

CALCINED PETROLEUM COKE (CPC) & CATHODE BLOCK

INVESTMENT OPPORTUNITY SCORECARD

MINING & METALS



CALCINED PETROLEUM COKE (CPC) & CATHODE BLOCK

Opportunity Description: Opportunity to develop a 250 ktpa CPC & 5 ktpa Cathode Block plant to supply to local and the regional market.

INVESTMENT OVERVIEW

INVESTMENT HIGHLIGHTS

- Expected investment size of USD 100-120 Mn (CPC) & USD 10-15 Mn (Cathode Block)
- Plant capacity: 250 ktpa (CPC) & 5ktpa (Cathode Block)
- Calcined petroleum coke is a critical ingredient in the production for Aluminum, Titanium, Steel produced from Anode grade GPC.
- Cathode blocks made from carbon & graphite applied for the production of primary aluminum. Cathode blocks are used in the lining of aluminum electrolysis cells.

VALUE PROPOSITION

- The Kingdom has close proximity to raw material (Green Petroleum Coke) sources, including UAE and Oman; further opportunity for investment in raw material.
- The MENA region is a net importer providing opportunity for exports; the KSA's geographical advantage and trade agreements with neighboring countries make exporting favorable.
- Ma'aden Aluminum, one of the major end users locally, thus providing an immense opportunity to cater to local demand.
- CPC will also play a vital role as a critical feedstock for Cathode block production for Aluminum smelters.

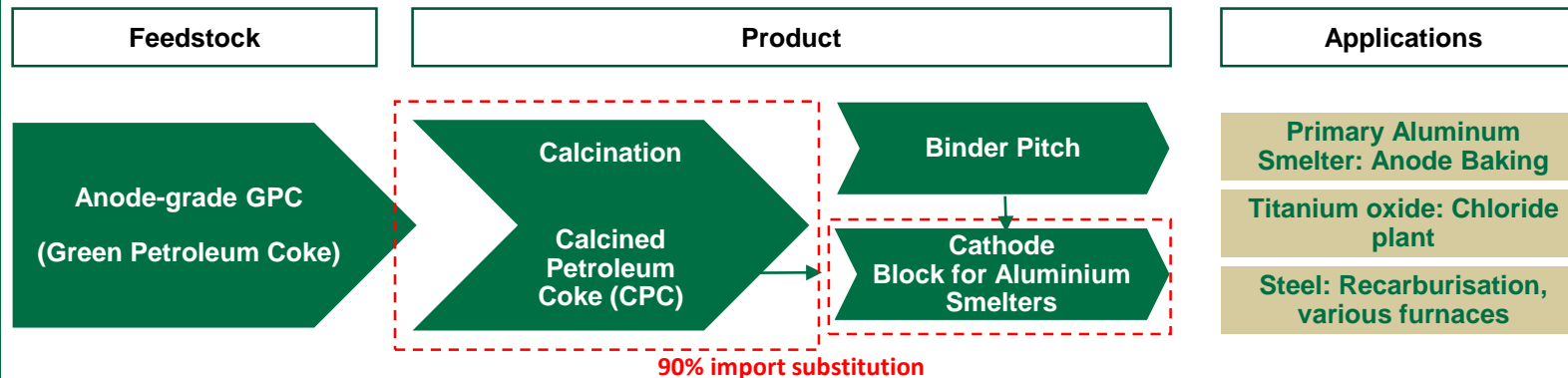
MARKET OVERVIEW

GLOBAL TREND

- The global CPC market is expected to reach 43.8 mmtpa by 2027, registering a CAGR of 3.5% based on rising production of Primary Aluminum.
- The global Cathode Block market was valued at USD 820 Mn in 2020 with a CAGR of 2-3%.
- Aluminum smelting globally drives the CPC & Cathode block demand.
- CPC provides advantages over substitutes such as anthracite coal which is resulting in higher penetration in the aluminum sector.

VALUE CHAIN ANALYSIS

Opportunity Focus



KEY DEMAND DRIVERS

- In 2020, CPC demand in the KSA was 330-370 ktpa, growing at 4% YoY.
- Cathode Block demand in KSA is estimated at USD 10-15 Mn, it has a typical life cycle of 5-7 years.
- The KSA is well positioned to localize & leverage critical raw materials such as CPC across end industries given its current dependency entirely on imports.
- CPC offers good potential with favorable logistics to export to rest of the leading MENA aluminum smelters and steel plants

DEFINITIONS

#	SCORECARD SECTION	DEFINITIONS
1	Market size	Size of market in value/volume in KSA and/or Region (MENA/GCC) covering future projections based on available estimates from published /government sources
2	Business drivers	A select number of factors that will influence future demand for the related product/service
3	Investment highlights	An overview of key financial metrics summarizing the investment opportunity along with the expected return based on the suggested investment size
4	Value proposition	Summary of key differentiators that position KSA as a strategic choice over other regional/global peers
5	Market readiness	An overview of KSA market structure, market maturity and level of participation by local and global players
6	Competitor analysis	List of the local & international players manufacturing the underlying product in Saudi Arabia and their market share
7	Global trends	Latest business developments within the sector/product category
8	Scalability and localization	Ease of scaling the business across the value chain or into new adjacent products or geographies that would maximize the opportunity's investment returns and the ability and potential to locally manufacture the product and its components
9	Import dependency	An overview of the countries from which Saudi Arabia is importing the product and their value/volume and share in total imports
10	Value chain analysis	The process or activities that would potentially need to be carried out to deliver the underlying product or service
11	Key stakeholders	Government institutions, organizations, and/or authorities that participate or influence the market for the underlying product/service
12	Enablers	Factors that enable investment in the underlying opportunity
13	Cost of doing business in KSA	Key factors that position KSA as a competitive destination for investment in the region. Productivity adjusted wages do not include cost of \$1.23/hour towards annual recurring charges including work permit, resident identity (iqama) and health insurance

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