

Baotou 1 Million Tons/Year Coal Gasification Slag Comprehensive Utilization Project

Turning million tons of solid waste into treasure in the carbon neutral era

<div>Total Investment</div> <div>RMB 680 million</div> <div>Includes construction, working capital, and reserves</div>	<div>Annual Processing Capacity</div> <div>1 million tons</div> <div>Coal gasification slag</div>	<div>Annual Revenue</div> <div>RMB 1.26 billion</div> <div>At full production</div>
<div>Annual Net Profit</div> <div>RMB 324 million</div> <div>At full production</div>	<div>IRR</div> <div>51.19%</div> <div>Project internal rate of return</div>	<div>Payback Period</div> <div>3.05 years</div> <div>Investment payback period</div>

Project Overview

Inner Mongolia Lvbaoxin Environmental Technology Co., Ltd. is developing a 1 million tons/year coal gasification slag comprehensive utilization project in Baotou, Inner Mongolia. The project is located in the heart of a major coal chemical base, with access to over 1 million tons of gasification slag annually from nearby sources. Using an original aluminum-silicon step-by-step extraction process, the project features dual production lines—acid leaching and glass-ceramic—to produce liquid polyaluminum chloride (800,000 tons/year), solid polyaluminum chloride (240,000 tons/year), white carbon black (240,000 tons/year), and glass-ceramic building materials (200,000 tons/year). The process achieves a resource utilization rate exceeding 90% with no secondary waste discharge. The project is included in the national '14th Five-Year Plan' circular economy demonstration projects and benefits from policy support. Construction is scheduled to begin in 2026, with full production expected by 2028. The total investment is RMB 680 million, with an annual output value of RMB 1.26 billion and an annual net profit of RMB 324 million.

Technology & Competitive Edge

- Original aluminum-silicon step-by-step extraction process achieves resource utilization rate over 90%.
- Dual-line parallel process: acid leaching line and glass-ceramic line operate synergistically for full-component utilization.
- Produces four high-value products: liquid and solid polyaluminum chloride, white carbon black, and glass-ceramic.
- Raw materials are waste slag and waste acid, reducing comprehensive cost by over 30% compared to traditional processes.

- Technology verified at industrial scale in Jiangxi base; continuous optimization with Chinese Academy of Sciences.

Market & Business Model

- Liquid polyaluminum chloride: regional annual demand 600,000 tons, supply gap 80,000 tons.
- Solid polyaluminum chloride: national market 4 million tons/year, growing 3-5% annually.
- White carbon black: driven by green tires, annual growth 6-8%; high-end grades rely on imports.
- Glass-ceramic: market capacity over 100 million square meters, replacing natural stone with superior performance.
- Revenue mainly from white carbon black and glass-ceramic; gross margin 42%, net margin 26%.

Scope of Works & Project Status

- Construction of plant, equipment installation, and supporting facilities for dual-line process.
- Total investment RMB 681.89 million: construction RMB 600 million, working capital RMB 38.69 million, reserves RMB 10 million.
- Project schedule: approval and design in March 2026, construction April-December 2026, commissioning January-March 2027, production April 2027.
- Full production capacity ramp-up in 2028; Phase II expansion planned for 2029.
- Financing: project loan RMB 380.59 million, green bonds RMB 50 million, equity financing RMB 50 million.

Key Financials

Total Investment	RMB 681.89 million
Annual Revenue	RMB 1.26 billion
Annual Net Profit	RMB 324 million
Gross Margin	42%
Net Margin	26%
IRR	51.19%
Payback Period	3.05 years
5-Year Cumulative Operating Cash Flow	RMB 1.803 billion
5-Year Cumulative Dividends	RMB 1.26 billion

Investment Highlights

- Top-tier policy support: national '14th Five-Year Plan' circular economy demonstration project with tax reductions and green credit.
- Ultra-high return: IRR 51.19%, payback period 3.05 years, annual net profit RMB 324 million at full production.
- Significant cost advantage: raw materials are waste slag (RMB 50/ton) and waste acid (RMB 200/ton), 30% lower cost than traditional processes.
- Strong market demand: products address regional supply gaps in water treatment chemicals and green building materials.

Key Risks

- Raw material supply risk: dependence on long-term slag supply agreement; mitigated by 10-year contract and 10 million ton reserve library.
- Technology risk: process complexity; mitigated by industrial verification at Jiangxi base and continuous optimization with research partners.
- Market price risk: sensitivity to product prices; sensitivity test shows IRR remains 42.15% with 10% price decline.

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