

TANIL LIME PROJECT

Investment highlights

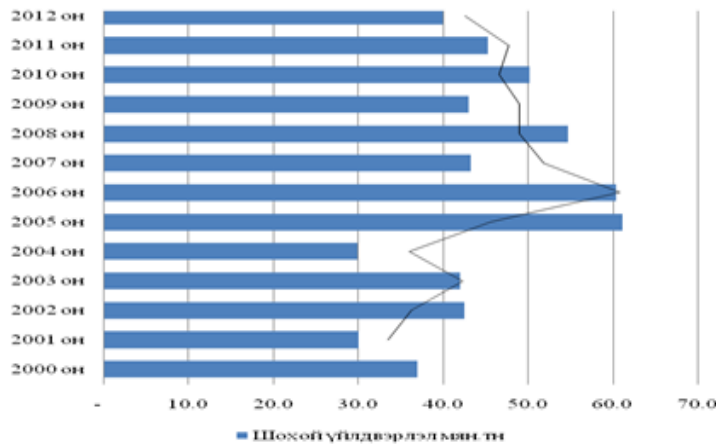
- ✓ **Lime usage in Mongolia**
 - **Copper, gold, iron concentration in Metallurgical Industry**
Main users of active lime. OT 90 000t , Erdenet 40 000t , Gatsuert 25 000t, Tsagaan Suvarga 30,000t, Darkhan metal 5000t and 70 other small processors between 500-1000t
 - **Building blocks, new wall materials production**
There are over 40 building filling block manufacturers uses active lime 500-1000t each, new wall materials and general construction usage accounts 10 000t more
 - **Agricultural and farming**
Active lime is natural neutralizer against acid. Therefore it is essential part of land treatment on agricultural regions of Mongolia. Currently, about 1200t lime applied annually. This will increase 10 times as land quality worsens.
 - **Water filtration agent in water reservoirs**
All the water distribution centers must treat water through lime filtration, same issue with waste water treatment. Lime filtration can clean water 90%.
 - **Smoke and carbon monoxide filtration in Power Stations**
All coal fired power station have to install carbon monoxide filtration with lime.
 - **Used in Paper making and many different type of industrial use such as tooth paste.**
- ✓ **Limestone Mine and Kiln technology**
 - Tanil Group/TG/ owns KhukhTeeg limestone quarry’s mining license for 30 years until 2044, located in Gurvansaikhan, Dundgobi region Mongolia. The project started in 2008 by discovering large limestone quarry therefore, developing a lime plant based on its raw material. The plant feasibility study has been fully completed and approved with respected Authority.
 - TG selected China’s technology leader SINOMA Group’s rotary dry kiln technology with EPC contract term. The contractor proposes to fully complete a 100 000 ton per year active lime plant project within 15 months term with its knowledge and international work experience.
 - 35KV overhead electrical transfer line will be constructed to the plant site.
 - Tanil Group developed Khukh Teeg limestone deposit since 2008. While doing a geological study and a lab tests proved that limestone is qualified for industrial lime usage as well as cement making. We finished geology study and approved the reserve in 2012. With its approved reserve of
 - 227 million tons of limestone, the quarry values at \$ 70 million US.

Proposed plant capacity 100 000ton annual

TG lime’s projected cost per ton will be at	\$25
Sales price	\$95
Profit before tax and interest	\$70

1 st year sales income	\$ 4 900 000
2 nd year sales income	\$ 6 300 000
3 rd year sales income	\$ 7 000 000

Calculated investment payback time 3,5 years



- ✓ Very low amount of active lime have been produced in Mongolia so far. Khutul lime kiln and some small size kilns in Darkhan area produces about 40 000t lime all together. The rest 60% of it, all have been imported from China. Specially, The OT mine uses all imported lime, even this will be the engine of Mongolian economy for next 50-70 years. . It is simply because, they couldn't find a stable domestic manufacturer of lime production with an amount they needed. We have more metal processors coming in line such as Tsagaan Suvarga copper, Gatsuurt gold and many more iron ore and concentration plants.
- ✓ TG's new lime plant will provide much needed locally produced active lime and keep about 10 million USD in Mongolian economy instead of sending it to abroad.

1.1.1 Year 1.1.2 Lime
price chart
 /Amount in
tugrugs/
 (\$1=1970₮)

Lime price forecast

1.1.3 2013	1.1.4 204.7
1.1.5 2014	1.1.6 221.9
1.1.7 2015	1.1.8 229.3
1.1.9 2016	1.1.10 236.6
1.1.11 2017	1.1.12 236.6
1.1.13 2018	1.1.14 236.6

