SECTOR STUDY | 18 FEBRUARY, 2026

Together. Creating Value.

METALS

Research Team

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Metals

Metals

Introduction

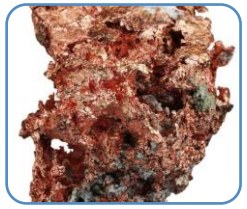
- Metals are elements characterized by their high electrical conductivity, malleability, ductility, and ability to reflect light. These properties make them indispensable in various industries, from construction and manufacturing to electronics and transportation.
- Among the vast array of Metals, some stand out due to their unique properties and wide-ranging applications in various industries. These include Iron, Aluminium, Copper, Lead, Lithium, Silver, Zinc, Titanium, Platinum, and Chromium, to name a few.

Iron

- Known for Strong, abundant and highly durable. Primarily used in the production of steel, which is vital for construction, transportation, and machinery.

Lithium

- Soft, light metal, highly reactive, and flammable. Vital for rechargeable batteries (especially in electric vehicles) and other chemical industries. It has gained vital importance due to extensive use of batteries.



Copper

- Known for Excellent electrical and thermal conductivity. Widely used in wiring, electronics, construction and renewable energy systems due to its efficiency and corrosion resistance.

Titanium

- It is lightweight and high strength. It is used in aerospace, medical implants, sports equipment, and high-performance alloys.

Lead

- Known for High density, softness and corrosion resistance. Primarily used in lead-acid batteries, radiation shielding and alloys, especially in automotive and industrial applications.

Aluminium

- Known for Lightweight, corrosion-resistant and highly versatile. Commonly used in packaging, transportation, construction, and electrical applications due to its strength-to-weight advantage.

- ***This Sector Study covers the Lead, Copper, and Aluminium segments.***

Source: Science Direct, IEA

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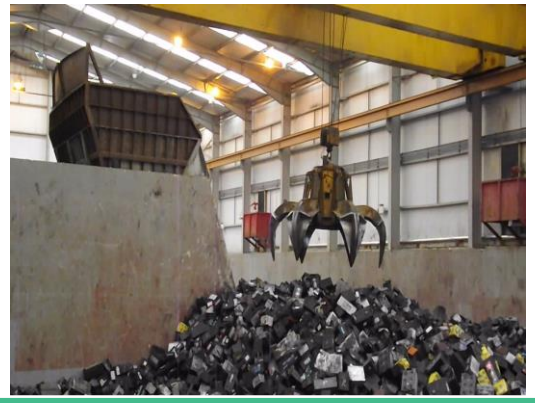
Lead | Overview

- Lead is a dense and heavy Metal, soft and malleable with a low melting point. Initially shiny gray with a touch of blue when freshly cut, it turns dull gray when exposed to air. Despite having the highest atomic number among stable elements, lead is toxic, even in small quantities.
- Lead finds extensive use in car batteries, ammunition, pigments, cable sheathing, and radiation protection. Additionally, it is used in weightlifting weights, diving belts, and lead crystal glass. Lead is also favored for storing corrosive liquids.

Recycling Process of Lead

1. Collection: Products made of lead are collected by Metal dealers, recycling businesses, and car workshops and sent to smelters.
2. Processing: The collected products are broken and scrap Lead is safely separated from other components. Afterward, Lead components are systematically smelted and refined.
3. Uses in Production: Refined Lead is then used in the production of lead-acid batteries, building construction material, and cable sheathing along with various other applications.



Collection → **Processing** → **Uses in Production**

Source: International Lead Association

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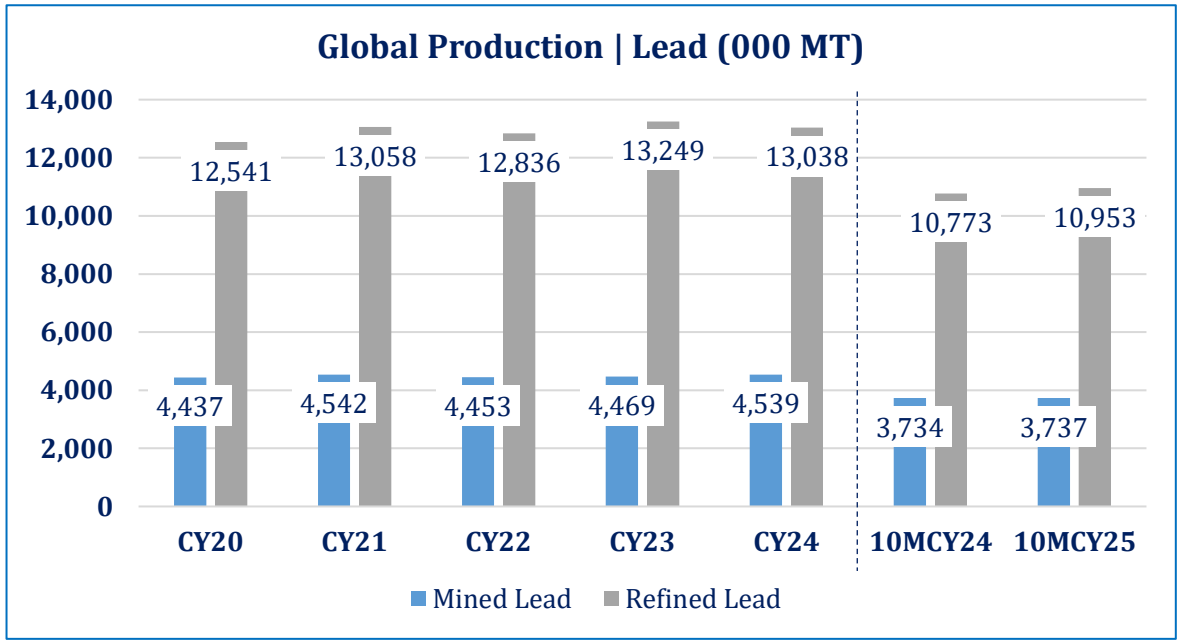
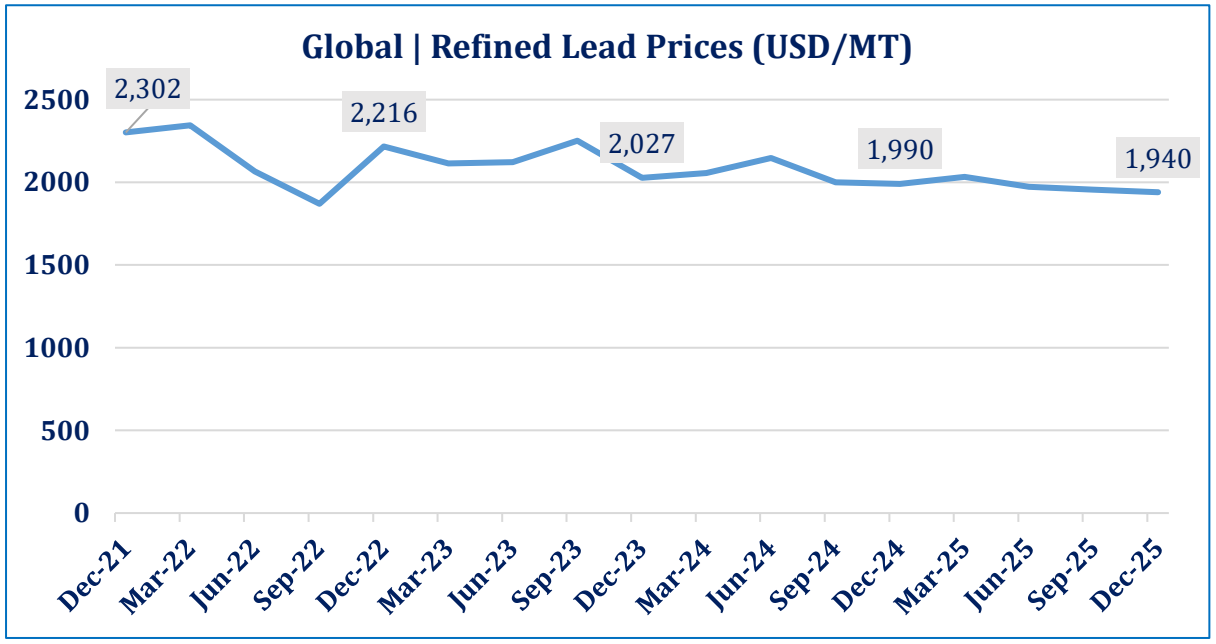
Global | Lead Dynamics

