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Industry Report on Indian Steel Service Industry

13th January 2026

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Table of Contents

1 Economic Outlook 8
1.1 Global Economy 8
1.1.1 Growth Drivers Impacting Growth of Global Economy 9
1.1.2 Key Issues Impacting Growth of Global Economy 9
1.1.3 Global Economic Impact on the Indian Steel Industry 9
1.2 Indian Economic Outlook 10
1.2.1 GDP Growth and Outlook 10
1.2.2 Fiscal Deficit (as a % of GDP) 11
1.2.3 Consumer Price Index 11
1.2.4 GVA in the Industrial Sector 13
1.2.5 Investment Trend in Infrastructure 13
1.2.6 Per capita PFCE and GNDI 14
1.2.7 Industrial Growth 15
1.2.8 Key Demographic Drivers for Economic Growth 15
1.2.9 Key Government policies driving economic growth 17
1.2.10 Correlation of Steel Demand Growth with GDP Growth 18
1.3 Concluding Remarks 19

2 Global Steel Industry 20
2.1 Overview of the Global Steel Industry 20
2.1.1 Global Steel Production 22
2.1.2 Global Steel Consumption 23
2.1.3 Trend in Global Steel Prices 24

3 Indian Steel Industry 26
3.1 Overview of the Indian Steel Industry 26
3.1.1 Structure of the Indian Steel industry by different types of end products 28
3.1.1.1 Demand Segmentation by Product 28
3.1.1.2 Demand Segmentation by Composition 30
3.1.1.3 Demand Segmentation- Consumption by end user Industries 33
3.1.1.4 Demand Segmentation- Consumption by region 33
3.2 India Steel Pricing Trend & Price trend for Raw Materials and Finished Steel 33
3.2.1.1 Trend in Raw Material Prices 33
3.2.1.2 Trend in Average Finished Steel Prices 35
3.3 India's position in Global Steel market 36
3.4 India's Finished Steel Export and Import Trends 37
3.5 Steel Demand - Comparison between India and the World 39
3.6 Key Growth Drivers for Indian Steel Industry 40
3.7 Growth Opportunities in Steel Market in India 42
3.8 Regulatory Policies/ Government Initiatives 43
3.9 Supply Chain in the Steel Industry 46

4 Steel Processing Industry 48
4.1 Overview of Steel Processing Industry 48
4.2 Global Steel Processing Centre Market Size 48
4.2.1 Global Steel Processing Centre Market Size By Service Type 49
4.2.2 Global Steel Processing Centre Market Size By Region 52
4.2.3 Global Steel Processing Centre Market Size By End-User Industry 55
4.3 Steel Processing Centre Market Size in India 58
4.3.1 Steel Processing Centre Market Size in India By Service Type 58

4.4 Role of Steel Processing Centres 61
4.5 Key Growth Drivers 62
4.6 Key Challenges 62

5 General Engineering Sector 64
5.1 Consumer Electronics Market in India 64
5.1.1 Market Size and Growth Forecast Based on Value 64
5.1.2 Consumer Durable Penetration Rate 65
5.1.3 Market Share Based on Product Type 66
5.1.4 Air Conditioners 68
5.1.5 Refrigerators 70
5.1.6 Washing Machines 70
5.1.7 Water Heater Market 71
5.1.8 Demand Drivers 72
5.1.9 List of Key Players in the Industry 72
5.2 Auto Ancillary Market in India 74
5.2.1 Automobile Production Trends 74
5.2.4 Overview of the Auto Ancillary Market 76
5.2.5 Current Market Scenario and Forecast 77
5.2.6 Demand for Precision-Cut Steel in Lightweight Components 78
5.2.7 Growth Drivers for the auto-ancillary industry 78
5.2.8 Market Challenges for the auto-ancillary industry 79
5.3 HVAC systems in India 81
5.3.1 Overview of HVAC systems in India 81
5.3.2 Current Market Scenario and Forecast 82
5.3.3 Market Drivers 85
5.3.4 Market Challenges 86
5.3.5 Outlook 87

6 Electricity Transmission and Distribution 89
6.1 Transmission 89
6.2 Distribution 90

7 Impact of 2025 GST Reforms 92

8 Government Key Policies and Regulatory Actions with focus on EMS 93
8.1 Make in India 93
8.2 Production Linked Incentive (PLI) Scheme 93

9 Key Threats and Challenges to the Indian Steel Industry 95

10 Use of Automation, AI, and Digital Tracking for Efficiency and Optimisation 96

11 Peer Comparison 97
11.1 Company Profiling 97
11.2 End User Profiling 97
11.3 Competitive Benchmarking 101

List of Tables

Table 1: GDP growth trend comparison - India v/s Other Economies (Real GDP, Y-o-Y change in %) 8
Table 2: RBI's GDP Growth Outlook (Y-o-Y %) 11
Table 3: Industrial sector growth (Y-o-Y growth) -at Constant Prices 13

Table 4: Production and Consumption (In '000 Tonnes) 28
Table 5: Consumption by end user Industries (In Million Tons) 33
Table 6: Consumption by region (In Million Tons) 33
Table 7: Exports of Finished Steel (In '000 Tonnes) 37
Table 8: Imports of Finished Steel (In '000 Tonnes) 37
Table 9: Country-wise Exports of Finished Steel (In INR Millions) 38
Table 10: Country-wise Imports of Finished Steel (In INR Millions) 38
Table 11: Target Set Under the NSP, 2017 44
Table 12: Key Players in the Industry 73
Table 13: Types of Auto Components 76
Table 14: Transmission System planned for Renewable Energy 90
Table 15: Revenue from Operations of Peer Companies (in Rs. Millions) 102
Table 16: EBITDA Margin (in %) 103
Table 17: EBIT Margin (in %) 103
Table 18: Profit Margin (in %) 103
Table 19: Gearing Ratio (Debt to Equity) (in x) 104
Table 20: Return on Equity (in %) 104
Table 21: Return on Capital Employed (in %) 105
Table 22: Debtors' Days (in Days) 105
Table 23: Net Working Capital Days (in Days) 105

List of Charts

Chart 1: Global Growth Outlook Projections (Real GDP, Y-o-Y change in %) 8
Chart 2: Trend in Real Indian GDP growth rate 10
Chart 3: Gross Fiscal Deficit (% of GDP) 11
Chart 4: Retail Price Inflation in terms of index and Y-o-Y Growth in % (Base: 2011-12=100) 12
Chart 5: RBI historical Repo Rate 12
Chart 6: Gross Fixed Capital Formation (GFCF) as % of GDP (At current prices) 14
Chart 7: Y-o-Y growth in IIP (in %) 15
Chart 8: Trend in Population growth vis-à-vis dependency ratio in India (in Billion) 16
Chart 9: Age-Wise Break Up of Indian population (% of working-age population) 16
Chart 10: Urbanisation Trend in India 16
Chart 11: Growth in Steel Demand Vs Real GDP Growth 18
Chart 12: Global Per Capita Consumption (in kg) 21
Chart 13: Region-wise Global Capacity in CY24 21
Chart 14: Global Crude Steel Production 22

Chart 15: Crude Steel Production Geographical Region in CY24- 1,885 MT 23
Chart 16: Global Steel Demand 24
Chart 17: Trend in Global Steel Prices 25
Chart 18: Finished Steel Use Per Capita 27
Chart 19: Finished Steel Use Per Capita 27
Chart 20: Domestic Steel Production, by Product 29
Chart 21: Domestic Steel Consumption, by Product 30
Chart 22: Domestic Steel Production, by Composition 32
Chart 23: Domestic Steel Consumption, by Composition 32
Chart 24: Trend in International Iron Ore Prices 34
Chart 25: Prices of Coal 35
Chart 26: Domestic Average Finished Steel Prices 36
Chart 27: Country wise Steel Production and Usage in CY24 - % share 37
Chart 28: Global and India Steel Consumption (In Million Tonnes) 39
Chart 29: Budget Allocation Towards Infrastructure 40
Chart 30: Trend in Indian Automobile Industry Domestic Sales Growth 41
Chart 31: Global Steel Processing Centre Market Size 49
Chart 32: Global Steel Processing Centre Market Size By Service Type 50
Chart 33: Global Steel Processing Centre Market Size By Region 53
Chart 34: Global Steel Processing Centre Market Size By End-User Industry 56
Chart 35: Global Steel Processing Centre Market Size By End-User Industry (CAGR Growth) 56
Chart 36: Steel Processing Centre Market Size in India By Service Type 59
Chart 37: Steel Processing Centre Market Size in India By Service Type (CAGR Growth) 59
Chart 38: Market Size of Consumer Electronics Market in India (CY22-CY29) 65
Chart 39: Room Air Conditioner (RAC) Penetration Rate in India vis-à-vis Other Nations 66
Chart 40: Market Share Breakup of Consumer Electronics Industry 66
Chart 41: Market Share Breakup of White Goods (Household Electronics) Industry 67
Chart 42: Air Conditioner Market Size (CY24-CY29) 68
Chart 43: Rising Electrification driving up AC Demand Growth 69
Chart 44: All India Annual Mean Temperature 69
Chart 45: Refrigerator Market Size (CY24-CY29) 70
Chart 46: Washing Machine Market Size (CY24-CY29) 71
Chart 47: Water Heater Market Size (CY24-CY29) 72
Chart 48: Share of various categories in automobile domestic sales for FY24 (In Volume) 74
Chart 49: Automotive Production in India 75
Chart 50: Automotive Domestic Sales in India 75

Chart 51: Market Size and Growth Forecast of Auto Ancillary market. 77
Chart 52: Indian HVAC Market Size (by Value) 82
Chart 53: Indian HVAC Market Size for Residential (by value) 83
Chart 54: Indian HVAC Market Size for Non-Residential (by value) 84
Chart 55: Transmission Line Network (220 kV & Above) 89
Chart 56: Trend of projected incremental production (in '000 tonnes) 94

List of Figures

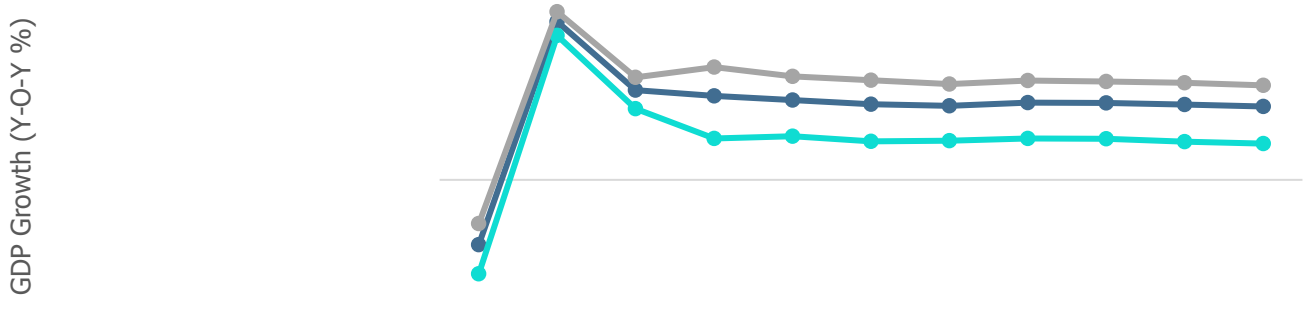
Figure 1: Types of Steel Products 20

1 Economic Outlook

1.1 Global Economy

Global growth, which peaked at 3.5% in CY23, moderated to 3.3% in CY24 and is projected to decline further to 3.2% in CY25 and 3.1% in CY26. This slowdown is largely attributed to escalating trade tensions, particularly the imposition of new U.S. tariffs and retaliatory measures from key trading partners. These developments are expected to push global tariff levels to historic highs, dampening trade flows and weakening growth prospects. In response, countries are reassessing their strategic priorities and policy frameworks. Central banks are likely to recalibrate monetary policies, while prudent fiscal management and structural reforms will be essential to address rising debt levels and mitigate widening global inequalities.

Chart 1: Global Growth Outlook Projections (Real GDP, Y-o-Y change in %)



	CY20	CY21	CY22	CY23	CY24	CY25P	CY26P	CY27P	CY28P	CY29P	CY30P
World	-2.7%	6.6%	3.8%	3.5%	3.3%	3.2%	3.1%	3.2%	3.2%	3.2%	3.1%
Advanced Economies	-3.9%	6.0%	3.0%	1.7%	1.8%	1.6%	1.6%	1.7%	1.7%	1.6%	1.5%
Emerging Market and Developing Economies	-1.8%	7.0%	4.3%	4.7%	4.3%	4.2%	4.0%	4.2%	4.1%	4.1%	4.0%

Source: IMF – World Economic Outlook, October 2025; Notes: P-Projection

Table 1: GDP growth trend comparison - India v/s Other Economies (Real GDP, Y-o-Y change in %)

	Real GDP (Y-o-Y change in %)										
	CY20	CY21	CY22	CY23	CY24	CY25P	CY26P	CY27P	CY28P	CY29P	CY30P
India	-5.8	9.7	7.6	9.2	6.5	6.6	6.2	6.4	6.5	6.5	6.5
China	2.3	8.6	3.1	5.4	5.0	4.8	4.2	4.2	4.0	3.7	3.4
Indonesia	-2.1	3.7	5.3	5.0	5.0	4.9	4.9	5.0	5.0	5.1	5.1
Saudi Arabia	-3.8	6.5	12.0	0.5	2.0	4.0	4.0	3.3	3.3	3.3	3.3
Middle East	-2.3	4.7	6.4	2.6	2.6	3.5	3.8	3.8	3.7	3.7	3.7
Latin America	-6.9	7.4	4.3	2.4	2.4	2.4	2.3	2.6	2.7	2.8	2.6
Brazil	-3.3	4.8	3.0	3.2	3.4	2.4	1.9	2.2	2.3	2.4	2.5
Euro Area	-6.0	6.4	3.6	0.4	0.9	1.2	1.1	1.4	1.3	1.2	1.1
United States	-2.1	6.2	2.5	2.9	2.8	2.0	2.1	2.1	2.1	1.9	1.8

Source: IMF- World Economic Outlook Database (October 2025)
Note: P- Projections; India's fiscal year (FY) aligns with the IMF's calendar year (CY). For instance, FY24 corresponds to CY23.

1.1.1 Growth Drivers Impacting Growth of Global Economy

- **Trade Agreements & International Connectivity:** Trade agreements like the CPTPP and RCEP are expected to drive international trade, creating growth opportunities, especially in emerging economies. These agreements ease barriers and streamline policies, supporting GDP growth, while nearshoring and diversifying supply chains reduce tariffs and costs for global businesses.
- **R&D Investment & Technological Innovation:** Increased global R&D spending, particularly in AI, biotechnology, and sustainable technologies, will fuel growth in key sectors. Companies investing in generative AI, robotics, and green tech will not only enhance productivity but also drive new consumer demand, bolstering the global economy through innovation-led expansion.
- **Population Growth & Migration Patterns:** Demographic trends, including population growth in India and immigration in developed nations, will influence labour markets and consumer behaviour. Nations with growing labour forces, such as India and Southeast Asia, will contribute to global economic output, while migration will help address labour shortages in key industries.

1.1.2 Key Issues Impacting Growth of Global Economy

- **Geopolitical Tensions and Trade Barriers:** Political conflicts, such as potential US-China trade tariffs and evolving trade agreements, like CPTPP and RCEP, could disrupt global trade, affecting supply chains and inflation while offering new market opportunities for countries in the Asia-Pacific region.
- **Technological Innovation and R&D Investment:** Increased global spending on R&D, particularly in AI, robotics, and sustainable technologies, will drive advancements in efficiency and product innovation, creating both challenges for businesses to keep up and opportunities to capitalise on new market demand.
- **Population Growth and Migration Patterns:** Declining fertility rates in developed nations and shifting migration trends will impact labour force availability and economic output. Countries with aging populations, like China, face shrinking workforces, while nations with growing populations, like India, may boost their global economic standing.

1.1.3 Global Economic Impact on the Indian Steel Industry

The rising global demand for steel, driven by large-scale infrastructure projects and industrialization, presents a significant opportunity for India's steel sector. As advanced economies boost investments in infrastructure and the green transition, there is a growing need for high-quality steel, a demand that India's producers are well-positioned to fulfil. India's consistent growth as a top steel producer, now the second-largest globally, strengthens its competitive position in the international market. This growth has created an attractive investment environment, supported by initiatives like the Production Linked Incentive (PLI) Scheme, which aims to enhance production capacity and reduce reliance on imports.

India's expanding production capacity and strong domestic steel consumption reinforce its role in the global market. Additionally, the country is making strides in green steel production, positioning itself to meet the increasing demand for sustainable steel. Efforts to improve manufacturing processes and reduce carbon emissions provide India with a distinct competitive advantage in global trade. With global infrastructure demand continuing to rise, India's steel manufacturers are set to increase their production capacity, benefiting from both domestic growth and the global shift towards sustainable steel production. These trends ensure India's steel industry will continue to play a pivotal role in the global steel market.

Impact of Free Trade Agreements (FTAs) on the Indian Steel Industry

Free Trade Agreements (FTAs) have a mixed impact on India's steel industry. On the positive side, FTAs boost export opportunities by reducing tariffs, making Indian steel more competitive in global markets, particularly in regions like Japan, Australia, and the UAE. They also help reduce costs for downstream industries, such as construction and automotive, by lowering import duties on raw materials. Additionally, FTAs encourage foreign investment and technology transfer, supporting the modernization and energy efficiency of India's steel sector.

Despite the benefits, several challenges persist. The influx of low-cost steel imports, particularly from countries like China, poses a significant threat to local producers, especially small and medium-sized enterprises (SMEs). This can exacerbate India's trade deficit and undermine efforts towards greater self-reliance. Additionally, the need to comply with stringent environmental and labour standards in FTAs may increase operational costs for Indian manufacturers, potentially impacting their competitiveness in global markets. Therefore, it is essential to adopt a strategic approach to managing FTAs, ensuring that they contribute to the long-term growth and sustainability of the Indian steel industry while safeguarding domestic interests.

1.2 Indian Economic Outlook

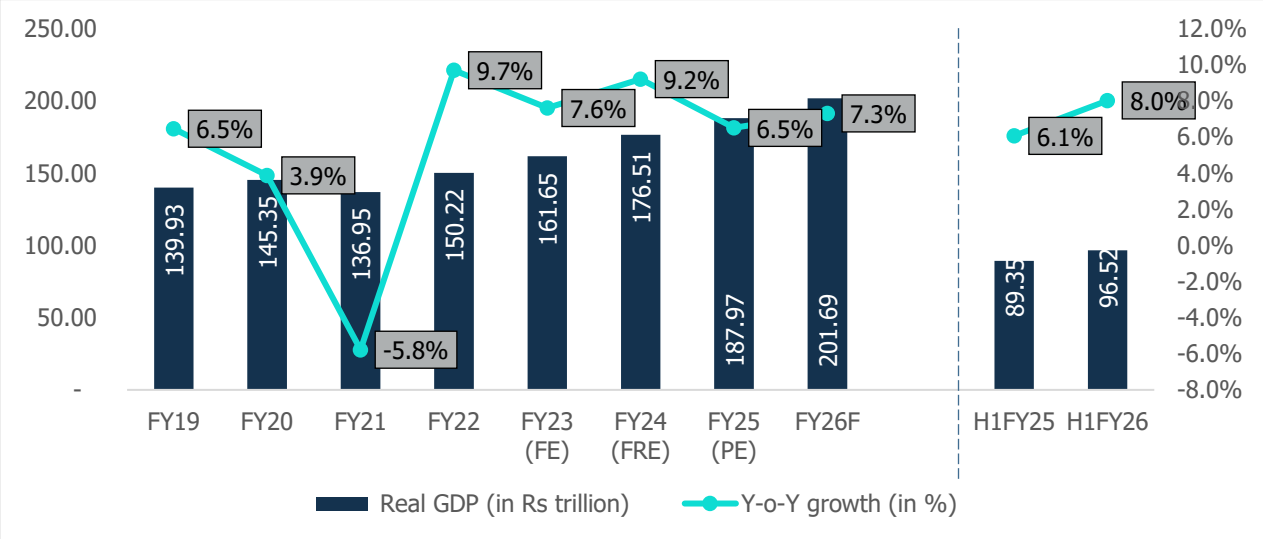
1.2.1 GDP Growth and Outlook

Resilience to External Shocks remains Critical for Near-Term Outlook

India's economy continues to show rapid growth. In H1FY26, the country's GDP grew by 8.0% compared to the same period last year, which saw a 6.1% increase. For the full year FY26, GDP is expected to grow by 7.3%, supported by rising rural demand, better job opportunities, and active business conditions.

In FY25, provisional estimates show a growth of 6.5% (Rs 187.97 trillion), led by robust performance in manufacturing, construction, and financial services. Consumer spending rose by 7.6%, and government spending increased by 3.8%, both contributing to the overall growth. In FY24, India's GDP grew by 9.2% (Rs 176.5 trillion), the highest in over a decade (excluding the pandemic year).

Chart 2: Trend in Real Indian GDP growth rate



Source: MOSPI, Reserve Bank of India; Note: FE – Final Estimates, FRE- First Revised Estimates, PE – Provisional Estimates, F - Forecasted

GDP Growth Outlook (December 2025)

FY26 GDP Outlook: The RBI projects real GDP growth at 7.3% for 2025-26, driven by industrial and services sectors. The upward trajectory of growth is also due to income tax and goods and services tax (GST) rationalization, softer crude oil prices, increase of government capital expenditure, and facilitative monetary and financial conditions lower inflation rates.

However, risks from prolonged geopolitical tensions, global trade disruptions, and weather-related uncertainties remain. Taking these into account, the RBI has reaffirmed its growth projections.

Table 2: RBI's GDP Growth Outlook (Y-o-Y %)

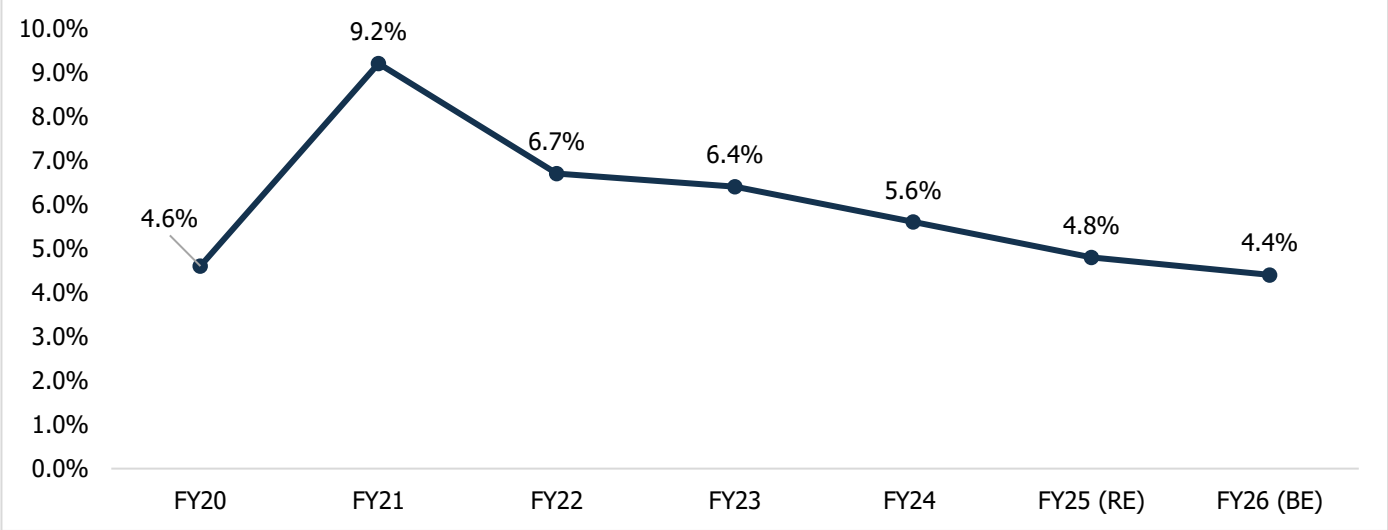
FY26P (complete year)	Q3FY26P	Q4FY26P	Q1FY27P	Q2FY27P
7.3%	7.0%	6.5%	6.7%	6.8%

Source: Reserve Bank of India; Note: P-Projected

1.2.2 Fiscal Deficit (as a % of GDP)

In FY21, India's fiscal deficit was 9.2% due to the impact of COVID-19, since then it has seen a steady improvement is expected to reduce to 4.8% of GDP FY25 (RE), driven by strong economic growth and higher tax and non-tax revenues. The government aims for further fiscal consolidation, setting a target of 4.4% of GDP for FY26 to maintain fiscal prudence.

Chart 3: Gross Fiscal Deficit (% of GDP)

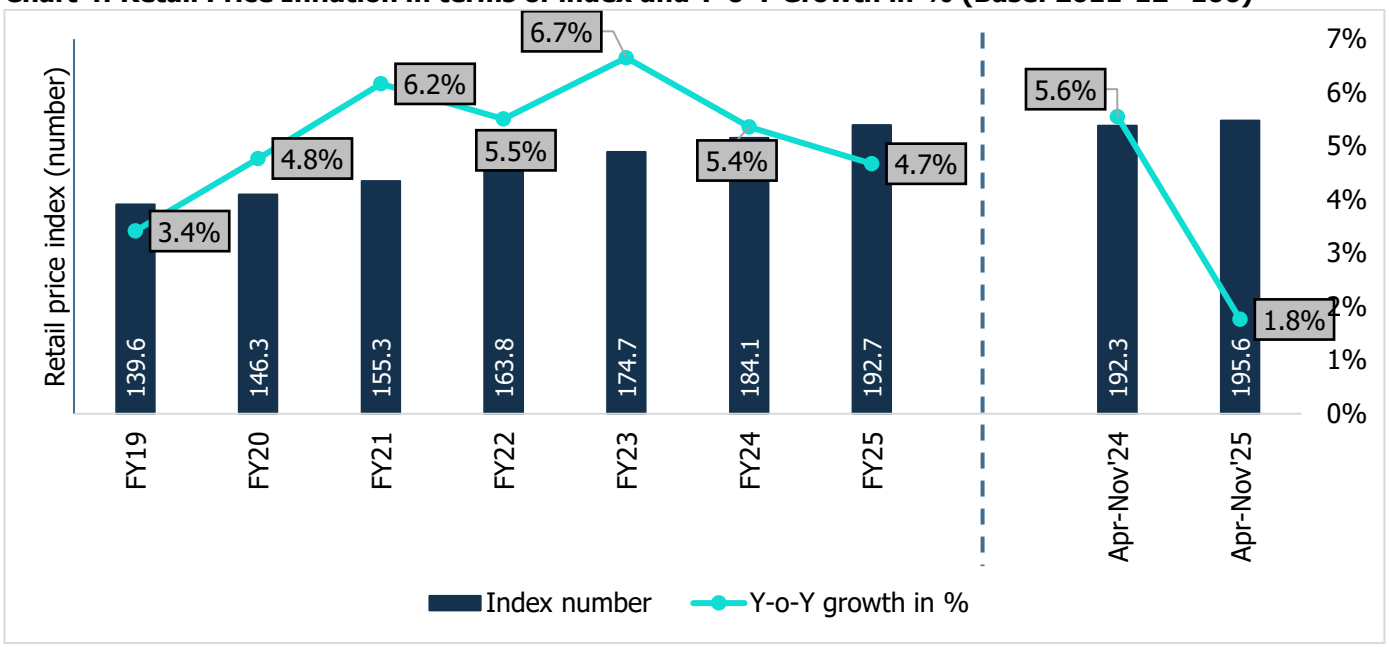


Source: RBI; Note: RE-Revised Estimates, BE-Budget Estimates

1.2.3 Consumer Price Index

The Consumer Price Index (CPI) for the April–November 2025 recorded a combined inflation rate of 1.8%, there was an increase of 46 basis points in November, 2025 from October, 2025. The increase in inflation in November 2025 was driven by increase in inflation of Vegetables, Egg, Meat and fish, Spices and Fuel and light.

Chart 4: Retail Price Inflation in terms of index and Y-o-Y Growth in % (Base: 2011-12=100)

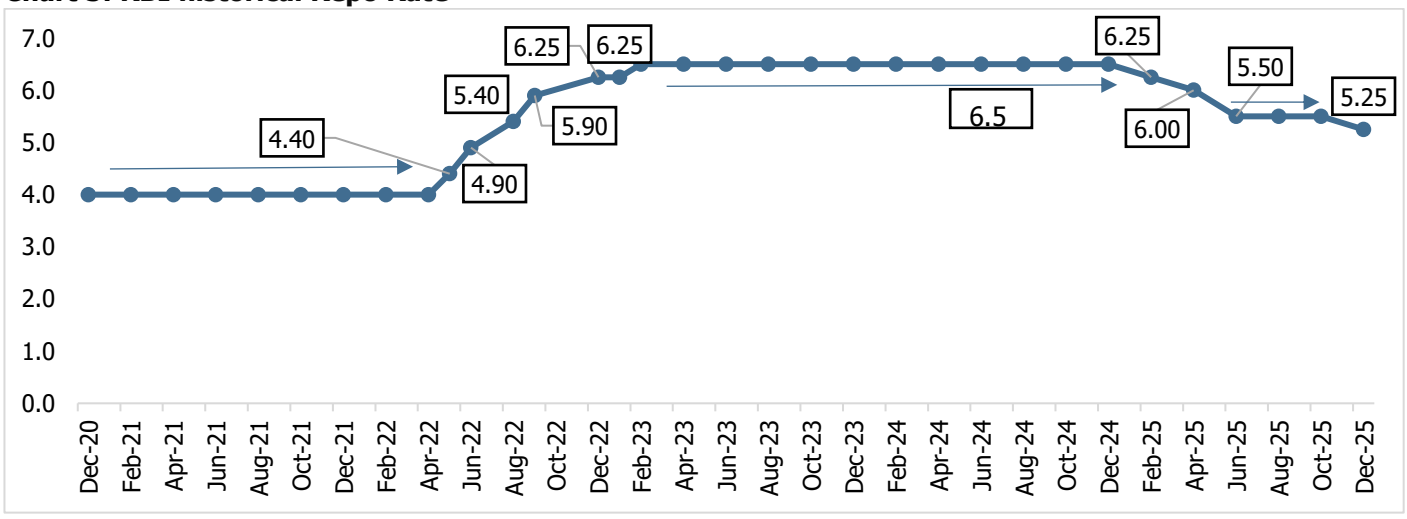


Source: MOSPI

The CPI is primarily factored in by RBI while preparing their bi-monthly monetary policy. At the bi-monthly meeting held in December 2025, RBI projected inflation at 2.0% for FY26 with inflation during Q3FY26 at 0.6% and Q4FY26 at 2.9%, Q1FY27 at 3.9% and Q2FY27 at 4.0%.

Considering the current inflation situation, the RBI has reduced the repo rate by 25 basis points to 5.25% in the December 2025 meeting of the Monetary Policy Committee.

Chart 5: RBI historical Repo Rate



Source: RBI

The RBI maintained a 'neutral' monetary policy stance, continuing to signal confidence that India's economic growth would remain resilient, underpinned by robust private consumption and sustained expansion in fixed capital formation, while also emphasising persistent external risks. The domestic demand conditions remain supportive even as global uncertainties prevail. On trade policy, the temporary pause on US tariff increases concluded in August 2025, and higher

duties on certain Indian exports have since taken effect, although bilateral trade talks continue to manage tariff-related tensions.

The RBI has adopted for a non-inflationary growth with the foundations of strong demand and supply with a good macroeconomic balance. The domestic growth and inflation curve require the policies to be supportive with the volatile trade conditions.

1.2.4 GVA in the Industrial Sector

India's industrial sector is expected to grow by 10.8% in FY24, reaching Rs. 31.56 trillion, supported by positive business sentiment, falling commodity prices, and government initiatives like production-linked incentives. In FY25, growth is expected to slow down to 5.9% y-o-y, down from 10.8% in FY24. The growth is driven primarily by manufacturing, and utility services. The slowdown can be attributed to the manufacturing segment likely to grow at 4.5%, lower than the previous year's 12.3%.

From H1FY25 to H1FY26, the overall GVA at basic price had a Y-o-Y growth from 6.2% to 7.9%, indicating a stronger economic performance. Most sectors showed growth, with Industrial sector had a growth from 6.1% to 7.0% in H1FY26. However, Mining & Quarrying declined sharply from 3.6% to -1.8%, and Electricity, Gas & Water supply decreased considerably from 6.5% to 2.4%.

Table 3: Industrial sector growth (Y-o-Y growth) -at Constant Prices

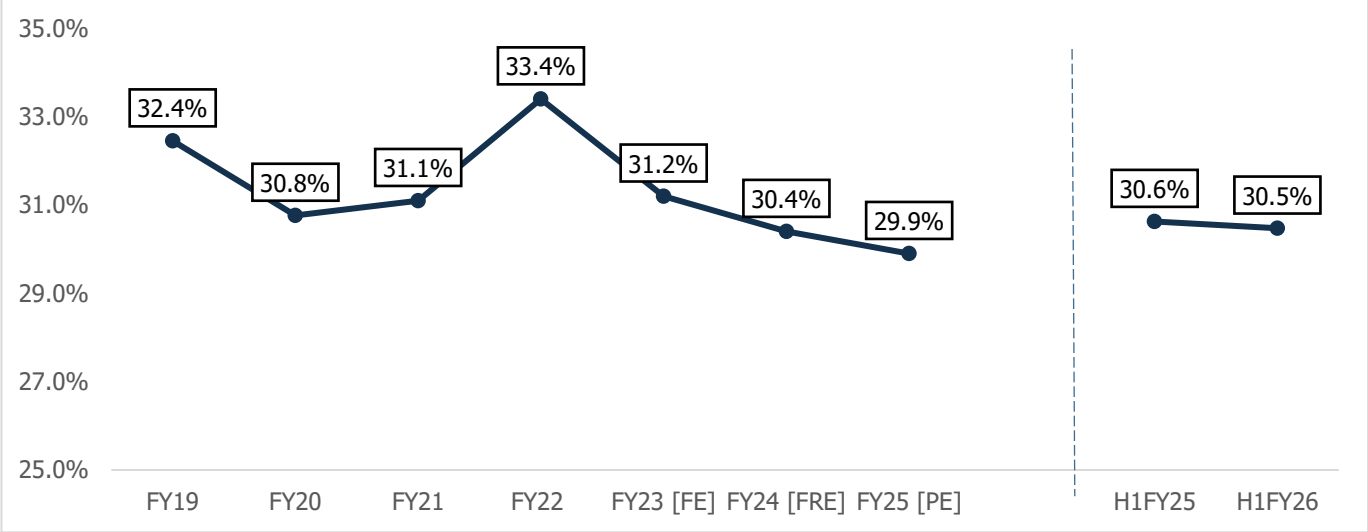
At constant Prices	FY19	FY20	FY21	FY22	FY23 (FE)	FY24 (FRE)	FY25 (PE)	H1FY25	H1FY26
Industry	**5.3**	**-1.4**	**-0.9**	**12.2**	**2.0**	**10.8**	**5.9**	**6.1**	**7.0**
Mining & Quarrying	-0.9	-3.0	-8.6	6.3	2.8	3.2	2.7	3.6	-1.8
Manufacturing	5.4	-3.0	2.9	10.0	-3.0	12.3	4.5	4.8	8.4
Electricity, Gas, Water Supply & Other Utility Services	7.9	2.3	-4.3	10.3	11.5	8.6	5.9	6.5	2.4
Construction	6.5	1.6	-5.7	19.9	10.0	10.4	9.4	9.3	7.4
GVA at Basic Price	**5.8**	**3.9**	**-4.2**	**9.4**	**7.2**	**8.6**	**6.4**	**6.2**	**7.9**

Source: MOSPI; Note: FRE – First Revised Estimates, FE – Final Estimates, PE- Provisional Estimates

1.2.5 Investment Trend in Infrastructure

Gross Fixed Capital Formation (GFCF) is a measure of net increase in physical assets. In FY23, the ratio of investment (GFCF) to GDP remained flat, as compared to FY22 which was at 33.4%. The growth stabilized at 30.4% in FY24 before falling to 29.9% in FY25. The moderation reflects cautious capital spending by both government and private corporations, which has persistently lagged overall GDP growth. In H1FY26, GFCF as a proportion in GDP, marginally declined to 30.5% as compared to 30.6% in H1FY25.

Chart 6: Gross Fixed Capital Formation (GFCF) as % of GDP (At current prices)



Source: MOSPI; Note: FRE- First Revised Estimates, FE – Final Estimates, PE- Provisional Estimates

Overall, the support of public investment in infrastructure is likely to gain traction due to initiatives such as Atmanirbhar Bharat, Make in India, and Production-linked Incentive (PLI) scheme announced across various sectors.

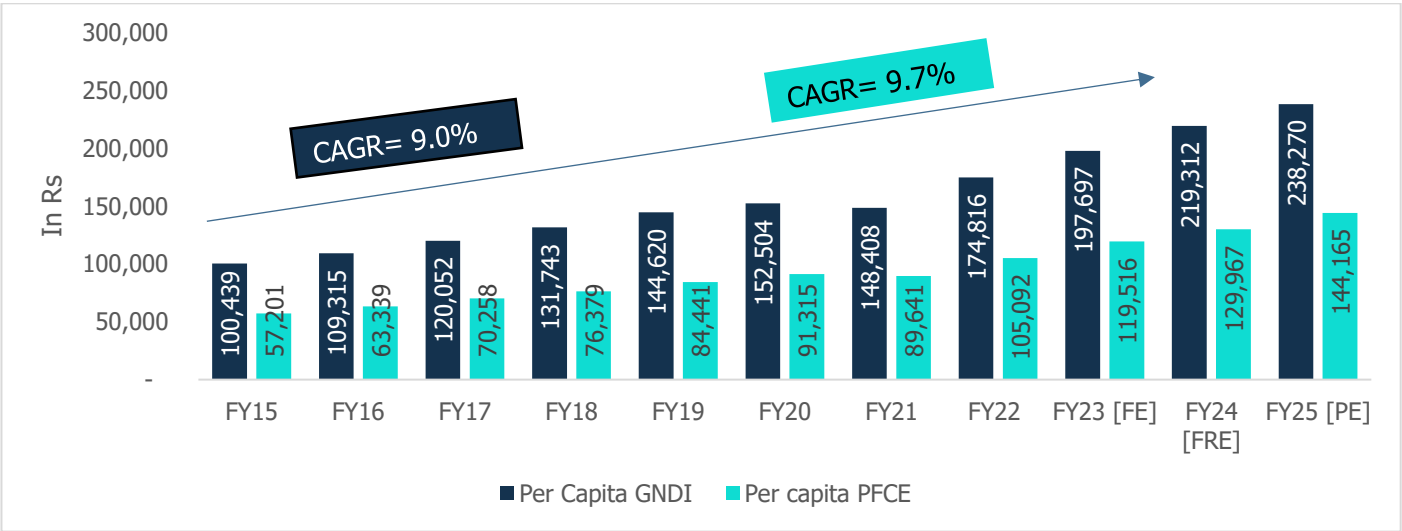
1.2.6 Per capita PFCE and GNDI

- **Increasing Disposable Income and Consumer Spending**

Gross National Disposable Income (GNDI) is a measure of the income available to the nation for final consumption and gross savings. Between the period FY15 to FY25, per capita GNDI at current prices registered a CAGR of 9.0%. More disposable income drives more consumption, thereby driving economic growth.

