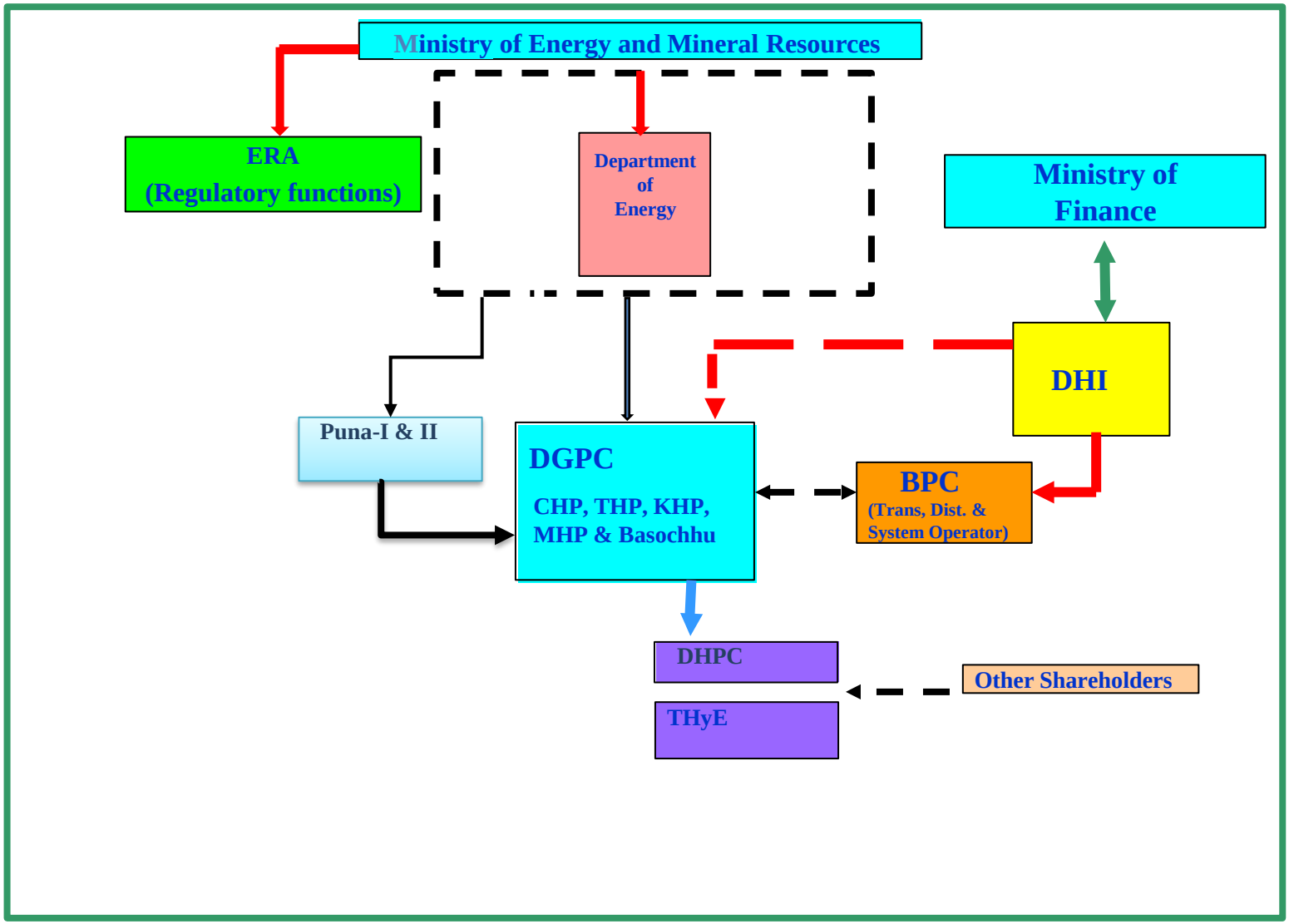
Transmission and Grid Interconnection and CBET

