



CROSS BORDER TRADE OF ELECTRICITY - POLICY & REGULATIONS

An Indian Perspective

AGENDA

Current Status on Indian Cross Border Trade of Electricity

Cross Border Policy – An Overview

Way Forward



CURRENT STATUS ON INDIAN CROSS BORDER TRADE OF ELECTRICITY



CURRENT CROSS BORDER TRANSACTIONS - INDIA

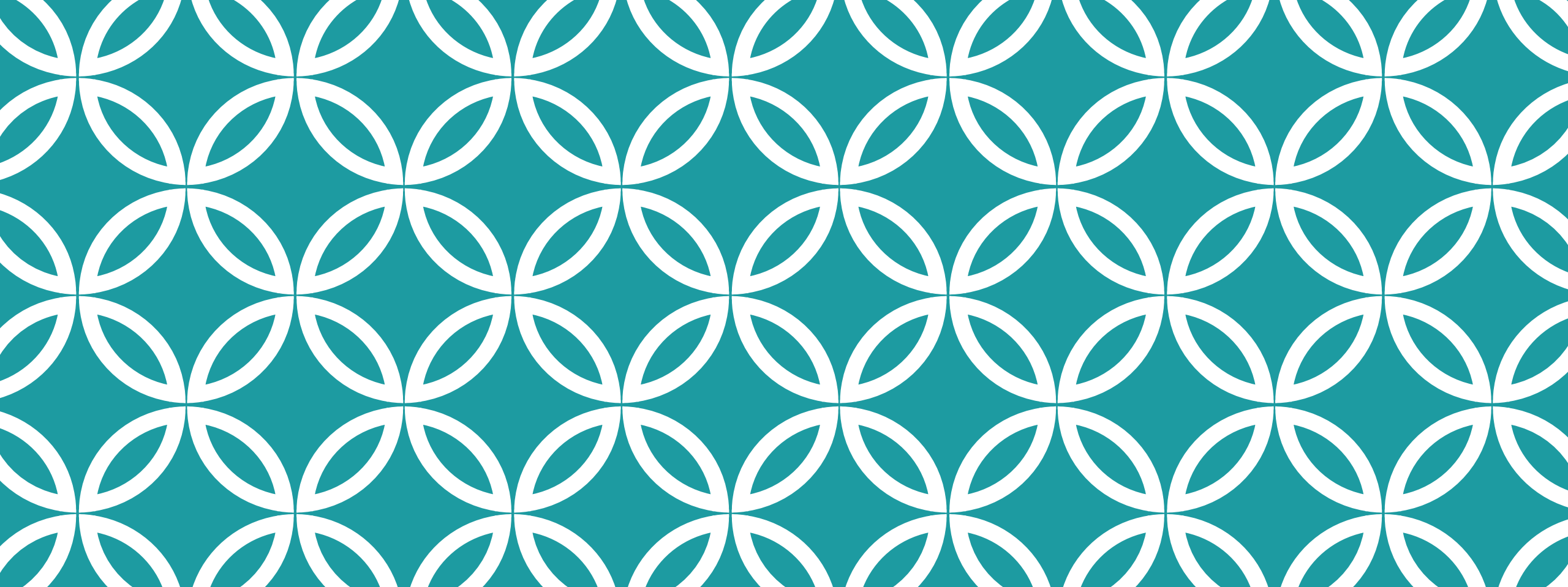
Country	Contracts	Type	Transmission Link
India to Bangladesh (1160 MW)	Long Term Contract with NVVNL for 250 MW	Govt. to Govt.	Baharampur (India)- Bheramara (Bangladesh) 400kV DC line (500 MW Capacity)
	Medium Term Contract of DVC with Bangladesh 300 MW through NVVNL upto Dec'19	Competitive Bidding	
	a) Sembcorp to Bangladesh (250 MW LT w.e.f. Jan'20 b) DVC to Bangladesh (300 MW LT) w.e.f. Jan'20 c) Meenakshi power to Bangladesh (200 MW LT) w.e.f. Jan'20	Competitive Bidding	
	Long term 160 MW contract Tripura in India to Comilla in Bangladesh through NVVNL	Govt. to Govt.	