With increase in disposable income, there has been a gradual change in consumer spending behaviour as well. Per capita Private Final Consumption Expenditure (PFCE) which is measure of consumer spending has also showcased significant growth from FY15 to FY25 at a CAGR of 9.7%.

Chart 7: Trend of Per Capita GNDI and Per Capita PFCE (Current Price)



Source: MOSPI; Note: FRE – First Revised Estimates, FE – Final Estimates, PE- Provisional Estimates

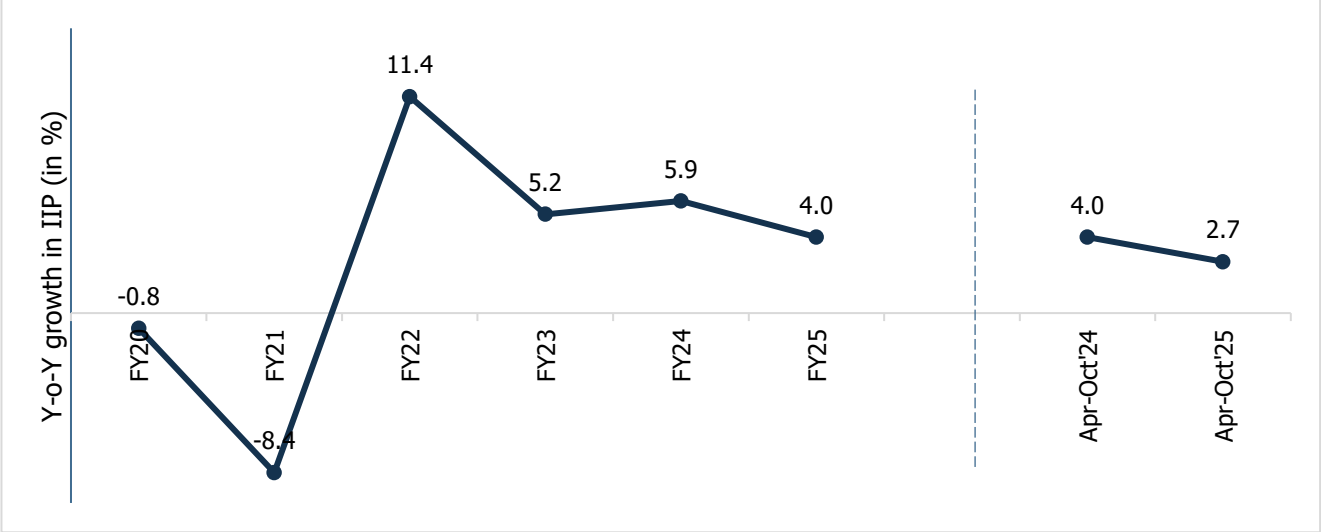
1.2.7 Industrial Growth

The Quick Estimates of the Index of Industrial Production (IIP) for October 2025 show a growth of 0.4%, a decline from 4.0% from October 2024. The year-on-year decline in IIP reflects weakness across major segments, primarily due to contractions in electricity, mining, and consumer non-durables.

In October 2025, industrial growth weakened due to a smaller number of working days because of several festivals in the month. Within manufacturing, notable growth was recorded in basic metals, petroleum products, motor vehicles, trailers and semi-trailers.

Use-based indices reflected mixed trends, with strong growth in Infrastructure/Construction goods, Intermediate and Capital goods. Manufacturing contributed significantly to overall industrial growth. This was primarily driven by strong performance in segments such as pharmaceuticals, motor vehicles, beverages, and electrical equipment.

Chart 7: Y-o-Y growth in IIP (in %)



Source: MOSPI

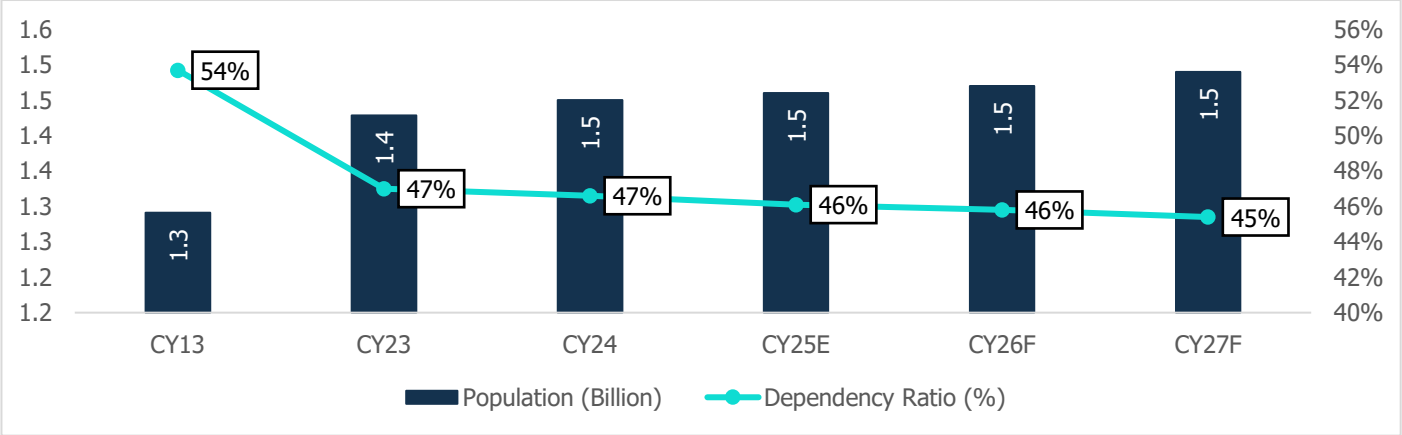
1.2.8 Key Demographic Drivers for Economic Growth

- **Population growth and Urbanization**

The trajectory of economic growth of India and private consumption is driven by socio-economic factors such as demographics and urbanization. According to the world bank, India's population in CY22 surpassed 1.42 billion, slightly higher than China's population (1.41 billion) and became the most populous country in the world.

Age Dependency Ratio is the ratio of dependents to the working age population, i.e., 15 to 64 years, wherein dependents are population younger than 15 and older than 64. This ratio has been on a declining trend. Declining dependency means the country has an improving share of working-age population generating income, which is a good sign for the economy. It was as high as 76% in 1983, which has reduced to 47% in CY23. However, this ratio is expected to rise again to 54% by CY36, driven by an increase in the elderly population as life expectancy improves.

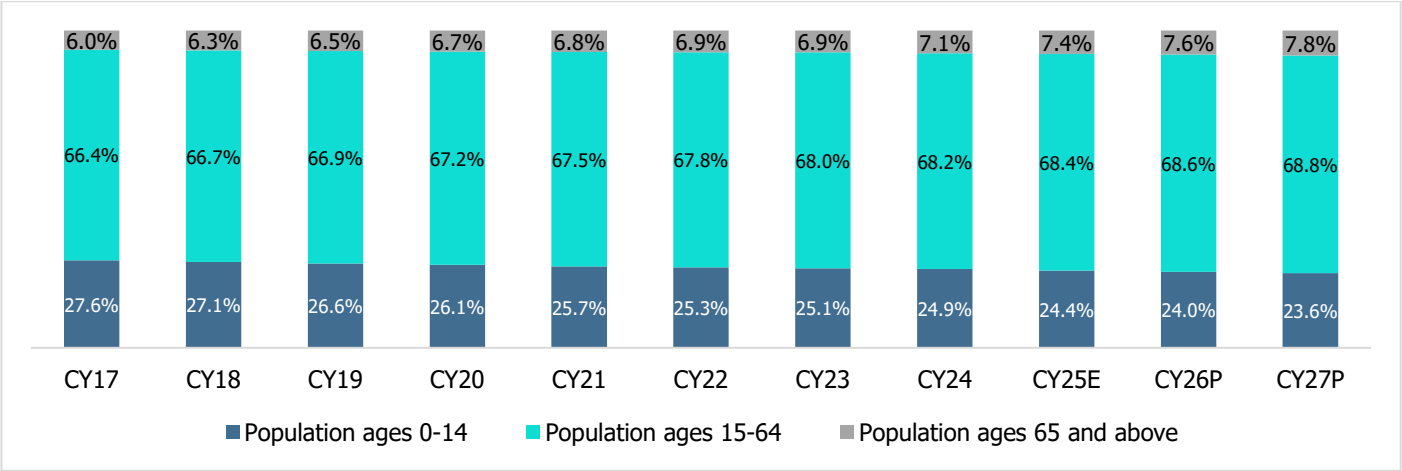
Chart 8: Trend in Population growth vis-à-vis dependency ratio in India (in Billion)



Source: World Bank Database, MOSPI; Note; E- Estimated, F- Forecasted

Despite a projected rise in the dependency ratio to 54% by CY36, India's young and growing workforce, especially in newly urbanised towns, will continue to drive income growth and consumer demand. This presents strong opportunities for sectors like consumer electronics, transportation, and railways. Rising employment, urbanisation, and government investment in rural development and digital infrastructure will further boost demand, while increased tech adoption supports long-term consumption growth across both urban and rural markets.

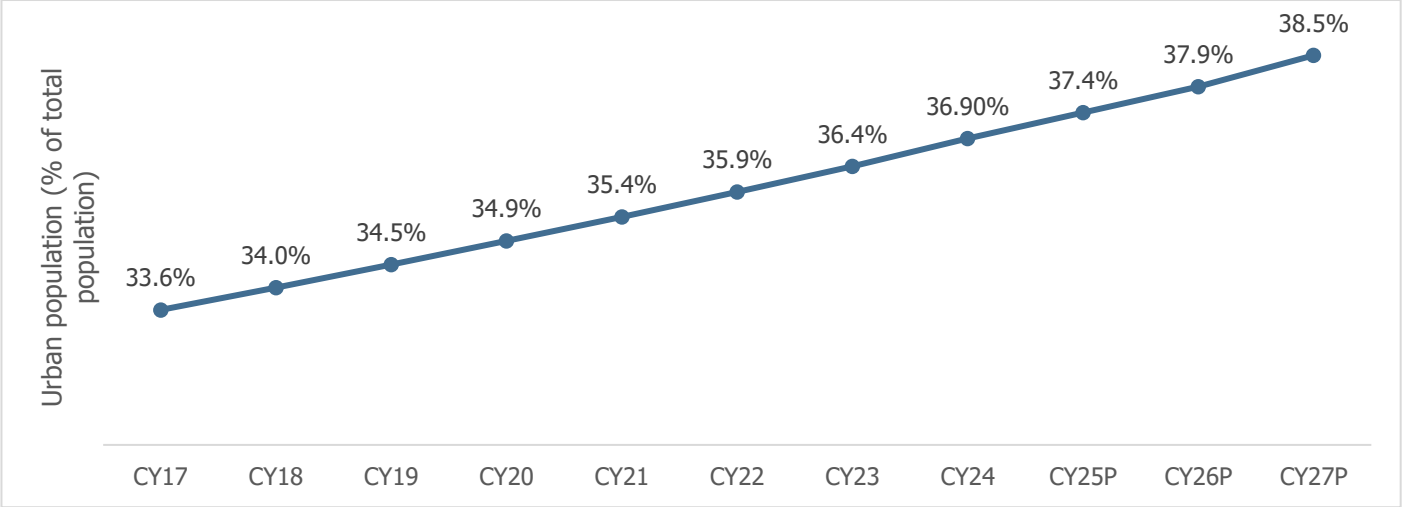
Chart 9: Age-Wise Break Up of Indian population (% of working-age population)



Source: World Bank Database; Note; E- Estimated, F- Forecasted

The urban population is significantly growing in India. The urban population in India is estimated to have increased from 413 million (32% of total population) in CY13 to 519.5 million (36.4% of total population) in the year CY23. India is undergoing a significant urban transformation, with the urban population projected to rise to 40% by CY36. This shift is driven by factors such as improved living standards, increased employment opportunities in urban areas, and government initiatives aimed at urban development. This rapid urbanisation might necessitate substantial investments in infrastructure, housing, and transportation.

Chart 10: Urbanization Trend in India



Source: World Bank Database; Note; E- Estimated, F- Forecasted

1.2.9 Key Government policies driving economic growth

- **AtmaNirbhar Bharat Policy**

Initiated on May 13, 2020, by Prime Minister Narendra Modi, the Atmanirbhar Bharat Abhiyan (Self-Reliant India Campaign) aims to enhance India's self-reliance and economic resilience, particularly in response to the COVID-19 pandemic.

- The campaign is supported by a comprehensive economic package of INR 20 lakh crore, equivalent to 10% of India's GDP, designed to stimulate the economy and support various sectors during the pandemic.
- The strategy is built on five pillars of Economy (Focus on boosting economic growth and strengthening the economic structure), Infrastructure (Development of modern infrastructure to support economic activities and growth), Systems (Enhancing and streamlining systems for better efficiency and governance), Vibrant Demography (Leveraging the demographic dividend by improving employment opportunities and skills), and Demand (Stimulating consumer demand and fostering a robust market)
- Under the Abhiyan, several reforms and enablers have been introduced across seven key sectors, including:
  - Supply Chain Reforms for Agriculture: To improve efficiency and reduce bottlenecks.
  - Rational Tax Systems: Simplification of tax laws to enhance compliance and ease of doing business.
  - Simple & Clear Laws: Streamlining legal processes to foster a conducive business environment.
  - Capable Human Resource: Investment in skill development and human resource capabilities.
  - Strong Financial System: Strengthening financial institutions and systems to support economic activities.

The Atmanirbhar Bharat Abhiyan reflects a vision for a more self-reliant and resilient India, focusing on enhancing domestic capabilities and reducing dependency on external factors.

- **Production Linked Incentive (PLI) Scheme**

Launched in March 2020, the PLI scheme aims to enhance domestic manufacturing capabilities, increase import substitution, and generate employment. It seeks to attract investments, boost production, and make Indian manufacturers globally competitive.

The scheme includes an ambitious outlay of Rs. 1.97 lakh crore (over USD26 billion) to support 14 key sectors. The 14 key sectors covered are Mobile Manufacturing and Specified Electronic Components, Critical Key Starting Materials, Drug Intermediaries, and Active Pharmaceutical Ingredients, Manufacturing of Medical Devices, Automobiles and Auto

Components, Pharmaceuticals Drugs, Specialty Steel, Telecom & Networking Products, Electronic/Technology Products, White Goods (Air Conditioners and LEDs), Food Products, Textile Products (MMF segment and technical textiles), High Efficiency Solar PV Modules, Advanced Chemistry Cell (ACC) Batteries, and Drones and Drone Components. All 14 sector-specific PLI schemes have been approved and notified by the relevant Ministries or Departments and are at various stages of implementation.

The PLI schemes are designed to attract significant investments in cutting-edge technology, improve efficiency, and achieve economies of scale in the manufacturing sector. They are expected to significantly boost production, employment, and economic growth over the next five years.

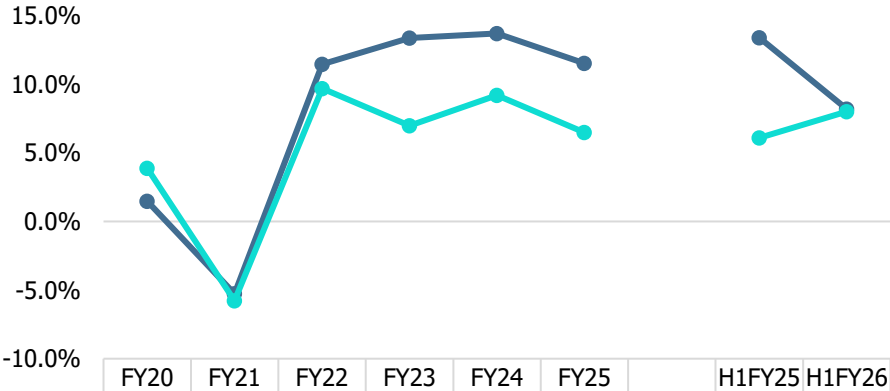
1.2.10 Correlation of Steel Demand Growth with GDP Growth

The growth in India's steel demand closely mirrors the country's real GDP performance, underscoring the strong connection between these sectors. Additionally, increased investments in infrastructure and manufacturing play a crucial role in increasing demand of capital-intensive industries like steel. Domestic finished steel consumption has surged, driven by infrastructure investments and a recovery in the automotive sector, particularly with the rise of electric vehicles. This growing demand reflects broader economic recovery and expansion. Despite challenges from the pandemic, government support, coupled with a rebound in real estate activity, has spurred significant steel consumption.

Robust GDP growth, fuelled by investments in construction and manufacturing, supports the rising demand for steel. The construction, automotive, and infrastructure sectors are key drivers, with government initiatives like Make in India and the PM Gati Shakti plan propelling steel demand. Investments in railways, airports, and metro rail projects, with allocations of Rs. 2.87 lakh crore for the Ministry of Road Transport and Highways and Rs. 2.52 lakh crore for Indian Railways, further strengthen this trend. Additionally, the automotive sector, driven by strong support for electric vehicles and the growing two-wheeler and three-wheeler markets, fuel ongoing steel demand. As these sectors continue to expand, the steel demand will remain tightly aligned with India's economic growth, fostering long-term, sustainable growth in steel consumption.

This rising demand in steel consumption across industries leads to increased reliance on SPCs for customized, high-quality steel products. As sectors like automotive, infrastructure, and real estate grow, SPCs play a crucial role in streamlining steel supply chains by providing tailored solutions and ensuring timely delivery. Additionally, SPCs support India's sustainability goals by minimising waste and contributing to efficient steel use, positioning them as vital players in India's growing steel consumption and global exports.

Chart 11: Growth in Steel Demand Vs Real GDP Growth



	FY20	FY21	FY22	FY23	FY24	FY25		H1FY25	H1FY26
Steel Demand Growth (%)	1.5%	-5.3%	11.4%	13.4%	13.7%	11.5%		13.4%	8.2%
Real GDP Growth (%)	3.9%	-5.8%	9.7%	7.0%	9.2%	6.5%		6.1%	8.0%

Source: CMIE, MOSPI, CareEdge Research

1.3 Concluding Remarks

Global economic growth faces headwinds from geopolitical tensions, volatile commodity prices, high interest rates, inflation, financial market volatility, climate change, and rising public debt. However, India's economy remains relatively strong, with an IMF forecast of 6.6% GDP growth in CY25 (FY26 according to the fiscal year), compared to the global projection of 3.2%. Key drivers include strong domestic demand, government capital expenditure and moderating inflation.

Public investment is expected to exhibit healthy growth as the government has allocated a strong capital expenditure of about Rs. 11.21 lakh crores for FY26. The private sector's intent to invest is also showing improvement as per the data announced on new project investments and resilience shown by the import of capital goods. Additionally, improvement in rural demand owing to healthy sowing, improving reservoir levels, and progress in south-west monsoon along with government's thrust on capex and other policy support will aid the investment cycle in gaining further traction.

The recent 56th meeting of the Goods and Services Tax (GST) Council announced some major changes in the existing GST structure. The focus is majorly on simplifying it to a two-tiered GST tax structure of 5% and 18%, phasing out the currently existing 12% and 28% slabs. There is also a de-merit tax rate for luxury and 'sin' goods at a 40% tax slab. These changes are typically aimed at increasing the disposable income and in turn boosting consumption, as well as promoting the ease of doing business. The GST rationalization is expected to be a positive step towards economic growth, stimulating private consumption and ease inflationary pressures. The recent revisions in income tax rates, coupled with the reduction in GST, are expected to result in savings of over Rs 2.5 lakh crore, which is likely to further boost the consumption.

The impact of U.S. tariffs on India's export trade is anticipated to be minimal. The engineering goods sector will have a potential U.S. tariff impact, whereas steel industry is affected by the 50% tariffs although the impact is expected to be minimal given the volume of goods exported is less.

On February 13th, 2025, India and US discussed enhancing the U.S.-India trade relationship, with a target to increase bilateral trade from USD 200 billion to USD 500 billion by 2030. As of September 2025, India and the U.S discussions seem "positive and forward looking"

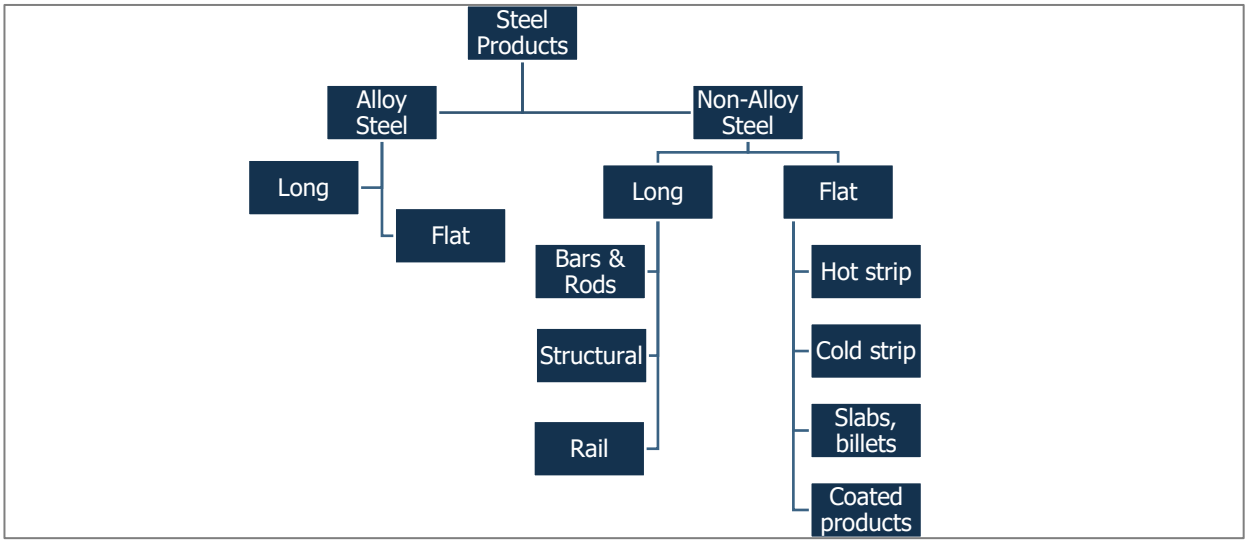
Thus, while U.S. tariffs may have a limited impact on India's exports, ongoing trade negotiations and India's competitive manufacturing advantage position it well for continued growth in global trade.

2 Global Steel Industry

2.1 Overview of the Global Steel Industry

Steel is a paramount material in the fields of construction and engineering. It has widespread applications in industries such as automotive, construction, consumer goods, infrastructure, capital goods, mechanical & medical equipment, packaging, and utensils, among others. Its popularity stems from its abundant availability, cost-effectiveness, exceptional strength and durability, ductility, and recyclability. According to the World Steel Association, there are over 3,500 different grades of steel produced worldwide, each possessing unique physical, chemical, and environmental properties to suit various applications.

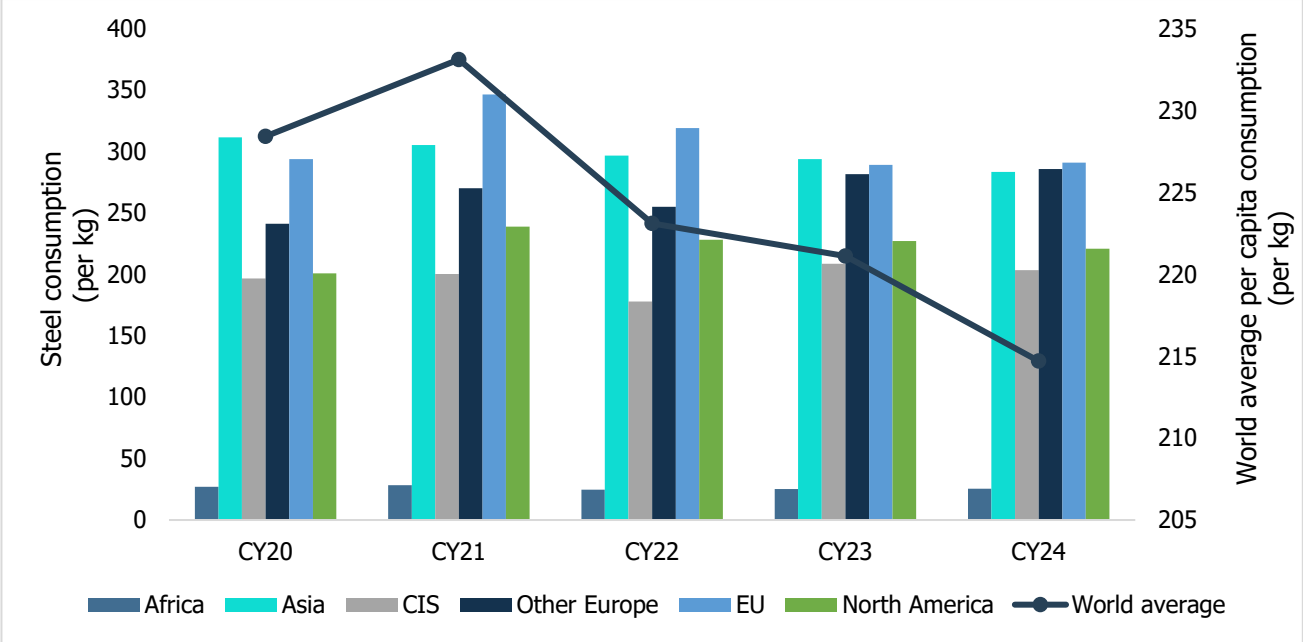
Figure 1: Types of Steel Products



Source: Industry Sources, CareEdge Research

The global per capita consumption has been on a decline since CY21. As of CY24, it stood at 215 kg, down from 221 kg in CY23. This has been due to weak construction activity, reduced demand from China's real estate sector, and subdued global manufacturing. Demographic shifts and tighter economic conditions have further dampened infrastructure and durable goods demand, leading to lower steel use per person worldwide. As of CY23, global per capita steel consumption declined to 219 kg, down from 224 kg in CY22 and 233 kg in CY21, reflecting the ongoing impact of geopolitical uncertainty, fluctuations in energy prices, persistent inflation, and a subdued global economic outlook. The decline was a continuation of the trend that began after CY21, when consumption had peaked following a recovery from the COVID-19 pandemic. Regionally, the European Union recorded the highest per capita consumption at 291 kg in CY24, largely driven by high usage in countries like Czechia and Italy. This was followed by Other Europe at 286 kg and Asia at 283 kg.

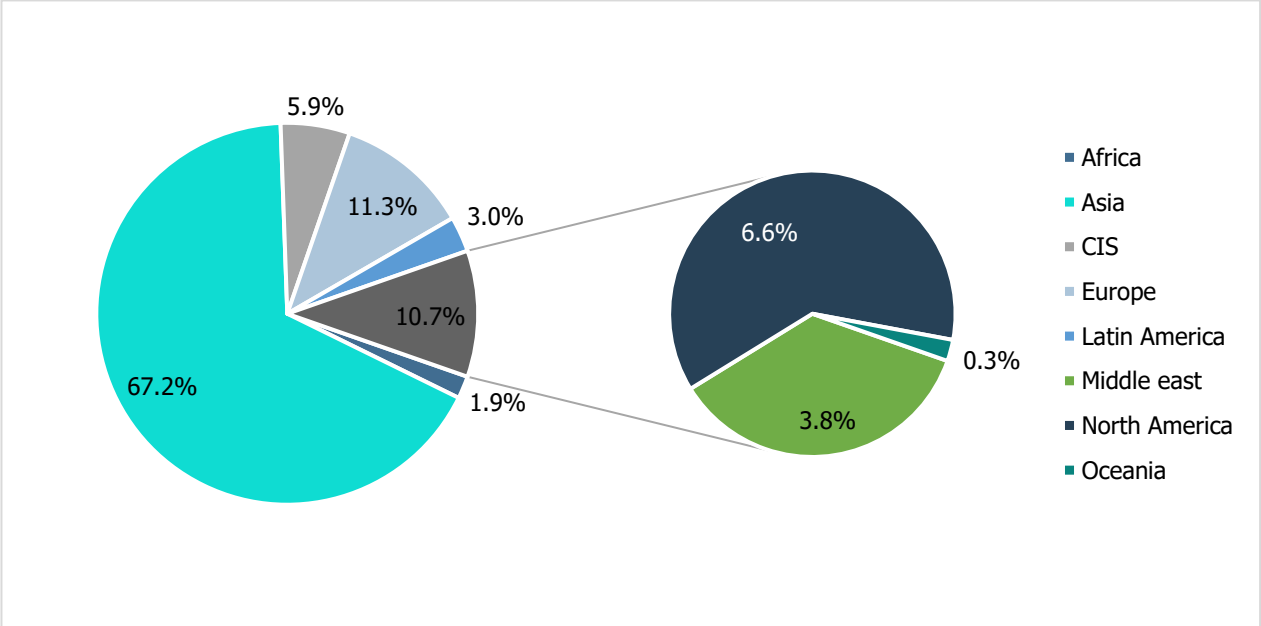
Chart 12: Global Per Capita Consumption (in kg)



Source: World Steel Association

The global steel production capacity was 2,472.1 million metric tonnes (MMT) in 2024, with Asia having the largest share of 67%. China dominates the steelmaking capacity, production and consumption. It has the highest steel production capacity in the world followed by India, Japan, and Korea. European Union, North America, CIS, Latin America, and Middle east also have large share in global steel production capacity.

Chart 13: Region-wise Global Capacity in CY24



Source: Organisation for Economic Co-operation and Development (OECD)

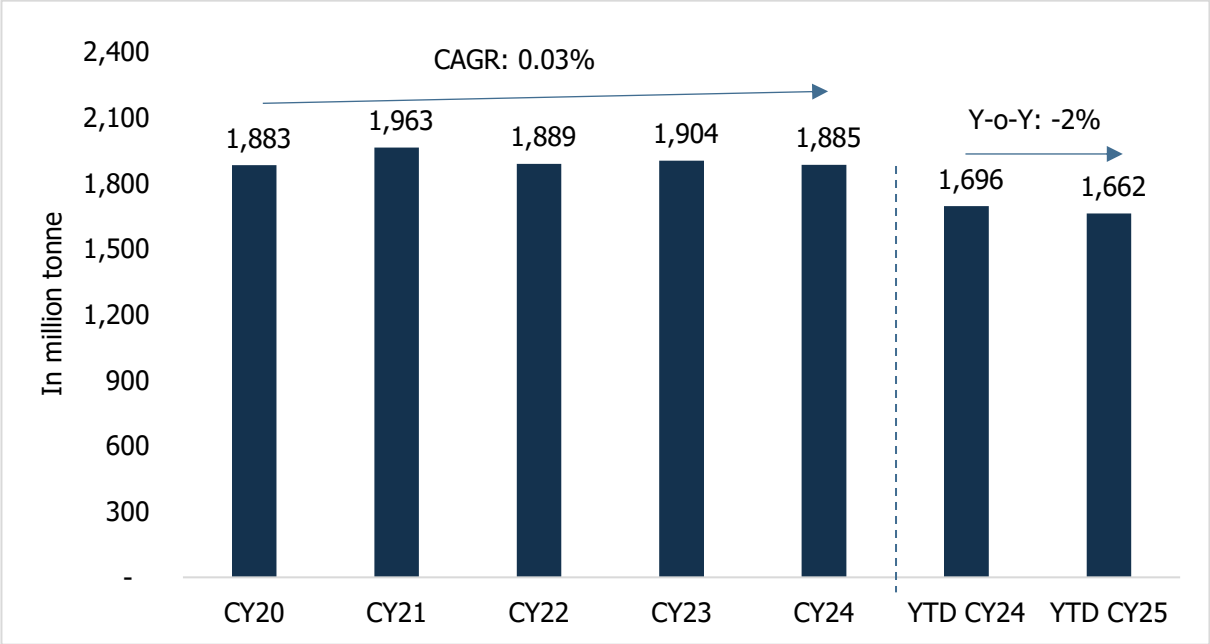
2.1.1 Global Steel Production

In YTD CY25 (Jan-Nov 2025), world crude steel output dropped by 2% from the previous corresponding period of CY24. This latest decrease follows the trend of declining output in CY24, where it dropped by 1%, to 1,885 million tonnes (MT). The decrease was caused by a weakening global economy, increasing interest rates, and continued geopolitical tensions. China's persisting economic slowdown, compelled by softer steel demand in the real estate sector and hold-ups in infrastructure projects—also dragged extensively on world output.

Global crude steel output experienced a brief rebound in CY23, rising by 0.8% compared to the previous year. That was after a steep 4% decline in CY22, during which time output declined from 1,963 MT in CY21. That decline was powered by China's slowdown, US and European monetary tightening, through-the-roof input prices due to inflation, and general supply chain disruptions resulting from the Russia-Ukraine war.

Between CY20 and CY24, world crude steel production stood almost stagnant. Even though nations such as India, Germany, Turkey, and Brazil raised their production during these years, major players like China, Japan, the US, South Korea, and Russia experienced downward trends. Coupled with the pressure, increased steel imports in countries such as India and decreasing world exports increased competition, further restricting production expansion.

Chart 14: Global Crude Steel Production

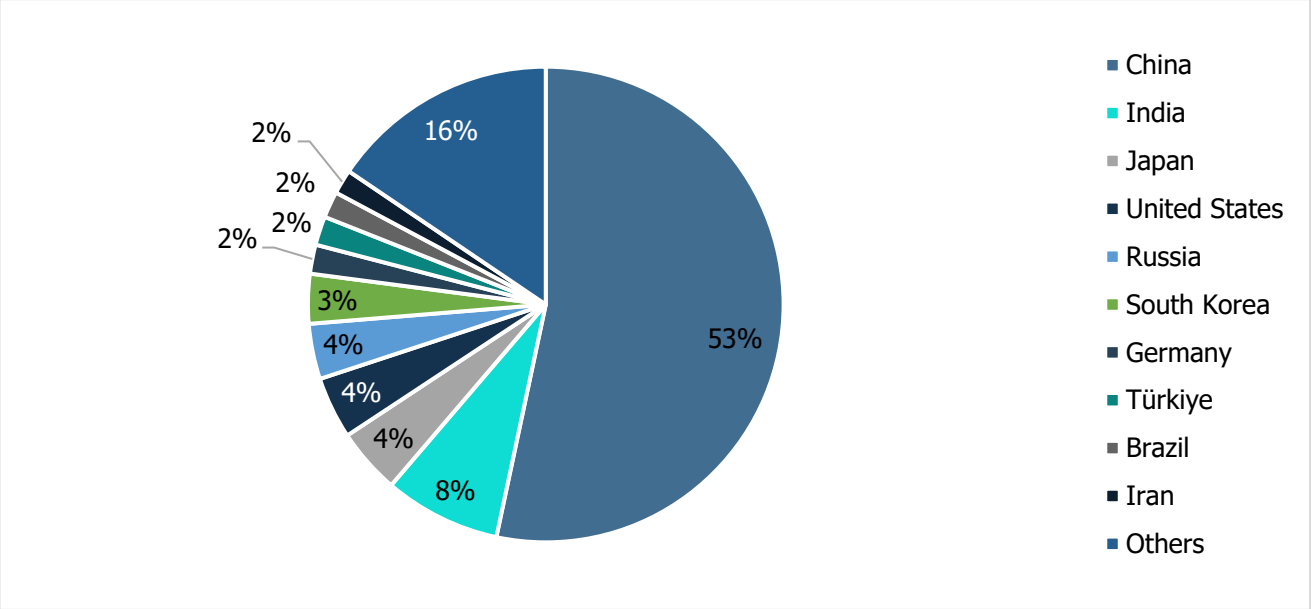


Source: World Steel Association
Note: YTD CY24 refers to the period from January 2024 - November 2024
YTD CY25 refers to the period from January 2025 - November 2025

The total crude steel production was 1,885 MT in CY24 out of which China continued to be the largest crude steel producer, accounting for 53% share. However, Chinese production declined by 1.7% y-o-y to 1,005 MT in CY24 as compared to 1,023 MT in the previous year, due to lockdowns and restrictions enforced in the country due to the outbreak of Covid-19 and slowdown of its real estate market. China is also cutting down their production due to environmental concerns.

India was the second largest producer of crude steel in CY24 with 8% share. This was followed by Japan, USA, and Russia each accounting for ~4% share each in the total production during CY24.

