

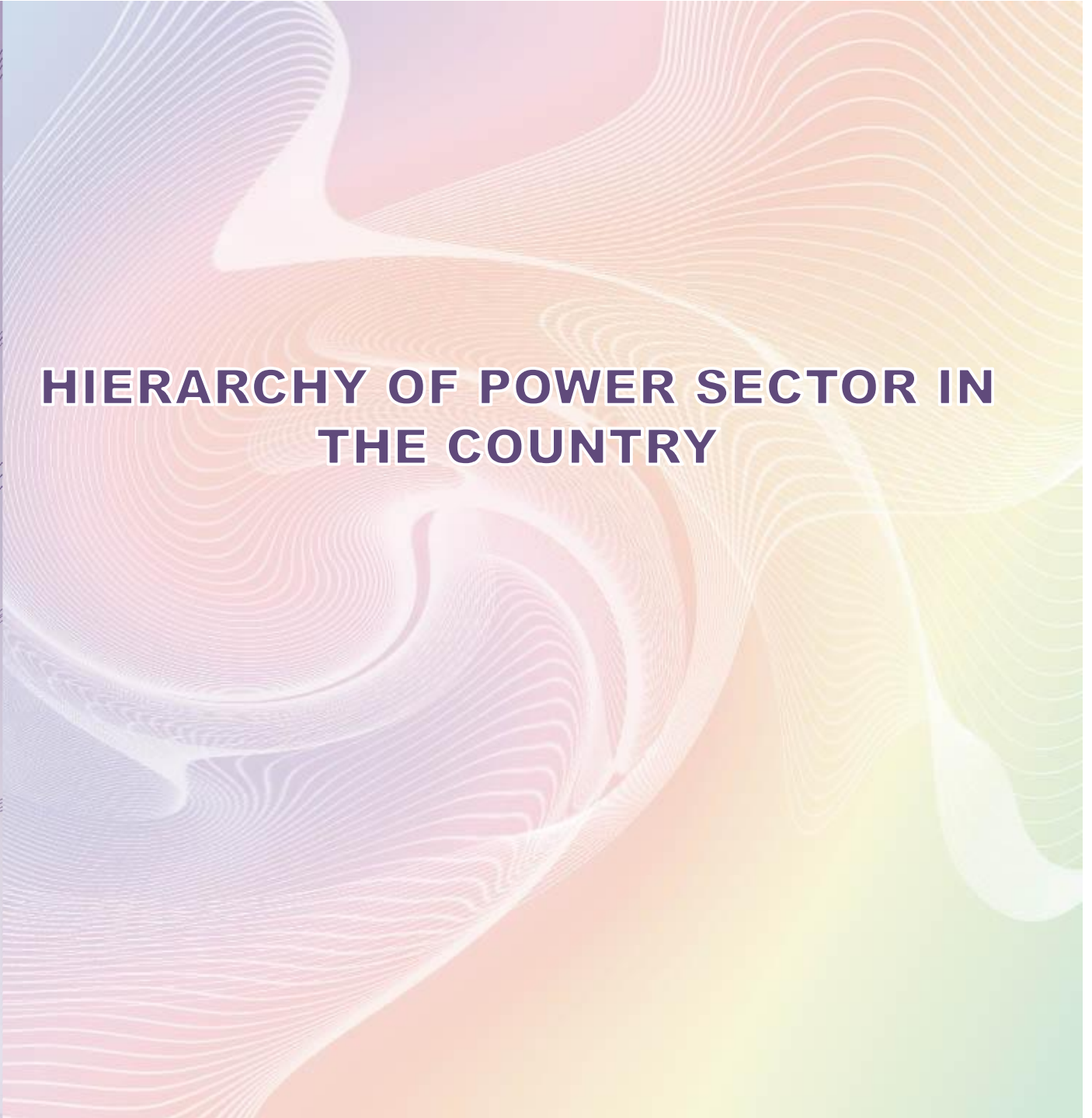


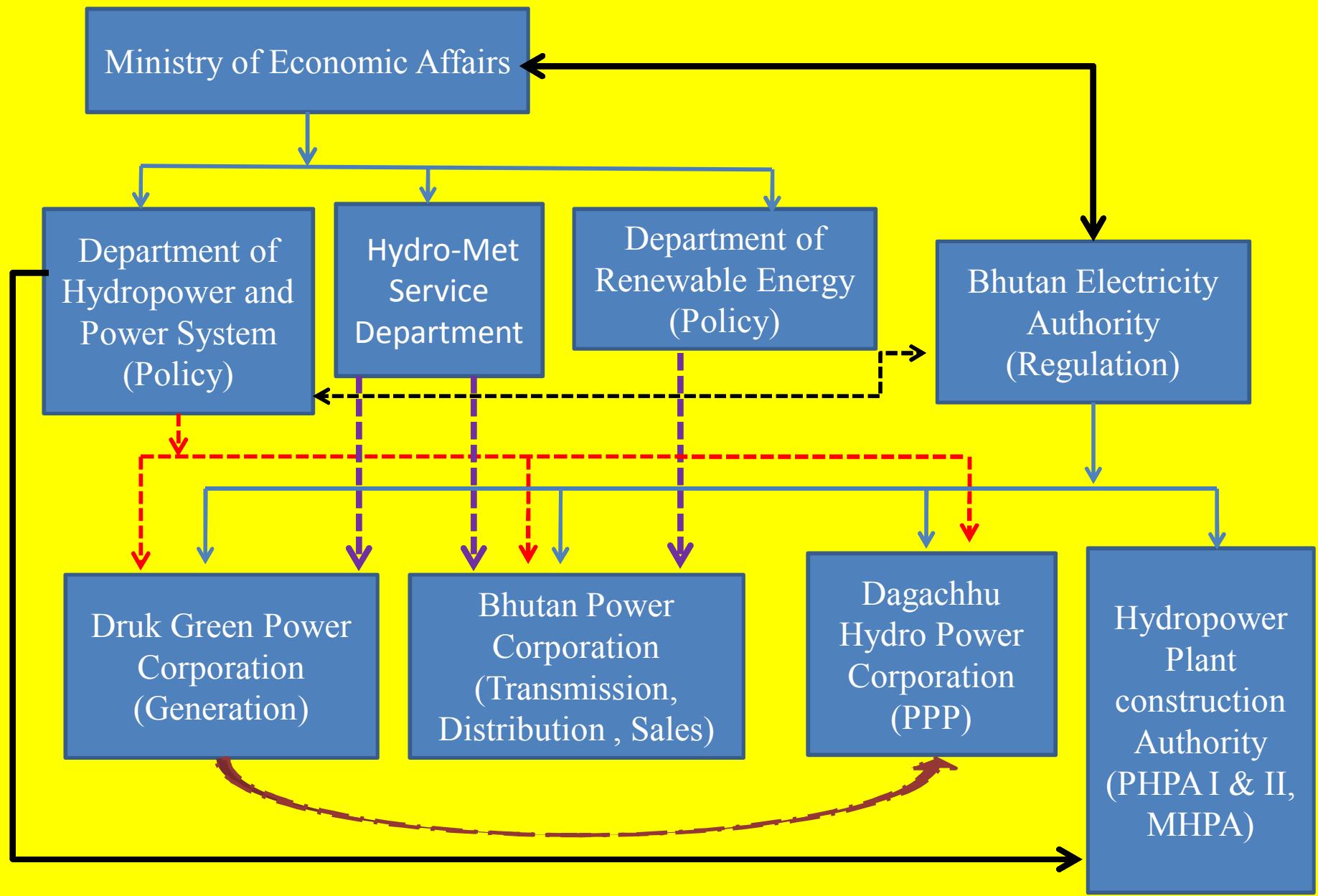
SARC CONFERENCE ON CROSS BORDER POWER TRADE AT KATMANDU.

