

## **The Opportunity to Improve Coal Transportation, Resources and Environment**

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### **Abstract**

*Coal transportation is one of the most important responsibilities in our economy. In order to transport coal into 3<sup>rd</sup> country from Mongolia, we have to transport through China territory. According to agreement of road transport in 1991 Mongolia and China, it is possible to transport coal through road transport, it is not cost-efficient, cannot transport through railway because of controlling of transit cargo. Otherwise, our country currently exports coal without manufacturing and enriching. In this paper, I tried to study methods to increase coal transport from many sides, to implement multi-modal transport and to export coal to other countries. So in order to reduce influences in coal transportation, we need to be accurate legislative environment and need to plan of transport.*

*Keyword: coal, logistics, auto transport, innovation, investment, ecology*

## **1. INTRODUCTION**

### **1.1. Regional coal reserve in Mongolia**

Mongolia has proven reserves of 12.2 billion tons of coal including 2 billion tons of coking coal and 10.1 billion tons of thermal coal. Mongolia is estimated to have potential coal reserves of some 100 billion metric tons. While Mongolia's output is approximately only 5 million tons of coal per year, it will grow significantly given its proximity to China.

Coal transportation began since the time that Thermal power stations started being used in Mongolia but most of the transport is carried out by railway.

Whereas, we can almost say that domestic coal transportation by auto road was introduced when demand for coal utility of the people who lives in the nomadic tent district in the capital was provided by privately owned truck drivers from big mines like Baganuur, Alagtolgoi, ShariinGol, Nalaikh etc. that are nearby Ulaanbaatar.

From the beginning of this century, big coal mines opened and started its operations nearby the border points of our country, as regards to this event coal transport and export were introduced internationally but in more words, in 2003 there was a general agreement between the governors of Umnogovi province and, Bayannuur and Alishaa of Inner Mongolia state about trading of coal that enabled the start of a regular international coal transport service.

Generally, international transportation service with auto transport unit is organized and administered by authorized organizations and with their provision and decision came out of the

meetings held every year which is originated and authorized by the contract between the governments of Mongolia and People’s Republic of China.

As of today, there are 10 border points with China and 4 border points with Russia that proceed international auto road transportation.

Coal reserves percentage by region in Mongolia

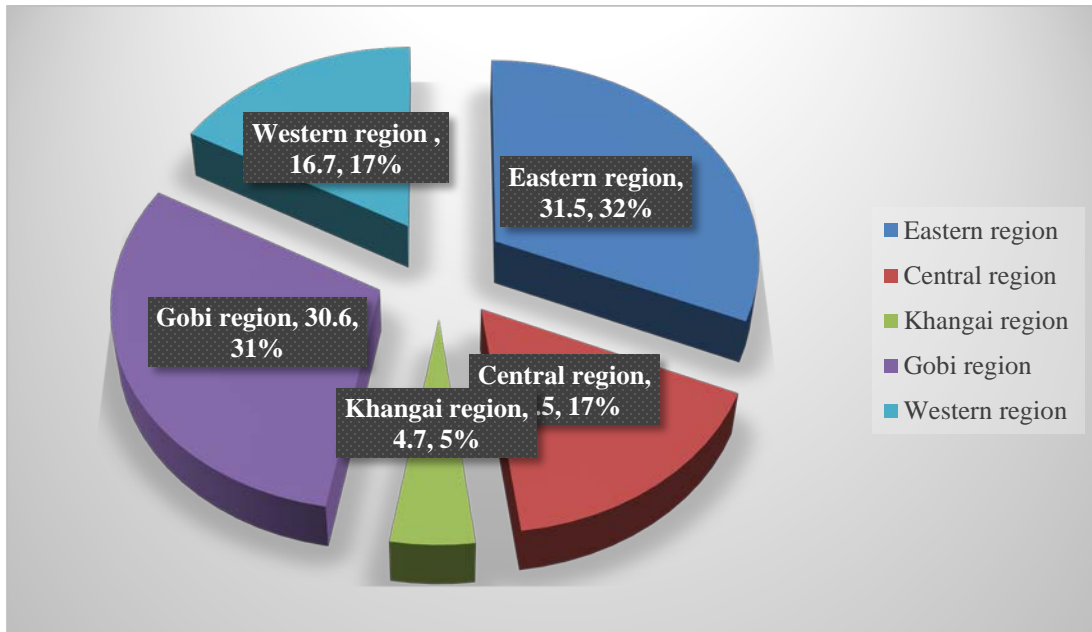


Figure1. Coal mining and coal export are increasing in recent years in Mongolia.

