

1 Million Tons/Year Coal Gangue Resource Comprehensive Utilization Project

High-value, zero-waste coal gangue recycling for kaolin, clean coal, and soil conditioner

<div>Total Investment</div> <div>RMB 651.3248 million</div> <div>Includes construction interest and working capital</div>	<div>Annual Processing Capacity</div> <div>1 million tons of coal gangue</div> <div>Feedstock</div>	<div>Annual Revenue</div> <div>RMB 940 million</div> <div>Average after full production</div>
<div>Annual Net Profit</div> <div>RMB 265.8415 million</div> <div>Average after full production</div>	<div>IRR (after tax)</div> <div>42.23%</div> <div>Financial internal rate of return</div>	<div>Payback Period</div> <div>3.23 years</div> <div>After tax, excluding construction period</div>

Project Overview

Baotou Hongjing Solid Waste Treatment Co., Ltd. is developing a coal gangue comprehensive utilization project in Shiguai District, Baotou City, Inner Mongolia. The project processes 1 million tons of coal gangue annually to produce 400,000 tons of kaolin, 100,000 tons of clean coal, and 500,000 tons of mineral soil conditioner. It employs advanced 3T high-intensity magnetic separation combined with gravity separation for impurity removal and supercritical thermal cracking. The facility covers 132 mu (approx. 87,912 m²) with a total building area of 42,730 m², including four production workshops and supporting facilities. The total investment is RMB 651.3248 million, with a 24-month construction period from January 2026 to January 2028. The project aims to achieve 100% resource utilization with zero waste discharge, contributing to circular economy and solid waste treatment goals.

Technology & Competitive Edge

- Adopts 3T high-intensity magnetic separation combined with gravity separation, separating 99% fixed carbon and titanium-iron impurities.
- Integrates supercritical thermal cracking and silicon-based nano rare earth gel technology for full-component utilization.
- Achieves 100% resource utilization of coal gangue with zero waste discharge.
- Kaolin product: whiteness >90%, particle size >3000 mesh; clean coal calorific value >5000 kcal.
- Core technology is domestically leading, providing strong technical barriers.

Market & Business Model

- Kaolin market: Inner Mongolia ceramic industry consumes ~5 million tons/year; national demand 7-8 million tons and growing.
- Clean coal market: National demand exceeds 300 million tons; Baotou demand 10-20 million tons/year.
- Mineral soil conditioner market: National demand 20-30 million tons/year; Baotou demand 100,000-200,000 tons/year.
- Products sold at: kaolin RMB 1,800/ton, clean coal RMB 400/ton, soil conditioner RMB 360/ton.
- Revenue generated from sale of three main products; average annual revenue RMB 940 million at full capacity.

Scope of Works & Project Status

- Construction of four production workshops: magnetic separation, kaolin, clean coal, and soil conditioner.
- Supporting facilities: office buildings, apartment buildings, raw material yards, and infrastructure.
- Total land area 132 mu (87,912 m²); total building area 42,730 m²; calculated building area 83,444 m².
- Construction period 24 months: preliminary work (1 month), preparation (1 month), construction (20 months), acceptance (2 months).
- Project planned to commence January 2026 and complete January 2028.

Key Financials

Total Investment	RMB 651.3248 million
Equity (20%)	RMB 130.2650 million
Bank Loan (80%)	RMB 521.0598 million
Annual Revenue	RMB 940 million
Annual Total Cost	RMB 669.1634 million
Annual Net Profit	RMB 265.8415 million
IRR (after tax)	42.23%
Payback Period	3.23 years (after tax, excl. construction)
Break-even Point	34.92%

Investment Highlights

- Policy support: aligns with national circular economy and solid waste utilization policies, including 'Zero-Waste City' initiative.
- Advanced technology: domestically leading core technologies enable high-value, zero-waste coal gangue utilization.
- Strong financials: attractive IRR of 42.23%, payback of 3.23 years, and robust debt service coverage.
- Significant social and environmental benefits: 320 new jobs, reduction of solid waste and pollution, and ecological restoration.

Key Risks

- Market risk: industry competition, product price fluctuations, and rising raw material costs.
- Management risk: technical talent turnover and operational efficiency challenges.
- Financial risk: insufficient financing and low capital utilization efficiency.

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