- Lead is mostly refined. The global production of refined lead has hovered ~13.0Mn MT mark over the last five years, reflecting consistent demand. Major refined Lead regions are China and Canada. During 10MCY25, Lead production was ~11.0Mn MT, increasing by ~1.7% on YoY basis. The battery sector is the most dominant consumer of refined Lead, accounting for ~80% of annual global usage, primarily driven by lead-acid batteries used in automobiles for starting, lighting, and ignition (SLI). Beyond automotive applications, lead demand is further supported by its use in backup power systems, cable sheathing, specialized alloys, radiation shielding and pigments. With Electronic Vehicles (EV) increasing their market share, the demand for Lead is not expected to surge significantly.
- The global production of mined Lead showed a slight decrease, amounting to ~4.5Mn MT in CY24. China remains the world's leading mined Lead producer, accounting for ~44.2% of total global production during CY24 (CY23: ~44.9%). Other major producers in CY24 were Australia (~10.0%), USA (~7.0%) and Peru (~6.3%), respectively.
- Refined Lead prices for CY25 declined by ~5.2% YoY, averaging at USD~1,962/MT (CY24: USD~2,069/MT). Going forward, prices are expected to further decline due to a combination of supply surplus and weak demand from the battery sector (shifting to lithium-ion batteries).





Source: Lead & Zinc Study Group, WB

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Copper | Overview

- Copper, a chemical element, is an extremely ductile metal with a reddish hue that is a great conductor of electricity and heat. Copper is commercially produced through the process of smelting. The majority of Copper produced in the world is used by electrical industries and the remaining is largely used to form alloys by combining with other Metals, such as brass and bronze. Common applications for Copper and Copper alloys are for making electrical wiring, building construction, and industrial machinery. It is also used in the making of computer chips and conductors.

Extraction and Refining Process of Copper

1. Mining & Extraction: The ore is first mined, then crushed and ground into a fine powder.
2. Concentration: The ground ore is mixed with water and chemicals that cause the Copper minerals to float, while the waste materials (gangue) sink. The Copper-rich froth is skimmed off, while the waste is discarded.
3. Smelting: The concentrated Copper ore is then heated in a furnace, usually with a flux (like limestone) to remove impurities.
4. Blister Copper: The matte is further processed in a furnace (typically a converter) where air is blown through it, oxidizing the impurities and forming blister copper. This Copper is about 98-99% pure.
5. Electrolytic Refining: A high-purity Copper cathode is used as the cathode, and when an electric current is passed through the solution, Copper ions from the anode dissolve and then plate onto the cathode, leaving behind impurities which either remain in the solution or settle at the bottom as sludge.
6. Refined Copper: The Copper cathodes produced from electrorefining are then removed, cleaned, and melted down to form Copper products, like wires, sheets, or other industrial forms.

Source: USGS, Mineral Commodity Summaries, Barrick Gold Corp.

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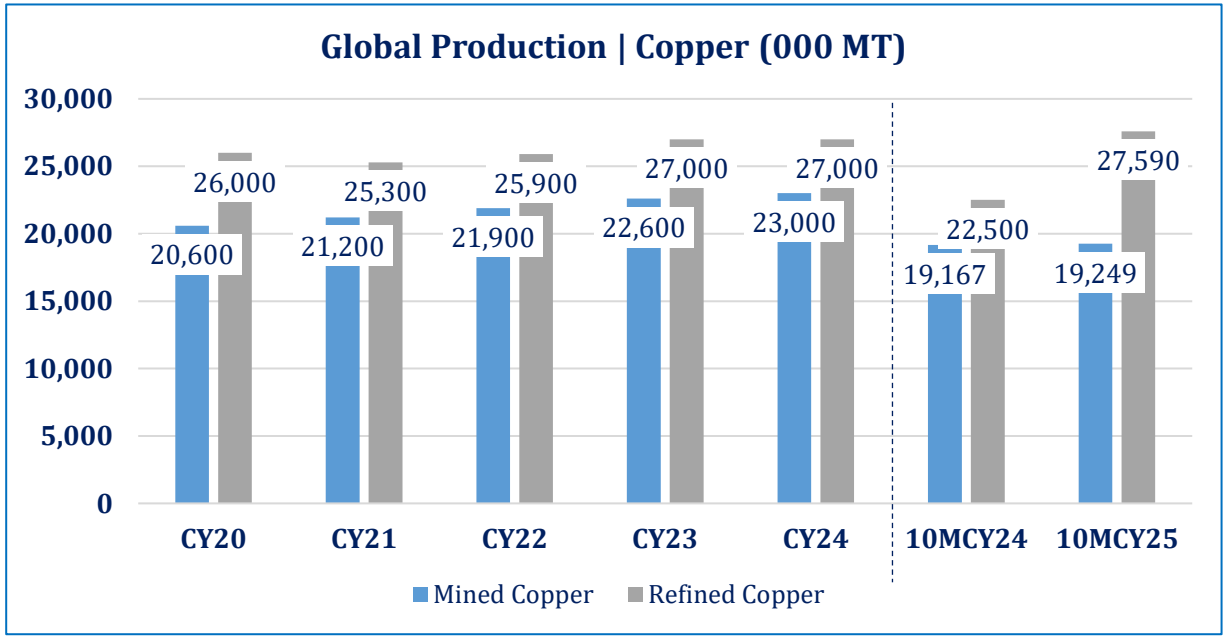
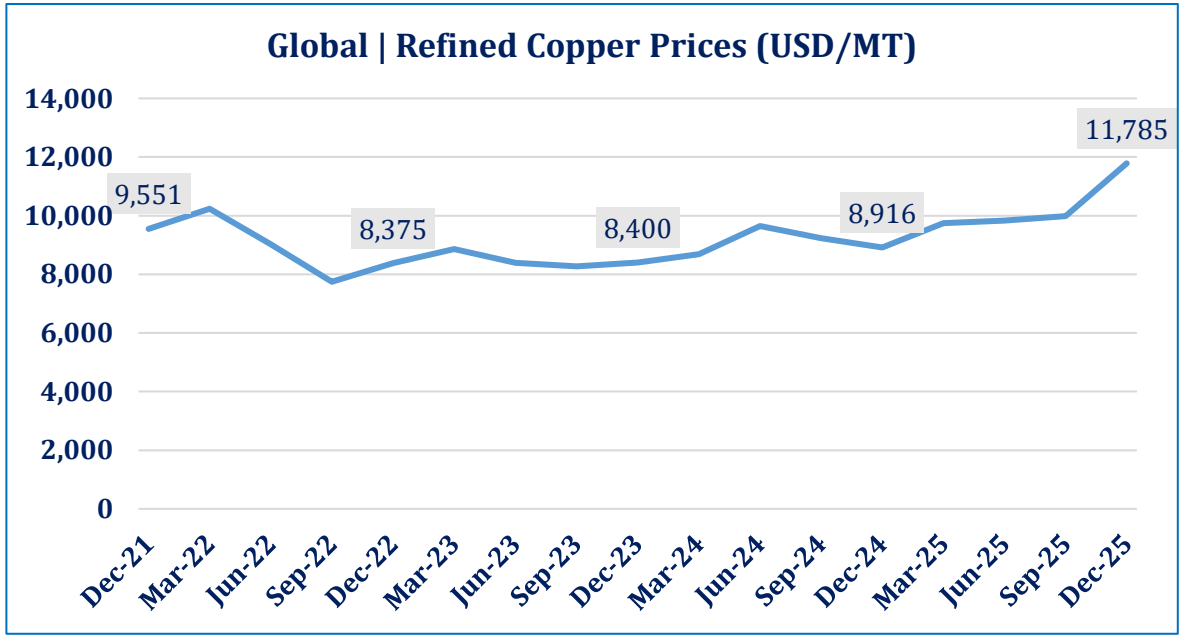
Global | Copper Dynamics

- Global production of mined Copper amounted to ~23.0Mn MT in CY24, up ~1.8% YoY, while that of refined Copper, produced through the process of smelting, remained unchanged to previous year at ~27.0Mn MT.
- Chile ranked as the world's leading producer of mined Copper, representing ~23.0% of global mined Copper in CY24 (CY23: ~23.2%). China has vast high-grade Copper reserves along the Andean Copper Belt, along with presence of some of the world's largest mines like Escondida and Collahuasi. This is followed by the Republic of Congo (~14.3%), Peru (~11.3%) and China (~7.8%), respectively. Mined Copper production saw a ~0.4% YoY increase in 10MCY25, while refined Copper production also rose by ~22.6% YoY (in comparison to 10MCY24).
- For CY25, the average price increased by ~8.8% YoY to USD~9,947/MT (CY24: USD~9,142). This surge came on the back of strong demand from the green-energy and EV sectors. The price increased to over USD~11,500/MT (~26% rise) towards the end of 2025. Prices are expected to remain elevated as demand continues to outpace supply, with anticipation of further upside movement amid the energy-transition push.





