

## **BHUTAN**

Dorji 4<sup>th</sup> DECEMBER 2019 DHAKA, BANGLADESH

#### **BEA** Bhutan Electricity Authority

- Issuance of licenses for power generation, transmission and distribution systems
- Approval of electricity tariff
- Development of standard on power quality





Druk Green Power Corporation

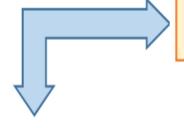
- O&M for hydropower
- Power exports and imports from/to India
- Power wholesale (to BPC)
- Approval for electricity tariff s
- Establish standards for quality of electric appliances



Investment

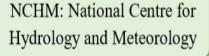
#### Generation Companies

- Construction of power stations
- O&M of power stations



#### **BPC** Bhutan Power Corporation

- Implementation of transmission and distribution work
- Operation of stand-alone Systems, including small hydro and diesel
- O&M of National Load Dispatch Centre (NLDC)

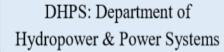


Research on Hydrology and Meteorology



### MoEA

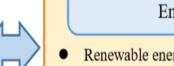
Ministry of Economic Affairs



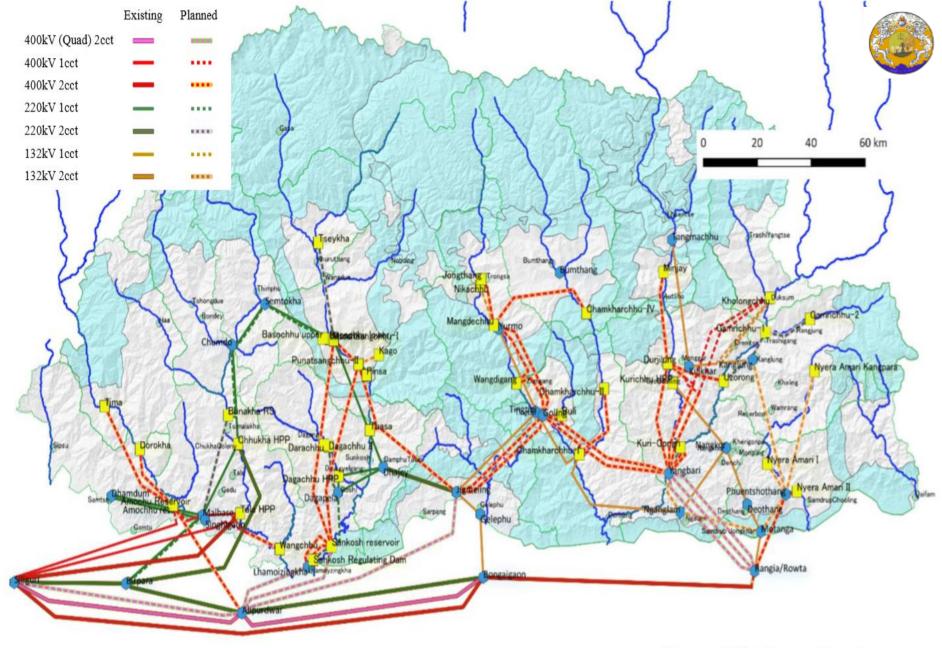
- Large Scale Hydropower Planning
- Power System Planning

DRE: Department of Renewable Energies

Renewable energy planning







(Source: JICA Survey Team)