Chart 15: Crude Steel Production Geographical Region in CY24- 1,885 MT



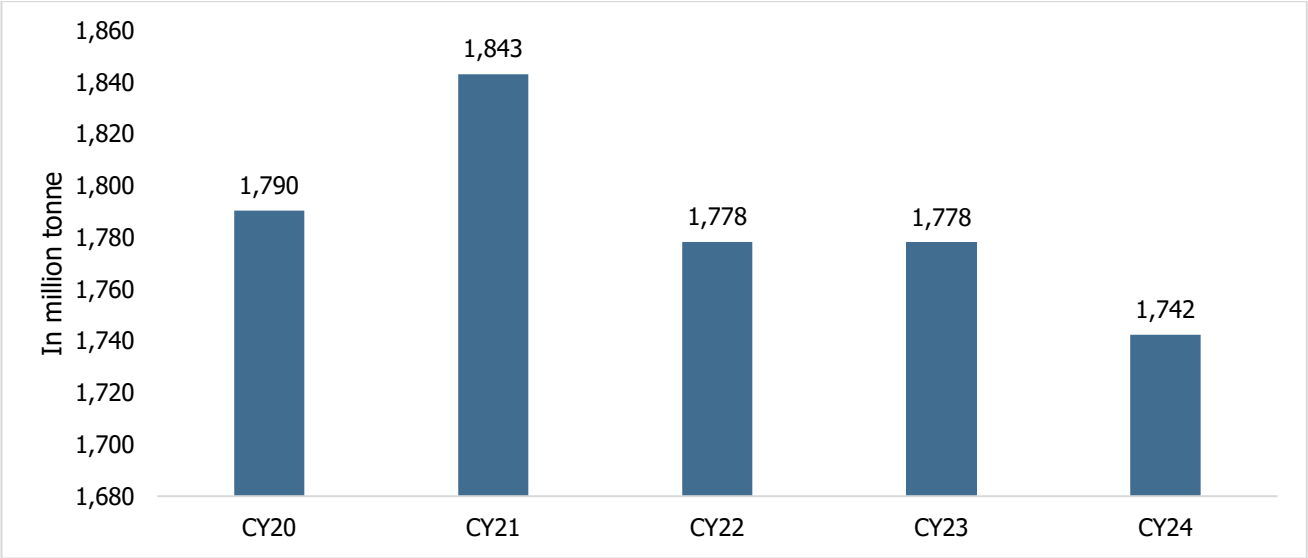
Source: World Steel Association

2.1.2 Global Steel Consumption

Steel is used in industries like energy, construction, automotive, transportation, infrastructure, packaging, and machinery. In CY24, global finished steel consumption declined by 2% year-on-year to 1,742 million tonnes (MMT), reflecting ongoing macroeconomic uncertainties and weak demand across key regions such as the European Union, the United States, and China. In contrast, India demonstrated resilience, with robust finished steel consumption driven by strong infrastructure investments and government policy support. Demand in India remained healthy, supported by key sectors like automobiles, consumer durables, capital goods, and real estate.

In CY23, global finished steel consumption declined by 0.01% year-on-year to 1,778 million tonnes (MMT). The global decline in steel demand was more pronounced in CY22, when finished steel consumption dropped by 3.5% year-on-year. This was due to a confluence of negative factors, including a slowdown in China, monetary tightening in the U.S. and Europe, inflation-induced cost escalations, and supply chain disruptions resulting from the Russia-Ukraine war. In China, steel consumption was further dampened by COVID-related lockdowns, environmental regulations, and a national push to cut carbon emissions. However, stimulus from the Chinese government has since been aimed at reviving demand, particularly through support to the construction and real estate sectors.

Chart 16: Global Steel Demand



Source: World Steel Association

2.1.3 Trend in Global Steel Prices

International steel prices marginally rose by 2.7% q-o-q for the quarter ending September 2025. Asian steel prices witnessed a slight q-o-q increase in the September 2025 quarter, supported by marginal restocking and improved sentiment in select export markets. However, the recovery remained limited as construction and real-estate demand stayed subdued, particularly in China. The uptrend was primarily cost-driven, with higher raw material prices offering temporary support to steelmakers' margins. Export-focused producers in Japan and South Korea continued to face pressure from muted domestic demand and intensified regional competition. This was preceded by a decline in June 2025 quarter weighed down by weakening demand across key markets.

As of March 2025, international steel prices stood at USD 506 per tonne, marking a decrease of 4.4% q-o-q and 14.1% y-o-y. This price decline reflects a continued weak demand and subdued economic activity in global steel-consuming hubs, with China contributing to increased global supply amidst its domestic slowdown.

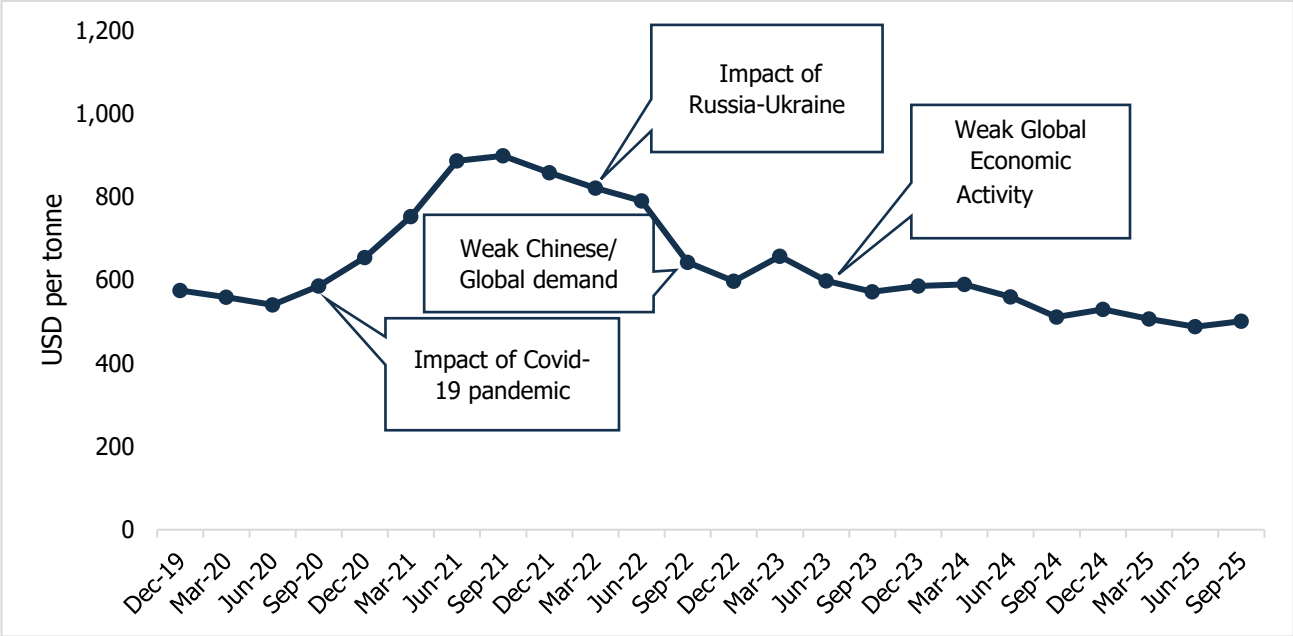
Steel prices increased by 3.6% q-o-q for the quarter ended December 2024, following an 8.6% drop in prices for the quarter ended September 2024. In the quarter ended June 2024, prices had decreased by 5.1% q-o-q to USD 560 per tonne due to China's increased supply in the global market and weak domestic demand. Prices rose slightly by 0.7% to USD 589 per tonne for the quarter ended March 2024, driven by a minor recovery in global steel demand.

During FY24, global steel prices had fallen by 11% y-o-y, standing at USD 572 per tonne in the quarter ended September 2023. The weak demand from China, which accounts for half of the world's steel production and consumption, particularly due to a decline in real estate investments, led to a surge in China's steel exports, thereby exerting downward pressure on international steel prices.

In FY23, global steel prices averaged around USD 672 per tonne, marking a 22.4% decline compared to the previous year. This price decline followed a period of significant price rises, particularly after December 2020, driven by disruptions in supply chains caused by the COVID-19 pandemic and rising raw material costs. The Russia-Ukraine war, which started in February 2022, further fuelled this price escalation. However, from June 2022, prices started to gradually decrease, falling to USD 597 per tonne in December 2022, primarily due to weak demand from China, caused by lockdowns, COVID-19-related restrictions, and sluggish global demand. A drop in iron ore and coking coal prices also contributed to this decline.

From December 2022 onward, prices began to rise once again, supported by the relaxation of COVID-19 restrictions in China and expectations of demand recovery. By March 2023, steel prices had increased by 10.1% quarter-on-quarter, reaching USD 657 per tonne.

Chart 17: Trend in Global Steel Prices



Source: CMIE

3 Indian Steel Industry

3.1 Overview of the Indian Steel Industry

Steel is a vital and versatile material that greatly enhances our lives. As a fundamental component in various manufacturing processes, it serves as the cornerstone for national economic growth. The steel sector is frequently regarded as a barometer of economic advancement due to its essential contributions to infrastructure and industrial expansion within a nation.

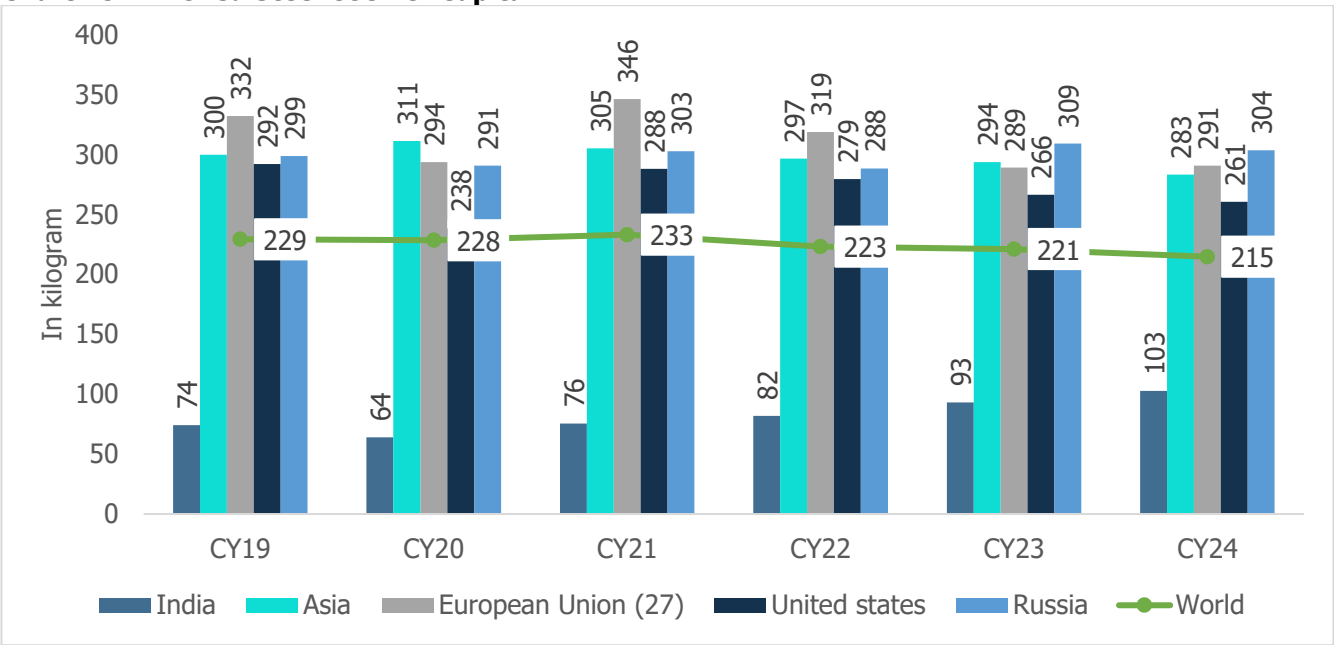
Additionally, initiatives such as joint ventures and 100% foreign direct investment (FDI) have propelled substantial investments into India's steel sector.

Steel industry growth contributes to all aspects of the economy, including GDP, industrial, and infrastructural development. It has an output multiplier effect of 1.4x on GDP with an employment multiplier effect of 6.8x. India's steel production capacity has increased from 142.3 MT in FY20 to 179.5 MT in FY24. There has also been an increase in finished steel consumption from 100.2 MT in FY20 to 150 MT in FY25, indicating strong domestic demand. The Indian steel sector growth over the years has been attributed to the domestic availability of raw materials such as iron ore and cost-effective labour. Additionally, the industry has benefitted from domestic demand in sectors such as construction, consumer durables, capital good, railways, real estate, and automobiles. The vast coastline has enabled exports and imports, making India one of the leading countries in the global steel industry.

Further, the per capita finished steel consumption in India was 102.6 kg in CY24, significantly lower than the world average of 214.7 kg per capita. Aligned with the government's vision of Atmanirbhar Bharat, the National Steel Policy 2017 aims to achieve 300 MT of steel-making capacity by 2030 by enhancing the per capita domestic steel consumption to 160 kg. The National Steel Policy 2017 focuses on boosting India's steel capacity, enhancing production quality, and promoting sustainability and innovation. By supporting infrastructure development and industrial growth, it positions India to become a global steel leader, driving long-term economic progress and self-reliance. As India continues to invest in infrastructure, including railways, roads, and housing, steel consumption is expected to rise, further narrowing the gap between India's current consumption and global levels.

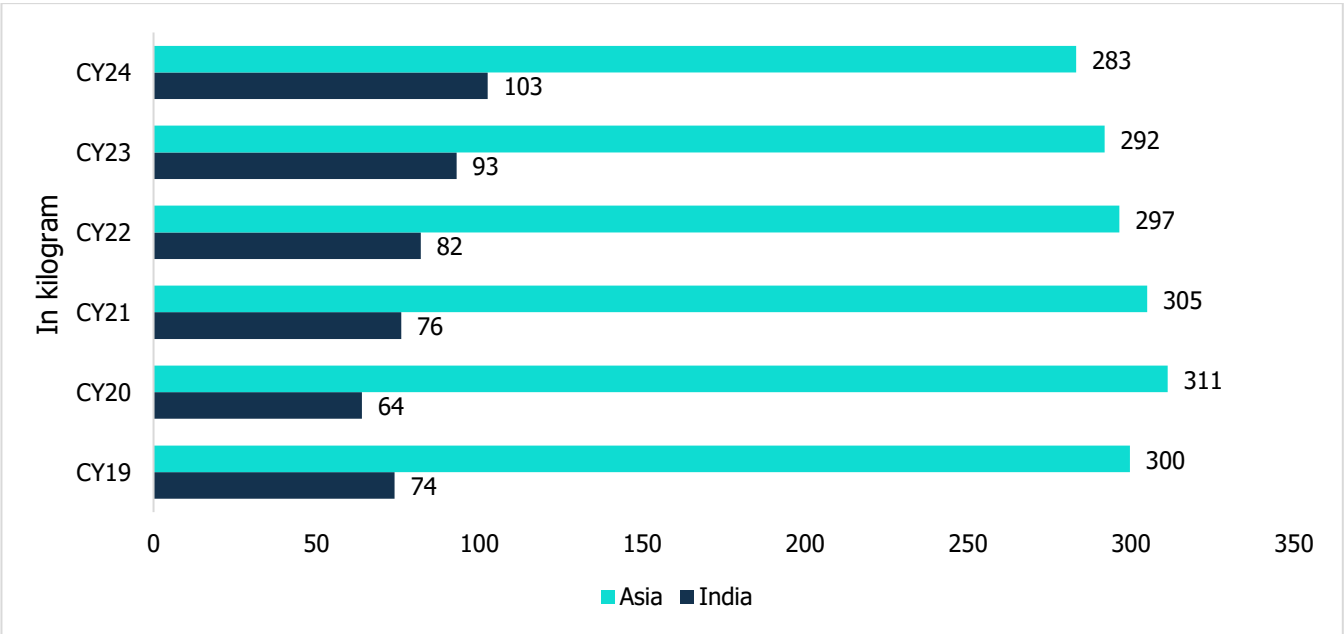
On the global trade front, recent shifts in trade policies, such as the end of preferential trade access to the US for certain countries, create a strategic opportunity for India to capture a larger share of the global steel market. Countries like Japan and South Korea, which had previously benefited from tariff exemptions in the US, will now seek alternative markets for their steel. India, with its growing capacity and competitive advantage in steel production, is well-positioned to absorb some of this redirected supply. This not only provides India with an opportunity to enhance its exports but also strengthens its position in the global steel trade, further supporting its long-term industrial growth and economic development. By tapping into this opportunity, India can increase its global footprint and contribute significantly to its economy's expansion.

Chart 18: Finished Steel Use Per Capita



Source: World Steel Association

Chart 19: Finished Steel Use Per Capita



Source: World Steel Association

3.1.1 Structure of the Indian Steel industry by different types of end products

Crude and Finished Steel:

Crude Steel:

- **Definition**: The basic, unrefined form of steel produced from iron ore.
- **Production process**: Basic Oxygen Process or Electric Arc Furnace.
- **Characteristics**: Contains impurities and is not suitable for direct use.

Finished Steel

- **Definition**: Processed steel that is shaped into final products (e.g., bars, sheets).
- **Production**: Involves rolling, forging, and heat treatment to enhance properties.
- **Characteristics**: Lower impurities, tailored for specific applications in various industries.

Crude steel is an intermediate product; finished steel is ready for use in construction, automotive, and other applications.

Table 4: Production and Consumption (In '000 Tonnes)

Year	Production		Final Consumption
	Crude Steel	Finished Steel	
2019-20	1,09,137	1,02,622	1,00,171
2020-21	1,03,545	96,203	94,891
2021-22	1,20,293	1,13,597	1,05,752
2022-23	1,27,197	1,23,196	1,19,894
2023-24	1,44,297	1,39,151	1,36,290
2024-25	1,51,966	1,46,559	1,52,001

Source: CMIE

India's steel consumption has seen robust growth, expanding at a compound annual growth rate (CAGR) of 8.7% over the last six years. It rose from 1,00,171 thousand tonnes in FY20 to 1,52,001 thousand tonnes in FY25. This increase in demand has been closely supported by the production of crude steel, which also grew steadily at a CAGR of 6.8% during the same period. This growth reflects the expanding infrastructure, construction, and manufacturing sectors, driving both production and consumption of steel in the country. Additionally, final consumption rose by 11.5% y-o-y, reaching 1,52,001 thousand tonnes by FY25.

3.1.1.1 Demand Segmentation by Product

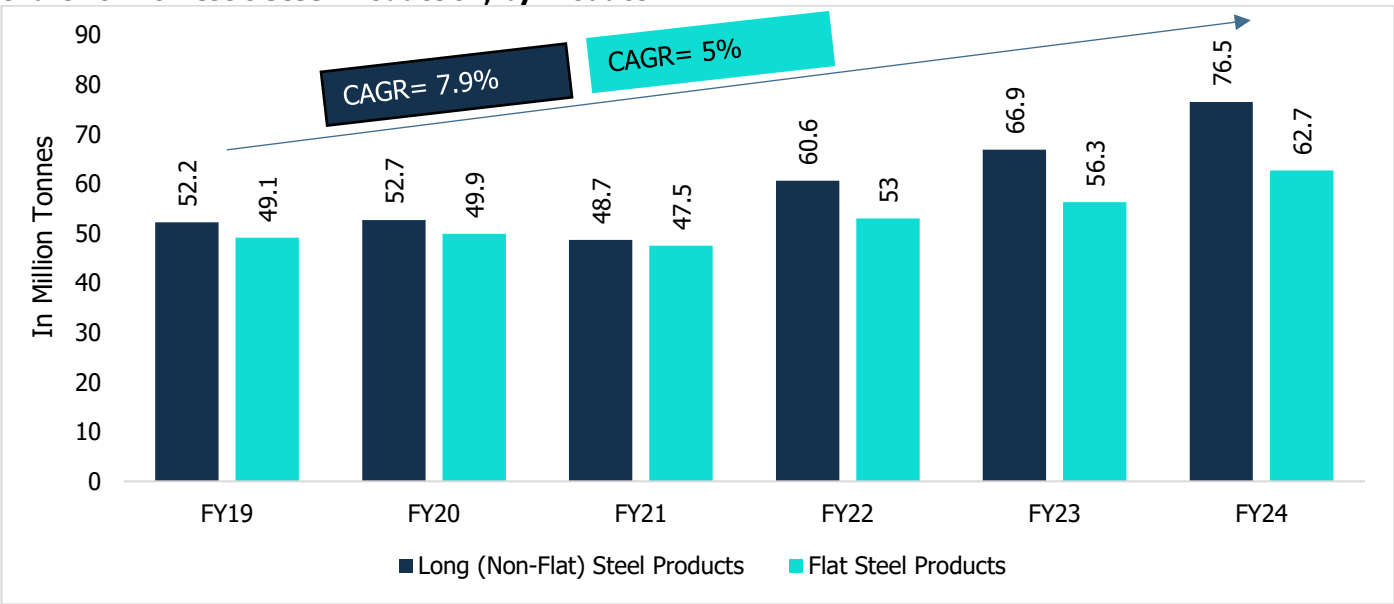
By product, steel can be divided into long (non-flat) and flat products, both of which have either a hot-rolled, cold-formed, or coated surface.

- **Long (Non-Flat) Steel products:** Long steel products, which are widely used in construction, mechanical engineering, and energy industries, are supplied in straight lengths or cut to specific sizes, except for wire rods, which are provided in coils. These products are made from hot-rolled or forged blooms, billets, or pencil ingots, with key types including bars, rods, TMT bars, wire rods, angles, shapes, sections, rails, and bright bars. Known for their strength and stability, they are essential for infrastructure and industrial applications worldwide. The demand for these products is primarily driven by ongoing construction and infrastructure development, with government initiatives like housing projects and large-scale infrastructure plans playing a significant role. Long steel products are crucial for building durable structures, such as tall buildings, bridges, and industrial plants, while urbanisation and the increasing use of sustainable materials in construction further boost their demand.

- **Flat Steel products:** Flat steel products are made by processing slabs or thin slabs in rolling mills using flat rolls, offering versatility across industries such as automotive, heavy machinery, construction, packaging, and appliances. These products are available in various forms, including Hot Rolled (HR), Cold Rolled (CR), and coated options, and include Galvanised Plain/Galvanised Corrugated sheets, HR coils/sheets, CR sheets/coils, pipes, electrical sheets, tin plates, and plates. Known for their durability and reliability, flat steel products are crucial in applications requiring structural support, corrosion resistance, and electrical conductivity. The demand for these products is rising due to increased consumer spending, particularly in sectors like automotive, packaging, and industrial manufacturing. As construction trends shift towards metal-intensive residential projects, there is also a growing need for flat steel products in applications like roofing and cladding. The demand for these products is expected to continue growing, driven by the need for sustainable, durable materials across multiple industries.

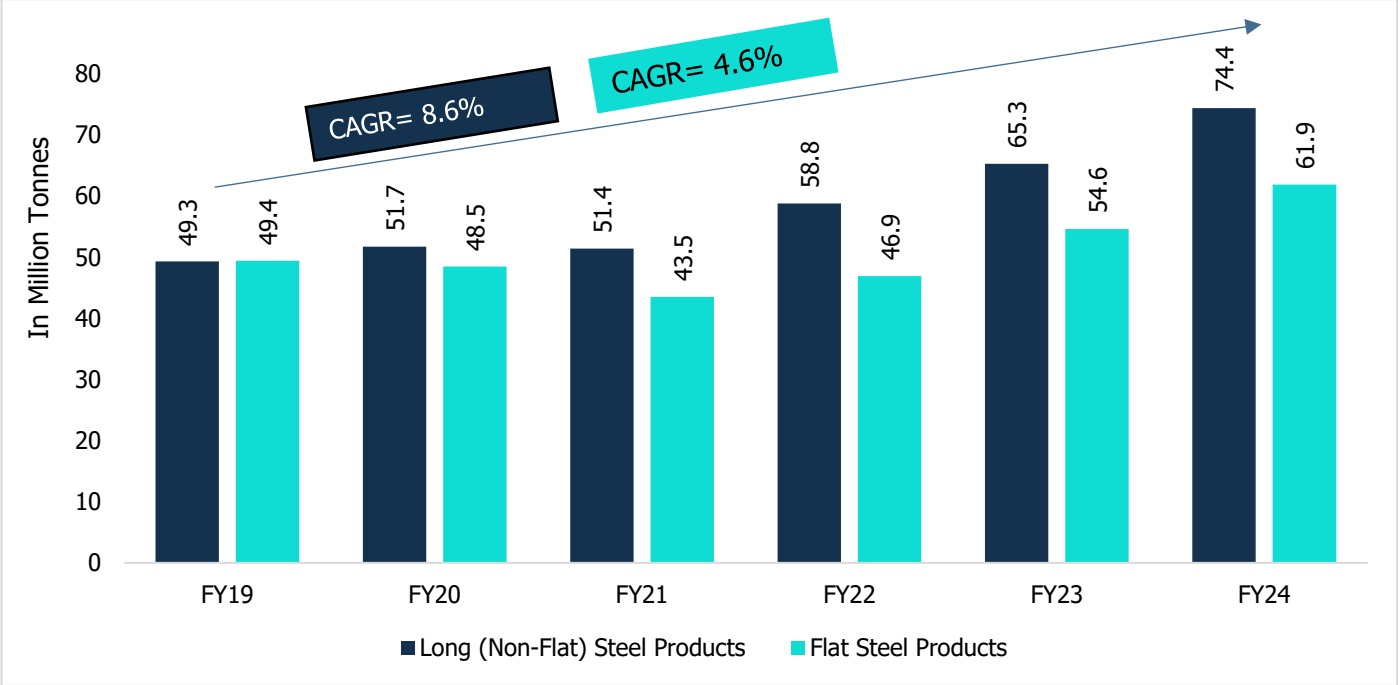
Long (Non-Flat) Steel Products holds a marginally higher share in total finished steel production than Flat Steel Products for the period from FY19 to FY23. As of FY24, Long (Non-Flat) Steel product holds 55% (76.5 million tonnes) share in total finished steel production, followed by Flat Steel product holding 45% (62.7 million tonnes). The production of Long (Non-Flat) Steel products increased from 52.2 million tonnes in FY19 to 76.5 million tonnes in FY24, while that for Flat Steel products increased from 49.1 million tonnes in FY19 to 62.7 million tonnes in FY24. The growing production for Long Steel products vis-à-vis Flat Steel products can be attributed to the growing demand from construction and infrastructure sector in India.

Chart 20: Domestic Steel Production, by Product



Source: Joint Plant Committee

Chart 21: Domestic Steel Consumption, by Product



Source: Joint Plant Committee

The production of both Long (Non-Flat) Steel Products and Flat Steel Products experienced consistent growth, registering a Compound Annual Growth Rate (CAGR) of 9.8% and 5.9%, respectively, from FY20 to FY24. This robust growth can be attributed to factors such as increased infrastructure development, urbanisation, and strong demand from sectors like construction and automotive.

Similar trend is seen in the consumption of both Long (Non-Flat) Steel Products and Flat Steel Products experienced consistent growth, registering a Compound Annual Growth Rate (CAGR) of 9.5% and 6.3% respectively, from FY20 to FY24. However, the growth is expected to moderate, primarily due to market saturation, slowing demand, and global economic uncertainties, which may reduce the pace of expansion in key sectors such as construction and manufacturing.

3.1.1.2 Demand Segmentation by Composition

Steel production, by composition, can be divided into Non-Alloy, Alloy, and Stainless-Steel products.

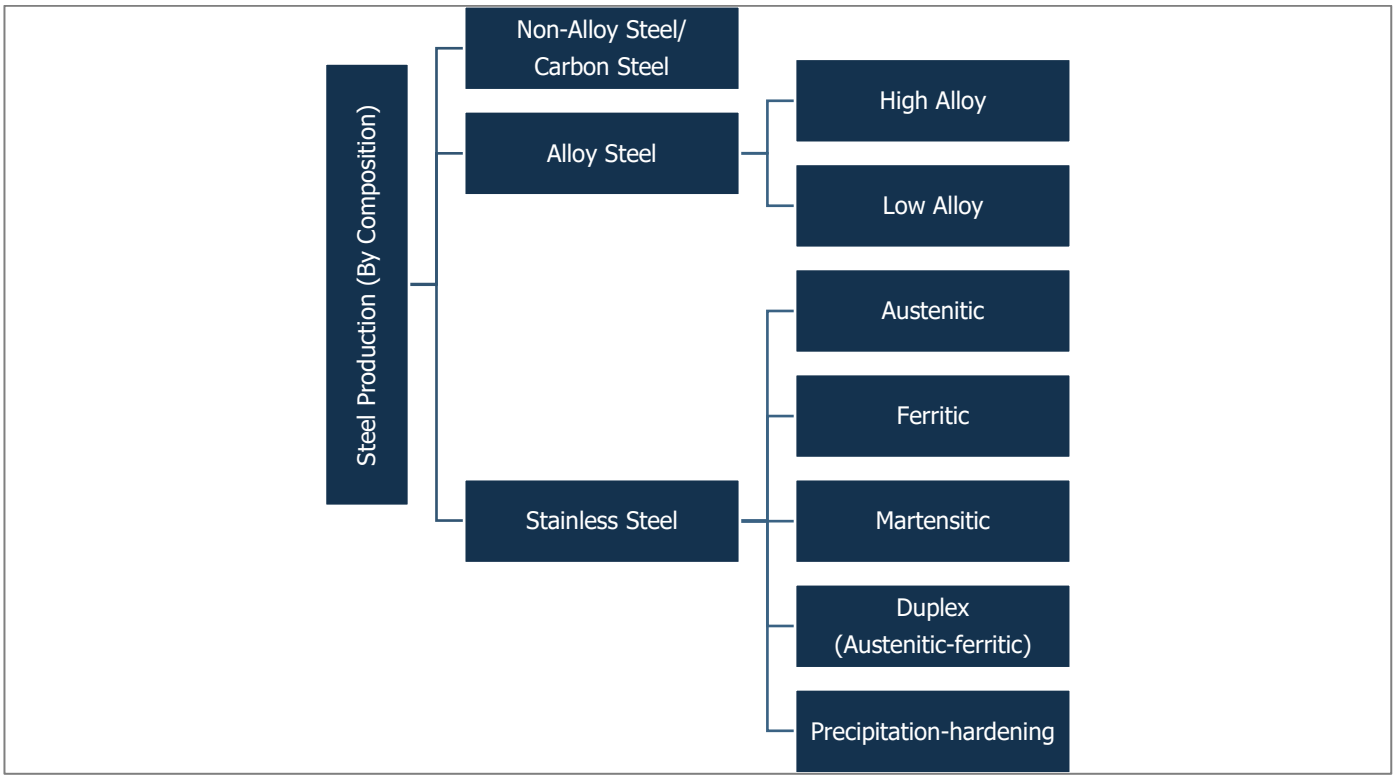
- **Non-Alloy Steel/ Carbon Steel:** Non-alloy steel does not contain specified proportions of alloying elements beyond what is found in commercially produced steel. Devoid of additional elements beyond iron and carbon, has a higher carbon content compared to alloy steel. This results in increased hardness but also brittleness. It finds use in applications where strength and hardness are essential, without requiring additional elements like corrosion resistance. It is commonly utilised in automotive components such as axles and drive shafts, as well as construction materials like rebar and structural beams.

- **Alloy Steel:** Alloy steel is produced by combining carbon with specific proportions of alloying elements like manganese, silicon, nickel, lead, copper, chromium, tungsten, molybdenum, niobium, and vanadium to alter its physical, mechanical, metallurgical, and electrical properties. This blend of metals enhances strength, corrosion resistance, wear resistance, and heat resistance beyond what each component could achieve alone. It is primarily used in applications where specific mechanical properties are needed. By percentage of alloy, it is categorised into High Alloy and Low Alloy Steel.

- **High Alloy Steel** contains higher percentage of alloying elements and can be expensive to manufacture and difficult to process. Due to their greater hardness, toughness, and corrosion resistance, they are used in automotive applications, chemical processing, and power-generating equipment.

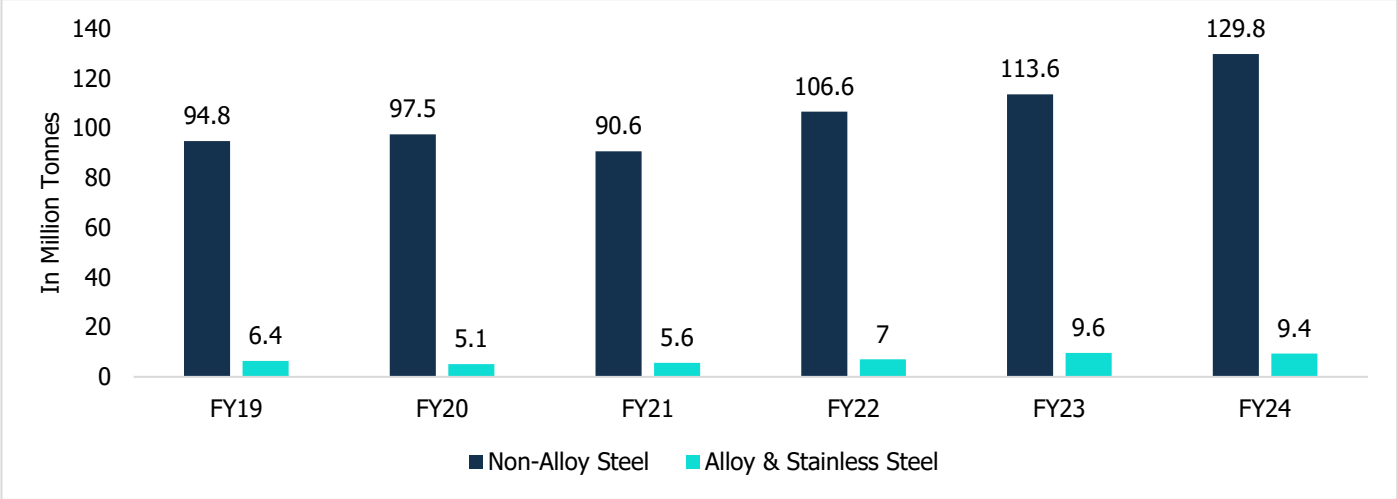
- **Low-Alloy Steel** contain low percentage, usually 1 to 5 per cent, of alloying elements and are cost cost-effective to produce. They are used in military vehicles, construction equipment, ships, pipelines, pressure vessel oil drilling platforms, and in structural components.

- **Stainless Steel:** Stainless steel is a variant of alloy steel primarily consisting of chromium (typically over 10.5%) with optional additions of nickel, molybdenum, or titanium. It is resistant to staining and corrosion, retains strength even in high-temperature environments, and can be easily moulded into varying shapes. Stainless Steel can be classified into five different types: Austenitic, Ferritic, Martensitic, Duplex (Austenitic-ferritic), or Precipitation-hardening. Because of its strength, flexibility, and resistance to corrosion, it is widely used in Utensils, Architecture, Industrial applications viz automotive & food processing equipment as well as medical & health equipment.



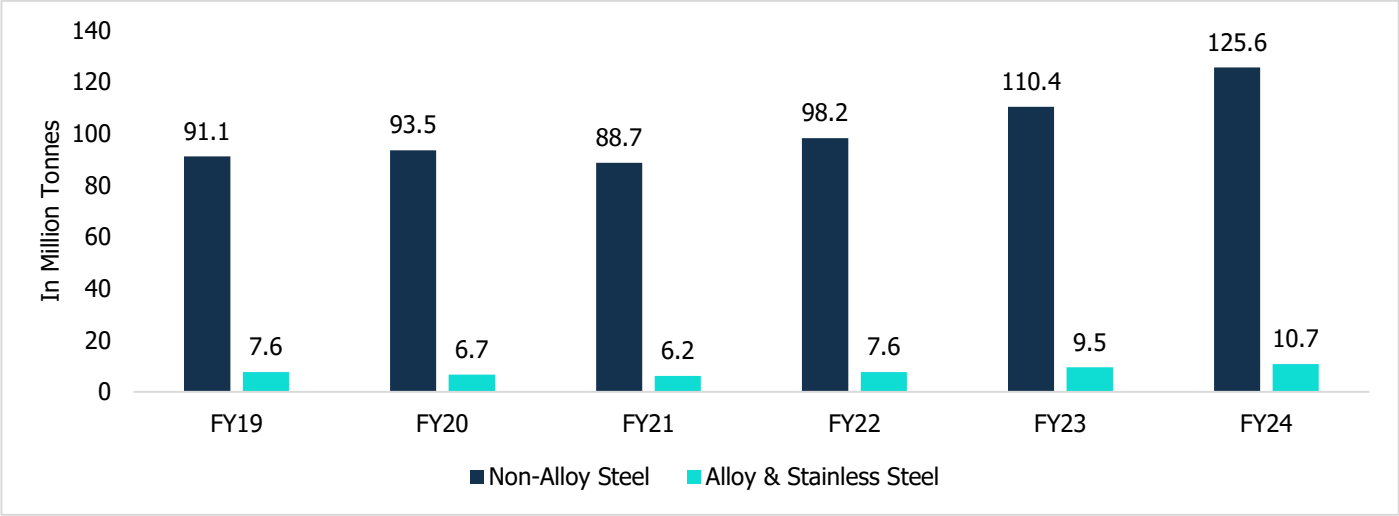
Non-Alloy/Carbon Steel consists of more than 85% of finished steel production, followed by Alloy & Stainless Steel for the time from FY19 to FY23. As of FY24, Non-Alloy Steel holds a share of 93.2% (130 million tonnes) followed by Stainless Steel and Alloy Steel holding share of 6.8% (9 million tonnes).

Chart 22: Domestic Steel Production, by Composition



Source: Joint Plant Committee

Chart 23: Domestic Steel Consumption, by Composition



Source: Joint Plant Committee

The production of Non-Alloy Steel and Alloy & Stainless Steel experienced consistent growth, registering a Compound Annual Growth Rate (CAGR) of 7.4% and 16.5%, respectively, from FY20 to FY24 due to rising infrastructure investments, a manufacturing resurgence, and rapid urbanisation. Technological advancements and government initiatives also boosted demand for these steel products. Additionally, increasing consumer demand for durable goods and sustainability considerations further supported this growth. Similar trend is seen in the consumption of both Non-Alloy Steel and Alloy & Stainless-Steel products experienced consistent growth, registering a Compound Annual Growth Rate (CAGR) of 7.7% and 12.4% respectively, from FY20 to FY24.

However, the growth is expected to moderate, primarily due to market saturation, slowing demand, and global economic uncertainties, which may reduce the pace of expansion in key sectors such as construction and manufacturing.

