



SAARC Dissemination Workshop on the Study for Development of Potential Regional Hydro Power Plant in South Asia



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Country Profile



- ☐ **The Country** : **The People's Republic of Bangladesh**
- ☐ **Capital** : **Dhaka**
- ☐ **Area** : **147,570 Sq. Km.**
- ☐ **Population** : **152 Million**
- ☐ **Per Capita Income** : **US\$ 1314**
- ☐ **GDP Growth Rate** : **Around 7%**



ENERGY SCENARIO IN BANGLADESH



Present Structure of Power Sector



Apex Institution

Power Division, Ministry of Power, Energy & Mineral Resources (MPEMR)

Regulator

- ☐ Bangladesh Energy Regulatory Commission (BERC)
- ☐ Sustainable & Renewable Energy Development Authority (SREDA)

Licensing Authority

- ☐ Office of the Electrical Adviser & Chief Electric Inspector

Generation

- ☐ Bangladesh Power Development Board (BPDB)
- ☐ Ashuganj Power Station Company Ltd. (APSCL)
- ☐ Electricity Generation Company of Bangladesh (EGCB)
- ☐ Rural Power Company Ltd. (RPCL)
- ☐ North West Power Generation Company Ltd. (NWPGL)



Present Structure of Power Sector



Generation (contd.)

- ☐ Coal Power Generation Company Bangladesh Ltd.
- ☐ Bangladesh India Friendship Power Company Ltd.
- ☐ Independent Power Producers (IPPs)

Transmission

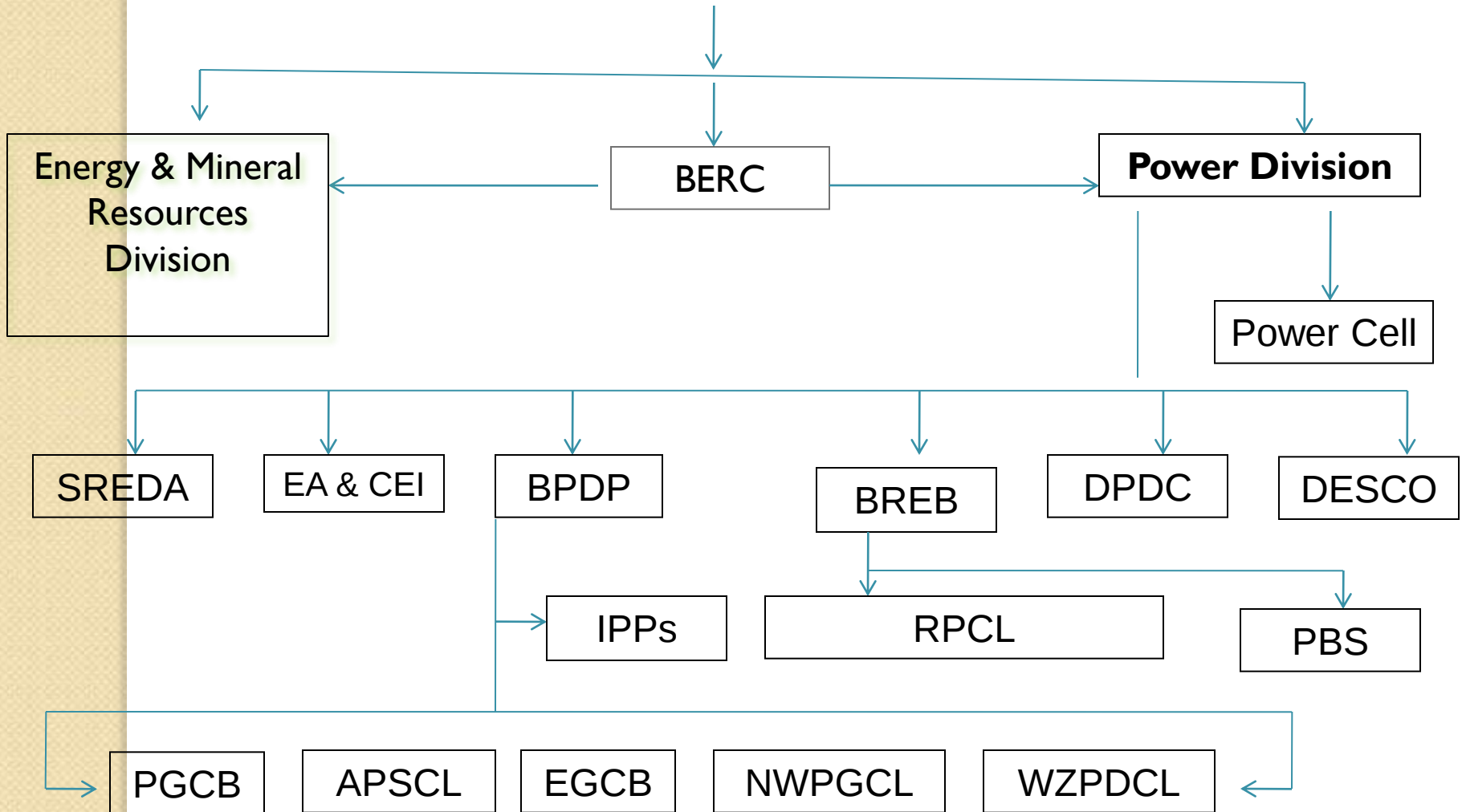
- ☐ Power Grid Company of Bangladesh Ltd. (PGCB)