22.434 million tons of coal explored in 2010.

In 2011 /27.764 million tons /, coal exploration increased by 23.8%.

Coal exports rose 31.3 percent in 2011 (18.4 million tons) compared to the year 2010 (14 million tons).

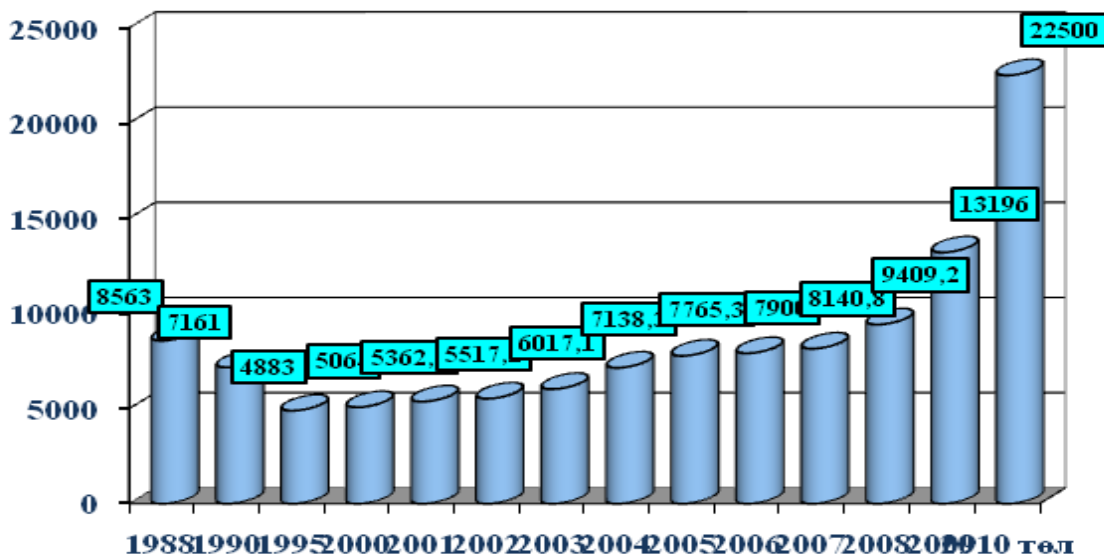


Figure 2. Mongolian Coal exports

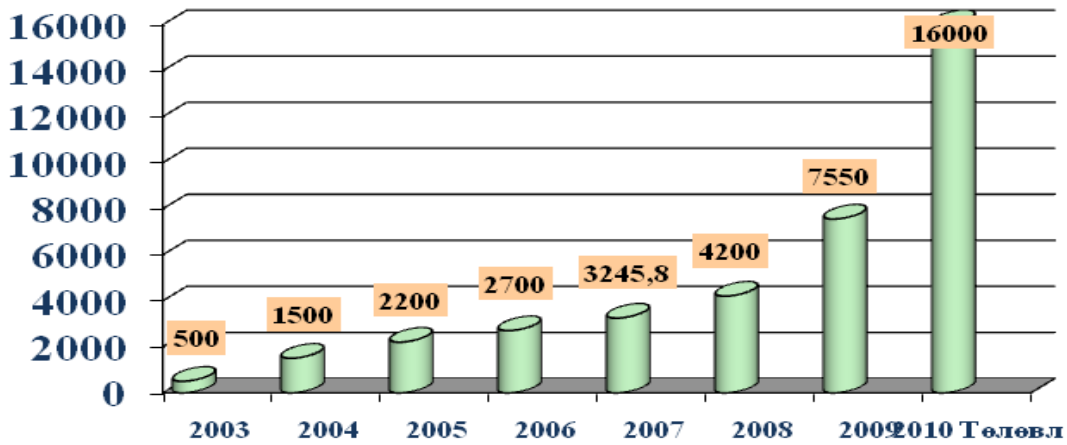


Figure 3. Coal exploration and target.

