

Forum

**South Asia Workshop on CBET**

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# **Experience in Cross Border Power Projects**

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# Agenda

## Cross border power trade: Perspective

- Key questions
- Barriers

## Cross border projects: Concerns and mitigation

- Governance, policy and regulatory concerns
- Operational concerns
- Transmission & distribution concerns

## Developer's experience: GMR's experience in Nepal

# Cross border power trading: Key questions

## ❖ **Regulators' issues in cross border trading?**

- ✓ In case of non availability of national level regulator in a country, will ministry take the responsibility?
- ✓ National government policies will be applicable on cross border trading or not?
- ✓ National level regulator's decisions should be compatible with regional (State) regulators' decisions?
- ✓ National energy ministry involvement in any transaction, separate review by regulator or not?

## ❖ **Licensing cross border trading facilities, import and export?**

- ✓ Specific condition for a Export/Import license

## ❖ **Approving cross-border agreements in importing and exporting countries?**

- ✓ Cost plus Pricing rules different for plant in India and in Nepal?
- ✓ Competitive bidding for Hydro Power?

## ❖ **Approving transmission access, pricing, ancillary services and losses?**

- ✓ Different transmission rates -short , medium and long term?
- ✓ CDM benefit in cross border power trade to India – sharing between Developers or buyers?

# Cross border power trading: Barriers

<b>Political/ legal</b>	Legal framework to support cross-border power trading
	Independent of political scenario
	Political support for South East Asian organization for regional co-operation
<b>Financial</b>	Limitations in financial resources for cross-border transactions
	Insufficient long term revenue certainty due to regulatory risk
	Buyers financial capability to honor large transactions
	Settlement mechanism between scheduled and delivered power
<b>Technical</b>	Absence of clear procedures for handling operational issues of cross border projects
	Handling of equipment risks in cross-border project
	Absence of monitoring and operational discipline in interconnected system and adequate grid protection system
<b>Regulatory</b>	Risk of regulatory changes after investments have been committed
	Clarity required on connectivity (Power evacuation system), Open access and displacement of cheaper power (Merit order dispatch mechanism)
	Proportion of sharing of benefits of cross-border transactions with all utilities

# Cross-border projects: Concerns and Mitigations

CONCERN	PARTY	REASONS	MITIGATION MECHANISM
<b>A. GOVERNMENT, POLICY AND REGULATORY CONCERNS</b>			
<b>1. Permits &amp; Approvals</b> ✓ Environmental permits ✓ Water use right  May not be obtained or obtained subject to conditions that may increase cost	<ul style="list-style-type: none"> <li>Developer</li> </ul>	<ul style="list-style-type: none"> <li>Developer's responsibility to obtain necessary permits required for project</li> <li>Developer not responsible for direct or indirect expropriation</li> </ul>	<ul style="list-style-type: none"> <li>Developer warranty to obtain necessary permits</li> <li>Force majeure for expropriation, except in cases of Developer's default.</li> </ul>
<b>2. Government Policy</b> ✓ Change in law  Increase in project cost	<ul style="list-style-type: none"> <li>Developer</li> <li>Buyer</li> </ul>	<ul style="list-style-type: none"> <li>Change in General policy / law which affect all businesses in the country</li> <li>Developers not exposed to project specific policy/law changes or changes anticipated at time of contract signing</li> </ul>	<ul style="list-style-type: none"> <li>Price increase in limited circumstances allowed</li> </ul>
<b>3. Environmental Liabilities</b> ✓ Significant environmental liabilities (greater than anticipation)	<ul style="list-style-type: none"> <li>Developer</li> </ul>	<ul style="list-style-type: none"> <li>Environmental impact of the assets can be managed through maintenance and refurbishment by Developer</li> </ul>	<ul style="list-style-type: none"> <li>Environmental liabilities on Developer's side defined</li> </ul>

