

COUNTRY OUTLINE PAPER: MONGOLIA

*Inter-Governmental Meeting on Energy Cooperation in North-East Asia:
Task Force on Energy (TFE)
2-3 December, 2004
Khabarovsk, Russian Federation*

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1. Introduction

Mongolia is a country with vast territory and small scattered population, and for its economic growth, poverty and overall development, the development of infrastructure, roads, energy access and telecommunications, is vital.

Due its landlocked and remote location Mongolia is dependent on cross border trade, and the Government of Mongolia is keen to promote energy sector regional cooperation with its immediate neighbors and countries of North East Asia region.

The North East Asia is the region of enormous potentials for cooperation, integration and development for prosperity. This region is already developing regional arteries of interstate transport, telecommunications, tourism and services, and it has even more opportunities for regional cooperation in developing interstate pipelines, power links¹. This region offers opportunities for regional cooperation, which might grow to the level of existing economic integration unions, such as EU, NAFTA, ASEAN etc. This region is moving from interdependent to integrated co-existence.

After 9/11 the global investment environment has been shaken tremendously, and investors worldwide became very cautious in making long-term investment commitments especially in energy sector, where the success of investments depend on complex set of issues, such as political and macro economical stability, regulatory environment, investment protection and promotion policy, etc. And as a result, in estimation of return on investments the investors increase an influence of such factors, such as regional security, political stability, and country risks.

The Government of Mongolia proposes: 1) to increase the role of governments to promote energy cooperation; 2) to identify mutual beneficial projects by relevant authorities of member

¹ *Source: A Grand Design for Stability and Prosperity of Northeast Asia, Mr.Hajime Koizumi, KRI International, Japan*

countries; 3) to facilitate information exchange and planning; 4) to develop investment climate and 5) to promote the use of energy efficient and energy saving technologies.

2. Current Situation and Issues with Electricity Trade

Energy sector in Mongolia is one main components of infrastructure development and it plays a key role in socio economic development of the country in overall. Mongolia's power sector consists of Central energy system (CES), Eastern energy system (EES), Western energy system, diesel generators and heat only boilers (HOB) in off grid areas, aimag and soum centers.

Total installed capacity of the CES is 788 MW, annual demand is reached 2.5 mln KWh. There are 7 combined heat and power plants (CHP), from which 2 are local utilities. Currently there are overhead transmission lines of 1000 km of 220 kV, 2500 km of 110 kV, 4000 km of 35 kV, and 5 substations of 220 kV, over 150 substations of 35 kV, 110 kV in use at this moment. At this moment 11 aimag centers, more than 100 soum centers are connected to the Central energy system, and 3 aimag centers and 8 soum centers are connected to Western energy system. The power sector in Mongolia has grown up into large infrastructure sector, which supplies with electricity major towns and settlements, and 70 percent of total population. At this moment, 30 per cent of population is not connected to grid, which is 3 aimag (province) centers and more than 160 soums (administrative units).

Western three aimags, namely Bayan-Ulgii, Uvs and Khovd, are connected by high voltage overhead electricity transmission line to the Russian Federation and import electricity, and due to the lack of installed and reserve capacities, this region is fully dependent on electricity import.

From the policy view major priorities are to create necessary institutional framework for private sector participation (PSP), to improve efficiency of energy sector, to facilitative the development of renewable energy, to accelerate commercialization of energy companies and gradually privatize them. With the adoption of the new Energy Law by Parliament in 2001, the legal base for restructuring in energy sector was established. With the establishment of the Energy Regulatory Authority (ERA), which is an important step towards creating an independent regulatory mechanism, an enabling institutional environment for foreign and domestic private investors to enter the energy market has been created.

The Great Khural (Parliament) adopted the "Mongolia Integrated Power System" (MIPS) program in 2002, and the program will contribute to energy access development and will help to reduce operational expenses, to create favorable socio economic conditions for regional development, and create reliable electricity supply. The Government of Mongolia approved in 2002 the "Mongolia Sustainable Energy Sector Development Strategy Plan (2002-2010)", and it reflects goals reinforced in the Poverty Reduction Growth Facility (PRGF).

The main objective of the short term and medium term energy sector strategy of Mongolia is to create a financially sustainable energy sector that will provide cost-effective energy access, thereby enabling poverty reduction and greater private sector and civil society participation. Mongolia's energy sector should be developed within a regional energy context, while at the same time taking advantage of new technologies and sources of energy that might further promote economic efficiency and environmental sustainability.

Present Situation of Electricity Demand, Import of Electricity in Mongolia

According to the Energy Sector Master Plan² the demand is scheduled to increase at an annual average growth rate of 2.9 percent between 2001 and 2020. This growth rate assumes that there will be improved efficiencies in the operating power and heat systems as well as energy savings resulting from conservation and energy efficiencies on the demand side. Preliminary indications are that the total capital costs for the expansion of the central power and heating systems will approximate \$870 million over the 20 year period.

