Power Industry in Sri Lanka

For more details: www.ceb.lk
Background of Power Sector

Governing Structure:

➤ Sri Lanka energy sector is governed by **Ministry of Power and Energy**

➤ Electricity sector is governed by the Sri Lanka electricity act (act no. 20 of 2009)

Regulating Body:

➤ The **Public Utilities Commission** of Sri Lanka (PUCSL) was formed (by the PUCSL act no. 35 of 2002) to regulate the electricity sector. (tariff, license..)
Current Development of Power Sector

- **Total Installed Capacity**: 4050 MW
  - **Thermal - Coal**: 900 MW
  - **Thermal - Oil**: 1335 MW
  - **Hydro**: 1375 MW
  - **NCRE**: 440 MW

- **Annual Demand**: 10 500 GWh
  - **Domestic**: 38%
  - **Industrial**: 39%
  - **Commercial**: 20%
  - **Other**: 3%

- **Electrification**: 98.4% of total population
Current Development of Power Sector

• Total Generation By Source
  – Thermal- Coal  26%
  – Thermal- Oil  35%
  – Hydro  37%
  – NCRE  2%
Energy Potential

- **Hydro Energy:** 2,423MW (Sri Lanka has harnessed more than 45% of its total hydro power potential. It has been identified that the balance available potential is approximately 1268 MW.)

- **Wind Energy:** 20,000MW (5MW/km², 6% of the land area is windy area)

- **Solar Energy:** (2/3 of the land area have solar radiation of 4.0 - 4.5kWh/m²/day)

- **Liquid fuel and LNG:** under exploration

**Crude oil/ petroleum and Coal:** Import from Middle East Countries, Indonesia, South Africa and Australia
Future Generation Expansion

- **Hydro Power plants to come**
  - Broadlands - 2x17.5MW (35MW in 2016)
  - Uma Oya - 2x60MW (120MW in 2016)
  - Gin ganga - 49MW
  - Morogolla - 27MW
  - Mini Hydro - 125MW

- **Thermal Power plants to come**
  - Sampur Coal Power - 2x250MW (500MW in 2016)
  - Athuruwella Coal Power - 500MW, Super Critical

- **NCRE:** (25% shares of NCRE is targeted by 2025)
• According to the studies, least cost generation option is coal fired power plants

• Hence coal fired power plants will dominate SL power sector in the next 20 years

• By 2025, expected increase in thermal share would be 70% which will mainly be covered by coal plants.
1. Quality Coal: Bituminous Coal

- Particle Size: < 50 mm
- Moisture Content: < 12%
- Gross Calorific Value: 5800-6300 kCals/kg
- Ash Content: < 15%
- Sulphur content: 0.2 - 1.2%
- Volatile matter: > 22%
- Fixed carbon: > 43%
- Ash fusion temperature: > 1170 °C
Thanks for your Attention!