***Note**: Prices of Refined Copper are reflective of WB data.*

Source: USGS, WB

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Aluminium | Overview

- Aluminium is produced from bauxite ore via a two-step process where alumina is extracted using the Bayer process and then converted into Metal through electrolytic smelting (Hall-Héroult process).
- It is a lightweight silvery-white Metal that is the most widely used non-ferrous Metal. Aluminium is added in small amounts to certain other Metals to improve their properties for other uses.
- Aluminium and its alloys are used extensively for producing aircraft, building materials, household appliances and utensils, electrical conductors, and other equipment. It is a ductile and highly malleable Metal that can be drawn into wires or rolled into thin foils.
- The leading use of Aluminium in high-income countries is usually observed in the transportation sector. In low and middle-income countries, the Metal is used mainly in the production of electrical systems and the construction sector.

Source: USGS, Mineral Commodity Summaries

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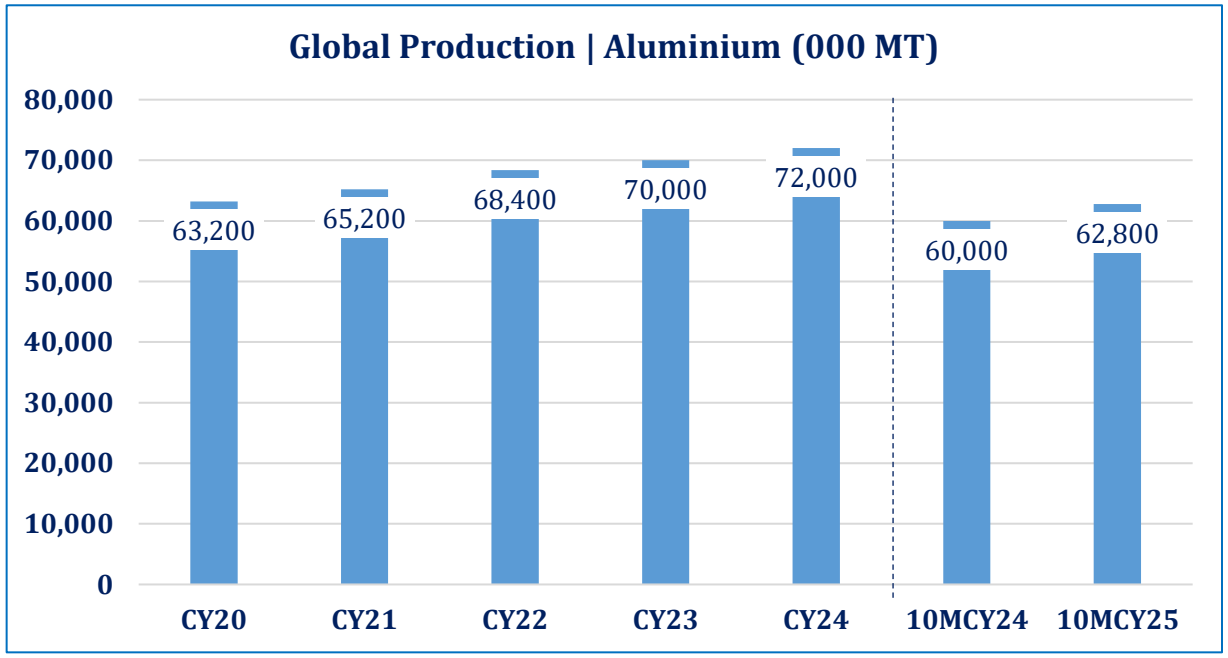
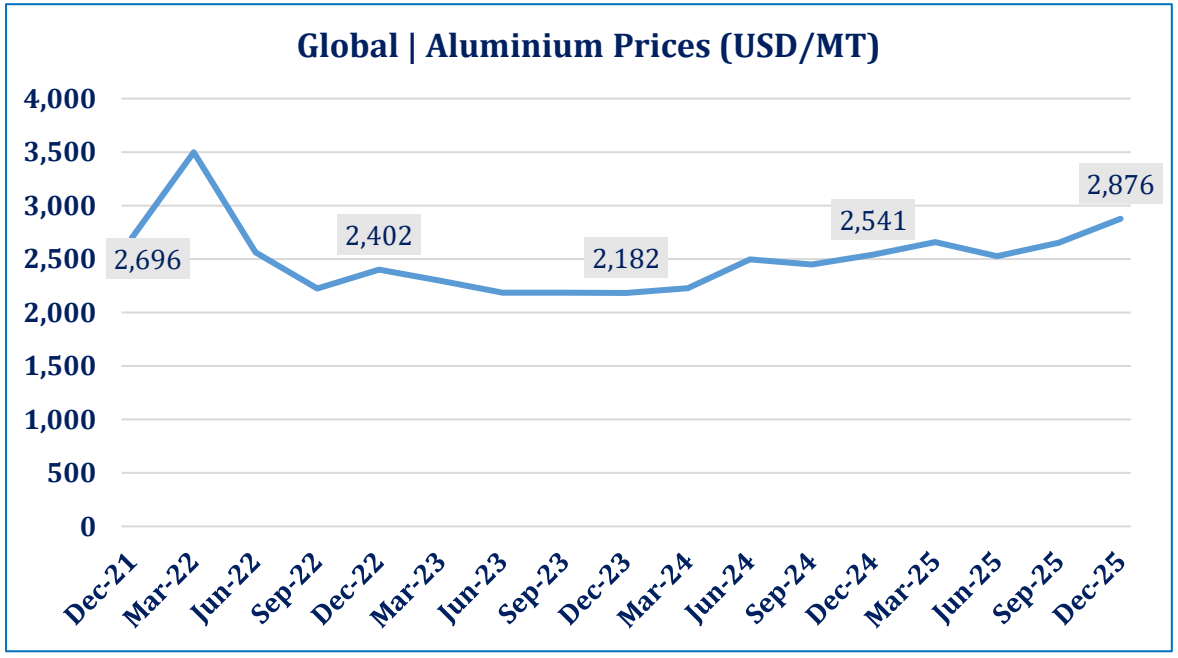
Global | Aluminium Dynamics

- Global production of refined Aluminium increased by ~2.9% YoY in CY24, amounting to ~72Mn MT (CY23: ~70Mn MT). China had the highest share accounting for ~59.7% of the global production (CY23: ~59.4%), resulting from government support, abundant low-cost energy sources (historically coal) and massive domestic demand. Other major producers of Aluminium for the period were India (~5.8%), Russia (~5.3%), Canada (~4.6%) and UAE (~3.8%), respectively. The global production rose slightly from ~60Mn MT in 10MCY24 to ~62.8Mn MT in 10MCY25.
- The global Aluminium prices averaged around USD ~2,632/MT in CY25 (CY24: USD ~2,419/MT), up ~8.8% YoY, but rose to ~USD 2,876 by the year end. The rise in prices is due to both demand and supply side factors. Supply side was constrained due to China's production limits (stricter environmental regulations), Europe's energy-driven smelter cuts and low inventories. On the demand side, strong consumption from the automotive sector (especially electric vehicles), renewable energy infrastructure expansion, construction activity and shifting packaging trends from plastic to Aluminium supported the price rally.





