 years. The companies will be allowed to import plant and equipment and spare parts up to a maximum of 10% of the original value of total plant and equipment within a period of 12 years of Commercial Operation without payment of customs duties, VAT (Value Added Tax) and any other surcharges as well as import permit fee except for indigenously produced equipment manufactured according to international standards. Repatriation of equity along with dividends will be allowed freely. Power generation has been declared as an industry and the companies are eligible for all other concessions which are available to industrial projects.</p> <p>Facilities and Incentives for Foreign Investors: The following facilities and incentives would be provided to private power producers:</p> <ul style="list-style-type: none"> • tax exemption on royalties, technical know-how and technical assistance fees, and facilities for their repatriation; • tax exemption on interest on foreign loans; tax exemption on capital gains from transfer of shares by the investing company; avoidance of double taxation in case of foreign investors on the basis of bilateral agreements; • exemption of income tax for up to 3 years for the expatriate personnel employed under the approved industry; • facilities for repatriation of invested capital, profits and dividends; • provision of transfer of shares held by foreign shareholders to local shareholders/investors; • Taka, the national currency, would be convertible for international payments in current account; • re-investment of remittable dividend to be treated as new foreign investment; • foreign owned companies duly registered in Bangladesh will be on the same footing as locally owned companies with regard to borrowing facilities etc.
Open Access	<p>Power Grid Company of Bangladesh (PGCB) and all Distribution Licensees shall provide non-discriminatory open access, to their transmission and/or distribution system for use by any Generation Licensee subject to payment of transmission/distribution wheeling charges determined by BERC.</p> <p>Open access, will be, subject to availability of adequate capacity of transmission and/or distribution facilities, on first come first served basis.</p>

1.3. Bhutan

Department of Power under the Ministry of Economic Affairs (MoEA) is responsible for policy making and planning of all aspects of energy and power sector in Bhutan. It is also responsible for all bilateral and multilateral issues related to power sector. Electricity Act, 2001 and Bhutan Hydropower Policy, 2008 are the major Act and policy guidelines for the electricity sector of Bhutan. Bhutan Power Corporation (BPC), a government owned utility is engaged in T&D and supply of electricity in the country.



Bhutan Electricity Authority (BEA) is the autonomous regulator for the sector. To achieve **the objective of enhancing private investment for accelerated hydropower development primarily for export of electricity**, the GOB issued a sustainable hydropower development policy in 2008. As per the FDI policy 2010 investments in development of hydropower generation in the country are to be governed by sustainable hydropower development policy 2008. Table A1.3 below further discusses the existing policy and regulations w.r.t CBET in Bhutan.

Table A1.3: Relevant Provisions w.r.t CBET

Electricity Law/ Policy/Regulation	Relevant provisions w.r.t CBET
Electricity Act 2001	<ul style="list-style-type: none"> • Enables the restructuring of the power supply industry and the possible participation of the private sector, by providing mechanisms for licensing and regulating the operations of power companies. The Electricity Act defines the roles and responsibilities of suppliers and protects the interests of the general public. Major purpose of this Act is to provide the technical regulation of the electricity supply industry and one of the objectives is to enhance revenue generation through export of electricity. • Lays the functions of the Bhutan Electricity Authority (BEA) as: <ul style="list-style-type: none"> • The licensing authority for generation, T&D, system operation, distribution, sale, export or import of electricity in the country. Determines price for various segments in the sector, ensures licensees' compliance with their functional obligations. • Design a grid code; • Designate the system operator and • Ensuring inter operational discipline and dispute resolution. • Designate a bulk supplier who will be responsible for the wholesale supply, including import and export, of electricity
Sustainable Hydropower Development Policy of Bhutan 2008	<ul style="list-style-type: none"> • The Hydropower Policy provides the framework and guidelines for accelerated hydropower development. The Royal Government shall continue to develop hydropower projects on its own or through existing bilateral arrangements and simultaneously look for private sector and public private partnership also to contribute to the hydropower development. • Provides for Institutional Arrangements <ul style="list-style-type: none"> • Department of Energy (DoE) as the Central Coordination Agency and the focal point of the Government on all matters related to Energy, Hydropower and Hydromet services and also responsible for all bilateral and multilateral issues on Energy and Power • Bhutan Power Corporation (BPC) is responsible for transmission and distribution of electricity. The BPC provides transmission access for export and also acts as the National System Operator. • Bhutan Electricity Authority (BEA) is an autonomous regulator for the electricity sector. • Ownership Structure <ul style="list-style-type: none"> • Investments in Large Hydropower Projects (>150≤1,000 MW) are open for joint ventures with Bhutanese companies or 100% foreign investments. The equity participation by any single foreign investor including Bhutanese FDI companies shall be limited to 3 large projects with total installed capacity not exceeding 2,000 MW. • The RGoB shall generally undertake development of Mega Hydropower (>1,000 MW) Projects in collaboration with governments of development partner countries. • Public-Private Partnership: For Public-Public partnership, the RGoB undertaking shall have a minimum of 51% shareholding. • Strategic Partnership: Subject to special approval by the Royal Government of Bhutan, an investor can be selected without bidding as a strategic partner having maximum shareholding of 26%.



Electricity Law/ Policy/Regulation	Relevant provisions w.r.t CBET
	<ul style="list-style-type: none"> • Project Allotment Process: Projects will be allocated through competitive bidding based on up-front premium and royalty power/energy. • Repatriation: Repatriation of capital and remittance of dividends shall be governed by the Income Tax Act of the Kingdom of Bhutan, the Foreign Exchange Regulations of Bhutan, the Foreign Direct Investment Policy, and Foreign Direct Investment Rules and Regulations. • Risk Mitigation: Extension of concession term in case of adverse geological and hydrological conditions during construction or concession period that have not been anticipated at the time of granting the license or in case of a force majeure event. • Off-take of Electricity: The RGoB shall have the first right to purchase any power/energy that it requires at the off-take rate applicable at the generating station bus bar.
Power System Master Plan	The Power System Master Plan estimates the overall hydropower potential of Bhutan at 30,000 MW with production capability of about 120,000 GWh.

