

Boiler & Heat Exchanger (HE) Tubes
INVESTMENT OPPORTUNITY
Machinery & Equipment



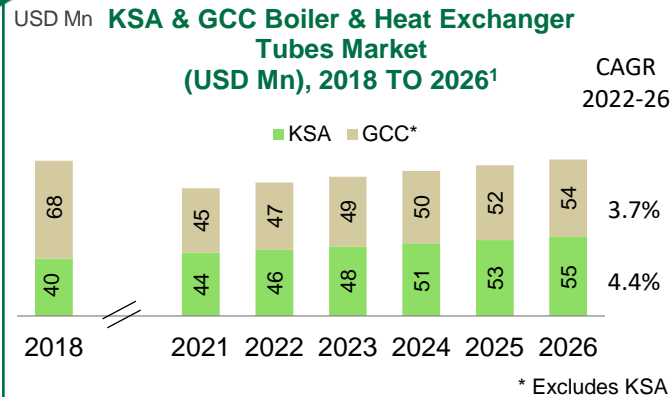
Machinery & Equipment

Boiler and Heat Exchanger (HE) Tubes

OPPORTUNITY DESCRIPTION: Establish a facility to design and manufacture seamless tubes of different metal compositions to supply local boiler & heat exchanger fabricators and assemblers

DEMAND

MARKET SIZE



INVESTMENT OVERVIEW

INVESTMENT HIGHLIGHTS

- Expected Investment size of USD#: 310 to 315 Mn
- Plant capacity#: 150,000 MT
- Expected IRR#: 13.3%
- Payback period#: 9.04 years
- Job Creation#: 2,800 to 3,000
- GDP Impact#: USD 180 Mn
- (The proposed investment is for an integrated facility that can manufacture seamless pipes, drill pipes, boiler/ HE tubes, butt weld fittings, flanges and ERW pipes in different metal compositions)

VALUE PROPOSITION

- Majority of the local demand for tubes is met through imports with limited manufacturing capabilities for alloy steel tubes in the country²
- On-going and proposed expansion in oil & gas, petrochemicals, power and desalination in KSA and GCC provides strong market demand for local manufacturing of seamless tubes in KSA
- Export potential** – Setting up in KSA allows access to trade routes that account for 13% of world trade
- Infrastructure** - Special economic zones and Industrial townships provide world class infrastructure and competitive access to utilities

KEY DEMAND DRIVERS

- KSA plans to invest in increasing chemical industry output, targeting a capacity of 147MT by 2027 at 3% CAGR³. Proposed increase in crude oil refining output by 1Mn bpd by 2027 and plans to increase gas output to 238bcm by 2030⁴ will augment the demand for seamless tubes across boilers & heat exchangers
- Investments in projects to increase desalination capacity to 7.50 Mn cubic metres per day by 2027⁵ coupled with a focus on increased gas-based power generation through combined cycle operation will further boost demand for seamless tubes across HE and boilers

RAW MATERIALS

- Carbon steel
- Alloy steel
- Stainless steel
- Titanium

MARKET OVERVIEW

GLOBAL TRENDS

- With increasing requirements for efficiency and longevity, tube designs and their integration with boiler and heat exchanger shells have started to accommodate tube flexing which allows the heat exchangers to operate with lower mechanical stress
- Heat exchanger designers and developers are now considering "twisted tube bundle" for improvements in heat transfer efficiency. The twisted tube design not only improves the heat transfer co-efficient but also eliminates the need for baffles, significantly reducing tube vibrations and easing high pressure washing



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SUPPLY

SCALABILITY AND LOCALIZATION

Grade: Low Medium High

- The proposed facility is a setup for manufacturing of hot rolled and cold rolled seamless pipes and tubes
- The proposed seamless pipes & tubes facility can further support localization of fittings, drill pipes in addition to boilers & heat exchangers
- An integrated upstream facility for steel and stainless-steel billet manufacturing could further improve local content of the value chain