3.1.1.3 Demand Segmentation- Consumption by end user Industries

Table 5: Consumption by end user Industries (In Million Tons)

Types	FY19	FY20	FY21	FY22	FY23	FY24
Oil & Gas	**5.4**	**5.6**	**5.4**	**6.1**	**7.0**	**8.0**
Infrastructure & Construction	**67.4**	**68.1**	**64.0**	**71.0**	**80.1**	**90.7**
-Real Estate	28.7	28.4	26.2	28.8	31.8	35.7
-Roads	15.4	15.2	14.1	15.3	17.0	18.8
-Water Infrastructure	6.2	6.4	6.2	6.9	7.9	9.1
-Railways	4.4	4.7	4.9	5.7	6.9	8.1
-Airports	3.5	3.8	3.8	4.2	4.9	5.8
-Others	9.1	9.3	8.9	10.1	11.5	13.2
Power	**7.0**	**7.3**	**7.1**	**8.0**	**9.3**	**10.8**
Solar	1.1	1.2	1.2	1.3	1.6	1.9
Automotive	**9.1**	**9.2**	**8.6**	**9.4**	**10.7**	**11.9**
Others	**9.9**	**10.1**	**9.8**	**11.1**	**12.9**	**14.8**
Total	**98.71**	**100.17**	**94.89**	**105.75**	**119.89**	**136.29**

Source: Joint Plant Committee, MAIA Research

Steel is utilized in multiple forms across various industries for a wide range of applications. Between FY20 and FY24, the consumption of steel in the Power and Oil & Gas sector witnessed notable growth, registering a Compound Annual Growth Rate (CAGR) of 10.4% and 12.9%, respectively. Likewise, the Infrastructure & Construction sector and the Automotive sector saw growth rates of 7.4% and 6.8% CAGR, respectively, during this period.

3.1.1.4 Demand Segmentation- Consumption by region

Table 6: Consumption by region (In Million Tons)

Types	FY19	FY20	FY21	FY22	FY23	FY24
North India	41.7	42.2	39.9	44.4	50.3	57.0
West India	34.8	35.4	33.6	37.6	42.7	48.4
East India	4.8	5.1	4.8	5.5	6.3	7.2
South India	17.3	17.5	16.5	18.3	20.7	23.7
Total	**98.71**	**100.17**	**94.89**	**105.75**	**119.89**	**136.29**

Source: Joint Plant Committee, MAIA Research

In FY24, North and West India together contributed to over 77% of the total steel consumption in the country. This dominance can be attributed to the concentration of key industries such as construction, infrastructure development, and manufacturing in these regions, alongside higher urbanisation rates.

3.2 India Steel Pricing Trend & Price trend for Raw Materials and Finished Steel

3.2.1.1 Trend in Raw Material Prices

Iron ore

Iron ore prices showed a 2.1% y-o-y increase and 4.5% q-o-q increase in the quarter ending September 2025 preceded by a sharp decline in the quarter ending June 2025, falling 12.5% y-o-y and 5.8% q-o-q, to settle at USD 99 per tonne. This decline was driven by increase in global supply especially from major exporters like Australia and Brazil and softening of demand from China during the seasonal off-season and structural slowdown in steel output. Oversupply met softer buying, particularly amid reduced construction activity and production cuts by Chinese mills, pressuring prices downward.

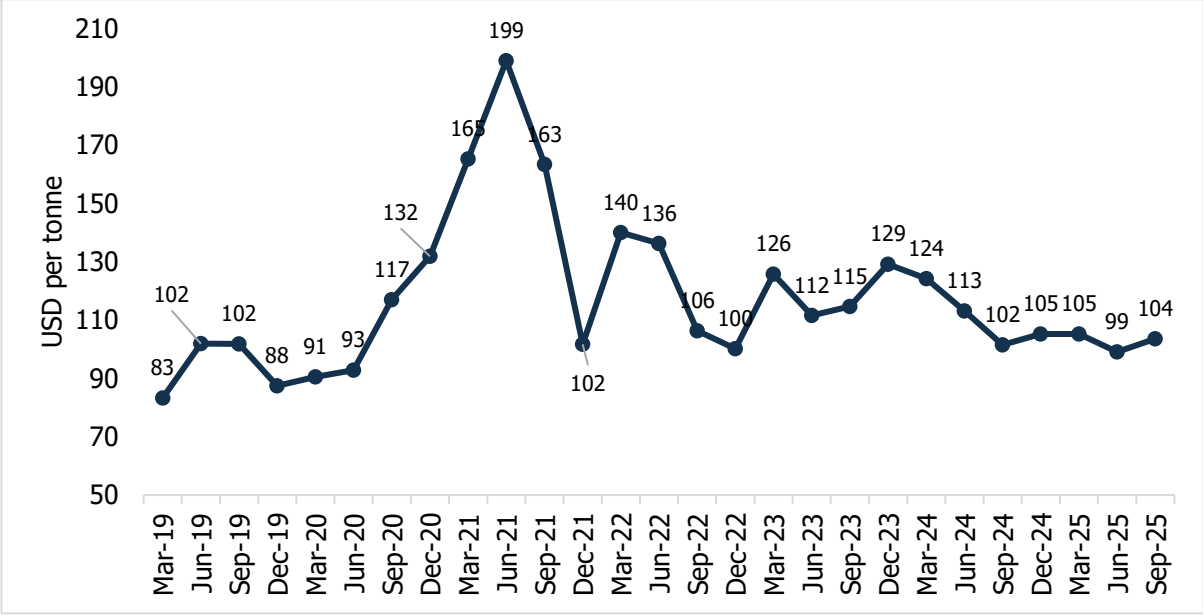
Additionally, a weaker US dollar further dented producer profits. These combined factors led to a significant drop in benchmark iron-ore pricing by mid-2025.

Prices declined marginally by 0.1% for the quarter ended March 2025. This was after global iron ore prices inched up slightly by 3.7% quarter-on-quarter (q-o-q) to USD 105 per tonne, for the quarter ended December 2024. This came after a steady fall for much of the year, with prices dropping to USD 102 per tonne during Q3 2024. The drop was primarily fuelled by an economic downturn in China then the world's biggest iron ore consumer and oversupply from leading global producers, including Australia, which holds the largest iron ore reserves globally.

As of the end of CY23 (Q4), iron ore prices were at USD 129 per tonne. Prices had increased by 3% q-o-q and 9% y-o-y in the last quarter (Q3 2023), driven by indications of rebounding demand in China. This followed a significant decline in Q2 2023, when prices fell 11.2% q-o-q and 18.7% y-o-y to USD 112 per tonne.

Considering the crucial position iron ore occupies in steel production, such price volatility has had direct implications on world steel prices emphasizing the raw material's significance in the overall supply chain dynamics of the steel sector.

Chart 24: Trend in International Iron Ore Prices



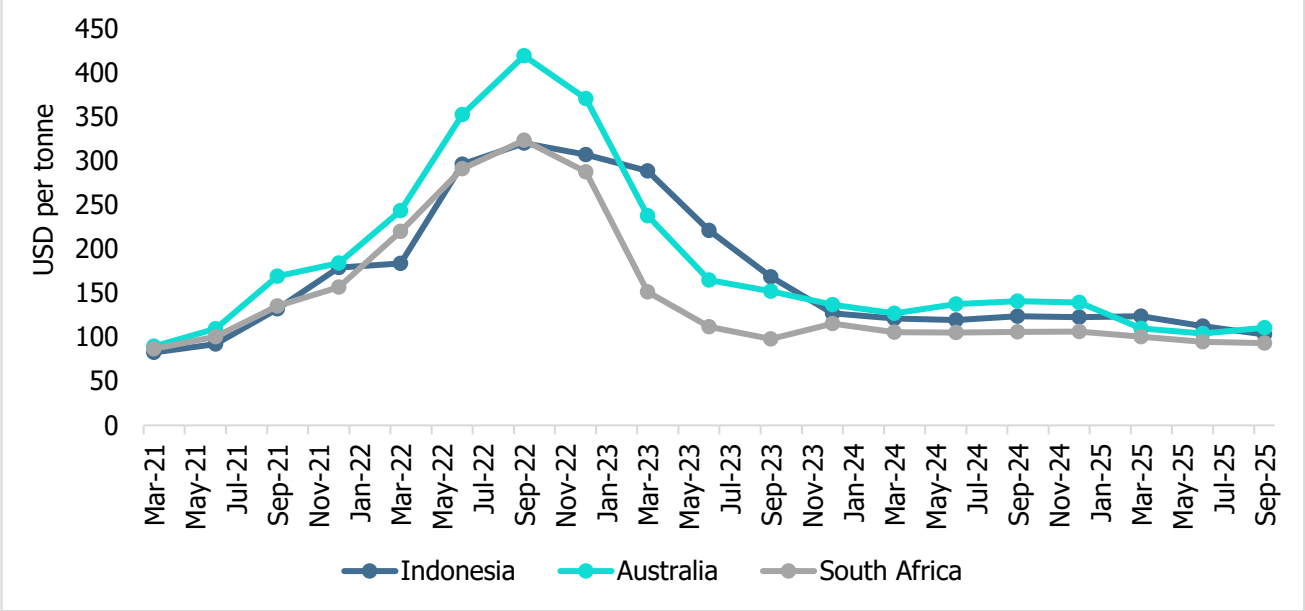
Source: CMIE

Coking Coal

As of September 2025, international coal prices stood at USD 103 per tonne for Indonesia, USD 111 per tonne for Australia, and USD 93 per tonne for South Africa. All prices have seen a downward trend except in Australia. This was due to a persistent supply surplus amid softening demand. Global coal consumption is now plateauing, with demand from major markets like China and India easing as renewables and hydropower absorb a larger share of energy generation. At the same time, producers maintained high output, bolstering inventories and easing price pressures. This convergence of steady supply and wavering import appetite has driven prices down across key exporting markets.

During the quarter ended March 2025, international coal prices eased from previous highs, averaging USD 123.8 per tonne for Indonesia, USD 109.8 per tonne for Australia, and USD 100.6 per tonne for South Africa. Although still higher than pre-COVID levels, prices were lower than in FY23, reflecting a softening trend driven by improved global supply. This decline became evident by Q4 CY23, when coal prices recorded steep year-on-year drops 59% for Indonesian, 63% for South African, and 40% for Australian coal largely due to increased shipments from South Africa and Colombia that eased tightness in European markets. Despite the correction, sustained demand from China and India is expected to keep prices elevated relative to historical norms in FY24.

Chart 25: Prices of Coal



Source: CMIE

3.2.1.2 Trend in Average Finished Steel Prices

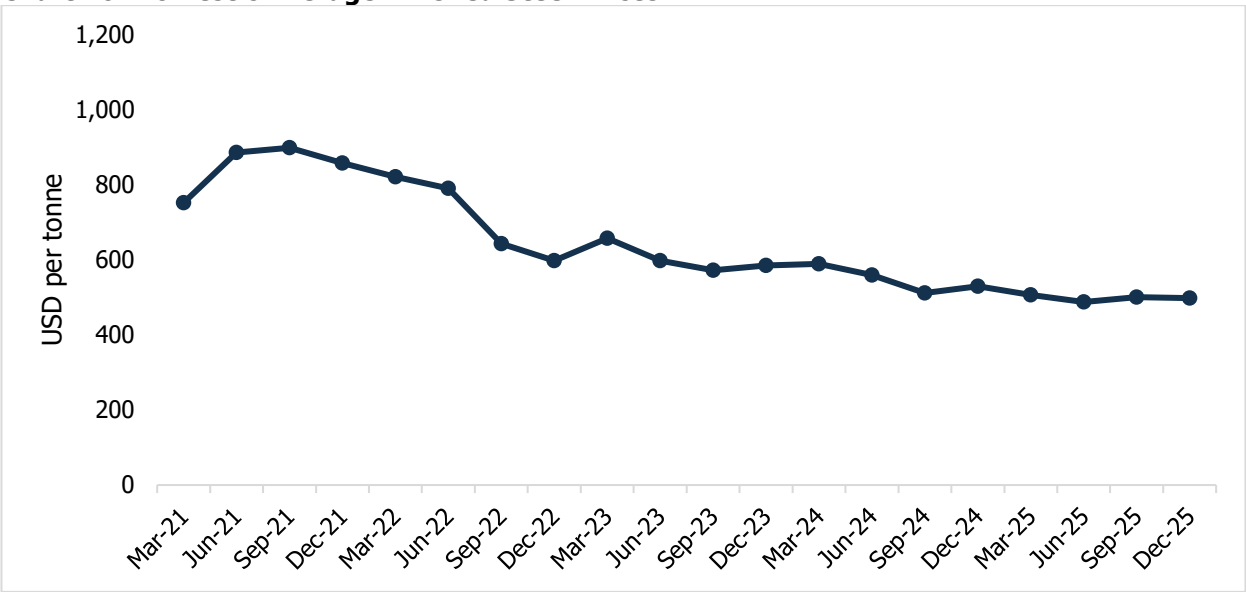
As on quarter ending December 2025, prices continued with a declining trend y-o-y. In the quarter ending June 2025, average domestic finished steel prices rose 4.1% q-o-q to Rs 65,413 per tonne, supported by the 12% temporary safeguard duty on select imports that strengthened domestic pricing power. In comparison, prices in March 2025 stood at Rs 62,811 per tonne, marking a 1% q-o-q decline. This downward trend continued from September 2024, when prices had already dropped by 4.18% q-o-q to Rs. 66,195 per tonne. The sustained decline since the June 2022 peak of Rs. 88,498 per tonne has been driven by several factors, including weak global demand, a fall in international prices, a surge in low-cost imports, and reduced export volumes.

Previously, during March 2024, prices dropped to Rs. 69,051 per tonne from Rs. 71,320 per tonne in December 2023, indicating a brief price surge that fizzled out. During FY24, domestic steel prices continued to flounder in catching the upward movement on account of global and domestic tailwinds.

In September 2023, prices fell to Rs. 70,001 per tonne, a 5% decline since March 2023 and a 6% year-on-year plunge. The price softness during this time was in line with international market trends and mirrored ongoing downward pressure in raw material prices and demand.
The trend started earlier in FY23, when prices declined precipitously from Rs. 88,498 a tonne in June 2022 to Rs. 71,326 a tonne in December 2022. The decline was mostly due to the imposition of export duties (May–Nov 2022) on some finished steel items. The policy action resulted in a drop in exports, a build-up of domestic stocks, and aggregate pressure on pricing. At the same time, iron ore and coking coal prices eased, more pulling down domestic steel prices.

Steel Processing Centres (SPCs) play a crucial role in managing supply chain risks by acting as intermediaries between steel producers and end-users. They ensure timely delivery of steel in the required form and quantity, often adding value through processing and inventory management. This helps stabilize market prices by reducing the impact of fluctuations in steel supply and demand.

Chart 26: Domestic Average Finished Steel Prices



Source: CMIE

3.3 India's position in Global Steel market

India has become a key player in the global steel industry, securing its position as the second-largest steel producer as well as consumer in the world. This ascent is driven by strategic initiatives and a robust focus on domestic demand, particularly in sectors like construction and infrastructure. In recent years, India has consistently increased its steel production, achieving remarkable growth. The combination of proactive industrial policies, a growing economy, and significant investments has created a favourable landscape for the steel sector to flourish.

To strengthen the steel industry, the Indian government has implemented several key reforms, including the Production Linked Incentive (PLI) Scheme for specialty steel and the Domestic Manufactured Iron & Steel Products (DMI&SP) policy. These initiatives aim to enhance competitiveness, reduce reliance on imports, and encourage local manufacturing. India's crude steel capacity could reach 300 million tonnes by FY31, with per capita consumption anticipated to rise, solidifying the steel sector as a crucial contributor to the nation's economic and industrial growth.

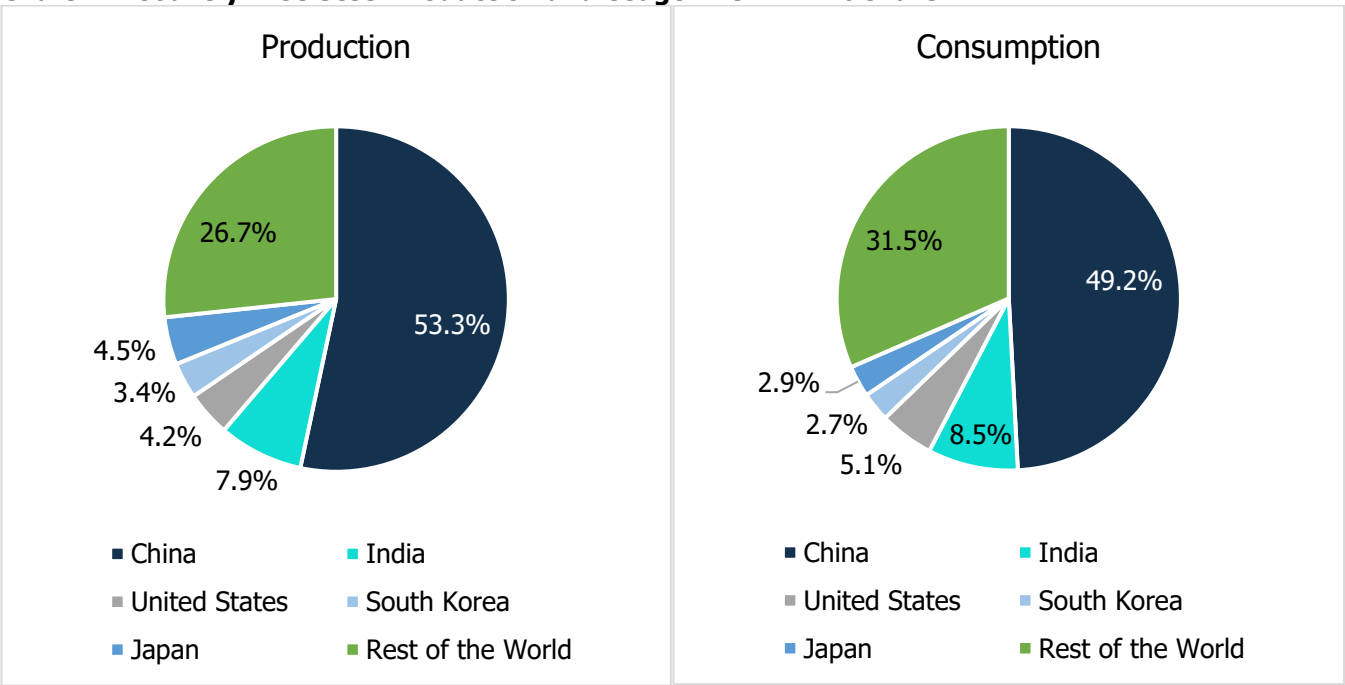
Global crude steel production remained largely stagnant between CY20 and CY24. A brief rebound in CY23 of 0.8% followed a steep 4% fall in CY22, but output declined again by 1% in CY24 to 1,885 MT. This decline was driven by global economic weakness, high interest rates, geopolitical tensions, and especially China's continued slowdown due to weak real estate demand and stalled infrastructure. While countries like India, Germany, Turkey, and Brazil increased production, major producers such as China, Japan, the US, South Korea, and Russia saw declines. Rising steel imports and lower exports intensified global competition, limiting further production growth.

However, India's crude steel production rose at a CAGR of 6.8% over six years, supported by a National Steel Policy. Finished steel production in India also grew at a CAGR of 7.4% to 147 MT in FY25, driven by rising domestic consumption linked to infrastructure investments and a booming automotive sector, particularly electric vehicles.

Conversely, global finished steel consumption fell by 2% in CY24 to 1,742 MT, following a marginal dip in CY23 and a sharper 3.5% decline in CY22. The drop was driven by weak demand in the EU, US, and China amid economic uncertainty, inflation, and geopolitical tensions. China's consumption was further hit by COVID-related lockdowns and environmental policies. In contrast, CY21 saw a strong recovery to 1,843 MT, rebounding from the pandemic lows of CY20. India's consumption, on the other hand, grew at 8.7% CAGR, rising from 100 MT in FY20 to 152 MT in FY25. The

CAGR for per capita steel consumption has increased to 6.8% from CY19-CY24 for India, whereas the global steel per capita consumption saw a marginal decline of CAGR 0.9% during the same period.

Chart 27: Country wise Steel Production and Usage in CY24 - % share



Source: World Steel Association

3.4 India's Finished Steel Export and Import Trends

Table 7: Exports of Finished Steel (In '000 Tonnes)

Particulars	FY19	FY20	FY21	FY22	FY23	FY24
Non-Alloy Steel	5,773	7,589	9,945	12,369	4,484	6,776
Alloy & Stainless Steel	588	766	839	1,125	2,233	710
Total	**6,361**	**8,355**	**10,784**	**13,494**	**6,716**	**7,486**

Source: Joint Plant Committee

In FY23, exports of non-alloy steel saw a significant decline, dropping to 4,484 thousand tonnes from 12,369 thousand tonnes in FY22. This sharp decrease was primarily due to factors such as reduced global demand, supply chain disruptions, and trade restrictions. However, the situation improved in FY24, with exports rebounding to 6,776 thousand tonnes, approaching levels seen before the COVID-19 pandemic. This recovery reflects a resurgence in market demand and a stabilisation of global trade conditions.

Table 8: Imports of Finished Steel (In '000 Tonnes)

Particulars	FY19	FY20	FY21	FY22	FY23	FY24
Non-Alloy Steel	5,946	4,790	3,238	2,913	3,678	6,195
Alloy & Stainless Steel	1,889	1,978	1,515	1,756	2,344	2,125
Total	**7,835**	**6,768**	**4,753**	**4,669**	**6,022**	**8,320**

Source: Joint Plant Committee

In FY24, imports of non-alloy steel experienced substantial growth, reaching 6,195 thousand tonnes and surpassing pre-COVID levels. This increase can be attributed to heightened demand for steel driven by ongoing national infrastructure projects and a rebound in manufacturing activities. Consequently, total finished steel imports rose by

38.2% year-on-year in FY24, totalling 8,320 thousand tonnes. This surge reflects both the recovery of global supply chains and a proactive approach by domestic industries to meet rising demand for construction and manufacturing.

Table 9: Country-wise Exports of Finished Steel (In INR Millions)

Countries	FY20	FY21	FY22	FY23	FY24	FY25	7MFY26
Italy	41,776	57,825	1,18,335	95,796	1,23,255	68,000	45,286
Belgium	31,794	41,089	1,17,505	64,711	66,029	46,388	40,980
Spain	17,845	22,733	44,259	35,764	51,671	32,925	23,340
UAE	44,668	43,760	1,00,142	64,346	49,855	67,138	36,400
USA	22,034	18,677	64,918	81,457	45,689	54,086	33,941
UK	7,892	9,142	31,604	20,248	27,900	23,889	NA
Nepal	36,493	31,234	51,607	31,740	27,590	27,459	12,365
Saudi Arabia	12,036	15,621	19,050	17,007	25,997	26,775	NA
Poland	8,820	11,101	33,885	13,296	23,809	15,899	10,422
Russia	8,122	11,087	18,534	13,007	23,145	11,618	NA

Source: CMIE
Note: 7MFY26 refers to April 2025-October 2025

Exports of finished steel from India experienced significant growth in the financial year 2022, driven by several factors. A primary contributor was the strong global demand, especially from markets rebounding from the pandemic. Competitive pricing made Indian steel appealing in the international arena. Furthermore, government incentives and enhanced production capacities played a crucial role in this expansion, enabling Indian manufacturers to take advantage of rising demand for steel in infrastructure and construction projects globally. In FY25, exports to most major countries declined due to poor foreign demand, increased competition from low-priced Chinese steel—particularly in the Middle East and Vietnam—and reduced exports to key markets like Italy.

Table 10: Country-wise Imports of Finished Steel (In INR Millions)

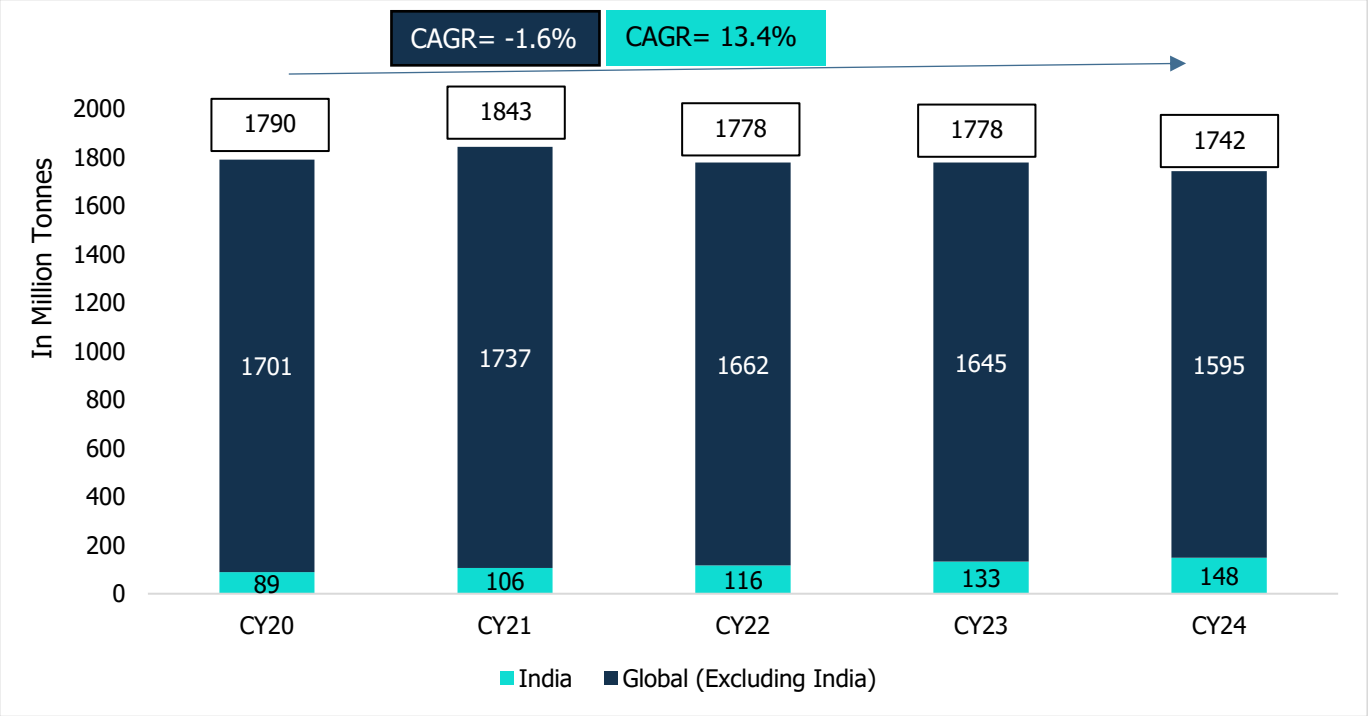
Countries	FY20	FY21	FY22	FY23	FY24	FY25	7MFY26
China	1,11,644	90,372	1,29,191	1,92,602	2,51,741	2,42,731	99,412
South Korea	1,55,778	1,17,478	1,71,398	2,01,984	2,15,287	2,08,379	1,30,043
Japan	77,310	51,319	73,791	1,13,112	1,27,282	1,65,452	83,767
Vietnam	14,774	15,970	15,209	32,180	60,549	57,026	20,799
Hong Kong	3,496	1,577	6,474	12,892	21,979	21,401	6,055
Germany	10,686	10,062	15,246	20,358	19,100	28,294	14,118
Taiwan (Taipei)	10,631	11,454	17,931	20,001	15,235	14,312	8,808
Belgium	12,895	14,890	11,887	13,656	12,647	9,843	7,499
UAE	6,301	4,881	5,539	7,217	12,331	10,604	7,641
Indonesia	42,525	7,871	45,711	35,859	12,040	43,896	NA

Source: CMIE
Note: 7MFY26 refers to April 2025-October 2025

In FY25, India's steel imports remained elevated, rising 14.6% year-on-year, driven by the influx of low-cost flat steel products and special grades that were either unavailable or in short supply domestically. Imports of finished steel from China, South Korea, and Japan accounted for 75% in FY25.

3.5 Steel Demand - Comparison between India and the World

Chart 28: Global and India Steel Consumption (In Million Tonnes)



Source: World Steel Association
Note: The numbers in the box represent the global total

The steel consumption in India has witnessed a double-digit growth for the fourth time consecutively in FY25. The growth is attributed to enhanced activities in the construction sector and the sustained momentum in the real estate and automobile sectors. If we look at the steel usage in countries globally, as of 2024, India holds the 2nd largest steel consumer position, with a share of 8.5% (147.9 million tonnes) after growing at a CAGR of 13.4% in the CY20-24 period. This is followed by Other Asia, United States, and Japan having a share of 5.8% (100.2 million tonnes), 5.1% (89.1 million tonnes), and 2.9% (51.4 million tonnes). China has the largest consumption share of 49.2% (856.6 million tonnes) while countries in the rest of the world combined consume a share of 50.8% (886 million tonnes).

On export front, shipments remained weak during FY25 and FY24 driven by poor foreign demand and increased competition from low-priced Chinese steel and India continued to be a net-importer of steel (with a rise in inbound shipments of around 14.6% y-o-y) in FY25 after being a net exporter for last five consecutive years.

Furthermore, the steel demand will be driven by end-user industries such as construction, real estate, railways, roads, power, auto, capital goods, consumer durables, etc. In addition, government expenditure on infrastructure is expected to augur well for the sector.

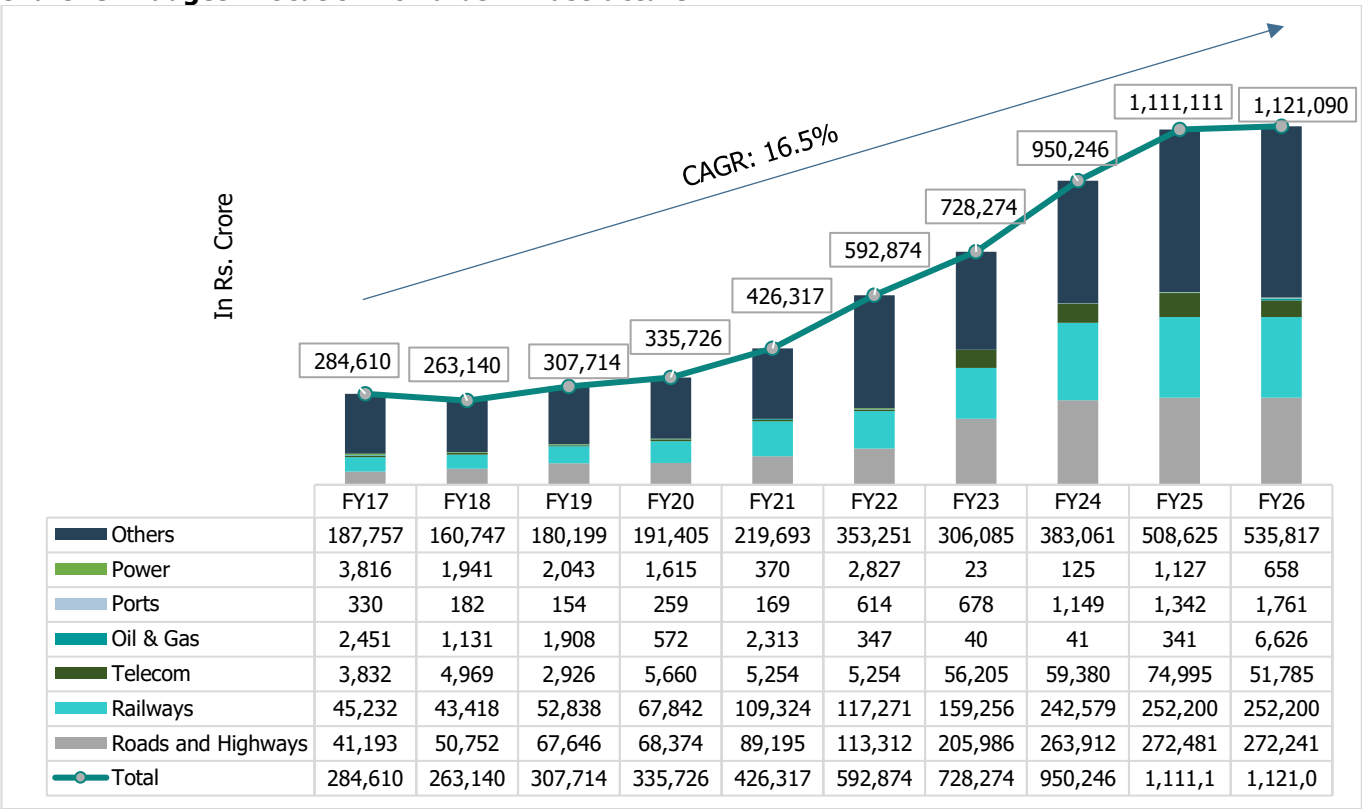
Moreover, the ongoing expansion and development of airports under the Ude Desh ka Aam Naagrik (UDAN) scheme to enhance regional air connectivity. Whereas continual developments in metros are in place to promote urban transformation and enhance the railway infrastructure. Such factors are raising the demand for steel. On the other hand, global steel prices are expected to remain stable in range. Similarly, domestic prices are also expected to trend in line with global prices.

3.6 Key Growth Drivers for Indian Steel Industry

- **Continued Thrust on Construction and Infrastructure**

One of the major growth drivers of the steel industry is the infrastructure investment thrust by the Government of India. The budgetary allocation toward infrastructure has grown at a CAGR of about 17.3% in the past 5 years between FY22 to FY26. In the Union Budget 2025-26, the government continued its focus on infrastructure development with the allocation of Rs 11.2 lakh crore toward infrastructure capital expenditure, an increase of 0.9% over allocation under the Union Budget 2024-25.

Chart 29: Budget Allocation Towards Infrastructure



	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26
Others	187,757	160,747	180,199	191,405	219,693	353,251	306,085	383,061	508,625	535,817
Power	3,816	1,941	2,043	1,615	370	2,827	23	125	1,127	658
Ports	330	182	154	259	169	614	678	1,149	1,342	1,761
Oil & Gas	2,451	1,131	1,908	572	2,313	347	40	41	341	6,626
Telecom	3,832	4,969	2,926	5,660	5,254	5,254	56,205	59,380	74,995	51,785
Railways	45,232	43,418	52,838	67,842	109,324	117,271	159,256	242,579	252,200	252,200
Roads and Highways	41,193	50,752	67,646	68,374	89,195	113,312	205,986	263,912	272,481	272,241
Total	284,610	263,140	307,714	335,726	426,317	592,874	728,274	950,246	1,111,1	1,121,0

Source: Union Budget 2025-26
Note: Others include industries like Airports and Aviation, Education, Sports Infrastructure, Urban Development projects, Defence and Security.

- **Growing Real Estate Absorption led by Increased Urbanisation and Purchasing Power**

The urban population is significantly growing in India. The urban population in India is estimated to have increased from 413 million (32% of total population) in CY13 to 519.5 million (36.4% of total population) in the year CY23. India is undergoing a significant urban transformation, with the urban population projected to rise to 40% by CY36. This will increase the demand for tubular steel structures will rise. This growth is crucial for building construction, water supply, drainage systems, and waste treatment plants.

- **Growing Purchasing Power**

Gross National Disposable Income (GNDI) is a measure of the income available to the nation for final consumption and gross savings. Between the period FY15 to FY25, per capita GNDI at current prices registered a CAGR of 9.02%. More disposable income drives more consumption, thereby driving economic growth.

With increase in disposable income, there has been a gradual change in consumer spending behaviour as well. Per capita Private Final Consumption Expenditure (PFCE) which is measure of consumer spending has also showcased significant growth from FY15 to FY25 at a CAGR of 9.7%.

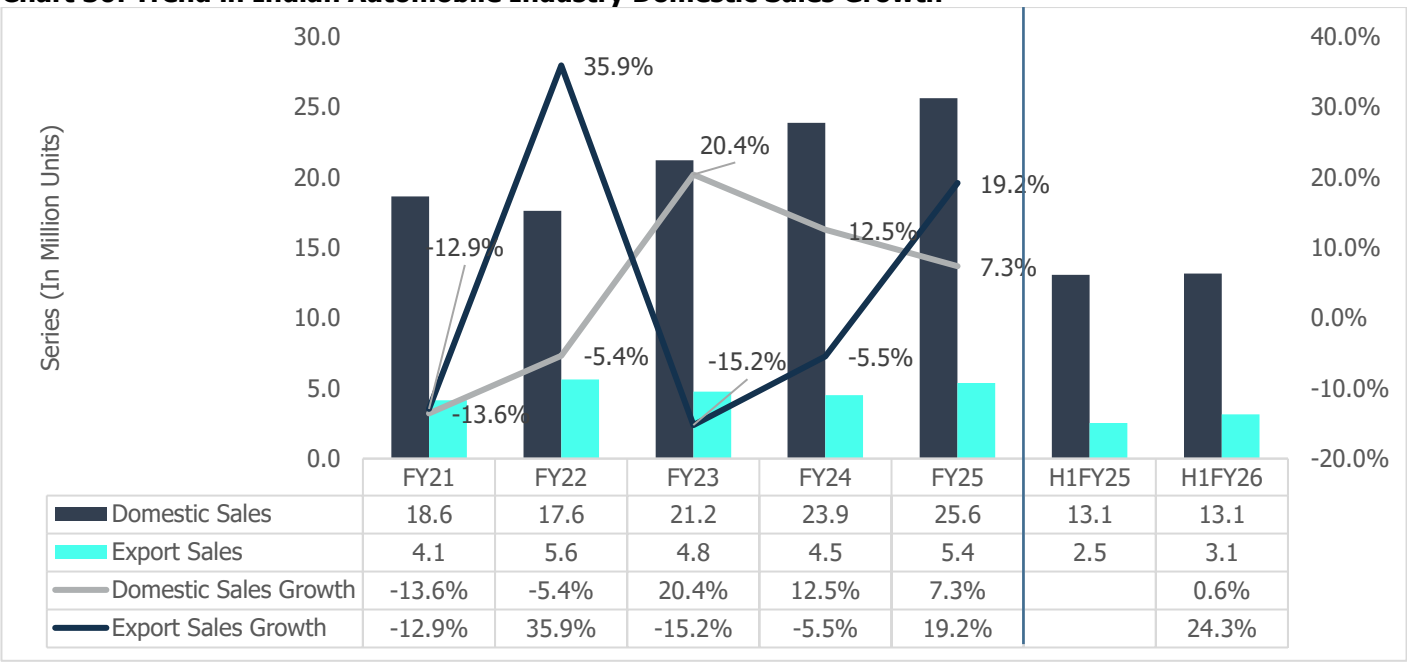
- **Stable Growth in the Automotive Industry**

Steel products are vital for constructing a vehicle's chassis and components like shock absorbers and exhaust pipes. India ranked as the third-largest automobile market in 2022, recovering from the pandemic with domestic sales increasing by 20% year-on-year in FY23. Domestic sales have shown a steady recovery post-FY21, with consistent growth from FY22 to FY25, indicating improving demand conditions in the domestic market. However, the growth pace has moderated in H1FY26, suggesting a potential stabilization. The introduction of GST 2.0 and the onset of the festive season made September 2025 a crucial month for India's car market.