Source: USGS, Mineral Commodity Summaries, WB

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Local | Overview

- The local Lead recycling market has two key players, having a total average capacity of ~137,600 MT as of FY25. Both players are private-limited companies, engaged primarily in the business of recycling & disposal of used Lead acid batteries, Lead plates, and other Lead articles.
- Their products also include Re-melted Lead, Refined Lead, Antimonial Lead Alloy, and Calcium Lead Alloy. International Metal Industries Limited is the largest refined Lead producer in Pakistan, operating high-capacity, eco-friendly, and technologically advanced facilities, while Malik Mij Chunxing Resources Recycling Co. Ltd remains a major player in the Country's Lead recycling Sector.
- Lead has major use in Batteries, Construction Materials, Cable Sheathing, and Radiation Sheathing.
- The local Copper and Aluminium markets are largely unregulated and comprise numerous small-scale players engaged in the production of scrap, ingots, billets, rods, and strips. These products serve a wide range of end uses, including electrical wiring, construction materials, industrial machinery, household appliances, and various consumer utensils. Some organized players are also entering this space like Mughal Iron.

Lead Recycling	
Players	**Annual Capacity (MT)**
International Metal Industries (Pvt.) Ltd.	~87,600
Malik Mij Chunxing Resources Recycling Co. Ltd	~50,000

Copper & Aluminium	
Players	**Description**
Allah Tawaqal Metals (Pvt) Limited	Converts Copper & Aluminium scrap into ingots. Capacity of ~43,000MT per annum.
KBS Metals	Converts Copper scrap into products such as wires, strips, rods and billets.
Cannon Metals	Deals in the recycling/ processing of various Metals including Aluminium, Copper, Lead etc.
BR Metals	Deals in the recycling/ processing of various Metals in scrap form including Aluminium and Copper.
Mughal Iron & Steel Industries Limited	In FY25, Copper ingot melting production increased to ~975 MT, compared to ~570 MT recorded in FY24.

Source: PACRA Database

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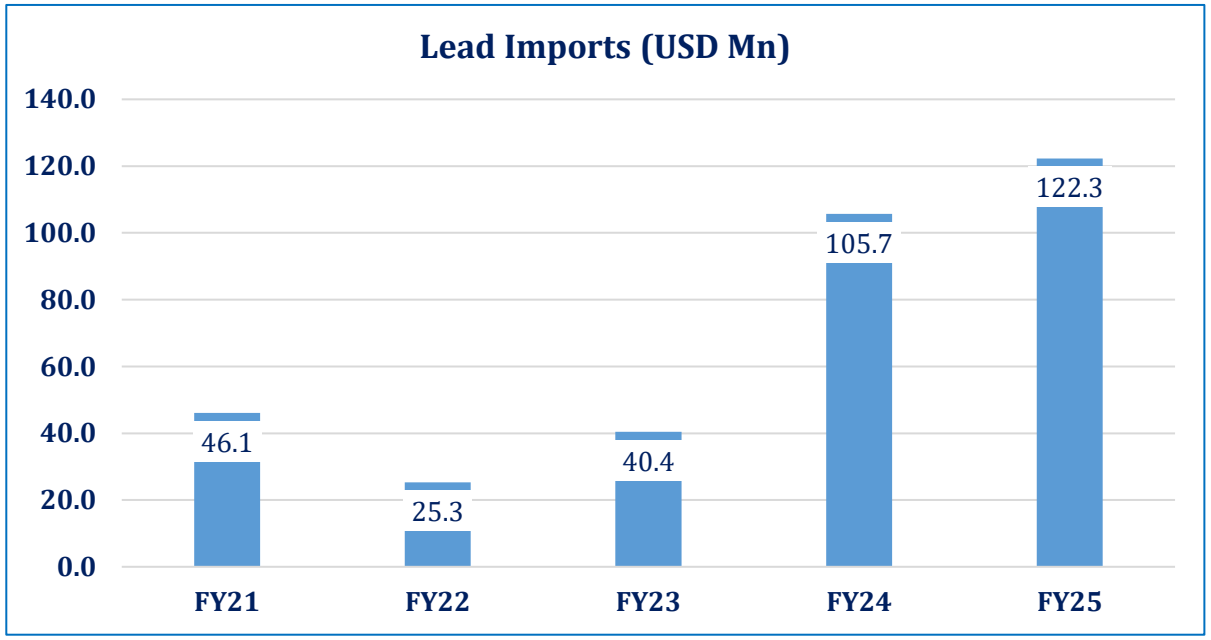
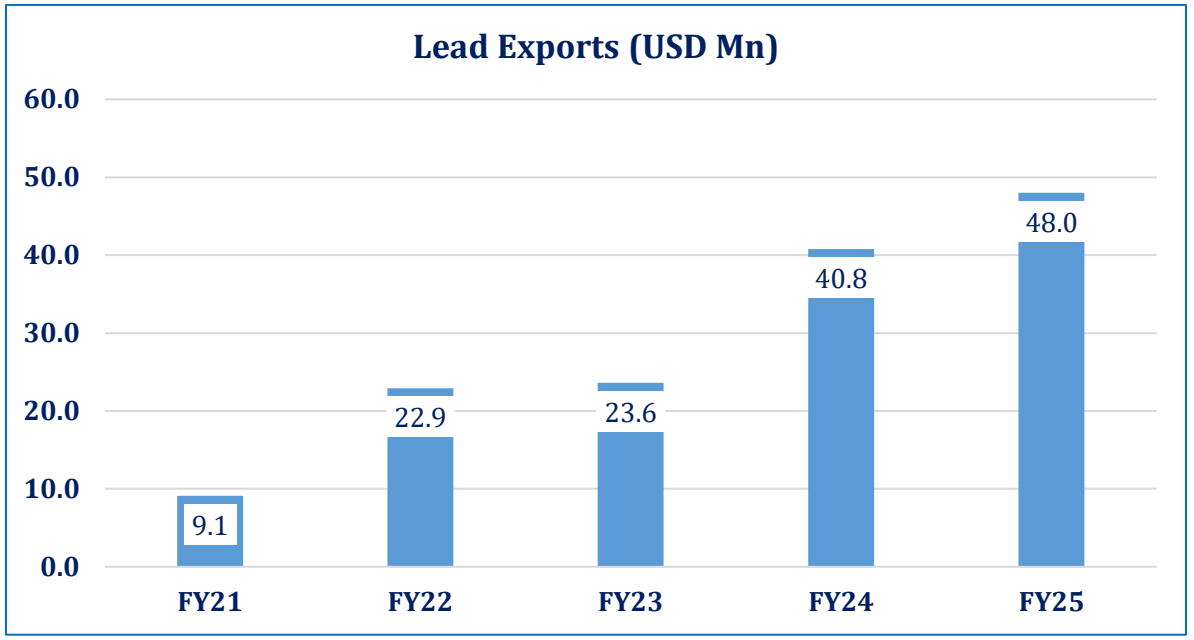
Local | Trade in Lead

- Pakistan's Lead imports rose to settle at USD ~122.3Mn in FY25 (FY24: USD ~105.7Mn), a YoY increase of ~15.7%. The Middle East dominated the import side, amounting to ~93.6% of the Country's import (FY24: ~85.3%), with ~70.7% imported from the UAE, ~15.5% from Saudia Arabia, and ~6.3% from Oman during the year. The rise in imports was driven primarily by higher Lead shipments from Saudi Arabia (up ~33.5% YoY) and the UAE (up ~26.7% YoY).

- During FY25, the Country's Lead product exports clocked in at USD~48.0Mn (FY24: USD~40.8Mn), up ~17.6% YoY. Pakistan exported ~19.5% of Lead to Spain, while ~18.2% was exported to the UAE during the year. The major driver behind this rise in exports was Spain's exports rising by almost ten folds to record at USD~9.3Mn (FY24: USD~1.0Mn).