Currently, we export 100% of the explored coal from the biggest coal mines in our country

**Coal exploration and target**

|   | 2009    | 2010    | 2011    | 2012     | 2013     | 2014     |
|---|---------|---------|---------|----------|----------|----------|
| “MAK” Co.,ltd, Nariinsukhait mine           | 1 600.0 | 3 000.0 | 8 600.0 | 9 000.0  | 9 000.0  | 9 000.0  |
| “MonEnko” Co.,ltd Khoshoot mine             |         | 800.0   | 3 035.7 | 6 432.4  | 8 000.0  | 8 000.0  |
| “Red hill Mongolia” Co.,ltd Ulaan-Ovoo mine |         |         | 1 000.0 | 1 500.0  | 2 000.0  | 2 500.0  |
| “South Gobi sands” Co.,ltd Ovoottolgoi mine | 1 327.0 | 2 500.0 | 4 000.0 | 5 000.0  | 5 000.0  | 5 000.0  |
| Tavantolgoi Co.,ltd Tavantolgoi mine        | 2 600.0 | 2 600.0 | 3 000.0 | 3 000.0  | 3 000.0  | 3 000.0  |
| Baruunnaran mine                            |         |         | 1 000.0 | 7 700.0  | 10 000.0 | 10 000.0 |
| “Energy Resource” Co.,ltd Ukhaakhudag mine  | 1 400.0 | 3 800.0 | 7 000.0 | 10 000.0 | 10 000.0 | 10 000.0 |

through the nearest border points to the People’s Republic of China and 90% of this is done by auto mobile transportation. If we look at coal transportation points as border points, they are:

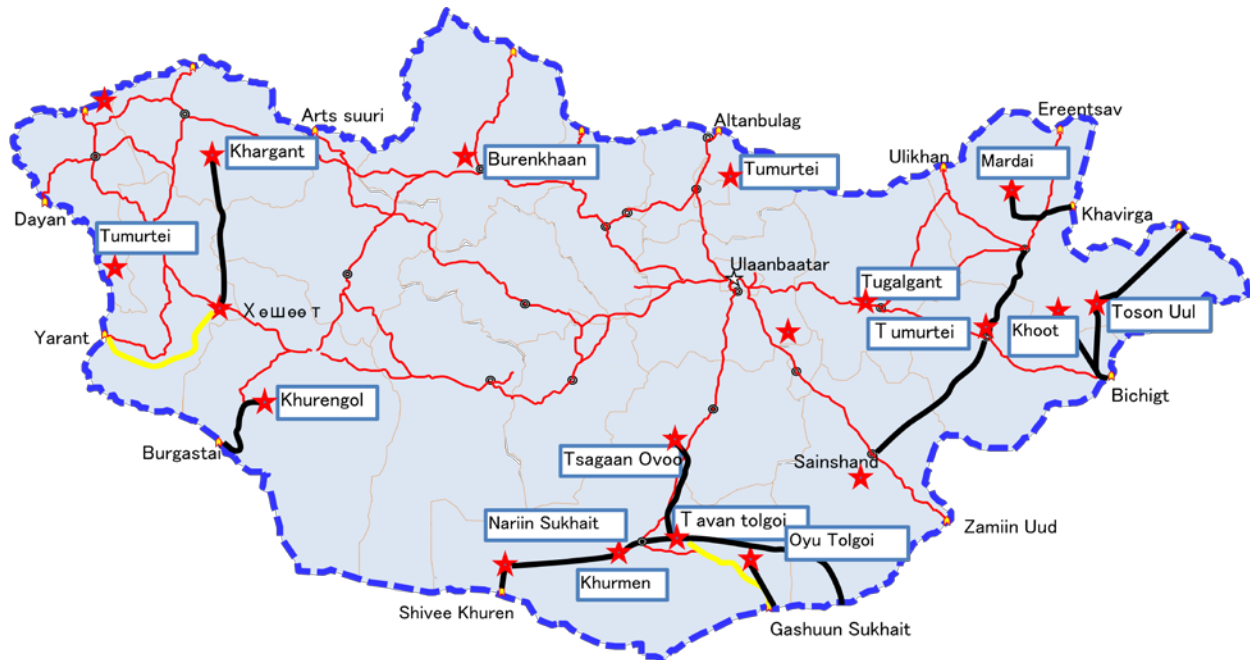


Figure 4. Coal transportation points

International transportation routes marked on the picture above are the official routes that are accepted by the transportation agreement between governments of Mongolia and China. Coal transportation to People's Republic of China is done through Khoot mine, Dornod province, Matad sum borders with Inner Mongolia (State of China), from the mine Bayantsogt of Erdenetsagaan sum, Sukhbaatar province through transportation point Bichigt of Sukhbaatar province, from the mine Alagtolgoi of Dornogovi province through the transportation point Ereen of ZamiinUud, Tavantolgoi mine in Tsogttsetsii sum, Umnogovi province, Nariinsukhait mine in Gurvantes sum, Umnogovi province, Ovoottolgoi from the MAK mine through Shiveekhuren transportation point. From Khoshoot mine in Khovd province, Darvi sum coal transport is carried out through Yarant border point to China.