On the other hand, exports increased by 24.3% y-o-y in H1FY26 driven by a rebound in key global markets, record passenger vehicle shipments and strong performance across two and three-wheelers and commercial vehicles. The automobile exports have increased at a CAGR of 8.3% from FY21 to FY25. According to the SIAM, the growth in export was supported by stable demand across most global markets, with particularly strong performance in regions such as the Middle East and Latin America. Additionally, it has rebound in neighbouring markets such as Sri Lanka and Nepal, rising demand from Japan and increased shipments under Free Trade Agreements (FTAs) with countries such as Australia, further contributed to the overall export momentum.

The exports for passenger vehicles, two-wheelers, commercial vehicles and three-wheeler increased by 13.2%, 23.2%, 23.4% and 34.4% respectively. Accordingly, exports are expected to remain robust in FY26 building on the healthy performance of recent years due to export demand from key markets, including Africa and neighbouring countries, is expected to remain strong, as 'Made in India' vehicles continue to gain acceptance and strengthen their market presence.

Chart 30: Trend in Indian Automobile Industry Domestic Sales Growth



	FY21	FY22	FY23	FY24	FY25	H1FY25	H1FY26
Domestic Sales	18.6	17.6	21.2	23.9	25.6	13.1	13.1
Export Sales	4.1	5.6	4.8	4.5	5.4	2.5	3.1
Domestic Sales Growth	-13.6%	-5.4%	20.4%	12.5%	7.3%		0.6%
Export Sales Growth	-12.9%	35.9%	-15.2%	-5.5%	19.2%		24.3%

Source: CareEdge Research, SIAM

- **Growing Infrastructure for Railways**

To support its goal of becoming a USD 5 trillion economy by 2026-27, the Indian government has prioritised infrastructure development, leveraging an expenditure to GDP multiplier of 2.5-3.5x. The National Infrastructure Pipeline (NIP), launched in 2020, outlines key projects with a projected Capex of USD 1.4 trillion, including 12% for railways. The Union Budget 2019-20 proposed a USD 750 billion investment for railway infrastructure from 2018 to 2030. Consequently, the budget for Indian Railways has increased significantly, rising from Rs. 1.48 lakh crore in FY20 to Rs. 2.52 lakh crore in the Union Budget 2025-26.

- **Expansion of Metro Rail**

As of May 2025, about 1,013 Km of metro lines have been operationalised across 23 cities. The metro network, including regional rapid transit systems (RRTS), is proposed to be expanded to 1,700 Km across 27 cities by 2025 and subsequently to 50 cities. The government is also proposing Metro Lite and Metro Neo lines suitable for smaller cities with lower peak traffic. Currently, approximately 2,500 coaches have been deployed in the operational metro lines, roughly costing 32,500 Cr. 31 metro rail projects are under construction, and 18 projects are under approval. As the operational metro lines are expected to increase by more than 2x over the next 4-5 years, domestic demand for metro rail rolling stock is expected to witness a significant increase.

- **Growth of India's Consumer Durables Industry:**

The Indian consumer durables industry is set to grow from USD 9.84 billion in 2021 to USD 21.18 billion by 2025, driven by rising disposable incomes, urbanisation, and technological advancements. This growth, fuelled by government initiatives and demand for smart, energy-efficient products, will boost the Indian steel industry, as steel is crucial for manufacturing appliances. Increased demand from e-commerce, sustainability trends, and domestic manufacturing under "Make in India" will further strengthen the steel sector's role in supporting the consumer durables market's expansion.

- **Others**

The growth in demand for steel products will also be supported by transportation, capital goods (construction, electrical equipment, machine tools, industrial machinery, plant equipment, etc.), aircraft components, mining activities, and renewable energy projects. Further, it will also be driven by the export market, which has seen a steady increase in the past few years and contributes to the overall production in the industry.

3.7 Growth Opportunities in Steel Market in India

- **Significant capacity additions in power generation are expected over the next 7-8 years, including renewable resources:** India's power sector is set for significant capacity expansions over the next 7-8 years. With an installed capacity of 510 GW as on 30th November 2025, driven mainly by conventional sources, the country is increasingly investing in renewable energy, which now accounts for ~50% of the total capacity. The government aims to establish a 500 GW renewable capacity by 2030 and boost non-fossil fuel-based capacity to 50%. This growth, driven by urbanisation, rural electrification, and rising electricity demand, will enhance power supply, close deficits, and further stimulate steel industry demand for infrastructure development.

- **Green Steel Buildings:** Green steel buildings in India present a significant opportunity for the steel industry by meeting the growing demand for sustainable construction. Government initiatives, such as the National Steel Policy (NSP) and the National Action Plan on Climate Change (NAPCC), support the adoption of green steel technologies. These policies, along with incentives like tax benefits and subsidies for green building projects, promote the use of green steel. Technological advancements, such as hydrogen-based direct reduction and electric arc furnaces, further enhance the viability of green steel. Additionally, international market access and corporate social responsibility

(CSR) goals drive the adoption of green steel, aligning with global sustainability trends and contributing to economic growth.

- **Hydrogen Gas transportation:** Hydrogen gas transportation in India offers significant opportunities for the steel industry by enabling reduced carbon emissions and enhancing energy security. Government initiatives, such as the National Green Hydrogen Mission (NGHM), support the development of hydrogen infrastructure with financial incentives for pilot projects and the establishment of Green Hydrogen Hubs. Technological advancements in hydrogen production and transportation further improve efficiency and reduce costs. These efforts align with global sustainability goals, open new market opportunities, and contribute to economic growth and environmental conservation.

- **Steel Consumption in Consumer Durables and Appliances sector:** The consumer durables and appliances sector presents a significant growth opportunity for the steel market in India. As the demand for household appliances like refrigerators, washing machines, and air conditioners continues to rise, driven by urbanization, rising incomes, and changing lifestyles, the consumption of steel in manufacturing these products is also increasing. Steel is vital for providing strength, durability, and functionality to these appliances, especially for their frames, bodies, and internal components. With India's growing middle class and the shift towards modern and energy-efficient appliances, the steel market stands to benefit from the expanding demand in this sector, making it a key driver of growth in the country's steel industry.

3.8 Regulatory Policies/ Government Initiatives

Measures to enhance domestic production, the availability of raw materials, and promote trade competitiveness

Domestically Manufactured Iron & Steel Products (DMI&SP):

- The Domestically Manufactured Iron & Steel Products (DMI&SP) Policy, originally approved in 2017, provides purchase preference in government procurement to iron and steel products manufactured domestically, in line with *Atmanirbhar Bharat* objectives.

- The policy mandates preference for products meeting prescribed domestic value-addition thresholds, aligned with DPIIT public procurement norms, and incorporates the "melt and pour" condition to ensure steel is genuinely manufactured in India.

- The earlier version of the policy, which had been extended up to November 2024, has now been superseded by the Revised DMI&SP Policy-2025, as notified by the Ministry of Steel and communicated through PIB.

- Under the Revised DMI&SP Policy-2025, preference for domestically manufactured iron and steel products continues to be mandatory across all Central Ministries, Departments, CPSEs, and government-funded projects, including centrally sponsored schemes.

- The policy applies to procurements above the prescribed financial threshold and generally restricts global tendering, except where permitted under specified exemptions.

- An amendment notified in July 2025 further strengthens the framework by allowing foreign technology providers to qualify under certain categories, provided they commit to technology transfer and capacity-building of Indian CPSEs within a defined timeframe.

- The revised policy notification issued in December 2025 consolidates all amendments and clarifications, reinforcing the government's focus on domestic steel manufacturing, import substitution, increased steel consumption, and development of indigenous technological capabilities.

- Overall, the updated DMI&SP framework strengthens long-term demand visibility for domestically produced iron and steel, particularly from infrastructure, construction, railways, metro, and other public sector projects, as reflected in official PIB communications.

Quality Control Order on Steel:

- The Ministry of Steel has introduced a Steel Quality Control Order (QCO), thereby banning sub-standard/defective steel products from the domestic market alongside imports to ensure the availability of quality steel to the industry, users, and the public at large.
- According to the Order, it is ensured that only quality steel conforming to the relevant BIS standards is made available to the end users.
- As of August 2024, the QCO covers 151 categories of steel and steel products including carbon steel, alloy steel, and stainless steel. In addition, goods & articles made up of steel, such as stainless-steel pipe & tubes, laminations/ cores of transformers, products of tin plate & tin-free steel, etc., have been notified to prevent circumvention of the Steel Quality Control Order.

National Steel Policy (NSP), 2017:

NSP was introduced in 2017 with the objective of increasing domestic steel production and consumption, produce high-quality steel, and increase India's competitiveness globally. It also focuses on cost efficiency, raw material availability, and research & development to achieve the overall objectives laid out under the policy.

The mission defined under NSP, 2017, is as below:

- Self-sufficiency in steel production by providing policy support & guidance to private manufacturers, MSME steel producers, and CPSEs and encouraging adequate capacity additions
- Development of globally competitive steel manufacturing capabilities
- Cost-efficient production and domestic availability of iron ore, coking coal, and natural gas
- Facilitate investment in overseas asset acquisitions of raw materials
- Enhance domestic steel demand

Table 11: Target Set Under the NSP, 2017

Parameter	Target FY31
Total crude steel capacity (in MTPA)	300 (179.5 MTPA in FY24)
Total crude steel demand/production (in MTPA)	255
Total finished steel demand/production (in MTPA)	230
Sponge iron demand/production (in MTPA)	80
Pig iron demand/ production (in MTPA)	17
Per Capita Finished Steel Consumption (in kg)	158 (93.4 kg in FY23)

Source: Ministry of Steel

Atmanirbhar Bharat Policy:

- Government initiatives such as Make in India and AtmaNirbhar Bharat, which consist of 5 pillars (Economy, Infrastructure, System, Vibrant Demography, and Demand) have been playing a significant role in economic development.
- In the steel tubes and pipes sector, the demand for seamless and ERW pipe sectors is increasing due to these policies. According to this policy, any purchases made by PSUs must include at least 35% local value addition in the supply of pipes. This will eventually support domestic manufacturers in the country.

- Under this policy, a stimulus of Rs. 20 lakh crores were announced by the government to aid the country's fight against COVID-19.

Production Linked Incentive (PLI) Scheme:

- To enhance the manufacturing capabilities and export market, the government launched the Production Linked Incentive (PLI) Scheme for speciality steel under the Ministry of Steel in July 2021 with a budgetary outlay of Rs. 6,322 crores.
- India is dependent on specialty steel as it is used in automobiles, defence, railways, space, power, and renewable energy. The usage of this steel goes into the manufacturing of tubes and pipes, due to its properties such as heat resistance and corrosion resistance.
- The scheme covering speciality steel grades is applicable for the following product segments below:
  a. Coated/Plated Steel Products
  b. High Strength/ Wear-resistant Steel
  c. Specialty Rails
  d. Alloy Steel Products and Steel wires
  e. Electrical Steel
- PLI is expected to boost the production of the above products in domestic industry and reduce the dependency on imports. This will not only ensure import substitution of goods but also encourage growth in the exports.
- Through this scheme, the production of speciality steel grade is estimated to grow more than double by FY27 to 42.2 MT from 17.6 MT in FY20, an increase of 140%.
- This incentive scheme is also expected to attract investments of about Rs.39,625 crore by FY30 in specialty steel.

On January 6, 2025, Union Minister Shri H.D. Kumaraswamy launched PLI Scheme 1.1 for specialty steel, aimed at strengthening domestic steel production and reducing imports. This scheme covers five product categories: coated/plated steel, high-strength/wear-resistant steel, specialty rails, alloy steel, and electrical steel, with an allocation of Rs. 6,322 crore. The scheme will run from FY 2025-26 to FY 2029-30. Changes based on industry feedback include relaxed investment thresholds, capacity creation adjustments, and the ability to carry forward excess production for incentives. The CRGO sub-category saw reduced investment and capacity thresholds to encourage participation. The scheme, which builds on the first round of PLI launched in 2021, focuses on increasing self-reliance in speciality steel production and creating jobs, aiming to boost India's position as a global steel hub. The application window for PLI Scheme 1.1 is open until January 31, 2025.

Schemes like the Production Linked Incentive (PLI) have significantly impacted India's steel industry by fostering innovation, enhancing competitiveness, and increasing production capacities. The PLI scheme, introduced to boost specialty steel production, has attracted substantial investments, with companies committing to expand their manufacturing capabilities in critical sectors like defence, automobiles, and renewable energy. By offering incentives to companies that enhance their production capacity, the PLI scheme encourages technological advancements and process improvements, particularly in high-quality steel grades essential for sectors such as infrastructure and electrical goods. The revised PLI scheme, with relaxed norms, has broadened industry participation, making it easier for a wider range of companies to invest and expand. This shift reduces India's reliance on specialty steel imports, aiming to position the country as a global leader in steel production. Moreover, specific incentives for high-demand products, such as cold-rolled grain-oriented (CRGO) steel, reflect the government's strategic focus on improving critical domestic production. As the steel sector continues to grow, these policies play a vital role in ensuring that India remains competitive on the global stage while meeting domestic demand for high-quality speciality steel. This drive for self-reliance supports sustained growth in the industry, benefiting both businesses and the broader economy.

Programmes/Initiatives taken by the Government to aid the End-User Industries' Growth

Pradhan Mantri Awas Yojana (PMAY)

The Pradhan Mantri Awas Yojana (PMAY), part of the 'Housing for All' initiative, aims to provide affordable housing by 2029. It supports different income groups through home loan interest subsidies, financial aid for self-construction, public-

private partnerships, and slum redevelopment. The scheme promotes innovative construction methods and affordable rental housing. In the 2025-26 Union Budget, Rs. 78,126 crores were allocated. PMAY-Urban has sanctioned 1.19 crore houses, with 90.25 lakh completed, while PMAY-Gramin has sanctioned 3.34 crore houses, with 2.69 crore houses built.

Jal Jeevan Mission

Jal Jeevan Mission is an initiative launched by the Government on 15th August 2019 with the objective of providing safe and adequate drinking water through individual household tap connections by 2028 to all households in rural India. The programme will also focus on source sustainability measures as mandatory elements, such as recharge and reuse through greywater management, water conservation, and rainwater harvesting. The functional household tap connections as of 2nd January 2026 were about 15.78 crore. This programme will further enhance the water infrastructure and aid in the demand for pipes in the country. The total estimated cost of the entire Jal Jeevan Mission amounted to Rs 3.6 lakh crore over five years (2019-24). The Government has allocated Rs. 67,000 crores for the Jal Jeevan Mission in the budget 2025-26.

One Nation, One Gas Grid Project

The Indian government's primary goal in developing natural gas infrastructure and implementing the "One Nation One Gas Grid" initiative is to increase the share of natural gas in the country's primary energy mix. As of September 2025, the Petroleum and Natural Gas Regulatory Board (PNGRB) has authorised a total of 34,238 km of natural gas pipelines for nationwide expansion. Of this, 25,923 km of pipelines are operational, with an additional 9,954 km under construction. These projects are progressing according to PNGRB's approved timelines.

3.9 Supply Chain in the Steel Industry

The steel industry in India has a complex and multifaceted supply chain that is crucial to the nation's economic development. The supply chain is divided into two key segments: the upstream steel supply chain, which focuses on the extraction and production of steel, and the downstream supply chain, which manages storage, distribution, and processing into finished products.

The **upstream segment** begins with the mining of raw materials, such as iron ore, limestone, and coke, which are then used in blast furnaces to produce molten pig iron. This molten metal undergoes further processing in a converter, where air is blown through it to remove impurities, eventually producing steel.

The **downstream supply chain** involves the storage of steel in processing plants, transportation to distribution centres, and the transformation of steel into finished products like coils, plates, pipes, and bars. However, several challenges affect the efficiency of this supply chain. These include issues like yard management, warehousing, and transportation due to the high volume and weight of steel, extensive distribution networks, and high inventory turnover. Additionally, government regulations, duties, and taxes related to exports and imports play a crucial role in shaping the supply chain dynamics.

Overcoming these challenges is essential for maintaining profitability and market share in a highly competitive industry. Factors like improving warehousing techniques, optimising transportation logistics, and enhancing inventory management can help streamline operations and support the growing demand for steel in India's rapidly developing infrastructure and industrial sectors. With continued focus on these areas, the steel industry is well-positioned to drive economic growth and meet future demand.

Role of Steel Processing Centres in the Supply Chain of Steel Industry

Steel Processing Centres (SPCs) are essential players in the steel industry's supply chain, acting as a vital link between large steel producers and end-users. They provide valuable services like cutting, slitting, and coating to tailor steel products for specific needs across industries like construction, automotive, and machinery. SPCs ensure that smaller businesses, such as local manufacturers or construction firms, can access the right steel in the right quantity, without the need to order massive stock from steel mills.

In India, SPCs play a crucial role in overcoming logistical challenges, ensuring steel gets to both bustling cities and remote towns. By holding inventory and offering just-in-time delivery, they help businesses avoid delays, reduce waste, and cut costs. They also make steel more accessible to small and medium-sized enterprises with flexible payment terms. SPCs provide a buffer against price fluctuations, helping maintain stability for projects that require consistency. Through these efforts, SPCs not only support industries but also help promote sustainability by reducing scrap and promoting recycling, making them key to India's steel ecosystem.

4 Steel Processing Industry

4.1 Overview of Steel Processing Industry

The steel processing industry plays a critical role in transforming raw steel into finished products that meet specific demands across various sectors. Through a series of mechanical, physical, and chemical techniques, steel is shaped, cut, formed, and treated to achieve desired characteristics, including strength, durability, and appearance. This transformation process includes several stages, such as melting, casting, rolling, forging, and machining, with each stage utilising specialised machinery and technology to ensure quality standards are met. Steel products are then coated or welded as required to enhance their properties, such as corrosion resistance.

A key player in this industry is the Steel Processing Centre, which acts as a vital link between steel producers and downstream users. These centres provide processing, custom cutting, and other services to supply steel products tailored to the needs of industries like construction, manufacturing, and fabrication. The steel processing industry's broad range of techniques and applications ensures that steel remains a versatile material, crucial for modern infrastructure, transportation, and a wide array of other applications, making it a cornerstone of the global economy.

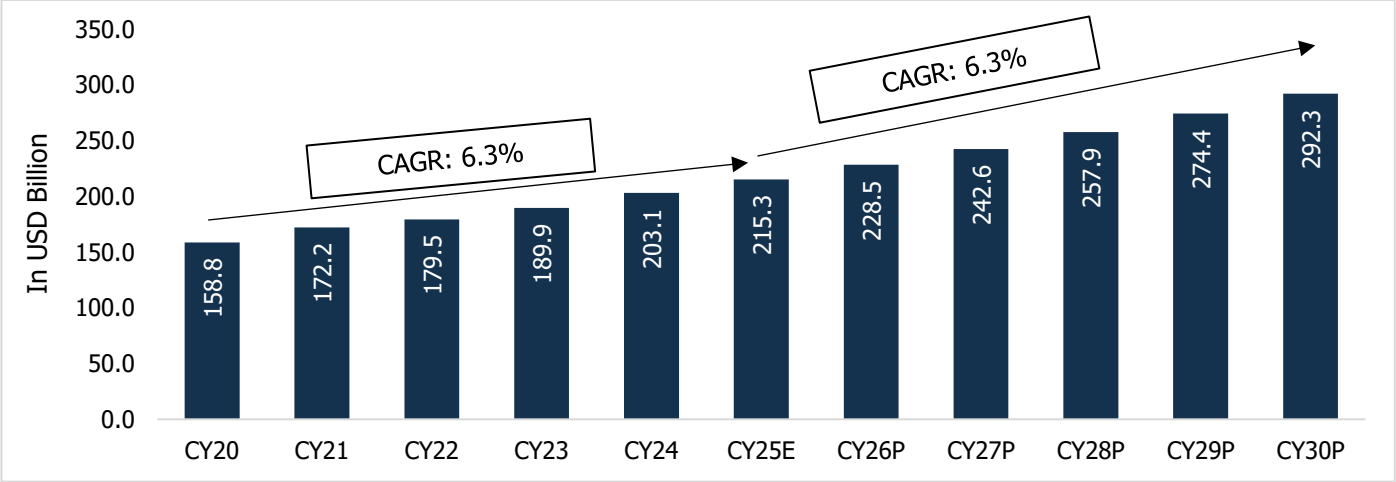
4.2 Global Steel Processing Centre Market Size

The market size of Global Steel Processing Centre Industry grew at a CAGR of 6.3% from CY20 to CY25 reaching an estimated market size of USD 215.3 billion by CY25. It is further projected to grow at a CAGR of 6.3% from CY25 to CY30 reaching market size of USD 292.3 billion by CY30.

The global Steel Processing Centre market is experiencing steady growth, fuelled by rising demand from industries such as construction, automotive, and manufacturing. Key drivers include population growth, rapid urbanization, and increased infrastructure development, particularly in emerging markets. Technological advancements, such as automation, data analytics, and digitalization, are also contributing to improved efficiency and customer service, further bolstering market expansion. Additionally, the outsourcing of manufacturing operations and global supply chain dynamics are reshaping the industry landscape. The growing emphasis on sustainability and environmentally friendly solutions is opening opportunities for green Steel Processing Centres, while innovations in lightweight materials and advanced manufacturing techniques are creating demand for specialised steel products.

However, the Global Steel Processing Centre industry is expected to grow at a lower CAGR in the future as compared to historical CAGR growth. This is primarily due to fluctuating raw material prices, particularly steel, making it difficult for service centres to maintain stable margins and pricing strategies. Additionally, stricter regulations around sustainability and environmental standards are putting pressure on smaller players that may struggle to invest in eco-friendly technologies. The shortage of skilled labour also presents a hurdle, as advanced technologies in steel processing require qualified professionals to manage them. As a result, SPCs will need to become more agile, improve supply chain management, and focus on workforce development to stay competitive in a challenging market.

Chart 31: Global Steel Processing Centre Market Size



Source: MAIA, CareEdge Research; Note: E-Estimates, P-Projections, CY refers to Calendar Year

4.2.1 Global Steel Processing Centre Market Size By Service Type

The Steel Processing Centre market offers a wide range of specialized services to meet the demands of various industries. These services are essential for tailoring steel products to specific customer requirements, enhancing their functionality, durability, and appearance.

Cut-to-length services involve cutting steel coils or sheets into precise lengths as per customer specifications. This is especially important in industries like construction and automotive manufacturing, where exact dimensions are required for specific applications, such as beams, plates, and panels.

Slitting services involve cutting steel coils into narrower widths to meet the needs of various industries, including packaging, transportation, and electrical appliances. This service allows manufacturers to obtain steel in sizes that align with their production processes and product requirements.

Metal profiling is another crucial service, where steel sheets or coils are shaped into specific profiles, such as corrugated, trapezoidal, or sinusoidal shapes. These profiles are widely used in construction, particularly for roofing, cladding, and wall systems, as well as in industrial and commercial buildings. The precision of metal profiling ensures that steel components fit seamlessly into architectural designs.

Blanking services involve cutting steel sheets or coils into specific shapes using specialised tooling. This is essential in industries such as automotive, electronics, and appliance manufacturing, where precise shapes are needed for parts that will be further processed or assembled into finished products.

Splitting services are similar to slitting, but with a focus on dividing steel coils into narrower strips. This service is crucial for industries that need steel in smaller widths for use in applications such as electrical appliances, automotive components, and precision parts manufacturing. By ensuring that the steel is split into the required dimensions, service centres can help optimize material usage and reduce waste in the production process.

Welding services play a vital role in joining steel components, using techniques such as arc welding, MIG welding, and TIG welding. Welding is crucial for manufacturing large structures and components used in sectors like construction, shipbuilding, and machinery production, ensuring the integrity and durability of welded joints.

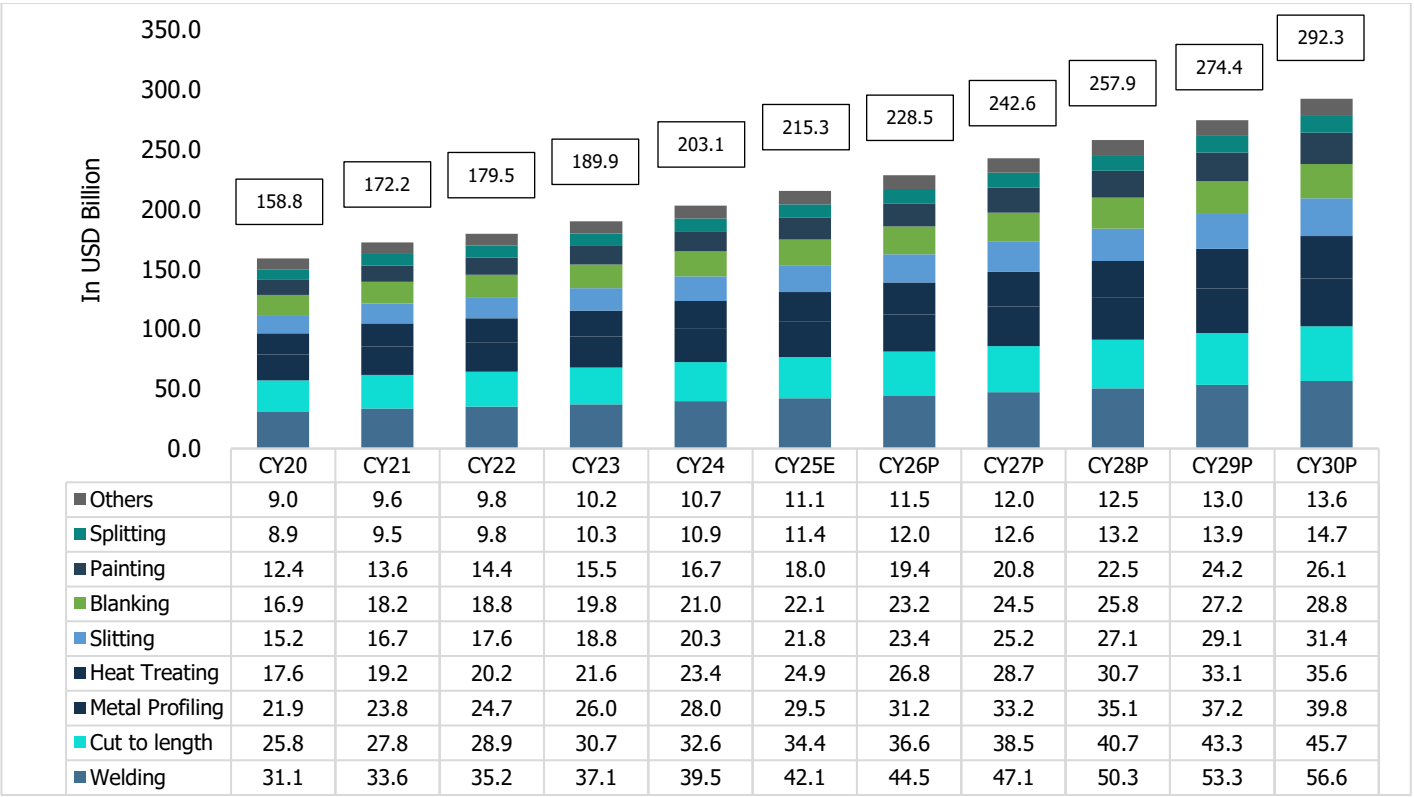
Heat treating involves controlled heating and cooling of steel to enhance its properties, such as strength, hardness, and toughness. This service is widely utilized in the automotive, aerospace, and medical equipment industries, where specific mechanical properties are required for performance under stress or extreme conditions.

Painting services are essential for applying protective or decorative coatings to steel surfaces, enhancing both the aesthetics and corrosion resistance of steel products. These services are widely used in the construction, automotive, and appliance manufacturing industries, where steel needs to withstand environmental exposure or meet specific visual standards.

Other services include specialized surface treatments offered by Steel Processing Centres include pickling and oiling, which helps remove oxides and other impurities, ensuring clean surfaces for further processing or coating. Galvanizing involves coating steel with a layer of zinc to prevent corrosion, while nickel plating and chrome plating are used to improve wear resistance and enhance the steel's appearance. Phosphating is another treatment used to enhance corrosion resistance, particularly for automotive and industrial applications.

These diverse service offerings play a key role in ensuring that steel products meet the specific needs of various industries, contributing to the market's steady growth and expansion.

Chart 32: Global Steel Processing Centre Market Size By Service Type



	CY20	CY21	CY22	CY23	CY24	CY25E	CY26P	CY27P	CY28P	CY29P	CY30P
Others	9.0	9.6	9.8	10.2	10.7	11.1	11.5	12.0	12.5	13.0	13.6
Splitting	8.9	9.5	9.8	10.3	10.9	11.4	12.0	12.6	13.2	13.9	14.7
Painting	12.4	13.6	14.4	15.5	16.7	18.0	19.4	20.8	22.5	24.2	26.1
Blanking	16.9	18.2	18.8	19.8	21.0	22.1	23.2	24.5	25.8	27.2	28.8
Slitting	15.2	16.7	17.6	18.8	20.3	21.8	23.4	25.2	27.1	29.1	31.4
Heat Treating	17.6	19.2	20.2	21.6	23.4	24.9	26.8	28.7	30.7	33.1	35.6
Metal Profiling	21.9	23.8	24.7	26.0	28.0	29.5	31.2	33.2	35.1	37.2	39.8
Cut to length	25.8	27.8	28.9	30.7	32.6	34.4	36.6	38.5	40.7	43.3	45.7
Welding	31.1	33.6	35.2	37.1	39.5	42.1	44.5	47.1	50.3	53.3	56.6

Source: MAIA, CareEdge Research; Note: E-Estimates, P-Projections, CY refers to Calendar Year
Note: The numbers in the box represent the total market size of the industry

4.2.1.1 Cut to Length

The market size of Cut to Length service type grew at a CAGR of 5.9% from CY20 to CY25 reaching an estimated market size of USD 34.4 billion by CY25. It is further projected to grow at a CAGR of 5.8% from CY25 to CY30 reaching market size of USD 45.7 billion by CY30. The rising demand from industries such as construction, automotive, and engineering, where precise steel lengths are essential, is driving this growth. Expanding infrastructure projects and urban development in emerging markets are further accelerating demand. As industries seek more specialised steel products, advancements in automation and processing technology will enhance efficiency and reduce costs, enabling Steel Processing Centres to meet evolving sector needs and sustain market growth.

4.2.1.2 Slitting

The market size of Slitting service type grew at a CAGR of 7.5% from CY20 to CY25 reaching an estimated market size of USD 21.8 billion by CY25. It is further projected to grow at a CAGR of 7.6% from CY25 to CY30 reaching market size of USD 31.4 billion by CY30. The growth of slitting services in the global Steel Processing Centre market is driven by the rising demand from packaging and construction industries, which require specific steel widths for production. Urbanisation and infrastructure development continue to expand the need for high-quality, precision-cut steel. Moreover, technological advancements in slitting processes and automation are enhancing efficiency, making these services more cost-effective. The growing preference for customised steel solutions and the focus on material optimisation will further fuel market expansion.

4.2.1.3 Metal Profiling

The Metal Profiling service market grew at a CAGR of 6.1% from CY20 to CY25, reaching an estimated USD 29.5 billion by CY25. It is projected to grow at a CAGR of 6.2%, reaching USD 39.8 billion by CY30. The increasing demand for custom-shaped steel components in construction, roofing, and cladding is driving this growth. As modern building designs require more specialised materials, metal profiling services have become indispensable. The expansion of infrastructure projects and the increased use of steel in contemporary construction methods will sustain this demand. Additionally, technological advancements in profiling machinery are improving precision and efficiency, supporting further market growth.

4.2.1.4 Blanking

The market size of Blanking service type grew at a CAGR of 5.4% from CY20 to CY25, reaching an estimated market size of USD 22.1 billion by CY25. It is further projected to grow at a CAGR of 5.4% from CY25 to CY30 reaching market size of USD 28.8 billion by CY30. The growth of blanking services in the global Steel Processing Centre market is primarily driven by the rising adoption of automation in manufacturing. As industries such as automotive, electronics, and appliances increasingly turn to automated processes for greater efficiency, the demand for precise, custom-cut steel components is growing. Blanking services, which involve cutting steel into specific shapes, are crucial for these industries to meet their high-volume, precise production needs. Advancements in technology and machinery will further enhance blanking capabilities, improving accuracy, and reducing production time, which will continue to support the growth of this service type.

4.2.1.5 Splitting

The Splitting service market grew at a CAGR of 5.2% from CY20 to CY25, reaching an estimated USD 11.4 billion by CY25. It is projected to grow at a CAGR of 5.2%, reaching USD 14.7 billion by CY30. The increasing demand for narrower steel strips in industries such as electrical appliances, automotive, and precision parts manufacturing is driving this growth. As these industries require smaller, customised steel components, splitting services are becoming crucial for optimising material use and ensuring high-quality production. Advances in automation and processing techniques are enhancing efficiency and accuracy, while the emphasis on reducing waste and improving production processes will continue to drive demand.

4.2.1.6 Welding

The market size of the Welding service type grew at a CAGR of 6.2% from CY20 to CY25 reaching an estimated market size of USD 42.1 billion by CY25. It is further projected to grow at a CAGR of 6.1% from CY25 to CY30, reaching market size of USD 56.6 billion by CY30. The growth of welding services in the global Steel Processing Centre market is primarily driven by the increasing demand from the construction and infrastructure sectors. As large-scale projects in infrastructure, shipbuilding, and machinery manufacturing expand, the need for strong, reliable welded steel components grows. Advances in welding technology, including more precise and efficient techniques, are enhancing the quality and speed of welding services, making them more cost-effective. Additionally, the ongoing trend toward automation and the rise in complex construction projects will continue to drive the demand for welding services in the market.

4.2.1.7 Heat Treating

The market size of Heat-Treating service type grew at a CAGR of 7.3% from CY20 to CY25 reaching an estimated market size of USD 24.9 billion by CY25. It is further projected to grow at a CAGR of 7.4% from CY25 to CY30 reaching market size of USD 35.6 billion by CY30. The growth of heat-treating services in the global Steel Processing Centre market is driven by the increasing demand from the automotive and aerospace sectors. These industries require steel with enhanced properties such as strength, hardness, and durability, which heat treating services provide through controlled heating and cooling processes. As both sectors continue to innovate and demand higher-performing materials for critical applications, the need for heat-treated steel will grow. Technological advancements in heat treating methods and the push for lightweight, high-strength materials will further support the demand for these services in the coming years.

4.2.1.8 Painting

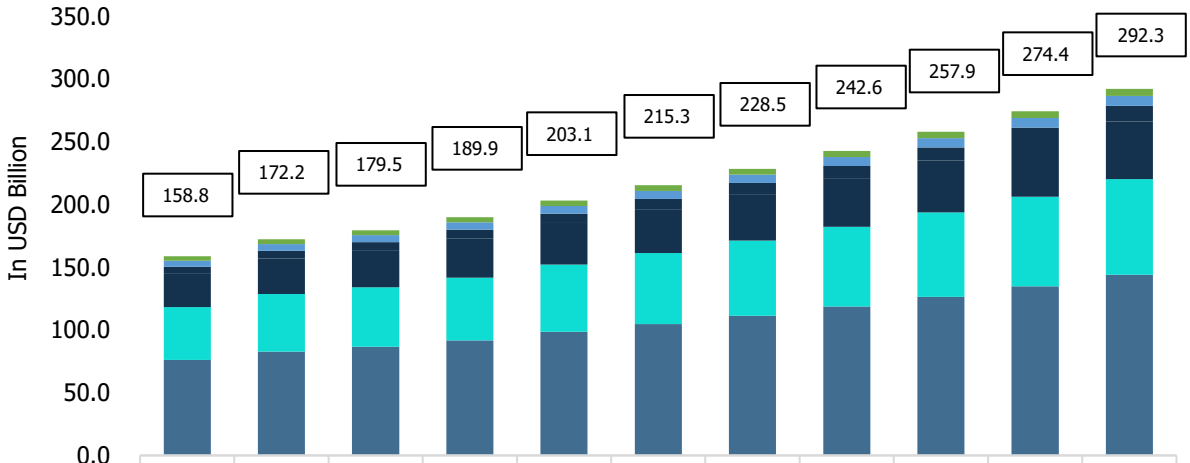
The market size of the Painting service type grew at a CAGR of 7.7% from CY20 to CY25 reaching an estimated market size of USD 18 billion by CY25. It is further projected to grow at a CAGR of 7.7% from CY25 to CY30 reaching market size of USD 26.1 billion by CY30. The growth of painting services in the global Steel Processing Centre market is driven by the increasing demand for corrosion protection and aesthetic enhancement in industries such as construction, automotive, and appliances. Steel products need protective coatings to withstand environmental exposure, making painting essential for durability and longevity. As infrastructure and manufacturing sectors expand, the need for visually appealing and weather-resistant steel components will continue to rise. Additionally, advancements in coating technologies and a growing emphasis on sustainability and eco-friendly solutions will further drive the demand for painting services in the coming years.

4.2.1.9 Others

The market size of Other service types including shearing, embossing, and surface treatment such as pickling and oiling, galvanizing, nickel plating, chrome plating, phosphating, etc. grew at a CAGR of 4.2% from CY20 to CY25 reaching an estimated market size of USD 11.1 billion by CY25. It is further projected to grow at a CAGR of 4.2% from CY25 to CY30 reaching market size of USD 13.6 billion by CY30. The growth of other services, including surface treatments like pickling and oiling, galvanizing, nickel plating, chrome plating, and phosphating, in the global Steel Processing Centre market is driven by the increasing demand for steel products with enhanced durability, corrosion resistance, and aesthetic appeal. Industries such as automotive, construction, and manufacturing require steel with specialized coatings to ensure longevity and performance. As the focus on sustainability and environmentally friendly solutions grows, demand for eco-conscious surface treatments is rising. Technological advancements in surface treatment processes will continue to improve efficiency, fuelling further growth in this service category.

