India’s stainless-steel industry – balancing growth, trade, and raw material security

BigMint’s perspective on production trends, circularity pressures, and India’s evolving role in global scrap sourcing

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My recent journey in Vande Bharat (a semi-high-speed train in India)

Interesting facts :

- Speed- 110-130 km/hr
- Body Type- Mainly Stainless Steel (301L, 201LN series), composites, Aluminium
- One train (16 cars) weighs ~400 tonnes, Stainless Steel consumption is ~10-15%
- About 150 Vande Bharat and 200 more under construction

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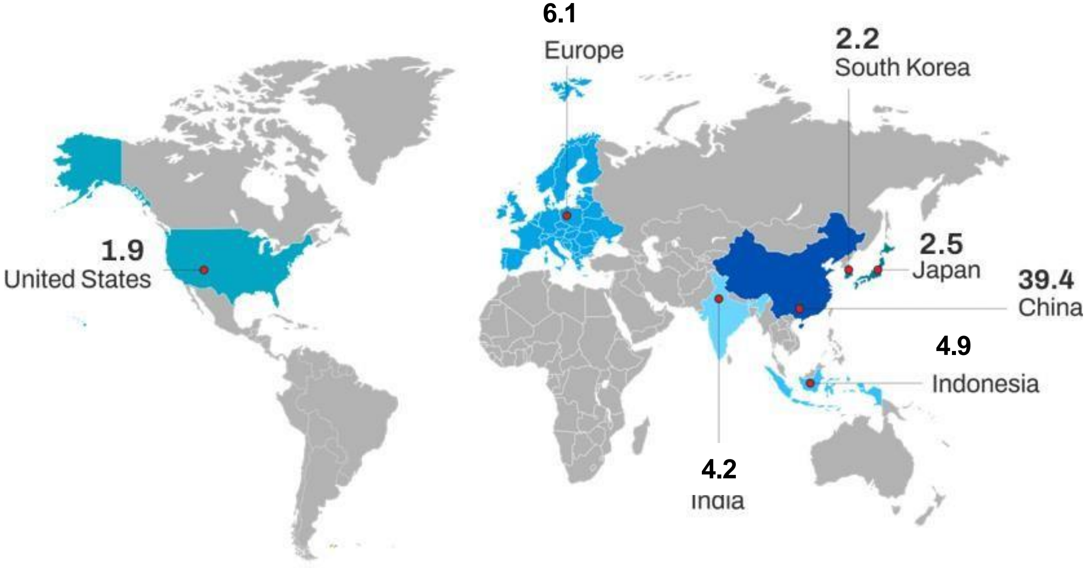
Where does India stand in the global stainless-steel market?

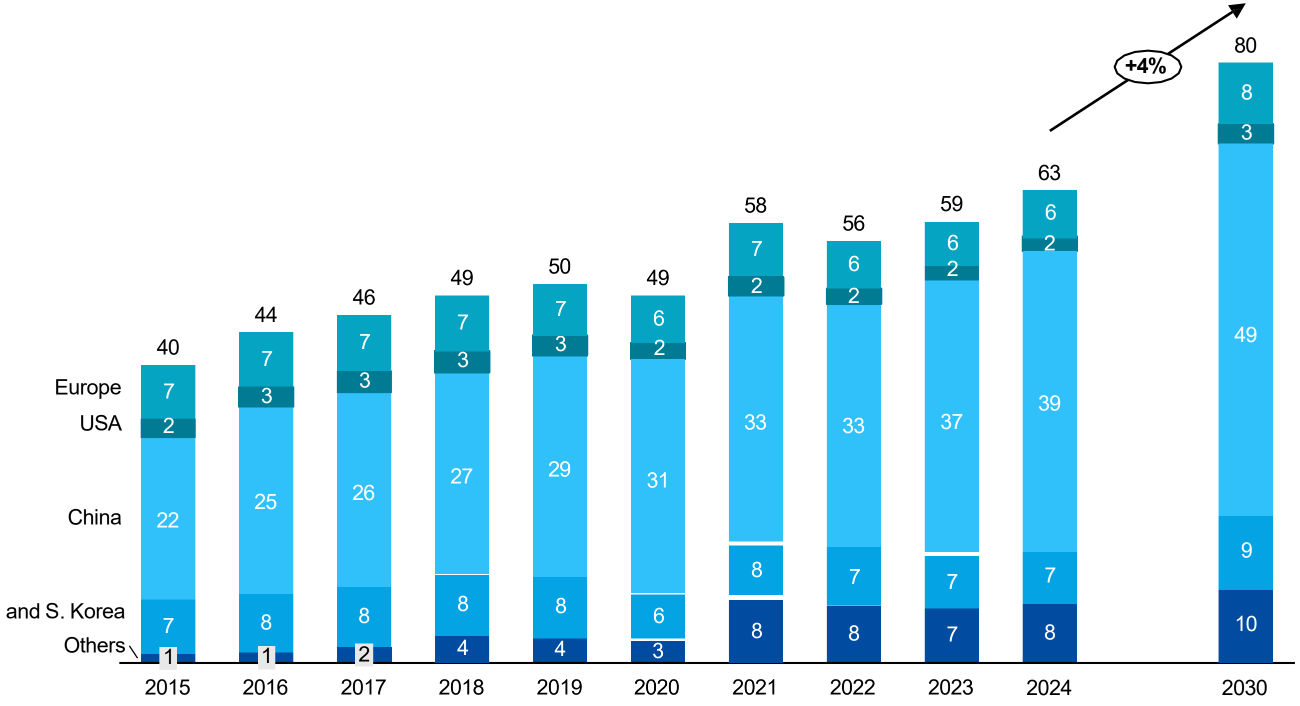
World stainless steel production at ~63 mnt in 2024

With stainless steel being integral to Construction, Automotive, Medical and Renewable energy sectors, demand is expected to remain healthy

