MINISTRY OF FUEL
AND ENERGY
MONGOLIA

"Current Status of and Prospects for Energy Resources and Infrastructure Development of South Gobi in Mongolia."

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- Coal Resources
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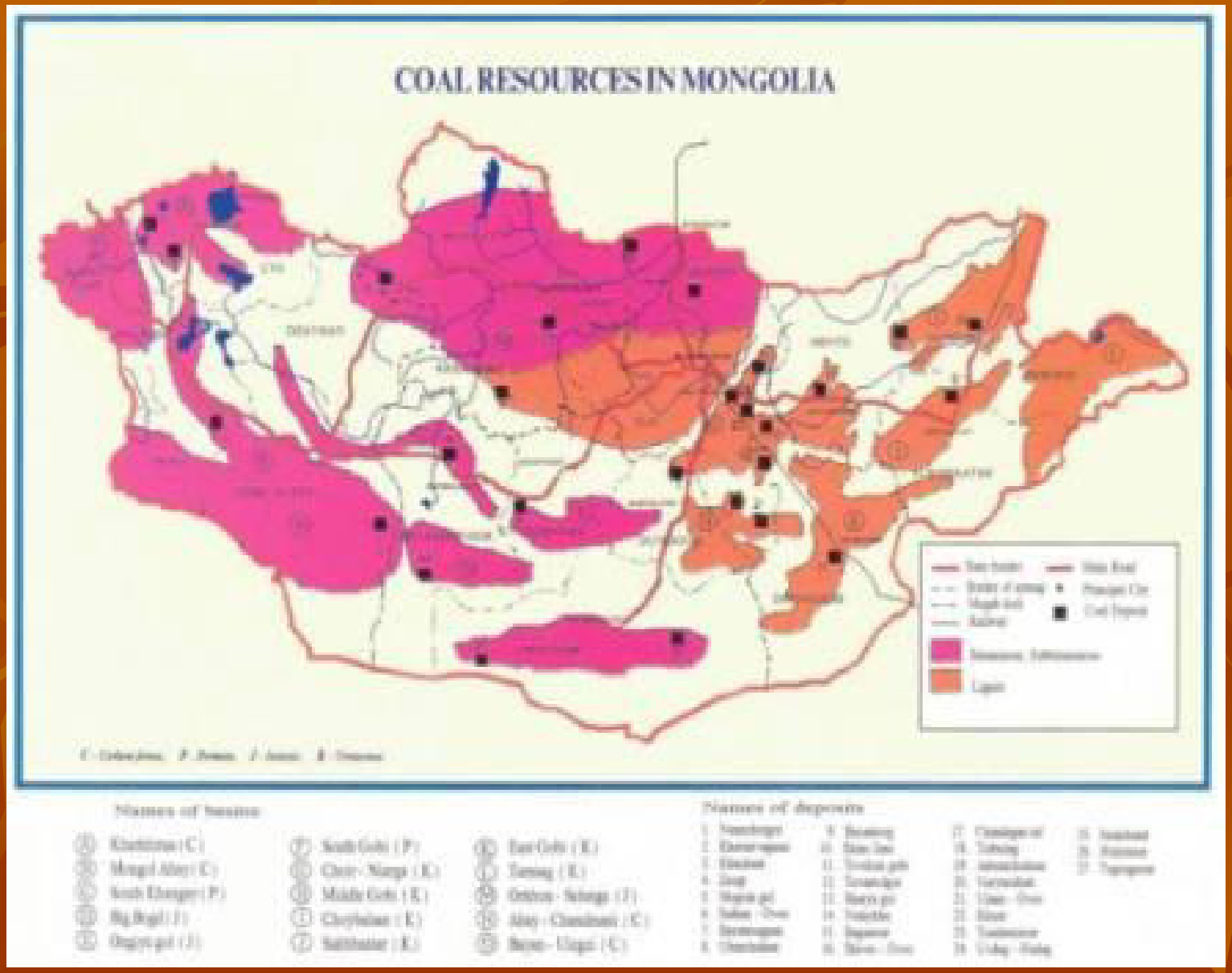
- South Gobi Infrastructure /Energy supply, Road, Railway, Water resources/