4.2.2 Global Steel Processing Centre Market Size By Region

Chart 33: Global Steel Processing Centre Market Size By Region



	CY20	CY21	CY22	CY23	CY24	CY25E	CY26P	CY27P	CY28P	CY29P	CY30P
South America	3.5	3.8	3.9	4.1	4.3	4.5	4.7	4.9	5.1	5.4	5.6
Middle East and Africa	5.0	5.3	5.5	5.7	6.0	6.3	6.6	7.0	7.3	7.7	8.1
India	5.4	6.0	6.4	6.9	7.6	8.2	8.9	9.7	10.5	11.4	12.4
North America	26.6	28.5	29.6	31.3	33.1	35.0	37.1	38.8	41.2	43.7	45.9
Europe	42.1	45.8	47.5	50.0	53.6	56.6	59.8	63.7	67.4	71.4	76.2
Asia Pacific (Excluding India)	76.2	82.8	86.6	91.8	98.5	104.7	111.4	118.6	126.5	134.9	144.1

Source: MAIA, CareEdge Research; Note: E-Estimates, P-Projections, CY refers to Calendar Year
Note: The numbers in the box represent the total market size of the industry

4.2.2.1 North America

The market size of the global Steel Processing Centre industry in North America has grown at a CAGR of 5.6% from CY20 to CY25 reaching an estimated market size of USD 35 billion by CY25. It is further projected to grow at a CAGR of 5.6% from CY24 to CY30, reaching a market size of USD 45.9 billion by CY30. The future growth of the steel service industry in North America is primarily driven by the region's strong automotive manufacturing sector, which ensures steady demand for steel components. Construction and infrastructure development, including large-scale projects like roads and bridges, are also significant factors contributing to steel consumption. The diverse manufacturing base, encompassing industries such as aerospace and machinery, further boosts the steel demand. Government policies supporting local production and infrastructure expansion create a favourable environment for Steel Processing Centres, while the adoption of advanced technology by key players presents additional growth opportunities.

4.2.2.2 South America

The market size of global Steel Processing Centre industry in South America has grown at a CAGR of 4.8% from CY20 to CY25 reaching an estimated market size of USD 4.5 billion by CY25. It is further projected to grow at a CAGR of 4.7% from CY25 to CY30 reaching a market size of USD 5.6 billion by CY30. The steel service industry in South America is poised for growth driven by expanding infrastructure projects and increasing urbanization, which fuel steel demand for construction and public works. The region's growing automotive and manufacturing sectors also contribute to the need for high-quality steel products. Additionally, government initiatives aimed at boosting industrial production and improving infrastructure will support market growth. The rising adoption of advanced technologies in steel processing, along with the strengthening of local manufacturing capabilities, further creates favourable conditions for the steel service industry to thrive in the coming years.

4.2.2.3 Europe

The market size of global Steel Processing Centre industry in Europe has grown at a CAGR of 6.1% from CY20 to CY25, reaching an estimated market size of USD 56.6 billion by CY25. It is further projected to grow at a CAGR of 6.1% from CY25 to CY30 reaching a market size of USD 76.2 billion by CY30. The future growth of the steel service industry in Europe is driven by robust demand across industries such as automotive, construction, and aerospace, which require high-quality processed metal products. The increasing need for customised metal specifications, efficient supply chains, and just-in-time deliveries is pushing the demand for metal service centres. Additionally, the region's focus on sustainability and circular economies is strengthening the role of these centres, as they offer recycling and waste reduction solutions in line with strict environmental regulations. These factors, coupled with industrial expansion and the adoption of advanced processing technologies, will continue to drive market growth.

4.2.2.4 Asia Pacific (Excluding India)

The market size of global Steel Processing Centre industry in Asia Pacific (Excluding India) has grown at a CAGR of 6.6% from CY20 to CY25 reaching an estimated market size of USD 104.7 billion by CY25. It is further projected to grow at a CAGR of 6.6% from CY25 to CY30 reaching a market size of USD 144.1 billion by CY30. The growth of the steel service industry in Asia Pacific (excluding India), particularly in China, is driven by rapid industrialization, urbanization, and extensive infrastructure projects. With increasing demand for steel in construction, transportation, and automotive sectors, the need for steel products continues to rise. China's dominance as both the world's largest steel producer and consumer further strengthens this trend. Government policies aimed at enhancing industrial growth alongside rising demand for steel components in manufacturing, are expected to drive continued market expansion across the region.

4.2.2.5 India

The market size of the global Steel Processing Centre industry in India has grown at a CAGR of 8.6% from CY20 to CY25 reaching an estimated market size of USD 8.2 billion by CY25. It is further projected to grow at a CAGR of 8.7% from CY25 to CY30, reaching a market size of USD 12.4 billion by CY30. India's steel service industry is set for substantial growth, fuelled by rapid industrialization, particularly in manufacturing and construction. The rising demand for steel in sectors like automotive, infrastructure, and engineering is driving the need for efficient distribution and processing. Government initiatives to enhance infrastructure further boost this demand. The adoption of just-in-time inventory practices by manufacturers is also fuelling the growth of Steel Processing Centres, ensuring faster and more customized solutions. India's steel industry, with its competitive cost advantage and high-quality production, is well-positioned to serve emerging markets in Africa, Asia, and the Middle East. The country's increasing global presence offers opportunities to diversify its customer base, mitigate risks, and solidify its role as a reliable steel supplier. As demand in these regions grows, India's Steel Processing Centres are poised to play a vital role in meeting these needs.

However, despite these positive trends, the Indian Steel Processing Centre industry is expected to grow at a lower CAGR in the future as compared to historical CAGR growth. Challenges such as fluctuating steel prices, stricter sustainability regulations, and a shortage of skilled labour could hinder future growth. Smaller service centres may face difficulties with rising compliance costs and the need to invest in advanced technologies. As a result, despite strong demand, the industry is expected to experience slower growth moving forward.

4.2.2.6 Middle East and Africa

The market size of global Steel Processing Centre industry in the Middle East and Africa has grown at a CAGR of 4.9% from CY20 to CY25 reaching an estimated market size of USD 6.3 billion by CY25. It is further projected to grow at a CAGR of 5% from CY25 to CY30 reaching a market size of USD 8.1 billion by CY30. The steel service industry in the Middle East and Africa is set for growth driven by ongoing infrastructure development and industrial expansion, particularly in construction, energy, and manufacturing sectors. The increasing demand for steel in large-scale projects, such as roads, bridges, and commercial buildings, is boosting market prospects. The region's focus on diversifying economies and improving industrial capabilities through government initiatives further supports the growth of Steel

Processing Centres. Additionally, the rise in urbanization and growing automotive industries are expected to further fuel demand for steel products, enhancing the role of service centres in delivering customized solutions.

4.2.3 Global Steel Processing Centre Market Size By End-User Industry

Steel Processing Centres play a crucial role in providing processed and customised steel products to various end-user industries, ensuring that each sector's unique requirements are met efficiently.

One of the key sectors they serve is **Distribution**, where service centres supply steel products to wholesalers and retailers. These centres offer services like cutting, slitting, and inventory management to meet the specific demands of distributors, ensuring the timely delivery of products.

Fabrication is another significant end-user sector. Steel Processing Centres provide fabricated steel components for industries such as structural steel, machinery, and equipment. These industries require precision-cut steel parts, which service centres produce to support the manufacturing of end products.

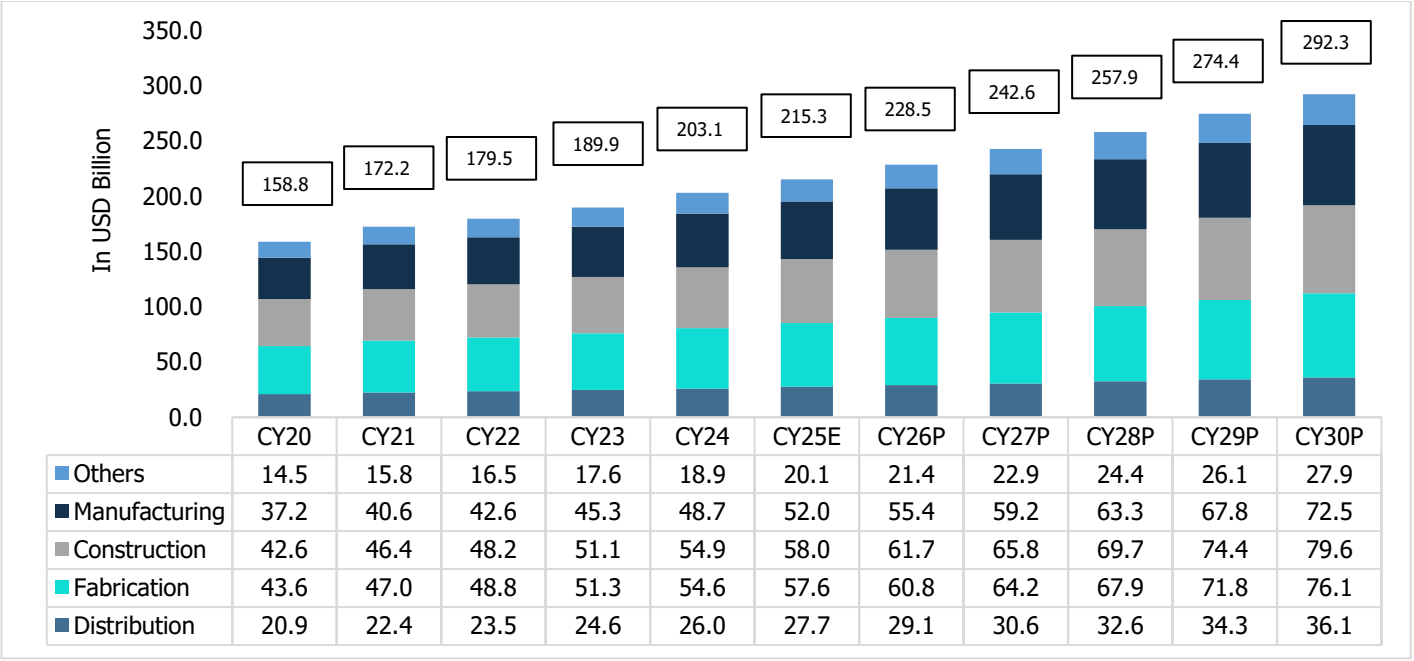
The **Construction** industry heavily relies on Steel Processing Centres for processed materials needed in building infrastructure, from residential projects to large-scale commercial and civil constructions. Steel's versatility and strength make it indispensable for constructing frameworks, beams, and other structural elements.

Manufacturing industries, including automotive and machinery production, also form a large part of the customer base for Steel Processing Centres. These sectors require a steady supply of high-quality steel components, which service centres offer in various forms like sheets, coils, and plates, often with tailored specifications.

In addition, Steel Processing Centres support other industries, such as energy (wind turbines, oil, and gas pipelines), military, and aerospace. These sectors require specialised steel for complex, high-performance applications, and service centres ensure that the steel meets stringent standards for durability and safety. In the **energy sector**, steel is used in wind turbines and oil and gas pipelines, requiring durability and corrosion resistance. The **military industry** relies on high-strength steel for vehicles, weapons, and defence infrastructure, requiring materials that meet strict durability and performance standards. In **aerospace**, steel is used for manufacturing aircraft and spacecraft components, demanding lightweight yet strong materials that meet safety and performance criteria.

It is expected that the future CAGR growth in these end-user industries will drive steel demand to grow at a CAGR of around 6-8%.

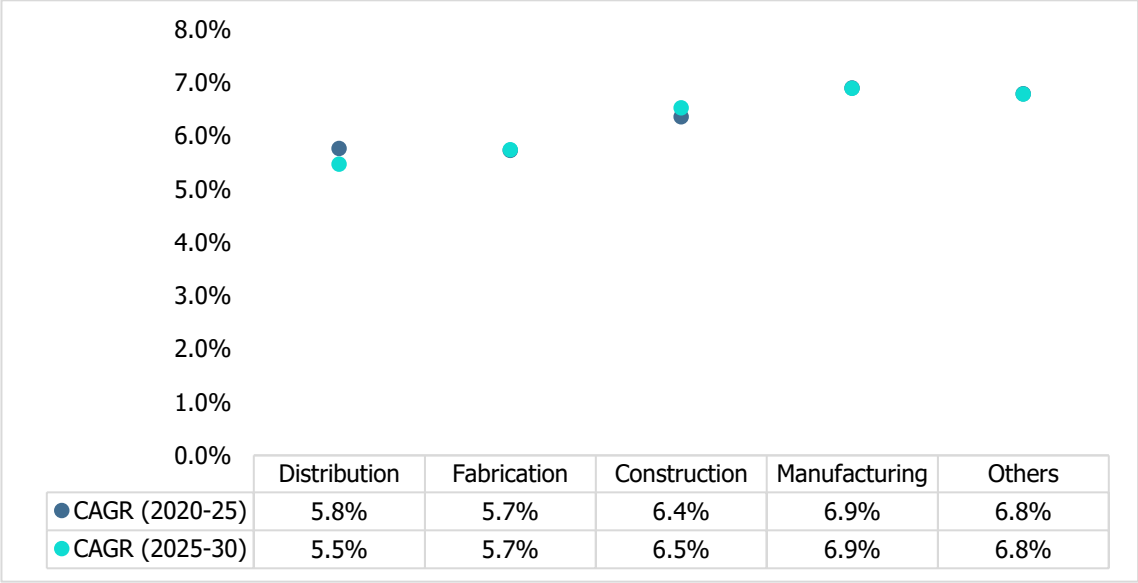
Chart 34: Global Steel Processing Centre Market Size By End-User Industry



	CY20	CY21	CY22	CY23	CY24	CY25E	CY26P	CY27P	CY28P	CY29P	CY30P
Others	14.5	15.8	16.5	17.6	18.9	20.1	21.4	22.9	24.4	26.1	27.9
Manufacturing	37.2	40.6	42.6	45.3	48.7	52.0	55.4	59.2	63.3	67.8	72.5
Construction	42.6	46.4	48.2	51.1	54.9	58.0	61.7	65.8	69.7	74.4	79.6
Fabrication	43.6	47.0	48.8	51.3	54.6	57.6	60.8	64.2	67.9	71.8	76.1
Distribution	20.9	22.4	23.5	24.6	26.0	27.7	29.1	30.6	32.6	34.3	36.1

Source: MAIA, CareEdge Research; Note: E-Estimates, P-Projections, CY refers to Calendar Year
Note: The numbers in the box represent the total market size of the industry

Chart 35: Global Steel Processing Centre Market Size By End-User Industry (CAGR Growth)



	Distribution	Fabrication	Construction	Manufacturing	Others
CAGR (2020-25)	5.8%	5.7%	6.4%	6.9%	6.8%
CAGR (2025-30)	5.5%	5.7%	6.5%	6.9%	6.8%

Source: MAIA, CareEdge Research; Note: E-Estimates, P-Projections, CY refers to Calendar Year

4.2.3.1 Distribution

The market size of Steel Processing Centre by the distribution industry has grown at a CAGR of 5.8% from CY20 to CY25 reaching an estimated value of USD 27.7 billion by CY25. It is projected to grow at a CAGR of 5.5% from CY25 to CY30, reaching market value of USD 36.1 billion by CY30. The growth of the steel service industry within the distribution sector is fuelled by the rising demand for processed steel across a wide range of industries. As distribution networks expand and evolve, Steel Processing Centres play a critical role in offering tailored solutions such as precision cutting, slitting, and efficient inventory management. The increasing focus on just-in-time inventory practices by manufacturers,

combined with the growing volume of infrastructure and industrial projects, further boosts the need for steel products. Steel Processing Centres enable distributors to meet specific product specifications and deliver materials quickly, helping optimize the supply chain and reduce lead times. This ability to provide customized, high-quality steel solutions will continue to drive significant growth within the distribution sector.

4.2.3.2 Fabrication

The market size of Steel Processing Centre by fabrication industry has grown at a CAGR of 5.7% from CY20 to CY25 reaching an estimated value of USD 57.6 billion by CY25. It is projected to grow at a CAGR of 5.7% from CY25 to CY30 reaching market value of USD 76.1 billion by CY30. The steel service industry's growth in the fabrication sector is driven by the increasing demand for customised steel components used in various applications, such as structural steel, machinery, and equipment. Steel Processing Centres play a vital role in providing precisely processed materials like cut-to-size parts that meet specific engineering and design requirements. As industries continue to demand high-quality, tailor-made steel products for fabrication, the need for efficient and reliable supply chains grows. With advancements in fabrication technologies and a focus on reducing lead times, Steel Processing Centres will remain integral to supporting the fabrication industry's evolving needs, driving future market expansion.

4.2.3.3 Construction

The market size of Steel Processing Centre by construction industry has grown at a CAGR of 6.4% from CY20 to CY25, reaching an estimated value of USD 58 billion by CY25. It is projected to grow at a CAGR of 6.5% from CY25 to CY30 reaching a market value of USD 79.6 billion by CY30. The steel service industry's growth in the construction sector is driven by the increasing use of steel in building materials and structural components, essential for a wide range of construction projects. Steel's strength, durability, and versatility make it the material of choice for residential, commercial, and infrastructure developments. As demand for machinery and equipment rises in construction, Steel Processing Centres play a critical role in providing precisely processed steel products that meet specific construction requirements. Ongoing urbanization and infrastructure expansion will continue to fuel the need for steel, ensuring that Steel Processing Centres remain integral to the construction industry's growth.

4.2.3.4 Manufacturing

The market size of Steel Processing Centre by manufacturing industry has grown at a CAGR of 6.9% from CY20 to CY25 reaching an estimated value of USD 52 billion by CY25. It is projected to grow at a CAGR of 6.9% from CY24 to CY30 reaching market value of USD 72.5 billion by CY30. The growth of the steel service industry in the manufacturing sector is driven by rapid industrialization and the increasing preference for local manufacturing. As industries expand, the need for efficient steel processing and distribution becomes crucial, with Steel Processing Centres playing a key role in providing tailored solutions for diverse manufacturing applications. The establishment of new service centres in various regions is helping meet this demand, ensuring timely delivery of high-quality steel products. Government initiatives that support domestic production and infrastructure development further contribute to market growth, creating favourable conditions for Steel Processing Centres to thrive within the manufacturing sector.

4.2.3.5 Others

The market size of Steel Processing Centre by other industries (including Energy (e.g., wind turbines, oil, and gas pipelines), Military, and Aerospace Industry) has grown at a CAGR of 6.8% from CY20 to CY25 reaching an estimated value of USD 20.1 billion by CY25. It is projected to grow at a CAGR of 6.8% from CY25 to CY30, reaching market value of USD 27.9 billion by CY30. The steel service industry's growth in sectors like energy, military, and aerospace is driven by the increasing demand for high-performance steel used in specialised applications such as wind turbines, oil and gas pipelines, military vehicles, and aerospace components. These industries require steel that meets stringent standards for durability, strength, and resistance to extreme conditions. As the energy sector expands with renewable energy projects and infrastructure upgrades, and as military and aerospace industries advance, the need for customized steel solutions will continue to rise. Steel Processing Centres are essential in providing precision-engineered steel products to support these critical, high-demand industries.

4.3 Steel Processing Centre Market Size in India

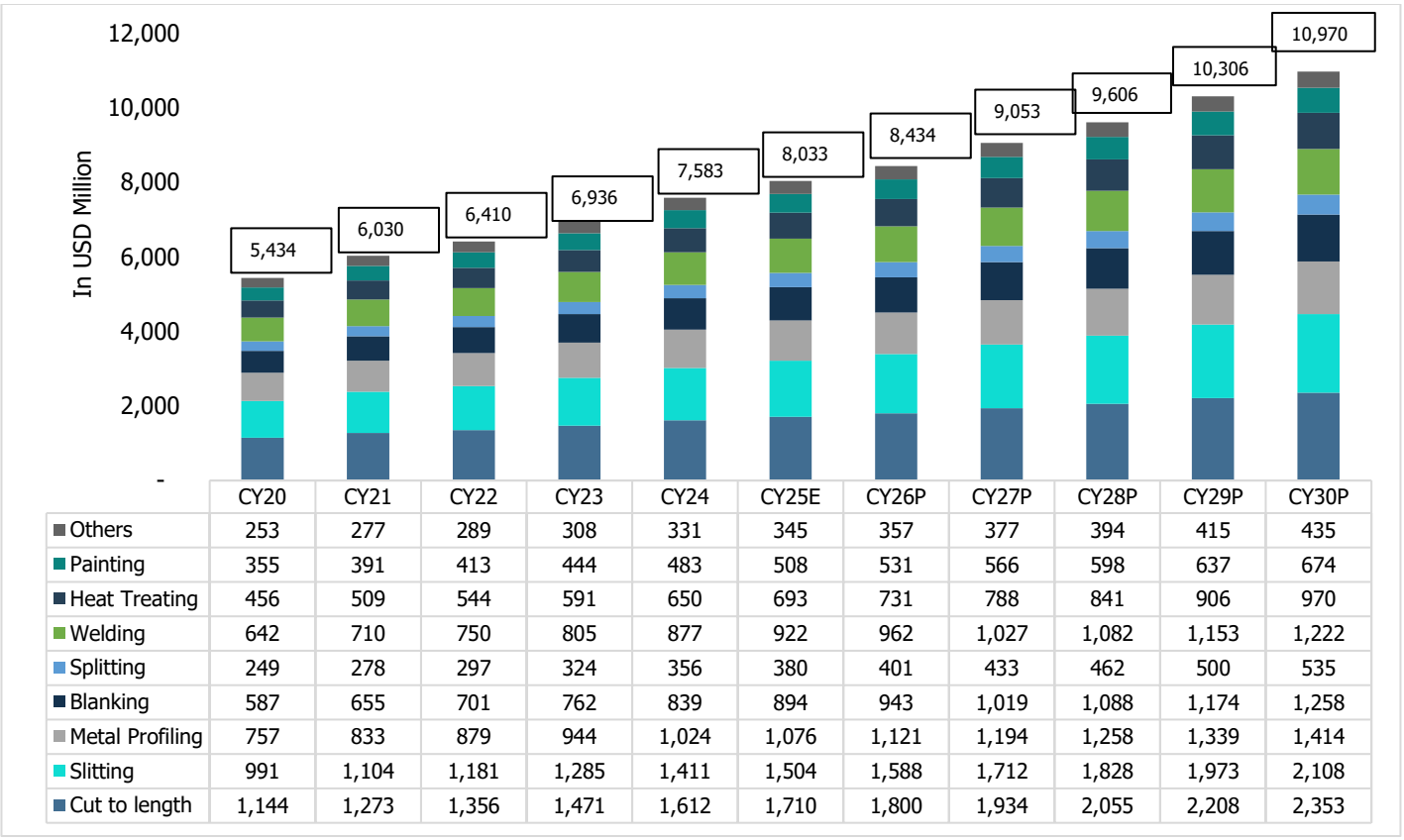
4.3.1 Steel Processing Centre Market Size in India By Service Type

Steel Processing Centres (SPCs) in India are experiencing significant growth, driven by the increasing demand for steel across various sectors such as automotive, construction, infrastructure, and manufacturing. As India's industrialisation accelerates and infrastructure development intensifies, SPCs play a pivotal role in bridging the gap between large-scale steel producers and end-users. These centres provide essential services such as inventory management, steel processing, and timely distribution, allowing industries to access steel in the precise forms and quantities needed for production.

The growing demand for steel in infrastructure projects, supported by government initiatives and urbanisation, continues to drive the importance of steel processing centres (SPCs). With the automotive sector's steady expansion, these centres play a vital role in customizing steel to industry-specific needs, reducing waste, and improving manufacturing efficiency. As India's manufacturing ecosystem evolves and just-in-time delivery systems gain traction, SPCs are becoming increasingly critical. Rising domestic demand, particularly from small and medium enterprises, further positions SPCs to expand their value-added services, supporting both large-scale industries and smaller fabricators. This growth is reinforced by India's ambition to become a global manufacturing hub, with projections indicating a steady rise in steel consumption.

At the same time, the sector's future trajectory reflects certain structural and external dynamics. While earlier phases were marked by rapid growth, competition, infrastructural bottlenecks, and logistical constraints such as inland plant locations and transport inefficiencies, may temper expansion. Additionally, domestic steel prices face pressure from cheaper imports, particularly from China and Southeast Asia, which affect margins, investment appetite, and capacity utilization. Together, these factors suggest a more moderate but sustained growth outlook for SPCs, underscoring their continued significance in India's manufacturing and economic landscape.

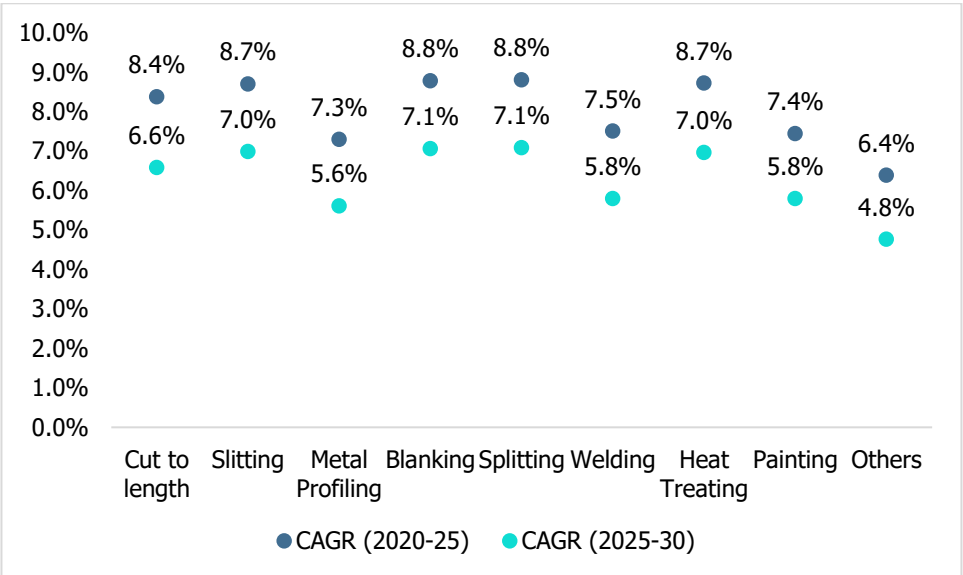
Chart 36: Steel Processing Centre Market Size in India By Service Type



	CY20	CY21	CY22	CY23	CY24	CY25E	CY26P	CY27P	CY28P	CY29P	CY30P
Others	253	277	289	308	331	345	357	377	394	415	435
Painting	355	391	413	444	483	508	531	566	598	637	674
Heat Treating	456	509	544	591	650	693	731	788	841	906	970
Welding	642	710	750	805	877	922	962	1,027	1,082	1,153	1,222
Splitting	249	278	297	324	356	380	401	433	462	500	535
Blanking	587	655	701	762	839	894	943	1,019	1,088	1,174	1,258
Metal Profiling	757	833	879	944	1,024	1,076	1,121	1,194	1,258	1,339	1,414
Slitting	991	1,104	1,181	1,285	1,411	1,504	1,588	1,712	1,828	1,973	2,108
Cut to length	1,144	1,273	1,356	1,471	1,612	1,710	1,800	1,934	2,055	2,208	2,353

Source: MAIA, CareEdge Research; Note: E-Estimates, P-Projections, CY refers to Calendar Year
Note: The numbers in the box represent the total market size of the industry

Chart 37: Steel Processing Centre Market Size in India By Service Type (CAGR Growth)



Source: MAIA, CareEdge Research; Note: E-Estimates, P-Projections, CY refers to Calendar Year

4.3.1.1 Cut to Length

The market size of Cut to Length service type grew at a CAGR of 8.4% from CY20 to CY25, reaching an estimated market size of USD 1,710 million by CY25. It is further projected to grow at a CAGR of 6.6% from CY25 to CY30 reaching a market size of USD 2,353 million by CY30.

4.3.1.2 Slitting

The market size of Slitting service type grew at a CAGR of 8.7% from CY20 to CY25, reaching an estimated market size of USD 1,504 million by CY25. It is further projected to grow at a CAGR of 7% from CY25 to CY30 reaching a market size of USD 2,108 million by CY30.

4.3.1.3 Metal Profiling

The market size of the Metal Profiling service type grew at a CAGR of 7.3% from CY20 to CY25 reaching an estimated market size of USD 1,076 million by CY25. It is further projected to grow at a CAGR of 5.6% from CY25 to CY30, reaching market size of USD 1,414 million by CY30.

4.3.1.4 Blanking

The market size of the Blanking service type grew at a CAGR of 8.8% from CY20 to CY25 reaching an estimated market size of USD 894 million by CY25. It is further projected to grow at a CAGR of 7.1% from CY25 to CY30 reaching market size of USD 1,258 million by CY30.

4.3.1.5 Splitting

The market size of Splitting service type grew at a CAGR of 8.8% from CY20 to CY25 reaching an estimated market size of USD 380 million by CY25. It is further projected to grow at a CAGR of 7.1% from CY25 to CY30 reaching market size of USD 535 million by CY30.

4.3.1.6 Welding

The market size of the Welding service type grew at a CAGR of 7.5% from CY20 to CY25 reaching an estimated market size of USD 922 million by CY25. It is further projected to grow at a CAGR of 5.8% from CY25 to CY30, reaching market size of USD 1,222 million by CY30.

4.3.1.7 Heat Treating

The market size of Heat-Treating service type grew at a CAGR of 8.7% from CY20 to CY25 reaching an estimated market size of USD 693 million by CY25. It is further projected to grow at a CAGR of 7% from CY25 to CY30 reaching market size of USD 970 million by CY30.

4.3.1.8 Painting

The market size of Painting service type grew at a CAGR of 7.4% from CY20 to CY25 reaching an estimated market size of USD 508 million by CY25. It is further projected to grow at a CAGR of 5.8% from CY25 to CY30 reaching market size of USD 674 million by CY30.

4.3.1.9 Others

The market size of Other service types including shearing, embossing, and surface treatment such as pickling and oiling, galvanizing, nickel plating, chrome plating, phosphating, etc. grew at a CAGR of 6.4% from CY20 to CY25 reaching an estimated market size of USD 345 million by CY25. It is further projected to grow at a CAGR of 4.8% from CY25 to CY30 reaching market size of USD 435 million by CY30.

4.4 Role of Steel Processing Centres

Steel Processing Centres (SPCs) play a vital and increasingly strategic role in the global steel supply chain, acting as essential intermediaries between steel producers and the industries that rely on steel. These centres are instrumental in providing industries with precise steel products in the exact quantities and forms they require, streamlining the often complex and cumbersome process of sourcing and processing raw steel. The SPCs operate by procuring large volumes of steel from steel mills, then cutting, slitting, shearing, coating, or performing other value-added services to tailor the steel to the specific needs of customers.

This customisation capability is crucial in industries such as automotive, construction, aerospace, and consumer electronics, where steel products need to meet strict material specifications. For example, automotive manufacturers require steel components with high-strength properties and precise dimensions for vehicle safety and performance, while construction companies need steel beams and plates that adhere to specific load-bearing standards. SPCs provide these industries with processed steel, such as pre-cut sheets, galvanized components, or steel parts in specific shapes, ready for direct use in production, reducing waste, lead times, and the need for additional processing.

In India, the role of SPCs has become even more significant with the rapid industrialisation, urbanization, and infrastructural development. India is experiencing a surge in demand for steel across sectors such as automotive, construction, infrastructure, and consumer durables. As a result, SPCs are becoming indispensable by ensuring timely and precise steel deliveries in line with the just-in-time inventory model widely adopted by manufacturers. This model is particularly important in sectors like automotive, where assembly lines rely on the availability of high-quality steel at precise intervals. By providing customised solutions and eliminating the need for large-scale investments in steel processing by end-users, SPCs enable businesses to reduce operational overheads and improve manufacturing efficiency.

One of the key differentiators of SPCs is their ability to offer high-quality steel products while also maintaining excellent customer service. SPCs typically build strong relationships with steel mills, which helps them source top-quality raw materials at competitive prices. They also focus heavily on customer support, offering tailored solutions and fast, reliable delivery, which are essential to industries that operate under tight deadlines. This commitment to precision and timely service helps businesses in sectors like automotive and construction optimize their operations, minimise production downtime, and ensure consistent quality in the final products.

Additionally, SPCs play a pivotal role in managing inventory and logistics, which is crucial in a large and diverse country like India. India’s vast geographical expanse and the sometimes-uneven infrastructure, particularly in rural and semi-urban areas, mean that efficient logistics are crucial for timely deliveries. SPCs maintain regional warehouses and transport fleets, which enable them to manage stock efficiently and deliver steel products promptly to major urban centres as well as Tier-2 and Tier-3 towns. Their ability to handle logistics challenges, including seasonal delays such as monsoons or transportation bottlenecks, gives them a competitive edge in ensuring consistent product availability.

The increasing importance of sustainability also plays into the growing demand for SPCs. By processing steel to precise sizes, SPCs minimise material wastage, contributing to more sustainable manufacturing practices. In the face of India’s commitment to achieving Net Zero emissions by 2070, SPCs can further support the steel sector’s sustainability goals by ensuring that steel is used efficiently and that waste materials are recycled.

Looking ahead, as India's manufacturing sector continues to grow and diversify, SPCs will be increasingly crucial. As industries such as automotive, construction, and infrastructure expand, the need for high-quality, customised steel products will only increase. With India becoming a major global steel player, the demand for SPCs’ services, ranging from processing to just-in-time delivery, will expand, creating significant growth opportunities. SPCs will be pivotal in not only supporting India's domestic steel consumption but also strengthening its position as a key player in global steel exports, especially to emerging markets in Africa, Southeast Asia, and the Middle East.

4.5 Key Growth Drivers

- **Growing Demand from Construction and Automotive Industries:** The construction and automotive sectors are major consumers of steel, driving the demand for Steel Processing Centres. Steel is critical for applications such as structural framing in construction and car components in automotive production. As both industries expand, the need for Steel Processing Centres to supply customised steel products, with reduced lead times and processing, continues to rise.

- **Technological Advancements in Steelmaking:** Technological innovations are reshaping the steel industry, enabling more efficient steel production and processing. These advancements lead to lower production costs, making steel more accessible for various industries. The development of new equipment and steelmaking processes is also enhancing the productivity of Steel Processing Centres, enabling them to serve their customers more efficiently and cost-effectively.

- **Increased Utilisation of Steel Across Multiple Sectors:** Steel's versatility has driven its increased use in various sectors, including biotechnology, energy, shipbuilding, and manufacturing. Its role in heavy industries, construction, and machinery is expanding as demand for robust, temperature-resistant materials rises. Steel Processing Centres are essential for supplying specialised steel products, contributing to their growing market presence.

- **Globalisation and Competitive Market Expansion:** Globalisation has opened new opportunities for Steel Processing Centres to cater to international markets. As the global demand for steel rises, centres are increasingly competing for customers worldwide. This global reach encourages service centres to improve operational efficiency, adopt advanced technologies, and offer better services at competitive prices, ultimately benefiting customers.

- **Rise of Local Manufacturing and Industrialisation:** The shift toward local manufacturing, combined with rapid industrialisation, has boosted the demand for Steel Processing Centres. The establishment of new centres in emerging markets allows them to cater to local manufacturing needs. Additionally, the growing preference for steel in industries such as mining, construction, and chemicals further drives the demand for Steel Processing Centre services.

- **Expansion of India's Consumer Electronics and Appliances Sector Driving Steel Demand**: The consumer electronics and appliances sector in India is witnessing significant expansion, fuelled by rising incomes, technological innovation, and growing domestic demand. As the country positions itself as a major player in the global market for products like smartphones, white goods, and air conditioners, the need for high-quality materials, particularly steel, continues to rise. Steel plays a crucial role in the production of key components such as frames and internal structures, which are integral to the manufacturing of these consumer products. This increased demand for durable, reliable materials supports the broader industrial landscape.

4.6 Key Challenges

- **Volatility in Steel Prices:** One of the major challenges facing the Steel Processing Centre market is the fluctuation in steel prices. The price of raw materials, such as steel coils, can vary significantly, which impacts the margins of service centres. This volatility is driven by supply chain disruptions, changing global demand, and factors like inflation. These price shifts create uncertainty for both service centres and their customers, making it difficult to plan long-term strategies and maintain stable profitability. To mitigate volatility in prices and supply chain disruptions, India’s steel industry is focusing on diversifying its sourcing strategies, particularly by enhancing domestic production capabilities and reducing dependence on imported raw materials. Steel producers are also

investing in technology to improve production efficiency and reduce costs, while aligning with international environmental norms to lower energy consumption and waste. Additionally, companies are adopting advanced inventory management systems, including just-in-time practices, to optimise stock levels and minimize the impact of supply chain disruptions. These measures, along with strategic government initiatives to boost infrastructure, aim to stabilise the industry and reduce the risks posed by price fluctuations and global uncertainties.

- **Regulatory Compliance and Environmental Standards:** Steel Processing Centres are under constant pressure to comply with stringent industry regulations and environmental standards. Government policies and regulations on emissions, waste disposal, and energy usage can lead to higher operational costs for service centres. Smaller centres, in particular, may struggle to meet these requirements due to limited resources. While larger players can invest in eco-friendly technologies, the financial burden of compliance may slow down market growth for smaller centres.

- **Skilled Labour Shortages:** The growing complexity of Steel Processing Centre operations, driven by technological advancements, highlights the need for skilled labour. However, attracting and retaining qualified professionals is a challenge. The industry often struggles with a talent shortage, which can hinder productivity and innovation. The gap between the technological demands of modern service centres and the available workforce is a significant barrier to sustaining growth and improving operational efficiency.

- **Impact of Trade Policies and Global Economic Uncertainty:** Trade tensions, tariffs, and fluctuating global economic conditions can create an unpredictable market environment for Steel Processing Centres. These external factors affect the supply chain dynamics, causing delays and increasing costs. Uncertainty around global trade policies makes it difficult for service centres to maintain stable pricing structures and forecast demand, potentially limiting their growth opportunities in international markets.

