

Bank Financing Roadshow Materials

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

Waste to Wealth · Turning Stone into Gold

Building a Benchmark for High-Value Utilization of Bulk Solid Waste in Circular Economy

Project Location	Proposed Bank Loan
Tumed Right Banner, Baotou, Inner Mongolia	RMB 855.848 million

July 2026

Project Overview

Total Investment RMB 1.28 Billion, A Green New Materials Factory Processing 2 Million Tons of Coal Gangue Annually

200■■■/■	RMB 1.281 Billion	12 Months
Annual Processing Capacity	Total Investment	Construction Period
RMB 1.244 Billion	RMB 599 Million	48.7%
Full Production Annual Revenue	Full Production Annual Net Profit	Net Profit Margin

Project Nature and Scale:

Located in the New Industrial Park of Tumed Right Banner, Baotou, covering 172.33 mu. Constructs 5 modern production workshops (physical field mineral separation & impurity removal, kaolin, clean coal, mineral soil conditioner, iron-titanium oxides) and supporting facilities. Total building area reaches 66,648 m², aiming to build a benchmark for comprehensive utilization of bulk industrial solid waste.

Capital Structure:

Enterprise self-financed capital (33.18%): RMB 425 million | Proposed bank loan (66.82%): RMB 856 million

Policy and Industry Opportunities

6 Billion Tons of Stockpiled Solid Waste Meets the "Dual Carbon" Policy Windfall,
High-Value Utilization is a Certainty Track

"14th Five-Year" Circular Economy Plan	Carbon Peak Action Before 2030	Industry Pain Points Urgently Need Solutions
Explicitly proposes 60% comprehensive utilization rate of bulk solid waste by 2025, building 50 comprehensive utilization bases.	Supports large-volume, large-scale, high-value utilization, targeting 4 billion tons annual utilization of bulk solid waste by 2025.	China's annual coal gangue generation is huge, accounting for 17.8% of coal output, with comprehensive utilization rate only about 30%.
Industrial Structure Adjustment Catalogue	Local "Zero-Waste City" Construction Priority	Regional Resource Endowment
This project clearly belongs to the encouraged category in the National Development and Reform Commission's industrial catalogue, enjoying relevant industrial support policies.	Baotou is a "Zero-Waste City" construction pilot. This project is supported by the "Baotou Industrial Solid Waste Utilization and Disposal Development Plan".	Cumulative stockpile exceeds 6 billion tons, occupying land and causing serious air and groundwater pollution. Inner Mongolia accounts for over 1/4 of national coal output.

Conclusion: This project is at the intersection of "strong environmental regulation + solid waste resource policy dividend", and is a key direction for bank green credit allocation.

Core Technology

Five Patented Technologies Achieve Full-Component Separation, Technological Price Gap from "Industrial Waste" to "High-End Materials"

Process Flow: Coal Gangue Raw Material (Extremely Low-Cost Industrial Solid Waste) → Physical Field Gravity Separation → Multi-Product Lines

Product Line	Core Process	Final Products
Kaolin Line	Vertical ring + 3T high-gradient combined magnetic separation	Coarse gangue removal, ultra-fine superfine kaolin
Refractory Line	Kaolin calcined at 1300-1400°C tunnel kiln to make flint clay (Al ₂ O ₃ > 70%)	Flint clay mixed with bauxite at 1500-1600°C for alumina
Soil Conditioner Line	Silica-aluminous tailings + agricultural waste (straw/furfural residue) + silicon colloidal agents	High-pressure activated soil conditioner
Aggregate & Coal Line	Separated clean coal directly sold; gangue crushed and screened	Clean coal for power generation; crushed gangue for building aggregate, achieving 100% utilization

Five Core Patented Technology System Building Extremely High Moat (DCS Full-Process Automation Control):

Physical Field Mineral Separation Technology | Supercritical Thermal Cracking Technology | Ultrasonic Grinding Technology | Blackbody Infrared Drying & Calcination | Silicon-Based Nano Gel Technology

Product Plan and Revenue

Seven-Product Matrix with Annual Output Value RMB 1.244 Billion, High Value-Added Products Contribute Nearly 90% of Revenue

Product	Market Support Logic
Mullite / Flint Clay (High-end refractory raw materials)	National refractory product output 22.07 million tons in 2024. With high-temperature industrial t
High-Quality Kaolin (Import substitution)	National annual consumption about 7.5 million tons, 800,000-1.1 million tons need to be impor
Mineral Soil Conditioner (Ecological restoration)	For saline-alkali land management and mining area ecological restoration, national potential de
Clean Coal (Local heavy industry)	Baotou and surrounding areas as heavy industry bases have large local demand for industrial

High value-added new materials such as mullite and kaolin account for 87% of the product mix.

