

The Second Coaltrans Mongolia: Developing a Sustainable Coal Market

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The Second Coaltrans Mongolia Conference was held on 23-24 May 2012 at Chinggis Khaan Hotel in Ulaanbaatar, Mongolia. The conference attracted more than 170 participants from 20 countries. The previous Coaltrans Mongolia conference was held about a year earlier on 21-22 June 2011 in Ulaanbaatar. Also an exhibition was organized at the conference site, where 16 companies representing Mongolia's mining and banking sectors displayed their work.

This year's conference theme focused on developing a sustainable coal market—one of the crucial agendas of Mongolia's further economic development. However, it was noticeable that a very small number of governmental and policymaking representatives were present at this event. This might be related to the fact that the conference date was less than a month before Mongolia's parliamentary election that was held on 28 June. Thus a sense of hesitancy to speak out with confidence about any further policy undertakings in the country was felt at all levels of the governmental hierarchy prior to uncertain election outcomes. This is a major weak point of Mongolia's policy sustainability which creates uncertainties for not only foreign, but also for domestic stakeholders. Despite these

shortcomings, the conference was insightful and informative and the main points of the discussions are described below.

Session 1 was dedicated to government keynote presentations. Mr. A. Erdenepurev, Director of the Department of Fuel Policy, Ministry of Mineral Resources and Energy of Mongolia, highlighted the crucial role of the coal sector in the country's growth. Mongolia's coal exports have increased almost 10-fold over the past five years and it is projected to reach 75 million tons by 2025, while domestic consumption would be 19 million tons. Coal exports accounted for 47% of the country's total export revenues in 2011. He also emphasized that the government is aiming to introduce value-added production in the coal sector, such as coal washing, gasification and liquefaction. Thyssen Krupp Uhde of Germany is cooperating with Mongolia to build coal gasification and liquefaction, and coking coal production plants in Mongolia. Although Mongolia has abundant resources of high-quality coal and favorable mining conditions at most of the coal deposit sites, Mongolia faces a number of challenges in appropriately supporting coal production and exports, such as lack of infrastructure (transportation, electricity and

water supply), shortage of qualified personnel and equipment, insufficient financial resources and other trade facilitation services within the country, and especially at border crossing sites. Mr. Erdenepurev also reported that Mongolian governmental and non-governmental organizations are cooperating closely with their Chinese counterparts to facilitate the marketing of Mongolian coal in Chinese and third-country markets via ports in China. Memoranda of Understanding were signed between the Mongolian Coal Association and Tianjin Coal Association and Erlian Coal Association in 2011. Also, via a technical assistance project of JICA and Japan Coal, Mongolia is developing a Master Plan for the Coal Sector.

Ms. Yo. Munkhtuya, Acting Vice Chairperson of the Foreign Investment and Foreign Trade Agency (FIFTA), Mongolia, briefed the participants about Mongolia's FDI environment, its current status and further opportunities. Amid high economic growth and with the GDP per capita expected to exceed US\$10,000 by 2016, Mongolia is becoming one of the most attractive destinations for foreign investment, she noted. FDI amounted to about US\$5 billion in 2011 alone. Mongolia has the lowest tax rates among the countries in the Asia-Pacific region (corporate tax rates are 10% and 25%, and VAT is 10%). Equipment and utilities for SMEs have been exempt from customs tariffs and VAT since mid 2011, and in June 2010 parliament approved the Policy of High Technology Industry that enabled the legal base for granting tax exemptions and extending credit guarantees to entities operating in the high-tech sector.

The industry keynote presentations were delivered in Session 2. Mr. G. Hancock, Chief Operating Officer of Erdenes Tavan Tolgoi JSC—a subsidiary of 100% Mongolian government-owned Erdenes MGL LLC and a coal producer and developer that owns licenses over a majority of the Tavan Tolgoi coalfield—explained about the project development, its achievements to date and further plans. The Tavan Tolgoi coal deposit is one of the largest open-pit coking coal deposits in the world with total reserves of 7.4 billion tons. Currently, two fields (East Tsankhi and West Tsankhi) at the site are under development, which have 1.2 billion tons of marketable coal. Production in the East Tsankhi area began in July 2011 and is currently producing 4.5 Mtpa (million tons per annum). With an estimated 50 years of mine life, it aims to

reach a capacity of 20 Mtpa by 2017. Erdenes Tavan Tolgoi is now completing a feasibility study (FS) for the commencement of mining at West Tsankhi, which has total reserves and resources of 1.7 billion tons and an estimated mine-life of 48 years with a steady state production capacity of 20 Mtpa. Commissioning of the first 5 Mtpa module of a Coal Handling and Preparation Plant (CHPP), one of Asia's largest and most advanced, is expected in mid 2014 and the full capacity of 20 Mtpa will be reached by 2017.