CURRENT CROSS BORDER TRANSACTIONS - INDIA

Country	Contracts	Type	Transmission Link
India to Nepal (320 MW)	Bilateral contracts to the tune of 237 MW through NVVNL	Govt. to Govt.	400 kV Muzaffarpur (India) - Dhalkebar (Nepal) D/C line (charged at 132 kV)
	Contract with PTC upto 100 MW	Market Based	13 no.s of multiple links of 11 KV, 33 KV & 132 KV line between Nepal and India (major being Tanakpur Link)

CURRENT CROSS BORDER TRANSACTIONS - INDIA

Country	Trade Quantum and duration																																										
Bhutan to India (1450 MW) (Existing)	<p>Govt to Govt.</p> <ul style="list-style-type: none"> - Chukka (336 MW), Kurichhu (60 MW) and Tala (1040 MW), Mangdechhu (720 MW) <p>Market based</p> <ul style="list-style-type: none"> -Dagachhu (126 MW) 																																										
Bhutan to India (upcoming)	<p style="text-align: center;">Projects under Construction</p> <table border="1" data-bbox="868 936 2290 1276"> <thead> <tr> <th>Sl. No.</th> <th>Name of Project</th> <th>Location</th> <th>Installed Capacity (MW)</th> <th>Firm Power (MW)</th> <th>Expected COD</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Punatsangchhu-II HEP</td> <td>Wangdiphodrang</td> <td>1020</td> <td>164</td> <td>2019</td> </tr> <tr> <td>2</td> <td>Punatsangchhu-I HEP</td> <td>Wangdiphodrang</td> <td>1200</td> <td>199</td> <td>2021</td> </tr> <tr> <td>3</td> <td>Nikachhu HEP (Tangsebji)</td> <td>Trongsa</td> <td>118</td> <td>22.55</td> <td>2019</td> </tr> <tr> <td>4</td> <td>Mangdechhu HEP</td> <td>Trongsa</td> <td>720</td> <td>90</td> <td>2018</td> </tr> <tr> <td>5</td> <td>Kholongchhu HEP</td> <td>Trashiyangtse</td> <td>600</td> <td>113.8</td> <td>2023</td> </tr> <tr> <td colspan="3" style="text-align: center;">Total</td> <td>3658</td> <td>589.35</td> <td></td> </tr> </tbody> </table>	Sl. No.	Name of Project	Location	Installed Capacity (MW)	Firm Power (MW)	Expected COD	1	Punatsangchhu-II HEP	Wangdiphodrang	1020	164	2019	2	Punatsangchhu-I HEP	Wangdiphodrang	1200	199	2021	3	Nikachhu HEP (Tangsebji)	Trongsa	118	22.55	2019	4	Mangdechhu HEP	Trongsa	720	90	2018	5	Kholongchhu HEP	Trashiyangtse	600	113.8	2023	Total			3658	589.35	
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CROSS BORDER POLICY AN OVERVIEW



GUIDELINES ON IMPORT/EXPORT (CROSS BORDER) OF ELECTRICITY

- Ministry of Power in consultation with Ministry of External Affairs has issued the "Guidelines for Import/Export (Cross Border) of Electricity-2018 on 18th December 2018
- These Guidelines have replaced Guidelines on Cross Border Trade of Electricity issued in 2016
- The objective of these Guidelines are:
 - a. Facilitate import/ export of electricity between India and neighbouring countries;
 - b. Evolve a dynamic and robust electricity infrastructure for import/ export of electricity;
 - c. Promote transparency, consistency and predictability in regulatory mechanism pertaining to import/ export of electricity in the country;
 - d. Reliable grid operation and transmission of electricity for import/ export