Global stainless steel production 2024 stands at ~62.8 mn tons



Global stainless steel production trend



Source- WSSA

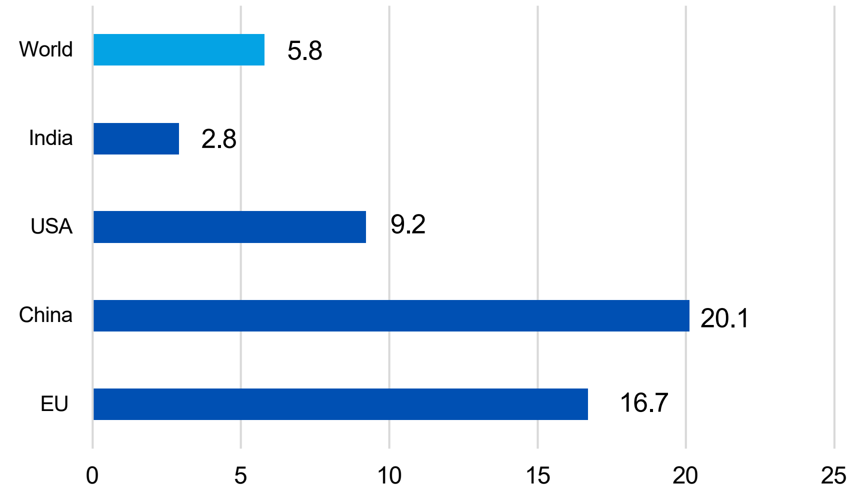
Key Messages :

- Over the past 4 decades, Stainless Steel has outperformed other metals, growing at a CAGR of 5.35% from 1980 to 2021, compared to Aluminium at 3.66%, Copper at 2.54%, Carbon steel at 2.42%
- Asia continues to dominate production, with China at the forefront due to its scale, efficiency, and supply chain strength
- Europe and the U.S. encounter challenges from high energy costs, geopolitical uncertainties, and increasing import pressure

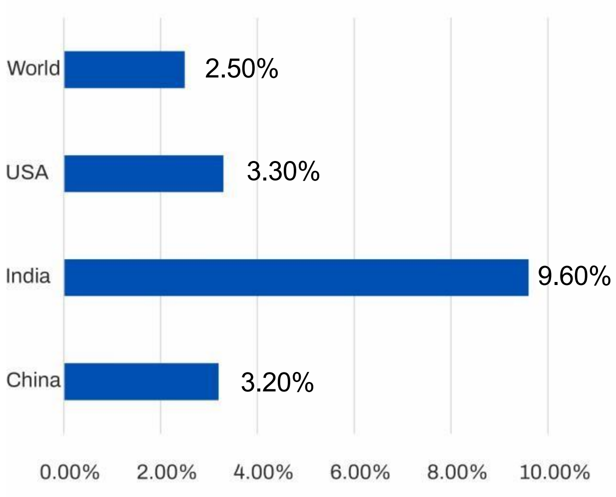
India’s stainless-steel consumption to nearly double by 2030

Consumption to increase from the current 3 kg per capita to 5.6-5.8 kg per capita by 2030, to 8-9 kg per capita by 2040 and to 11-12 kg per capita by 2047.

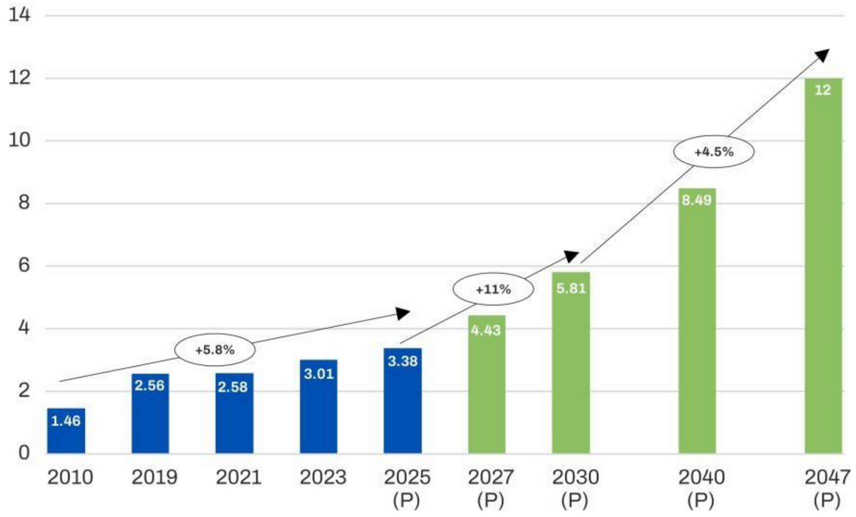
Per capita consumption (kg) 2024



Per capita consumption CAGR 2020-30 (%)



India per-capita stainless-steel consumption (kg)