***Note**: HS codes for Segment Lead includes (7801, 7802 & 7806).*

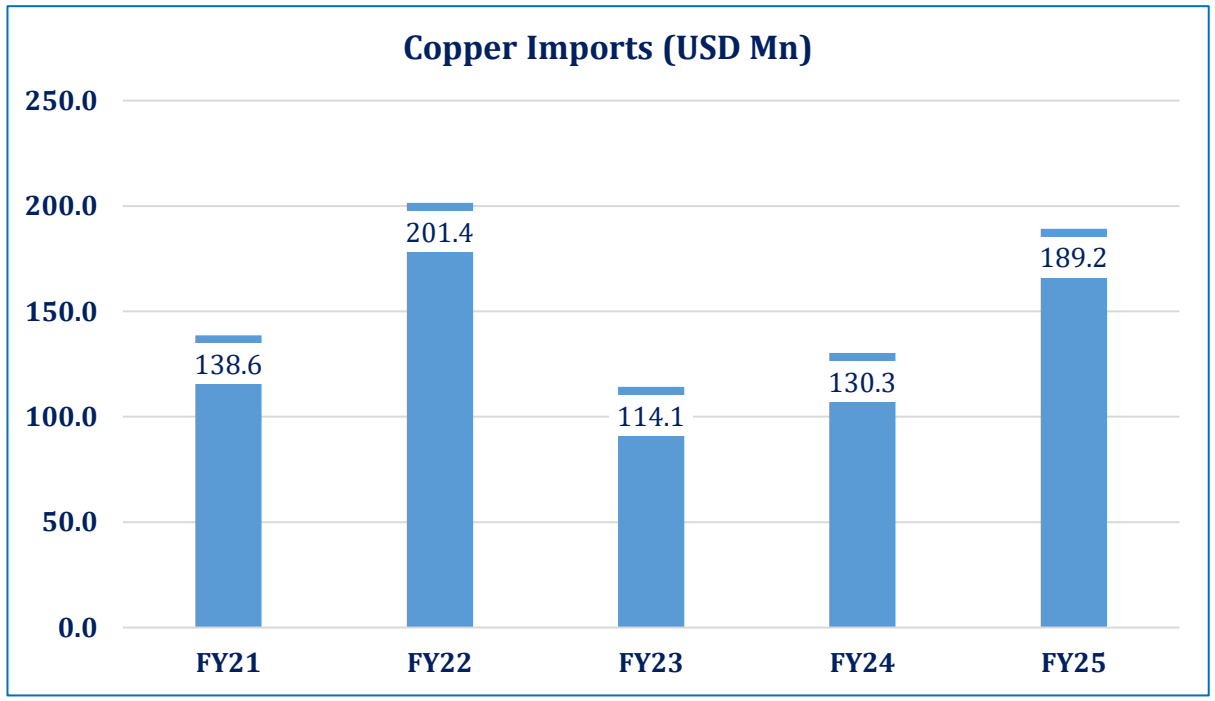
Source: SBP

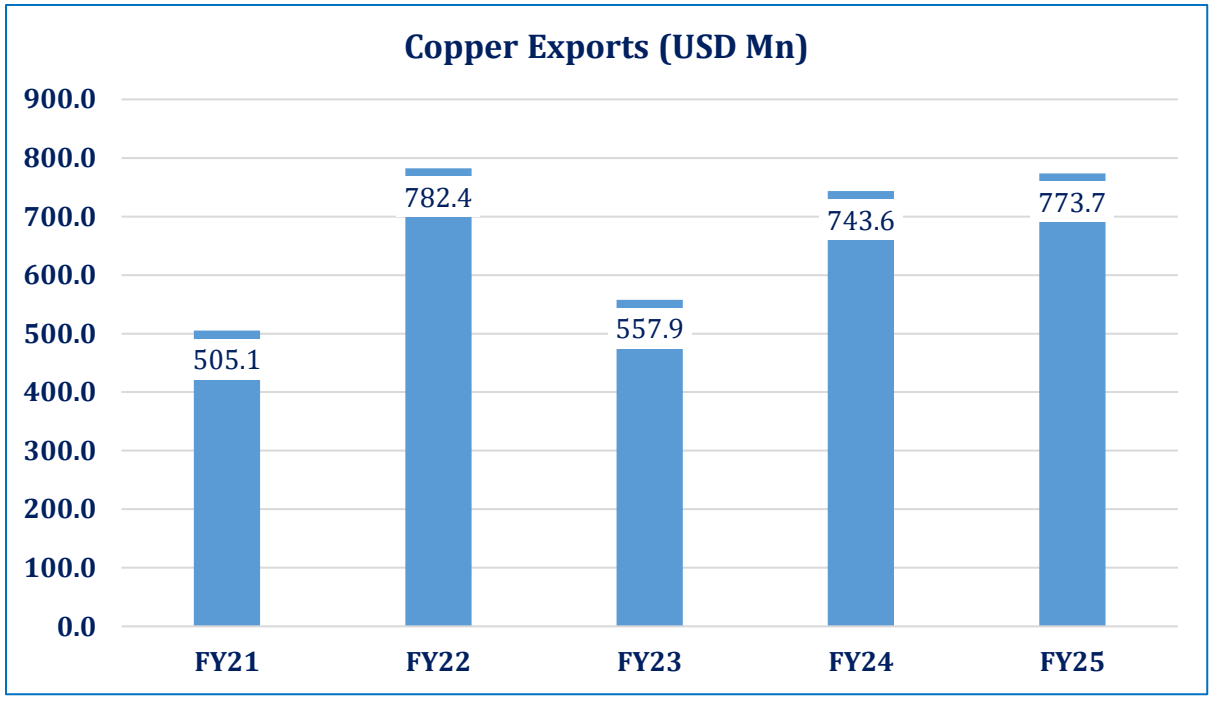
Metals

Local | Trade in Copper

- Pakistan's Copper imports, during FY25, stood at USD~189.2Mn (FY24: USD~130.3Mn), a YoY increase of ~45.2%. Pakistan imports its Copper majorly from China, Zambia, Congo and Bulgaria with import shares of ~49.1%, ~19.9%, ~7.6%, and ~4.2% respectively, during FY25. This rise in imports was led by China which saw a ~101.0% YoY during the period.

- During FY25, Pakistan's Copper exports clocked in at USD~773.7Mn (FY24: USD~743.6Mn), a YoY increase of ~4.0%. In FY25, Pakistan exported ~82.1% of the Copper to China.