# Power generating capacity

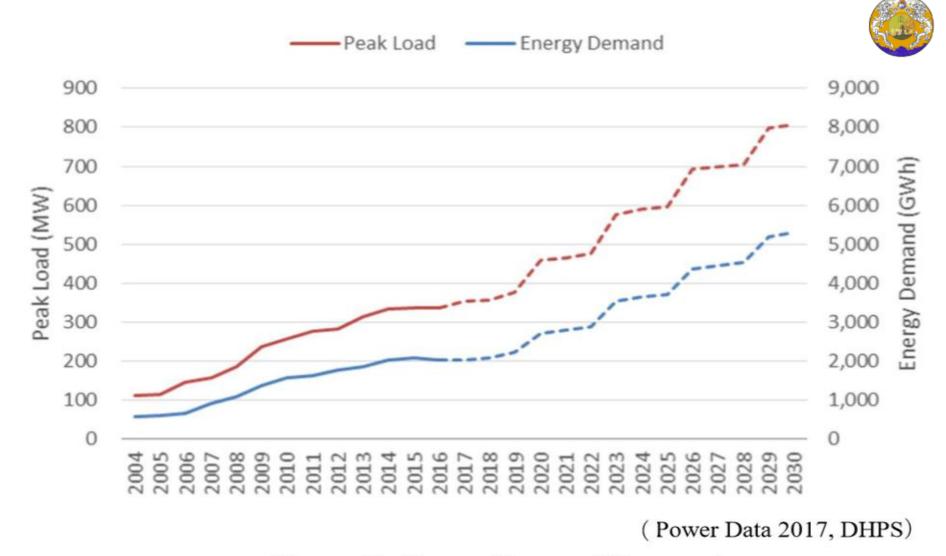
Sl No.	Plant Name	Capacity (MW)
1	DGPC (CHP, THP, BHP, KHP)	1480
2	MHPA	720
3	BPC (mini, micro hydel and wind power -600kW)	6.2
	Total	2206

### **Power Development Plan**

	Project	Capacity (MW)
2019 2020	Punatsangchhu II	1,020
2018 - 2020	Mangdechhu	720
Total: 1,858MW	Nikachhu	118
2021 - 2025	Punatsangchhu I	1,200
Total: 1,800MW	Kholongchhu	600
	Dorjilung	1,125
2026 2020	Sankosh Reservoir	2,500
2026 - 2030	Sankosh RD	85
Total: 4,114MW	Nyera Amari I	112
	Nyera Amari II	292
	Kuri-Gongri	2,640
2031 - 2035	Chamkharchhu I	770
Total: 4,160MW	Wangchhu	570
	Bunakha	180



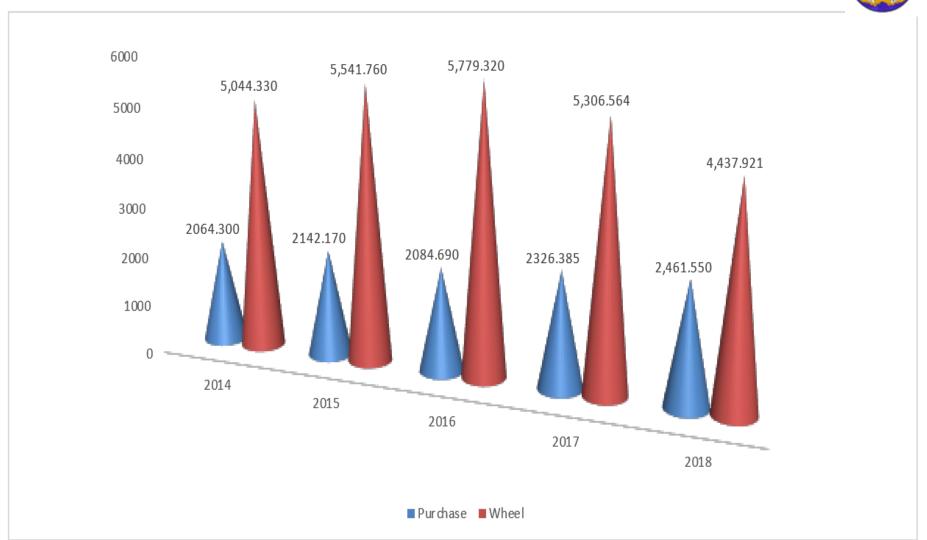
(Source: NTGMP 2018)