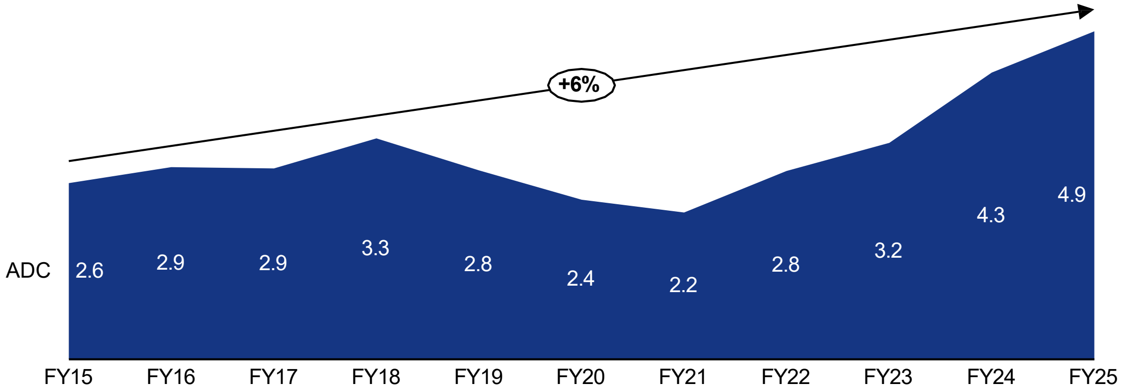


Source- WSSA, ISSDA, BigMint Research

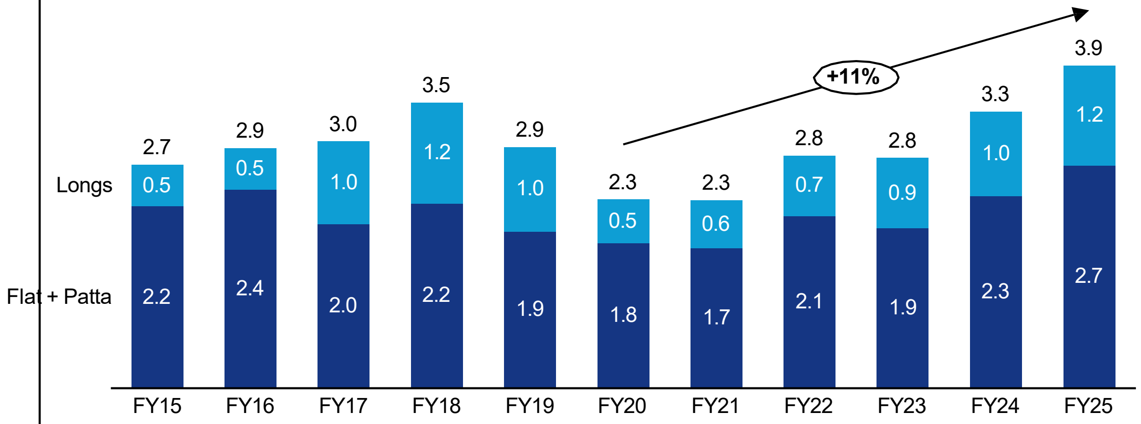
India's growth story – demand, capacity, and direction

India's stainless-steel production and demand assessment

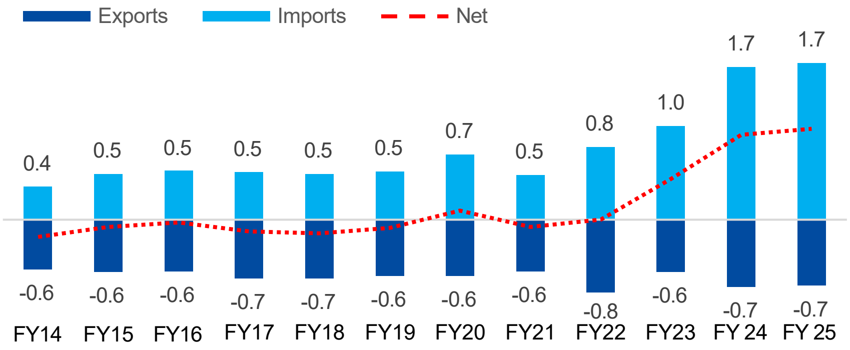
Apparent Domestic consumption (ADC) at 6-7% CAGR



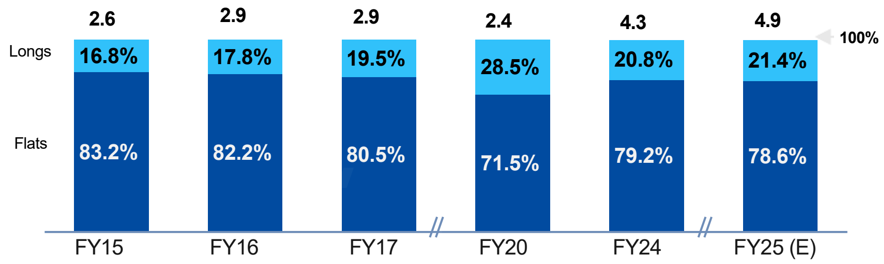
India's finish stainless-steel production : Longs maintain a steady production pace, Flats reach pre-covid peak production levels despite surge in imports



EXIM Trends – India turned Net Importer since FY22 : Primarily from China, ASEAN E FTA countries



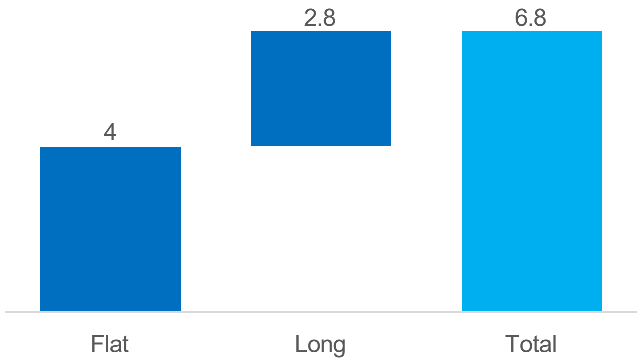
ADC Teardown : Rebars likely to be the next big category for longs producers



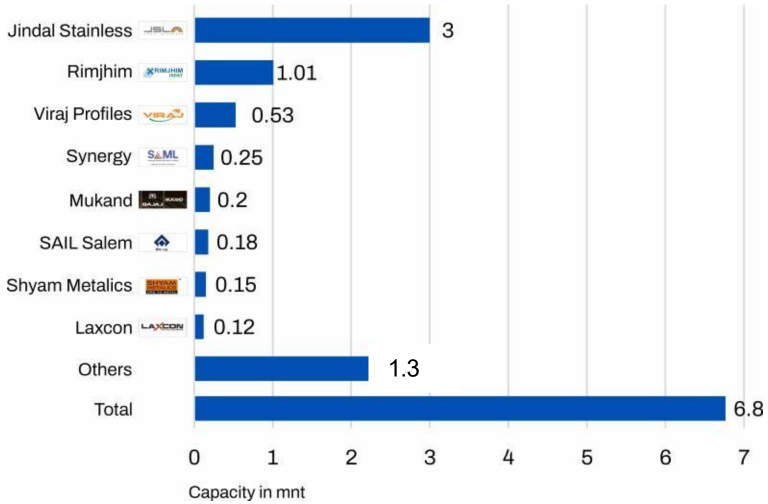
Indian stainless-steel melt capacity at 6.7 mnt in FY'25

India aims to expand the stainless steel capacity to 9.3-9.5 million tonnes by 2030, then to 12.5-12.7 million tonnes by 2040 and 19-20 million tonnes by 2047

