Caprolactam is a monomer intermediate used for the production of nylon 6; consumption is driven primarily by the nylon fiber and polymer markets. Global caprolactam consumption is expected to increase to approximately 7.4 million metric tons in 2025, for an average annual growth rate of 4% during 2020–25. Consumption of caprolactam was about 6 million metric tons in 2020, driven mainly by mainland China. Global capacity of caprolactam is expected to reach around 10.4 million metric tons by 2025, up from the present level of nearly 7.8 million metric tons, with China alone adding more than 2.5 million metric tons by 2025. Global trade in caprolactam represented about 13% of consumption in 2020, down from more than 30% during 2001–12. During the forecast period, trade volumes are expected to continue to decline as China becomes more self-sufficient.

In the KSA, there is no production of caprolactam. The demand is in the advanced fibers only and there is potential to develop downstream industries as it is used in the production of nylon 6. Caprolactam production accounted for an estimated 40% of cyclohexane demand. Almost all caprolactam is used in the production of nylon 6 fibers and plastics. Caprolactam is used in the manufacture of nylon 6 fibers which is further used in the production of textile fibers, industrial fibers, and carpets. In automotive application, nylon 6 resin is widely used for designing automotive components. This is projected to have a positive impact on product demand.

The project is purely private sector investment with land lease from MODON. The capital investment size is to be determined based on the plant capacity and available feedstock materials.

KSA is one of the largest chemical producers in the world and contributes ~10% to the global output. KSA is strategically located at the crossroads of several markets that have high demand for chemical products. KSA benefits from having an abundant access to raw materials and a high standard of infrastructure that is continuously being improved upon. Opportunity for first mover advantage due to non-existent local production of Propionic Acid and lack of competition from major global manufacturers. This opportunity has a strategic alignment with vision 2030 and National Industrial Strategy by supporting many sectors such as automotive and food and beverage.
SUPPLY

SCALABILITY AND LOCALIZATION

- Easy local access to key the primary raw materials in KSA - All the raw materials are available in Al Jubail. Therefore, Caustic Soda is produced by SADAF (SABIC), Sadara, Ammonia is produced by Albayroni, NCFC, and SAFCO and Cyclohexane by Saudi ChevPhill. Sulfuric acid is produced by Ma'aden
- It will be good to produce caprolactam in Al Jubail and transport it to Rabigh to provide synergies with the end use industry (Petro-Rabigh produces nylon 6 using caprolactam)

IMPORT DEPENDENCY

- No local production of Caprolactam in Saudi Arabia, 100% of the local demand in KSA is met by imports.

VALUE CHAIN ANALYSIS

- Cyclohexane
- Phenol
- Ammonia/Sulphuric Acid

Key raw materials
Investment scope
End use applications

IMPORT DEPENDENCY

IMPORT DEPENDENCY

ENABLERS FACTORS

- 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

ENABLING FACTORS

COST OF DOING BUSINESS IN KSA

- Electricity tariffs for industrial players
- Productivity adjusted wages
- Logistics Performance Index (1–5)
- Customs Clearance Index (1–5)
- Ease of getting credit (0–100)

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

Bottom 25% Top 75% Top 50% Top 25%
## DEFINITIONS

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