As of third quarter of 2004, the power demand has increased by 7 per cent, and an increased demand is due to increased mining production.

The substantial increase in demand is expected in Southern Gobi, and this region is expected to have a large scale mining development in the region. In Southern Gobi region there are Tavantolgoi coal deposit, Oyu Tolgoi and Tsagaan Suvraga copper deposits.

The Tavan tolgoi coal-mining district is located in the Ulaan Nuur Valley, Omnogovi aimag, about 540 km south Ulaanbaatar city. Four major coalfields have been defined within the Ulaan Nuur that correspond to district structural blocks. They are Tavan Tolgoi Coalfield, Ulaanhudag Coalfield, Eastern Coalfield, Bortolgoi Coalfield. An estimated 6.4 billion tons of geological coal resources have been defined in these coalfields, nearly 1.8 billion tons of coking coal and 4.6 billion of thermal coal³.

The Oyu Tolgoi (“Turquoise Hill”) Porphyry Copper – Gold project is located in Southern Mongolia in 80 km from the border with China and some 550 km south of Ulaanbaatar. Recent estimates show that the Turquoise Hill project contains an inferred resource of 2.6 billion tones grading 0.73% copper and 0.17 g/t gold, containing approximately 19.1 million tones (42.2 billion pounds) of copper and 14.4 million ounces of gold⁴.

Only at the Oyu Tolgoi project the demand for power is expected to grow up to 215 MW when the mine will get into full production cycle. So, in near and medium term there will be a significant increase in demand for power in Southern Mongolia.

Electricity Import

Mongolia covers its deficit in peak hours by electricity import from Russia. Electricity interconnection with the Siberian Energy System of Russian Federation helped to ensure dynamic and static reliability of the system, to meet peak demand of Mongolian Central Energy System (CES). According to the new Energy Law, Minister of Infrastructure sets the limit for electricity import. At this moment we import electricity from Russia and China at 7 points, from which 5 are imported through 10 kV lines for border point use only. In Central part we have 220 kV overhead transmission line, which connects Central part of Mongolia with the Buryat Energy System of Russian Federation. The total volume of imported electricity for 2003 was 120,000 kWh of electricity at average price of 14 US cents for 1 kWh.

In Western part of Mongolia three aimags, Uvs, Khovd, Bayan Ulgii, are connected Krasnoyarsk Energy System of Russian Federation, by 110 kV overhead transmission line. The total volume of imported electricity for 2003 was 40,000 kWh of electricity at average price of 3,5 US cents for 1 kWh.

² *The Asian Development Bank (ADB) supported Master Plan “Capacity Building for Energy Planning” has been released in May 2003*

³ *Source: Tavan Tolgoi Coal Mine Development Project, Ministry of Infrastructure of Mongolia, 2001*

⁴ *Source: Article on Turquoise Hill by Nigel H. Maund, Consultant Economic Geologist*

There are also 5 points in which power supplied through 10 kV lines for border point use only. These agreements for import of electricity made with the regional neighboring administrations, such as Buryat Autonomous Republic, Chita oblast administration of Russian Federation, Inner Mongolia Autonomous Region of People's Republic of China etc.

3. Government Efforts for Investment Promotion and Protection

Investment Promotion and Protection

The Government of Mongolia acknowledges the important role of foreign investment for the economic development of the country - through employment creation, the provision of new capital and technology, the introduction of new management skills, the generation of foreign exchange earnings and the offering of opportunities and choice to the Mongolian people. In this regard, the Mongolian Government is taking steps to open up the economy to different forms of foreign investment.

By encouraging foreign investment into Mongolia, the Government expects contributions towards the following national development objectives:

- The maintenance of strong and sustainable economic growth in Mongolia;
- The transfer of technology and skills in all sectors of the economy and, thereby, the creation of further employment;
- The development of export-orientated enterprises, the increase of foreign currency earnings and further expansion of value-added products and international competitiveness.

Foreign investment is welcomed in the national economy and in all parts of the territory of Mongolia. It is the Government's intention that a fully transparent registration system be developed with all relevant procedures.

Foreign investment is welcomed in the following forms:

- As wholly foreign-owned business entities, local branches or subsidiaries of foreign enterprises;
- Through the establishment of business entities jointly with local investors;
- By investing in existing Mongolian business entities, through purchase of its equities or by acquiring shares or other securities;
- By acquiring rights under the law of Mongolia or contracts to exploit and process natural resources;
- By concluding marketing or management contracts; and
- In financial leasing or franchising operations.