IMPORT DEPENDENCY

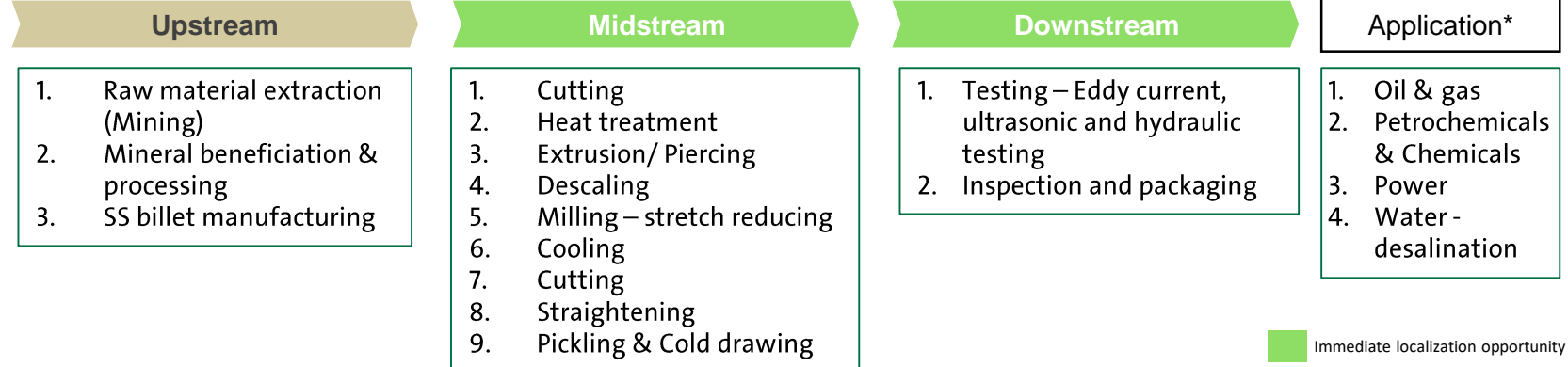
- As estimated 80 to 85% of the local demand for seamless tubes for boilers and heat exchangers in KSA is met through imports.⁶
- As of 2021, 65 to 70% of the demand for seamless tubes for boilers and heat exchangers is catered by HCC with Japan, Germany, UAE and Oman being the top HCC exporters to KSA⁷

ENABLING FACTORS

ENABLERS & INCENTIVES

- Customs duties** exemption on imported machinery, equipment, raw materials and spare parts utilized for industrial purpose
- Access to **local content initiatives and programs** at demand centers
- HRDF **covers monthly salaries of up to 30%** for Saudi employees (extra 10% for females) for 2 years
- Expat worker **levy waived off** for industrial manufacturers
- Tax rebates** on exports, raw material imports, and **50% tax credit** on Saudi national worker's payroll & training costs for 10 years
- 2-year **grace period** for the repayment of loans
- Unprecedented access to a **diversified value chain** - especially raw materials (steel and industrial minerals) required for local manufacturing of seamless tubes

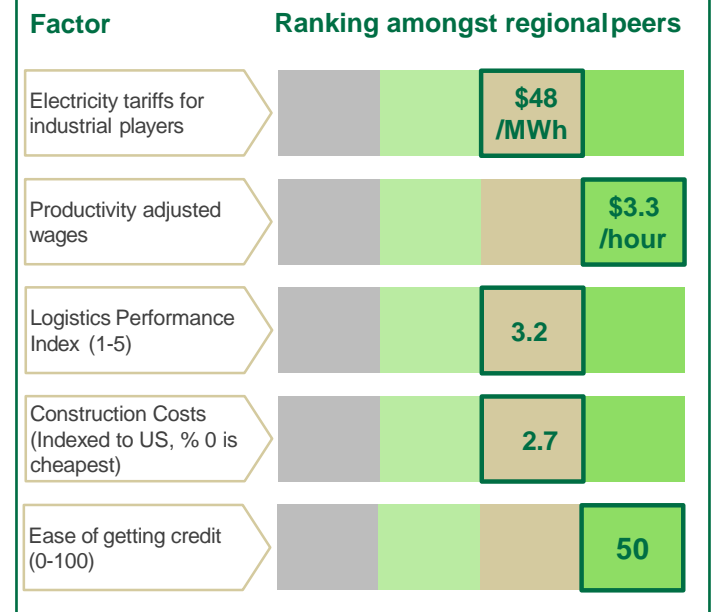
VALUE CHAIN



KEY STAKEHOLDERS



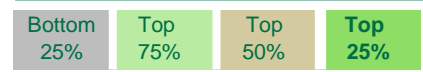
COST OF DOING BUSINESS IN KSA



Source: ⁶Team Analysis; ⁷UN Comtrade and ITC Trademap

Note: HRDF - Human Resources Development Fund, Scalability & Localization Grade is defined as

1. high – if the set up can support localization of multiple product categories,
 2. medium – if multiple products within a category can be localized and
 3. low – if it supports localization of a single product only. *Only key applications are highlighted



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	Global trends	Latest business developments within the sector/product category
7	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
8	Import dependency	An overview of the countries from which Saudi Arabia is importing the product and their value/volume and share in total imports
9	Value chain analysis	The process or activities that would potentially need to be carried out to deliver the underlying product or service
10	Key stakeholders	Government institutions, organizations, and/or authorities that participate or influence the market for the underlying product/service
11	Enablers	Factors that enable investment in the underlying opportunity
12	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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