1. HIERARCHY OF POWER SECTOR IN THE COUNTRY;
2. ACT, POLICIES AND REGULATIONS;
3. EXISTING HYDRO-POWER PLANTS;
4. PROJECTS UNDER CONSTRUCTION;
5. PROPOSED PROJECTS;
6. DEMAND & ENERGY CONSUMPTION SCENARIO;
7. SECTORWISE SHARE OF GDP AND TAX REVENUE;
8. TOP 9 REVENUE CONTRIBUTING COMPANIES;
9. INDO-BHUTAN INTERCONNECTIOS;
10. CROSS BORDER CONNECTION WITH NEPAL & BANGLADESH;
11. SAARC POWER GRID.



HIERARCHY OF POWER SECTOR IN THE COUNTRY





Act and Policies

ACT

- a) **Electricity Act of Bhutan 2001** (*became effective in July 2005 through executive order*)

POLICY

- a) **Sustainable Hydropower Development Policy 2008**
- b) **Economic Development Policy 2010**
- c) **Alternative Renewable Energy Policy 2013**

Electricity Act of Bhutan 2001

PURPOSE

- i) restructuring of the electricity supply industry;
- ii) establishment of the Bhutan Electricity Authority;
- iii) technical regulation of the electricity supply industry;
- iv) the private sector participation in the electricity supply industry

OBJECTIVES

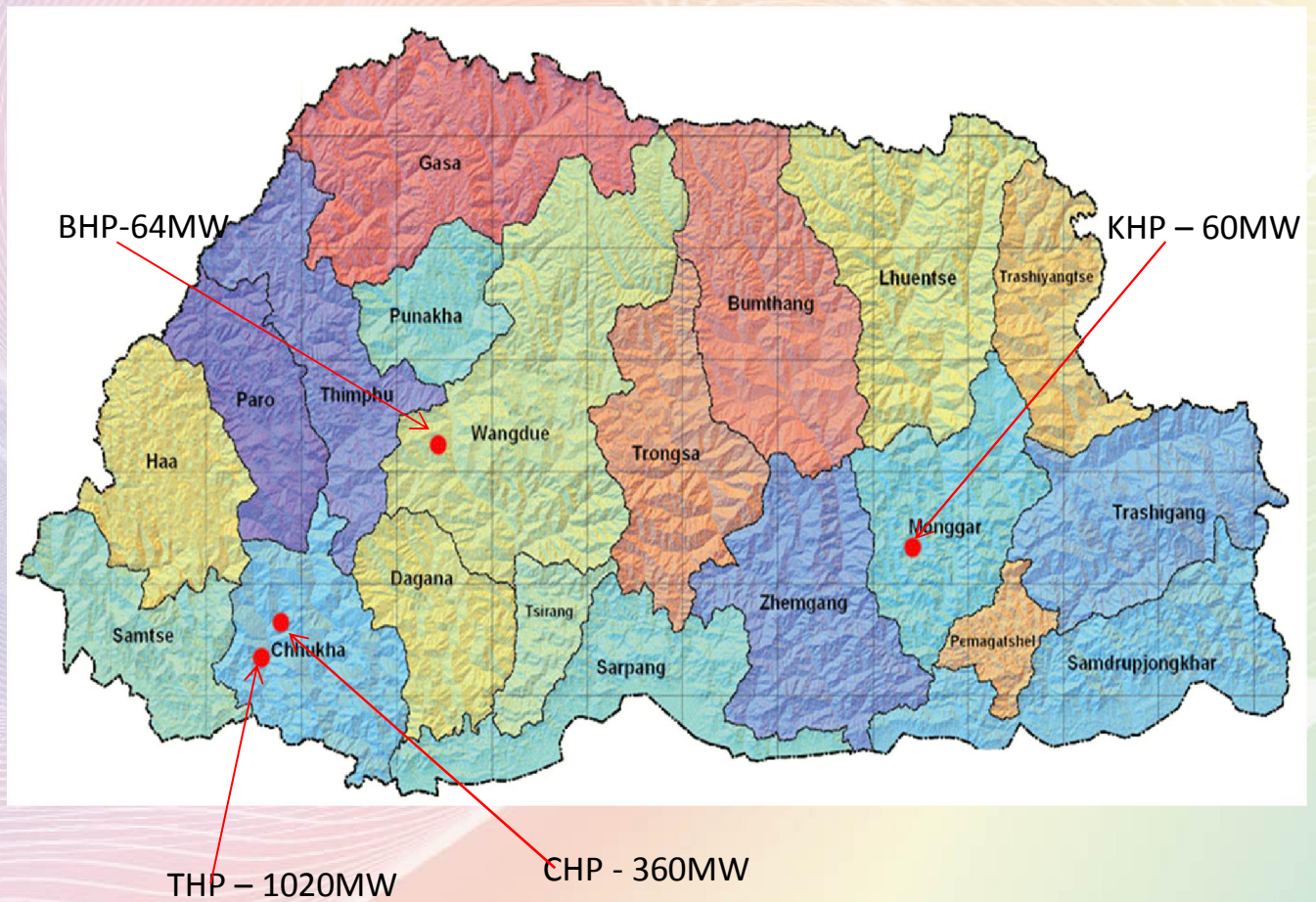
- i) promote a safe and reliable supply of electricity
- ii) enhance revenue generation through export
- iii) promote development of renewable energy
- iv) promote efficiency in management and service delivery