Current Investment Promotion Policies and Promotion Responsibilities

The Mongolian Government's policy of promoting foreign investment focuses on the removal of administrative restrictions. The objective is the development of a legal and institutional framework that facilitates property ownership, equity transactions and the encouragement of both domestic and foreign direct investment in the private sector.

The enhanced role of the private sector in the Mongolian economy is being supported by a number of measures aimed at liberalizing the economy. These measures include reduction of price controls, opening up of foreign trade, and the privatisation of state-owned enterprises. Emphasis is also being placed on the development of the infrastructure and of the education and health sectors, in many cases by using foreign loans and international aid.

The promotion of investment, particularly foreign investment, is the responsibility of the Foreign Investment and Foreign Trade Agency of the Ministry of Industry and Trade (FIFTA). The Chairman of the FIFTA directly reports on the implementation of its responsibility to the Minister of Industry and Trade.

FIFTA's main role is to promote Mongolia to the international foreign investment community as an attractive investment location, to provide information to potential investors on the investment conditions, to satisfy the information and assistance needs of potential investors and to administer the registration process of foreign investment.

FIFTA is currently taking a number of measures designed to improve the registration system. These include reducing the number of documents, which need to be submitted for registering a foreign investment and increasing the number of employees allocated to serve investors.

Foreign Investment Legislation

The Foreign Investment Law of Mongolia was adopted in 1991. Amendments to the law were made in July 1993, 2001 and 2002. The objective of these changes are to create a more favourable and competitive environment for foreign investment, such as abolishing the export tax on gold, reducing value-added tax on imported goods, improving services on registration and operation, and introducing provisions for ownership, tax preferential treatments and stable investment guarantees.

Bilateral investment treaties

Up to now, Mongolia has concluded investment treaties with 27 countries, and agreements on mutual promotion and protection of foreign investment with 38 countries. The following are lists of bilateral treaties on the protection and promotion of foreign investments and bilateral treaties on the avoidance of double taxation.

Pertinent multilateral conventions (concerning the energy sector, investment disputes, and intellectual property rights)

Foreign investors enjoy legal protection guaranteed and regulated by the laws of Mongolia, as well as by international treaties to which Mongolia is a party. Mongolia has joined the Washington Convention on the Settlement of Investment Disputes Between the State and Nationals of Another State (1965, joined 1996) and the "Seoul Convention on Investment Insurance"(1985, joined 1999). Also, Mongolia is since January 1999 a full member of the Multilateral Investment Guarantee Agency (MIGA) of the World Bank Group, and investors will thus be eligible for risk insurance through MIGA. Mongolia is a member of the New York Convention of 1958 on Recognition and Enforcement of Foreign Arbitral Awards effective 23 January 1995.

As mentioned above, Mongolia is a member of the World Intellectual Property Organisation (WIPO). As such, it has ratified the following WIPO conventions (date of ratification in brackets) :

1. Paris Convention for the Protection of Industrial Property (1985);
2. Madrid Agreement Concerning the International Registration of Marks and Protocol Relating to the Madrid Agreement Concerning the International Registration of Marks (1985);
3. International Convention Concerning the Use of Broadcasting in the Cause of Peace (1985);
4. Patent Cooperation Treaty (1991);
5. Berne Convention for the Protection of Literary and Artistic Works (1997);
6. Protocol to Madrid Agreement (1.02.2000);

7. Locarno Agreement Establishing an International Classification for Industrial Designs (11.02/2000);
8. Strasbourg Agreement Concerning the International Patent Classification (11.02.2000);
9. Nice Agreement Concerning the International Classification of Goods and Services for the Purposes of the Registration of Marks (11.02.2000);
10. Nairobi Treaty on the Protection of the Olympic Symbol (2002);
11. WIPO Copyright Treaty (2002).
12. WIPO Performances and Phonograms Treaty (2002).

4. Possible Framework for Cooperation in the North East Asia (NEA) Region

Power Interconnections

At this moment there are two local interstate ties of 220 kV between electric power systems of Far-East Russia and northeastern China, and the systems of Siberia and Mongolia. For interstate interconnections, High Voltage Direct Current (HVDC) overhead transmission lines are suitable solutions in order to decrease transmission losses and guarantee asynchronous work of power systems.

The East Siberia and Far East of Russia has a potential to export electricity up to 40 TWh by the year 2010⁵. The demand for power in China has grown by 15.3% in 2003 faster than it was predicted (average annual rate of demand increase no more than 6%) in the tenth five-year plan (2001 –2005) of People’s Republic of China.

