

Precipitated Calcium Carbonate (PCC) Plant

Best Use of Limestone in a Manufacturing Facility

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Investment Proposal — February 2026

Why Precipitated Calcium Carbonate (PCC)?

Limestone (CaCO_3) is versatile, but PCC delivers the highest value-added return among all limestone-derived products. PCC commands 3–5× the price of raw limestone and serves high-growth industries.



High Margin

PCC sells at \$150–\$400/ton vs \$10–\$30/ton for raw limestone



Growing Demand

Global PCC market projected to reach 16+ MT, 4% CAGR

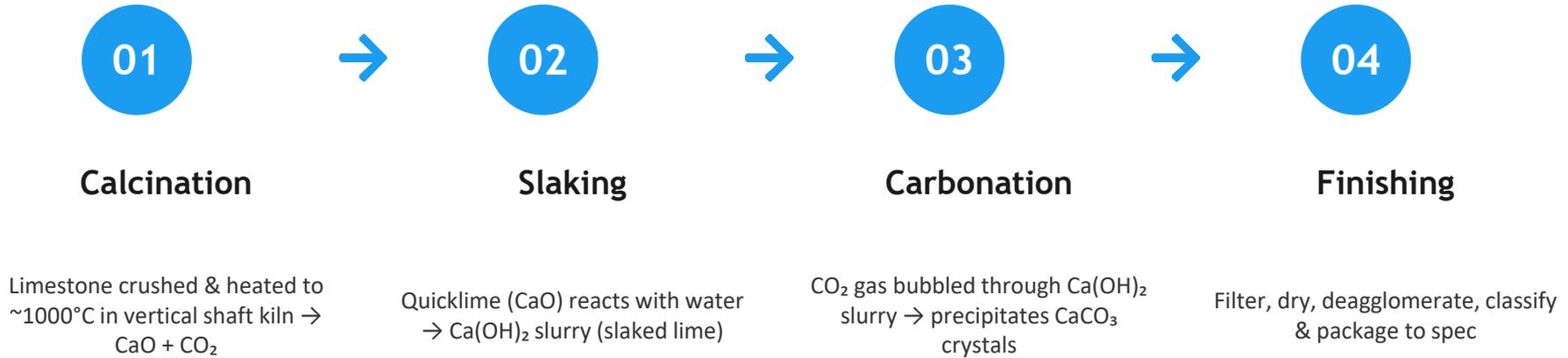


Technical Moat

Chemical processing creates barrier to entry vs simple quarrying

Key Markets: Paper & Pulp • Plastics & Polymers • Paints & Coatings • Pharmaceuticals • Agriculture

Manufacturing Process Overview

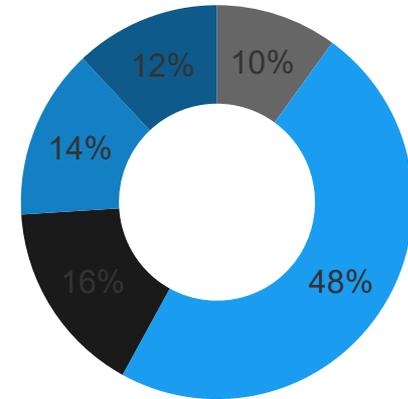


Engineering Highlights

- CO₂ from calcination is captured and reused in carbonation — closed-loop process
- Capacity: 50,000 metric tons per annum (MTA) — optimal for mid-scale operations
- Crystal morphology (calcite, aragonite, vaterite) controllable via process parameters

Capital Expenditure (CAPEX) – \$25M Total Investment

Category	Cost (USD M)	% of Total
Land & Site Development	\$2.5	10%
Machinery & Equipment (Kilns, Crushers, Reactors)	\$12.0	48%
Infrastructure & Utilities (Power, Water, Roads)	\$4.0	16%
Engineering, Procurement & Construction (EPC)	\$3.5	14%
Working Capital & Contingency	\$3.0	12%
TOTAL CAPEX	\$25.0	100%



■ Land & Site ■ Machinery ■ Infrastructure
■ EPC ■ Working Cap.