***Note**: HS codes for Segment Copper includes (7403, 7404 & 7411)*

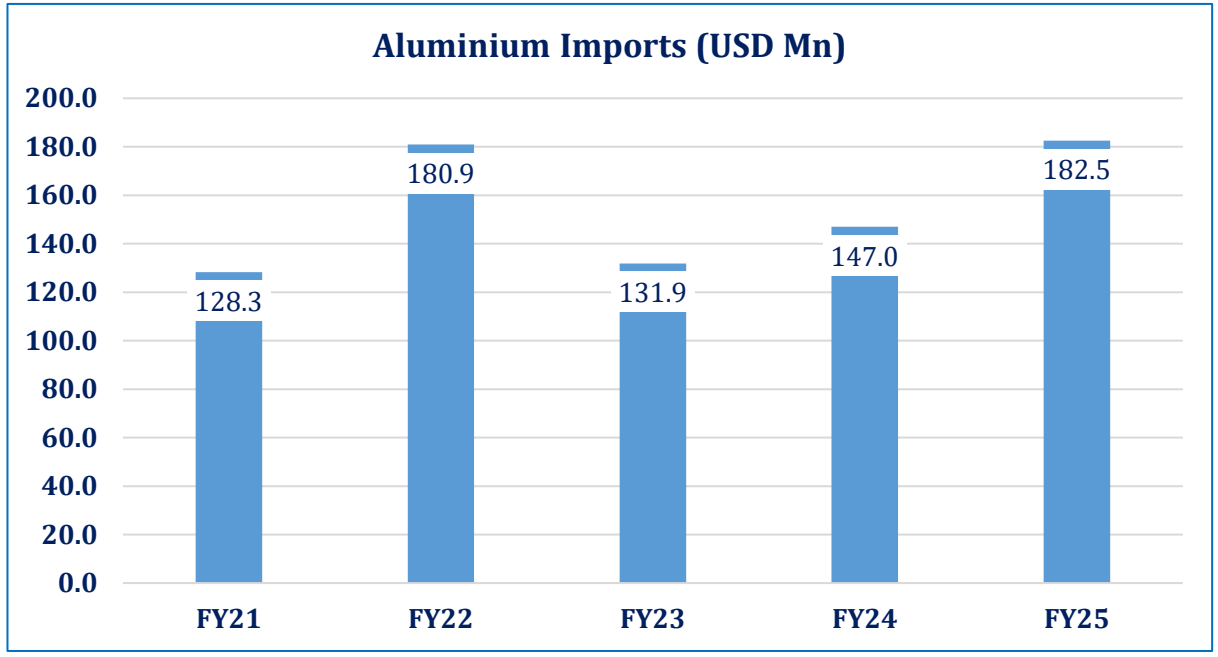
Source: SBP

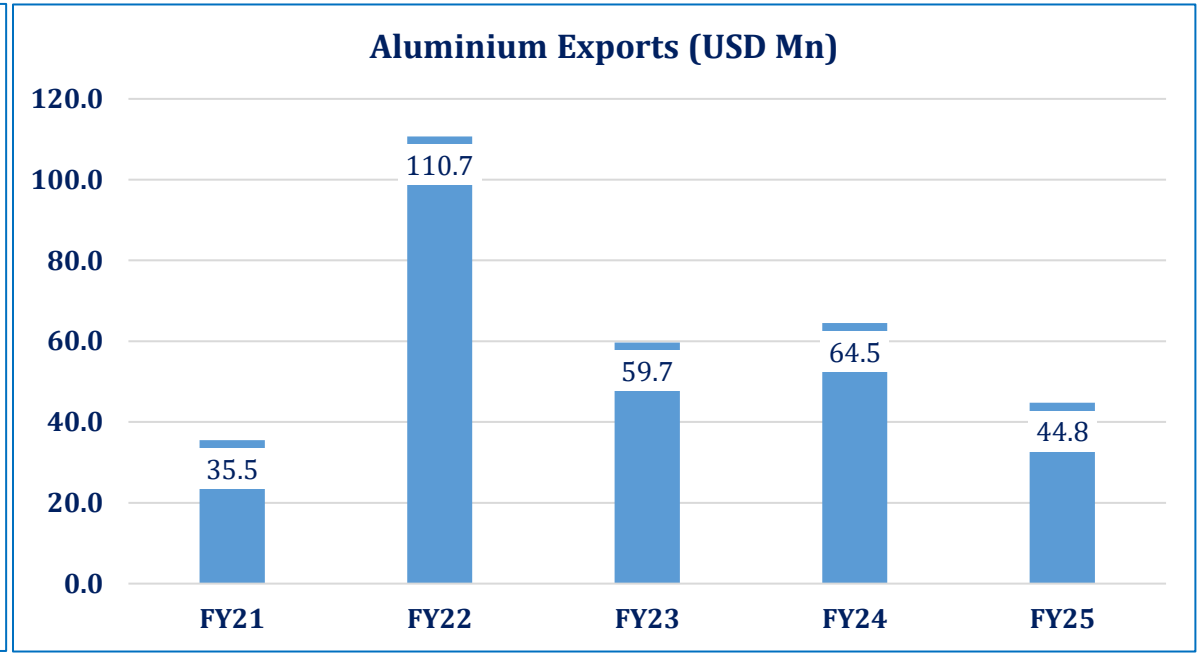
Metals

Local | Trade in Aluminium

- Pakistan's Aluminium imports, during FY25, clocked in at USD~182.5Mn (FY24: USD~147.0Mn), up ~24.1% YoY. Pakistan imported Aluminium majorly from the Middle East (~74.3%), with ~52.4% imported from UAE, ~10.7% from Oman, and ~8.3% from Bahrain, respectively, during the year. Total import growth in this segment was primarily driven by higher imports from the UAE (~102.1% YoY).

- During FY25, the Country's Aluminium exports clocked in at USD ~44.8Mn (FY24: USD ~64.5Mn), down ~30.5% YoY. Out of the total Aluminium exports, ~61.4% were exported to China, while ~17.9% was exported to UAE during FY25. This decline in exports came majorly on the back of a ~45.6% YoY decline in exports to China for the period.