Coal

- Mongolia's total inferred coal resources as predicted around 150 billion tons.
- The preliminary and detailed exploration activities resulted in about 23 billion tons of coal reserves.
- The proved coal reserves are 12.2 billion tons including 2 billion tons coking coal and 10.1 billion tons of thermal coal.
- Coal deposits and occurrences are located throughout the country, but most of the coal resources are concentrated in the east, central and south areas.


COAL RESOURCES IN MONGOLIA
Lignite

Oil

- Mongolia is oil import dependent
- But recent prospecting for oil has brought some positive results in Southern and Eastern Regions of Mongolia
- Investment is increasing reaching 433,1 ml US in 2008,
- In 2 oil field – 150 exploration wells, they would pump up 140 000 tons of oil in 2008, planning to reach 300 000 tons in 2010.
- But these is not enough to build own refinery

Other fuels

- Liquefied petroleum gas (LPG) is in use and ot is an imported product
- To date LPG is used for household consumption, transport, tourism and industry
- in 2007 LPG was supplied to 20 thousand customers in aimags and other local areas and over 12 thousand customers in Ulaanbaatar.
- It is noted in the Uranium Redbook of 1995 that Mongolia has a some uranium resources, which totals about 1,8 % /83000 tons/ of the world uranium reserves.

Coal Policy

- Due to of insufficient oil, natural gas, coal is and will remain as main energy resource for Mongolia.
- The Government policy is aimed to provide national security and sustainable development of Mongolia by introducing economic and environmental friendly clean coal technology and production such as coal liquefaction, coal gasification and coal-chemical industry development.

Perpective coal deposits

Central Mongolia

- *Shivee-Ovoo /2,7 bln tons of br coal, /*
- */Tugrugnuur and Tsaidannuur brown coal -2 bln/*

East Mongolia

- *Aduunchuluun /100 mln brown coal/*
- *Tugalgatai /3 bln sub bituminous, Tethys mining, CVRD/*