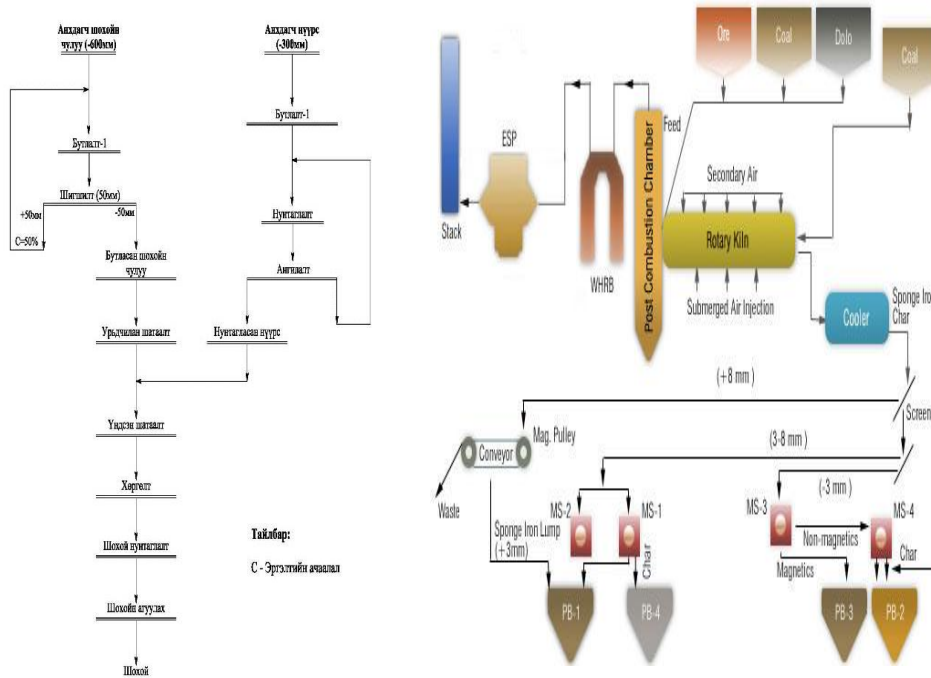
The current lime price study shows that the price is going up well over 200 000 tugrugs due to inflation. However, TG Lime plant will sell its product with more stable price and will keep it at 190 000 tugrugs for next 3 years.

Project introduction

The company wanted to use its limestone mine into a domestic manufacturing a value added product therefore it closes equal amount of imported product.
 Will cover about 10 million USD worth lime import.
 Domestically manufactured active lime is huge part of stablishing heavy industry in the country. Once lime kiln is constructed it will sustain delivering high quality lime with less expensive price, most importantly traded in Mongolian tugrugs.

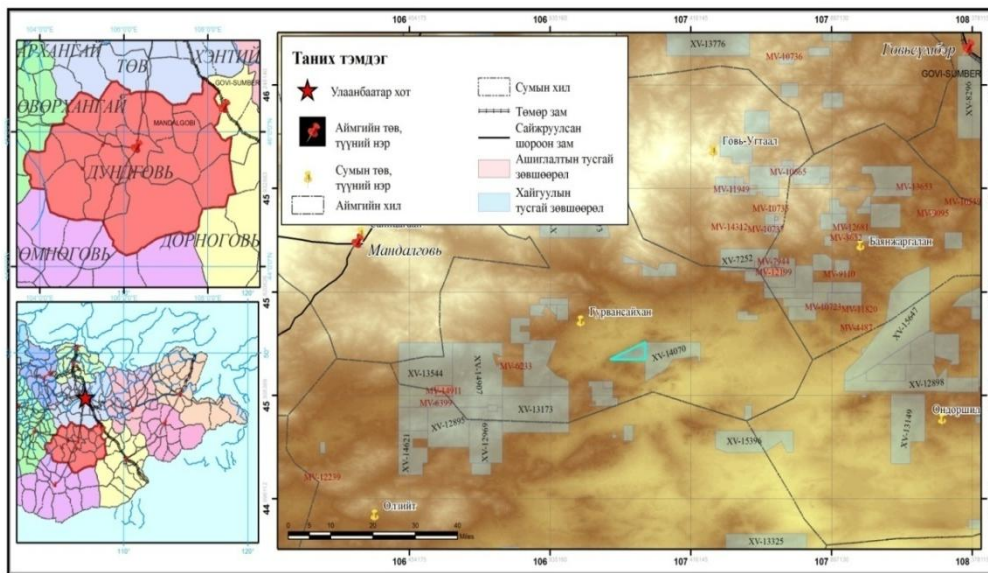
✓ **The technology**

SINOMA Wuhan is offering low carbon energy efficient active lime pre heated rotary dry kiln technology for Tanil Lime project. This technology is advanced in many ways during China’s industrial revolution within last 20 years. They have built hundreds of similar type of kilns with different size in many countries of the world. This rotary kiln works 24 HRs a day constantly until owner shuts it down for maintenance. Calculated maintenance time is about 32 days of the year. Capital repair and main equipment replacement will be done in 10 years with cost about 2 000 000 USD. Regular annual maintenance cost has been included in operating costs.



✓ Project is located in Gurvansaikhan soum, Dundgobi aimag. It is 300km from UB, 75 km from Mandalgobi and 145 km from Choir railroad station.

Project location



Project team


Lkhagva Tumor - President
Ulambayar Tumor - Officer
Erdenetsetseg Altangerel - Accountant
Tsogtgerel Bumbaa - Officer

Financial snapshot

✓ Project investment estimation /Amount in million USD/	
Open pit	1.567
Lime burning plant	6.818
Camp	0.524
UB office	0.091
Management/transportation, equipments/	1.100
Power supply	0.822
Water supply	0.035
Heat supply	0.226
Civil construction	1.012
Survey	0.277
Turnover	0.309
The total investment required	12.781
Equity	2.250
Necessary investment	12.781
✓ Project economic indicators	
Total investment of project	15.26
Active Lime plant	6.92
Sales revenue	218.18
Total cost	83.79
Total profit	134.39
Income tax	29.03
After-tax profits	105.36
Internal rate of return	31%
NPV, 10%	53.42
Payback period	3.5 years

Contact Address
Invest Mongolia Agency

Name : Mrs. Onon Khanoi
 Position/department : Senior Officer/ Division for Promotion and Consultancy Services
 Phone : (976)-11320706; (976)-88090959
 Email : onon@investmongolia.com

Development Bank of Mongolia

Name : Mr. Enkhbayar Davaatseren
 Position/department : Head of strategic investment and asset allocation
 Phone : (976)-99007069
 Email : d.enkhbayar@dbm.mn

Invest Mongolia Agency

2 June 2015