

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

Financial Evaluation Report (Bank Financing Version)

Report Purpose: Supporting materials for bank fixed asset loans, project financing due diligence, credit review and financing negotiations.

Preparation Basis: User-provided feasibility study report and its Appendices 1-13; the bank version financial model formulaically restores the feasibility study caliber, and adds Upside, Downside and valuation linkage calculations.

I. Evaluation Conclusion

Total project investment RMB 304.725 million, including construction investment RMB 285 million, construction period interest RMB 4.725 million, initial working capital RMB 15 million; capital RMB 94.725 million, proposed financing RMB 210 million. Project planned construction period 12 months, operation period calculated with load ramp-up of 20%, 40%, 60%, 70%, 80%.

According to the feasibility study Base caliber restoration, the project's full production year operating revenue is RMB 221.035 million, total revenue including policy subsidies RMB 226.035 million, total profit RMB 177.045 million, net profit RMB 154.915 million. After-tax project IRR is 59.46%, after-tax NPV is RMB 375.733 million, after-tax static payback period is 2.90 years, comprehensive DSCR is 2.77x, comprehensive ICR is 26.81x. The above indicators are consistent with the core results of feasibility study Appendices 8-10. The revenue, profit, cash flow, balance sheet balance and NPV restoration in the model check page all pass.

The bank version Downside scenario does not count policy subsidies, and applies pressure to capacity load, main product prices, operating costs, construction investment and loan interest rates. After-tax IRR is approximately 29.4%, NPV approximately RMB 219.928 million, static payback period approximately 4.06 years, minimum DSCR approximately 1.10x, full production year DSCR approximately 2.48x. This result indicates that the project still has basic debt solvency under pressure, but the early debt repayment safety margin significantly decreases. Financing should adopt capital first in place, phased disbursement, cash flow collection and post-loan monitoring.

Core Indicator	Base/Feasibility Restoration	Upside	Downside
After-tax Project IRR	59.46%	72.76%	29.38%
After-tax NPV (7.5%)	37,573.3	48,340.1	21,992.8
After-tax Static Payback Period	2.90 years	2.58 years	4.06 years
Break-even Point	20.5%	18.4%	27.8%
Minimum DSCR	1.59x	1.89x	1.10x
Full Production Year DSCR	3.15x	3.53x	2.48x

II. Investment and Financing Basis

The project is located in the Industrial Park of Kundulun District, Baotou, planning to process 500,000 tons/year of blast furnace water slag and 500,000 tons/year of steel slag, totaling 1 million tons/year. Project revenue includes all-solid-waste alkali-activated low-carbon cementitious materials, iron concentrate, rare earth concentrate, other valuable metal concentrates, solid waste treatment income and water slag line iron scrap recovery.

Item	Amount/Scale	Model Caliber
Construction Investment	RMB 285.0 million	One-time investment in construction period Phase 1
Construction Period Interest	RMB 4.725 million	Loan interest rate 4.5% feasibility study caliber
Initial Working Capital	RMB 15.0 million	Restored according to feasibility study Appendices 1-3
Total Investment	RMB 304.725 million	Construction investment + construction period interest + initial working capital
Capital	RMB 94.725 million	31.1% of total investment
Loan	RMB 210.0 million	68.9% of total investment, term 5 years
Operation Load	20%/40%/60%/70%/80%	Calculation period 1-5
Maintenance Operation Investment	RMB 10 million/year in Years 2-5	Included in project cash flow, not in operating costs

Project loan principal repayment is restored according to feasibility study Appendix 9. Construction period loan RMB 210 million, operation period principal repayment RMB 49.086 million, RMB 51.295 million, RMB 53.603 million and RMB 56.016 million. Interest expenses are restored according to feasibility study 4.5% loan conditions; Downside increases interest rate to 5.5%, but does not change proposed financing capital and principal repayment rhythm.

III. Revenue Forecast and Revenue Quality

The Base revenue model strictly restores according to the feasibility study financial appendix amount caliber. Cementitious material output approximately 880,000 tons/year, iron concentrate output approximately 100,000 tons/year, processing volume approximately 1 million tons/year. There is an approximately 1000x unit difference between rare earth concentrate and other valuable metal concentrate in the product plan chapter and financial appendices. The model adopts the revenue amount corresponding to the financial appendices, and does not unauthorizably replace product plan output into cash flow.

Full Production Year Operating Revenue (RMB 10,000)	% of Operating Revenue	Verification Focus	
Cementitious Materials	14,080.0	63.7%	Customer certification, product price, orders and payment collection
Rare Earth Concentrate	23.1	0.1%	Product plan unit, grade and sales channel
Other Valuable Metal Concentrate	0.7	0.0%	Product definition, price and metering
Iron Concentrate	4,000.0	18.1%	Fe grade, impurities, settlement price and customer
Solid Waste Treatment Income	4,000.0	18.1%	Market-oriented treatment fee or subsidy nature
Water Slag Line Iron Scrap Recovery	0.4	0.0%	Recovery volume, quality and sales
Total Operating Revenue	22,103.5	100.0%	Excluding policy subsidies listed separately in income statement

Revenue quality analysis shows that the project's debt repayment sources are actually concentrated in cementitious materials, iron concentrate and solid waste treatment income, the three together accounting for approximately 99.9%. Therefore, the core of bank credit is not the potential high added value of rare earth concentrate, but whether the three types of main revenue have evidence of being contractable, measurable, deliverable and collectable.