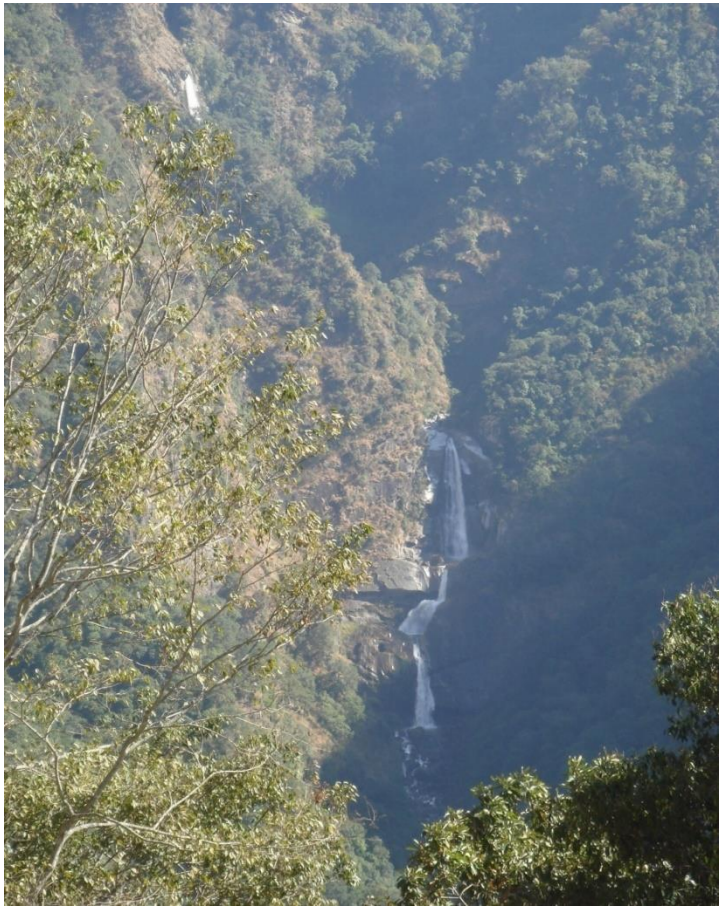
Bhutan

16/02/2023

Power Sector Overview



Hydropower Potential



The steep and rugged Himalayan topography and swift rivers promise huge hydropower potential

- ❑ 37 GW potential
- ❑ 33 GW techno-economic potential viable for development

Hydropower Plants Under Operation

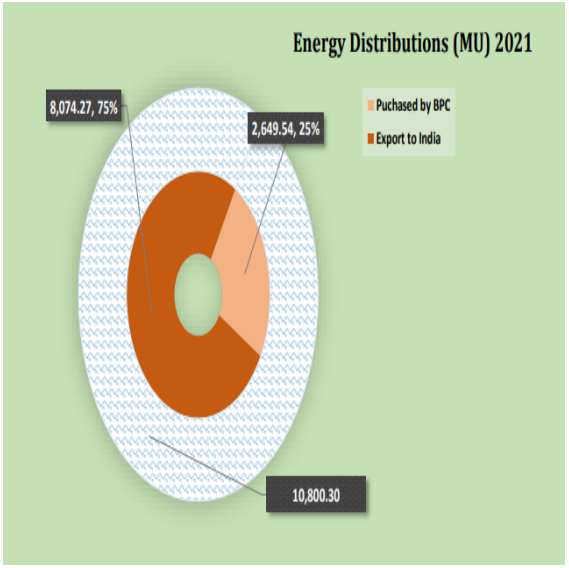
Sl. No.	Power Plant	Installed Capacity (MW)	COD
1	Chukha HPP	336	1986-88
2	Kurichhu HPP	60	2001-02
3	Basochhu HPP (Upper Stage)	24	2001
4	Basochhu HPP (Lower Stage)	40	2004
5	Tala HPP	1020	2006-07
6	Dagachhu HPP	126	2015
7	Mangdechu HPP	720	2019
8	Micro/Mini	8	
	Total	**2,334**	

Hydropower projects under construction

Sl/No	Name	IC(MW)	Firm Power(MW)
1	Punatsangchhu-I	1,200	199.00
2	Punatsangchhu-II	1,020	164.00
3	Kholongchhu	600	113.80
4	Nikachhu	118	22.55
Total		**3,938**	**589.35**

Power Generation & Domestic Demand

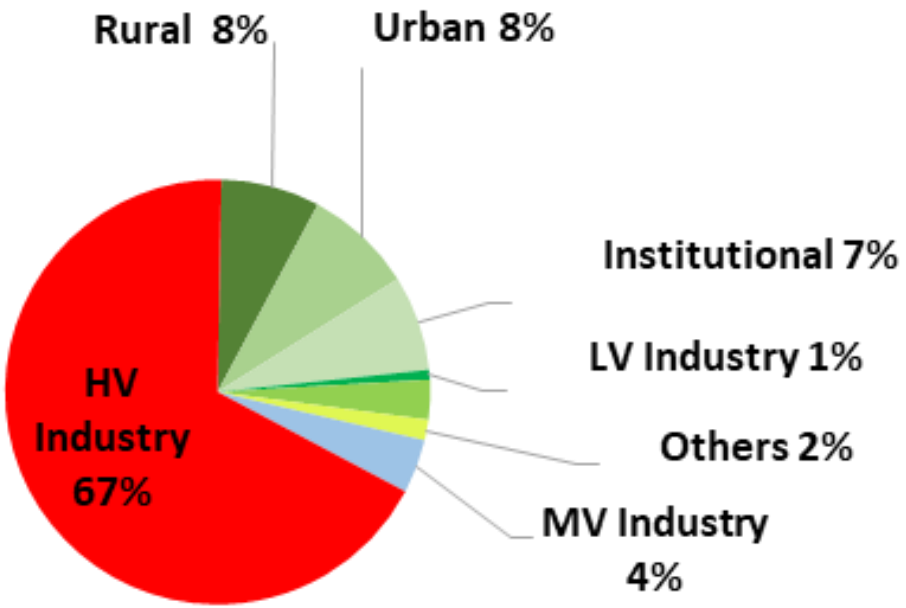
Year	2017	2018	2019	2020	2021
Total Generation (MU)	7,709.22	6,940.63	8,646.26	11,366.71	10,801.27
Domestic Load (MU)	2,185.75	2,328.44	2,280.63	1,961.31	2,578.04



