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

Turning coal gangue into high-value industrial minerals

Annual Capacity **2 million tons/year** coal gangue solid waste	Total Investment **RMB 1.281 billion** planned	Enterprise Value **RMB 6.362 billion** DCF valuation
Equity Value **RMB 5.506 billion** DCF valuation	Value Creation Multiple **~5x** EV/Investment	

Project Overview

Located in Tumed Right Banner, Baotou, Inner Mongolia, this project aims to utilize 2 million tons per year of coal gangue solid waste. The core process involves advanced physical field mineral separation and supercritical thermal cracking to produce high value-added products such as kaolin and mullite. The project is planned with a total investment of approximately RMB 1.281 billion and includes construction and operation phases. The valuation report, dated July 2026, assesses the project's enterprise value at approximately RMB 6.362 billion and equity value at approximately RMB 5.506 billion, using a DCF-FCFF model with a WACC of 8.67%. The project is positioned for bank financing and potential equity cooperation, demonstrating strong commercial potential and high safety margin for lenders.

Technology & Competitive Edge

- Utilizes advanced physical field mineral separation and supercritical thermal cracking technologies.
- Enables deep resource utilization of coal gangue, converting waste into high-value products.
- Produces kaolin, mullite, and other value-added materials, enhancing commercial viability.
- Technology supports high value-added conversion, driving superior economic returns.
- Process aligns with circular economy principles and environmental sustainability goals.

Market & Business Model

- Targets bank financing and potential equity cooperation to fund project development.
- Revenue generated from sale of processed mineral products like kaolin and mullite.
- Business model based on resource utilization, converting solid waste into marketable commodities.

- Project benefits from favorable industry dynamics in environmental protection and solid waste treatment.
- High value creation multiple of ~5x indicates strong investment return potential.

Scope of Works & Project Status

- Project includes construction and operation phases over a 5-year explicit forecast period.
- Year 1 involves construction with capital expenditure of RMB 1.241 billion.
- Operations ramp up from 60% load in Year 2 to 100% load by Year 4.
- Valuation report completed in July 2026, providing value reference for financing.
- Project is currently seeking financing and equity partnerships for implementation.

Key Financials

Total Investment	**RMB 1.281 billion**
Enterprise Value (EV)	**RMB 6.362 billion**
Equity Value	**RMB 5.506 billion**
WACC	**8.67%**
Terminal Value (PV)	**RMB 5.678 billion**
Planned Loan Amount	**RMB 856 million**
Loan-to-Value Ratio (LTV)	**13.45%**
Value Creation Multiple (EV/Investment)	**~5x**

Investment Highlights

- Enterprise value of RMB 6.362 billion far exceeds total investment of RMB 1.281 billion, indicating significant value creation.
- Loan-to-Value ratio of only 13.45% provides extremely high safety margin for bank financing.
- Advanced technologies enable high-value conversion of coal gangue into kaolin and mullite.
- Project supports environmental sustainability and circular economy while delivering strong financial returns.

Key Risks

- New project faces market development and operational risks, reflected in a 2% specific risk premium.
- Project execution and ramp-up may deviate from forecast, affecting cash flows and valuation.
- Reliance on continued demand for kaolin and mullite products in competitive markets.

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