1.4. India

Power sector of India is governed by a number of laws, regulations, policies and guidelines. The major governing framework is the Electricity Act 2003. The Act consolidated laws relating to generation, transmission, distribution, trading and use of electricity. It also included measures conducive to development of electricity industry, promoting competition therein, protecting interest of consumers, rationalisation of electricity tariff, ensuring transparent policies regarding subsidies etc. Other policies are the National Electricity Policy 2005, the National Tariff Policy, the Indian Electricity Grid Code, and Hydropower Policy 2008 etc. Table A1.4 below further discusses the existing policy and regulations w.r.t CBET in India.

Table A1.4: Relevant Provisions w.r.t CBET

Electricity Law/ Policy/Regulation	Relevant provisions w.r.t CBET
The Electricity Act, 2003	<ul style="list-style-type: none"> • As per the act, the Central Government shall, from time to time, prepare the national electricity policy and tariff policy, in consultation with the State Governments and the Authority for development of the power system based on optimal utilisation of resources such as coal, natural gas, nuclear substances or materials, hydro and renewable sources of energy. • Clear demarcation of role and responsibility of <ul style="list-style-type: none"> • Government (policy making) (formulation of National Electricity Policy) • Independent Regulatory Commission – CERC and SERCs (powers of regulation) • Other statutory bodies – like Central Electricity Authority (as expert body on technical matters) • Provides for de-licensing of generation • Provides for dispute resolution procedures • Provides for Open Access: Open access in transmission has been introduced to promote competition amongst the generating companies who can now sell to different distribution licenses across the country. The Regulatory Commissions need to provide facilitative framework for non-discriminatory open access. This requires load dispatch facilities with state-of-the-art communication and data acquisition capability on a real time basis. The Act prohibits the State transmission utilities/transmission licensees from engaging in trading in electricity. • Introduces Competition • Provides for Constitution of Central and State Regulatory Commissions to rationalise electricity tariffs and Regulatory Commissions to develop electricity markets.



Electricity Law/ Policy/Regulation	Relevant provisions w.r.t CBET
Central Electricity Regulatory Commission	<ul style="list-style-type: none"> • To regulate the tariff of inter-state generating companies • To regulate the inter-state transmission of electricity • To determine tariff for inter-state transmission of electricity • To issue licenses for inter-state electricity transmission and trading. • To adjudicate upon inter-state disputes • To specify Grid Code • To specify and enforce the standards with respect to quality, continuity and reliability of service • To fix the trading margin • To develop national power market
National Electricity Policy	<p>The Central Government notifies the National Electricity Policy. The requirement of techno-economic clearance of CEA for thermal generation project is no longer there. For hydroelectric generation also, the limit of capital expenditure, above which concurrence of CEA is required, would be raised suitably from the present level. Captive generation has been freed from all controls. For thermal power, economic of generation and supply of electricity should be the basis for choice of fuel from among the options available. It would be economical for new generating stations to be located either near the fuel sources e.g. pithead location or load centers.</p>
Tariff Policy	<ul style="list-style-type: none"> • Mandates competitive procurement of power and transmission services • Encourage efficiency in operations by sharing of gains between licensees and consumers. • Promote Multi-Year Tariff (MYT) framework. • Encourage loss reduction Strategies. • Tariff design: Linkage of tariffs to cost of service
Taxes on Import/Export/Transit of electricity	<p>No such taxes exist</p>
Commerce Laws	<p>On 5th July 2013, Import Policy of Electrical Energy was amended whereby Schedule 1 (Import Policy) was revised from "restricted" to 'free'.</p>

1.5. Nepal

The Ministry of Energy is responsible for the development of the power sector which is largely dependent on hydro resources in the country. The Ministry is the licensing as well the regulatory authority for the power sector in Nepal. The EA 2049 (Nepalese year) provides the legal framework for the sector. The hydropower development policy 2001 lays the framework for the development of hydropower specially by encouraging private sector investment.

The Water and Energy Commission (WEC) assists in the formulation of policies and planning of projects in the water resources and the energy sector. The ETFC set up under the Electricity Tariff Fixation Rules 2050 (1994) as per Section 40 of the EA 2049 (1992) discharges functions related to tariff determination. The proposed EA and the NERC act seeks to create a regulatory authority, the NERC for the sector. Table A1.5 below further discusses the existing policy and regulations w.r.t CBET in Nepal.



