



Methane to markets partnership meeting in Mexico

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Coal methane mine (CMM) Development in Mongolia

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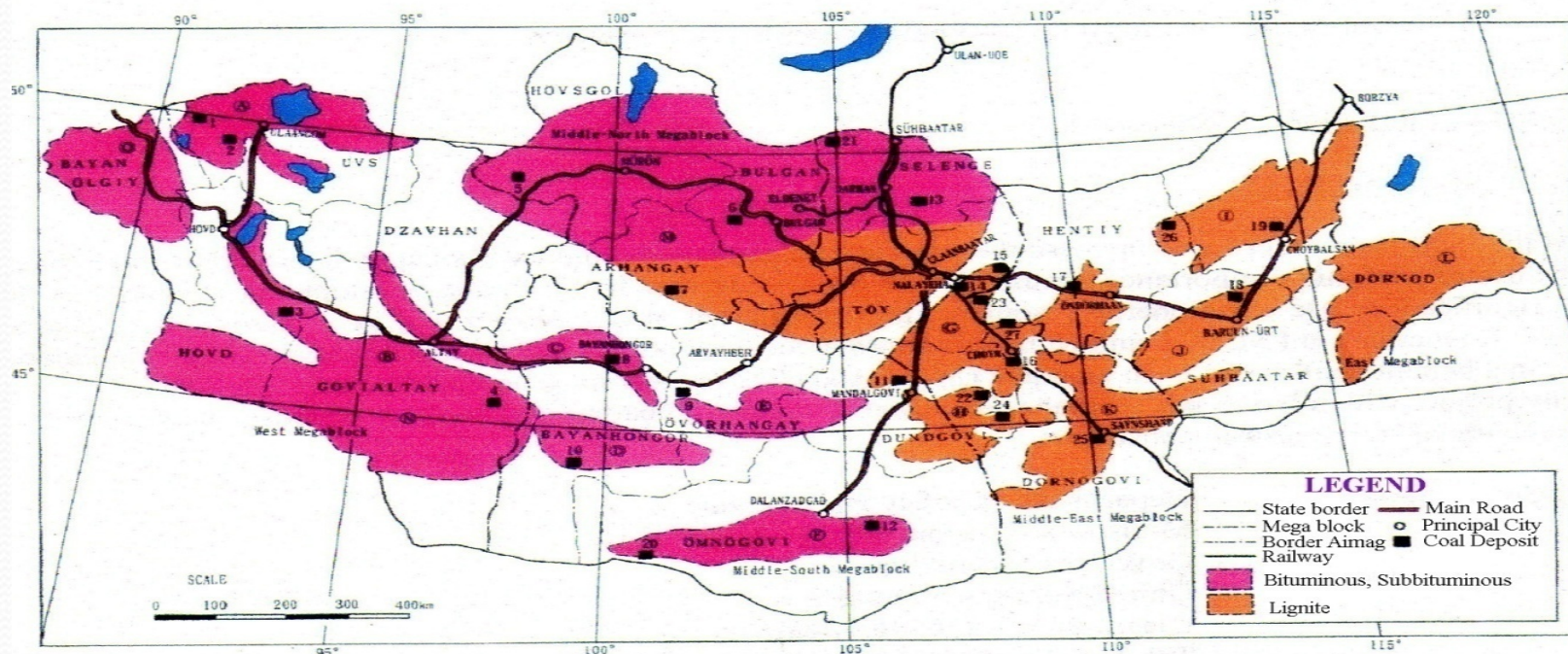
Energy sector strategy in Mongolia

- Create environmentally and financially sustainable energy sector that will provide cost effective energy access to the entire population, thereby enabling poverty reduction and greater private and public sector participation.
- Take advantage of new technologies and sources of energy particularly integration of coal and gas exploration that might further promote economic efficiency and environmental sustainability.

Coal resources of Mongolia

- Coal is most important primary energy sources in Mongolia. There are around 320 coal deposits and occurrences (80 deposits and 240 occurrences), according to Geological Information Centre of Mongolia. Total geological coal resources are estimated at approx. 150 billion tons, including about 20 billion tons explored.
- Most of coal are sub bituminous or lignite in the East and bituminous coal in the West and South region.

