

Coal Gasification Slag Comprehensive Utilization Project

Industrial solid-waste recycling to high-value chemical and material products

<div>Total Investment</div> <div>RMB 681.8924 million</div> <div>Includes construction investment, construction period interest, and initial working capital</div>	<div>Average Annual Revenue</div> <div>RMB 1,260.00 million</div> <div>At full production year</div>	<div>Average Annual Net Profit</div> <div>RMB 323.7413 million</div> <div>At full production year</div>
<div>After-tax IRR</div> <div>51.19%</div> <div>Far above benchmark discount rate of 13%</div>	<div>After-tax NPV</div> <div>RMB 744.7774 million</div> <div>Discounted at 13%</div>	<div>Payback Period (excl. construction)</div> <div>3.05 years</div> <div>Including construction period: 4.05 years</div>

Project Overview

The Coal Gasification Slag Comprehensive Utilization Project is developed by Inner Mongolia Lvbaoxin Environmental Technology Co., Ltd. in Inner Mongolia, China. The project focuses on recycling coal gasification slag, an industrial solid waste, into valuable products including liquid polyaluminum chloride, solid polyaluminum chloride, white carbon black, and glass-ceramic. The construction scope includes engineering works, other fees, and reserve funds, with a total investment of RMB 681.8924 million. The project is currently at the financial model analysis stage, with a detailed investment estimation and financing plan already assessed. The financing plan comprises external financing of RMB 480.5920 million (70.48%) and enterprise self-financing of RMB 201.3004 million (29.52%). The project has completed a preliminary feasibility assessment, and the loan conditions are considered market competitive. The financial model indicates strong profitability, with an after-tax IRR of 51.19% and an NPV of RMB 744.7774 million. The project is positioned to achieve significant environmental and economic benefits by converting industrial waste into high-demand products.

Technology & Competitive Edge

- Core process converts coal gasification slag into liquid and solid polyaluminum chloride, white carbon black, and glass-ceramic.
- Products are high-value chemicals and materials with diverse industrial applications.
- Process yields strong financial returns, with after-tax IRR of 51.19% and NPV of RMB 744.7774 million.
- Break-even point at 23.30% capacity utilization demonstrates high operational flexibility and safety margin.

- Sensitivity analysis shows product price is the most sensitive factor, but project remains viable even with a 20% price drop.

Market & Business Model

- Revenue generated from sale of four main products: liquid polyaluminum chloride, solid polyaluminum chloride, white carbon black, and glass-ceramic.
- Average annual revenue at full production is RMB 1,260.00 million.
- Average annual total cost is RMB 818.3058 million, including operating costs of approximately RMB 700 million.
- Net profit averages RMB 323.7413 million per year, with EBITDA of RMB 550.00 million.
- Business model benefits from low break-even point, ensuring profitability even under low capacity utilization.

Scope of Works & Project Status

- Construction investment covers engineering fees, other fees, and reserve funds, totaling RMB 599.95 million (87.98% of total investment).
- Construction period interest is RMB 43.2533 million (6.34%), and initial working capital is RMB 38.6891 million (5.67%).
- Financing plan: external financing of RMB 480.5920 million (70.48%) with 5-year term at 6% interest, and self-financing of RMB 201.3004 million (29.52%).
- Project is at financial model analysis stage; preliminary feasibility assessment passed.
- Cumulative net cash flow turns positive in year 4 of operation, with net cash flow at end of operation period of RMB 450 million (including recovery).

Key Financials

Total Investment	RMB 681.8924 million
Average Annual Revenue	RMB 1,260.00 million
Average Annual Net Profit	RMB 323.7413 million
EBITDA	RMB 550.00 million
After-tax IRR	51.19%
After-tax NPV	RMB 744.7774 million
Payback Period (excl. construction)	3.05 years
Break-even Capacity Utilization	23.30%

Investment Highlights

- Strong profitability: after-tax IRR of 51.19% and average annual net profit of RMB 323.7413 million.
- High financial feasibility: after-tax NPV of RMB 744.7774 million, far exceeding zero.
- Short payback period: 3.05 years excluding construction, indicating fast capital turnover.
- Strong anti-risk capability: break-even point at 23.30% and resilience to price fluctuations.

Key Risks

- Product price volatility: sensitivity analysis indicates product price is the most sensitive factor, with a critical point of approximately -20.44%.
- Construction and operational cost fluctuations: while sensitivity is relatively low, cost overruns could impact returns.

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