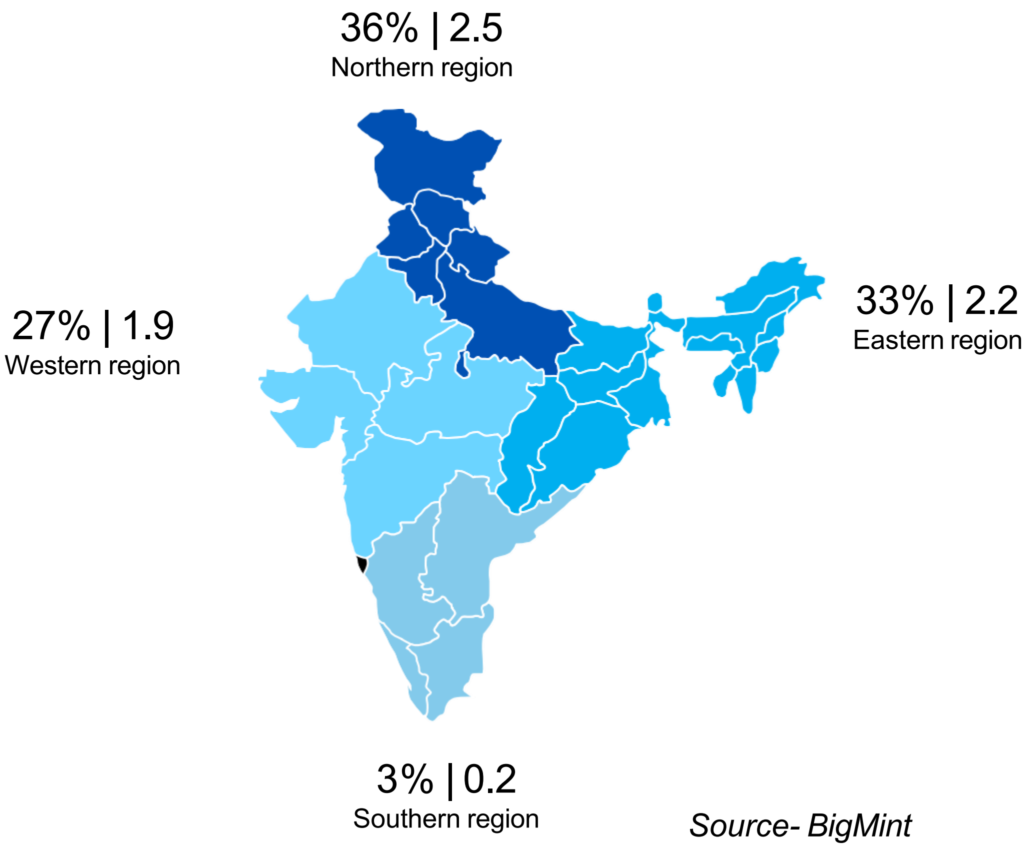
India's stainless steel melt capacity – Current position



All Units in MTPA



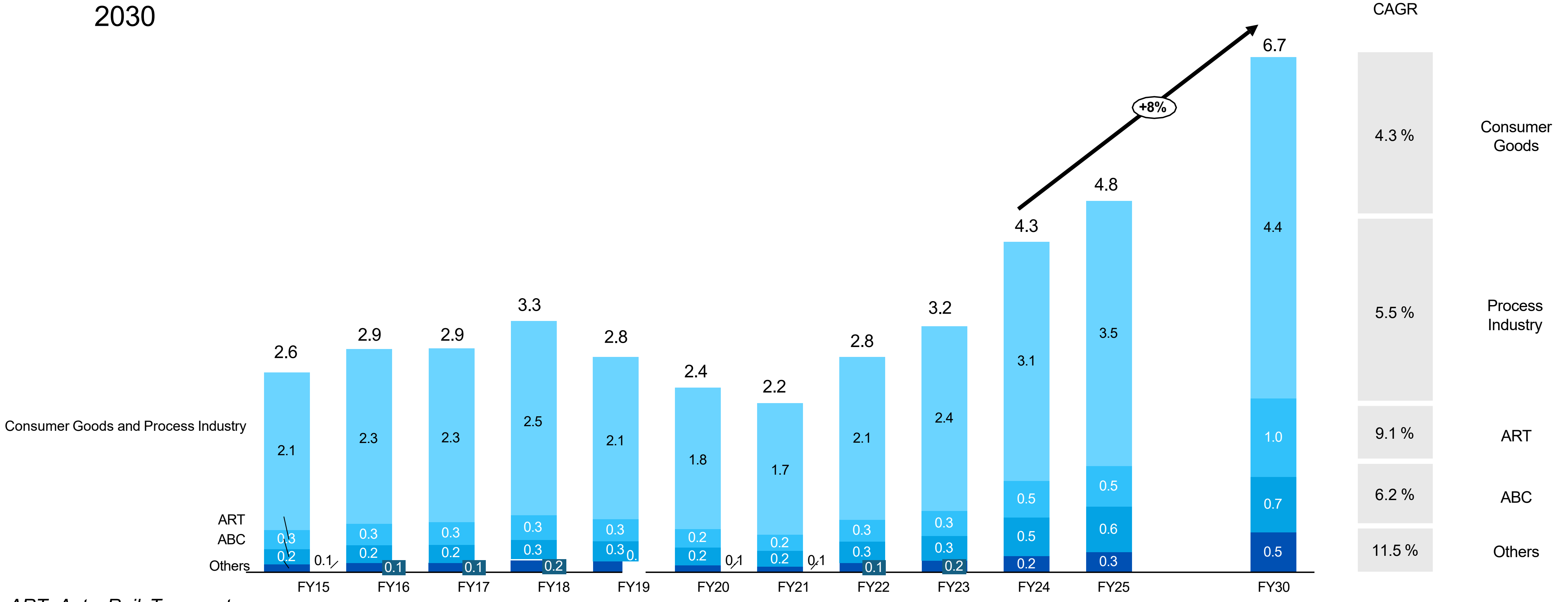
Northern and Eastern region contributes to 70% of total capacity (JSL contributes 40%)



Source- BigMint

Stainless steel demand: ABC, ART and others outpacing traditional consumer goods and process industry segments