Coal Resources in Mongolia





Coal Mining Situation:

- Since 1960, open cast coal mining was developed progressively, including local coal mines in various provinces of the country.
- Coal is the mine energy source in Mongolia at present, covering about 95% of the total solid fuel consumption.





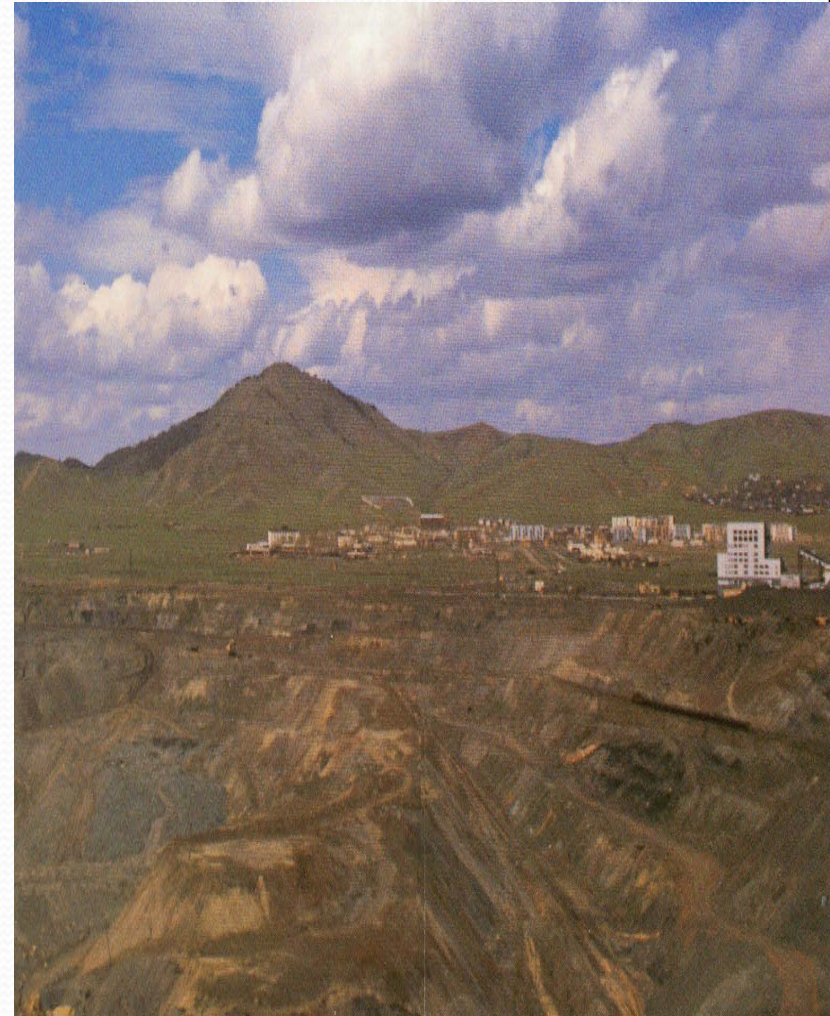
Coal Mining Situation:

- Coal is expected to remain the most important primary energy resource in the foreseeable future, because of the great coal reserves in Mongolia which dwarfs the reserves of other energy resources, such as oil and gas.



Coal Mining Situation:

- Most coal reserves in the country are available for the most economically feasible open cast mining because of suitable geological conditions. Most open cast coal mines in Mongolia are operated at shallow depth and coal is supplied at cost well below those of potential imports. Now open cast mines are providing almost 99% of the country's coal production.
- The quality of Mongolian coal reserves covers the full range from lignite through bituminous and coking coal.





Coal Mining Situation:

- Mongolia processes substantial resources and reserves of coal. At present, more than 200 coal deposits and occurrences within 12 coal basins and 3 regions are known in Mongolia.
- All the coal deposits and occurrences are located relatively in all areas of the country, but most of coal resources are concentrated in east, central and south areas.
- More than 30 coal mines of different capacity are under operation in Mongolia.





