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:

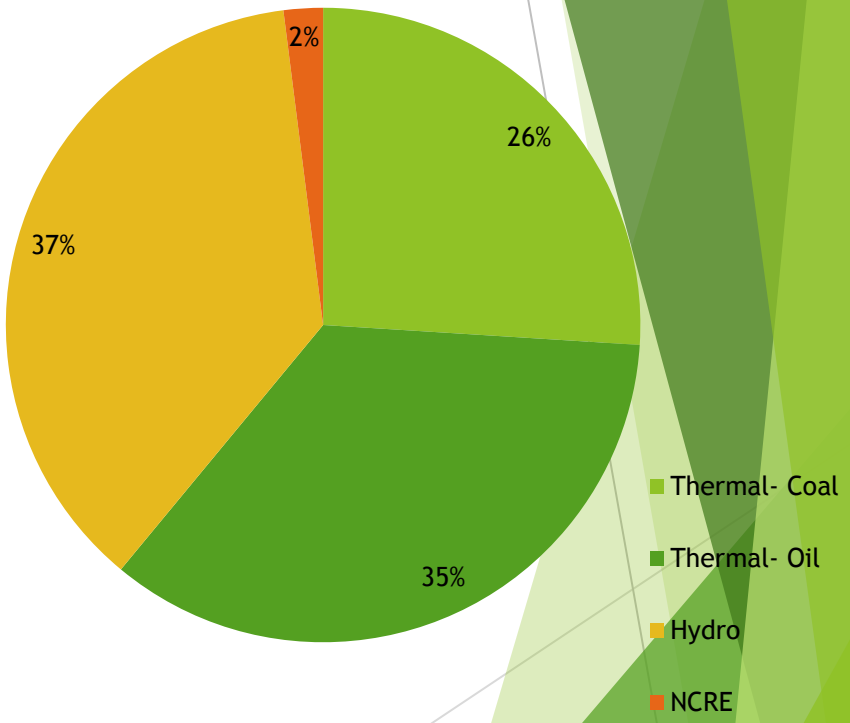
- The **Public Utilities Commission** of Sri Lanka (PUCSL) was formed (by the PUCSL act no. 35 of 2002) to regulate the electricity sector. (tariff, license..)

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

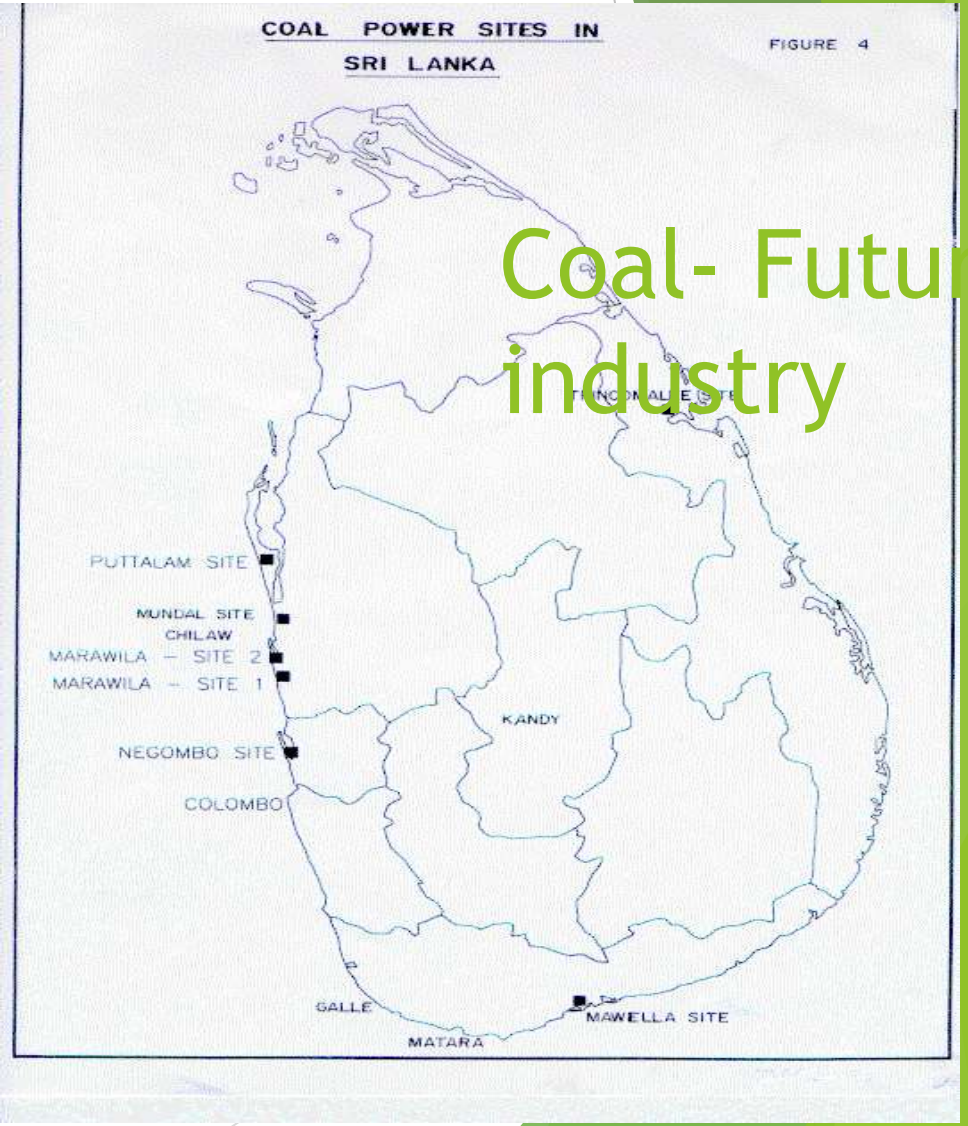
  Sampur Coal Power – 2x250MW (500MW in 2016)

  Athuruwella Coal Power – 500MW, Super Critical

- NCRE: (25% shares of NCRE is targeted by 2025)

Coal- Future industry

- 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.



Used Emission Control Technologies

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 ^{o}C

Thanks for your Attention!