Table A 1.5: Relevant Provisions w.r.t CBET

Electricity Law/ Policy/Regulation	Relevant provisions w.r.t CBET
<p>Hydropower Policy 2001</p>	<p>The Hydropower Development Policy, 2001 is the most comprehensive policy for the power sector of Nepal. According to this policy, hydropower development in Nepal could make in the speedy development of not only the national economy but also the regional economy. It is expedient to put forward efforts on integrated water resources development based on bilateral and regional cooperation. One of the objectives of this policy is to develop hydropower as an exportable commodity. According to the information of this policy, out of the total hydropower generation capacity of about 83,000 MW, about 42,000 MW of power generation appears feasible to date from financial-technical perspective. Emphasises on regional cooperation for electricity.</p> <p>It proposes to pursue a strategy of bilateral or regional cooperation in the hydropower development sector taking into consideration the feasibility of hydropower in Nepal and the demands of electric energy in neighbouring countries in view of the fact that development of hydropower in Nepal supports not only the domestic but also the regional economy.</p> <p>Appropriate incentive provisions shall be provided and transparent process shall be pursued to attract national and foreign investment in hydropower development.</p> <p>Investment Repatriation: Exchange facilities shall be provided to the foreign person, firm or company making investment for the power generation, transmission or distribution project to be constructed by the private sector to repatriate the amount necessary for repayment of the principal and interest of the approved loan borrowed in foreign currency for the hydropower project from Nepal in foreign currency at the prevailing exchange rate.</p> <p>In the case of an export-oriented power project, cent per cent of the payment of principal and the interest on the loan, profit and dividend may be repatriated in the currency in which the income has been received in Nepal by selling the electricity.</p> <p>Other facilities to the foreign investor in relation to the foreign currency shall be as provided for in the prevailing Foreign Investment and Technology Transfer Act.</p> <p>Settlement of Disputes: Settlement of disputes shall be governed by the agreement or by the prevailing law on foreign investment and technology transfer.</p> <p>No additional or new tax, charge, tariff or governmental revenue under whatever title shall be levied on the existing hydropower project except those levied in accordance with the agreement entered at the time of issuance of the project license.</p> <p>Export of Electricity: If the electric energy generated in the country is to be exported abroad, it shall be done as per the agreement entered into between the exporter and the Government. Through mutual understanding, Government may purchase the power up to 10% of the electricity generated from the export-oriented projects for domestic consumption.</p> <p>According to the Section 6.11.3 of this policy, for identification of export oriented projects and its development in private sector, necessary study shall be conducted towards extending power system at the bilateral and regional level.</p> <p>The Government may, if necessary, render appropriate assistance to conclude a power purchase agreement for the power to be exported abroad.</p>
<p>Department of Electricity Development</p>	<p>The Department of Electricity Development shall issue license, provide facilities available under the one window policy and to attract the private sector in the development of hydropower, carry out acts related to the approval of the hydropower projects and feasibility studies related to hydropower projects.</p>



Electricity Law/ Policy/Regulation	Relevant provisions w.r.t CBET
Electricity Act, 2049 (1992)	<p>Major elements of this Act related to the installation of hydropower plants, its evacuation and export generation, transmission or distribution of electricity are licensed activities</p> <p>Ownership of the plant and related infrastructure: the land, building, equipment and structure related to the electricity generation plant or transmission and distribution line established by the foreign national or corporate body as more than 50% of the total investment, shall be under the ownership of Government after the expiry of the term as prescribed in the license.</p> <p>Royalty: the licensee shall have to pay royalty to the Government at a rate of Rs. 100 for each installed kilowatt of electricity per year plus 2% of the average tariff per unit (per kilowatt hour) for a term of up to 15 years from the date of generation of electricity for commercial purpose.</p> <p>Repatriation of Investment: In case foreign currency has been invested in the generation, transmission or distribution of hydroelectricity as a loan or share capital, the Government shall make available necessary foreign currency at the prevailing market rate of foreign exchange for repatriation of investment or repayment of principal or interest of loan.</p> <p>The Tariff Fixation Commission shall fix the electricity tariff and other charges on the basis of the rate of depreciation, reasonable profit, mode of the operation of the plant, changes in consumer's price index, royalty, etc.</p> <p>Electricity Import-Export: licensee desiring to export electricity generated on its own to the foreign country may do so by entering into an agreement with the Government on such matter.</p>
Water Resources Act 2049 (1992)	<p>This Act make arrangements for the rational utilisation, conservation, management and development of the water resources that are available in the Kingdom of Nepal in the form of surface water, underground water or in whatsoever form.</p>
Foreign Investment and Technology Transfer Act, 1992	<p>Department of Industries (or any other department, office or agency as specified by the Government) shall be required to be obtained for foreign investment or technology transfer.</p> <p>No income tax shall be imposed to a foreign investor on the interest income earned from foreign loan. A foreign investor shall be levied income tax at a rate of 35% only, on the income earned from foreign technical as well as management service fees and royalty.</p> <p>Dispute Settlement: If any dispute that cannot be settled by mutual consultations, it shall be settled by arbitration in accordance with the prevailing arbitration rules of the United Nations Commission on International Trade Law (UNCITRAL). The arbitration shall be held in Kathmandu. The laws of Nepal shall be applicable in the arbitration. Disputes arising in regard to foreign investment made in the industries with investment as prescribed may be settled as mentioned in the foreign investment agreement.</p>
Competition and Market Access	<p>Trading is not recognised explicitly. NEA being a licensee is eligible to undertake this for export/import of electricity with India. The Nepal Electricity Regulatory Commission bill 2065 (2008) explicitly recognises electricity trading and development of a competitive market. As per electricity rules 2050 (1993) a prior approval is required from MoE for import of electricity</p>
Taxes on Import/ Export/Transit of electricity	<p>Initially the taxes existed but were later waived off.</p>

1.6. Pakistan

The power sector in Pakistan has historically been governed by the Electricity Act 1910. The sector was traditionally dominated by two government owned entities Water and Power Development Authority (WAPDA) and Karachi Electricity Supply Company (KESC). KESC a vertically integrated entity covers the Karachi Region and WAPDA covered the rest of the country. Pursuant to a reform and restructuring program initiated by the Government of Pakistan in 2007, WAPDA only retains the water and hydropower development related activities. A newly created entity, Pakistan Electric Power Company (PEPCO) is vested with thermal generation, transmission and distribution. It is responsible for the functioning of the



newly corporatised nine ex- WAPDA distribution companies, four generation companies and National Transmission Dispatch Company (NTDC).

The regulation of Generation, Transmission & Distribution of Electric Power Act 1997 (EPA) led to setting up the National Electric Power Regulatory Authority (NEPRA). It issues licenses for Generation, Transmission and Distribution and also determines relevant tariff. It also establishes and enforces standards to ensure quality and safety of operations and supply of electric power to consumers.

Investment as well as power procurement by electric utilities is also regulated by NEPRA. A policy for power generation projects was announced in 1994 to attract private investment. This was subsequently revised in 1998 and 2002. Table A1.6 below further discusses the existing policy and regulations w.r.t CBET in Pakistan.