Government policy to CMM/CBM development in Mongolia

- Mongolia is a developing country and is well recognized internationally for her efforts to reduce green gas emissions and Mongolia has consistently demonstrated its strong support of international initiatives in protection of the global climate.





Government policy to CMM/CBM development in Mongolia

- In order to comply with her international obligations and commitments Mongolia developed and implemented several environmental protection policy documents such as Mongolian Sustainable development strategy and national Agenda 21, National climate change action Plan, energy policy strategy, the renewable energy aimed at reducing green house gases emissions in Mongolia





Government policy to CMM/CBM development in Mongolia

- In recent years, Mongolian Government and Coal industry are attaching great importance on the CMM development and utilization. Therefore, the Government of Mongolia becomes 24th member of the Methane to Markets Partnership program operated by US Environmental Protection Agency's Climate Change Division on 27th March 2008.
- Upon joining to the Methane to Markets Partnership program, Mongolia is implementing small EPA's grant on pre-feasibility study on methane recovery and utilization possibility in Nalaikh mine area. The EPA grant activities started up from 30 September 2008.



Main barriers for CMM development

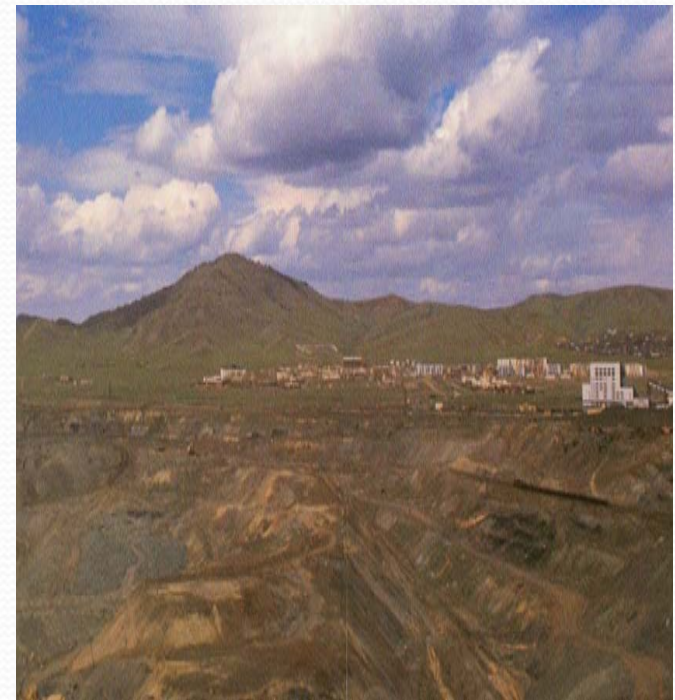
- Not yet completed coal methane resources assessment in all coal mines
- Not yet developed mid and long term CMM development and utilization planning
- Technical problem on recovery and utilization of CMM/CBM
- Shortage of the human and technical capacity as well as fund resources
- Lack of the legal foundation for CMM development and utilization including CMM mining rights





Brief Information on implementation of pre-feasibility study on methane recovery and utilization possibility in Nalaikh mine are:

Main goals of Pre-feasibility study is to data collection at the Nalaikh coal mine and additional efforts to identify and remove barriers to CMM recovery and use and develop capacity and awareness, information on investment opportunities, review and revise the existing methane and petroleum laws and policy documents and plus a proposal to the Global Environment Facility (GEF) for larger efforts to remove barriers and promote investment in CMM recovery in Mongolia.



The preliminary results of the pre-feasibility study on methane recovery and utilization possibility in Nalaikh mine are:

1. Conducted the detailed Mine Geology of Nalaikh mine area and results of which were discussed by stakeholders meetings and seminars.
2. Conducted the preliminary study the mine Geology of Nalaikh mine area and results of which were discussed by stakeholders meetings and seminars.
3. Activity for Initial assessment of methane resources in Nalaikh mine area started up. This initial assessment will be completed in May, 2009.