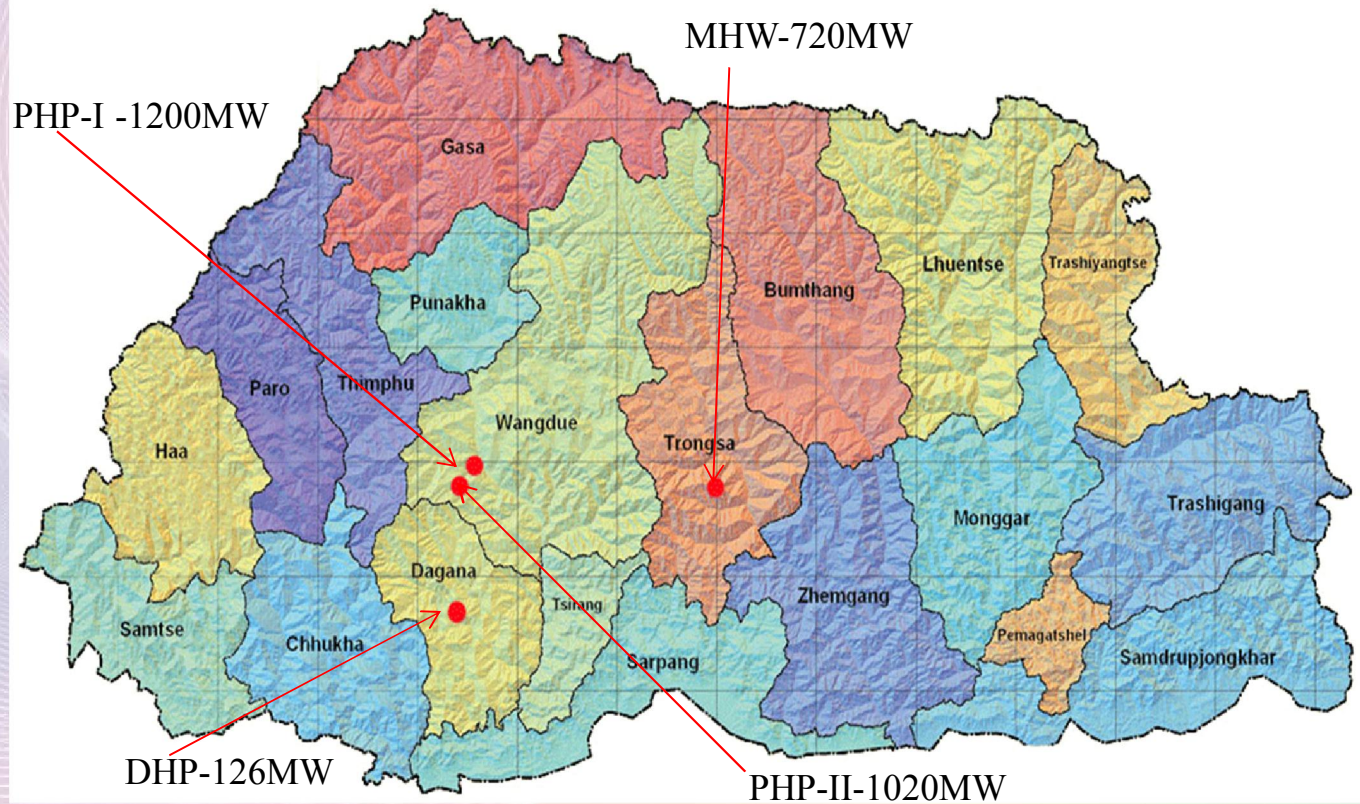
REGULATIONS

- 1. Grid Code Regulations 2008,**
- 2. Distribution Code 2008,**
- 3. Safety Code 2008,**
- 4. Safety Regulations 2008,**
- 5. Tariff Determination Regulation,**
- 6. Several license conditions.**

