

Ultra High Molecular Weight Polyethylene (UHMWPE) Fiber

INVESTMENT OPPORTUNITY SCORECARD

CHEMICALS

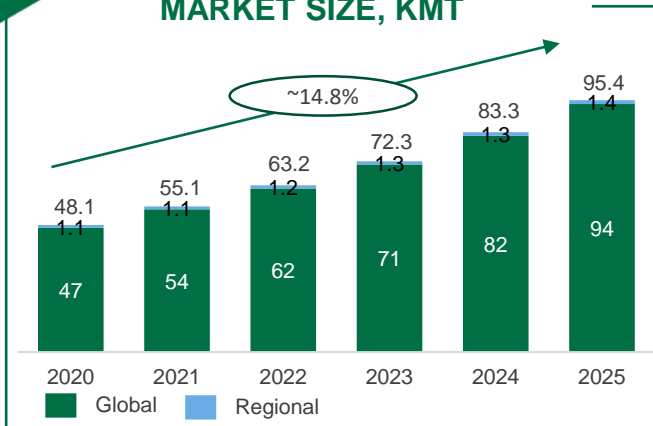


Ultra High Molecular Weight Polyethylene (UHMWPE) Fiber

OPPORTUNITY DESCRIPTION: Opportunity to setup a Ultra High Molecular Weight Polyethylene (UHMWPE) production facility of ~30 KMT in KSA

DEMAND

MARKET SIZE, KMT



INVESTMENT HIGHLIGHTS

- Expected Investment size of USD 477 Mn
- Plant capacity: 20 - 30 KMT
- Expected IRR: More than 12%

INVESTMENT OVERVIEW

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 UHMWPE Fiber and lack of competition from major global manufacturers

KEY DEMAND DRIVERS

- Major drivers for UHMWPE Fiber demand are increasing usage in orthopedics implants, and other applications for medical and healthcare devices and growing use of sheets in the aerospace and defense for the manufacture of aircraft interiors
- Increase in the demand for ballistic protection products is one of the key factor fueling the demand of aerospace and defense segment in the ultra-high molecular weight polyethylene market
- Planned investments in high-growth aerospace, medical and marine sectors to drive regional demand for UHMWPE Fiber

MARKET OVERVIEW

GLOBAL TRENDS

- UHMWPE Fiber has been in a state of short supply. Global demand for UHMWPE Fiber was ~60 KMT in 2016 while production was ~30 KMT
- UHMWPE Fiber, a fiber spun out of UHMWPE, and is largely consumed by China, United States and Europe. Consumption in China accounts for nearly two-third of the global demand
- UHMWPE Fiber is widely used for joint replacement surgeries, making medical one of the key end-use sectors within the larger healthcare sector. The growing geriatric population in Europe, Japan, and the United States has prompted the need for orthopedics in these regions
- Favorable properties of the product increases its scope of application in numerous industries such as automotive, healthcare, and shipbuilding. These properties include high abrasion resistance, superior impact strength, low reactivity to chemicals and additives, higher flexibility, and friction resistance



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ENABLING FACTORS

SUPPLY

SCALABILITY AND LOCALIZATION

Grade: Low Medium High

- Easy access to cost competitive supply of feedstock – Ethylene
- Ethylene is produced by SABIC, KEMYA, Petrokemya, SADAF, Saudi Kayan and SHARQ in Al Jubail and YANPET, Yansab and Petro-Rabigh in Yanbu
- Strong logistics infrastructure and supportive regulatory ecosystem in KSA to support export of UHMWPE Fiber globally

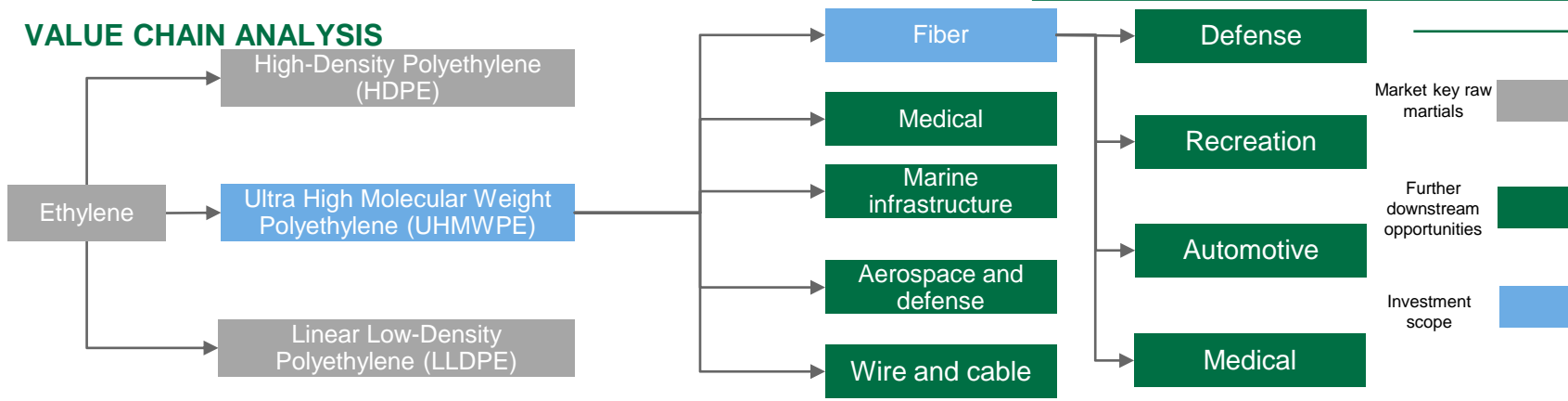
IMPORT DEPENDENCY

- No local production of UHMWPE Fiber in KSA, 100% of the local demand is met by imports

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

VALUE CHAIN ANALYSIS



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

KEY STAKEHOLDERS



National Industrial Development and Logistics Program



Sources for Cost of Doing Business: EIU, World Bank



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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