4. Made survey on assessment of socio-environmental benefits of use methane in Nalaikh mine area

The preliminary results of the pre-feasibility study on methane recovery and utilization possibility in Nalaikh mine are:

- 5. Reviewing and revising the existing methane and petroleum laws and policy documents for CMM development and utilization. This study will be completed in June 2009**
- 6. Organized three workshops on promotion of Capacity building and public awareness for CMM development and utilization. There were attended representatives of Government, Private sector and including international donor organizations EPA, World bank, UNDP, ADB / and US EPA, Embassy of USA, RRRI of USA and other different private sectors representatives participated in this inception workshop.**

The preliminary results of the pre-feasibility study on methane recovery and utilization possibility in Nalaikh mine are:

7. Prepared and published coal methane workshop's proceedings that have published and distributed to the public. This publication will contribute promote public awareness of benefits on use of CMM and CBM development in Mongolia.

8. Three Mongolian coal experts were attend in the 4th China International High technology Symposium on coal Chemical Industry & Coal Conversion which was held in Beijing 4-5 November , 2008. During Symposium Mongolian experts met with International and Chinese coal

Planned activities on pre-feasibility study in 2009

1. Identify a company to develop the coal mine methane recovery and utilization activities in Mongolia in the future

- (Develop Terms of Reference for selection of company, selection of appropriate a company, organize workshop for the selected company on the recovery and utilization of methane)

2. Development of investment opportunities in coal Mine methane project in Nalaikh Mine

- (collection information, detailed analysis for market analysis/ demand analysis and assessment of benefit of energy saving and environment protection, Familiarization visit for decision makers of Government of Mongolia to visit the foreign country learn about CMM development)

Planned activities on pre-feasibility study In 2009

- 3. Completion of Review and revise the existing methane and petroleum laws and policy documents particularly**
(technical safety standards and degasification requirements, gas ownership issues, possible tax and other incentives, regulation on exempting import tax on the articles imported for CMM Prospecting and development projects. This regulation mainly refers to the exemption of import tariff, and value add tax when importing CMM related equipment and organize stakeholders meeting for discussing newly developed policy documents)



Planned activities on pre-feasibility study in 2009

4. Identify technical assistance needs

(Identification of the relevant stakeholders and assessment of their current capacity to develop and implement coal mine methane recovery projects, Formulate a strategy and a set of measures to provide the technical assistance needed and Seminar for discussing technical assistance needs)

5. Promote a public awareness campaign including workshops and training to improve capacity building

(Create website and update Methane to Markets database and organize specific public awareness raising seminars and meetings on CMM development and utilization)

Planned activities on pre-feasibility study in 2009

6. Identify barriers for methane recovery and use in Mongolia for GEF proposal

(There are a number of barriers that have so far prohibited any significant investments into methane recovery and utilization to take place. Some of these identified key barriers are:

- *Institutional and Awareness Barriers Related to the Lack of Project Experience,*
- *Barriers Related to Technical Support for CMM Recovery and Utilization,*
- *Barriers Related to Financing CMM Recovery and Utilization,*
- *Barriers Related to the Lack of Measurement, Monitoring, Reporting, and Verification of GHG Emission Reductions*

7. Develop the GEF project proposal on the removal of barriers for methane recovery and use in Mongolia and submit to GEF for approval. It will be completed August, 2009



Conclusions

- Mongolia has great prospect for CMM development and utilization providing the foreign investors and companies with many project opportunities
- Activities of the Methane to Markets Partnership program operated by US Environmental Protection Agency's Climate Change Division are playing great contribution to CMM and CBM development in developing countries.
- CDM program cooperation in CMM development and utilization
- Technical cooperation related to coal mine work safety



Conclusion:

- Coal reserves in Mongolia are large and coal will continue to be the most economic fuel for power and heat generation in the next 10-15 years, despite Government intention and efforts to diversity energy resources.
- In future, surface mining method and technology will dominate in Mongolia, because of favorable geological conditions of coal deposits. Together with coal mining technology, coal utilization technologies in Mongolia need to be improved significantly.



Conclusion:

- Infrastructure issues are most important for the coal mine development projects in Mongolia. Financial sources to built coal project –related infrastructure need to be secured in reliance on direct foreign investment, grant aids and loans of international financial organizations and donor countries.
- Mongolian government funds and resources, privet investments, banking loans and other possible local sources can also be used for this purpose.



Thanks for your attention