Table A1.6: Relevant Provisions w.r.t CBET

Electricity Law/ Policy/Regulation	Relevant provisions w.r.t CBET
Electricity Act, 1910	The Act created NEPRA to introduce transparent and judicious economic regulation, based on sound commercial principals, to the electric power sector of Pakistan.
National Electric Power Regulatory Authority	<p>NEPRA was established through promulgation of the Regulation of Generation, Transmission and Distribution of Electric Power, Act No. XL of 1997 on 16th December 1997 (i.e. NEPRA Act). Regulates transmission investment and tariff for transmission services.</p> <ul style="list-style-type: none"> • The concept of “Import of Power” already exists under the present scheme of NEPRA laws. <i>“In case of purchase of power from a generating company or an entity which is located outside the territories of Pakistan, the proposed power acquisition contract with such a company or an entity shall be filed along with necessary government approvals/ understandings.”</i> • Grant licenses for generation, transmission and distribution of electric power; • Prescribe procedure and standards for investment programs by generation, transmission and distribution companies; • Prescribe and enforce performance standards for generation, transmission and distribution companies; • Establish a uniform system of accounts by generation, transmission and distribution companies; • Development and implementation of a grid code. • Dispute Resolution Procedure. • Non-discriminatory provision of distribution services and sale of electric power.
Taxes on Import/ Export/Transit of electricity	Pakistan has an arrangement with Iran to import upto 70 MW of electricity. Currently there is no import duty levied on import of electricity from Iran.
Competition and Market Access	Trading is not recognised as an explicit activity.

1.7. Sri Lanka

The Ministry of Power and Energy (MPE) is responsible for the development of the energy sector including electricity. The Sri Lanka Electricity Act 20 of 2009 provides a legal framework for the power sector. PUCSL established under the PUCSL act No. 35 of 2002 is the independent regulator for the electricity sector.

The Ceylon Electricity Board owns and operates the transmission network. It owns about 75% of generation, capacity, the rest being owned by IPPs and small hydro power developers. Table A1.7 below further discusses the existing policy and regulations w.r.t CBET in Sri Lanka.



Table A1.7: Relevant Provisions w.r.t CBET

Electricity Law/ Policy/Regulation	Relevant provisions w.r.t CBET
Sri Lanka Electricity Act	<ul style="list-style-type: none"> • Confers Powers on PUCSL • Defines functions of PUCSL <ul style="list-style-type: none"> • to advise the Government on all matters concerning the generation, transmission, distribution, supply and use of electricity in Sri Lanka; • to exercise licensing, regulatory and inspection functions, as the case may be, in respect of matters provided for in this Act, to regulate the implementation codes of practice and other requirements imposed by or under this Act relating to the generation, transmission, distribution, supply and use of electricity in Sri Lanka; • to approve such technical and operational codes and standards as are required from time to time to be developed by licensees; • to regulate tariffs and other charges levied by licensees and other electricity undertakings, in order to ensure that the most economical and efficient service possible is provided to consumers; • Dispute Resolution.
National Energy Policy	<p>The policy stressed the need for adopting an appropriate pricing policy for the energy sector enhancing energy sector management capacity, consumer protection and ensuring a level playing field etc. According to the Section 3.2 of this policy, to ensure energy security, the policy emphasised on the promotion of regional cooperation in different forms including viable cross-border energy transfer with neighbouring countries.</p>
Competition	<p>A generation licensee is obligated to sell all the electricity generated to the transmission and bulk supply licensee. The transmission and bulk supply licensee is to procure electricity only through a competitive bidding process. Thus lending credence to cross-border trade via power exchange on a competitive basis.</p>



Annexure II

Summary of the clause/section wise suggested changes/amendments in EL&R&P framework- Country Wise

Afghanistan

Provisions in the draft law ⁵⁰	Summary of the suggested changes to be made in draft law
Requires the proposed Afghanistan Electricity Regulatory Authority (AERA) to regulate cross-border exchanges of electricity, subject to provisions of the Law and to conditions of international agreements.	Though the provisions of the Law supports CBET, AERA needs to provide detailed definition to the critical aspects of CBET through regulations that elaborate these aspects in the form of rules, processes, mechanism etc.
Recognizes international power trade and provides MEW the role of coordinating the same. MEW is required to engage in the negotiation of electricity sector treaties, develop policies governing international power trade, and facilitate talks regarding international trade agreements.	While MEW continues to coordinate international trade, execution and operational management of PPAs could be transferred to DABS in future.
Provides for licensing the electricity trade. The (AERA) is required to issue license for both domestic and cross-border trade.	Once established, AERA through separate notifications needs to define clear and transparent rules for licensing cross-border trading activities.
AERA is required to determine tariff methodologies. The Law also provides general principles and procedures for tariff setting	From CBET's perspective AERA needs to define clear and transparent mechanism for determining transmission/transit charges.
The licensee operating the transmission system must make available to any person who seeks use of such system on equal terms to any other person, at fair tariffs and terms of access.	Such provisions of non-discriminatory open access needs to be clearly defined and elaborated by AERA, especially for access to exporting and importing entities to the National Grid.
Provides for the development of a Grid code, Distribution code and Metering code by AERA.	From CBET's perspective it is important that technical standards, codes w.r.t external interconnections are explicitly defined in the Grid code.

Note: In addition to the above, other critical aspects like imbalance settlement which have not been dealt with in the draft Act needs to be introduced. Under all circumstances, setting up of AERA is absolutely essential in order to provide actionability to the provisions of the draft Act.

However, since trade with neighboring countries is being undertaken through bilateral trade agreements. It is highly likely that CBET in Afghanistan will continue in the same manner without any immediate need of common/standard provisions on the key ingredients.