**Domestic Power Demand Forecasts** 

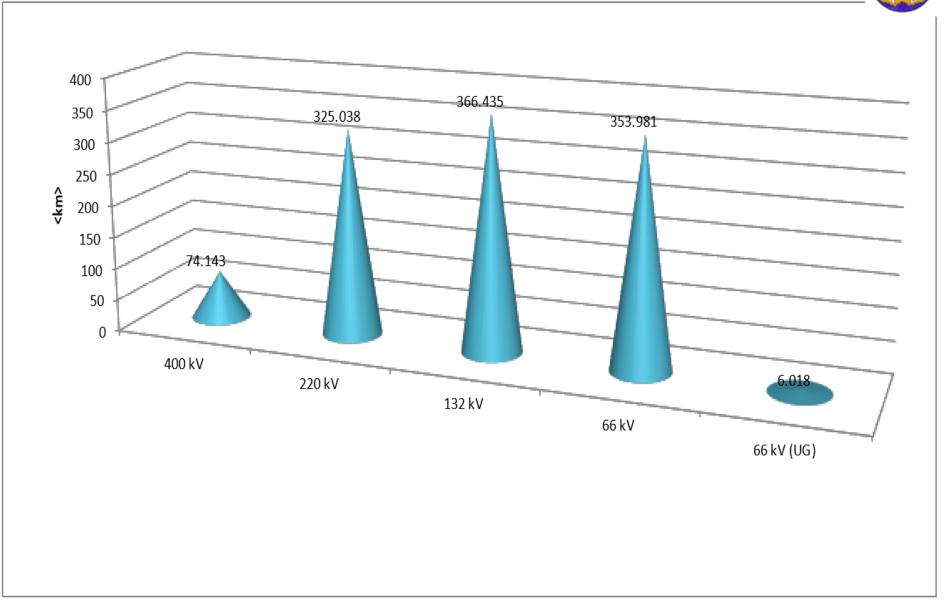
### Energy Purchased & Energy Wheeled (MU)

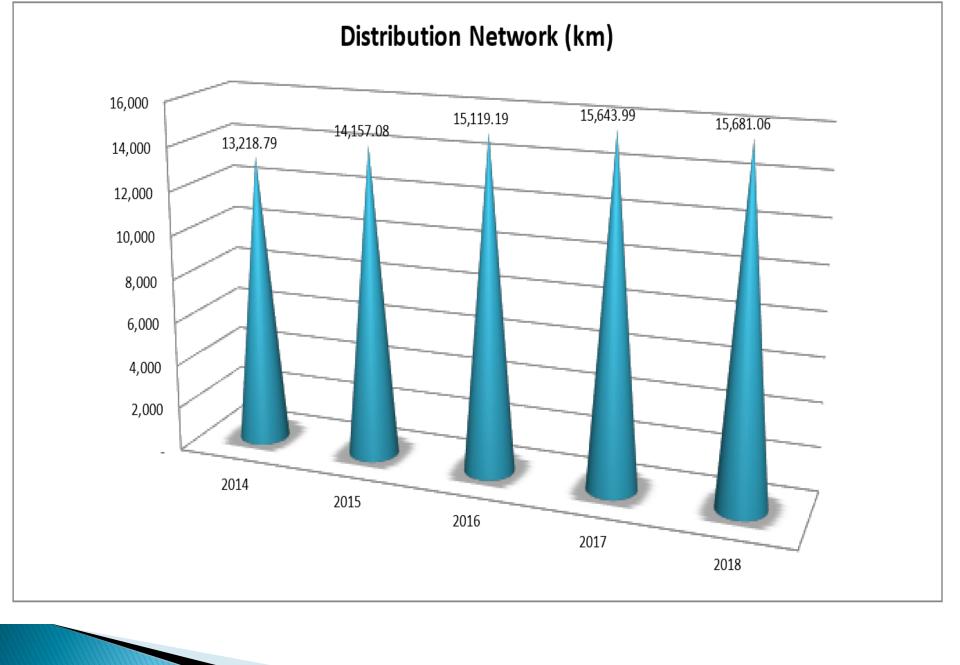




#### Transmission line length for different voltages (km)







## **History of BEA**



- > Electricity Act enacted on **26 July 2001** during **79**<sup>th</sup> National Assembly
- Act enforcement: <u>1 July 2005</u> (Minister's Notification section 4)
- ➤ <u>June August 2006</u>: BEA Commission Appointed
- ➤ 1<sup>st</sup> January 2010: Fully independent BEA Secretariat delinked from civil service





### **Section 2**

- 1. Restructure electricity supply industry;
- 2. Establish BEA;
- 3. Technical Regulation of electricity supply industry;
- 4. Private sector participation in electricity supply industry;
- 5. Empower Government in formation of any company to fulfill purpose of this Act

# **Objective of the Act**



- 1. Safe & reliable electricity supply;
- 2. Revenue generation through export;
- 3. Socio-economic welfare development;
- 4. Economic self-reliance financially viable electricity industry;
- 5. Renewable energy development;
- 6. Efficiency management and service delivery;
- 7. Environmental consideration in electricity supply projects.