- **Lack of Standardized Regulations:** The absence of standardised regulations across different regions can create operational challenges for Steel Processing Centres. The lack of clear and consistent guidelines can lead to inefficiencies, miscommunication, and higher compliance costs. This lack of uniformity is particularly problematic for service centres expanding into new or emerging markets, where regulatory landscapes may not be as developed or may vary greatly from established regions.

5 General Engineering Sector

The general engineering sector in India consists of a broad range of industries that supply critical components, machinery, and finished products to support manufacturing, infrastructure, and consumer markets. It includes diverse segments such as consumer electronics, HVAC systems, and the auto ancillary market, each playing a pivotal role in meeting domestic demand and enabling industrial growth. Consumer electronics and HVAC systems form the backbone of household and commercial comfort solutions, with rising urbanisation and higher disposable incomes driving demand. The auto ancillary segment, on the other hand, focuses on India's automotive industry by ensuring a steady supply of essential parts and components, supporting both domestic vehicle production and exports. Together, these industries reflect the sector's emphasis on innovation, efficiency, and value addition. With the government's focus on "Make in India," rising investments in manufacturing, and an expanding middle-class consumer base, the general engineering sector is positioned to grow steadily, offering opportunities across product development, supply chain optimisation, and technology integration. Its performance is closely linked to broader industrial momentum, making it an essential contributor to India's overall economic development.

5.1 Consumer Electronics Market in India

The consumer electronics market in India has witnessed significant growth in recent years, driven by technological advancements and increasing disposable incomes. This sector encompasses a wide range of products commonly used in households, including smartphones, televisions, air conditioners, refrigerators, washing machines, and more. These devices primarily serve entertainment, communication, and recreational purposes, catering to the diverse needs of consumers across urban and rural areas.

India's growing middle class and evolving lifestyles have fuelled the demand for consumer electronics, particularly smartphones, which have become an essential part of daily life for communication, social media, and entertainment. Additionally, home appliances like televisions and refrigerators continue to see high demand as households prioritise comfort and convenience.

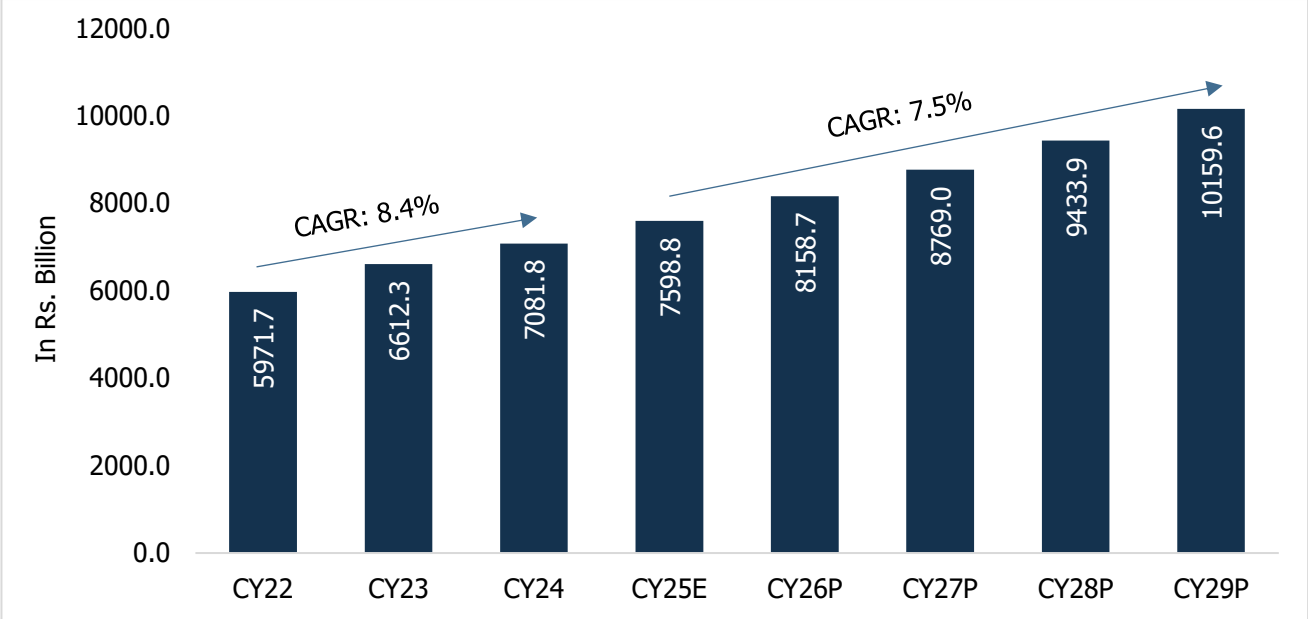
The market is also influenced by continuous innovation, with manufacturers introducing smarter, more energy-efficient, and feature-rich products to meet the evolving expectations of consumers. Moreover, the rise of e-commerce platforms has made these products more accessible to a broader population, further driving the growth of the market. As India embraces digitalisation and modernisation, the consumer electronics market is expected to remain a key driver of economic growth, with increasing opportunities for both local and global brands.

5.1.1 Market Size and Growth Forecast Based on Value

The market size of the Consumer Electronics Market in India has an estimated market size value of Rs 7,598.8 billion in CY25. It is further projected to grow at a CAGR of 7.5% and reach a market size value of Rs. 10,159.6 billion by CY29. The growth of India's consumer electronics market is driven by rising disposable incomes, changing lifestyles, and easier access to credit, which has led to increased demand for advanced electronics like smartphones, televisions, and computers. Government initiatives like Make in India, the Electronic Development Fund Policy, and the Production Linked Incentive Scheme have bolstered local manufacturing, attracting global players and reducing reliance on imports. The deeper penetration of e-commerce across urban and rural areas has opened new opportunities for the market, especially among India's tech-savvy youth.

Looking ahead, the growth will continue to be fuelled by technological advancements, such as the integration of AI, IoT, and AR/VR, which will enhance the appeal of consumer electronics. Rising internet penetration and the increasing purchasing power of a growing middle class will further drive demand. Additionally, the ongoing shift toward more affordable, feature-rich devices combined with improved quality will sustain the market's momentum, positioning India as a significant player in the global consumer electronics landscape.

Chart 38: Market Size of Consumer Electronics Market in India (CY22-CY29)



Source: EMIS, CareEdge Research; Note: E-Estimates, P-Projections, CY refers to Calendar Year

5.1.2 Consumer Durable Penetration Rate

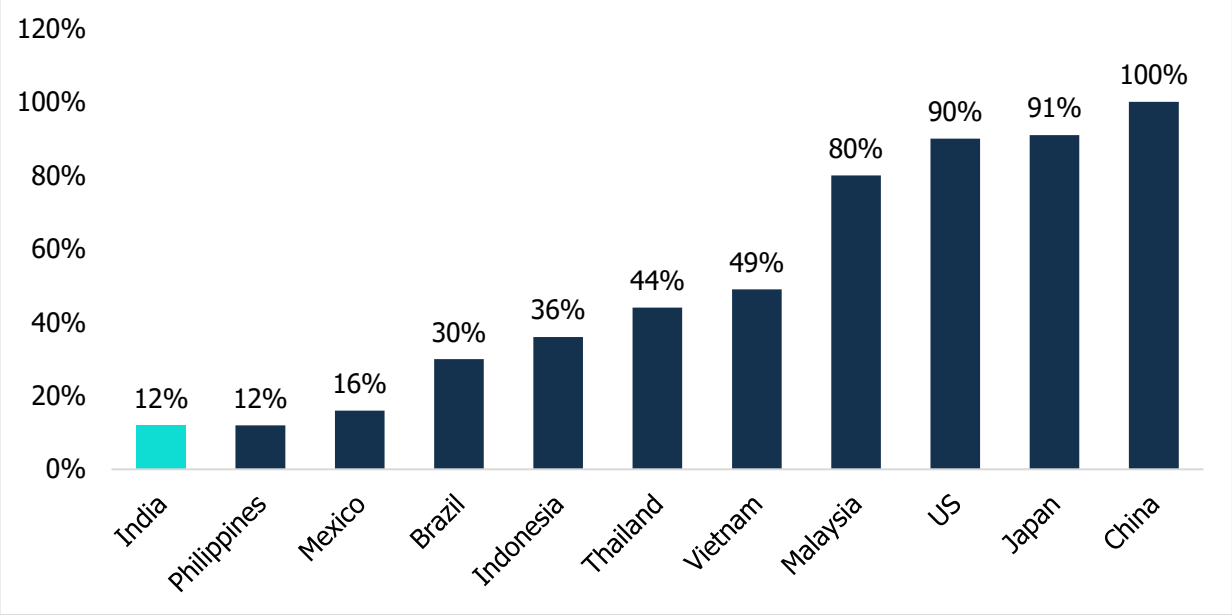
India's consumer durables market holds significant potential for growth, with low penetration rates compared to global standards. Its consumer durables market stands at a pivotal point, with significant untapped potential in household cooling. Compared to countries like China, the US, and Malaysia, where AC ownership is widespread, India remains far behind. Despite recent gains, only a small share of Indian homes have installed air conditioners, leaving room for a major growth spurt. This gap presents a huge opportunity: as rural and urban electrification progresses and incomes rise, AC adoption is poised to accelerate. With heatwaves becoming more frequent, cooling appliances are shifting from luxuries to essential investments. This momentum signals a promising future for the Indian consumer durables market, driven by expanding infrastructure, rising living standards, and increasing thermal comfort needs.

However, the scenario is rapidly evolving. Television penetration increased from 50% in 2018 to 60% in 2023, reflecting a growing demand for smart and large-screen models. Rising incomes, urbanisation, and improved electrification, especially in rural areas, are driving demand. Notably, India's middle class is also projected to increase, enhancing purchasing power. Additionally, climate change-induced heatwaves are making ACs a necessity rather than a luxury. This growing appetite for consumer goods is also fuelled by increasing disposable income, shorter product replacement cycles, and a shift toward premium, energy-efficient, and smart appliances.

Rising household consumption, particularly in rural areas, is reflective of this evolving trend. As the market matures and government initiatives such as PLI schemes and e-commerce expansion take effect, the penetration of consumer durables in India is set to rise rapidly. Challenges like high taxes on products such as air conditioners continue to hinder adoption but evolving consumer expectations and environmental pressures are pushing the market forward.

This surge in appliance adoption is also influencing steel demand. The World Steel Association expects strong growth in India’s steel demand in the near term, driven primarily by expansion in the infrastructure and manufacturing sectors. Consequently, Steel Processing Centres are poised to expand, supporting the production of consumer durables like ACs and refrigerators. In summary, while India currently lags in appliance penetration, favourable economic, climatic, and industrial factors are propelling growth, aligning it closer to developed economies.

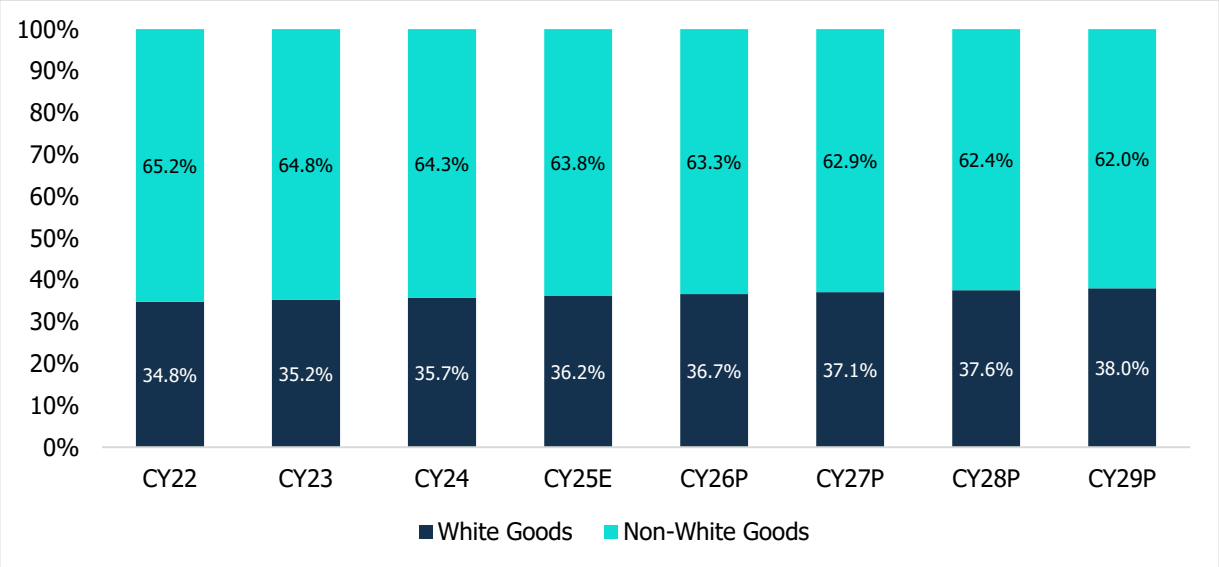
Chart 39: Room Air Conditioner (RAC) Penetration Rate in India vis-à-vis Other Nations



Source: EMIS, RHP, Industry Sources

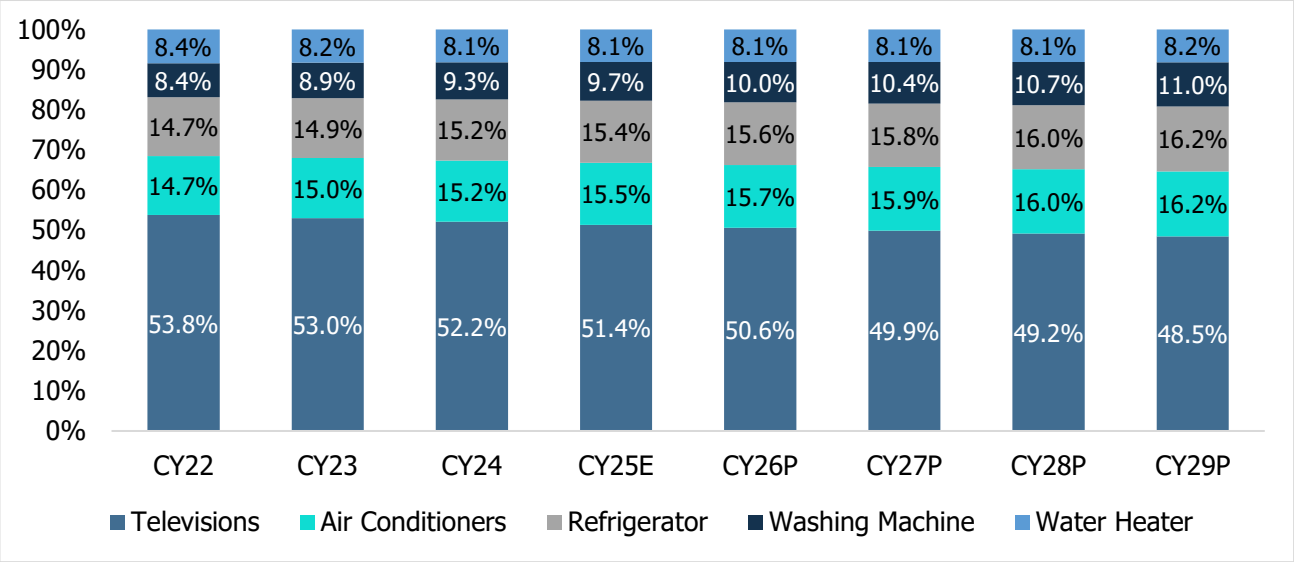
5.1.3 Market Share Based on Product Type

Chart 40: Market Share Breakup of Consumer Electronics Industry



Source: MAIA, CareEdge Research
Note: E-Estimates, P-Projections, CY refers to Calendar Year
White Goods include Television, Air Conditioner, Refrigerator, Washing Machine, and Water Heater
Non-White Goods include Smartphones and PCs, Laptops, and Tablets

Chart 41: Market Share Breakup of White Goods (Household Electronics) Industry



Source: EMIS, CareEdge Research; Note: E-Estimates, P-Projections, CY refers to Calendar Year

5.1.3.1 Television

India's television market is experiencing steady growth, driven by innovations in smart TV features and increasing screen sizes. The shift from traditional CRT to LCD and OLED technologies has transformed the market, with a growing preference for larger screens. E-commerce platforms have also fuelled expansion, capturing a significant market share through online sales events. As digital media rises, television remains a dominant player, contributing significantly to the media and entertainment sector. Television holds an estimated market share of 51.4% in the household electronics industry as of CY25. It is projected to decline, reaching a market share of 48.5% in CY29.

5.1.3.2 PCs, Laptops, and Tablets

India's PC market, encompassing desktops, laptops, and tablets, showed growth in late 2023, with desktops leading the way. Despite a decline in tablet shipments, the market is expected to recover strongly in 2024, with tablets predicted to drive significant growth. Government initiatives like 'Make in India' have bolstered local manufacturing, while a strong rebound in consumer sentiment and delayed commercial IT deployments is poised to further boost the market. PCs, Laptops, and Tablets are part of the non-white goods segment and have been estimated to grow at 7.7% from CY25-CY29.

5.1.3.3 Air Conditioners

India's air conditioner market is experiencing significant growth, driven by rising household incomes, urbanisation, and an expanding SME sector. Residential air conditioners, particularly split ACs, dominate the market, thanks to their energy efficiency and widespread adoption. The surge in construction projects across metro and tier-2 cities, combined with rising temperatures and extreme heatwaves, is further boosting demand. As consumer preferences shift towards cooling solutions, air conditioner ownership is projected to grow rapidly, reshaping energy consumption patterns in India. Air Conditioners hold an estimated market share of 15.5% in the household electronics industry as of CY25. It is projected to increase from CY25 to CY29, reaching a market share of 16.2% in CY29.

5.1.3.4 Refrigerators

India's refrigerator market is experiencing rapid growth, fuelled by rising incomes, urbanisation, and technological advancements. Smart refrigerators, including those with compressor-less technology, are gaining popularity, enhancing convenience and energy efficiency. As disposable incomes rise and non-metro areas see increased penetration, demand

for refrigerators continues to expand. Government initiatives promoting energy efficiency and sustainability align with global climate goals, further boosting market potential and reinforcing India's role in advancing environmental policies. Refrigerators hold an estimated market share of 15.4% in the household electronics industry as of CY25. It is projected to increase from CY25 to CY29, reaching a market share of 16.2% in CY29.

5.1.3.5 Washing Machine

India's washing machine market is expanding rapidly, driven by urbanisation, rising disposable incomes, and shifting lifestyles. The market caters to diverse consumer needs, with semi-automatic machines popular in rural areas and fully automatic ones favoured in urban regions. Innovation and smart features, along with government initiatives like "Make in India," are boosting local production and sustainability. As consumers prioritise convenience, energy efficiency, and eco-friendly options, the market is poised for continued growth across all segments. Washing Machines hold an estimated market share of 9.7% in the household electronics industry as of CY25. It is projected to increase from CY25 to CY29 reaching a market share of 11% in CY29.

5.1.4 Air Conditioners

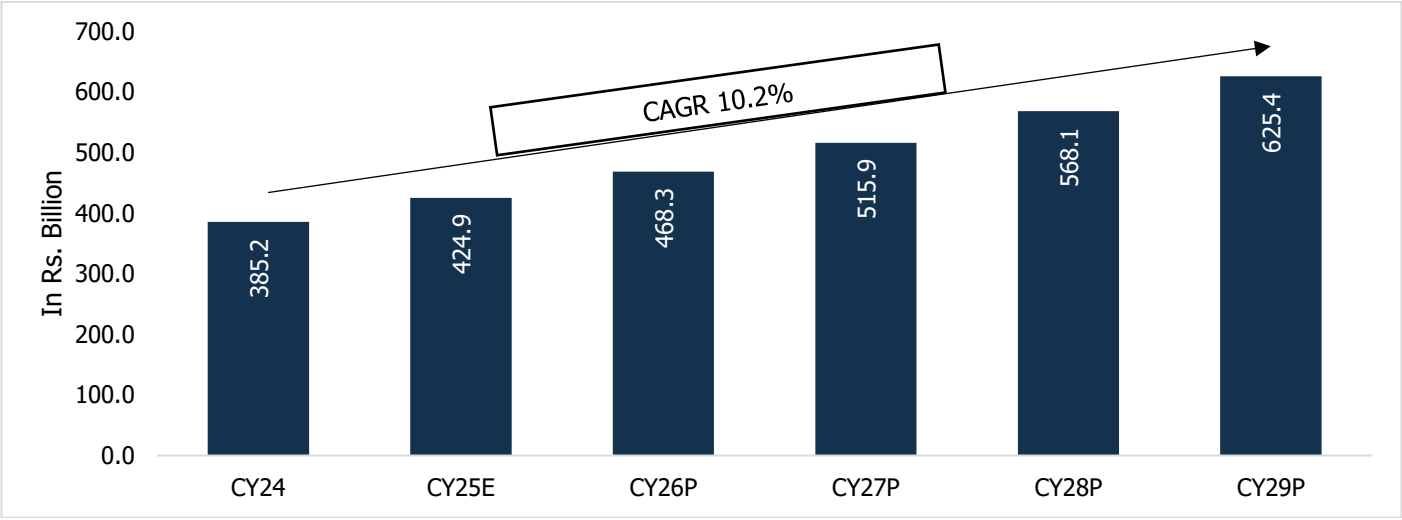
5.1.4.1 Current Market Scenario

The market size of Air Conditioner market in India as of CY25 stands at an estimated value of Rs 424.9 billion. India's air conditioner market is experiencing rapid growth, driven by rising household incomes, urbanisation, and the expansion of new housing and SMEs. The demand for energy-efficient products, especially split ACs, is increasing, particularly in residential and commercial sectors. Extreme heatwaves and higher living standards are further boosting sales, with air conditioning becoming more essential across India. The market is expected to continue growing significantly, shaping future energy consumption trends.

5.1.4.2 Market Size and Growth Forecast

The market size is projected to grow at a CAGR of 10.2% reaching a market size of Rs. 625.4 billion by CY29. The future growth of India's air conditioner market looks promising, with significant expansion expected in both residential and commercial sectors. As urbanisation, improved living standards, and the growth of SMEs continue, demand for energy-efficient products like split ACs will rise. Extreme weather patterns and a surge in construction projects will further fuel market growth. By 2050, air conditioner ownership is anticipated to increase dramatically, reshaping energy consumption patterns and placing a higher electricity demand.

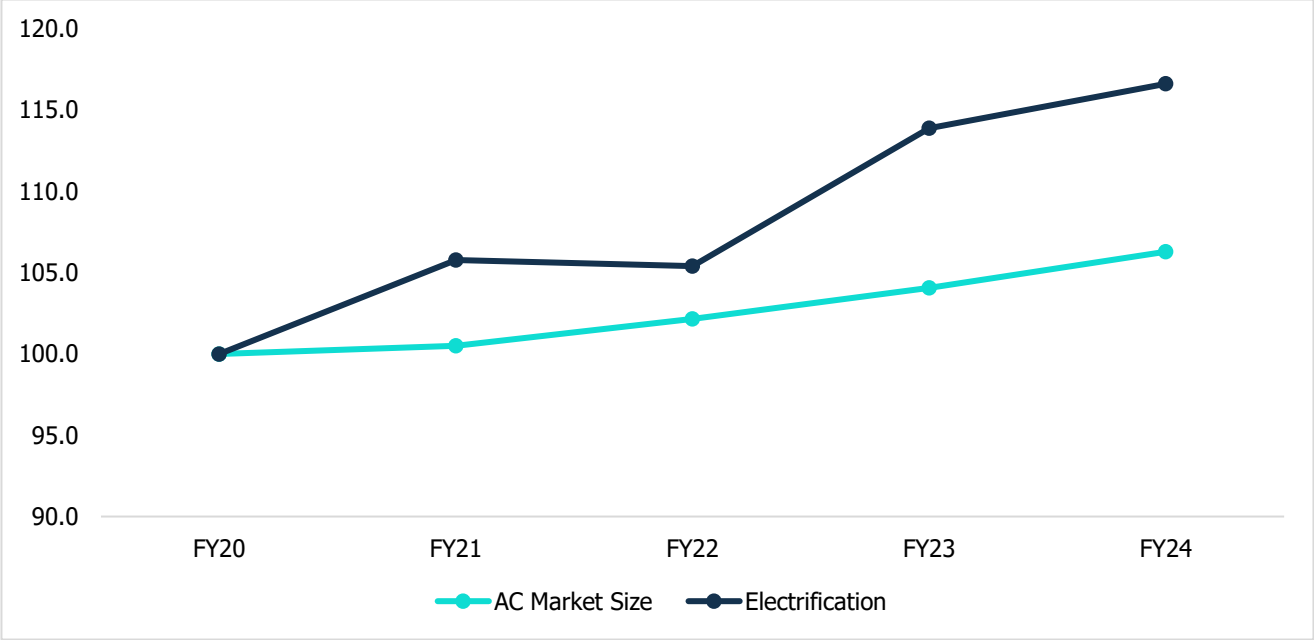
Chart 42: Air Conditioner Market Size (CY24-CY29)



Source: EMIS, CareEdge Research; Note: E-Estimates, P-Projections, CY refers to Calendar Year

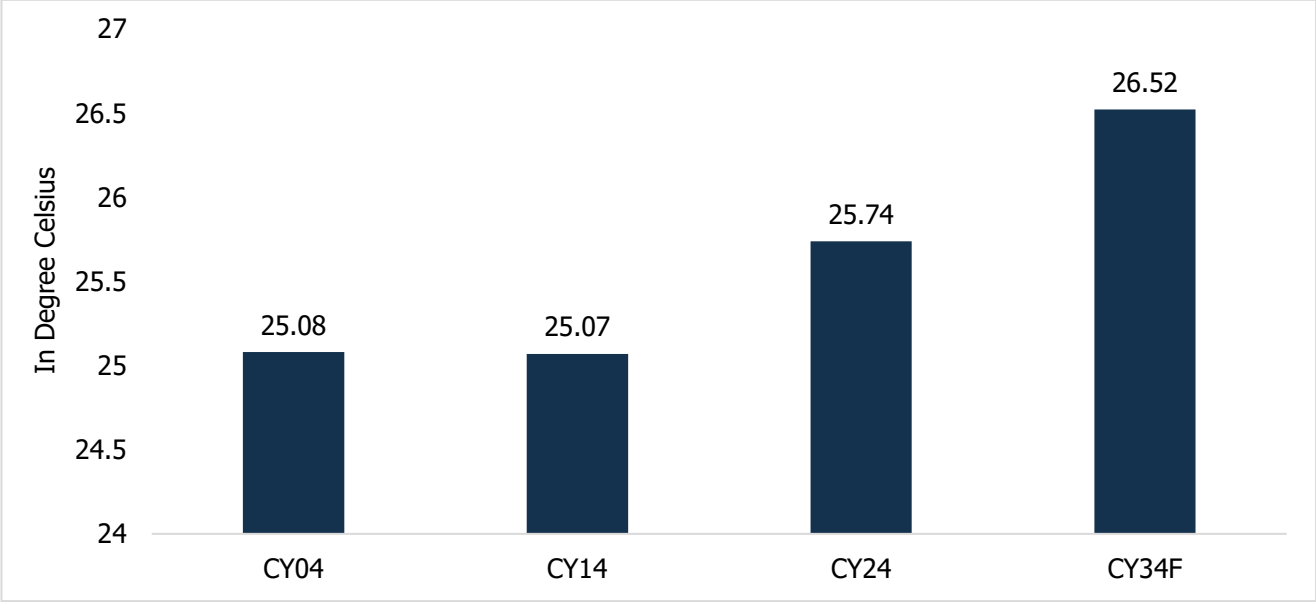
AC Demand on the Rise: How Heatwaves and Power Access Fuel AC Market Growth

Chart 43: Rising Electrification driving up AC Demand Growth



Source: EMIS, Technavio, NITI Aayog; Note: FY refers to Financial Year
Note: Numbers for AC Market Size and Electrification are indexed, Base Year: FY20=100

Chart 44: All India Annual Mean Temperature



Source: MOSPI, CareEdge Research
Note: F – Forecast

Record-breaking heat is pushing consumers toward cooling solutions, and as rural and urban electrification expands across India, more households now have the means to power air conditioners. Room AC sales are growing each year, driven by rising incomes and intensifying summer heatwaves. During the last decade, temperature has increased at a CAGR of 0.3%. If this trend continues, average temperatures are projected to reach 26.52 °C by CY34, further amplifying the demand for cooling solutions. Concurrently, successful rural electrification efforts have brought reliable electricity to previously unserved areas, unlocking demand for appliances, ACs included. Electrical access and stepping temperatures

form a feedback loop: when homes can finally plug in cooling units, scorching conditions make them essential. Industry data highlights double-digit growth in AC sales, with utilities in India now grappling with surges in summer peak loads tied directly to cooling use. Together, these trends explain the sharp uptick in AC market size alongside electrification efforts.

5.1.5 Refrigerators

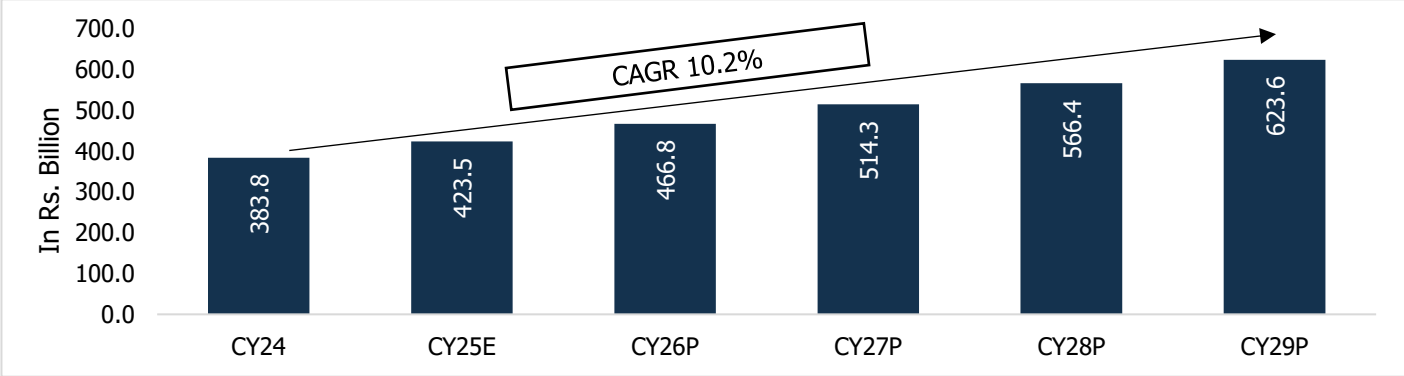
5.1.5.1 Current Market Scenario

The market size of Refrigerator market in India as of CY25 stands at an estimated value of Rs 423.5 billion. The refrigerator market in India is evolving rapidly, driven by advancements in cooling technologies, energy efficiency regulations, and sustainability initiatives. With growing demand for refrigerators and air conditioning, the industry is shifting towards eco-friendly alternatives, aligning with global climate commitments. Regulatory policies promoting low-GWP refrigerants and innovations like compressor-less cooling are shaping the market. Increased urbanisation, rising incomes, and green technology adoption are expected to further accelerate growth and transformation in the sector.

5.1.5.2 Market Size and Growth Forecast

The market size is projected to grow at a CAGR of 10.2% reaching a market size of Rs. 623.6 billion by CY29. The Indian refrigerator market is poised for significant growth, driven by rising disposable incomes, urbanisation, and continuous technological advancements. Increasing penetration into non-metro areas and evolving consumer lifestyles are further fuelling demand. Smart and compressor-less refrigerators represent the next wave of innovation, enhancing energy efficiency and convenience. Policy initiatives on energy efficiency and India's climate commitments also support sustainable market expansion, reinforcing its role as a key player in global energy and environmental policies.

Chart 45: Refrigerator Market Size (CY24-CY29)



Source: EMIS, CareEdge Research; Note: E-Estimates, P-Projections, CY refers to Calendar Year

5.1.6 Washing Machines

5.1.6.1 Current Market Scenario

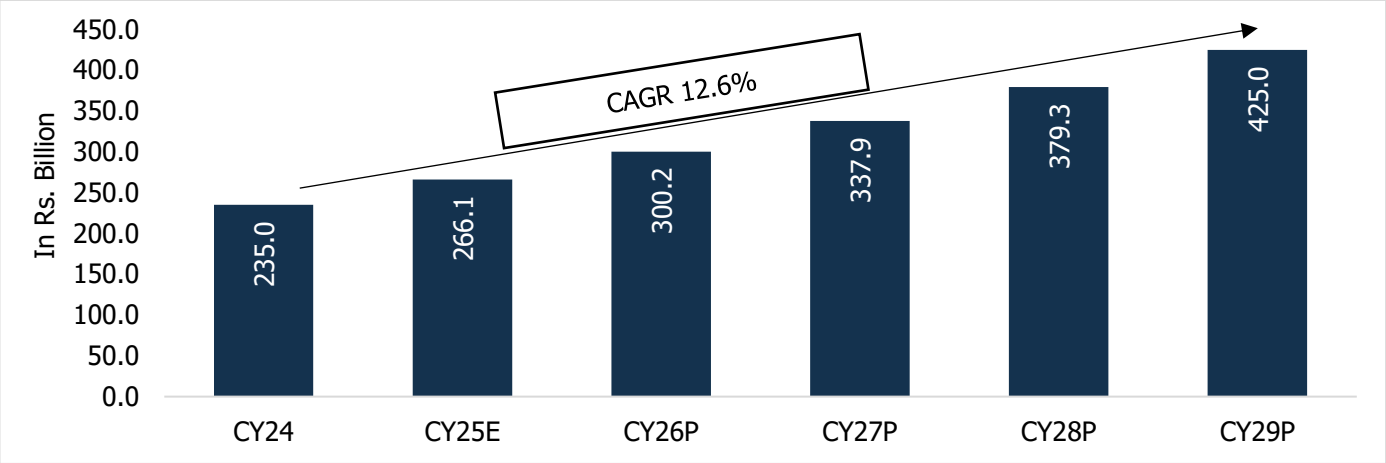
The market size of the Washing Machine market in India as of CY25 stands at an estimated value of Rs. 266.1 billion. The washing machine market in India is expanding rapidly, driven by urbanisation, rising incomes, and shifting consumer preferences. Demand is growing for both semi-automatic models in rural areas and fully automatic machines in urban households. Leading brands compete with innovations in energy efficiency, smart features, and sustainability. Government initiatives like Make in India further support local manufacturing, while increasing awareness of water and energy conservation shapes product development toward eco-friendly solutions.

5.1.6.2 Market Size and Growth Forecast

The market size is projected to grow at a CAGR of 12.6% reaching market size of Rs. 425 billion by CY29. The Indian washing machine market is poised for steady growth, driven by rising urbanisation, evolving consumer lifestyles, and increasing disposable incomes. A shift towards fully automatic and smart washing solutions is expected, particularly in

urban areas, while semi-automatic machines will continue to cater to cost-conscious consumers. Technological advancements, sustainability-focused innovations, and government support for domestic manufacturing will further accelerate market expansion, making energy-efficient and eco-friendly models more prominent in the coming years.

Chart 46: Washing Machine Market Size (CY24-CY29)



Source: EMIS, CareEdge Research; Note: E-Estimates, P-Projections, CY refers to Calendar Year

5.1.7 Water Heater Market

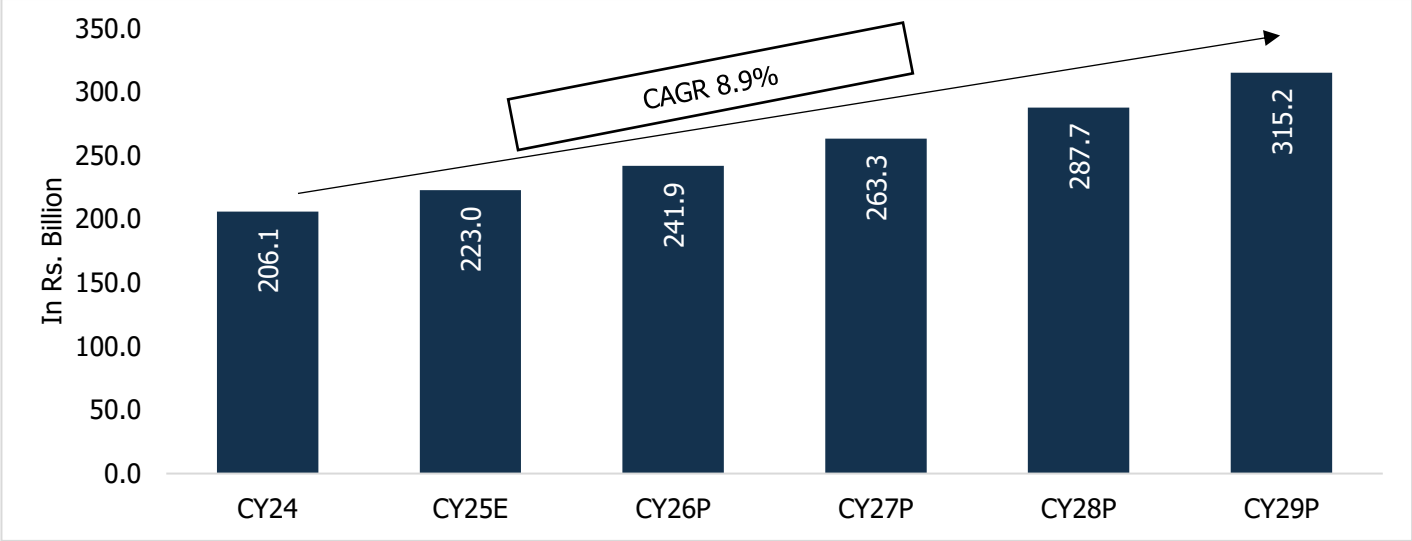
5.1.7.1 Market Overview

The water heater market in India is witnessing significant growth, driven by rising urbanisation, increasing disposable incomes, and a growing focus on energy-efficient appliances. The market caters to diverse consumer needs, offering distinct types such as tankless, storage tank, solar-powered, and heat pump water heaters. The demand for water heaters has been particularly strong in the residential sector, where people seek convenient and reliable solutions for hot water needs. While traditional alternatives like stoves and immersion rods have been popular, the adoption of water heaters is increasing due to government initiatives promoting energy access and rising awareness of modern appliances. Additionally, the growing popularity of online shopping has transformed consumer behaviour, with more customers opting for the convenience of purchasing water heaters through e-commerce platforms. Competition in the market is intensifying as both local and international brands innovate with innovative technologies, designs, and marketing strategies to capture a larger share of the expanding market.