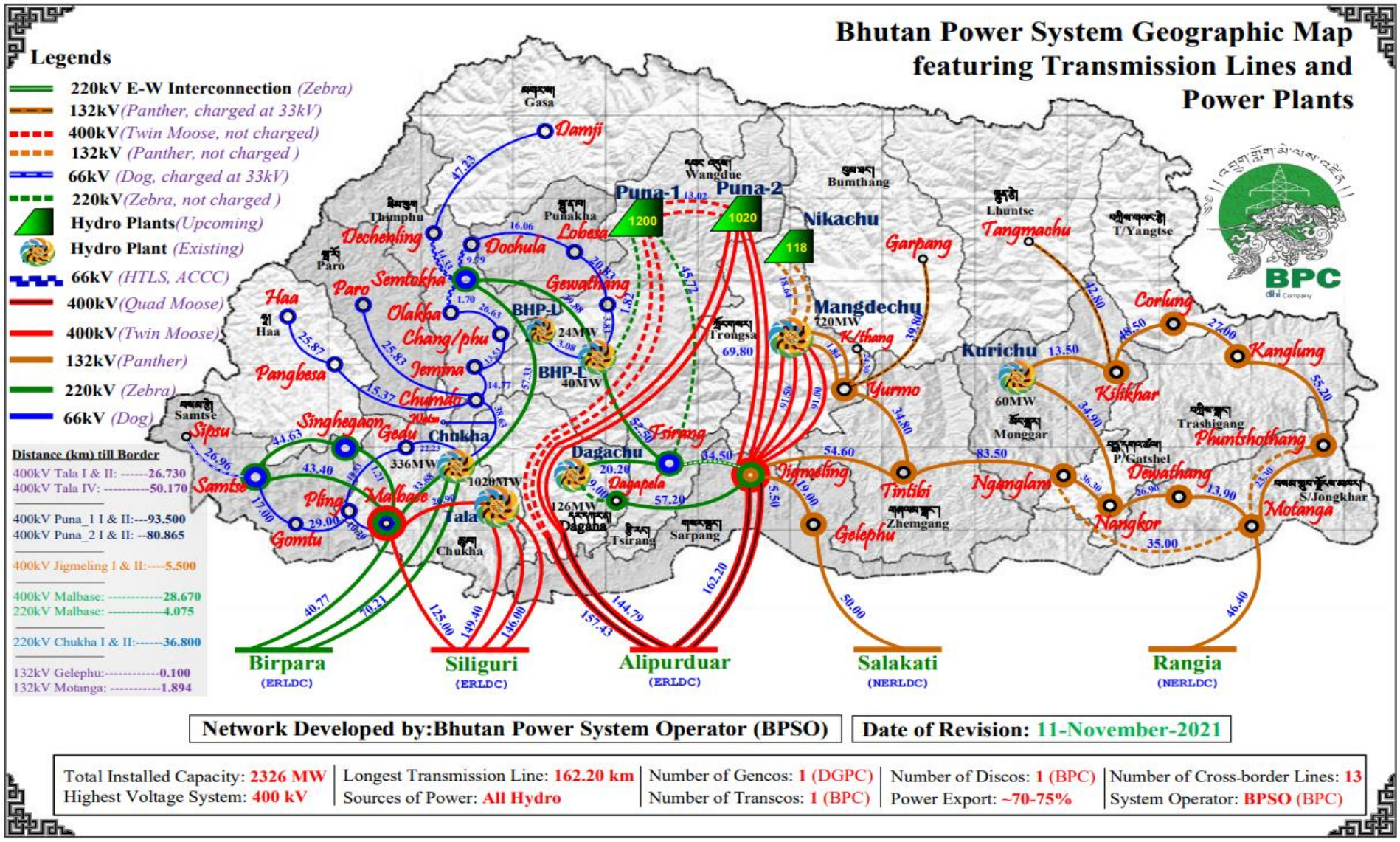
Year	2017	2018	2019	2020	2021
National Peak Load (MW)	362.09	399.35	387.66	374.53	435.35

- Electricity coverage ratio is 99.9 %

Classification of Domestic Consumer



Existing Transmission Grid



Existing status of CBET in the country

- CHP, THP, KHP and MHEP are under long term PPA with PTC India for the sale of surplus power from Bhutan
- Dagachhu HEP sells its power to TPTCL India
- Tala was under shutdown in lean season
- Bhutan requested India for import of power up to 400MW in their Power Exchange
- DGPC was appointed as trading entity from Bhutan and PTC India Limited from Indian side
- Imported power from Indian Power Exchange(IEX)from 1st Jan-16th March 2022
- Total import: 240 MU

Priorities/Challenges

- Delays in the implementation of the 10,000 MW by 2020 projects

- **Energy security** during lean river discharge winter months
  - Run of the river hydropower plants
  - Demand outstripping supply
  - Bhutan is expected to import power during the upcoming lean months until substantial additional firm power capacity are added

THANK YOU