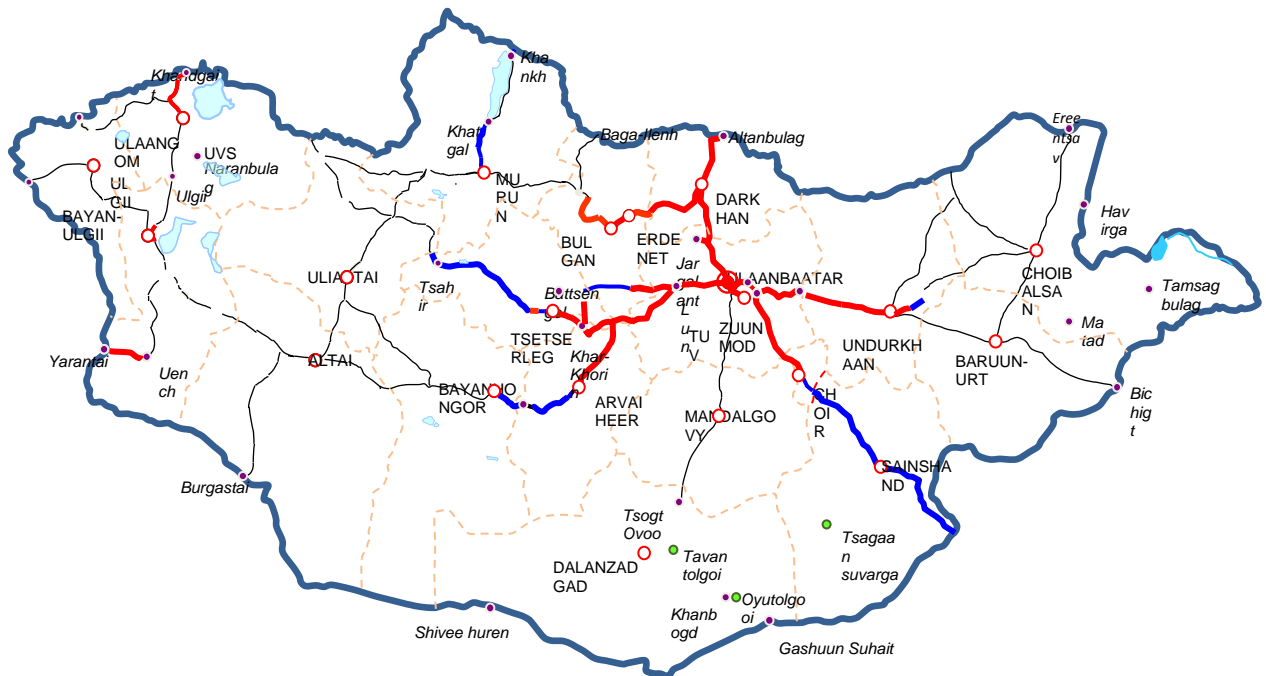


Figure 5. Paved road, 2244 km Under construction, 2577 km

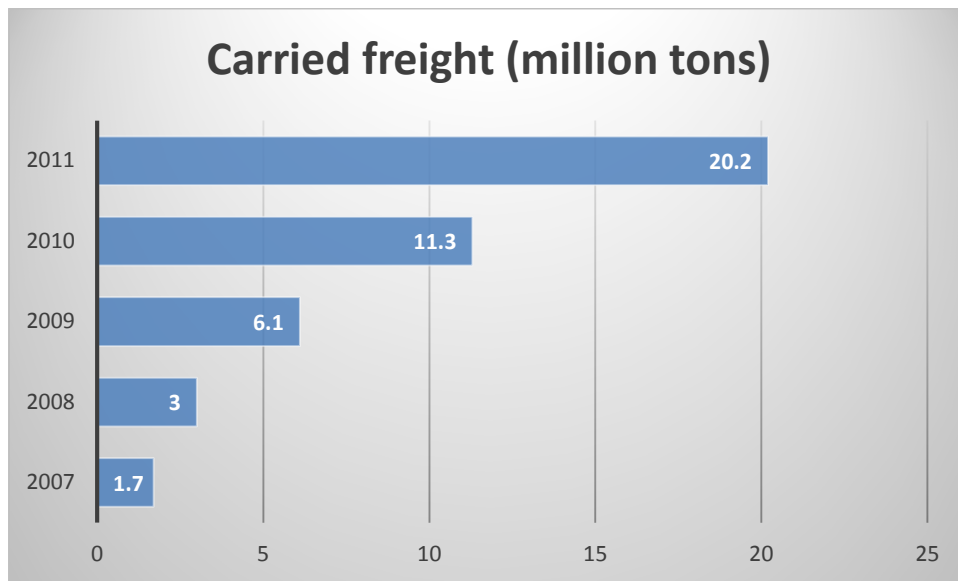


Figure 6. International coal transportation research(2007-2011)

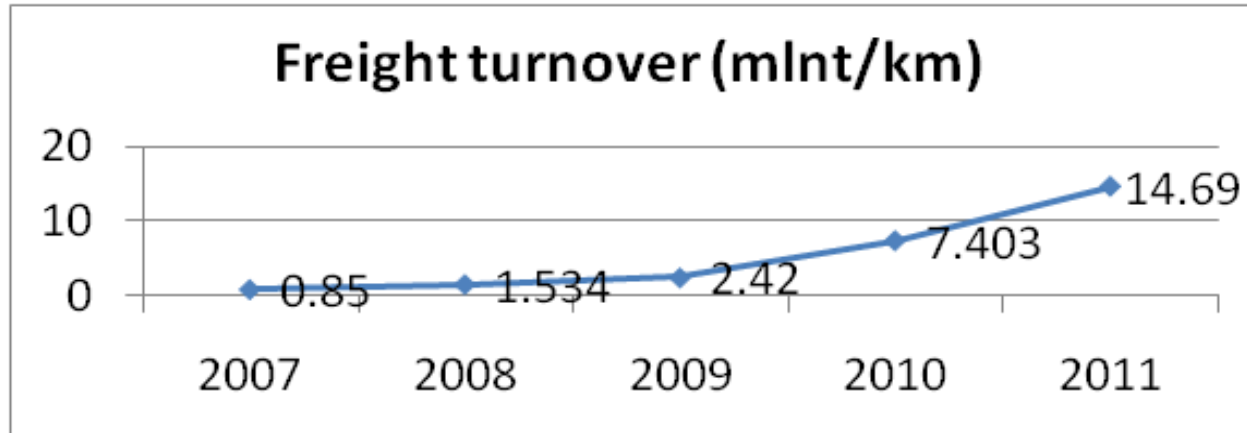


Figure 7. Freight turnover from coal transportation

The transport department, which is governmental agency, is responsible to regulate the international road transport and coal transport services with reflect to the transportation agreement between governments of Mongolia and the neighboring countries and Transportation law of Mongolia and its core rules and regulations, and also standard requirements. Another duty is to provide management and report through their state transportation control officers in every border points.

## 2. CONCLUSION

We started working with the objectives to put transport branch at new level, to increase capacity and to improve responsibility of transport companies. For this:

- To transport coal through paved road
- Road which perform transport must be separate from public road, to make change on the law of “A bout road, Road transport” and make appropriate standards.
- To increase the evaluation of coal transport
- To transport coal according to standards
- To depend on company which possess license of usage
- Mongolian border points where coal is transported must work for 24 hours and increase capacity
- To increase human resource of transport companies which work at border point

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