# Cross-border projects: Concerns and Mitigations

CONCERN	PARTY	REASONS	MITIGATION MECHANISM
<b>B. OPERATIONAL CONCERNS</b>			
<b>1. Inputs &amp; Fuel Supply</b> ✓ Cost of fuel ✓ Unavailability of fuel	<ul style="list-style-type: none"> <li>Developer</li> <li>Buyer</li> </ul>	Developer controls the inputs (cost & design) and manage the risk through long term supplies but some input cost fluctuations cannot be adequately managed.	<ul style="list-style-type: none"> <li>Tariff that do not vary with input costs, or tying to relevant indices only</li> <li>Competitive procurement requirements for fuel</li> <li>International fuel cost indexing</li> </ul>
<b>2. Plant performance</b> ✓ Lower operating PLF ✓ More outages	<ul style="list-style-type: none"> <li>Developer</li> </ul>	<ul style="list-style-type: none"> <li>Developer controls plant performance and can influence performance parameters through plant design and construction.</li> </ul>	<ul style="list-style-type: none"> <li>Contract specifies output requirements damages.</li> </ul>
<b>3. Operator Failure</b> ✓ Operator (including sub contractor) fails financially or fails to provide contracted services due to any reason	<ul style="list-style-type: none"> <li>Developer</li> </ul>	<ul style="list-style-type: none"> <li>Developer is liable for all operating obligations, irrespective of whether risks have been passed to subcontractors or not.</li> </ul>	<ul style="list-style-type: none"> <li>Breaching of contract</li> <li>PBG.</li> </ul>

# Cross-border projects: Concerns and Mitigations

CONCERN	PARTY	REASONS	MITIGATION MECHANISM
<b>C. TRANSMISSION AND DISTRIBUTION CONCERNS</b>			
<b>1. Transmission access</b> ✓ Access to network not provided	<ul style="list-style-type: none"> <li>Developer</li> </ul>	<ul style="list-style-type: none"> <li>Developer is responsible for negotiating interconnection agreement with transmission provider.</li> </ul>	<ul style="list-style-type: none"> <li>Specification of delivery point at Buyer's facility.</li> </ul>
<b>2. Transmission investment</b> ✓ Cost of connecting generator to buyer's facility requires further investment in the transmission	<ul style="list-style-type: none"> <li>Developer</li> </ul>	<ul style="list-style-type: none"> <li>Developer responsible for arranging transmission up to point of delivery, assured through technical studies.</li> </ul>	<ul style="list-style-type: none"> <li>Buyer agreement termination rights for cost going up or delay</li> <li>Liquidated damages</li> </ul>
<b>3. Transmission constraints</b> ✓ Curtailment/ suspension/ non availability of transmission capacity by intervening SLDCs and/or RLDCs; ✓ Transmission Constraints impose cost on power deliver	<ul style="list-style-type: none"> <li>Developer</li> <li>Buyer</li> </ul>	<ul style="list-style-type: none"> <li>Developer responsible for arranging firm transmission rights to delivery point and buyer's responsibility beyond delivery point.</li> </ul>	<ul style="list-style-type: none"> <li>Specification of delivery point in contract.</li> <li>Suspension of contract terms in cases of transmission force majeure.</li> </ul>

# Cross-border projects: Developer's experience

## GMR's experience in Nepal: Key issues for development of Hydro power projects

- ❖ Bilateral Investment Promotion and Protection Agreement (BIPA) -
  - BIPA signed on 21<sup>st</sup> Oct'2011 between India and Nepal; applicable on Hydro power projects to be developed by Indian IPP in Nepal.
  - The statutory and legal provisions of BIPA needs to be strengthened both GoI & GoN to reinforce the investment in capital intensive Hydro projects.
  
- ❖ Grid Synchronization
  - Currently, projects to the tune of 2500 MW [UKHEP- 900MW, UMS-2 HEP- 600MW & Arun-3 HEP- 900MW] are under development. Modalities of power evacuation and grid synchronization need to be worked out.
  - Regulatory authorities / concerned government entities need to sort out technical issues through regular meetings at appropriate level and periodicity.
  
- ❖ Regulatory certainty and consistency
  - Enforceability of PDA under Hydropower Policy of Nepal and ICB process to attract foreign investments.
  - Both GoI and GoN need undertake focused group discussions to device regulatory provisions on modalities of cross border electricity trade with India



# Cross-border projects: Developer's experience

## GMR's experience in Nepal: Key issues for development of Hydro power projects

- ❖ Power Sale Mechanism in India -
  - Major share of hydro power from such projects to be sold under long term PPA
  - To encourage import of hydro power, benefits such as duty waivers etc. should be provided for the entire life of Project.
- ❖ Project Development Agreement
  - PDA execution delayed substantially.
  - Needs to further take up this issue with GoN for early implementation of PDA.
- ❖ Transmission line access and infrastructure work
  - Power evacuation arrangements to be in line with the Hydropower generation capacity under development.
  - Currently D-M (Dhalkebar in Nepal and Muzaffarpur in India) transmission line under development may not be sufficient for projects under development.
  - CEA/PGCIL and NEA need to work in close coordination for development of new cross border transmission lines & associated equipment for further consumption of power into the Indian grid

# THANK YOU