Also, negotiations with leading foreign state and private entities to develop a coal mine at West Tsankhi under a contractual arrangement with Erdenes Tavan Tolgoi is ongoing. Mr. Hancock further explained about the planned infrastructure necessary for stable operations at the mining sites. Construction of a highway in parallel to the paved road of the Mongolian Mining Corporation (MMC) to Gashuun Sukhait (the border crossing point to the south) will begin in 2013, and there are plans to cooperate with MMC on constructing a railway line to Gashuun Sukhait. Water supply options are also under various forms of consideration with potential water supply by pipeline from a ground water source located 65 km west of East Tsankhi. Power is currently provided by diesel generators at the site and there are plans to connect it to Mongolia's Central Electricity System (CES) Grid by 2013. Also, a bankable FS of constructing a 300 MW (two 150-MW-module) power plant is being completed as well.

Dr. G. Battsengel, Chief Executive Officer, Mongolian Mining Corporation (MMC), reported on the company's activities and the domestic and global backdrops. While emphasizing the growing importance of the mineral sector for Mongolia's economy, the coal sector has been evolving as a major export commodity and coal exports accounted for 53% of total mineral exports in 2011. Having exported 21 million tons of coal in 2011, Mongolia became the fourth largest coal exporter in the Asia-Pacific region behind Australia, the United States and Canada. The growing demand for coking coal in China and Mongolia's geographical proximity to China enabled Mongolia to be the largest coking coal exporter to China in 2011, surpassing Australia. Mongolia accounted for 46% of China's coking coal imports in 2011 and this share is expected to reach 60% by 2015, while the share for Australia would decline from 23% in 2011 to 15% by 2015.

MMC is successfully developing a coal mining site at Ukhaa Khudag, adjacent to the Tavan Tolgoi site. Having started commercial operations in 2009, the company mined 7.1 million tons of coal in 2011. Under contractual arrangements with experienced, world-recognized companies, MMC has built Mongolia's first CHPP (Combined Heat and Power Plant) with a total capacity of 15 Mtpa, which consists of three modules of equal capacity. Two of them began operation in June 2011 and February 2012, respectively. Also, the company constructed and put into operation a power plant with a generating capacity of 18 MW, a fully automated water supply system consisting of 12 km of main pipeline equipped with pump stations, 76 km of collection and distribution pipes, and 12 underground water wells. Moreover, 245 km of paved road from the mine site to Gashuun Sukhait were completed. For example, Leighton Australia has been engaged as the mining contractor, while Sedgman Australia constructed and manages the CHPP; the water supply design and construction was carried out by Aquaterra.

Mr. A. Sayed, President for Mongolia and India, Peabody Energy, mentioned that coal is still the world's fastest growing major fuel and it currently provides 30% of global primary energy needs. Almost half of the world's additional energy demand over the past decade was provided by coal and it is expected to grow by 65% by 2035 to become the world's largest energy source. In addition, coal is needed to produce 68% of the world's steel production.

Mr. S. Katzman, President, Bechtel Asia, reported that Bechtel Limited had completed a conceptual master plan for developing an industrial park in Sainshand, a city located in Dornogovi Aimag on the Trans-Mongolian railway route. It was carried out on the basis of a contract signed between the company and Mongolia's National Development and Reform Commission. Currently, the study report is under review by the government of Mongolia and will move to the next development step upon government approval.

The demand outlook for Mongolia's coal on foreign and domestic markets was discussed in Session 3. Mr. P. Hickson, Global Head at UBS Securities Commodity Research, underlined that China's coal imports have dramatically increased since 2009, but net imports were still

6% less than China's total coal consumption. China's coking coal imports have been stable recently and Mongolia's share has risen to 45% of the total. Mr. L. Lu, Managing Director and Chief Market Analyst of Fenwei Energy Consulting, mentioned that China's demand for thermal coal has a large base, but is growing rather moderately. Also, Mr. J. Johnson, CEO of CRU China, highlighted that China's demand for metallurgical coal is picking up in line with the urbanization trend in China, while there is a declining trend elsewhere. Because China's domestic coking coal resources are limited and exploration is more costly than Mongolia's, this trend will push China's imports of coking coal upward in the years ahead, and that provides promising potential for Mongolia's coking coal exports. Mr. J. Bacharach, Director IEEC Limited, Moscow, introduced Russia's potential coking coal projects and underlined that Russia plans to exploit coking coal at seven locations, which will add a new production capacity of almost 80 million tons per annum by 2020. However, this new capacity will secure the supply of coking coal mainly for Russian steel makers and a lack of infrastructure prevents Russia exporting its excess supply to China. Therefore, coking coal developments in Mongolia and Russia can be characterized by their co-existence, rather than competition. Mr. J. Lee, Chairman & CEO, Prophecy Coal Corp., which is developing two major thermal coal production projects in Mongolia, presented the company's plan to build an environmentally-sound modern coal-fired thermal power plant with a total capacity of 4,200 MW, along with a transmission grid that would meet not only Mongolia's rapidly growing demand for electricity, but would also enable the export of power to China.

