

TAVAN TOLGOI POWER PLANT PROJECT

Investment highlightsg

- ✓ **Power Sector:** One of the largest global IPP companies to invest in Mongolian power sector.
- ✓ **Main off-taker:** Oyu Tolgoi project, which will be a main off-taker of the project, is one of the world’s largest new copper-gold mines and located South Gobi of Mongolia. It has been producing and exporting copper and gold concentrate since 2013. Its 2nd phase expansion investment is expected to be \$5.4 billion.



Estimated power supply of Oyu Tolgoi¹ is 256.5MWt

- ✓ Moreover, Erdenes Tavantolgoi JSC, which is one of the biggest Mongolian coal producer and developer, holds mining licenses covering 94% land area of Tavan Tolgoi coalfield. By GoM Resolution #80, 2013 Its West and East side of deposit need power plant supply of 170MWt
- ✓ **Key Raw Material**



- ✓ The Tavan Tolgoi, which is also located in South Gobi near Oyu Tolgoi, is ranked as one of world’s largest coal deposit. Its deposit has 1.8Bt of proven and probable coal reserves and 7.4Bt of resource in accordance with JORC. Approx. 1.5 million tons of thermal coal will be utilized from Tavan Tolgoi coal deposit.

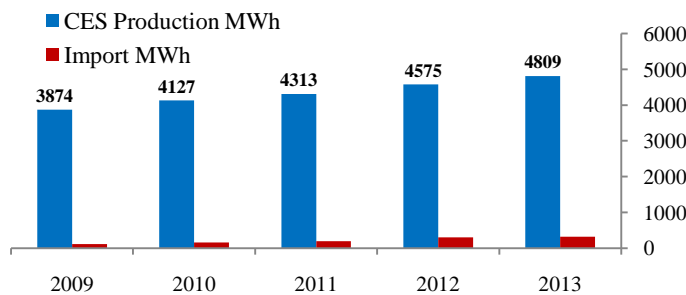
- ✓ Mongolian companies in the region will enjoy 150MW power supply.
- ✓ It could be a start for the future power export.
- ✓ New environmentally friendly technology

Project Unit overview

- ✓ By the Government resolution #71 dated March 2, 2013 on “Actions for undertaking large developmental projects” and the Government resolution #80 dated March 7, 2013 on “Project financing”, the Government of Mongolia (“GoM”) proposed to develop a 450 MW coal-fired power plant in the Tavan Tolgoi area.
- ✓ In accordance with the order #36 dated March 19, 2013 of the Minister of Energy on “The establishment of the Tavan Tolgoi power plant project unit” the development of the Project is being led, on behalf of the GOM, by the ‘Tavan Tolgoi power plant project implementation unit’ under the Ministry of Energy (the “Project Unit”).
- ✓ The Project Unit has entered into a cooperation agreement (“Cooperation Agreement”) on May 17th, 2013 with Oyu Tolgoi LLC, Erdenes Tavan Tolgoi JSC and MCS for the development of the Project.

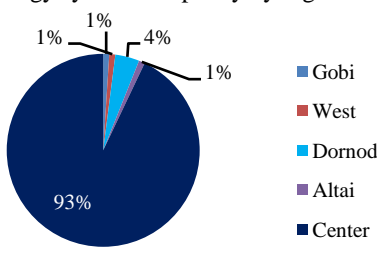
Sector and industry overview

- ✓ **Circumstance of Central Energy System (CES):** Provided electricity with the three biggest cities in Mongolia include Ulaanbaatar, Erdenet and Darkhan with the installed capacity of approximately Recently CES installed capacity is expanded by 183MW (CHP4 by 123W, CHP3 by 50MW). Total installed CES capacity is now approx. 1034 MW. due to ageing power plant, mostly coming from coal fired thermal power plants.
- ✓ **Electricity supply:** Mongolia has seven thermal power plants, two hydro power plants (Durgun & Taishir) Salkhit wind farm, Altai and Uliastai diesel station and some low voltage renewable energy resources.
- ✓ **Increase of electricity demand:** In winter during peak time, the demand is the highest and during summer time which maintenance operations can be carried out on the existing coal fired thermal power plants require to shut down power plants.
- ✓ **CES production, import and peak load in last 5 years as shows in chart:**



The current installed power capacity is 923.5 megawatts (MW).

Energy system capacity by region

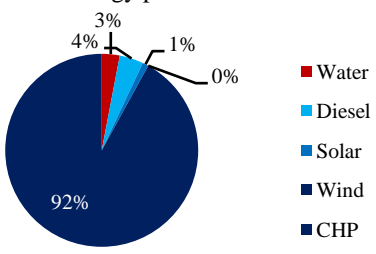


Estimated demand for Mongolian energy sector

- 2020: 2303.72MW
- 2025: 2732.35MW
- 2030: 3061.58MW
- 2035: 3501.65MW

In accordance with the capacity of whole power system consists of 859.3MW by CHP, 35.4MW by diesel power, 27.5MW by water, 1.15MW by solar and wind power.

Energy production



The balance of energy sector (estimated by DBM)

- Loss of power: 32.8%
- Import: 140MW
- Demand: 687.2

Project introduction

- ✓ **Capacity:** 450MW coal-fired power plant. 132km long, 220kv power distribution line from TT to OT
- ✓ **Water Supply:** 40 L/sec water supply system
- ✓ **Coal resource:** Tavantolgoicoal
- ✓ **Main off-taker:** OyuTolgoi LLC
- ✓ **Other off-takers:** Power consumers in the region (up to 150MW)
- ✓ In accordance with the order #50 dated April 18, 2013 of the Minister of Energy on “Investor selection and negotiation” GOM is now seeking to select, through a competitive selection process, experienced

international partners to develop, finance, construct and operate the Project.

- ✓ Prefeasibility study is completed in 2013.
- ✓ The project investors have been preliminarily chosen and have received the Technical and Commercial RfP in October 2014.
- ✓ The process of selecting potential investor is ongoing and expected to complete within 2015

**Financial
snapshot**

- ✓ Power plant total investment USD933.8 million (based on Prefeasibility study)
- ✓ Power air distribution line investment USD64.7 million (based on Prefeasibility study)
- ✓ The project investor will be selected based on technical and financial proposal. The project funding and contingency cost, NPV and IRR will be defined based on project investor's proposal.

**Project
management**

- ✓ The project steering committee established in 2013 with nine members. Partnership organizations as follows:
 - Ministry of Energy
 - Ministry of Finance
 - Ministry of Industry
 - Energy Regulatory Commission
 - Erdenes MGL
- ✓ Main Participants as following:
 - Implementer - Tavantolgoi Power Plant Project Unit
 - Preliminary Study Financier - Development Bank of Mongolia
- ✓ Foreign investor selection process: Marubeni Corporation, Kansai Electric Power, GDF Suez and POSCO Energy and Daewoo E&C were selected within short list of investors for pre-submission queries and delivered tender documents.
- ✓ Project Consultant as following:
 - Financial Consultant – Sumitomo Mitsui Banking Corporation
 - Technical Consultant- Worley Parsons
 - Legal Consultant-Shearman&Sterling LLP
 - Off taker consultant- Société Générale, Allens and Linklaters

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