⁵⁰ The Electricity Law of Afghanistan is in draft stage and it covers certain aspects of cross-border trade. Modifications/additions needs to be done by elaborating more on the critical aspects of CBET, which in the current form have been broadly covered. The Law needs to be finalized soon and notified.

Bangladesh

Sl.No.	Act/Policy and Regulation	Summary of the clause/section wise Suggested Changes/Amendments in EL&R&P framework
1.	Electricity Act 1910 and subsequent amendment 2012	<p>1. Open Access (OA): The Act (Part 2, Clause 7, 2(d)) directs the Transmission utility to provide non-discriminatory open access to any license/generator. Further, Commission to issue necessary regulations on open access</p> <p>The applicability of above needs to be extended to CBET. Further, the OA regulations proposed to be developed by the Commission to include adequate provisions for cross-border transactions, facilitating transparent access to the National Grid for exporting/importing entities.</p> <p>2. Transmission Pricing: The Act (Part 2, Clause 7, 2(d)) directs the Commission to determine charges for use of transmission system. Further, (Clause part III, 28) the Government is also required to formulate the tariff policy in consultation with the Commission to provide guidance on tariff determination</p> <p>The transmission charges determined in above, shall be based on such mechanisms/principles which on one hand reflect the actual system usage and on the other compensate the owner in a transparent manner. The Commission shall notify appropriate orders/regulations enabling the same*.</p> <p>3. Development of Power Markets: The Act (Part 2, Clause 6) directs the Commission take to assess the feasibility of introduction of an open market in Bangladesh. Commission is also required to frame regulations in consultation with the Government to facilitate transparency in the power market.</p> <p>Above shall be extended to include CBET transactions.</p> <p>4. Functions of the ISO (proposed): In Clause 8, the proposed ISO shall monitor grid operations, undertake energy accounting, carry out real time operations for grid control and dispatch of electricity in accordance with the Grid Code.</p> <p>Above role of the ISO shall be extended to cross-border flow as well to enable coordinated development of CBET, including scheduling and dispatch operations.</p>
2.	BERC Act, 2003 and subsequent amendment in 2005	<p>1. Licensing: Clauses 27-33 provides for various business activities applicable for license (generation, transmission, distribution & marketing, supply and storage), issuance of the license by the Commission, application, exemption, removal, duties of the licensee etc.</p> <p>Above shall also be applicable to Trading of electricity. Further, its shall also include provisions for CBET.</p> <p>2. Dispute Resolution: (Clause 40, 52), the Act provides for settlement of disputes by the Commission. Also, the Arbitration Act'2001 governs the arbitration proceedings. The contract is open to International Arbitration as well as enforcement of foreign arbitral award through local courts.</p> <p>Gradually, matters w.r.t to contracts for CBET may be referred to the SAARC Arbitration Council.</p>
3.	Electricity Grid Code 2012	<p>1. User in Grid code is a person or establishment, including the Licensee, Buyer, Generator, Supplier who use the Transmission System and who must comply with the provisions of the Grid Code.</p> <p>Above shall also extend to an entity engaged in export & import of electricity.</p> <p>2. Transmission Planning: Clause 4, Includes reinforcement or extension of the existing transmission System on account of development in a User's system already connected to the Transmission System, introduction of new connection points, increase in system capacity, stability considerations etc.</p> <p>Above shall also include planning and extension activities on for cross-border power flow. The existing Power System Master Plan already mentions about the quantum of electricity envisaged to be imported by Bangladesh from India, Nepal and Bhutan.</p>



Sl.No.	Act/Policy and Regulation	Summary of the clause/section wise Suggested Changes/Amendments in EL&R&P framework
		<p>3. Imbalance Settlement: The Grid Code 2012 does not mention about any kind of imbalance settlement mechanism/deviation settlement mechanism.</p> <p><i>Suitable amendments to be made to the Grid Code to include provisions related to imbalance settlement for CBET.</i></p> <p>The Grid code to define technical specifications for external interconnectors and other standards/codes essential for cross-border flows, hence facilitate interconnection with power systems of neighboring countries.</p>
4.	National Electricity Policy 2004	<p>Transmission Planning: Clause 7.5, Database on the power sector is to be developed which shall be continuously updated.</p> <p><i>The above shall additionally include creation of a database containing information on transmission and generation infrastructure for CBET in consideration of the Power System Master Plan that discusses cross-border interconnection options for Bangladesh.</i></p>

Bhutan

Sl.No.	Act/Policy and Regulation	Summary of the clause /section wise Suggested Changes/Amendments in EL&R&P framework
1.	Electricity Act 2001	<p>a. Licensing: Part 3, Clause 18 requires all entities engaged in construction, generation, transmission, system operation, distribution, sale, export or import of electricity to be issued a license under the Act.</p> <p><i>The Act recognizes trade of electricity as a licensed activity and licenses granted to generators cover license for import & export of electricity, hence no change is proposed.</i></p> <p>b. Open Access: In Clause 11, the BEA is required to develop regulations, principles and procedures to enable access to the transmission grid and distribution networks. Clause 38 requires the transmission licensee to provide access to all existing and potential users of the transmission grid on the payment of fees and other charges for grid services.</p> <p><i>While framing regulations on non-discriminatory open access, the BEA to extend the coverage to include access to National grid for entities involved in cross-border transactions.</i></p> <p>c. Transmission Pricing: Clause 11.1 and 14.1 requires the BEA to determine, approve and regulate charges for connection to, and the use of any transmission system.</p> <p><i>The above needs to be extended to include determination of charges for the use of transmission system by exporting and importing entities. The transmission charges determined in above, shall be based on such mechanisms/principles which on one hand reflect the actual system usage and on the other compensate the owner in a transparent manner. BEA should notify appropriate orders/regulations enabling the same.</i></p> <p>d. Functions of BEA: Clause 11.2 (v) requires the Authority to facilitate the development of generation, transmission, distribution of electricity throughout the country; and</p> <p><i>Above needs to be extended to include facilitating import & export activities.</i></p>



