



2 Million Tons/Year Coal Gangue Solid Waste Resource Utilization Project

Turning coal mining waste into high value-added new materials

Total Investment RMB 1.281 billion Capex	Annual Capacity 2 million tons per year Coal gangue processing	Full Production Annual Revenue RMB 1.244 billion At full capacity
Full Production Annual Net Profit RMB 598.7 million At full capacity	After-tax FIRR 43.35% Project IRR	After-tax Static Payback Period 3.17 years Investment payback

Project Overview

The project is located in the New Industrial Park, Tumed Right Banner, Baotou, Inner Mongolia Autonomous Region, covering 172.33 mu. It is a new construction project focused on green circular economy and comprehensive utilization of bulk industrial solid waste. The project will process 2 million tons of coal gangue annually, using cutting-edge patented technologies such as physical field mineral separation and supercritical thermal cracking to achieve full-component separation and deep processing. The output includes high-end refractory raw materials (mullite, flint clay), fine inorganic non-metallic materials (kaolin), ecological agricultural materials (mineral soil conditioner), clean energy (clean coal), and other products (ferric oxide, titanium dioxide, gangue aggregate). The construction period is 12 months. The project is currently at the teaser stage, with a consulting unit engaged and financial highlights indicating strong returns. It aims to leverage local policy support and cost advantages to create a leading solid waste recycling facility.

Technology & Competitive Edge

- Utilizes patented physical field mineral separation and supercritical thermal cracking for full-component separation.
- Transforms low-cost coal gangue into high value-added mullite, flint clay, and kaolin.
- Policy moat: aligns with national Dual Carbon strategy and encouraged industrial category.
- Absolute cost advantage: near-zero raw material cost and low Inner Mongolia electricity prices.
- Extremely strong risk resistance: break-even point at only 16.78% capacity utilization.

Market & Business Model

- Processes 2 million tons of coal gangue annually to produce multiple high-value product lines.
- Products include high-end refractory raw materials, fine inorganic non-metallic materials, and ecological agricultural materials.
- Earns technology and processing price gap between industrial waste and high-end materials.
- Revenue at full production: RMB 1.244 billion; net profit: RMB 598.7 million.
- Gross margin 67.34%, net margin 48.71%, indicating strong profitability.

Scope of Works & Project Status

- New construction project covering 172.33 mu in Tumend Right Banner, Baotou, Inner Mongolia.
- Construction period of 12 months for full facility setup.
- Project nature: green circular economy and comprehensive utilization of bulk industrial solid waste.
- Currently at teaser stage; consulting units engaged for project development.
- Proposed bank loan of RMB 855.848 million to support financing.

Key Financials

Total Investment	RMB 1.281 billion
Full Production Annual Revenue	RMB 1.244 billion
Full Production Annual Net Profit	RMB 598.7 million
Gross Margin	67.34%
Net Margin	48.71%
After-tax FIRR	43.35%
After-tax Static Payback Period	3.17 years
Average Interest Coverage Ratio (ICR)	27.77
Average Debt Service Coverage Ratio (DSCR)	2.60

Investment Highlights

- Strong financial returns: 43.35% after-tax FIRR and 3.17-year payback.
- High margins: 67.34% gross margin and 48.71% net margin at full production.
- Robust debt servicing: ICR 27.77 and DSCR 2.60.
- Low break-even point of 16.78% capacity utilization ensures resilience.

Key Risks

- Market price volatility for output products such as mullite, kaolin, and clean coal could impact revenue.
- Execution risk related to technology scale-up and construction timeline.
- Regulatory or policy changes affecting solid waste utilization incentives.

This brief is compiled from public materials for preliminary reference only. It does not constitute any investment advice, offer or commitment; figures and terms are subject to the formal documents and executed agreements.