Consumer and process industry contributes ~70% of SS demand, which is expected to be ~65% by 2030



ART- Auto, Rail, Transport
ABC- Architecture, Building, Construction
Source- Quesrow consulting, BigMint

Consumption tear-down by sector and stainless-steel series

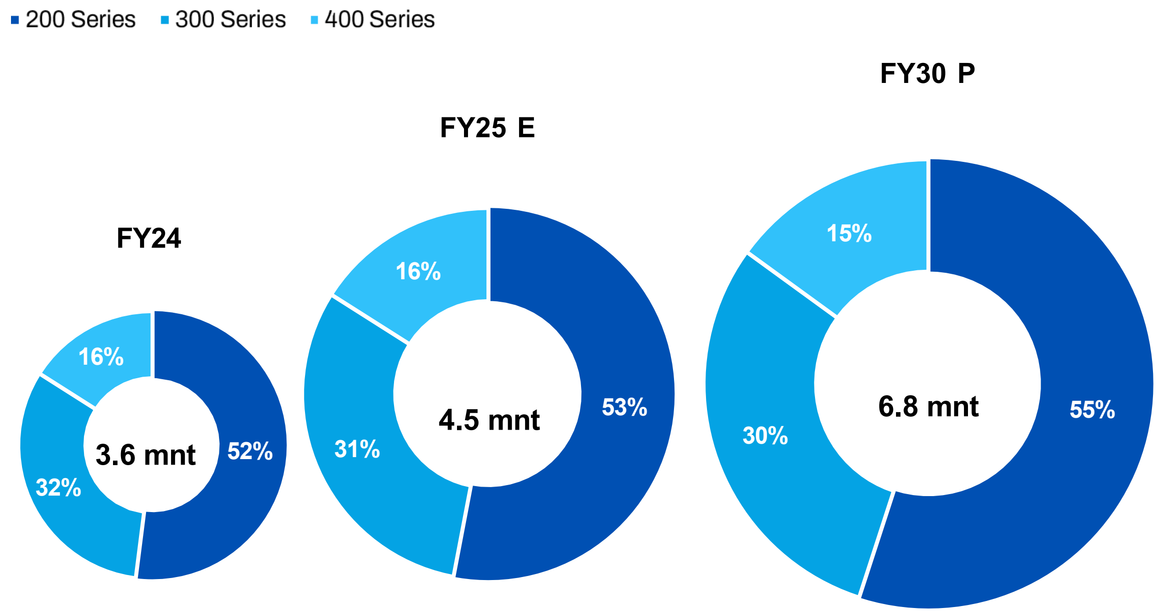
All units in KTPA	Product category		Consumption Heat Map across Segments						
Customer Segments	Long	Flat	200 series (<1% Nickle)	200 series	300 series	400 series	Duplex	PH Grades	Total
Consumer	190	1815							2,005
Process Industry	300	700							1,000
ART	20	560							580
ABC	60	480							540
Industrial Machinery& Engineering	435	130							565
Others	15	55							70
Total	1020	3740							4,760