Sl.No.	Act/Policy and Regulation	Summary of the clause /section wise Suggested Changes/Amendments in EL&R&P framework
2	Grid Code Regulations 2008	<p>a. Transmission Planning: Clause 4 specifies the following: Planning Code, Grid Planning Studies, Planning Data and Implementation of Transmission Plan[#]</p> <p><i>The above coverage needs to be extended to include adequate provisions for various external interconnections and cross-border trade with other member countries.</i></p> <p>b. Imbalance Settlement: As per Clause 7 the scheduling and dispatch procedure for scheduling of drawal by the Indian purchasers from Bhutan shall be as per the bilateral agreements between the contracting parties. It also mention that the scheduling and dispatch code for Bhutan has to be technically compatible with the scheduling and dispatch Code of the Indian Electricity Grid Code Regulation</p> <p><i>A common imbalance settlement mechanism needs to be explicitly defined through enactment of separate regulations/orders to be applicable on all cross-border transactions.</i></p>
3	Bhutan Sustainable Hydropower Development Policy 2008	<p>a. Dispute Resolution: As per Clause 7, any difference and/or disputes arising at any time between the parties shall be resolved through mutual negotiations, failing which the matter may be resolved through dispute resolution mechanism as specified in the Project Development Agreement (PDA) and concession agreement (CA).</p> <p><i>If unresolved, the exporting/importing country may choose to refer the dispute to the SAARC Arbitration Council or other internationally recognized Arbitration agencies. The same needs to be included in the Bhutan 'Dispute Resolution Procedure 2009'.</i></p>

India

Sl.No.	Acts/Policies and Regulations	Summary of the clause/section wise Suggested Changes/Amendments in EL&R&P framework
1.	Electricity Act 2003	<p>a. Licensing: The Act defines an 'Electricity Trader' as a person who has been granted a license to undertake trading in electricity. Further, the Act (Section 14) requires appropriate Commission to grant a license to any person engaged in electricity trading.</p> <p><i>Trading in above should also include cross-border trading and accordingly various provisions (on eligibility, procedure, grant of license, power and duties, exemptions, revocation of license, modification and enforcement of license etc.) shall also be applicable in a desired form on cross-border trading.</i></p> <p>b. Open Access: The Act (Section 38) requires the CTU to provide non-discriminatory open access to its transmission system for use by any licensee or generating company on payment of the transmission charges.</p> <p><i>Above needs to be amended to include non-discriminatory access to exporting and importing entities.</i></p> <p>c. Dispute Resolution: Under Section 158, the arbitration to be subject to the provisions of the Arbitration and Conciliation Act, 1996.</p> <p><i>In case of CBET, if disputes remain unresolved, the exporting/importing country may choose to refer the dispute to the SAARC Arbitration Council or other internationally recognized Arbitration agencies.</i></p>
2.	National Electricity Policy 2005	<p>a. Licensing (Function of CERC): Clause 5.7,1 (a, f) requires the CERC to issue license for inter-state trading and notify enabling regulations for inter/intra state trading and regulations on power exchange.</p> <p><i>Trading in above should also include cross-border trading.</i></p>



Sl.No.	Acts/Policies and Regulations	Summary of the clause/section wise Suggested Changes/Amendments in EL&R&P framework
3.	Procedure, Terms and Conditions for grant of trading license and other related matters) Regulations, 2009 and subsequent Amendment 2012	<p>License-Definition: "inter-State trading" means transfer of electricity from the territory of one State for re-sale to the territory of another State and includes electricity imported from any other country for re-sale within India or exported to any other country subject to compliance with applicable laws and clearance by appropriate authorities.</p> <p><i>The regulations needs to extend its existing coverage to include various provisions (on Qualification, Capital adequacy and liquidity requirement, Disqualification, Procedure for Grant of license, Submission of information, Standards of Performance, Revocation of license, etc.) and shall be applicable in a suitable form on CBET.</i></p>
4.	Open Access in Inter-state Transmission Regulations, 2004	<p>Open Access- 'Extent of application': the regulations shall apply for access to inter-state transmission system.</p> <p><i>Above to be extended to include both domestic players as well as external exporting/importing entities. Accordingly, the provisions in the extant regulations on Nodal agency, Eligibility criteria, Application process, Priority order of Open Access consumers, Allotment of Transmission capacity, Applicable charges etc. to be extended to CBET.</i></p>
5.	The Tariff Policy, 2006	<p>Transmission Pricing- Clause 7.1- Implementation of suitable transmission tariff framework for all inter-State transmission to be done.</p> <p><i>Above needs to cover transmission of electricity as consequence of CBET. The Commission through notification of appropriate orders to enable POSOCO to determine charges for use of National transmission system for the purpose of CBET.</i></p> <p>Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010 to be amended accordingly.</p>
6.	Deviation Settlement Mechanism and related matters) Regulations, 2014	<p>Imbalance Settlement- Scope (Clause 4) - Applicable to sellers and buyers involved in the transactions facilitated through short-term open access or medium-term open access or long-term access in inter-State transmission.</p> <p><i>Above to be suitably amended to include provisions on CBET.</i></p>
7.	Indian Electricity Grid Code 2010 with subsequent amendments in 2012 and 2014)	<p>IEGC- IEGC lays down the rules, guidelines and standards to be followed by various persons and participants in the system. As per Clause 1.3- Any neighboring country inter-connected with Indian (National) Grid shall be treated as a separate control area.</p> <p><i>The Grid Code to be suitably amended to define technical specifications for external interconnectors and other standards/codes essential for CBET.</i></p> <p><i>Suitable basis of operation of external control areas to be defined in the Grid Code through amendments and to include adequate provisions on planning, connection, operation, scheduling & dispatch of cross-border flows.</i></p>
8.	Power Market Regulations, 2010	<p>Part 2 (Clause 5): Scope of Regulation and Extent of Application to be extended to transacting parties involved in import and export of power.</p> <p><i>The Commission to facilitate cross-border participants to transact on the Power Exchange through amendments in extant regulations/notification of separate orders.</i></p>