GUIDELINES ON IMPORT/EXPORT (CROSS BORDER) OF ELECTRICITY

Institutional Framework

Institution	Responsibility
Designated Authority appointed by MoP, <i>CEA has been appointed as DA</i>	<ul style="list-style-type: none">Facilitating the process of approvalLaying down the procedure for approvalCoordination with Neighbouring CountriesTransmission Planning in capacity of Tr. Planning Agency
Settlement Nodal Agency	<ul style="list-style-type: none">Settlement of Charges for deviation & other charges in relation to CBETMember of the deviation pool, reactive energy pool and other regulatory pools
National Load Dispatch Centre	<ul style="list-style-type: none">System OperatorGranting short-term open access (STOA)Billing, collection and disbursement of the transmission charges for STOA as per sharing regulations
Central Transmission Utility	<ul style="list-style-type: none">Granting long-term access and medium-term open accessBilling, collection and disbursement of the transmission charges for MTOA & LTOA, as per sharing regulations

GUIDELINES ON IMPORT/EXPORT (CROSS BORDER) OF ELECTRICITY

Eligibility Conditions for participation in Import/Export

- Indian entities may import or export power directly or through traders from cross-border project after taking approval of Designated Authority
- In case import through bilateral agreement between two countries, GoI to designate an entity for import
- In case coal based projects, only projects generating power from imported coal or spot e-auction coal or coal obtained from commercial mining are permitted to export electricity
- **Participating entities from neighboring countries can trade in Indian Power Exchanges through a licensed Indian trader**
- No restriction has been put in terms of contracts or segment in which participating entity from neighboring countries can trade

GUIDELINES ON IMPORT/EXPORT (CROSS BORDER) OF ELECTRICITY

- Designated authority will normally allow imports only when the demand exceeds generation capacity (as available) in the country
- Similarly, Exports may normally be permitted in case of capacity being in excess of the domestic demand
- Application for approval will only be considered after the receipt of the equity pattern of ownership of the said Entity(ies) along with other details as prescribed by the Designated Authority
- Any change in ownership is to be communicated to Designated Authority

GUIDELINES ON IMPORT/EXPORT (CROSS BORDER) OF ELECTRICITY

Tariff Determination

Type	Allowable Methodology for Tariff Determination
Import by Indian Entity	<ul style="list-style-type: none"> Competitive bidding Mutual agreement between the buying Indian entity and the selling entity The tariff may be determined by CERC as per its Regulations, for hydro projects only if approached by the generator through the Government of the neighboring country & agreed by Indian Utility Mutually Agreed between Govts of both the countries
Export by Indian Entity	<ul style="list-style-type: none"> Competitive bidding Mutual agreement between selling Indian entity and the buying entity Mutually Agreed between Govts of both the countries
Tariff of cross border transmission link from pooling station in India till Indian border	<ul style="list-style-type: none"> Competitive bidding Mutually Agreed between Govt. of both the countries Determined by CERC

Tariff for import or export of electricity already determined through G2G negotiations including under Inter Government Agreements (IGA) shall continue to be determined through G2G negotiations till the expiry of the Agreement

GUIDELINES ON IMPORT/EXPORT (CROSS BORDER) OF ELECTRICITY

Transmission System

- Transmission interconnection between India and its neighbouring country shall be planned jointly by transmission planning agencies of the two countries
- Participating Entity of neighbouring country to seek connectivity, LTOA, MTOA, STOA, as the case may be, through separate applications
- Provisions contained in the STOA Regulations and Connectivity Regulations shall apply mutatis mutandis to the participating entities for cross border trade of electricity

GUIDELINES ON IMPORT/EXPORT (CROSS BORDER) OF ELECTRICITY

Transmission System

Non refundable application fees as under to be payable for connectivity, LTOA & MTOA

S.No.	Quantum of Power to be injected/off taken into/from ISTS	Application fee (Rs. in Lakh)	
		For Connectivity / LTOA	For MTOA
1.	Up to 100 MW	4	2
2.	> 100 MW – 500 MW	6	4
3.	> 500 MW – 1000 MW	12	6
4.	> 1000 MW	18	8

For LTOA, Access Bank Guarantee of Rs 5 lakh/MW valid for five (5) years from the date of operationalization of long term access to be given