Location and Cost Advantages

Located in the Hohhot-Baotou-Ordos "Golden Triangle" Raw Material Hinterland, Cost Advantage Builds Natural Moat

Near-Zero Raw Material Cost	Three-Dimensional Transportation Hub
North adjacent to Daqingshan coal-rich area, coal gangue purchased at RMB 20/ton (annual raw material cost only RMB 4 million), extremely short transportation distance and stable supply, locking cost advantage from the source.	Beijing-Lanzhou Railway, G6 Beijing-Tibet Expressway, and National Highway 110 cross the territory, forming a convenient and smooth three-dimensional transportation network, greatly facilitating bulk material and product throughput.
Mature Park Supporting Facilities	Regional Economic Endorsement
Located in a 42.3 km ² over-10-billion-level new industrial park, with leading enterprises such as Xuyang Group and Xinte Energy already settled. Yellow River annual water intake 430 million m ³ , abundant regional power grid, sufficient water and electricity supply.	Tumed Right Banner 2024 GDP RMB 26.252 billion (+6.4%), one of Inner Mongolia's first batch of "expanded power counties" pilots.

Full Production Year Operating Cost Structure (Total RMB 308.69 million):

Indicator	Value
Raw material proportion	Only 1.3%
Full production gross margin	67.34%
Operating cost as % of revenue	24.8%

Financial Benefits

Full Production Annual Net Profit Nearly RMB 600 Million, After-tax IRR 43.35% Far Exceeds Industry Benchmark

Core Profitability Indicator	Value	Benchmark / Remarks
Full Production Annual Operating Revenue	RMB 1,244.30 million	—
Full Production Annual Net Profit	RMB 598.70 million	Net margin 48.7%
After-tax Financial IRR (FIRR)	43.35%	Benchmark 7.5%
After-tax Financial NPV (FNPV)	RMB 1,331.3391 million	> 0
Return on Investment (ROI)	63.89%	—
Return on Equity (ROE)	140.86%	—
Break-even Point (BEP)	16.78%	Break even at less than 20% capacity utilization

Production Load Arrangement:

Year 1 of Operation	Year 2	From Year 3
60%	80%	100% Full Production

Investment Recovery and Cash Flow

Cumulative Cash Flow Turns Positive in Year 3, Investment Payback Period Only 3.17 Years

Core Recovery Indicator	Value
After-tax Static Investment Payback Period	3.17 years (including 1-year construction period)
After-tax Dynamic Investment Payback Period	3.42 years
Average Annual Operating Net Cash Flow During Operation	Exceeds RMB 700 million

Cash Flow Trend:

Year 1: -RMB 1,241.64 million → Year 2: +RMB 624.94 million → Year 3: +RMB 770.19 million → Year 4: +RMB 916.36 million → Year 5: +RMB 1,669.17 million (including recovered asset residual value and working capital)

Sensitivity Analysis (Risk Resistance):

Factor	Threshold Reaching Break-even
Product Price (Most sensitive factor)	Needs to drop 59%
Construction Investment	Needs to exceed 83%
Operating Cost	Needs to rise 209%

Conclusion: Extremely wide project safety margin.

Debt Solvency

Average DSCR 2.60, Average Interest Coverage Ratio 27.77, Solid Principal and Interest Repayment Guarantee

Solvency Indicator	Year 2	Year 3	Year 4	Year 5	Average
Interest Coverage Ratio (ICR)	11.90	21.61	40.71	79.66	27.77
Debt Service Coverage Ratio (DSCR)	1.91	2.46	3.02	3.01	2.60
Asset-Liability Ratio	51.76%	31.63%	14.99%	3.54%	—

Core Credit Enhancement Points:

- **Ultra-High Safety Margin:** DCF valuation enterprise value approximately RMB 6.362 billion, Loan-to-Value ratio (LTV) only 13.45%, far below conventional credit red lines.
- **Abundant Cash Flow Coverage:** Full production year EBITDA as high as RMB 920 million, 3.9x the annual principal and interest repayment amount (RMB 239 million), with extremely sufficient first repayment source.
- **Sufficient Asset Mortgage:** Project land, newly built factory buildings and equipment (fixed asset original value over RMB 1 billion) can provide full mortgage guarantee, with solid second repayment source.
- **Capital Already in Place:** Enterprise self-financed capital of RMB 425 million (33.18%) has been arranged, ensuring project startup funds.