EXISTING HYDRO-POWER PLANTS



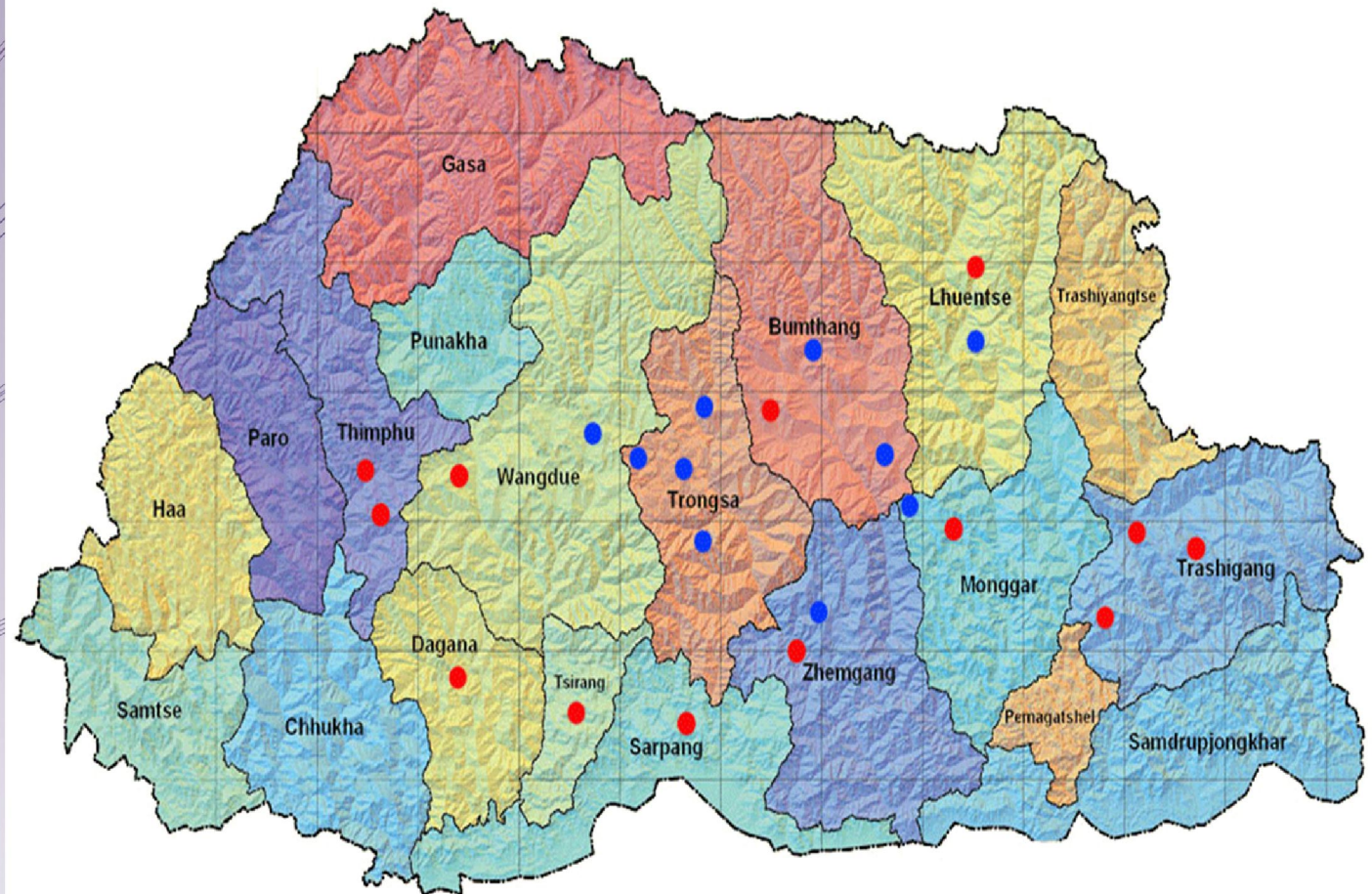
HYDRO-POWER PROJECTS UNDER CONSTRUCTION



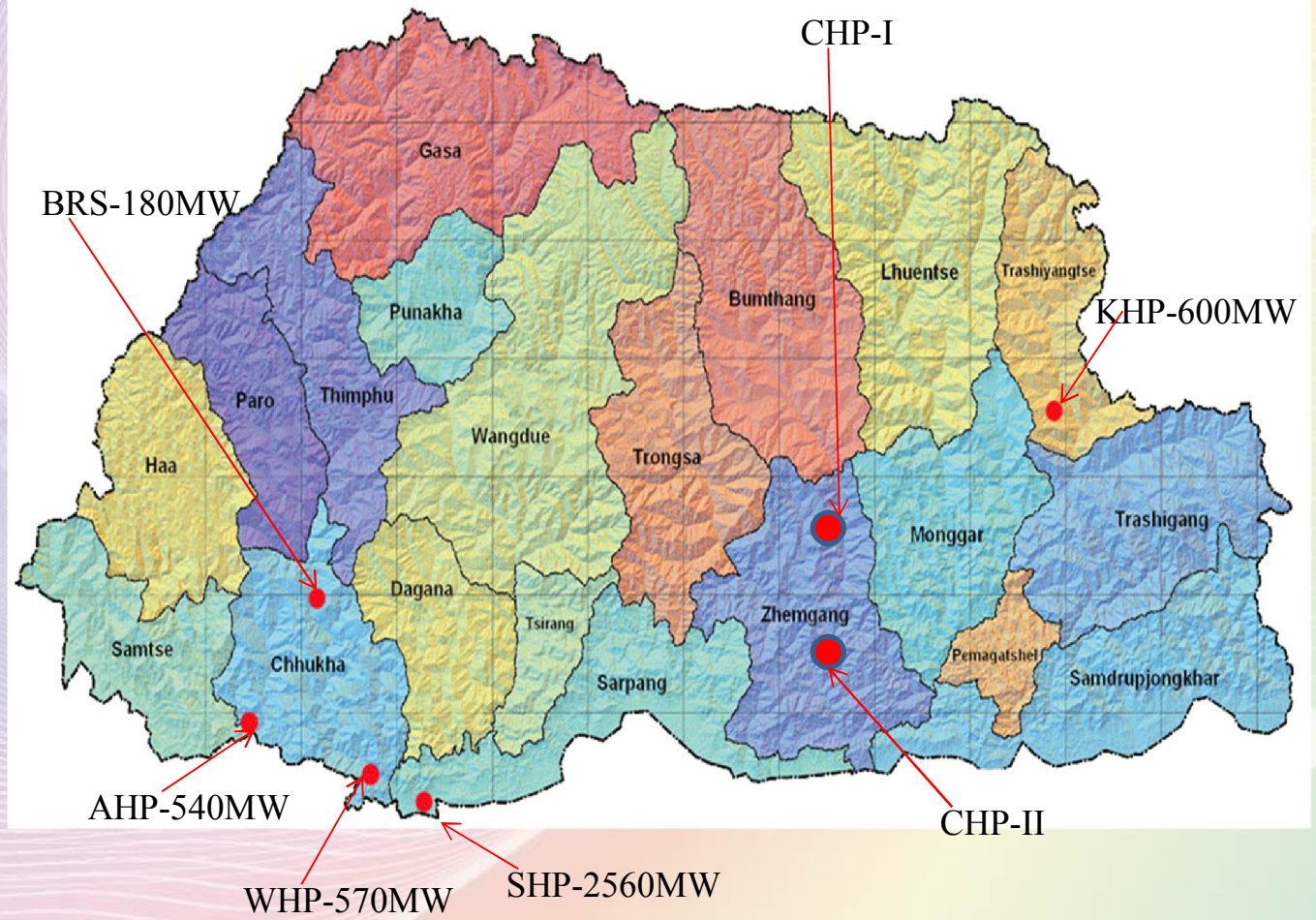