Assessing the financial opportunities for successful mining projects in Mongolia was discussed in Session 4. Mr. M. Igata, Founder & CEO, Frontier Securities, noted that the planned IPO for Erdenes Tavan Tolgoi JSC, which will be one of the largest world-class producers and exporters of high-quality washed coking- and thermal-coal products to Chinese and North Asian markets, is expected to be one of the biggest IPOs for Asia owing to its resources, quality, and railway construction. Therefore, investments at the right time with the right portfolio will definitely yield rewarding returns. Prospective routes from Mongolia to access seaports are illustrated in Figure.

Mr. T. O'Neill, Vice President, Corporate Banking,

Figure Prospective Infrastructure to Access Eastern Russian and Eastern Chinese Seaports



Source: M. Igata (2012), Investment Potential in Mongolian Coal, presentation delivered at the Second Coaltrans Mongolia, 23 May 2012.

KhasBank, underlined that although total investment and total borrowing requirements for the Mongolian mining sector are as yet unknown, the existing banks in Mongolia are providing financing for small projects only, mainly for working capital and trade finances.

Issues related to building the infrastructure needed for development of large scale mining projects were discussed in Session 5. Mr. L. Purevbaatar, Vice Chairman, Railway Authority of Mongolia, shared his thoughts on how Mongolia is planning to build free trade zones at border areas within the territory of Mongolia, where standard gauge railway links will be available. Mongolia is located at the conjunction of the biggest networks of wide (1,520 mm) and standard (1,435 mm) gauge railways. Therefore, this plan would facilitate not only the country's inbound and outbound railway transportation, but also facilitate transit transport between Asian and European countries via Mongolia.

Mr. S. Lewis-Workman, Senior Transport Economist, ADB, reported on the ADB's experience and future directions for financing for Mongolia's transport sector. To date, ADB has provided five road sector projects with total

loans/grants to the amount of US\$185 million, one logistics facility of US\$45 million, and two aviation sector projects with a total amount of US\$60 million. Also, the ADB is planning to extend to Mongolia a US\$125 million loan for two road sector projects, US\$215 million for an urban transport project and another \$65 million for a logistics facility in Ulaanbaatar city. Considering the high impact of railways for the country's development, the ADB will also engage in extending broad-based technical assistance to the railway subsector, such as a tariff study of infrastructure, and consultancy support for the Development Bank of Mongolia, etc.

Specialists from Wagner Asia Equipment LLC introduced the company's products, which are widely used by mining companies worldwide, including heavy-duty trucks designed especially for Mongolia's conditions and power systems designed to meet the power needs for all stages of the development of mining projects, such as prospecting, construction and production.

Issues concerning adding value to Mongolian coal and continued opportunities for exploration were discussed in Sessions 6 and 7. Mr. J. Lawrence, Mining Services

Manager, Leighton Asia, highlighted that the important feature for operating in Mongolia is to employ minimal expatriates, who are mentors not managers, and focus shall be given on training and knowledge transfer. Mr. K. Garner, General Manager, Cougar Energy Asia, introduced the potentiality of applying Underground Coal Gasification (UCG) technology in exploiting Mongolia's abundant coal resources. As he mentioned, "UCG is a viable energy alternative to traditional coal mining and it is a clean alternative energy source offering security for global supply." 65% of Mongolia's coal resources of an estimated 150 billion tons are lignite. Therefore, the UCG process offers significant value addition to Mongolia's coal with a lesser environmental footprint.

Mr. G. Ainsworth, Country Director for Mongolia, Aspire Mining Limited, underlined that railway construction from the mining site to the nearest point of the existing railway link of Mongolia is critical to development and success of their operation in Mongolia. The distance from their coking coal development site at Ovoot in Khovsgol Aimag to the existing railway link is about 600 km. Therefore, as a part of the project development capital expenditures (CAPEX), the company plans to build a multipurpose railway between Erdenet, Moron and Ovoot on a BOOT (Build-Own-Operate-Transfer) basis on concessional terms with the Mongolian government.

Session 8, the last but not the least session, was devoted to creating a sustainable coal mining industry in Mongolia. Mr. P. Kuncinas, Regional Editor, Oxford Business Group,

recommended that Mongolia needs to do a technological leapfrog to meet the growing demand for power due to development of large-scale mining and other industries, along with the rapid urbanization in the country. Representatives of RPS Aquaterra—an international water and environment consultancy company, providing industry-leading skills in hydrogeology, groundwater and surface water modeling, civil engineering and environmental sciences—shared their views on securing reliable groundwater supplies for Mongolian mining. The company began working on groundwater projects in Mongolia in 2003 and established an office in Ulaanbaatar in 2008. They noted that due to the scarcity of surface-water resources in Mongolia, groundwater presents the only viable option for large scale water supply. Therefore, it needs to start studies early to enable water supply to be in place in time for operations. Also, comprehensive assessment is required to identify and mitigate against potential social and environmental impacts of the project operations. Mr. J. Miragliotta, Director and Environment Manager of Sustainability East Asia LLC, highlighted the importance of incorporating community considerations into coal development planning and operations. They include, but are not limited to: developing skills and encouraging local business capacity; encouraging participation in environmental protection and monitoring; maintaining transparency and open communications with local communities; and developing mine closure plans that include post-mining environmental, social and economic objectives.