Source- Quesrow consulting

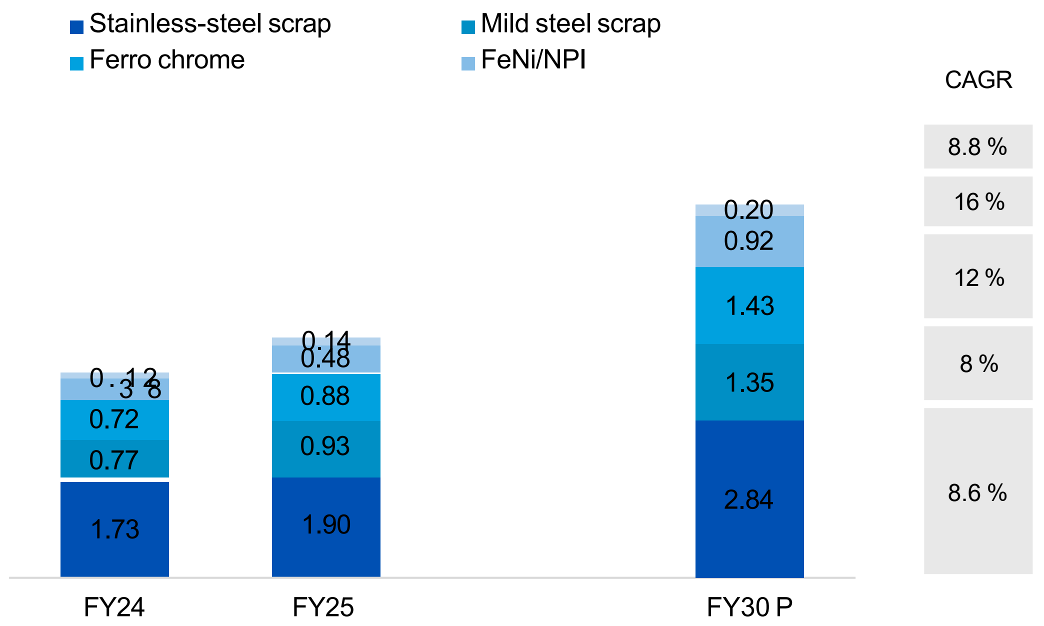
Balancing the raw material equation

India : Stainless-steel production and raw material balancing

India : Crude stainless-steel production



India :Stainless-steel raw material requirement by 2030

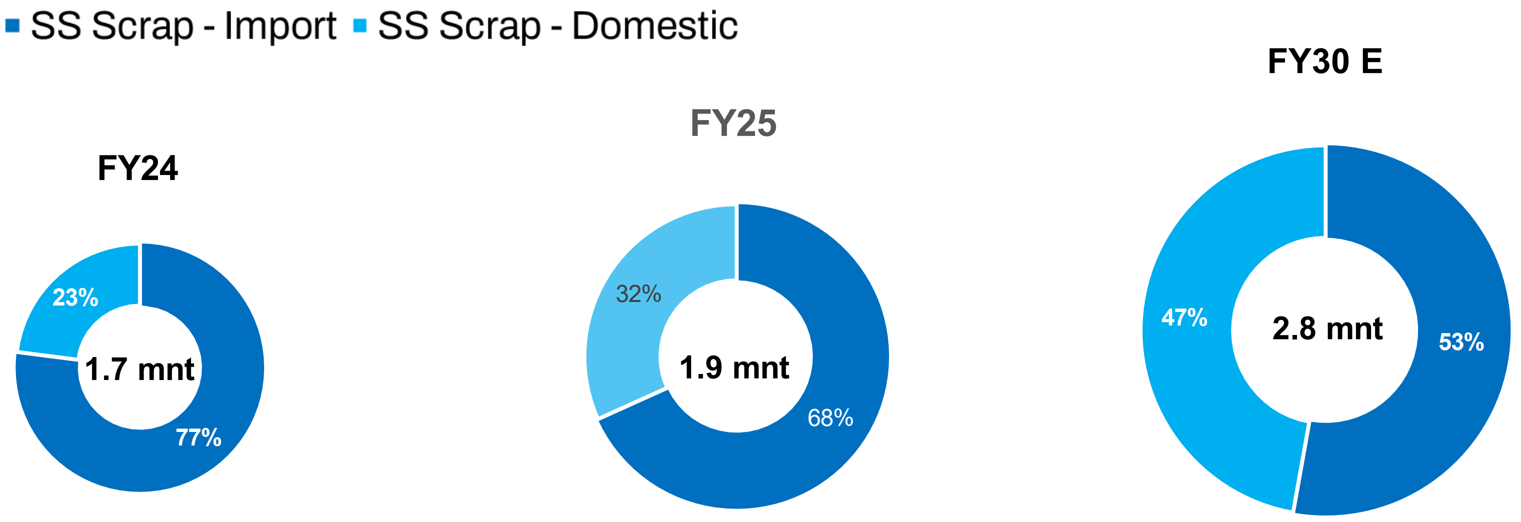


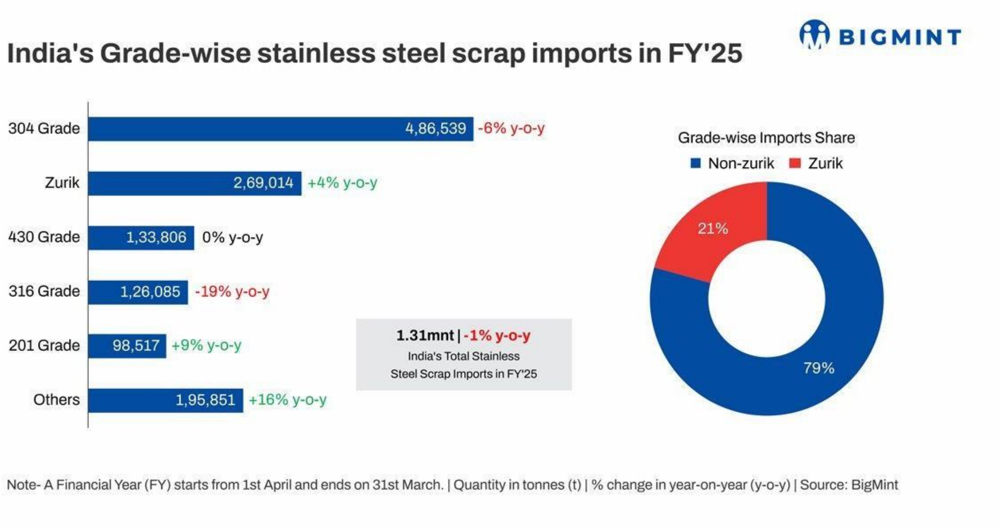
Source- BigMint Research

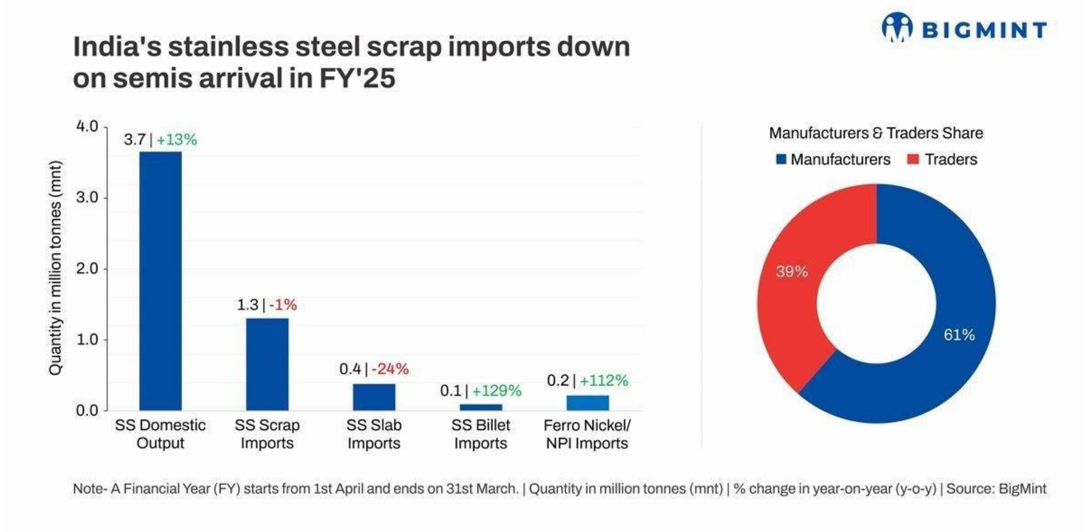
Stainless scrap trade flows – where India fits in

India’s stainless-steel scrap demand and dependence on imports

India's dependence on imported scrap will gradually decline from ~70% to 50% by 2030