West Mongolia

- *Hushuut /300 mln tons of bituminous and met.coal, /*

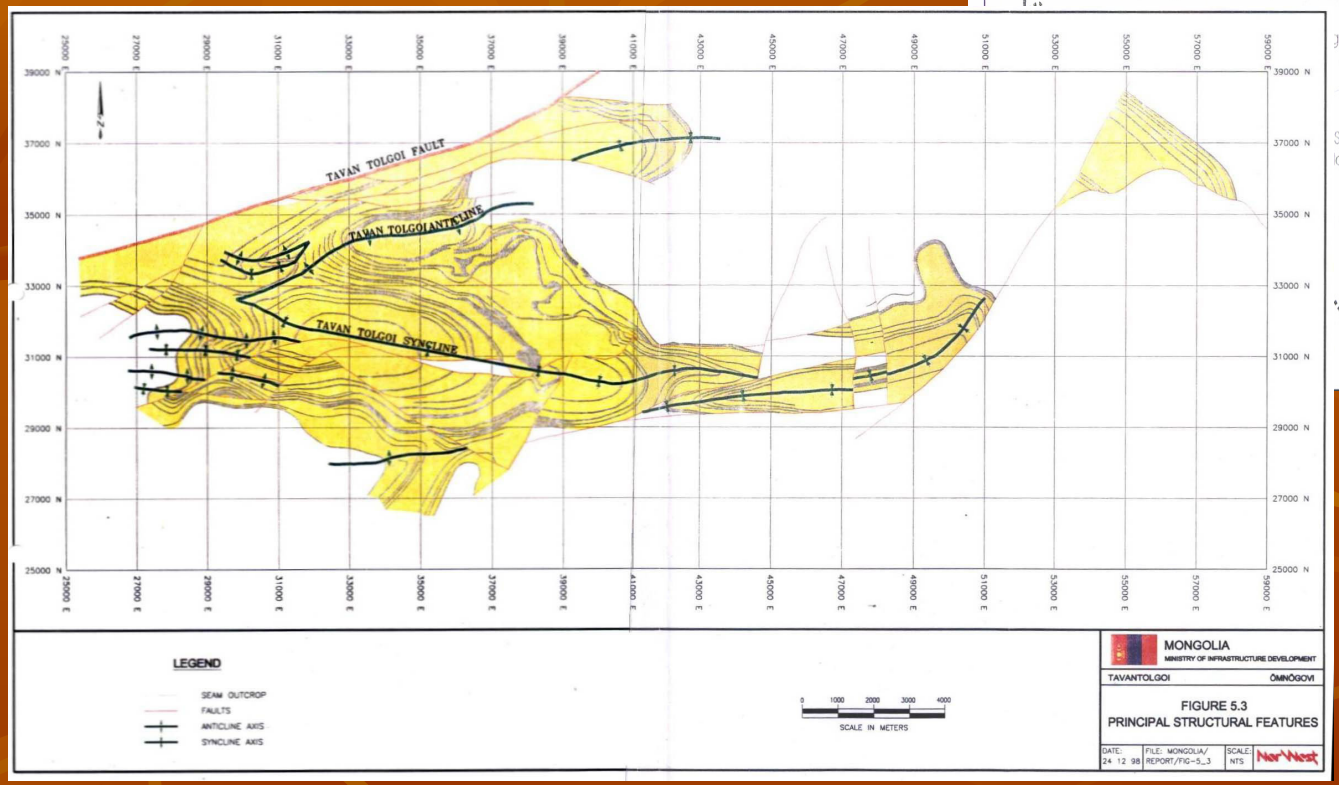
The South Gobi region is poised for a major boom

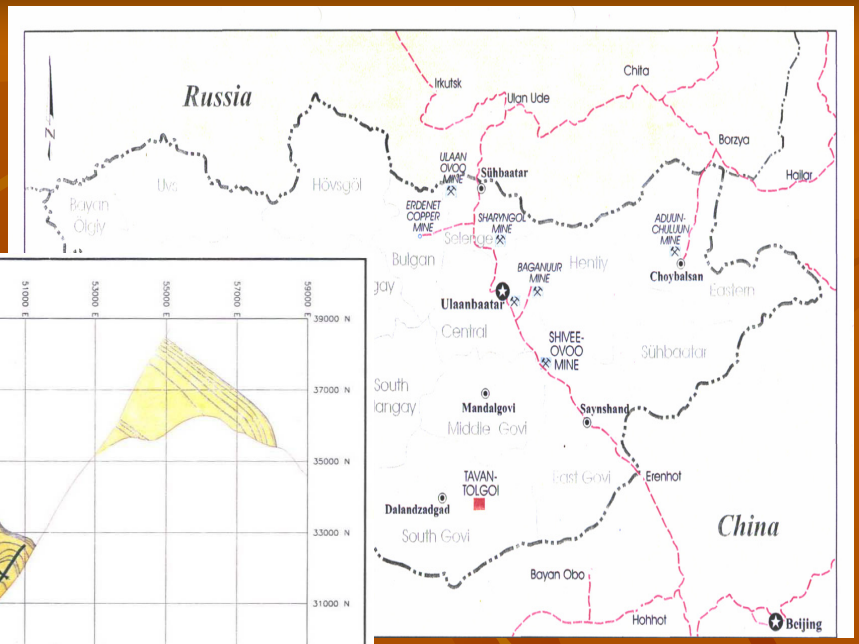
- The South Gobi region is poised for a major boom in economic activity, with a foundation based on planned development of mines of world class significance.
- Infrastructure for TT and OT will require more than $1 billion over the next five years.
- The Parliament is considering a proposed Investment Agreement with Ivanhoe Mines for the development of a copper and gold mine at Oyu Tolgoi, and a shareholder agreement that relates to proposed development of a coal mine at Tavan Tolgoi.