MINI & MICRO HYDRO-POWER PLANTS

● MINI – HP 13 Nos.

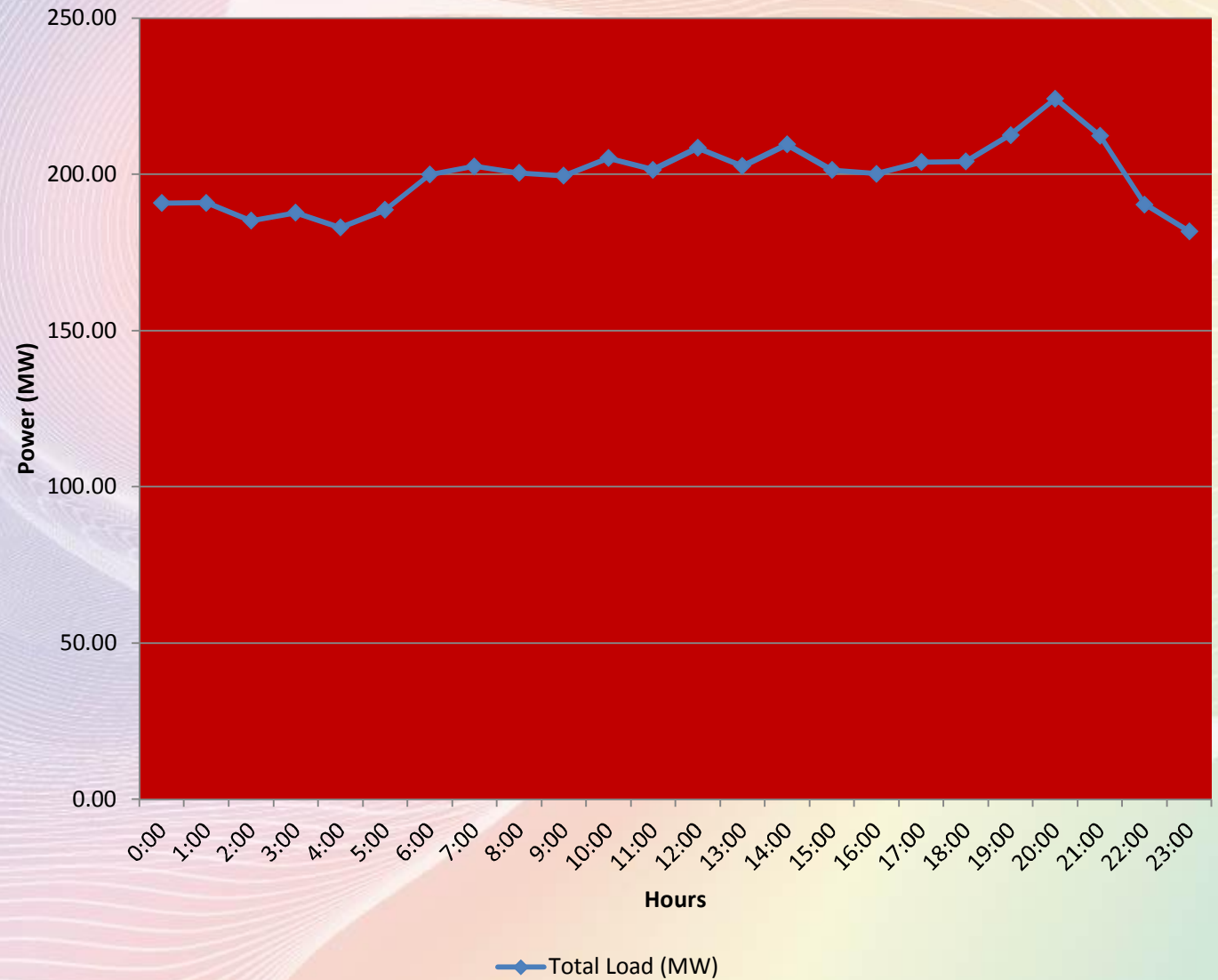
● MICRO-HP 10 Nos.