Proposed Loan Plan:

Application Amount	Loan Term	Annual Rate	Repayment Method	Annual Repayment
RMB 855.848 million	5 years	4.5%	Equal principal/interest	Approx. RMB 238.56 million (during operation)

Valuation and Investment Value

DCF Valuation Enterprise Value RMB 6.36 Billion, Value Creation Multiplier Nearly 5x

Valuation Method and Core Assumptions:

Valuation Method: Discounted Free Cash Flow to Firm (DCF-FCFF) | WACC: 8.67% | Perpetual Growth Rate (conservative): 0.00% | Target Capital Structure: Debt 40% / Equity 60%

Valuation Item	Amount (RMB 10,000)
Total PV of FCFF in Explicit Forecast Period	68,365
PV of Terminal Value (Perpetual Period)	567,789
Enterprise Value (EV)	636,154 (≈ RMB 6.362 billion)
Less: Interest-bearing Debt	85,585
Equity Value	550,570 (≈ RMB 5.506 billion)

Three-Fold Logic of Investment Value:

- 1. **Policy Dividend Type:** Belongs to the encouraged category in the National "Industrial Structure Adjustment Catalogue", is a key support direction for green credit and circular economy, enjoying local "Zero-Waste City" construction dividends.
- 2. **Resource Monopoly Type:** Backed by the Daqingshan coal-rich area, near-zero raw material cost, location advantage irreplicable; Inner Mongolia electricity price advantage significantly reduces processing costs.
- 3. **Technology-Driven Type:** Five patented technologies achieve high-value utilization of solid waste, breaking the traditional low-value-added curse, building high gross margin moats, earning huge technology and processing price gaps.

Risk Control

Diversified Product Matrix Hedges Market Fluctuations, Full-Process Control Ensures Stable Operation

Risk Category	Risk Description and Assessment	Response Measures and Mitigation Mechanisms
Market Price Risk	Product price is the most sensitive factor (sensitivity coefficient is 1.0) affecting the company's core business and development strategy in the energy industry.	Seize the market opportunity, actively expand the product line, and diversify the product structure to reduce the impact of price fluctuations.
Technology and Capacity Risk	Capacity risk from laboratory/pilot to 2 million tons/year equipment adoption, process stability, and capital expenditure, posing a challenge to domestic production.	Only equipment that has been tested and proven stable is adopted, and the production process is strictly controlled to ensure product quality.
Raw Material Supply Risk	High demand for 2 million tons of coal gasification, posing a risk of supply shortage and price fluctuations.	Project the risks of supply shortage and price fluctuations, and establish a long-term cooperation relationship with the upstream raw material suppliers to ensure stable supply.
Environmental Compliance Risk	High-temperature kiln operation may produce dust and noise, posing a risk of environmental pollution.	The project has passed the environmental impact assessment, and the company has established a strict environmental management system to ensure compliance with relevant regulations.
Fund and Construction Duration Risk	Engineering construction, may face investment and construction delay.	Total investment includes basic construction funds of RMB 89.14 million (7.2% of the total investment).

Cooperation Vision

Sincerely Invite to Join Hands: RMB 856 Million Green Credit, Share Circular Economy Development Dividends

Financing Plan Summary:

Financing Amount	RMB 855.848 million
Financing Purpose	Equipment procurement (RMB 691 million), engineering construction and installation as main
Financing Term	5 years
Proposed Rate	4.5% (equal principal and interest)
Repayment Source	Project operating cash flow (full production year EBITDA RMB 920 million)
Credit Enhancement Measures	Land, factory buildings and equipment mortgage; enterprise self-financed capital 33.18% already

Comprehensive Value Proposition:

- **For Banks:** High-quality green credit asset with LTV only 13.45% and average DSCR 2.60, highly aligned with financial institutions' green finance assessment orientation and ESG strategy.
- **For Society:** Annual disposal of 2 million tons of solid waste, creating 270 new local jobs; full production year tax payment over RMB 330 million (income tax RMB 199 million + VAT RMB 128 million + surcharges RMB 15 million), strongly driving local economy.
- **For Ecology:** Significantly reduces land occupation and environmental pollution caused by coal gangue stockpiles, transforming "industrial waste" into environmentally friendly new materials, effectively contributing to Baotou's "Zero-Waste City" and national "Dual Carbon" goals.

Looking forward to in-depth communication with your bank, welcome on-site inspection and guidance.