Distribution

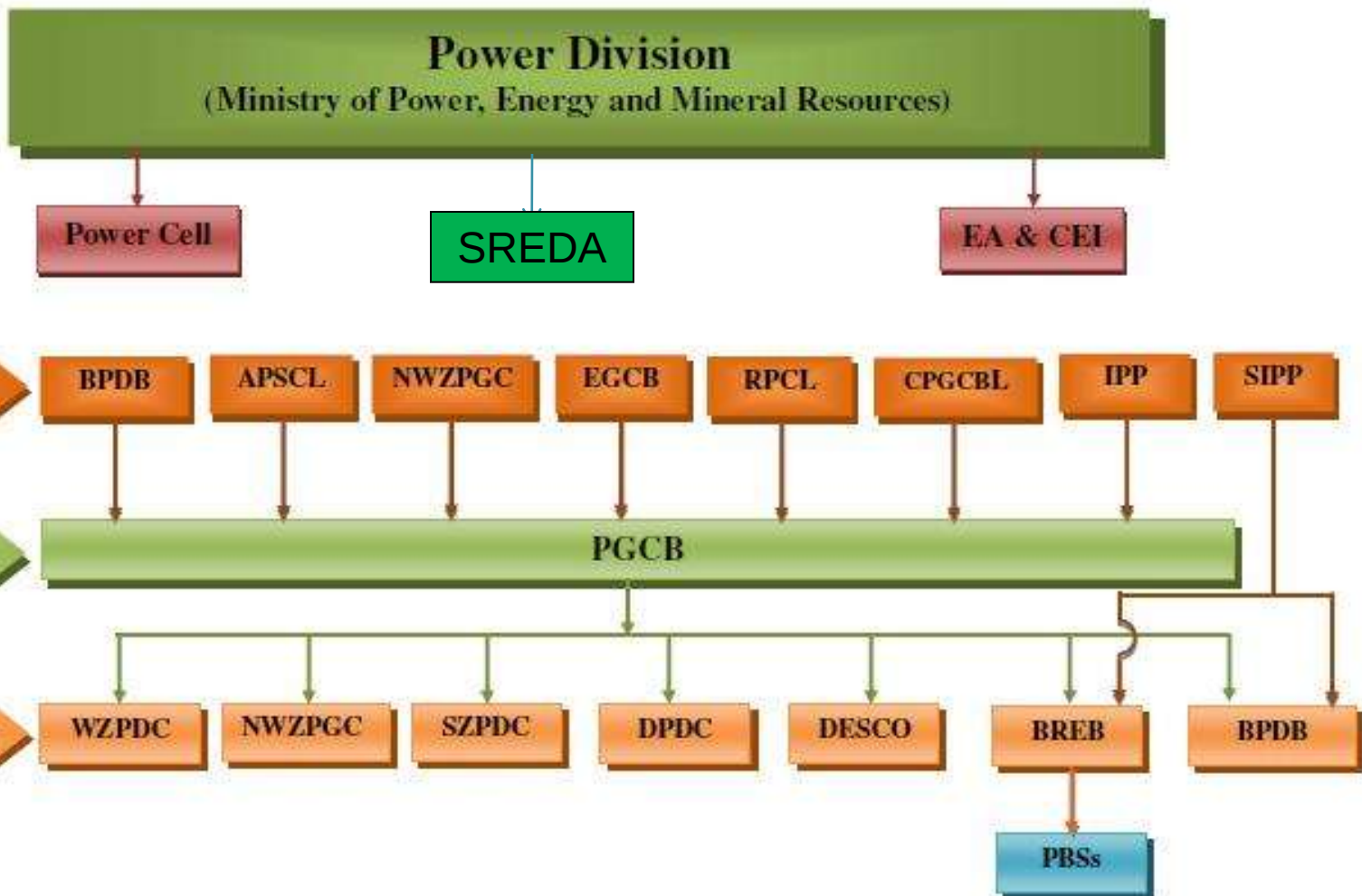
- ☐ Bangladesh Power Development Board (BPDB)
- ☐ Dhaka Power Distribution Company (DPDC)
- ☐ Dhaka Electric Supply Company Ltd (DESCO)
- ☐ West Zone Power Distribution Company (WZPDC)
- ☐ Bangladesh Rural Electrification Board (BREB) through Rural Co-operatives

