

Role of Policies, Regulations and Laws to Promote  
Investment in the South Asian Power Sector– Bhutan

**South Asia Investor Workshop on “Cross-Border  
Electricity Trade”**

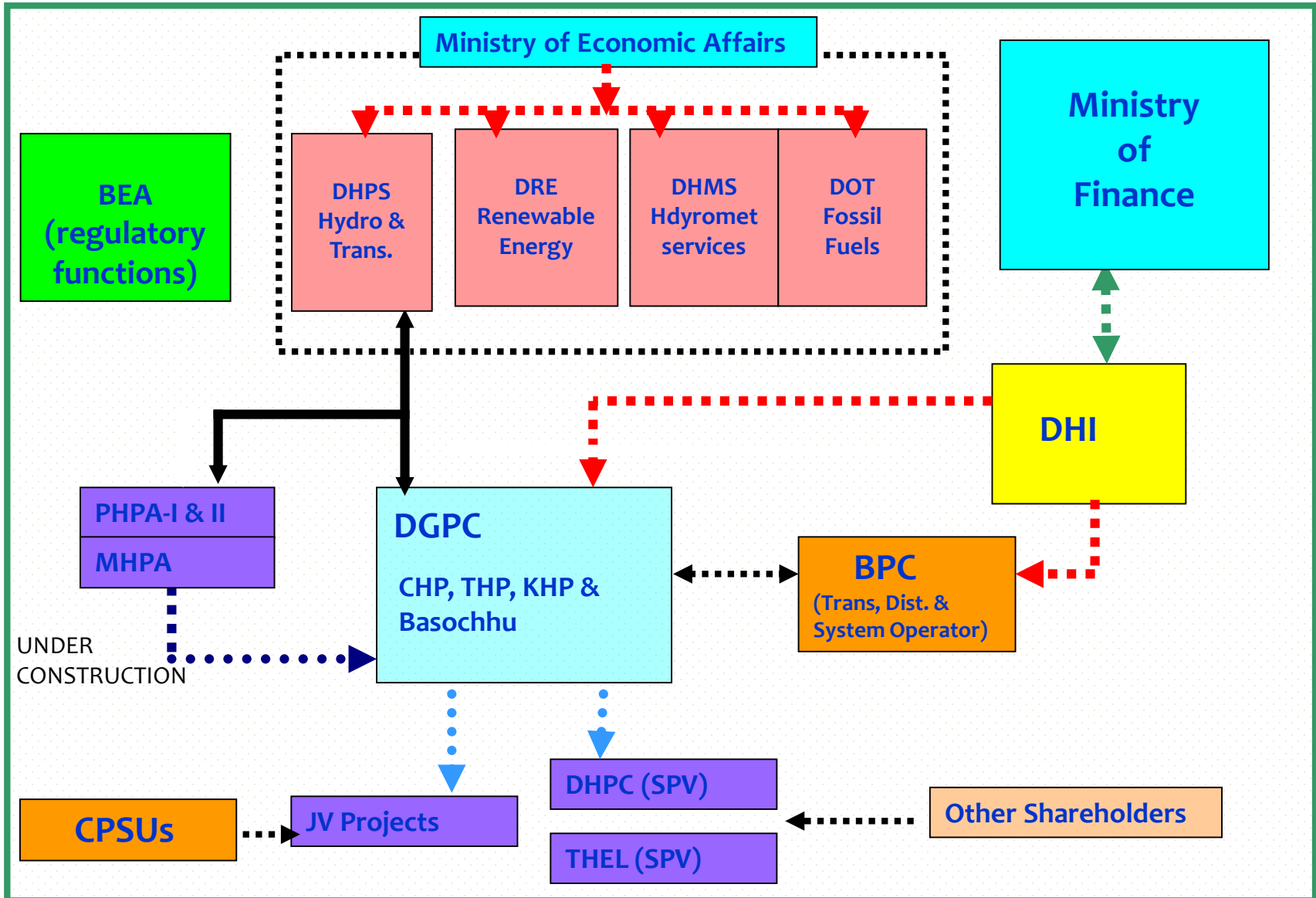
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# Overview

- Power Sector Structure
- Policy & Regulatory - Overview
- Policy, Act and Regulatory – Key Provisions
- SHDP – Salient Features
- Conclusion

# Energy Sector Structure



# Bhutan – Policy and Regulatory Framework

	Generation	Transmission	Distribution	System Operator	Electricity Trade
Enabling Act/Policy	EAB 2001/ SHDP 2008	EAB 2001	EAB 2002	EAB 2003	EAB 2001/SHDP 2008
Regulations	-Dam safety Guidelines -Tariff det.	Grid Code	Distribution code	Grid Code	PPAs/BAs
Licensing / Nodal Authority	BEA / DHPS, MoEA	BEA / DHPS, MoEA	BEA / MoEA	BEA/MoEA	BEA / MoEA
Operational Entity	DGPC / SPVs	BPC	BPC	NLDC (BPC)	DGPC / SPVs

# Policy, Act & Regulatory – Key Provisions

SN	Ingredients for CBET	Relevant Provisions of Act/Reg/Policy	Remarks
1	Trading and Generating License	<ul style="list-style-type: none"> <li>• EA 18 – Duty to obtain a license</li> <li>• EA 22.1 ( vi) – Trading is covered as a distinct license activity</li> <li>• <b><i>Deemed Trading License for Generating Licensee</i></b></li> <li>• Exemptions &lt; 500 kW</li> <li>• <b><i>EA 40 – Bulk Supplier (wholesale supply incl EXIM)</i></b></li> </ul>	Not envisaged except establishment of power consolidator - enabling environment for trading small and other renewable energy generators
2	Open Access of Transmission Network	<ul style="list-style-type: none"> <li>• Implicit provisions under transmission &amp; distribution license; BEA's function – EAB 11.2 “<i>ensure non-discriminatory access to the transmission and distribution system</i>”. Provided in the Grid code as well.</li> </ul>	Reform exercise to be undertaken - Unbundling transmission and distribution utility; element of subsidy targets
3	Open access of Distribution Network	<ul style="list-style-type: none"> <li>• SHDP – Developer’s mandate upto National Grid</li> </ul>	