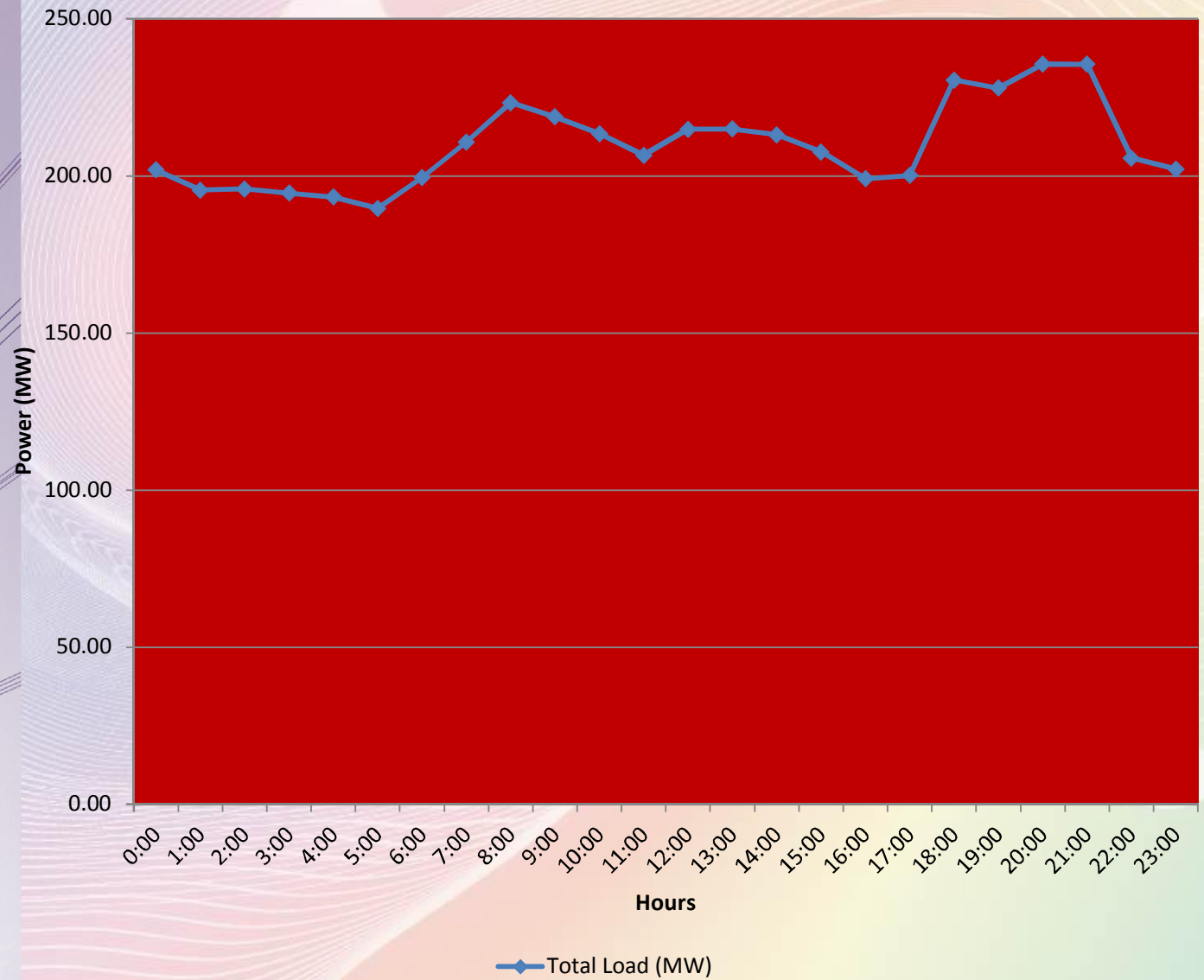
PROPOSED HYDRO-POWER PROJECTS



TYPICAL SEASONAL DAILY LOAD CURVE July

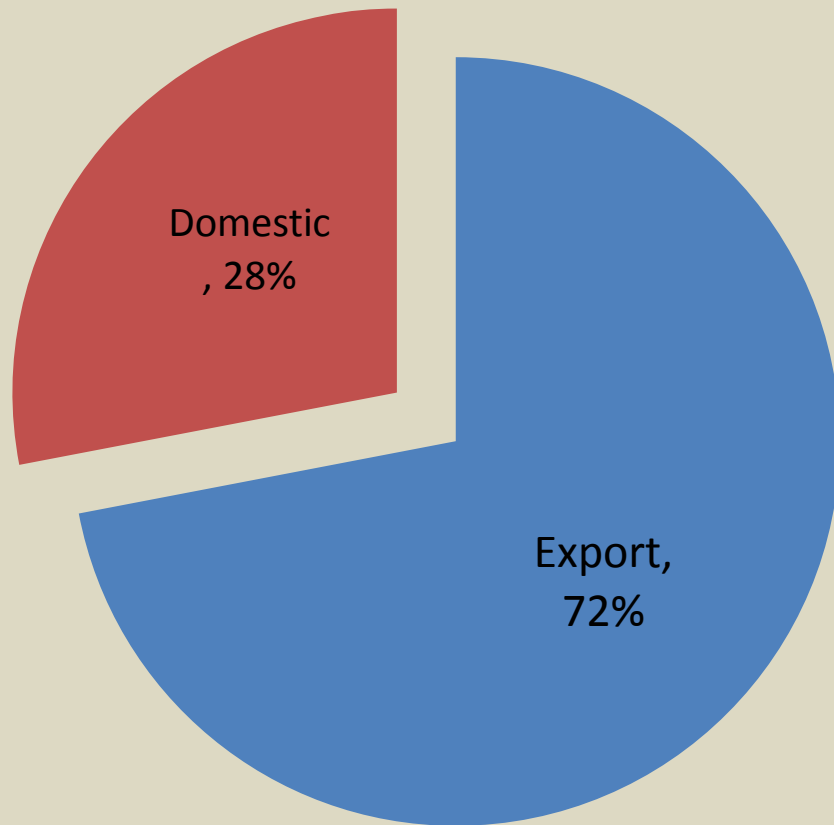


TYPICAL SEASONAL DAILY LOAD CURVE Jan

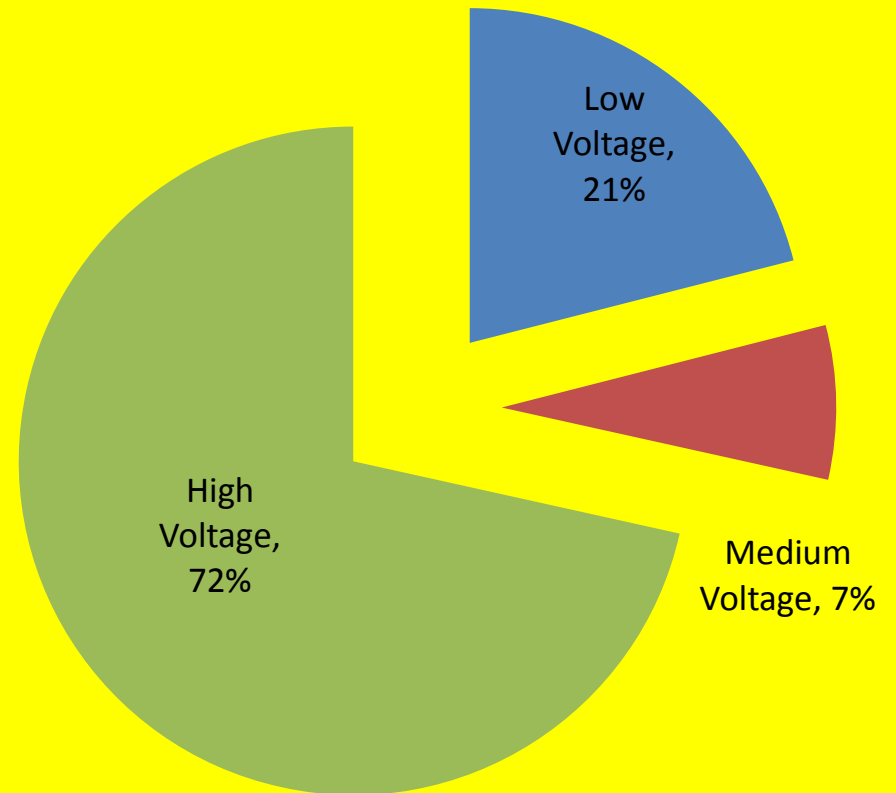


Domestic energy Consumption and Export

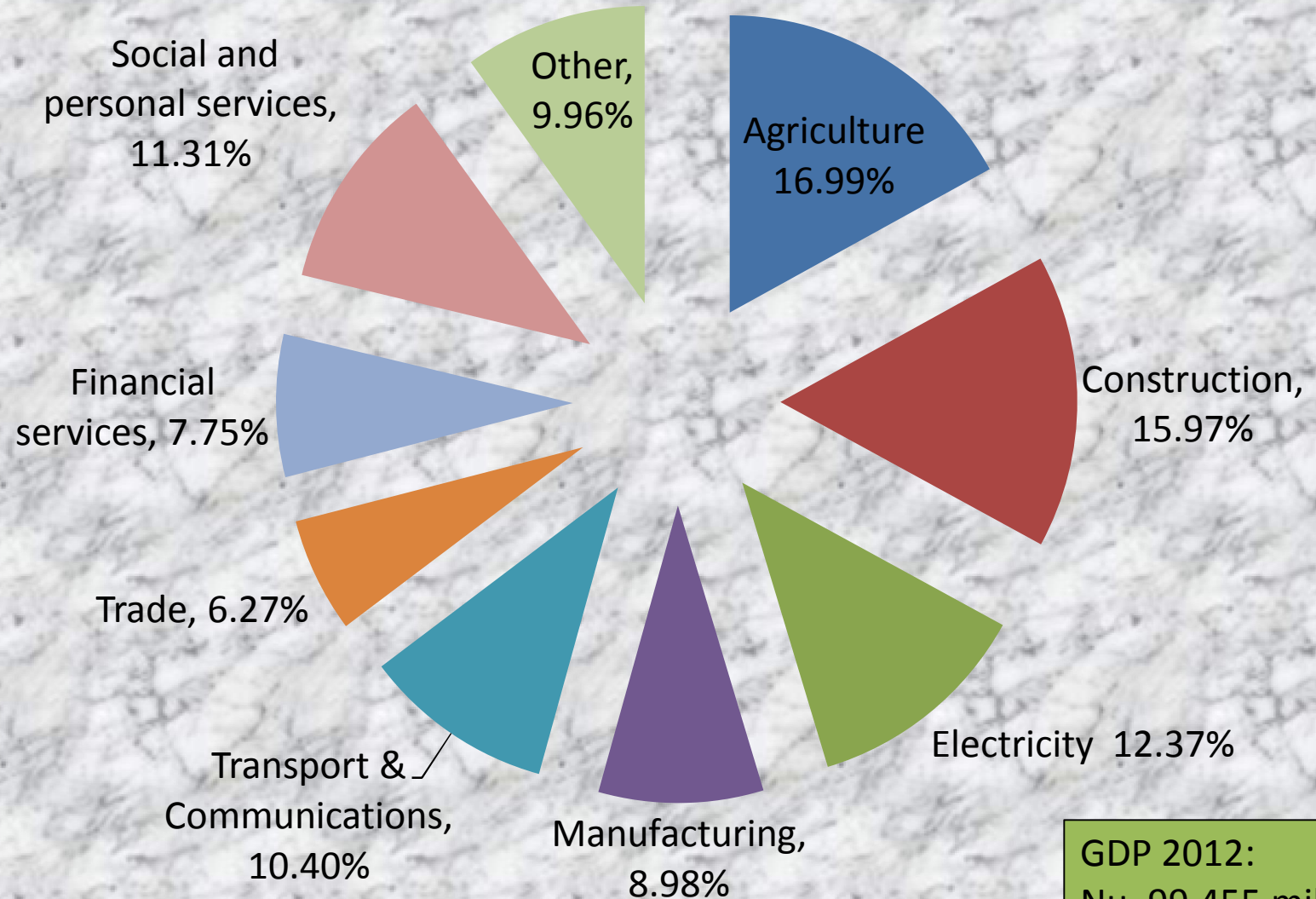
Domestic consumption vs Export



Consumption by voltage level

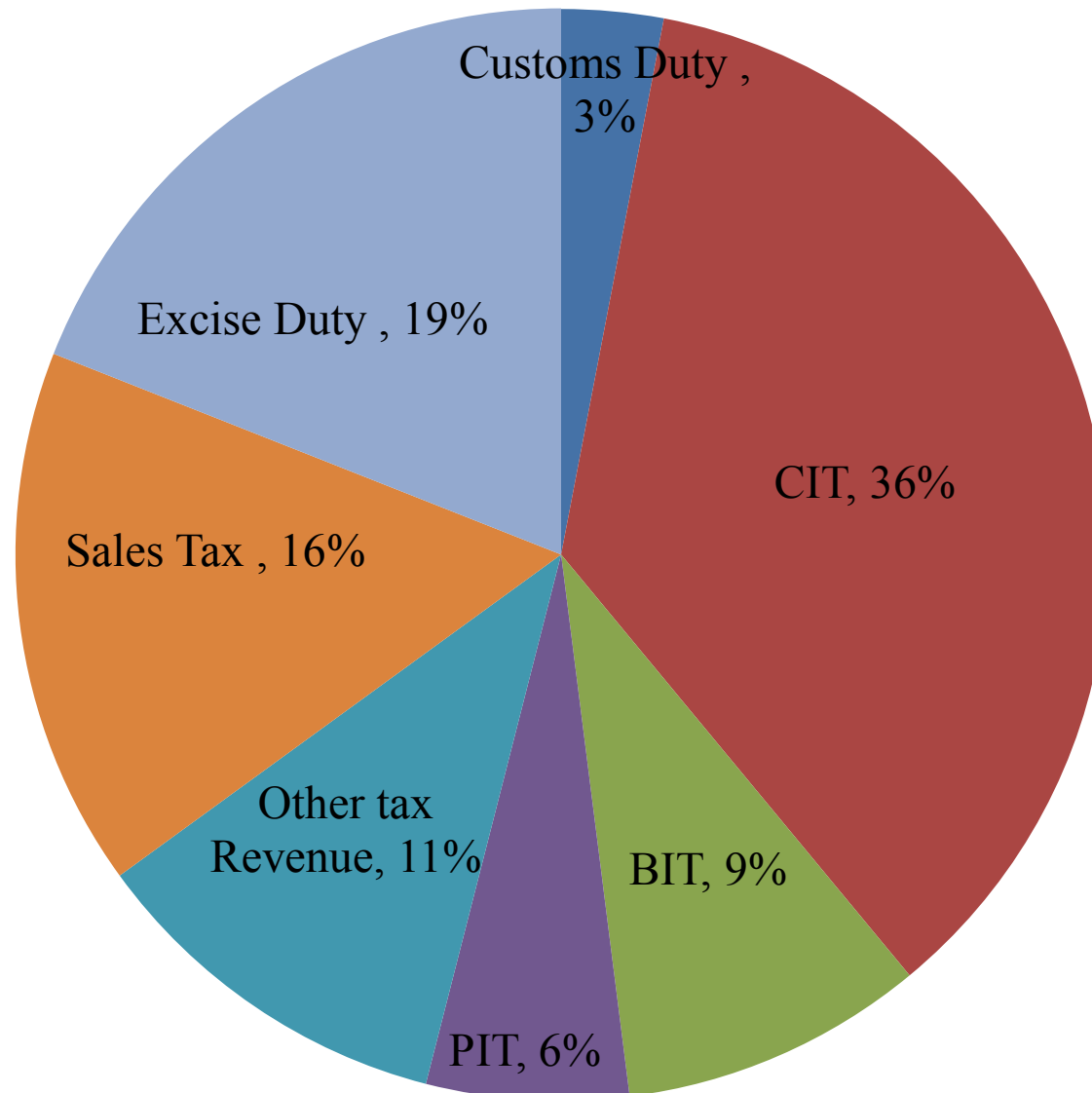


Percentage Share of GDP