## Power and Functions of Minister



## Section 17:

- 1) Set general policies, targets & strategies of electricity industry operation;
- 2) Approve power system expansions plans;
- 3) Set general policies on tariff determination & service provisions;
- 4) Provide policy on customer service standard & licensee standard;

## **Power and Functions of Minister**



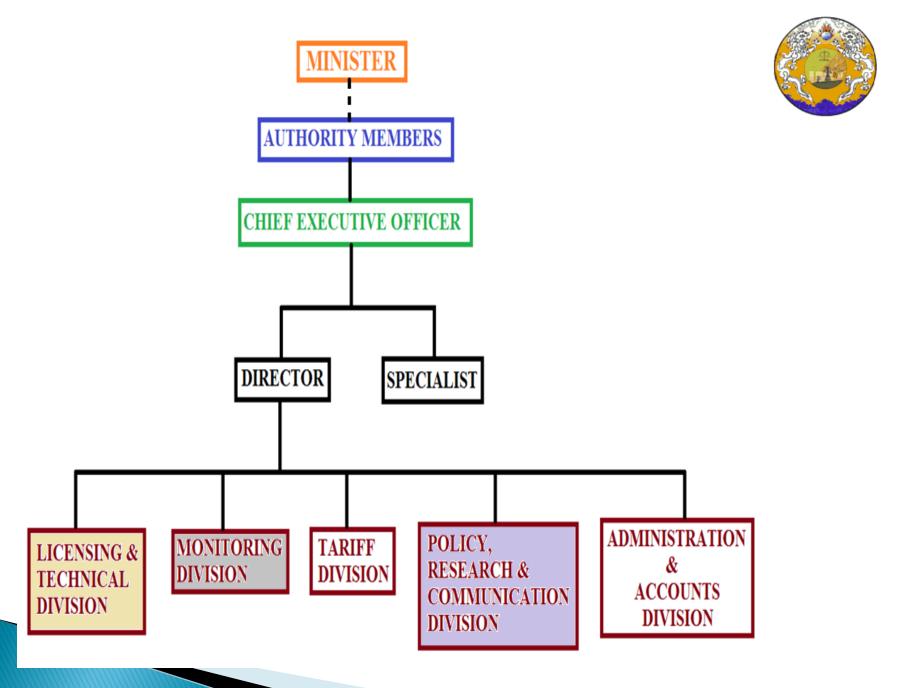
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- 5) Set policy encouraging energy service for underprivileged;
- 6) Approve licence fee and fee for the licensee;
- 7) Approve operational plan and budget of BEA;
- 8) Provide policy on protection against & solution to energy shortage;
- 9) Provide policy for private participation.

## **Authority Members - BEA**



- 1. Chairman
- 2. Four (4) Members
- 3. Member Secretary CEO



## **BEA Functions**



### **Section 11**:

- 1. <u>Develop</u> regulations & rules:
  - a) Performance standards & technical safety;
  - b) Tariff setting;
- 2. Issue <u>Licenses</u>;
- 3. <u>Monitor Licensee's compliance</u>;
- 4. Determine <u>Tariffs</u>;
- 5. Prescribe and collect <u>Fees</u>;
- 6. Impose <u>Sanctions & Fines</u> for violations;
- 7. Settle Dispute.

# **BEA's Responsibility**



- As per section 11.2:
  - 1) Ensure power reliability, quality, security & efficiency;
  - 2) Encourage competition;
  - 3) Ensure non-discriminatory access to power system;
  - 4) Ensure fair balance of stakeholders;
  - 5) Facilitate electricity supply development;
  - 6) Ensure natural resources, environments & public interest protection





### > Section 13

- 1) From levies, fees & other charges payable in performance of its functions; and
- 2) Budgetary support from the Royal Government.

## **BEA Regulations**



- 1. Tariff Determination 2016;
- 2. Accounting & Reporting 2006;
- 3. Regulatory Fees Regulation 2006;
- 4. Grid Code 2008
- 5. Distribution Code 2008
- 6. Safety
- 7. Internal House Wiring Regulation 2016





Sl No.	Category	Tariff (Nu/kWh)
1	Generation	1.50
2	Distribution	
	HV	2.26
	MV	5.15
	LV	5.01
3	Export (wheeling)	0.270



# THANK YOU