***Note**: HS codes for Segment aluminium includes (7601 & 7602).*

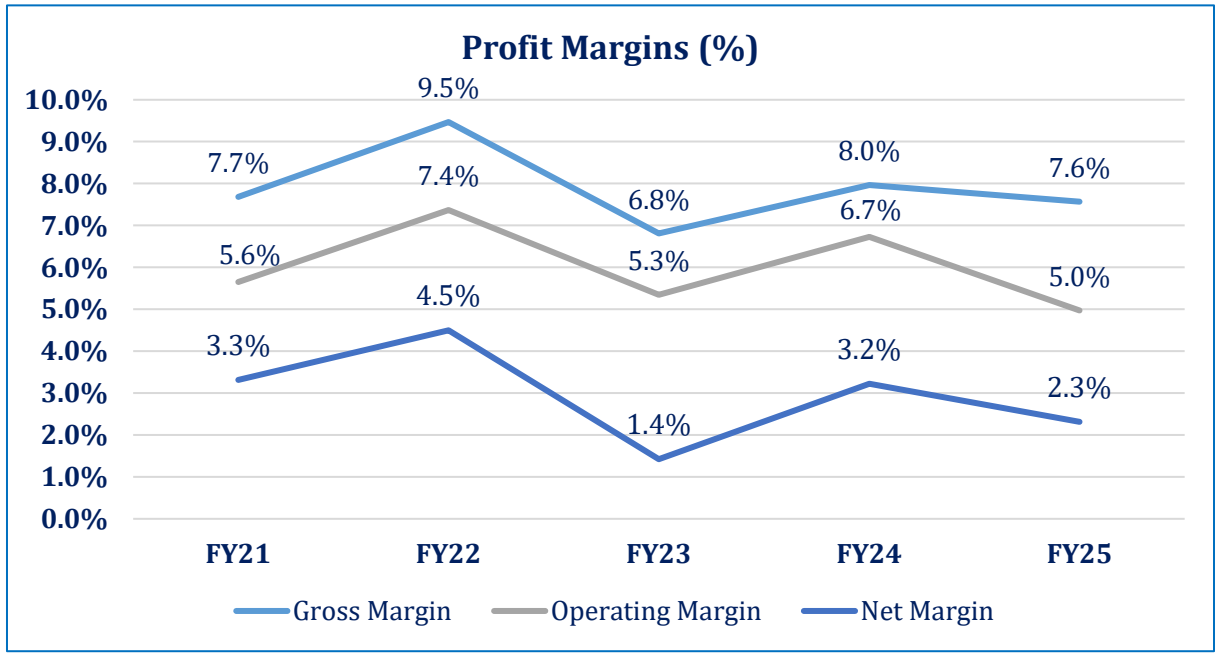
Source: SBP

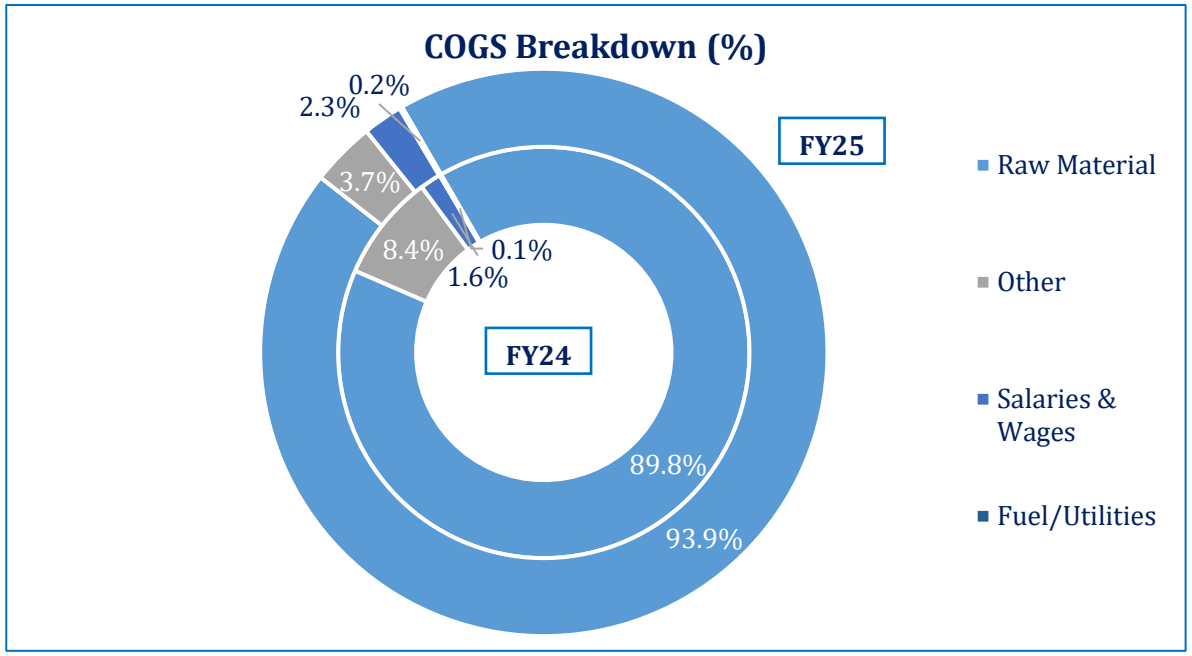
Metals

Business Risk | Lead

- Margins within the Lead segment exhibited a downward trajectory during FY25. Gross margins declined to ~7.6% (FY24: ~8.0%) as gross revenue contracted by ~25.9% YoY, partly offset by a ~21.6% YoY decrease in cost of sales. The operating margins for the period declined to ~5.0% (FY24: ~6.7%). Net margins also weakened to ~2.3% (FY24: ~3.2%), despite a ~23.3% decline in finance cost. The contraction in revenue heightened business risk, as lower sales translated into reduced profitability at the gross, operating, and net levels, resulting in compression across all key margins. The margins for the sector remain thin due to limited value addition.

- The largest component in the lead recycling segment's direct costs is raw material (majorly comprising used Lead products), which comprised ~93.9% of total direct costs in FY25.





***Note**: Margins and cost break up are reflective of ~1 listed/ rated player belonging to lead recycling segment.*

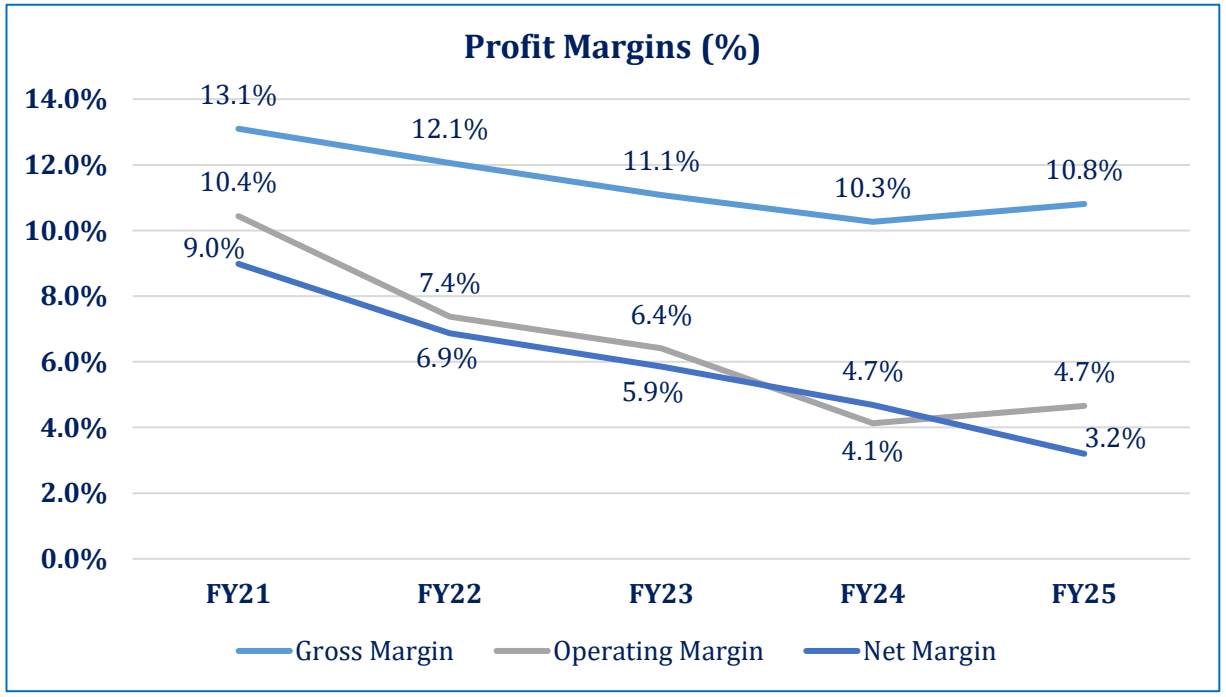
Source: PACRA Database

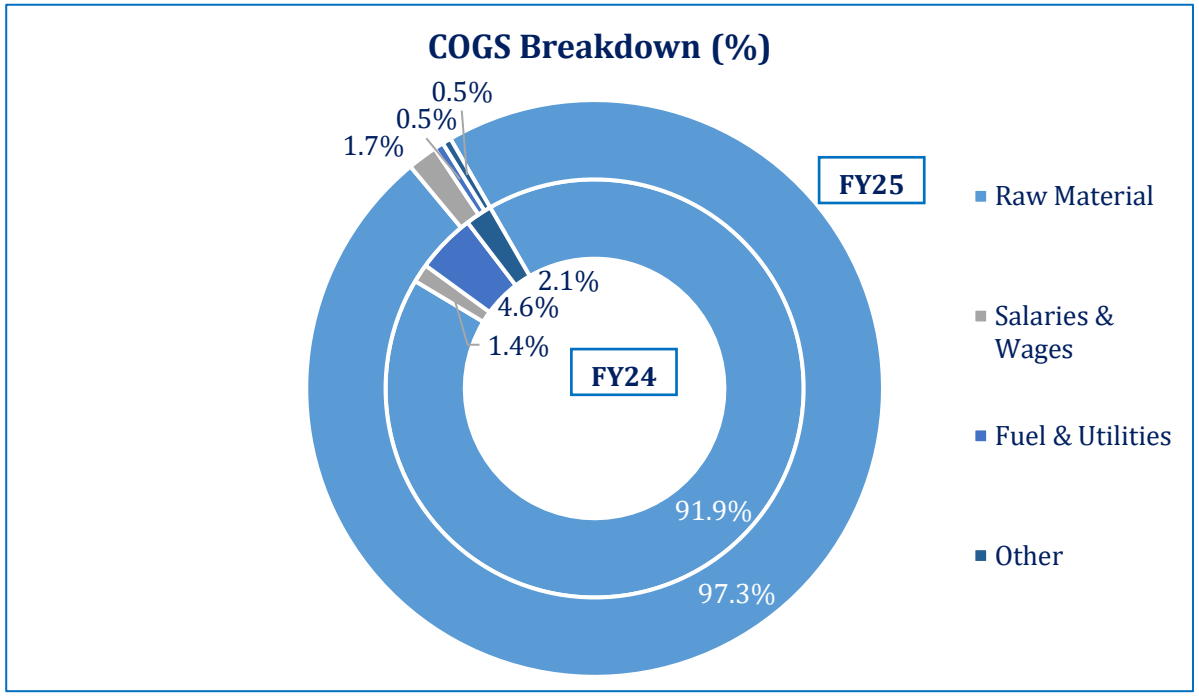
Metals

Business Risk | Copper & Aluminium

- Gross margins improved to ~10.8% in FY25 (FY24: ~10.3%), supported by ~15.2% YoY revenue growth, which outpaced the ~14.5% YoY increase in cost of sales. Operating margins also strengthened to ~4.7% (FY24: ~4.1%). However, elevated finance costs, which increased by ~12.9% due to higher working capital borrowings, exerted pressure on bottom-line profitability, resulting in a decline in net margins to ~3.2% (FY24: ~4.7%).