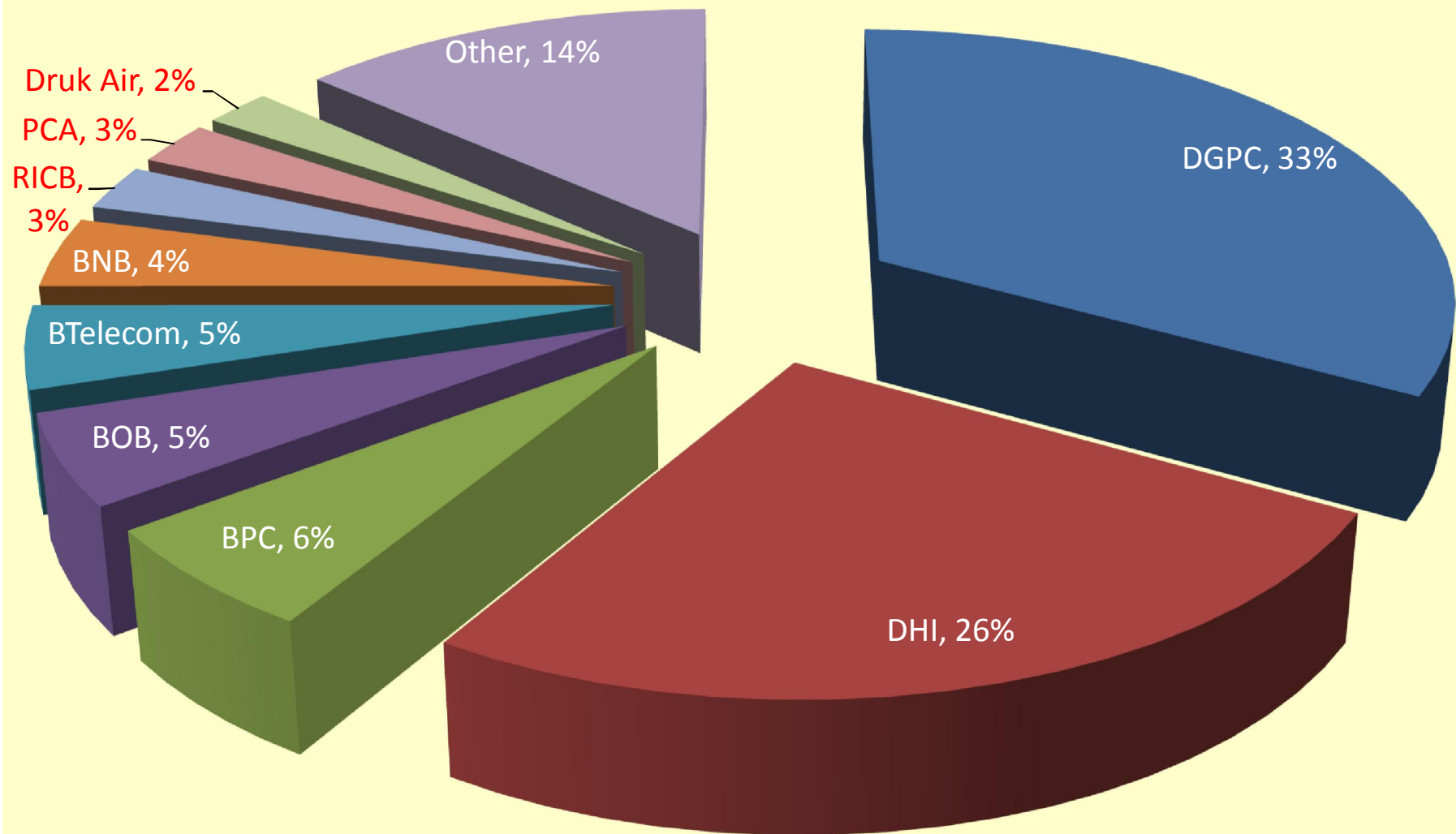
GDP 2012:
Nu. 99.455 mil

COMPOSITION OF TAX REVENUE



Source: National Revenue Report 2011-012

Top 9 revenue (CIT) contributing companies



Source: National Revenue Report 2011-012



GOVERNMENT SUBSIDIES

- To the LV & MV (up to 33kv) Customers,
- No cross subsidy,

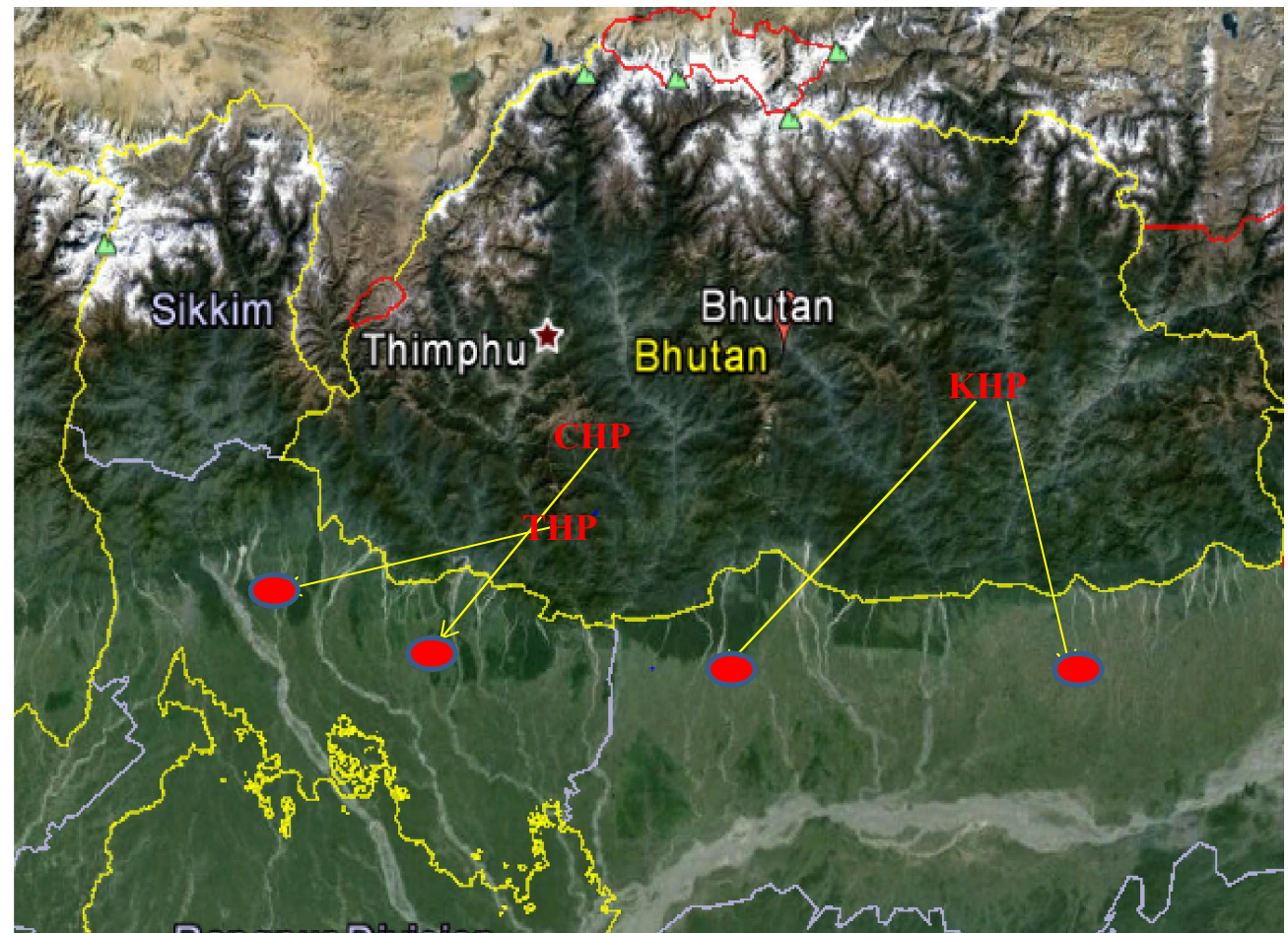
The royalty energy is sold to the transmission and distribution licensee at a subsidized rate to enable them to transfer the subsidy to the Low Voltage and Medium Voltage customers.

N





INDO BHUTAN INTERCONNECTION



400kV, 220kV and 132kV.

CROSS BORDER CONNECTION WITH NEPAL & BANGLADESH



Bilateral PPA not possible, may be trilateral, ROW issue?



SAARC POWER GRID

- a. Conceptualized in 2004,
Political will
- b. Core Technical Expert Team,
Techno-economic feasibility,
ROW issue
- c. Their recommendation,