South Gobi Coal Resources

- *Tavantolgoi /6,4 bln tons/*
- *Baruun Naran /155 ml ton of thermal and met coal, feasibility study is done, /*
- *Naryin suhait /identified 250 ml tons of bituminous, exporting to China, Gansu met plant/*
- *Ovoot Tolgoi /extention of NS, indicated reserve-150 ml tons, mine put into operation, 85% IM/*

Tavantolgoi coal deposit





Total reserve : 6.4 billion tons ,and:
Thermal coal : 4.6 billion tons
Coking coal: 1.8 billion tons.

Mongolian Integrated Power System Program

Energy demand and supply in the south gobi region

1. Electricity demand /big consumers to be build/

- Oyutolgoi copper mine 100-227 MW
- Tavantolgoi coal mine 100 MW
- Tsagaan suvarga mine 80 MW
- Dalanjargalan mine 40 MW
- Free zone of Zamyn Uud 30 MW
- Cement factory of Khukh tsav 20 MW

2. Electricity supply

- To build 220 kV DC transmission line Ulaanbaatar-Mandalgobi-Oyutolgoi from Central Energy System / 2008-2010 / 238 bl tug
- To build Thermal Power Plant No.5 / 2009-2011 /
- To build Power Plant at Tavantolgoi / 2009-2012/
- To build power plant complexes with capacity of 3600 MW at Shivee-Ovoo / 2012-2015 /

Energy Supply of South Gobi

- To build a transmission line to supply Tavantolgoi and Oyu Tolgoi from the Central Electricity System
- In the medium-term, a coal-fired power plant may be built at Tavan Tolgoi. Depending on the size of the power plant to be developed at Tavan Tolgoi,
- It may be possible to export power to China.
- In long-term, a coke-chemical plant
- the Government will consider whether the investment agreement for Tavan Tolgoi should include provision for the construction of the power plant by the mine developer, by an independent operator, or by the Government.

