

CARBON FIBER (CF)

INVESTMENT OPPORTUNITY SCORECARD

CHEMICALS

MARCH 2021

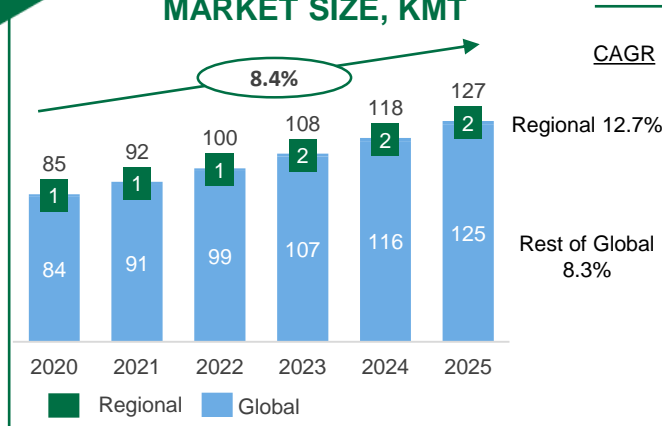


CHEMICALS CARBON FIBER (CF)

OPPORTUNITY DESCRIPTION: Opportunity to setup Carbon Fiber (CF) manufacturing plant of 3 KMT capacity in KSA to cater regional and global demand

DEMAND

MARKET SIZE, KMT



INVESTMENT OVERVIEW

INVESTMENT HIGHLIGHTS

- Expected investment size of USD 5 Mn
- Plant capacity: 3 KMT
- Investment model options: pure private sector model or joint venture with local player

VALUE PROPOSITION

- KSA has a strategic location and access to feedstock enabling it to serve emerging markets like India, Africa and South East Asia
- KSA can leverage favorable trade agreements (eg: GAFTA) and strong logistics infrastructure to enhance export capability
- KSA is one of the largest chemical producers in the world and contributes ~10% to the global output
- Opportunity for first mover advantage due to non-existent local production of carbon fiber and lack of competition from major global manufacturers
- This opportunity has a strategic alignment with vision 2030 and National Industrial Strategy by supporting many industries such as aircraft, vehicle components, wind turbines, oilfield

KEY DEMAND DRIVERS

- Demand for carbon fiber is driven by its usage as one of the key ingredients for manufacturing vehicles, wind turbines, aircraft, oilfield equipment, and construction
- Upcoming automobile manufacturing cluster in KSA will drive the carbon fiber demand in the country
- Expected growth in aviation industry in KSA (reaching almost 200 mn passengers by 2030 from 100 mn passengers in 2019) and the expansion plan of the major flag carrier SAUDIA will further fuel the demand for aircraft which will lead to demand for carbon fiber

MARKET OVERVIEW

GLOBAL TRENDS

- The global carbon fiber market was valued at \$2.6 Bn in 2019 and it declined in 2020 due to global economic recession led by COVID-19. The market is expected to recover in 2021 and reach an estimated \$2.8 Bn by 2025 at a CAGR of 1.2% from 2020 to 2025
- Americas account for the majority share in the global capacity for carbon fiber followed by Europe and Japan
- Aerospace and defense industry is a major driver for growth in the global carbon fiber market. It accounted for approximately third of the total market in terms of demand and about half of the total market revenue. The global aerospace and defense market is estimated to be valued at USD 1,600 Bn in 2025, growing at a CAGR of 3.5% during the period 2019-2025
- Aircraft manufacturers are focusing on manufacturing new single-aisle aircrafts. Single-aisle airplanes are expected to command the largest share of new aircraft deliveries during the period 2020-29. New demand for carbon fiber is expected to come from the next-generation single-aisle aircrafts

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SUPPLY

SCALABILITY AND LOCALIZATION

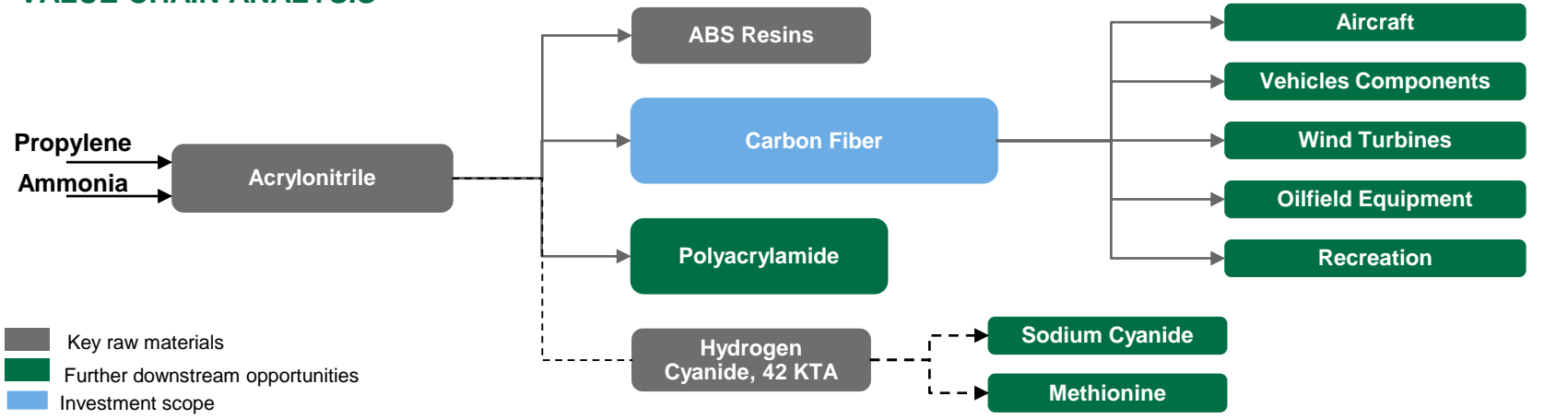
Grade: Low Medium High

- KSA's strategic advantage over regional peers in cost of establishing business especially in manufacturing domain
- Potential to serve local and regional market and create a 'regional hub' for chemicals manufacturing in KSA
- Opportunity to utilize low-cost energy in KSA and the raw material Acrylonitrile (ACN) which will be produced by INEOS

IMPORT DEPENDENCY

- No local production of carbon fiber exists in Saudi Arabia; currently 100% of the local demand met by imports

VALUE CHAIN ANALYSIS



KEY STAKEHOLDERS



ENABLING FACTORS

ENABLERS

- Up to 75% of project financing by Saudi Industrial Development Fund (SIDF)
- 2-year grace period for the repayment of loans
- Expat worker levy waived-off for industrial manufacturers until October 2024
- HRDF covers 30-50% of Saudi employees monthly salaries (additional 10% for females) for 2 years, provided that it does not exceed USD 4,000

COST OF DOING BUSINESS IN KSA

Factor	Ranking Amongst Regional Peers
Electricity tariffs for industrial players	\$48 /MWh
Productivity adjusted wages	\$3.3 /hour
Logistics Performance Index (1 – 5)	3.2
Customs Clearance Index (1 – 5)	2.7
Ease of getting credit (0 – 100)	50

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	Demand 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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