Structure

Ministry of Power, Energy and Mineral Resources



Structure





Bangladesh Power Sector: At a Glance

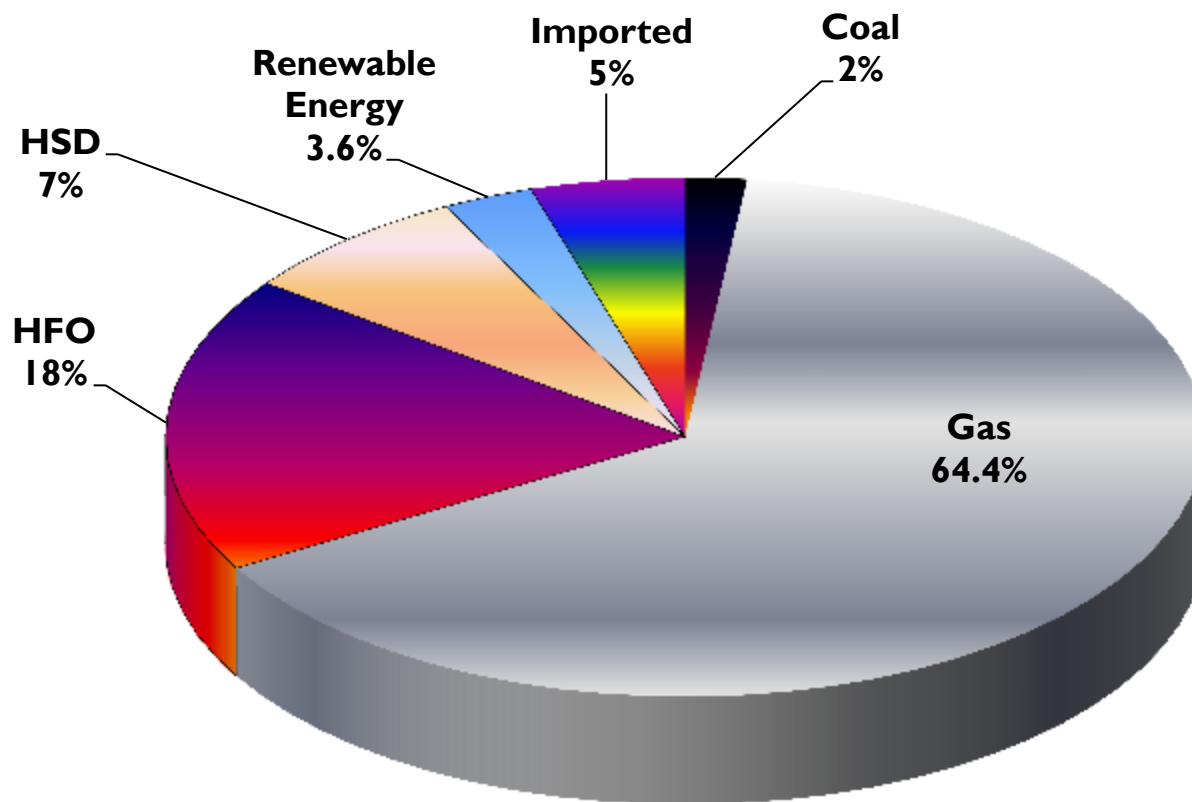


❑ Installed Generation Capacity	: 12,339 MW
❑ Import from India	: 600 MW
❑ Present Avg. Generation	: 7,000 MW
❑ Max. Generation	: 8,348 MW
❑ Total Consumer	: 20.04 Million
❑ Transmission Line	: 9,789 km
❑ Distribution Line	: 3,72,000 km
❑ Per Capita Generation	: 371 kWh/annum
❑ Access to Electricity	: 76%
❑ Share of Public Generation	: 54%
❑ Share of Private Generation	: 42%
❑ Import	: 4%

Fuel Mix



Electricity Generation by Fuel Type





RENEWABLE ENERGY PROGRAM IN BANGLADESH



Renewable Energy Target



Bangladesh adopted a Renewable Energy Policy in the year 2009

Target of Renewable Energy Policy

- **10% (2000 MW) of total electricity generation will be from RE by 2020**
- **10% (4000 MW) of total electricity generation from RE by 2030**



Installed RE Capacity



Type	MW	Percentage
Solar	192	45%
Wind	2	0.50%
Biomass to electricity	1	0.50%
Biogas	5	1%
Hydro	230	53%
Total	430	100%



Ongoing Activities on RE



- Solar Home System
- Solar Irrigation
- Solar Mini Grid
- Solar Parks
- Solar Rooftops
- Solar Water Heating System
- Solar Pump for Drinking Water
- Biomass & Biogas
- Municipal Waste to Energy



Year wise Target for RE Development



(Figure in MW)

Technology	2016	2017	2018	2019	2020	2021	Total
Solar	253	421.75	237	195	203	208	1739.8
Wind	20	250	350	350	200	200	1370
Biomass	16	6	6	6	6	6	47
Biogas (biogas to electricity)	1	1	1	1	1	1	7
Hydro (mini/micro)	2	2					4
Total	292	680.75	594	552	410	415	3167.8



Prospect of Hydro in Bangladesh



- Today, hydropower makes up the largest share of electricity generated from renewable energy