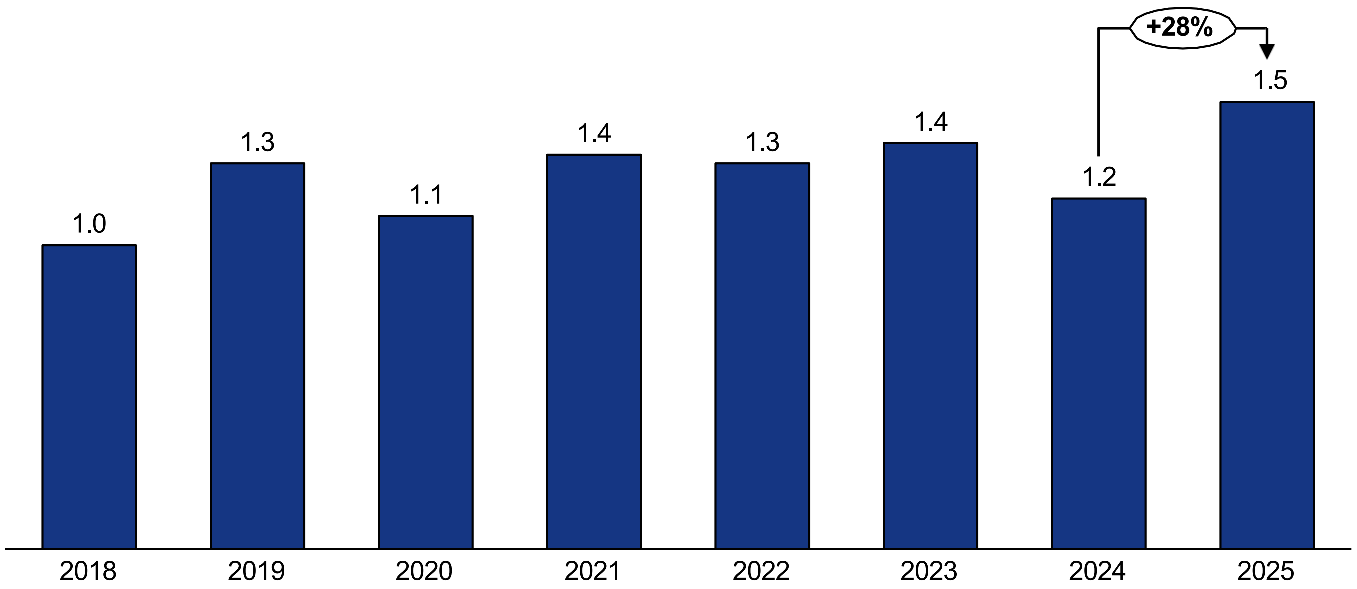
Stainless Steel scrap imports to increase ~30% in 2025

India contributes 20-25% of seaborne trade of SS scrap; US being the largest source

India : Stainless-steel scrap imports

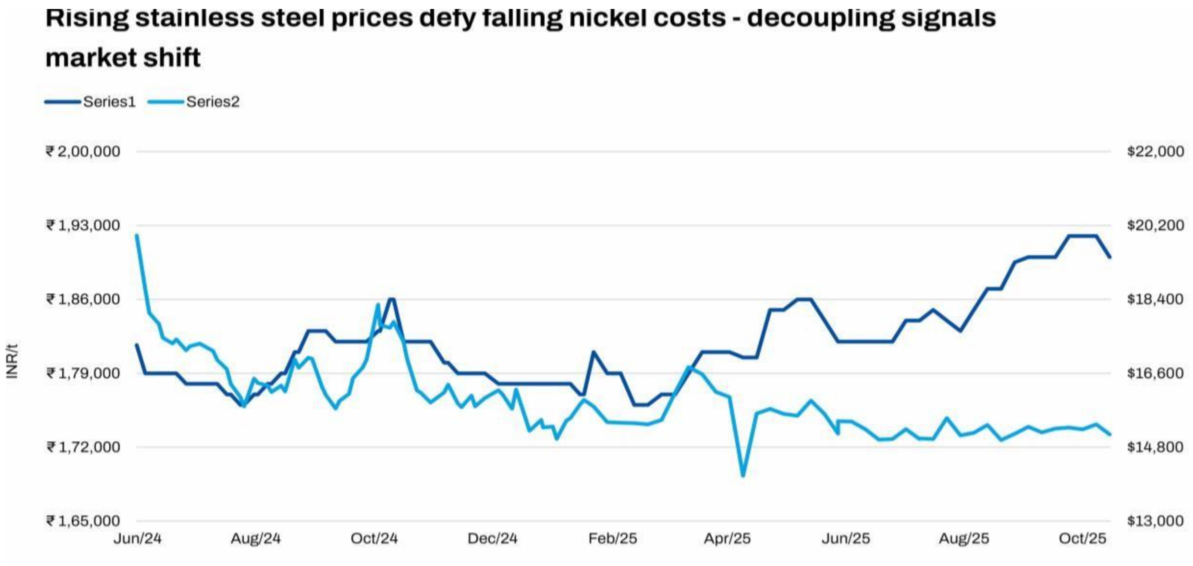
Load Country	2024	2025 (E)	% Change
United States	0.18	0.27	50%▲
EU (27)	0.13	0.18	38%▲
United Arab Emirates	0.10	0.11	10%▲
Malaysia	0.11	0.10	7%▼
South Korea	0.09	0.09	0%▼
Singapore	0.09	0.08	9%▼
Thailand	0.06	0.08	38%▲
Turkey	0.02	0.07	195%▲
Vietnam	0.08	0.08	1%▼
United Kingdom	0.04	0.05	12%▲
Saudi Arabia	0.04	0.05	26%▲
Mexico	0.02	0.04	86%▲
Canada	0.03	0.03	7%▼
Australia	0.02	0.03	26%▲
Japan	0.03	0.03	2%▲
Indonesia	0.03	0.04	7%▲
Brazil	0.01	0.02	169%▲
Others	0.13	0.18	34%▲
Grand Total	**1.20**	**1.50**	25%▲

