

Copper Busbars

INVESTMENT OPPORTUNITY SCORECARD

MACHINERY & EQUIPMENT



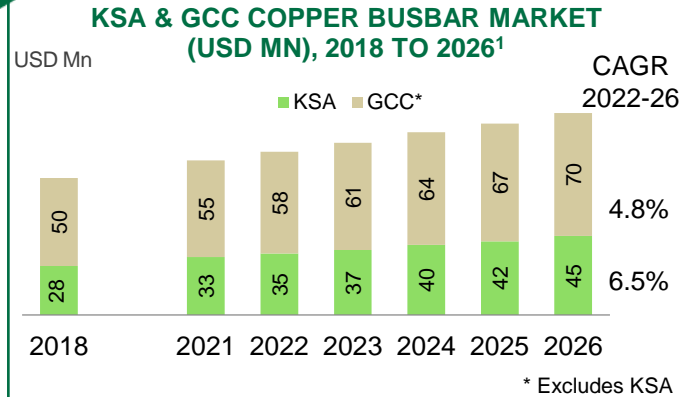
Machinery & Equipment

Copper Busbars

OPPORTUNITY DESCRIPTION: Setting up a manufacturing facility for copper busbars, to complement the localization plans for electrical panels, switchgear and transformers

DEMAND

MARKET SIZE, USD



INVESTMENT OVERVIEW

INVESTMENT HIGHLIGHTS

- Only 20 – 25% of the current busbar demand is met through local manufacturing, and capabilities are seen to be limited in light of the forecasted increase in demand
- A copper busbar manufacturing facility can also support localization of other products like copper windings, copper strips, copper rods etc.
- Expected Investment Size[#] : USD 15 to 20 Mn
- Plant Capacity[#] : 10,000 MT annually
- Job Creation* : 120 to 140

VALUE PROPOSITION

- Need for local content:** Most of the major end-user segments for electrical panels, transformers and switchgear are increasingly committing to increase local content levels in their procurement – driving the need for busbar localization
- Export potential** – Setting up in KSA allows access to trade routes that account for 12% of world trade
- Infrastructure** - Special economic zones and Industrial townships provide world class infrastructure and competitive access to utilities

KEY DEMAND DRIVERS

- Plans to increase power generation capacity by an estimated ~35 to 45 GW (2020 – 2030)²
- KSA plans to expand the power network by adding ~ 4,700 to 5,000 circuit-km of high voltage transmission lines annually and ~ 35,000 to 38,000 circuit-km of distribution lines annually between 2021 and 2030³
- Additionally, KSA is expected to add anywhere between 30,000 to 35,000 MVA substations annually across the transmission and distribution networks which will drive demand for switchgears and thus for busbars³

RAW MATERIALS

- Electrical grade copper

MARKET OVERVIEW

GLOBAL TRENDS

- While busbars have evolved significantly from a technology point of view, there are evolutions still happening around:
 - Higher efficiency with lower footprint
 - Reduction of energy losses
 - Reduction of emissions across the entire value chain, all the way to the point of consumption

Source: ¹Team Analysis of published strategy documents, reports from SEC & IKTVA publication, independent market reports, UN Comtrade data, General Authority of Statistics data and industry interactions; ²Team Analysis basis feedback from SEC and ECRA; ³SEC – National Grid (provided by MISA Energy team). [#]Expert interviews (assumptions), financial statements of peer companies, team analysis

Note: This opportunity is for a component that is manufactured with a range of other components in a facility. No facility is expected to be constructed for manufacturing this component exclusively. Hence, the insights on capacity and investment are indicative - these would vary based on the decision an investor takes on the mix of components to manufacture. Opportunity potential is defined basis current import dependency – High refers to >80%, medium >50 to 80% and low <=50%. *Job Creation covers direct and indirect job. CAGR – Compound Annual Growth Rate, GW – Gigawatt, GCC – Gulf Cooperation Council, USD – United States Dollar, Mn – Million.



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SUPPLY

SCALABILITY AND LOCALIZATION

Grade: Low Medium High

- Copper busbars form an integral part of transformers, switchgear and electrical panels - all of which are increasingly being manufactured in KSA
- There is a strong localized market potential for busbars in the form of derived demand which will be addressed through this proposed initiative
- There are additional opportunities to scale up the facility by venturing into associated products, based on similar feedstock, and/ or catering to the same target markets

IMPORT DEPENDENCY

- Majority of the imports for busbars are in the form of it being a component in imported assembled products
- >70% Imports originate from High-Cost Countries (HCC) such as USA, Germany, Italy, Japan, South Korea etc.⁴
- Manufacturing in KSA can yield competitive advantage against such imports

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, aluminum, polymers, and industrial minerals)

VALUE CHAIN

Upstream

- Copper ore mining
- High purity copper extraction
- Copper cathode manufacturing

Midstream

- Rolling / Copper Solid Bar
- Flattening
- Stamping

Downstream

- Finishing
- Testing
- Packaging

Applications*

- Power
- Oil & gas
- Petrochemicals & Chemicals

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



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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