Nepal

Sl.No.	Acts/Policies and Regulations	Summary of the clause/section wise Suggested Changes/Amendments in EL&R&P framework
1.	Electricity Act 2049 (1992)	<p>a. Licensing: Clause 3: No person shall be entitled to conduct survey, generation, transmission or distribution of electricity without obtaining license under this Act. Further, Import and Export of Electricity (Clause 22), If the licensee, who has obtained license for production, transmission or distribution in accordance with these Rules, is interested to import the electricity into Nepal, he/she shall have to submit an application together with the agreement made thereto to the Electricity Development Department to get the prior permission of Government of Nepal.</p> <p><i>Licensing requirement to be extended to an entity engaged in the business of trading. The above condition to be applicable to import and export of power. Further, various provisions on licensing requirement (for instance Qualification, Capital adequacy and liquidity requirement, Disqualification, Procedure for Grant of license, Submission of information, Standards of Performance, Revocation of license, etc.) shall be applicable in a desired form on CBET.</i></p> <p>c. Transmission Pricing: Clause 17: Assessment of Electricity Tariff and Other Charges: (1) Government of Nepal shall constitute a Tariff Fixation Commission for the purpose of fixing electricity tariff and other charges.</p> <p><i>Currently, the Electricity Tariff Fixation Commission (ETFC) does not specify separate charges for transmission usage including use of National Grid for cross-border trading activities. In the interim period, till the regulator is not established, functioning of the ETFC needs to be strengthened to enable it to determine transmission charges.</i></p>
2.	Hydropower Development Policy 2001	<p>a. Licensing: Under Clause 12.3 (a) The provision of license shall be as follows:</p> <ol style="list-style-type: none"> 1. Study/survey License 2. Generation License 3. Transmission License 4. Distribution License <p><i>Above to also include Export & Import License. Other conditions of the License viz, term of the license, etc. to be stipulated in the Policy by the Ministry.</i></p> <p>b. Transmission Pricing: Clause 5.17- The existing institutions in the public sector shall be re-structured to create competitive environment by encouraging the involvement of community/cooperative institutions, local bodies and private sector in generation, transmission and distribution of hydropower in order to extend reliable and qualitative electricity service throughout the Kingdom at a reasonable price.</p> <p><i>Above to also include electricity imported and exported under cross-border transactions with neighboring countries.</i></p>
3.	Dispute Resolution	<p>Currently, part of the bilateral agreements.</p> <p><i>In case of CBET, if disputes remain unresolved, the exporting/importing country may choose to refer the dispute to the SAARC Arbitration Council or other internationally recognized Arbitration agencies.</i></p>



Pakistan

Sl.No.	Acts/Policies and Regulations	Summary of the clause/section wise Suggested Changes/Amendments in EL&R&P framework
	<p>Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 subsequently amended in 2011</p>	<p>a. Licensing: Definitions (Clause 2) - “license” means a license issued for generation, transmission, distribution of electricity under this Act. Further, Clause 7 requires the Authority to grant licenses for generation, transmission, distribution of electricity of electric power.</p> <p><i>Above to be amended to include trading (including export and import) of electricity as a licensed activity. Accordingly various provisions (on eligibility, procedure, grant of license, power & duties, exemptions, revocation of license, modification and enforcement of license etc.) shall be applicable in a desired form on trading. This shall also include specific provisions on CBET.</i></p> <p>b. Open Access: Responsibilities of National Grid Company (Clause 18)- The national grid company is responsible to operate and provide safe, reliable transmission and inter-connection services on a non-discriminatory basis, including to a bulk-power consumer who proposes to become directly connected to its facilities.</p> <p><i>Above to be amended to include non-discriminatory access to national grid for the purpose of CBET. NEPRA to notify regulation/order to promote competition and enable non-discriminatory access to the transmission system.</i></p> <p>c. Transmission Pricing: <i>With suitable amendment in clause 31, NEPRA to determine charges for transmission usage by exporting and importing entities.</i></p> <p>d. Dispute Resolution: Tribunals (Clause 11) – The Authority may, from amongst its professional staff, establish special tribunals for resolving contractual disputes between licensees or such other matters as the Authority may assign.</p> <p><i>In case of CBET, if disputes remain unresolved, the exporting/importing country may choose to refer the dispute to the SAARC Arbitration Council or other internationally recognized Arbitration agencies.</i></p>
	<p>NEPRA Licensing (Application & Modification Procedure) Regulations, 1999</p>	<p>a. Licensing: Application for License (Part II, Clause 3) provides the requisites of license application for generation, transmission and distribution.</p> <p><i>Above to also include trading as a licensed activity, through amendments in the extant regulations or through notification of separate orders on the subject.</i></p>
	<p>Grid Code 2005</p>	<p>a. Open Access: As per the grid code, NTDC shall operate the Transmission System in the spirit of “Open Access”. By “Open Access” is meant that all Code Participants (extant and potential) shall be treated fairly and equitably without any discrimination or prejudice.</p> <p>Further, CASA 1000 project provides for open access to energy corridor for all the member countries</p> <p><i>Entities engaged in import and export of electricity to be granted Open Access to the transmission system in accordance with the provisions applicable to such cross-border transactions. NEPRA to notify regulation/order to enable non-discriminatory access for CBET.</i></p> <p>b. Transmission Planning: Planning code 4.2 – Procedures for Transmission System Expansion: NTDC to establish a planning process that leads to the recommendation of specific transmission system reinforcements, upgrading, and expansion projects.</p> <p><i>Planning Process to additionally include specific transmission system reinforcements, upgrading, and expansion projects for cross-border electricity trade.</i></p>



