



# **Energy Status in Bhutan**

International Workshop on Energy Statistics and Energy  
Balance

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# Presentation Outline

- Key Country Information
- Institutional Arrangement (Statistics)
- Energy Sector Overview
- Hydropower Potential & Development Status
- Current Power Generation & Transmission Scenario
- Power Distribution and Rural Electrification
- Energy Sources and Data
- Issues and Challenges

# Key Country Information

- Area - 38,394 sq.km
- Population - 768,000
- Forest Cover - 70.5%
- Literacy Rate (2012) - 63%
- GDP Growth - 7%

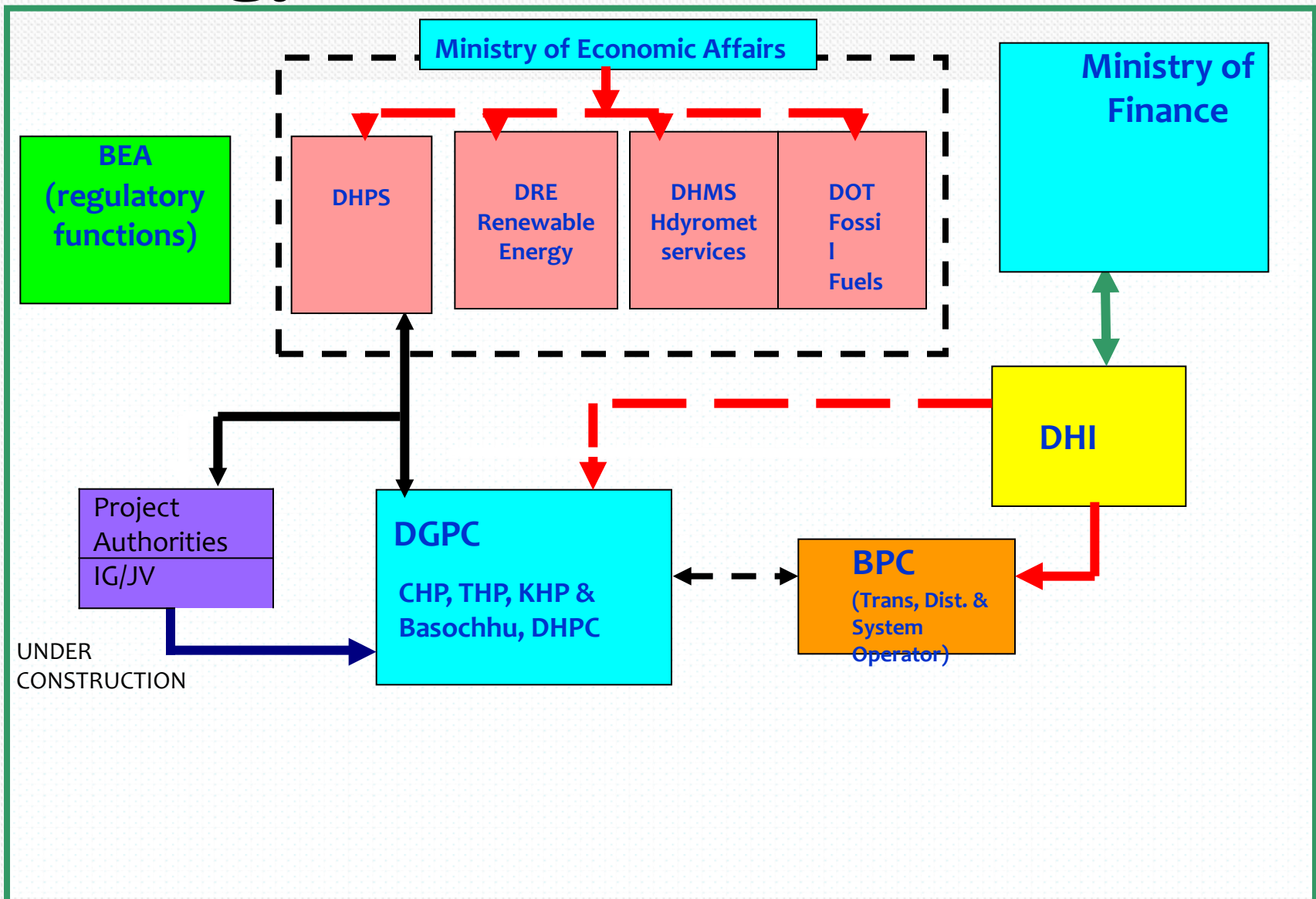
## Contd. ...

- Annual Electricity Generation (2014) - 7,147.095 MU
- Electricity Export (2014) - 72.5%
- Electricity Consumption (2014 per capita) -2,600 kwh
- Electricity contribution to Revenues (2014) - 20%
- Electricity Contribution to GDP (2014) - 14.15%
- Rural Electrification Coverage (2014) - 95.35%

# Statistical Institutional Arrangement

- National Statistical Bureau (NSB)
- Ministries/Agencies
- Field Agencies

# Energy Sector Structure



# Hydropower Potential and Development Status

- Large Hydropower potential – 30,000 MW
- Techno-economically viable – 23,500 MW
- Total installed capacity – 1,606 MW (5.35%)
- Hydropower under construction- 3,658 MW
- Existing Transmission lines – 1,015.3 km
- Peak load demand (2014) – 333.41 MW