IV. Cost Expense and Profit Forecast

Operating costs are restored according to feasibility study Appendices 5-7, including materials, fuel and power, wages and benefits, repair costs and other expenses. Full production year operating costs approximately RMB 19.046 million, depreciation and amortization approximately RMB 24.113 million, financial expenses approximately RMB 2.521 million, plus taxes and surcharges and income tax. The model lists taxes and surcharges separately from EBITDA to facilitate linkage with project free cash flow and DSCR calculation.

Full Production Year Cost and Profit (RMB 10,000)	Profit (RMB 10,000)	Evaluation Notes
Operating Revenue	22,103.5	Restored from feasibility study Appendix 4
Policy Subsidy Income	500.0	Listed separately, not as Downside basic repayment source
Total Revenue	22,603.5	Including policy subsidies
Operating Costs	1,904.6	Need to verify with equipment energy consumption, personnel, maintenance
Depreciation and Amortization	2,411.3	Based on feasibility study depreciation and amortization table
Financial Expenses	252.1	Restored based on loan balance and interest rate
Taxes and Surcharges	331.0	Restored based on feasibility study tax caliber
Total Profit	17,704.5	Consistent with feasibility study Appendix 8
Income Tax	2,213.1	Restored based on feasibility study tax rate caliber
Net Profit	15,491.5	Consistent with feasibility study Appendix 8

The materials, fuel and power costs in the feasibility study cost structure are relatively low. Banks should focus on verifying whether their units are RMB 10,000, RMB/ton or compiled according to some internal deduction caliber. If actual raw materials, energy, transportation or environmental operating costs are significantly higher than the feasibility study, the Base profit level will be revised downward. Downside has already increased operating costs by 10%, but before credit approval, an independent cost worksheet should still be recompiled based on supplier quotations, energy consumption lists, personnel configuration and maintenance plans.

V. Project Cash Flow and Debt Solvency

Project cash flow is restored according to total investment caliber, including operating revenue, output tax, policy subsidies, asset residual value, working capital recovery, construction investment, working capital input, operating costs, input tax, payable VAT, taxes and surcharges and maintenance operation investment. After-tax project net cash flow is used for IRR and NPV; loan debt solvency uses EBIT, depreciation, income tax and debt service to construct DSCR and ICR.

Base Project Cash Flow	Year 1	Year 2	Year 3	Year 4	Year 5
Operating Revenue	4,420.7	8,841.4	13,262.1	17,682.8	22,103.5
Policy Subsidies	5,000.0	500.0	500.0	500.0	500.0
Operating Costs	278.0	556.0	834.0	1,031.1	1,192.0
Project After-tax Net Cash Flow	(20,891.6)	6,930.2	12,560.2	14,815.7	17,084.5
Ending Loan Balance	21,000.0	16,091.4	10,961.9	5,601.6	—
DSCR	—	1.59x	2.37x	2.76x	3.15x

Feasibility study Appendix 10 lists asset residual value and working capital recovery during construction and operation periods. The project valuation model separately processes one-time asset residual value and working capital recovery from ongoing FCFF, avoiding mixing project investment evaluation cash flow with enterprise value DCF. Project after-tax IRR, NPV and DSCR should all be cross-checked with the formula chains in the "CF" and "Debt" worksheets.

VI. Sensitivity and Stress Testing

Feasibility study Table 13-7 shows that operating unit price is the most sensitive factor for after-tax IRR, followed by construction investment; material cost sensitivity is lower, mainly because feasibility study raw material prices are processed at a lower caliber. The bank version model further sets directional stress testing for operating unit price and construction investment, and the results show that the project is relatively sensitive to product prices and construction investment control.

Factor	Feasibility Study Base Reference	Bank Prudent Actions
Operating Unit Price	Main products at feasibility study price	Obtain customer orders, price mechanisms and historical market quotation
Construction Investment	RMB 285.0 million	Approve investment estimate, fixed-price contracts, over-estimate warning
Operating Costs	Full production year RMB 19.046 million	Verify energy consumption, labor, maintenance, transportation and environ
Policy Subsidies	Appendix lists RMB 5 million/year, compared with period RMB 50 million	Parts without policy basis, approval or historical cashing evidence shall not be used as basic repayment source
Capacity Ramp-up	20%/40%/60%/70%/80%	Linked with equipment delivery, pilot testing, orders and payment collection

VII. Bank Financing Recommendations

It is recommended that the credit plan adopt a structure of "fixed asset loan + phased disbursement + special account supervision + cash flow collection + post-loan financial constraints". During the construction period, capital first, engineering metering and equipment contracts as the basis; in the middle and later stages, pilot testing, performance assessment, trial production with materials, product testing, environmental acceptance and order payment collection as subsequent disbursement conditions. Policy subsidies should be independently split from operating treatment income. Parts without clear policy basis, approval or historical cashing evidence shall not be used as basic repayment sources.

Credit Condition	Recommended Content
Capital	Verify RMB 94.725 million capital source and in-place vouchers before first disbursement
Loan Purpose	Only used for approved construction investment, equipment procurement and installation, and agreed
Disbursement Method	Entrusted payment, engineering metering, equipment arrival, invoices and supervision materials supp
Debt Service Constraints	Set minimum DSCR, minimum cash balance and debt service reserve
Payment Collection Management	Payments, treatment service fees and subsidies all collected to the supervision account
Major Matters	Over-estimate, related party transactions, external guarantees, major equipment changes require repo
Post-loan Monitoring	Monthly monitoring of output, selling price, inventory, receivables, payment collection, DSCR, environ