Power Plant at Tavantolgoi

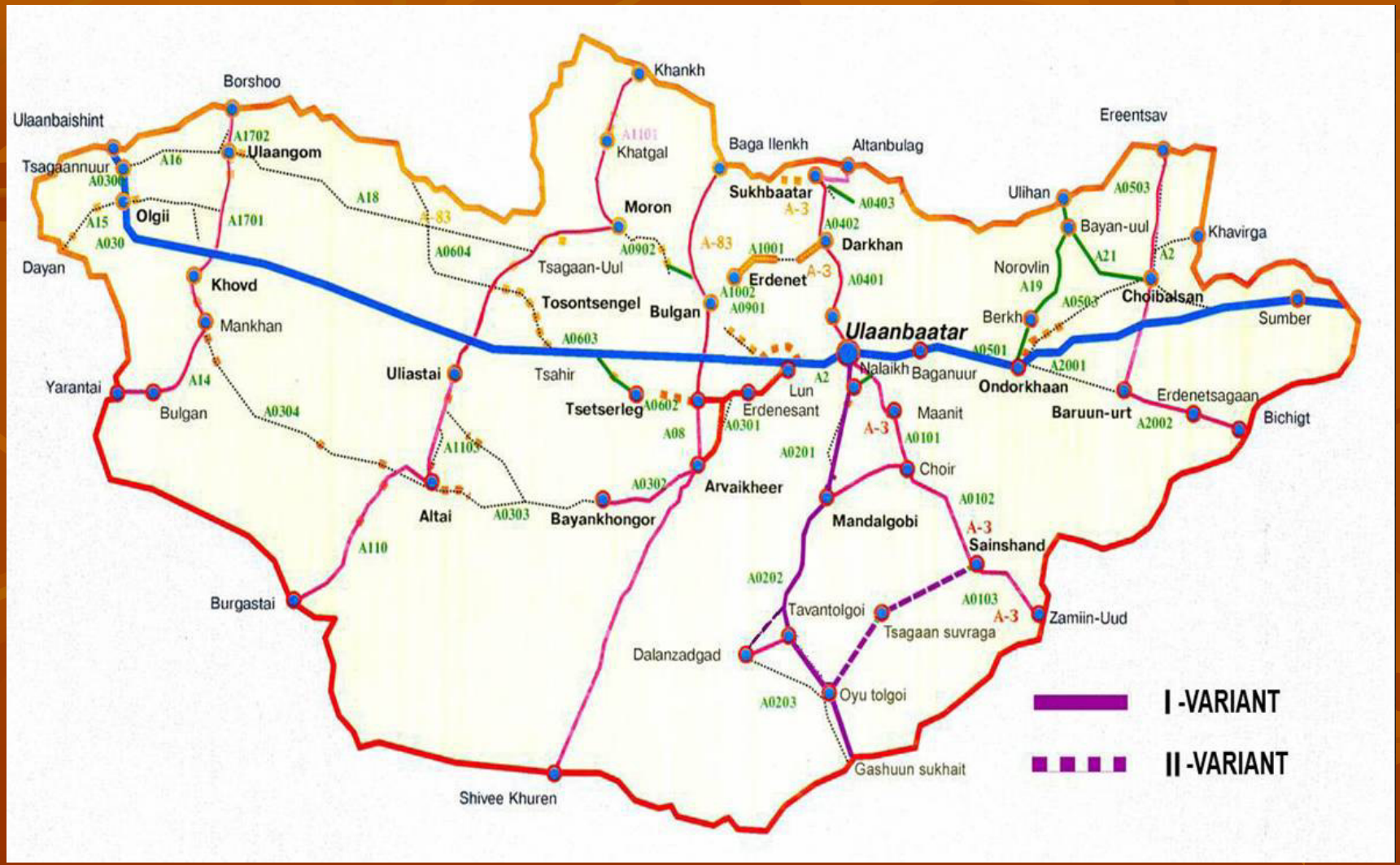
- Installed electricity capacity 600 MW
- Operation of capacity 6906 hours
- Annual production of electricity $4{,}1436*10^9$ кW/hour
- Internal electricity use 8 %

Total investment USD 350 million

Road

- Plan for a 520 km asphalt road from Ulaanbaatar to Dalanzadgad, A feasibility study has commenced.
- Work has started on a BOT road connecting an existing coal mine near Naryin Sukhait to the Chinese border.
- Oyu Tolgoi's transport needs can be satisfied with a planned 105 km BOT road to China. construction once the Investment Agreement is signed.