GUIDELINES ON IMPORT/EXPORT (CROSS BORDER) OF ELECTRICITY

Application for Grant of Connectivity

- To be applied only by entities getting connected to the Indian grid through dedicated transmission systems
- Entity to submit approval from Designated Authority to engage into CBTE and approval for implementing the dedicated transmission system
- CTU shall process the application and grant Connectivity as per the Detailed Procedure made under Connectivity Regulations
- Upon grant of Connectivity, the Applicant shall sign a Connection Agreement with the CTU
- Grant of Connectivity shall not entitle an applicant to interchange any power with the Indian grid
- Power interchange may only be done after applying for STOA, MTOA or LTOA

GUIDELINES ON IMPORT/EXPORT (CROSS BORDER) OF ELECTRICITY

Application for Short Term Open Access (STOA)

- Application to be made to NLDC for grant of STOA
- Entity to submit approval from Designated Authority to engage into CBTE and approval to use Cross Border Transmission Link(s) in case connectivity is not through dedicated transmission lines
- NLDC shall process the Application and grant short-term open access in accordance with the Procedure made under STOA Regulations

Application for Long-Term Access and Medium-Term Open Access

- Application to be made to CTU
- Entity to submit approval from Designated Authority to engage into CBTE, approval to use Cross Border Transmission Link(s) in case connectivity is not through dedicated transmission lines and access bank guarantee

GUIDELINES ON IMPORT/EXPORT (CROSS BORDER) OF ELECTRICITY

- Where tripartite agreement is signed for transaction across India involving two neighbouring countries, the transmission system augmentation in India for transmission of electricity across the territory of India shall be undertaken only after obtaining approval from Government of India and the Commission and the Access Bank Guarantee
- LTOA application to be processed in 120 days (in case network augmentation is required) else 90 days
 - LTOA application will be accompanied by **Access Bank Guarantee** ₹ 5 Lakh/MW
 - In case transmission network augmentation is required, fresh Access Bank Guarantee equal to cost of such augmentation to be furnished.
- MTOA application to be processed in 40 days

GUIDELINES ON IMPORT/EXPORT (CROSS BORDER) OF ELECTRICITY

Treatment of delay in Transmission system and Generation projects

- Designated Authority shall monitor the progress of generating station in neighbouring country along with transmission system for evacuation of power for cross border trade of electricity
- In case of delay in commissioning of project, generator to pay full transmission charges from the date of operationalisation of long-term access
- In case of delay in Cross Border Transmission Link, compensation to be decided by respective Governments
- In case of delay in transmission lines inside India, CTU to arrange for alternate lines or pay transmission charges to generating company



WAY FORWARD |

BENEFITS OF CBTE

- Optimal Utilisation of Transmission Lines
- Ensure Security of supply
- Results in higher penetration of intermittent renewables by having hydro power from neighbouring interconnected markets due to Shared generation reserve margins
- Avoid/Defer investments in Transmission and Generation capacities
- Will pave the way for developing a single power market marked by economic integration, and the optimal use of, resources across SAARC countries
- Reduction of environmental costs by increasing availability of cleaner sources of supply (hydro, solar, wind, natural gas)
- Economic exploitation of huge hydro potential in NER of India, Nepal & Bhutan which requires access to larger regional markets for the electricity generated.
- Utilisation of stranded capacity and increase in PLF

KEY ISSUES AND WAY FORWARD IDENTIFIED FOR CBTE

- Common approach to be adopted for setting up regulatory framework for facilitating Cross Border Energy Trade (CBET) and thus achieve transparency, consistency and predictability
- Reasonable Commercial framework
 - Energy Accounting
 - DSM responsibility
- Reliable grid operation and issues related to protection, coordination and scheduling of power
- Market access for Long Term, Medium Term, Short Term or Exchange
- Technical preparedness
- **Question of passing on the fiscal(FIT etc.) and regulatory (RPO compliance, etc.) benefits to renewable power generation stationed in different countries.**
- Market Zones to be created considering the cross border power flow dynamics
- Reliable grid operation and issues related to protection, coordination and scheduling of power



THANKYOU

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