- The only hydroelectric power plant in Bangladesh was established at Kaptai with present installed capacity of 230 MW.



Prospect of Hydro in Bangladesh



- Bangladesh Power Development Board (BPDB) identified two other sites at Sangu (140 MW) and Matamuhuri (75 MW) for large hydropower plants.
- Further exploitation of hydropower appears to be limited due to flat terrain of Bangladesh. Several studies have identified a few sites having potential ranging from 10 kW to 5 MW.



Prospect of Hydro in Bangladesh



- A Study was carried out on

Prospective Hydroelectricity Generation
in Southeast Bangladesh in October 2014
- Types of Hydropower plants studied:
 - Run-of-River Type Plant
 - Impoundment Type Plant



Prospect of Hydro in Bangladesh



Summary of Study Run-of-River Type Plant

River	Maximum Power Output (MW)
Sangu	103
Matamuhuri	8
Bakkhali	1



Prospect of Hydro in Bangladesh



Summary of Study Impoundment Type Plant

River	Maximum Power Output (MW)
Sangu	58
Matamuhuri	21
Banshkhali Eco-park	0.05



Regional Co-operation



Regional Power Trade

- 500 MW electricity is being imported from Bahrampur, India through 400 KV double circuit line & HVDC sub-station and 100 MW from Palatana, Tripura
- Import of an additional 500 MW from India are under implementation;
- Discussion going on for import from Nepal
- Further dialogue going on for regional trade between Bangladesh-Nepal and Bangladesh-Bhutan



Bilateral Co-operation



Countries	Projects
Bangladesh-India	Rampal, Khulna : 1320 MW
JV with Singapore	Matarbari : 1200 MW
JV with Malaysia	Moheshkhali : 1200 MW
JV with China	Moheshkhali : 1200 MW
JV with Korea	Moheshkhali : 1200 MW

- ❖ Discussion is going on for hydro power projects between Bangladesh-India-Nepal and Bangladesh-India-Bhutan.