Stainless-scrap volume is expected to increase in 2025 by around ~30%

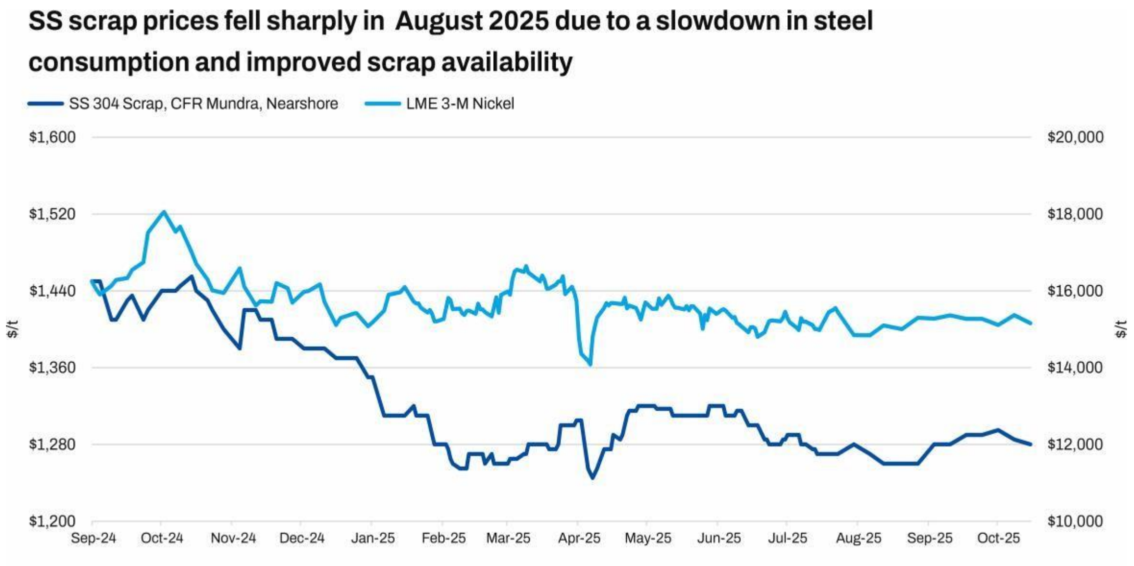


- Increased SS production
- Imports of semis have dropped
- Observed higher bookings of Japanese ferrous scrap (especially by JSL) on higher usage of NPI
- Carbon emission norms will make scrap a preferred choice for SS units in developed economy, similar trends seen in ferrous scrap

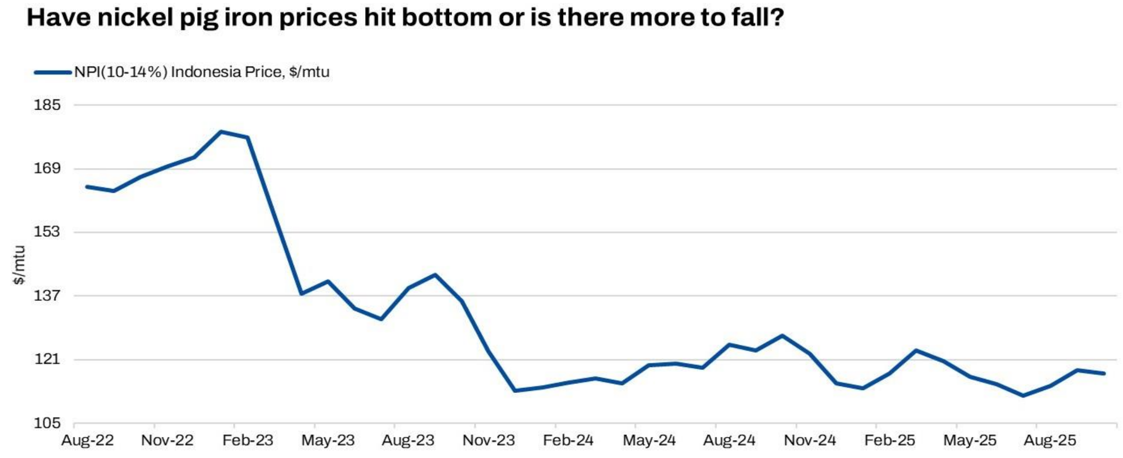
Indian mills have been feeding more NPI over pricing benefits



Source: BigMint



Source: BigMint



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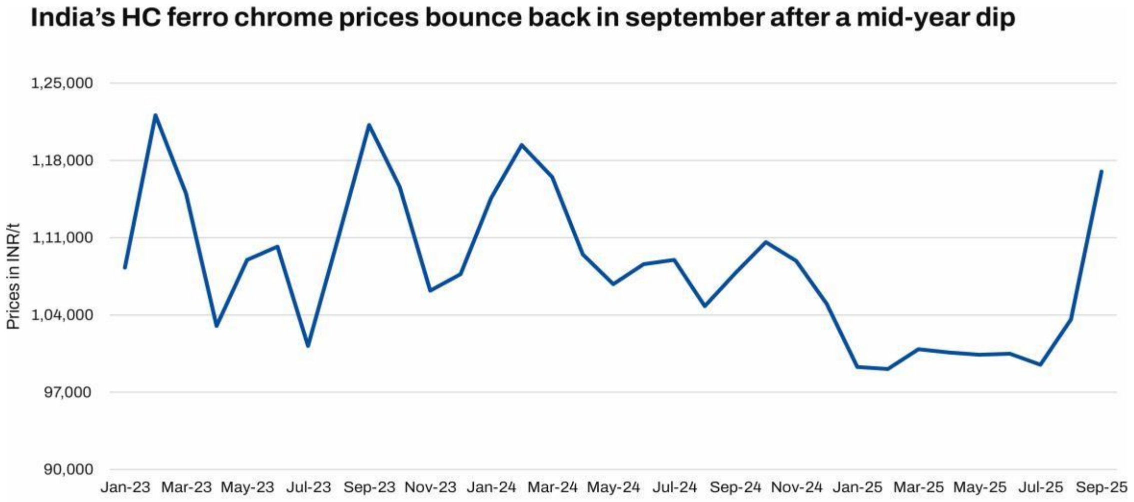

Source: BigMint

Things to watch out for

- India aims to expand the stainless steel capacity to 9.3-9.5 million tonnes by 2030, then to 12.5-12.7 million tonnes by 2040 and 19-20 million tonnes by 2047
- Share of longs in SS production will increase in coming years
- Govt policies like BIS and anti dumping will support domestic SS production
- Usage of NPI will increase, which will lead to higher usage of HMS and other alloying elements
- Imported stainless steel scrap will continue to play an important role owing to lower domestic generation
- CBAM and newer European safeguard structure will set the tone of the markets in 2026

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Thank You.