Energy sector in Mongolia

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Mongolia-Socioeconomic Characteristics

- 1.5 million sq. km-17th largest country
- diverse geography but land locked
- population 2.4 million-57% urban,43% rural
- GDP is $1 billion and $450 per capita
- exports-copper,cashmere, gold
- Trade growing, inflation slowing, revenues are increasing

Mongolia-Socioeconomic Characteristics

- Small and medium sized businesses increasing throughout Mongolia
- Private sector participation increased from 0% in 1990 to 70% of GDP now
- external assistance, close co-operation- important for Mongolia

Energy supply-Coal

- Inferred reserve 150 billion tons
- Proven reserves over 20 billion tons
- All reserves located in 240 deposits, 12 major coal basins
- 20% cooking and 80% lignite and steam coal
- 25% confirmed by geological survey

Energy supply-Coal

- 32 coal mines operating
- 13 joint stock, 19 private
- 3 mines produce 4.5 million tons/year
- 29 small mines with capacity 6-700000 tons
- demand 5 million tons/year

Energy supply-Coal

- Table: Coal Balance, 1998-2002 ('000 tons)

	1998	1999	2000	2001	2002
Stocks	87	193	170	186	148
Imports	38	30	43	10	0.1
Production	5057	4964	5185	5141	5544.4
Total Supply	5182	5187	5398	5189	5535.3
Heat & Power	4193	4127	4449	4324	4723.2
Other End Users	793	890	763	865	812.1
Exports	3				
Stocks	193	170	186	148	157.2
Total Demand	5182	5187	5398	5189	5535.3

Energy supply-Liquid fuels

- Petroleum products 100% import from Russia
- gasoline 52%, diesel 34%,14% other-fuel oil, jet, lube
- LPG imports by canisters
- other gas supply options are pursuing-CNG for vehicles and LPG for household

Energy supply-Liquid fuels

- Oil production 1000 barrels per day
- estimated reserve 300-500 million barrels
- expected national oil reserve 5-8 billion barrels

Other energy resources

- **Hydro**
- - Mongolia has significant hydropower potential
- - 3.5 MW-existing, have been starting projects with capacity of 19 MW, identified projects with capacity 6-220MW

Other energy resources

- **Solar**
- - 71% of land receives insulation 5.5-6 kWh/sq.m with 2900-3000 sunny hours/ and 18%-4.5-5.5 kWh/sq.m with 2600-2900 hours
- - 100,000 solar ger-program has established
- - Solar energy utilization study carried out in 2000

Other energy resources

- **Wind**
- - wind resource suitable to use in 70% of country
- - wind regimes of 150-200 W/sq.m and duration 4000-4500 hours per year
- **Geothermal**
- - 42 small hot springs surveyed

Other energy resources

- **Electricity**
- - 3 centralized systems, 5 isolated systems, import from Russia
- - Installed capacity 879 MW of which 823 from coal fired PP

Other energy resources

#	Item	1999	2000	2001	2002
1	Installed capacity (MW)	44	855	875	879
7	Energy Imports GW/h)	203	181	196	167
8	Energy Export (GW/h)	59	25	18	15
12	Net Sales of electricity (GW/h)	1867	1910	1948	2031
13	Peak demand (MW)	477	488	506	513
14	Gross gen. of heating (T.cal)	6761	6885	6597	6867
15	Total sales of heating (T.cal)	6686	6747	6537	6772

Other energy resources

- New energy sources
- - Fuel cell
- - transmission lines and pipelines between Russia and China
- - Energy efficiency- reduce the existing losses/30% in electricity, 40% in heating/
- - saved energy from reduction of consumption and energy efficiency

Energy policy

- Restructuring
- increase private sector participation
- commercialization of energy enterprises
- implement privatization actions

Government actions in Energy sector

- To improve existing system
- - Improved major coal fired PP and coal mines
- - upgraded diesel generators in 5 province centers and 167 villages
- - started implementation of program on utilization renewable energy

Government actions in Energy sector

- Adopted new Energy Law to set up legal bases for restructuring
- Established the Energy Regulatory Agency to great regulatory mechanism
- Restructuring of energy enterprises to start commercialization and privatization
- Institutions MOI-FAEA, ERA

Energy demand forecast

- Average growth 2.9% up to 2020
- It assumed by improved efficiency of power system, energy savings result, energy efficiency on the demand side and investment that expected approximately $870 million

Future activities in energy sector

- Resolve inter-company arrears to increase private sector participation
- Implement “ Mongolia Integrated Power System” program which adopted in 2002
- Implement “ Mongolia Sustainable Energy Sector Development Strategy” adopted in 2002

Mongolia Integrated Power System

- Develop reliable and affordable energy supply
- contribute to inter regional development
- improve energy security for long term

Mongolia Sustainable Energy Sector Development Strategy

- Financial sustainability
- Restructuring
- Capacity building
- Energy access and affordability
- Energy conservation

End

- Moreover Mongolian energy sector should be developed within a regional energy context while at the same time taking advantage of new technologies, improve energy security and sources of energy that might further promote economic efficiency and environmental sustainability.

THANKS