Current situation and future planning of
Mongolian Energy Sector

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1. Brief country profile

Area: 1.564.116 sq km
Population: 3.026.102 (2015-06-21)
Capital city: Ulaanbaatar
Capital city population: approx. 1,200,000.00
National currency: Tugrug (MNT)
GDP per capita: US$ 3800
Major industries: Mining, cashmere, agriculture
Major trading partners: China, Russia, USA, Japan
1. Brief country profile

Capital city Ulaanbaatar
1. Brief country profile

*Countryside*
2. Structure of Mongolian energy sector

Mongolia has four main energy systems:

- Central Energy System (CES),
- Western Energy System (WES),
- Altai-Uliastai Energy System (AUERS), and
- Eastern Energy System (EES), comprising Seven thermal power plants with heat extraction (combined heat and power plants), Durgun and Taishir hydro power plants, Salkhit wind power plant, Altai-Uliastai’s diesel generators, small renewable energy resources (solar and wind) and seven distribution systems.
2. Structure of Mongolian energy sector

**Western Energy System**
Hydro PP-1, electricity transmission and distribution

**Central Energy System**
Thermal PP-7, Wind PP-1, National Power Transmission Grid, Electricity Distribution Network-7, Heating Distribution Network-2

**Eastern Energy System**
Thermal PP-1, electricity transmission and distribution

**Altai-Uliastain Energy System**
Hydro PP-1, electricity transmission and distribution
2. Structure of Mongolian energy sector

Ministry of Energy

- National Dispatching center
- Energy Development center
- Thermal Power Plant -8
- Hydro Power Plant -2
- Wind Power Plant -1
- Energy Regulatory Authority
- National Renewable Energy center
- Electricity Distribution network -7
- Heat Distribution network -2
- Electricity transmission grid -3
2. Structure of Mongolian energy sector

- **Central Energy System**
  - Thermal PP-7, Wind PP-1, National Power Transmission Grid,
  - Electricity Distribution Network-7, Heating Distribution Network-2

- **Altai-Uliastain Energy System**
  - Hydro PP-1, electricity transmission and distribution

- **State Owned Company**

- **Eastern Energy System**
  - Thermal PP-1, electricity transmission and distribution

- **Western Energy System**
  - Hydro PP-1, electricity transmission and distribution
3. Current situation of Mongolian energy sector

The majority of our heating and electrical energy is being generated by coal fired thermal power plants and the remaining small amount is from hydro, wind, solar and diesel stations.
3. Current situation of Mongolian energy sector

High Losses of Transmission & Distribution Network:
Long transmission & distribution lines to lower demand – lowest population density in the world
3. Current situation of Mongolian energy sector

Without “Oyutolgoi” mining demand
4. Future planning

- Planned Hydro power plants
- Planned Thermal power plant
- Planned Wind Power Plant

- 110 kV transmission grid
- 220 kV transmission grid

Rich resources of coal mining in Mongolia
5. Possibilities for further cooperation

There is a wide opportunity to cooperate in the renewable energy sector.

- Rich resources of Solar, Wind and Hydro in Mongolia:
  - **Solar**: 270-300 sunny days in a year, 4.3-4.7 kWh/meter or higher per day
  - **Wind**: 10% of the total land area can be classified as excellent for utility scale applications, Power density 400-600 W/m², the resource could potentially supply over 1100 GW of installed capacity.
  - **Hydro**: Theoretical potential 6.2 GW, more than 1 GW of these has been identified

Source: Asia Solar Radiation
THANK YOU FOR YOUR KIND ATTENTION

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