- In FY25, raw materials constituted the largest portion of the COGS, representing ~97.3% of the total cost (FY24: ~91.9%). The raw materials portion consists primarily of copper scrap, along with recycled Aluminium. The 'Salaries & Wages' segment only compromised of ~1.7% (FY24: ~1.4%), while the 'Fuel & Utilities' section only accounted for ~0.5%, respectively.





***Note**: Margins and cost break up are reflective of ~1 player belonging to the copper & aluminium segment.*

Source: PACRA Database

Metals

Local | Duty Structure

PCT Code	Description	Custom Duty		Additional Custom Duty		Total	
		FY25	FY26	FY25	FY26	FY25	FY26
2603.00	Copper Ores & Concentrates	0%	0%	2%	0%	**2%**	**0%**
2606.00	Aluminium Ores & Concentrates	0%	0%	2%	0%	**2%**	**0%**
2607.00	Lead Ores and Concentrates	0%	0%	2%	0%	**2%**	**0%**
7801.10	Unwrought Lead (including refined lead)	0%	0%	2%	0%	**2%**	**0%**
7802.00	Lead waste and scrap	0%	0%	2%	0%	**2%**	**0%**
7804.19	Lead plates, sheets, strip, foil, powders and flakes	16%	15%	4%	2%	**20%**	**17%**
74.01 - 74.07	Copper Mattes, Unrefined Copper, Refined Copper & Alloys, Copper Waste & Scrap, Copper Bars & Rods etc.	0%	0%	2%	0%	**2%**	**0%**
74.08 - 74.12	Copper wire, plates, sheets, foil, tubes and pipes	0-16%	0-15%	0-4%	0-2%	**0-20%**	**0-17%**
76.01 - 76.03	Unwrought aluminium, waste or scrap, powders and flakes	0-30%	0-30%	2-7%	0-6%	**0-37%**	**0-36%**
76.04 - 76.09	Aluminium bars, rods, wires, plates, sheets, tubes and pipes	0-20%	0-20%	2-6%	0-4%	**2-26%**	**0-24%**

Note: During FY26, the 25% Export Regulatory Duty on HS Codes 7801, 7802, and 7804 has been maintained from FY25, while imports under HS Code 7601.2000 are subject to a 10% Import Regulatory Duty.

Source: FBR

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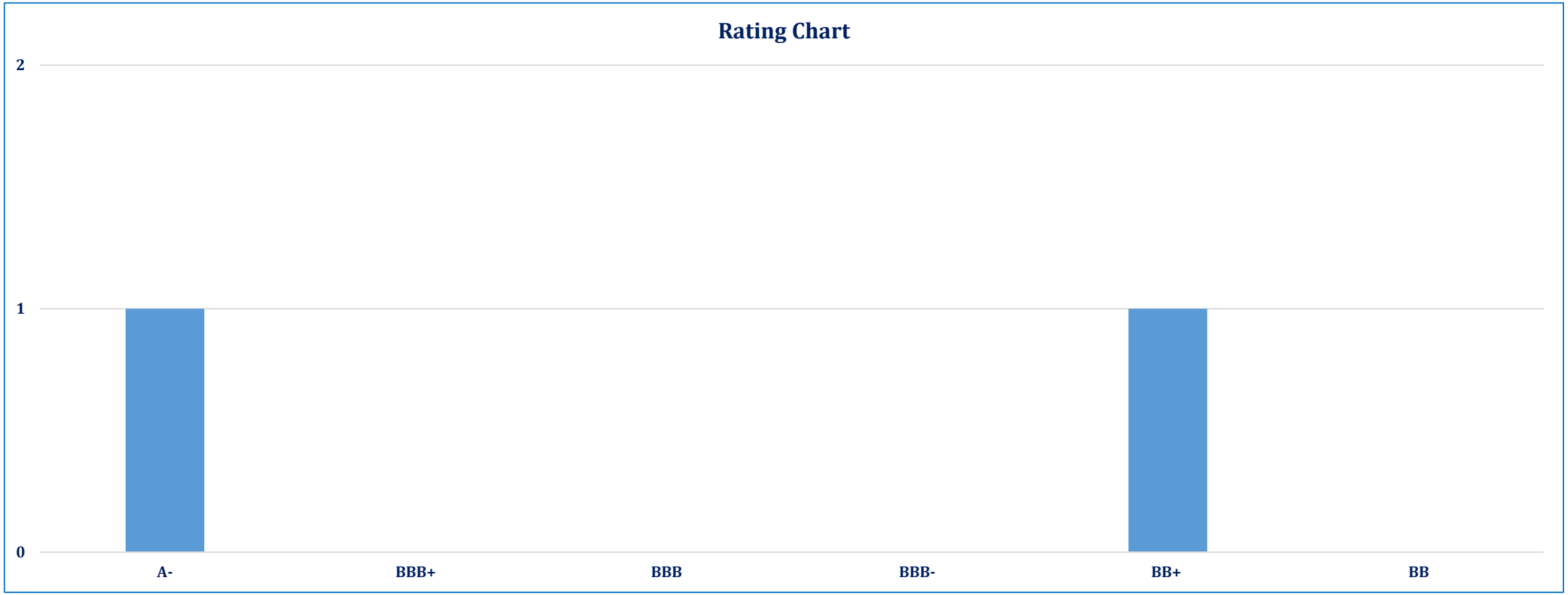
Rating Curve

- PACRA assigns a long-term rating of A- to one entity in the Lead recycling segment and a BB+ rating to another operating in the Copper and Aluminium segment.



Source: PACRA Database

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Outlook: Stable

- In FY25, Pakistan's GDP (nominal) stood at PKR~113.9Tn (FY24: PKR~105.4Tn), increasing, in real terms, by ~3.1% YoY (FY24: ~2.6% YoY) and is projected to grow by ~3.2% in FY26, according to the IMF. The 1QFY26 data show a ~3.7% YoY real growth rate as compared to ~1.6% YoY in 1QFY25, showing an improvement in economic activity as compared to the SPLY.

- During FY25, global average refined lead prices declined by ~6.7% YoY to USD~1,988/MT, primarily due to increased global supply and subdued demand in advanced economies, including China, amid weak automobile sales and a gradual shift toward EVs. As Pakistan imports lead predominantly from the Middle East, the relatively stable exchange rate during FY25, coupled with lower global prices, provided some input cost relief. However, while price stability may support margins going forward, meaningful improvement will depend on higher sales volumes, better cost absorption, and a reduction in financial leverage.

- During FY25, business activity in the Copper and Aluminium segment showed improvement, with average gross margins rising to ~10.8% (FY24: ~10.3%) and operating margins strengthening to ~4.7%. However, higher finance costs led to a decline in net margins to ~3.2% (FY24: ~4.7%). International Copper prices increased by ~8.8% YoY amid strong demand from the green energy and EV sectors, while Aluminium prices also remained firm due to supply constraints and sustained industrial demand. Going forward, demand for both Metals is expected to remain supported by the global energy transition and infrastructure expansion.

- On the external front, Aluminium and Copper exports collectively stood at USD~818.5Mn in FY25 (FY24: USD~808.1Mn), reflecting modest YoY growth of ~1.3%. While Copper exports increased to USD~773.7Mn (~4.0% YoY growth), Aluminium exports declined to USD~44.8Mn (~30.5% YoY decrease), primarily due to lower shipments to China. Going forward, export performance is expected to remain largely driven by Copper, supported by firm global demand, though Aluminium exports may remain sensitive to demand fluctuations in key trading partners.

- Overall, the Sector's outlook remains stable. While supportive global demand and improving macroeconomic indicators provide a favorable backdrop, margin sustainability will primarily hinge on effective raw material cost management, controlled finance costs, and improved capacity utilization. A sustained recovery in domestic industrial activity is expected to further strengthen volumes and revenue generation, supporting overall financial stability of the Sector.

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