



Baotou 500,000 t/y Water Slag & 500,000 t/y Steel Slag Resource Utilization Project

Closed-loop solid waste recycling into green low-carbon building materials

Total Investment RMB 304.725 million Feasibility study original caliber	Annual Processing Capacity 1,000,000 tons 500,000 t water slag + 500,000 t steel slag	Full Production Year Operating Revenue RMB 221.035 million Feasibility study base caliber
Full Production Year Net Profit RMB 154.915 million Feasibility study base caliber	After-tax Project IRR 59.46% (base) / 29.4% (downside) Feasibility study vs bank prudent scenario	After-tax Static Payback Period 2.90 years (base) / 4.06 years (downside) Feasibility study vs bank prudent scenario

Project Overview

Inner Mongolia Huajun Xiyuan Circular Industry Co., Ltd. plans to construct a comprehensive resource utilization base in the Industrial Park of Kundulun District, Baotou, Inner Mongolia. The project will process 500,000 tons per year of blast furnace water slag and 500,000 tons per year of steel slag, totaling 1 million tons annually. The process route includes water slag magnetic separation, drying, vertical mill grinding and ultra-fine classification; steel slag crushing, 600-m physical field combined separation, and tailings preparation of low-carbon cementitious materials. The project forms a closed-loop business model of 'solid waste treatment – resource recovery – green building materials'. The construction period is 12 months, planned from June 2026 to June 2027. The project covers approximately 98 mu with a total construction area of about 38,000 square meters and will employ approximately 140 people. The proposed financing scale is RMB 210.0 million, with project capital of RMB 94.725 million and total investment of RMB 304.725 million. The project is currently at the financing teaser stage, with pre-disbursement conditions including capital in place, permits, pilot verification, and sales agreements.

Technology & Competitive Edge

- Water slag is processed via magnetic separation, drying, vertical mill grinding and ultra-fine classification to produce high-activity slag powder.
- Steel slag undergoes crushing and 600-m physical field combined separation to recover iron and valuable metals.

- Steel slag tailings are used to prepare all-solid-waste alkali-activated low-carbon cementitious materials.
- The process enables full utilization of solid waste, forming a closed-loop business model.
- Key technology DC RF dielectric separation requires pilot and industrial operation verification.

Market & Business Model

- Revenue streams include low-carbon cementitious materials, iron concentrate, and solid waste treatment services.
- In full production year, cementitious material revenue is RMB 140.8 million, iron concentrate RMB 40 million, and solid waste treatment RMB 40 million.
- These three revenue sources account for approximately 99.9% of total operating revenue.
- The project is located adjacent to Baogang plant area, providing regional raw material synergy.
- Baogang Group produces approximately 2 million tons/year of steel slag and 3 million tons/year of blast furnace water slag.

Scope of Works & Project Status

- Construction of a comprehensive resource utilization base with annual processing of 1 million tons of solid waste.
- Covers approximately 98 mu with total construction area of about 38,000 square meters.
- Construction period is 12 months, planned from June 2026 to June 2027.
- Labor staffing of approximately 140 people.
- Project is at financing teaser stage; pre-disbursement conditions include capital in place, permits, pilot verification, and sales agreements.

Key Financials

Total Investment	RMB 304.725 million
Project Capital	RMB 94.725 million (31.1%)
Proposed Loan	RMB 210.0 million (68.9%)
Construction Investment	RMB 285.0 million (93.5%)
Full Production Year Operating Revenue	RMB 221.035 million
Full Production Year Net Profit	RMB 154.915 million
After-tax Project IRR (Base)	59.46%
After-tax Static Payback Period (Base)	2.90 years
Comprehensive DSCR (Base)	2.77x

Investment Highlights

- Regional raw material synergy: adjacent to Baogang plant area, reducing transportation and raw material organization pressure.
- Full utilization and multi-product structure: closed-loop business model from solid waste treatment to green building materials.
- Considerable feasibility study cash flow and debt service coverage: base IRR 59.46%, payback 2.90 years, DSCR 2.77x; downside IRR 29.4%, minimum DSCR 1.10x.
- Green low-carbon and policy alignment: supports steel slag utilization and valuable component recovery, consistent with national policies.

Key Risks

- Key technology DC RF dielectric separation needs pilot and industrial operation verification; third-party pilot report and equipment performance guarantee required.
- Raw material supply lacks formal supply contract; minimum supply volume, quality standards, and price mechanism need to be secured.
- Product sales require customer application verification and stable settlement channels; sales framework agreements and testing reports needed.

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