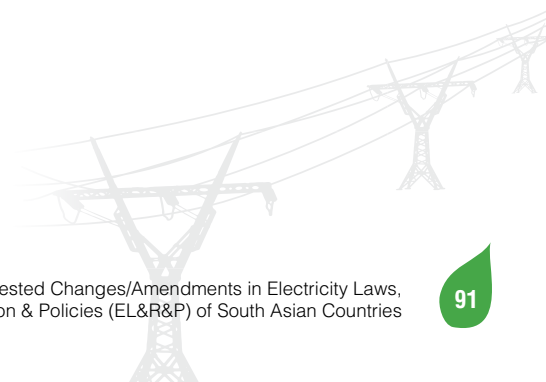
Sl.No.	Acts/Policies and Regulations	Summary of the clause/section wise Suggested Changes/Amendments in EL&R&P framework
	NEPRA (Tariff Standards and Procedure) Rules, 1998	<p>a. Transmission Pricing: Part III: Standard and Guidelines – (i) tariffs should allow licensees the recovery of any and all costs prudently.....(ii) tariffs should allow licensees a rate of return which promotes continued reasonable investment..... (iii) tariffs should reflect marginal cost principles.....(iv) the Authority shall have a preference for competition rather than regulation.....</p> <p><i>The principles and standards for tariff determination provided in the rules to be applicable to tariff for cross-border transactions. NEPRA to notify appropriate orders/regulations enabling the same.</i></p>
	National Power System Expansion Plan 2011– 2030	<p>The National Power system Expansion Plan 2011-2030 comprises of electricity import from Iran and CASA project.</p> <p><i>It should also include cross-border trade opportunities within the South Asian region.</i></p>

Sri Lanka

Sl.No.	Acts/Policies and Regulations	Summary of the clause/section wise Suggested Changes/Amendments in EL&R&P framework
1.	The Sri Lanka Electricity Act, No. 20 OF 2009 (& subsequent amendment in 2013)	<p>a. Licensing: Chapter III, Part 1: Licensing – A person shall not generate electricity; transmit electricity; distribute and supply or distribute electricity unless he is authorized to do so by a license granted under this Act.</p> <p><i>Above to also include trading as a licensed activity. Accordingly various provisions (on eligibility, procedure, grant of license, power & duties, exemptions, revocation of license, modification and enforcement of license etc.) shall be applicable in a desired form on trading. This shall also include specific provisions on CBET.</i></p> <p>b. Open Access (Functions of the Commission): Clause 4(1) The Commission shall discharge the functions assigned to it by or under this Act in a manner which it considers is best calculated (f) to promote competition, where appropriate</p> <p><i>Above to also include notification of enabling regulations/orders necessary to introduce such competition and to enable non-discriminatory access to the transmission system (including for cross-border power flows).</i></p> <p>c. Transmission Pricing (Powers and duties of the licensees): Chapter II Clause 3 (d) - Functions of the Commission- To regulate tariffs and other charges levied by licensees and other electricity undertakings, in order to ensure that the most economical and efficient service possible is provided to consumers.</p> <p><i>The transmission charges determined in above, shall be based on such mechanisms/principles which on one hand reflect the actual system usage and on the other compensate the owner in a transparent manner. The Commission shall notify appropriate orders/regulations enabling the same.</i></p>
2.	The Electricity (Applications for Licenses and Exemptions) Regulation, 2009	<p><i>Necessary changes to be introduced to apply provisions on details of the application form, documents accompanying the application and other requisite information pertaining to grant of license on trading activity. Trading activity shall also include import and export of electricity.</i></p>
3.	National Energy Policy and Strategies of Sri Lanka, 2008	<p>a. Promotion of regional energy security: The Government shall promote cross-border trade and guide the Commission on various aspects of CBET for its smooth implementation.</p> <p>b. Transmission Planning: National Energy Database to include projects of regional importance and the Transmission Development Plan to take into account external interconnections for cross-border electricity trade.</p>



Sl.No.	Acts/Policies and Regulations	Summary of the clause/section wise Suggested Changes/Amendments in EL&R&P framework
4.	Regulatory Manual, PUCSL, 2014	Promotion of Competitive markets (Open Access): Basis the rules specified in the manual, the Commission (PUCSL) shall use its powers and notify regulation/order to promote competition and enable non-discriminatory access to the transmission system.
5.	General Policy Guidelines on the electricity industry for PUCSL	Transmission Pricing: The Commission shall notify appropriate orders/regulations that will enable determination of transmission charges for cross-border transactions to be based on such principles that compensate users for actual usage of system. Prices to be sensitive to distance, direction and quantum of power flow.
6.	Grid Code 2014	Transmission system: The Transmission system shall also include external interconnectors and lines from the Grid to external interconnections. Transmission development plan: The Transmission Development Plan shall also take into account external interconnections for cross-border electricity trade. The Grid code shall define technical specifications for external interconnectors and other standards/codes essential for cross-border flows.



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ABOUT SARI/EI

Over the past decade, USAID's South Asia Regional Initiative/Energy (SARI/E) has been advocating energy cooperation in South Asia via regional energy integration and cross border electricity trade in eight South Asian countries (Afghanistan, Bangladesh, Bhutan, India, Pakistan, Nepal, Sri Lanka and the Maldives). This fourth and the final phase, titled South Asia Regional Initiative for Energy Integration (SARI/EI), was launched in 2012 and is implemented in partnership with Integrated Research and Action for Development (IRADe) through a cooperative agreement with USAID. SARI/EI addresses policy, legal and regulatory issues related to cross border electricity trade in the region, promote transmission interconnections and works toward establishing a regional market exchange for electricity.

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www.sari-energy.org