From Mongolian standpoint, the project of power interconnection from Russia to China, might be a project, which can be realized in near term. Mongolia could serve as a safe platform for inter-country power links. There were different studies conducted by international organizations, research institutions, and other organizations on potential electricity interconnections in North East Asia. The most interesting project was the:

- **East Siberia – China tie** is considered as a 600 kV HVDC transmission line, 2200 km long, with transfer capacity of 3 GW from the Bratsk hydro power plant through Irkutsk, Gusinozersk, Ulaanbaatar (Mongolia) to supply power to the North China Power Grid near Beijing, China. The capital cost for 3 GW capacity was estimated at US\$ 1.5 billion (1995, ABB Inc. of Canada) on Build-Own-Operate (BOO) basis. Planning and construction of the project would require 2.5 years⁶.

Potential Benefits from the Development of Power Interconnections in the Region⁷

There are potential benefits, which are associated with the development of power interconnections in the region, such as:

1. Less power generation installed capacity would be needed since the combined load maximum of consumers would be less than the sum electric power systems annual maxima at their separate operations;

⁵ Source: Ways of Creating International Connections in East Asia and Environmental Implications, L.S.Belyaev, N.I.Voropai, S.V.Podkvalnikov, G.V.Shutov, Energy Systems Institute, Irkutsk, Russia

⁶ Source: ADB TA Project 3299, Mongolia Capacity Building for Energy Planning

⁷ Source: Basic Principles of Interstate Electrical Power Links Organization in North-East Asia Region, Lev A.Koshcheev, High Voltage Direct Current Transmission Research Institute Power Interconnections in North-East Asia, Dr.Dong-Wook Park, Vice-President, Korea Electrotechnology Research Institute (KERI), International Expert Workshop “Towards Multilateral Energy Cooperation in North-East Asia”, September 5, 2003, Seoul, Korea

2. Power interconnections will improve capacity for immediate responses in emergency cases (back-up, recovery situations);
3. Since all natural energy resources (coal, gas, etc) are limited, the power links would create regimes, which enables an optimal use of scarce natural resources;
4. The joint work power systems would lead to reduction of investment and operational costs (opportunity costs of investing in new generation capacity compared to import of power is much higher);
- 5.** The power links will reduce the use of fossil fuel, which will reduce emissions of CO₂, and associated environmental impacts, so, the North East Asia can keep the clean natural environment as much as possible⁸.
6. Power ties will help to build confidence and mutual trust between nations;
7. The use of grid interconnection will accelerate economic development of the region;
8. The interstate interconnection will diversify the supply of each country, and contribute to reliability of respective power systems etc.

Issues, or Obstacles for Power Grid Interconnections in Northeast Asia

1. The North East Asia region inherited historically tense relations between nations due to different political, economical and institutional structures, and different interests, the countries of the region are still very concerned with energy security, dependency on energy resources from the neighboring countries.
2. Legal and regulatory environment differ significantly in countries of the region.
3. There are large distances between generating facilities and potential recipients of power, water barriers between some countries.
4. There are different technical standards for frequency used in countries of the region.
5. Political tensions remain as an obstacle for mutual trust between nations to cooperate in mutually beneficial energy cooperation.
6. After 9/11 the global investment environment worsened, and the financing of regional cooperation projects, such as interstate power links, pipeline projects, become a hard task as never before.
- 7.** The countries of North East Asia need to cooperate in outlining the investors' country (legal, regulatory, economic and political) risks and value of regional projects to attract investors⁹.
8. There is a necessity to create an institutional framework on governmental level to promote regional projects.

Possible Framework for energy cooperation in North East Asia

The Government of Mongolia believes that for promotion of multilateral energy cooperation it is necessary to conduct frequent dialogue and meetings between respective countries at policy-making and decision making levels.

Also we encourage to activate the dialogues between Governments, businesses, research institutions and experts. The countries of North East Asia need to cooperate in outlining the

⁸ *Source:* Estimated Costs and Benefits of Power Grid Interconnections in Northeast Asia, David von Hippel, Nautilus Institute, Northeast Asia Grid Interconnection Workshop, Beijing, China, May 14-16, 2001 <http://www.nautilus.org/papers/energy.html>

⁹ *Source:* Privatization: The Investor's Point of View, Horst U.Meinecke, Chemonics International Inc., USAID/EPRC Energy Adviser, Ulaanbaatar, Mongolia

investors' country (legal, regulatory, economic and political) risks and value of regional projects to attract investors.

Mongolian side believes that the only productive way to move forward North East Asia energy cooperation is to establish an institutional framework for cooperation, such as senior officials meeting (SOM) at the Government level. This type of framework will help to reduce the impact of differences in institutional structures, investment environment and political structures etc.

As soon as we establish an institutional framework for cooperation at Government level, it will facilitate the development of joint policy agenda and near and midterm actions.

The Government of Mongolia proposes: 1) to increase the role of governments to promote energy cooperation; 2) to identify mutual beneficial projects by relevant authorities of member countries; 3) to facilitate information exchange and planning; 4) to develop investment climate and 5) to promote the use of energy efficient and energy saving technologies.