# Policy, Act & Regulatory – Key Provisions

SN	Ingredients for CBET	Relevant Provisions of Act/Regulations/Policies	Remarks
4	Coordinated System Operation and Treatment of System Imbalances	<ul style="list-style-type: none"> <li>• EA 39 – System Operator (coordinate power system balance, dispatching, transmission outages, monitor EXIM electricity)</li> <li>• Grid code ( grid code is based on non-commercial regulatory mechanism to regulate the grid discipline)</li> <li>• UI exempted for bilateral projects</li> </ul>	<ul style="list-style-type: none"> <li>• Grid discipline and reduce incentive for gaming</li> <li>• No provisions for settling imbalances from scheduled CBET.</li> <li>• India’s ancillary Mkt. concepts (UI)</li> <li>• Medium term – Protocol necessary</li> <li>• Long Term - Regional grid code for coordinated system operation incl. a regionally coherent commercial mechanism for system imbalances</li> </ul>
5	Transmission Planning	<ul style="list-style-type: none"> <li>• Ministry’s mandate</li> <li>• National Transmission Master Plan &amp; Power System Master Plan</li> </ul>	<ul style="list-style-type: none"> <li>• Integrated planning (collaboration with CEA)</li> <li>• Regional Grid MP</li> </ul>

# Policy, Act & Regulatory – Key Provisions

SN	Ingredients for CBET	Relevant Provisions of Act/Regulations/Policies	Remarks
6	Energy Accounting, Clearing and Settlement	<ul style="list-style-type: none"> <li>PPAs for bilateral electricity trade</li> <li>Net-off basis (Surplus based export)</li> </ul>	<ul style="list-style-type: none"> <li>Back to Back tie ups</li> <li>POC charges &amp; other transit fees</li> <li>Deemed Export Concepts/composite energy accounting and settlement.</li> </ul>
7	Policy for Regional Electricity Trade	<ul style="list-style-type: none"> <li>Umbrella Agreement 2006 (Bilateral)</li> <li>Protocol to the 2006 Agreement</li> <li>Support regional initiative</li> </ul>	<ul style="list-style-type: none"> <li>Inter-governmental framework for Regional energy cooperation</li> </ul>
8	Import Duty, Export Tax and Transit Tax	No duty, export tax or transit tax on bilateral electricity trade	Covered under regional framework cooperation
9	Dispute Resolution	<ul style="list-style-type: none"> <li>EA does not mandate BEA to look at dispute resolution of cross border power trade</li> <li>Bilateral resolution</li> </ul>	<ul style="list-style-type: none"> <li>Regional Resolution (Regulatory framework/Agreement required among regulators)</li> <li>International arbitration – increasingly becoming relevant and necessity</li> </ul>

# Policy, Act & Regulatory – Key Provisions

10	Tariff Determination	<ul style="list-style-type: none"><li>EA 11.1 (b) – Tariff setting including tariff for generation not regulated by PPA</li></ul>	<ul style="list-style-type: none"><li>Not mandated to regulate tariff for power export/import through power exchange but if power procured through exchange is to be sold to the internal customers by the Licensees, BEA will required to regulate the prices as per Section 11.1(b).</li><li>CBET to be limited to wholesale regime</li><li>Clarity required on roles and responsibilities of regulators of individual country relating to price determination and approval of power sold through the short term mkts.</li></ul>
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# SUSTAINABLE HYDROPOWER DEVELOPMENT POLICY 2008

- ✓ Investment model and period – BOOT & 30 years ( Above 25 MW HEPs), reversion of the same to RGoB at nil cost at end of concession period but in good running conditions.
- ✓ Project Ownership – Public-Public, Public-Private, IPP, Strategic Partnership
- ✓ Certified Emission Reduction (CER) or any other credits will be the property of the Project Proponents. (Dagachhu 1<sup>st</sup> transboundary CDM project. Puna-I registered as largest transboundary CDM project – 4.2 million CERs annually!)
- ✓ Social consideration –
  - ❖ Land acquisition as per Land Act (land compensation in cash/substitution)
  - ❖ 10,000 Units per acre per year (Perpetual & met from Royalty Energy)
  - ❖ 1% of project cost for R&R
  - ❖ Basic infrastructure as part of project (local area development)
  - ❖ Employment (1 member of PAFs)
  - ❖ >75% of employees to be Bhutanese nationals during O&M

## Conclusion:

- Existing regulatory and policy framework is amenable to cross border trade (Bhutan-India).
- Institutional restructuring – Transmission, Distribution, System Operator & Trading Utilities
- Amendment of Policy, Regulation and Act underway (cautiously but surely!)
- The critical step towards enabling exchange of power in the region is the establishment of bilateral grid connectivity between member nations - Initiatives underway between India and neighboring countries.
- Harmonization of legal & regulatory framework for seamless cross-border trade of electricity in the long-run - SARIEI's input to compliment the sub-regional/regional initiative.
- Need for strong political commitments of the member states to implement the recommendations of the studies in a time bound manner (bilateral to multilateral approach)
  - Inter-govt framework for regional energy cooperation