

Baotou 500,000 Tons/Year Water Slag and 500,000 Tons/Year Steel Slag Solid Waste Resource Utilization Project

Bank Financing Project Teaser

Project Entity: Inner Mongolia Huajun Xiyuan Circular Industry Co., Ltd.

Construction Location: Industrial Park, Kundulun District, Baotou, Inner Mongolia

Construction Nature: New Construction

Financing Purpose: Fixed asset construction, equipment procurement and installation, construction period interest and initial working capital

Proposed Financing Scale: RMB 210.0 million

Capital: RMB 94.725 million

Total Investment: RMB 304.725 million

The project plans to build a comprehensive resource utilization base with annual processing of 500,000 tons of blast furnace water slag and 500,000 tons of steel slag. Through water slag ultra-fine grinding, steel slag physical field combined separation and tailings preparation of low-carbon cementitious materials, it forms a closed-loop business model of "solid waste treatment - resource recovery - green building materials".

1. Project Core Information

Project Dimension	Core Content
Processing Scale	Annual processing of 500,000 tons blast furnace water slag and 500,000 tons steel slag, totaling 1 million tons
Product Structure	All-solid-waste alkali-activated low-carbon cementitious materials, iron concentrate, rare earth concentrate
Process Route	Water slag magnetic separation, drying, vertical mill, ultra-fine classification; steel slag crushing, 600-mesh classification
Location Conditions	Located in Kundulun District Industrial Park, adjacent to Baogang plant area, raw material transportation convenient
Construction Period	12 months, planned June 2026 to June 2027
Land and Plant	Covers approximately 98 mu, total construction area approximately 38,000 square meters
Labor Staffing	Approximately 140 people
Industrial Direction	Steel solid waste resource utilization, rare earth resource comprehensive utilization, green low-carbon building materials

The project conforms to the directions of comprehensive utilization of bulk solid waste, large-scale utilization of steel slag, recovery of valuable components from smelting slag, and comprehensive treatment of solid waste in industrial parks. Policy adaptability supports the project's industrial positioning, but should not be regarded as proof of having obtained subsidies, orders, approvals or credit.

2. Financing Structure and Fund Use

Fund Source/Use	Amount (RMB 10,000)	Proportion	Description
Construction Investment	28,500.0	93.5%	Engineering expenses RMB 239.5 million, other expenses RMB 36 million,
Construction Period Interest	472.5	1.6%	Calculated according to feasibility study financing conditions
Initial Working Capital	1,500.0	4.9%	Working capital needs at the beginning of production and operation
Total Project Investment	30,472.5	100.0%	Feasibility study original caliber
Project Capital	9,472.5	31.1%	Should verify in place before first disbursement
Proposed Loan	21,000.0	68.9%	Feasibility study assumed interest rate 4.5%, term 5 years

It is recommended that the loan focus on fixed asset construction, implement special fund accounts, entrusted payment and phased disbursement. Capital, construction contracts, equipment performance guarantees, raw material supply agreements, environmental and land procedures, pilot verification, sales orders and trial production results should constitute pre-disbursement conditions or subsequent disbursement conditions.

3. Feasibility Study Financial and Bank Prudent Indicators

Indicator	Feasibility Study/Base Caliber	Bank Version Downside Caliber	Interpretation
Full Production Year Operating Revenue	RMB 221.035 million	Adjusted according to price and load pressure	Secure revenue from cementitious materials, iron concentrate and solid waste
Full Production Year Net Profit	RMB 154.915 million	Separately calculated under stress scenario	Need to verify with orders, prices and costs
After-tax Project IRR	59.46%	29.4%	IRR cannot replace debt service coverage judgment
After-tax NPV (7.5%)	RMB 375.733 million	RMB 219.928 million	Downside still positive, but safety cushion decreases
After-tax Static Payback Period	2.90 years	4.06 years	Payback period significantly extends under stress
Comprehensive DSCR	2.77x	Minimum 1.10x	Recommend using minimum DSCR as post-loan monitoring indicator
Comprehensive ICR	26.81x	Decreases after interest rate increase	Strong interest payment coverage during operation period
Break-even Point	20.17%	27.8%	Downside still below full production load, but need to control raw material prices

The Base caliber strictly restores the feasibility study appendices. In full production year operating revenue, cementitious material revenue is RMB 140.8 million, iron concentrate revenue RMB 40 million, solid waste treatment revenue RMB 40 million. The three together account for approximately 99.9% of operating revenue. Therefore, banks should prioritize verifying the prices, orders, quality standards and payment collection of these three revenues, and should not use small financial appendix revenues such as rare earth concentrate as the main repayment source.

4. Main Investment Highlights

First highlight: Regional raw material synergy. The project is adjacent to steel enterprises, with short transportation distances for water slag and steel slag raw materials, which can reduce solid waste transportation and raw material organization pressure. The feasibility study report discloses that Baogang Group produces approximately 2 million tons/year of steel slag and 3 million tons/year of blast furnace water slag, providing regional resource foundation for the project's designed processing scale.

Second highlight: Full utilization and multi-product structure. Water slag forms high-activity slag powder through grinding, steel slag recovers iron and valuable metals through separation, and steel slag tailings enter the cementitious material system. Compared with traditional single stockpiling, low-value filling or single grinding models, it has a more complete business closed loop.

Third highlight: Considerable feasibility study cash flow and debt service coverage. Under the feasibility study original caliber, after-tax IRR is 59.46%, after-tax static payback period 2.90 years, comprehensive DSCR 2.77x; under the bank internal Downside scenario, after-tax IRR is still 29.4%, minimum DSCR approximately 1.10x, showing the project has certain stress tolerance.

Fourth highlight: Green low-carbon and consistent with policy direction. National policies support expanding steel slag utilization, developing steel slag powder and smelting slag valuable component recovery. The State Council action plan emphasizes industrial solid waste source reduction, green design and comprehensive consumption.

5. Key Risks and Credit Preconditions

Key Matter	Risk Description	Recommended Credit Conditions
Key Technology	DC RF dielectric separation needs to complete pilot and pilot operation	More than 180 days performance guarantee, phased acceptance
Raw Material Supply	Good raw material foundation but no formal supply contract	Minimize supply volume, quality standards, price mechanism, transportation
Product Sales	Cementitious materials need customer application	Salesification, iron concentrate, sales, settlement, payment collection
Subsidy/Treatment Policy	Policy basis, approval, agreement, historical cash flow	Market oriented implementation, policy subsidies, no interference
Financial Caliber	Rare earth and other metal product plan quantities	Project capital, approximately 2000, differential balance, financial forecast
Construction Investment	Construction period has over-estimate, schedule	Capital, prime, late, engineering metering, contract payment, supervision
Environmental and Compliance	Environmental assessment, discharge permits, safety	Relevant approvals, acceptance, environmental impact documents

6. Project Value Judgment

Under the current feasibility study information and bank internal stress testing framework, the project has the foundation for further conducting credit due diligence, and is suitable for conditional project financing rather than one-time, unconditional disbursement. The project's core credit logic should be "verified raw material supply + collectable cementitious material/iron concentrate revenue + controlled construction investment + technical capability after pilot verification", rather than using only policy direction or high feasibility study IRR as the credit basis.

It is recommended that banks use cash flow after excluding policy subsidies, price and capacity pressure as the basis for basic repayment ability assessment; treat cash flow with subsidies as upside space; use raw material contracts, sales contracts, pilot verification, procedure compliance and capital in place as disbursement conditions; incorporate monthly output, selling price, inventory, accounts receivable, payment collection, DSCR and environmental KPIs into post-loan monitoring.