Funding: 60% project finance / 40% equity • Plant located in Sohar Industrial Zone, Oman — proximity to port & limestone reserves

Operating Expenditure (OPEX) & Revenue Projections

Annual OPEX (at full capacity)

Item	Cost/yr	%
Raw Materials (Limestone, Fuel)	\$3.6M	35%
Energy & Utilities	\$2.6M	25%
Labor & Overhead	\$1.5M	15%
Maintenance & Wear Parts	\$1.0M	10%
Packaging & Logistics	\$1.0M	10%
Insurance, Admin & Other	\$0.5M	5%
TOTAL OPEX	\$10.2M	100%

Revenue Model

50,000 MTA

Production Capacity

\$250/ton

Avg. Selling Price

\$12.5M

Annual Revenue

~18%

Gross Margin

OPEX/ton: ~\$204 • Cost advantage from Oman's low energy costs and abundant limestone

Financial Returns & Investment Metrics

22-28%

IRR

Attractive risk-adjusted return

\$12-15M

NPV (10%)

Strong positive NPV at 10% discount

4.5 Years

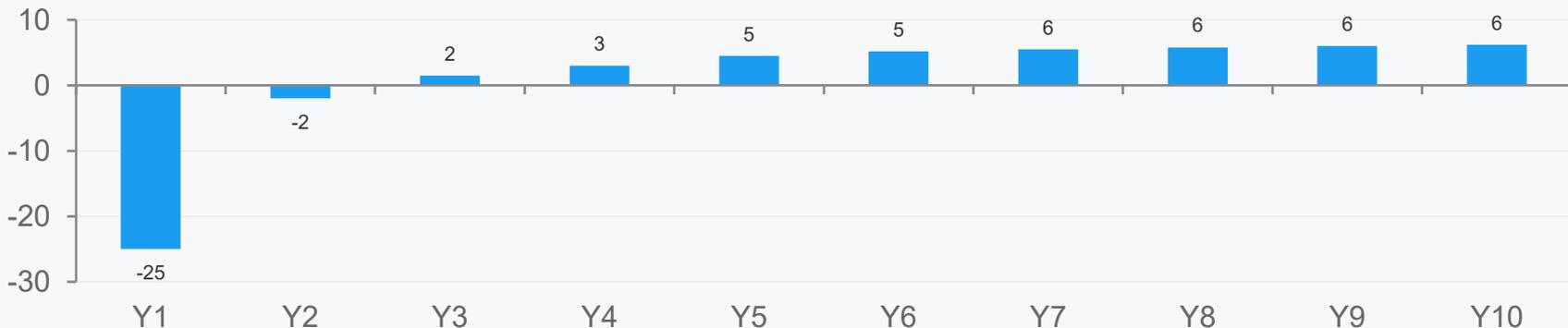
Payback

Within acceptable industrial range

~18%

EBITDA Margin

Grows to ~25% at scale in Year 5



Strategic Advantages & Market Positioning



Oman's Reserves

Access to high-purity limestone (95–98% CaCO_3). Oman is the 6th largest limestone exporter globally.



Low Energy Costs

Subsidized natural gas & electricity in Oman provide significant operational cost advantage.



Export Hub

Sohar Port provides direct access to India, GCC, and East Africa — key growing PCC markets.



Value-Added Product

PCC replaces imported specialty chemicals in the MENA region — currently a supply gap.



Vision 2040 Aligned

Supports Oman's economic diversification and industrial mineral beneficiation goals.



Sustainability

Closed-loop CO_2 reuse, low waste, and potential for carbon credits via mineral carbonation.

Conclusion & Recommendation

- ✓ PCC is the highest value-added use of limestone — 10× price premium over raw material
- ✓ Total investment of \$25M with an IRR of 22–28% and payback in ~4.5 years
- ✓ Oman offers unique advantages: abundant high-purity limestone, low energy costs, and port access
- ✓ Growing MENA demand for PCC creates an import-substitution opportunity
- ✓ Aligned with Oman Vision 2040 for mineral beneficiation and economic diversification

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