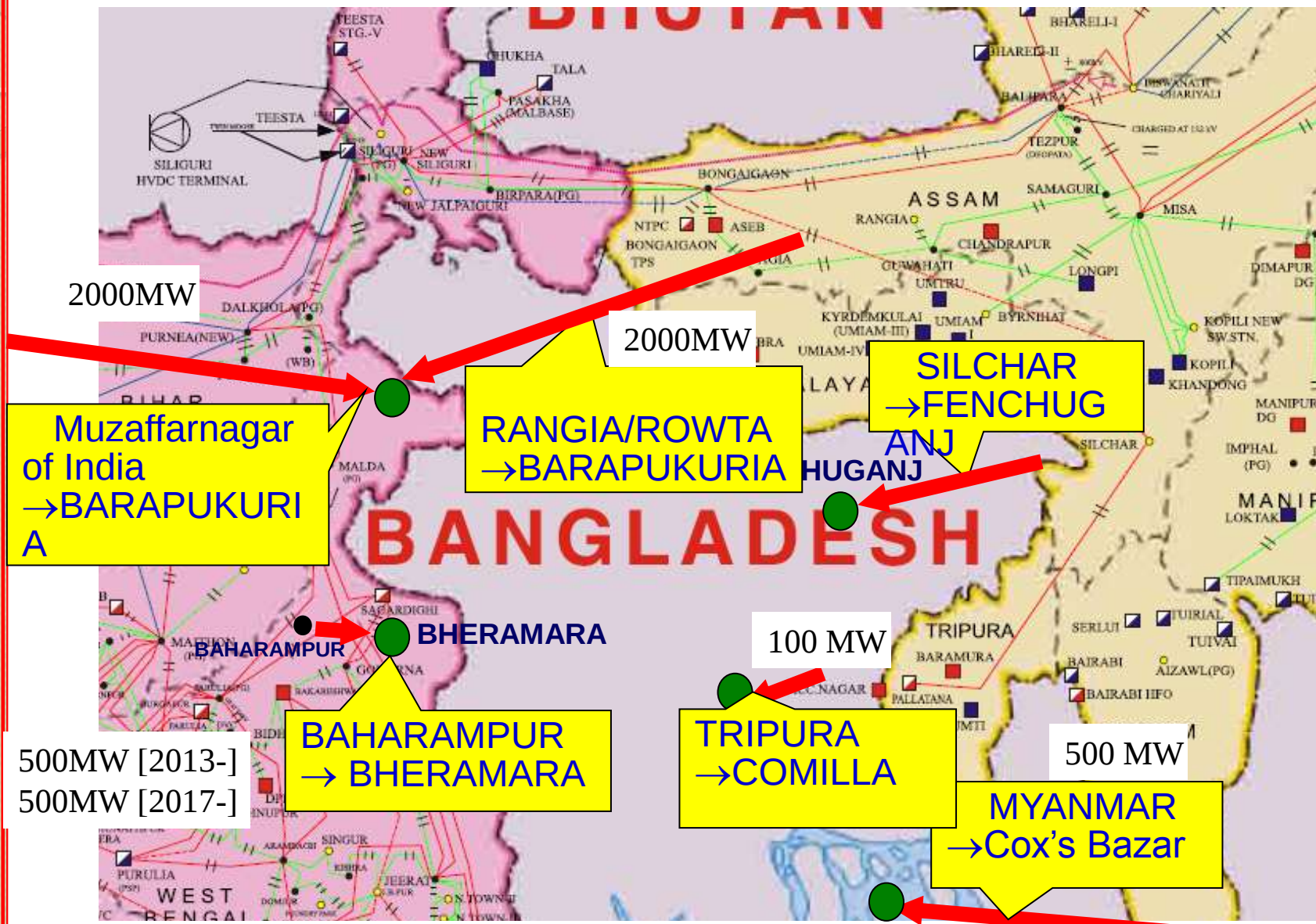


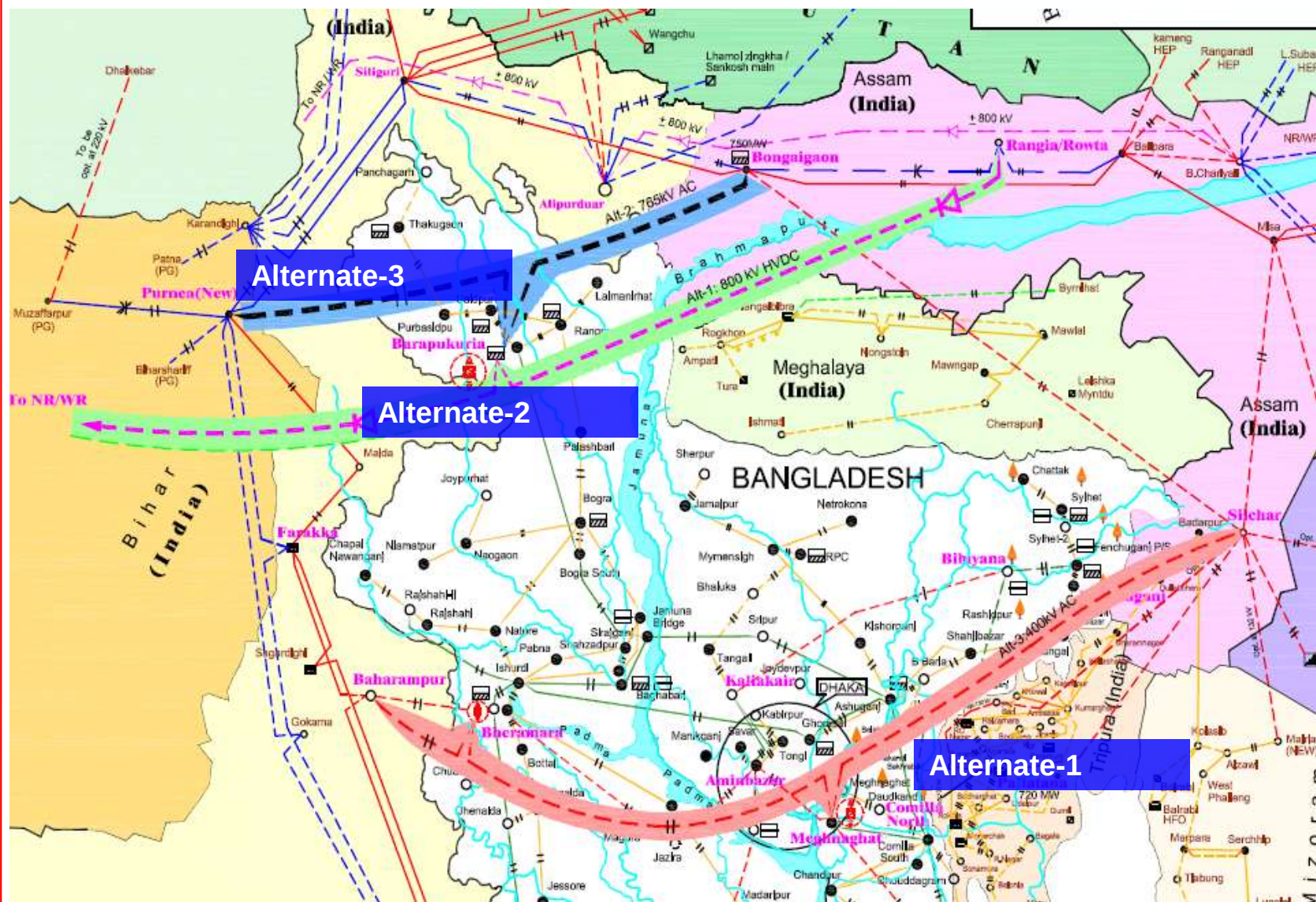
Possibilities: Bangladesh-India Grid Interconnections



- 765 KV Bongaigaon (NER/ India)-Jamalpur/Barapukuria (Bangladesh)-Purnea, Bihar (ER/ India)
- Establishment of 500/1000 MW HVDC back-to-back station (in phases) at Jamalpur/Barapukuria.
- Power from Bhutan through Bongaigaon and power from Nepal through Purnea can be tapped.
- Interconnection between Silchar (Assam, India) with Fenchugonj (Bangladesh)

Regional Power Exchange: Possibilities







Recommendations



- Development of a regional power grid
- Strengthening of bilateral initiatives among regional countries
- Power trading among the neighboring countries
- Joint investment in regional hydro power projects
- Sharing of views through regional workshops/seminars/visits



Thank You