# Current Power Generation & Transmission Scenario

Hydropower Plant	IC(MW)	Transmission Voltage(kV)
Tala HEP	1020	400kV
Chukha HEP	336	220kV, 66kV
Basochhu HEP	64	66kV
Kurichhu HEP	60	132kV
Dagachhu HEP	126	220kV
Micro/Mini (17 Nos)	~8	6.6kV/415V



# Power Distribution & Rural Electrification

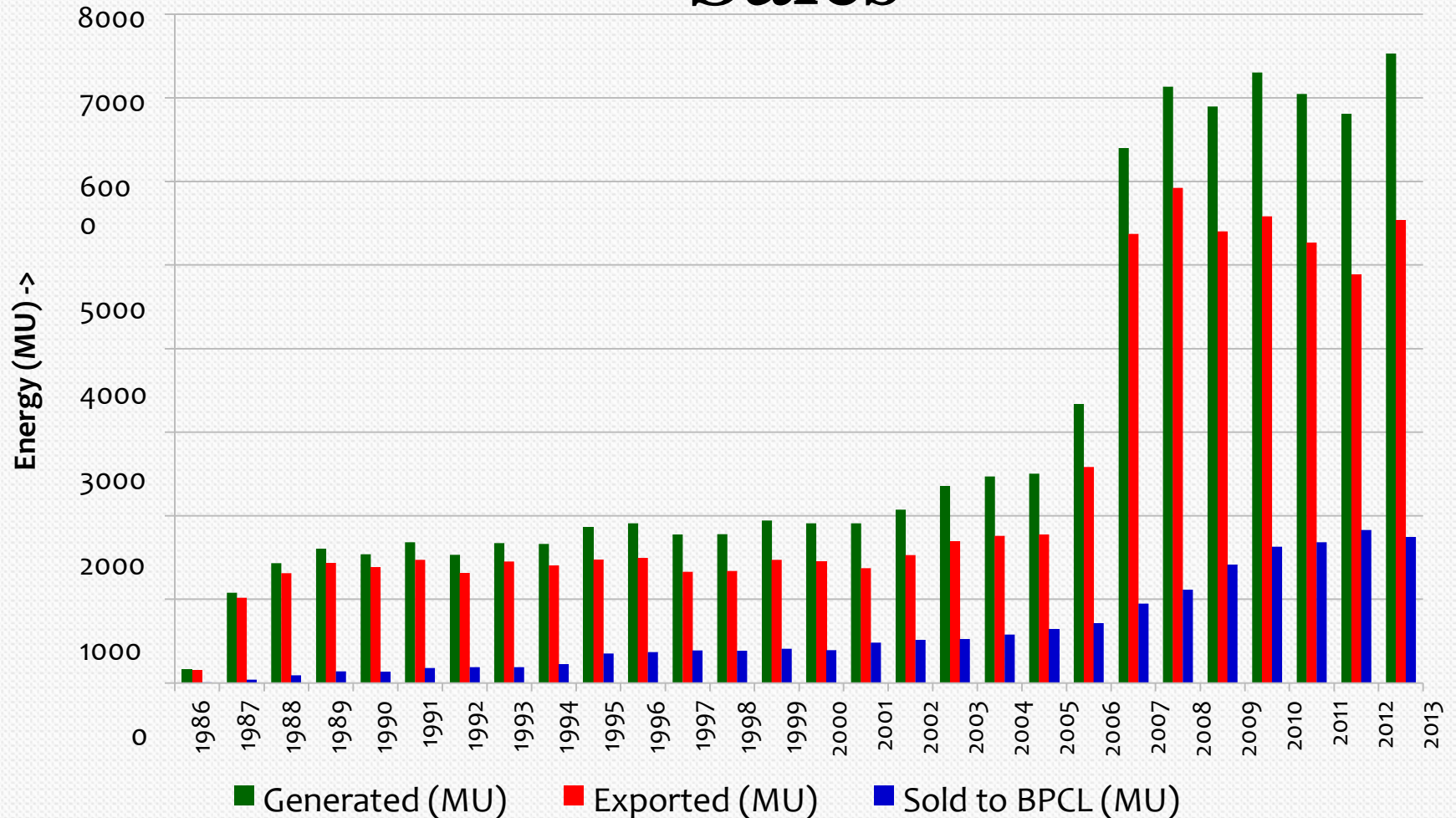
Distribution Line length -13,219 km

- 33kV – 3,154 km
- 11 kV – 2,524 km
- 6.6 kV – 104 km
- Low voltage – 7,438 km
- No. of consumers – 160,000
- Consumer growth (2013) – 9.1%

# Contd. ...

- No. of Rural HH - 88,642
- On-grid Rural Electrification – 92%
- Off-grid Rural Electrification – 3.35%
- Total RE Achievement – 95.35%

# Energy Generation, Export & Sales



# Energy Sources & Data

- Hydropower for electricity- BPC /NLDC/DGPC
- Solar and Wind Energy – Dept. of Renewable Energy
- Biomass for heating and cooking– MoFA
- Fossil Fuels;
  - ✓ Petroleum Products -DoT, Distributers, Customs  
(Petrol/Diesel for transportation, Kerosene & LPG for domestic and commercial sectors)
  - ✓ Coal –Geology & Mines

# Issues and challenges

- Data Collection –Not systematic and lack of resources (manpower/financial resources)
- Data format not dynamic
- Energy Data Analysis (Demand forecasting)
- Energy Sector Database (2005)-not updated on a regular basis
- Energy Sector Data sharing mechanism not institutionalized

# TASHI DELEK !

08/06/2016