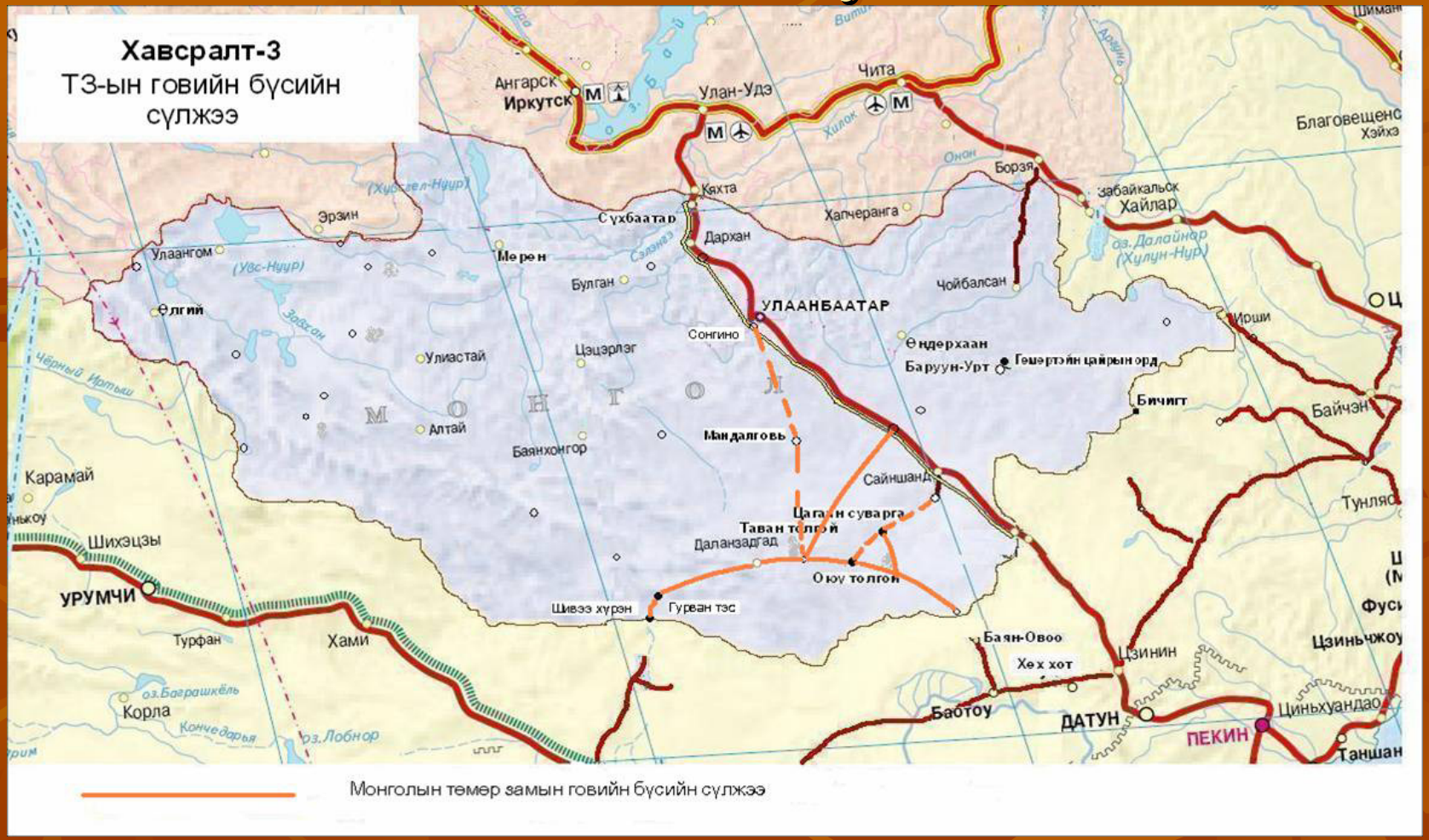
Road perspective



Railway

- Rail is the only practical option for shipping the expected volumes of coal.
- The MoRTT submitted the proposed routes to the National Security Council, and intends that once the routes are approved feasibility studies will be commenced.
- TT-Trans Mongolia railway (400 km) -$375-400 million
- TT –Chinese border (100 km) -$75-100 million
- As plans for Tavan Tolgoi are developed, the Government will consider whether the investment agreement for Tavan Tolgoi should include provision for the construction of particular railway lines by the mine developer, by an independent operator, or by the Government.

Gobi Railway Plan



- The issue of rail gauge is being considered by the State Security Council.
- China, the principal market uses standard gauge rail.
- Mongolia uses the slightly broader Russian gauge.

Water supply issues

- The availability of water in South Gobi may constrain the region's development potential.
- The extent of water resources in the area is not well-known. Identified several deep aquifers with some volumes of water to meet the mine's needs.
- Possible sustainable alternative sources - piping water 400-600 km from rivers to the north.
- For the overall limits on regional development it would be useful to conduct a regional study of water resources.

Thank you
for your attention