5.1.7.2 Market Size and Forecast

The market size is projected to grow at a CAGR of 8.9% reaching a market size of Rs. 315.2 billion by CY29. The Indian water heater market is poised for steady growth driven by rising urbanisation, increasing disposable incomes, and heightened demand for energy-efficient solutions. As more consumers adopt modern living standards and seek reliable hot water for various uses, both residential and commercial sectors are expected to drive market expansion. With a growing focus on online sales and eco-friendly alternatives like solar water heaters, the industry is set for significant development in the coming years.

Chart 47: Water Heater Market Size (CY24-CY29)



Source: EMIS, CareEdge Research; Note: E-Estimates, P-Projections, CY refers to Calendar Year

5.1.8 Demand Drivers

- **Rising Urbanisation and Disposable Incomes:** The rapid urbanisation and growing disposable incomes in India are major demand drivers for the water heater market. As more people move to cities for better employment opportunities and living standards, the demand for modern household appliances like water heaters increases. Consumers in urban areas are increasingly inclined to invest in advanced, energy-efficient water heating solutions, particularly in apartments and multi-story buildings. This shift towards a more modern lifestyle, coupled with the rising middle class, continues to fuel market growth.

- **Government Initiatives Promoting Energy Efficiency and Sustainability:** The Indian government's initiatives to promote energy efficiency are contributing significantly to the water heater market. Programs aimed at improving energy usage standards have led to increased consumer awareness about the long-term economic and environmental benefits of energy-efficient water heaters. Additionally, subsidies and financial support for solar water heaters have made renewable energy solutions more accessible, driving their adoption across residential and commercial sectors and boosting demand for eco-friendly options.

- **Shift Toward Solar Water Heaters and Innovations:** Growing interest in eco-friendly solutions, alongside the availability of government incentives, is driving the shift towards solar water heaters. As India enjoys abundant sunshine year-round, the demand for solar-powered systems is on the rise. These systems, which are cost-effective and energy-efficient, are replacing traditional electric and gas water heaters. Additionally, ongoing innovations by manufacturers, such as the introduction of advanced technologies and safety features, are helping to further boost consumer adoption, particularly in rural areas where solar solutions are becoming more popular.

5.1.9 List of Key Players in the Industry

India's household appliances sector is witnessing accelerated expansion, driven by rising urbanisation, increasing disposable incomes, and a growing preference for comfort-oriented, energy-efficient appliances. The market is projected to grow at a CAGR of 8.8% between CY24-CY29, providing strong tailwinds for domestic manufacturers. This growth is clearly reflected in the performance of key players.

Amber Enterprises India Ltd, a dominant player in the room air conditioner segment and an Original Design Manufacturer (ODM) for many brands, reported consolidated revenues of Rs. 6,729 crore in FY24, with a revenue CAGR

of 30.5% over FY21–FY24. The company has benefited significantly from increasing localisation in electronics and strong seasonal AC demand.

Western Refrigeration Pvt. Ltd, engaged in manufacturing commercial refrigeration products like visi coolers and deep freezers, clocked Rs. 1,620 crores in FY23 revenue, growing at ~30% CAGR, supported by demand in the food, beverage, and retail sectors.

PG Technoplast Pvt. Ltd, a subsidiary of PG Electroplast, showed strong operating income growth of 41% YoY, reaching Rs. 1,456.8 crore in FY24. The company reported a surge in room air conditioner volumes, driven by expanded capacity and backwards integration into components, including indoor units and heat exchangers.

Epack Durable Pvt. Ltd, a fast-growing contract manufacturer for appliances such as ACs, washing machines, and small domestic appliances, recorded a ~24% CAGR in operating income over FY21–FY23. It has consistently expanded its product mix and customer base while building new manufacturing facilities to meet future demand.

These companies are not only capitalising on the growing domestic demand for appliances but are also strategically positioned to support global brands through contract manufacturing, aided by PLI (Production Linked Incentive) schemes and government initiatives promoting 'Make in India.' Their rapid growth demonstrates the transformative shift in India's white goods sector from import dependency to self-sufficiency and scale.

Table 12: Key Players in the Industry

Company Name	Major Products	Revenue CAGR growth over the last 3 years (FY21-FY25)
Amber Enterprises India Ltd	Air Conditioner	34.7%
Western Refrigeration Pvt. Ltd	Visi Cooler, Deep Freezers, and Vending Machines	45.4%*
Haier Appliances (India) Pvt. Ltd.	Refrigerators, Washing Machines, Air Conditioners, and Televisions	NA
Pg Technoplast Private Limited	Air Conditioners, Washing Machines, Air Coolers, and LED Televisions	160.3%**
Epack Durable Private Limited	Air Conditioners, Small Domestic Appliances, and Washing Machines	24.5%***

Source: Company Annual Reports and Website
Note: *This is for the period FY21-FY23
**This is for the period FY22-FY24
*** This is for the period FY21-FY24

5.2 Auto Ancillary Market in India

5.2.1 Automobile Production Trends

5.2.1.1 Overview

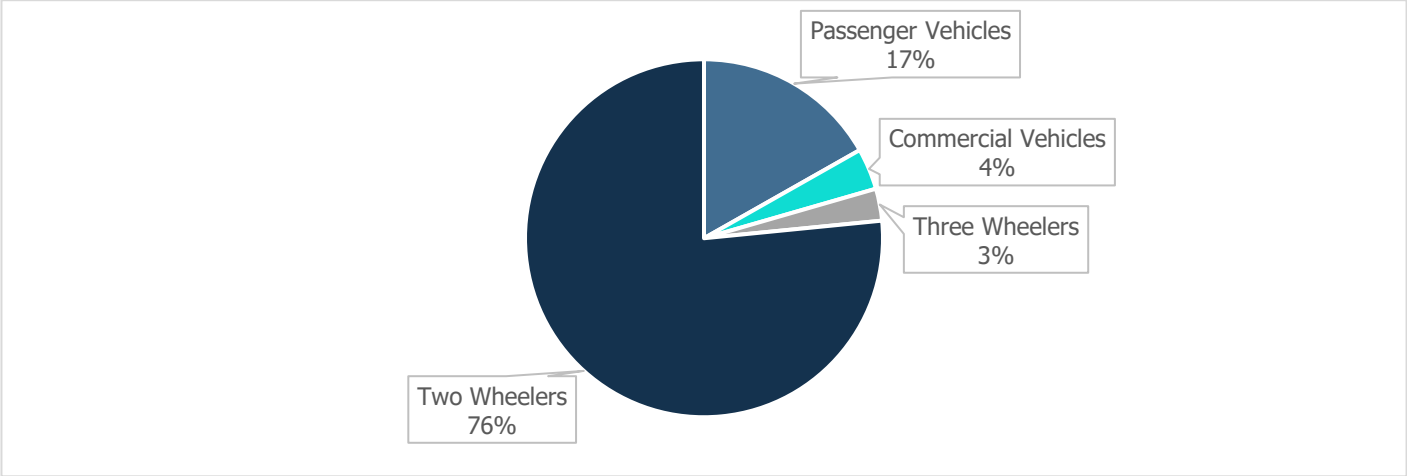
The automotive industry is one of the major drivers of economic growth due to its linkages with multiple industries. Its contribution to the GDP of India stands at around 7%. The growth of this sector benefits the commodity sector as vehicle manufacturing requires steel, aluminium, plastic, etc. It also holds importance for the NBFC/Banks in the form of automobile financing. Moreover, it is a crucial source of demand for the oil & gas industry.

India is the third-largest automobile market. Across segments of the industry, India is positioned amongst the leading markets globally. India is the largest manufacturer of two-wheelers, three-wheelers, and tractors. It is also among the top 5 manufacturers of passenger and commercial vehicles. The major growth drivers for the automobile industry in India are growing household income, favourable demographics with a sizeable proportion of the young population, expanding R&D hub, and government support. Besides growth prospects, India's favourable Foreign Direct Investment (FDI) policy with 100% FDI through the automatic route, low cost of manufacturing, and adequate manpower pool has attracted several foreign OEMs of the industry to invest in India and set up a manufacturing footprint.

The automobile exports grew at a modest CAGR of 2% between FY20 and FY25. However, in FY25, exports rebounded sharply, increasing by 19.2% compared to the same period last year, following significant declines of 5.5% in FY24 and 15% in FY23, driven by the global monetary crisis. In H1FY26, passenger vehicle exports rose by 18.4%, two-wheelers & three-wheelers by 25.5%, and commercial vehicles by 22.7%. Accordingly, exports are expected to remain robust in FY26, building on the healthy performance of recent years due Export demand from key markets, including Africa and neighbouring countries, is expected to remain strong, as 'Made in India' vehicles continue to gain acceptance and strengthen their market presence.

The Indian automobile market can be categorised into four segments: two-wheelers, three-wheelers, passenger vehicles, and commercial vehicles. Two-wheelers and passenger vehicles dominate the domestic Indian auto market. Two-wheelers and passenger cars contributed to about 77% and 17% respectively, of total automobile sales in FY25. The share of various segments in automobile sales in India in FY25 is depicted below:

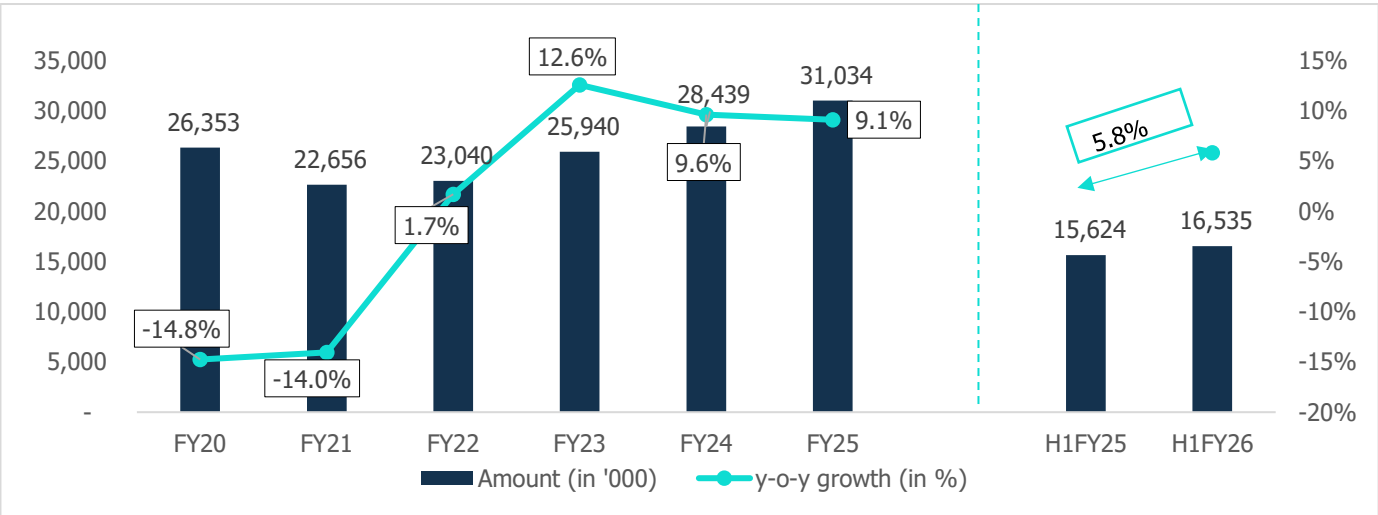
Chart 48: Share of various categories in automobile domestic sales for FY25 (In Volume)



Source: SIAM

5.2.2 Automotive Production in India

Chart 49: Automotive Production in India

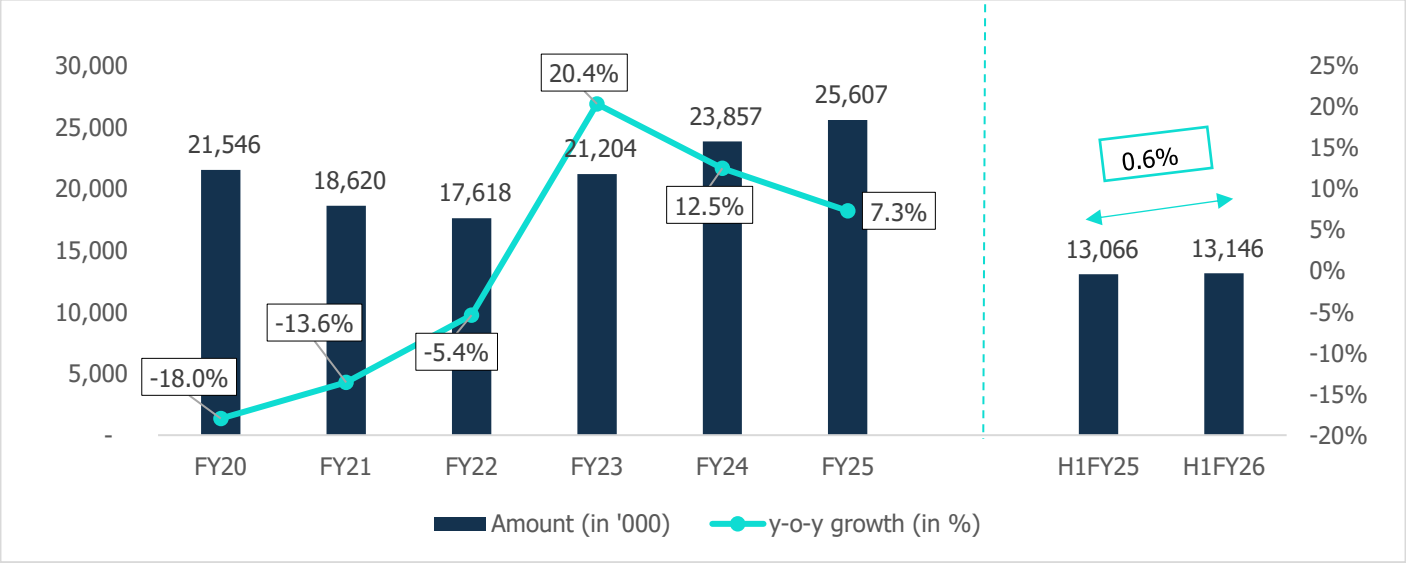


Source: SIAM, CareEdge Research

Automotive production grew by 9.1% y-o-y in FY25, following a similar growth of 9.6% in FY24 over FY23, whereas in H1FY26, production grew by 5.8% y-o-y. In FY25, among the segments, only two-wheelers & three-wheelers achieved double-digit growth, rising by 11.3%. In contrast, passenger vehicles saw a marginal increase of 3.3%, while commercial vehicles declined by 3.3% y-o-y growth for FY25. Consumer demand for automobiles has rebounded, driven by economic recovery, rising disposable incomes, and a growing preference for personal transportation. As a result, sales across various vehicle categories have increased, prompting manufacturers to boost production to meet the growing market demand.

5.2.3 Automotive Domestic Sales in India (Volume)

Chart 50: Automotive Domestic Sales in India



Source: SIAM, CareEdge Research

The domestic automobile sales show a marginal increase in H1FY26; the growth in sales volume across segments remained relatively flat, hence the retail registration for passenger vehicles, two-wheelers and three-wheelers was marginally higher than the previous H1FY25. However, September 2025 showed a recovery with a year-on-year

increase, fueled by GST reductions and festive demand. Overall sentiments across the industry have remained subdued so far, as the industry continues to navigate supply-side challenges.

Overall, the domestic automobile industry sales are expected to grow with a CAGR of around 7%-9% over the period of FY26-28. The passenger vehicle sector is expected to see a growth of around 3-5% in FY26, since a recovery is expected in view of probable GST tax reforms before the festive season kicks in this year. Automakers are lowering prices and launching new models to draw in customers. Growth is predicted to pick up in the second half of FY26, driven by expected interest rate cuts and the festive season. This will be supported by a strong order book, improvements in the supply chain, high inventory, and growing interest in the utility vehicle segment.

5.2.4 Overview of the Auto Ancillary Market

The auto ancillary industry is on the top rung of the automobile industry. It is also the foundation of the development of the automobile industry. Auto parts are the different components that make up an entire vehicle. Several auto components are becoming increasingly complex to meet the requirements of weight reduction and increased productivity, given the increasing adoption of advanced technologies. These include engine components, interiors, electric systems, chassis, suspension & braking, transmission (motor and motor controller- EV), cooling systems, consumables, die cast components, ignition switches, switches, and others. However, the automotive components industry is developing rapidly, transitioning into specialisation, and constantly upgrading, attributed to the thriving automobile industry.

Table 13: Types of Auto Components

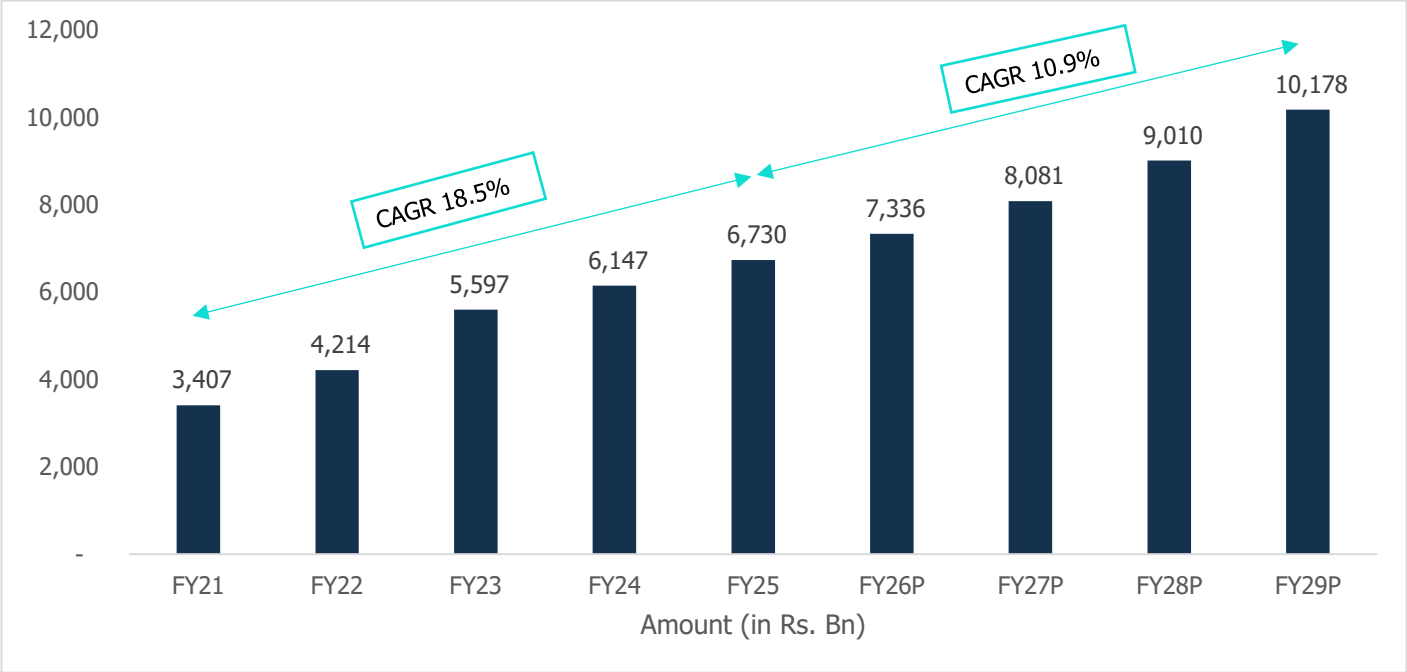
Parts	Description
Engine Components	An engine converts energy from fuel to some mechanical energy, creating motion in the process.
Interiors	The interior component of the car is the part that the driver and passengers see most and experience most closely - the steering wheel, dashboard, seats, door panels and so on.
Electric systems	The electrical system comprises a storage battery, generator, starting (cranking) motor, lighting system, ignition system, and various accessories and controls.
Chassis	"Chassis" is a term that should be used to refer to the load-bearing part of a car's frame. It is the horizontal section of the vehicle that connects other components of the structure. The chassis is a set of mechanical components that make it possible to transfer power from the drive unit to the wheels.
Suspension & Braking	The suspension system is a protective lattice of shock-absorbing components such as springs and dampers. Suspension components eliminate "lag" and maintain proper vehicle geometry, which reduces braking time and braking distance.
Transmission (Motor and Motor Controller- EV)	In a car, a transmission, or a gearbox acts as the medium that transmits power generated by the engine to the wheels via a mechanical system of gears and gear trains. A transmission allows a person to apply power to the vehicle in a controlled manner, without which the car would not move efficiently.
Cooling Systems	Almost all cars have liquid cooling systems in their engines. A typical automotive cooling system consists of a series of channels cast into the engine block and cylinder head, a radiator, a thermostat, a fan, and a centrifugal water pump.
Consumables	Consumables simply refer to the items that require constant expenditure, like brake oil, nuts, bolts, screws, washers, engine oil, and gearbox oil.
Die Cast Components	The major automobile components made using casting are pistons, engine blocks, valve covers, wheels, transmission housing, carburettors, fan clutches.

Fuel Tank	A fuel tank is a safe container for flammable fluids, often gasoline or diesel fuel. Though any storage tank for fuel may be so called, the term is typically applied to part of an engine system in which the fuel is stored and propelled or released into an engine.
Ignition Switches	The ignition switch performs a primary function. It connects the circuit that provides voltage to the starter motor, allowing the engine to crank over and the engine to eventually start.
Switches	Switches, whether toggle, push button, disconnect, or rockers, are to be seen in every 12v and 24v electrical circuit. These switches for vehicles are used to turn on or off the engine, lights, and other electrical systems.

Source: Maia Research

5.2.5 Current Market Scenario and Forecast

Chart 51: Market Size and Growth Forecast of Auto Ancillary market.



Source: EMIS, CareEdge Research
Note: P denotes projected

In FY25, the Indian auto ancillary market was valued at INR 6730 billion and is projected to grow to INR 10178 billion by FY29, with a compound annual growth rate (CAGR) of approximately 10.9% from FY25 to FY29. Many global companies are turning to India for export-driven manufacturing, attracted by the country's cost advantages over the US and Europe and its strong manufacturing capabilities.

The growth in the market is fuelled by the growing demand for vehicles, especially from a growing middle class and global export growth. The way people buy has changed since the onset of COVID-19, with more focus now on aspects such as safety, driving quality, premium interiors, looks, and comfort, compared to price. This has resulted in a surge in demand for sophisticated components and encouraged innovation in segments such as electric vehicles (EVs), intelligent cars, and autonomous driving systems. According to the Automotive Component Manufacturers Association of India (ACMA), EVs accounted for 6.7% of component sales by value in FY25. Additionally, rising exports are expected to further drive production, contributing to the overall growth of the industry.

5.2.6 Demand for Precision-Cut Steel in Lightweight Components

The demand for precision steel in lightweight automotive components is rising, driven by stricter global emissions regulations. Automakers are replacing heavier materials like cast iron and aluminium to enhance fuel efficiency and reduce CO_2 emissions. Precision steel enables high-quality, lightweight parts such as gears, shafts, and structural components with tighter tolerances and superior performance.

Advancements in cold-forming and stamping have expanded their use, allowing intricate components. The shift to electric vehicles (EVs) has further boosted demand, as lighter structures improve battery range and performance. Precision steel is now essential in EV battery trays, frames, and suspension systems. Stricter safety standards also require strong yet lightweight materials. High-strength steel (HSS) and ultra-high-strength steel (UHSS) are widely used in crash structures, door beams, and frames. Cost-effective and durable, precision steel supports mass production, benefiting both OEMs and the aftermarket.

As automotive innovation grows, demand for customisation and complex designs increases. Precision steel's flexibility makes it ideal for high-performance vehicles and niche applications. Its role in lightweight components will continue to expand, driven by efficiency, safety, and performance needs.

5.2.7 Growth Drivers for the auto-ancillary industry

The various growth drivers for the auto components industry are mentioned below: -

• **Development in the Automotive Industry**
The automobile industry has developed over the years and has gradually become one of the pillar industries of the national economy. It plays a decisive role in stimulating consumption, enhancing market confidence, creating jobs, and attracting investment. The automobile industry is one of the main pillars of the Indian economy. It has strong forward and backwards linkage and is an important driving force for economic growth. Liberalisation and conscious policy intervention over the past few years have created a dynamic and competitive market and brought in several inexperienced players, thereby expanding the automotive industry's production capacity.
The push for mobility solutions, exemplified by electric vehicles, will bring benefits to the Indian industry, economy, and the country. These benefits include improving urban air quality, reducing India's dependence on oil imports and increasing the adoption of renewable energy and storage solutions, as well as improving the quality of life and employment for citizens. To promote the development of vehicles across various segments, a phased manufacturing roadmap has been prepared, keeping in mind the current state of the manufacturing ecosystem in the country, wherein indigenous manufacturing of electric vehicles and their assemblies/sub-assemblies and components over time, sub-assemblies/sub-parts/inputs will be promoted through a hierarchical responsibility structure.
• **Support Infrastructure and Expanding R&D hub**
The Indian automobile industry has made tremendous progress over the past two decades. In the future, the share of electronic devices in cars will increase dramatically, making cars more intelligent and networked. Automotive components manufacturing follows this trend and continues to pursue economies of scale and scope in design and engineering while also pursuing low-cost manufacturing destinations.
India is transforming into a global automotive R&D hub with several market players entering the automotive development and manufacturing space. This has been supported by the availability of a low-cost workforce, favourable government schemes, cost advantages in setting up manufacturing facilities and access to a large customer base.
• **Development of New Energy Vehicles**
At present, electric vehicles are propelling innovations in auto components. The increased penetration of electric vehicles will lead to the transformation of automotive electrical distribution systems. The industry is headed toward vehicles with more electrical components of increasing complexity, which, in turn, require an electrification system equipped to handle higher voltages. Over the past few years, electric vehicles have received increasing attention due

to falling ownership costs and stricter government regulations for emissions. Accordingly, the rising share of EV sales has the potential to present new opportunities for the auto components industry in India.
• **Favourable Government Policies**
The government is prioritising the shift toward clean mobility and has taken multiple initiatives to promote the manufacturing and adoption of electric vehicles in India. Schemes such as Faster Adoption and Manufacturing of Hybrid and Electric Vehicles in India (FAME II) have been introduced in the electric vehicle space. In addition, multiple production-linked incentive schemes intend to create a local manufacturing ecosystem. This is sought to be achieved by incentivizing fresh investments into developing indigenous supply chains for key technologies, products, and auto components.
• **Bridging the Local Manufacturing Void**
The leading global manufacturers are increasingly inclined to start manufacturing auto components in India. The PLI scheme worth Rs. 18,100 crores for battery manufacturing by the GOI is expected to increase manufacturing capacities and reduce reliance on imports. This will minimise the overall costs of batteries significantly, which forms a considerable portion of EV cost. The Government of India has also proposed to provide incentives of Rs. 76,000 crores for the development of semiconductors and enable a globally competitive incentive package to the companies for setting up plants in India.

5.2.8 Market Challenges for the auto-ancillary industry

The auto component industry has faced multiple headwinds over the time. Major challenges faced by the industry are mentioned below: -

• **Semiconductor Shortage**
The auto component industry is facing multiple headwinds in the form of semiconductor shortages due to the current geopolitical tensions. These factors are impacting the operating margins of the OEMs. The industry has been impacted by the shortage of semiconductor chips for a long time now. The production volumes have been under pressure, and OEMs had to take significant production cuts. The semiconductors for automotive segments account for 11% of the overall semiconductor demand. The use of electronics in vehicles has been continuously increasing. Currently, it accounts for 40% of average automobile usage, thus increasing dependence on semiconductors. The semiconductors used across various segments in vehicles include: • Interior and Exterior Lighting • Safety Control Related System and Chassis (ABS and Airbag) • Telematics Communication Systems • Audio- and Video-Based Infotainment System • Interior Body Control System (Climate Control, Power System, Electric Power Steering, etc.) • Autonomous Driving System & Driver's Assistance • Battery-Centred Drive System
The supply chain has been impacted due to the pandemic and current geopolitical tensions. It takes almost 6 months from chip production to vehicle production. The ongoing semiconductor chip shortage remains the most significant headwind on a global level. It remains to be seen when the industry will return to a more stable rate of production.
• **Steep Rise in Commodity Prices**
Raw materials are an important part of the production costs of Automotive components. Fluctuations in raw material prices can significantly impact production costs for manufacturers of automotive components. The raw materials of Automotive components are primarily commodities, such as metals, plastics, etc. Their prices are affected by changes

in supply and demand and are prone to fluctuations. OEMs across the automobile industry are facing the challenge of high raw material prices due to the current geopolitical tensions. Price of aluminium and steel have risen sharply which led the OEMs to take the price hikes. In response to that, the OEMs have hiked vehicle prices. Such a steep hike in vehicle prices is likely to dampen demand sentiments.

- **Technological Changes**

The auto industry has faced various disruptions in the areas of emission level, safety, electric mobility, and increasing usage of automotive electronics, all of which are technologically intensive. For instance, the migration to BS-VI norms posed impediments for the Indian auto component manufacturers due to the technology-intensive nature of the management modules of BS-VI. Most of the technology used is imported. The local players thus do not have a level playing field like the internationally developed alternatives. To bridge this gap, engaging in joint ventures with lead firms could play a pivotal role. Accordingly, both Indian and foreign firms have made efforts toward technology upgradation over the years, including the use of advanced modular platforms, new materials, and platform sharing in India. The key reason for indigenous firms to engage in a joint venture (JV) with a lead firm remains access to technology and customer base.

- **High and non-uniform tax rates**

Another challenge that the auto components industry faces is the high and non-uniform tax rates. Some auto components are taxed at the higher GST rates of 18% and 28% in India. Apart from this, the compensation cess levied on these items is in the range of 1%-22%, which makes internal combustion engine (ICE)-based vehicles one of the highest-taxed manufactured products in India. The auto component industry also faces the challenge of two separate GST rates. While nearly 60% of auto components face a GST rate of 18%, the remaining face a 28% GST. The lack of a uniform GST rate for the auto components sector creates disincentives for enhancing greater domestic production in some of the sub-segments with higher GST rates. Further, the auto components for EVs attract a high GST rate of 18% and 28%. Therefore, there is limited domestic production, with about 75% of the EV components being imported, including batteries and power electronics. In order to promote the indigenisation of auto components by attracting investments in key areas such as batteries and domestic power electronics, it is important to streamline the taxes and duties on auto components.

- **High Industry Barriers**

The lightweight of cars means reducing the overall quality of the car as much as possible while ensuring the strength and safety performance of the car, thereby improving the car's power, reducing fuel consumption, and reducing exhaust pollution. Therefore, automobile lightweight has become a trend. It is also one of the important means to improve the cruising range of electric vehicles.

Integration has increased industry barriers, and the application of innovative technologies continues to promote industry development. Take the electric drive system as an example. During the historical period, electric drive system products continued to iterate, and integrated products such as large and small three-in-one and all-in-one began to appear. The application of high-speed motors, flat wires, oil cooling and other new power devices will also drive the continuous progress of electric drive system technology.

As the integration level of autonomous components products gradually increases, the capability requirements for manufacturers are becoming more comprehensive, which will also form higher industry barriers. Only automotive components manufacturers with strong technical capabilities, excellent products, rich production experience and good customer relationships will be able to win in the future.

5.3 HVAC systems in India

5.3.1 Overview of HVAC systems in India

The Heating, Ventilation, and Air Conditioning (HVAC) sector applies mechanical engineering principles such as thermodynamics, fluid mechanics, and heat transfer to ensure thermal comfort and maintain indoor air quality across residential, industrial, and commercial spaces. It encompasses a wide range of products, including portable air conditioners, industrial electric fan heaters, large heaters, commercial dehumidifiers, man cooler fans, warehouse fans, portable ventilation fans, extractor fans, evaporative coolers, fan coil units, and portable boilers. The Indian HVAC market is expanding rapidly and is projected to reach USD 8.9 billion by 2029.

Urbanisation is driving demand for comfortable living and working environments, fuelling market growth. In homes, HVAC systems provide year-round thermal comfort, with heating ensuring warmth in winter and air conditioning maintaining cool temperatures in summer. In industrial settings, temperature control protects sensitive equipment from extreme fluctuations, while ventilation ensures optimal working conditions and product quality. In commercial spaces such as offices, hotels, and hospitals, these systems are essential for employee productivity, patient well-being, and guest comfort

Based on offering, the **Indian HVAC market can be divided into two broad categories: Equipment and Services**. Equipment includes various essential components designed to provide climate control and maintain indoor air quality, such as furnaces, heat pumps, air conditioners, boilers, air handlers, ductwork, exhaust fans, and air purifiers. Services encompass a range of professional activities which are aimed at ensuring efficient operation, maintenance, and longevity of the HVAC system. These include upgradation/replacement, installation, maintenance, repair, and consulting services.

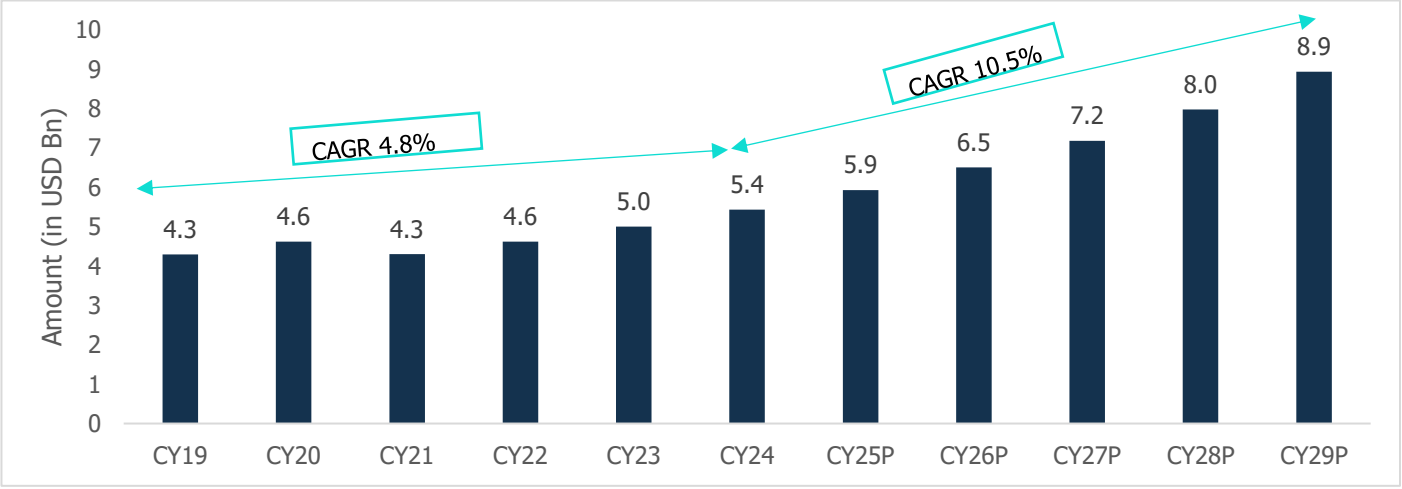
Equipment	Services
• **Heating:** Heating systems involve the process of adding thermal energy to achieve and maintain warm temperatures in colder regions to ensure occupant comfort and productivity. This is achieved through heating systems, such as furnaces, boilers, heat pumps, and electric heaters. • **Ventilation:** Ventilation systems refer to the process of exchanging indoor stale air with fresh outdoor air to maintain air quality and comfort in an enclosed space. The introduction of fresh outdoor air dilutes and removes indoor pollutants, odours, and excess moisture, while also regulating temperature and oxygen levels. • **Cooling:** Cooling systems refer to the process of removing thermal energy to achieve and maintain cooler temperatures in hotter regions to ensure occupant comfort. This is achieved through various methods and technologies, such as air conditioners, chillers, and heat pumps, which absorb heat from indoor air and expel it outside.	• **Upgradation/Replacement:** It involves upgradation or substitution of existing HVAC systems with newer, efficient models to enhance overall functionality. This includes systematic assessments of existing HVAC systems, identification of inefficiencies, selection of suitable replacement units, professional installation of new equipment, and post-installation testing and adjustments to ensure optimal operation. • **Maintenance and Repair:** It involves ensuring efficient and reliable system operation by conducting regular inspections, cleaning, and calibration. Tasks include filter checks, ductwork inspection, and electrical connection testing to identify and address minor issues. Repairs address malfunctions like faulty thermostats or compressor failures, restoring optimal functionality through skilled diagnosis and recalibration. • **Installation:** It involves the meticulous setup of HVAC systems for optimal performance and functionality. It begins with thorough planning and site

	evaluation, considering factors like building size and occupancy. Skilled technicians then install all components according to manufacturer specifications and local codes. Rigorous testing and adjustments ensure system integrity and performance. Finally, comprehensive documentation and client orientation are provided to ensure users understand system operation and maintenance. • **Consulting:** It involves expert guidance and advisory support provided by professionals to individuals, businesses, or organisations seeking optimised HVAC solutions. Consultants provide complete assessments of existing systems; collaborate closely with clients to understand all their requirements to meet their needs; assist with system design, equipment selection, technology integration, leveraging industry expertise and best practices to optimise performance and minimise operational expenses, and provide insights into regulatory compliance, industry standards, and emerging technologies, empowering clients to make informed decisions.

5.3.2 Current Market Scenario and Forecast

The Indian HVAC market grew at a CAGR of 4.8% from CY19-CY24, from USD 4.3 billion in CY19 to USD 5.4 billion in CY24. Except for a slight dip in market value during the pandemic, the HVAC market has shown an upward trend in its market size. This is attributed to increasing urbanisation and higher disposable incomes. According to World Bank data in CY22, 36% of India's population lives in urban areas, driving growth in this market as more people demand efficient and environmentally friendly modern HVAC systems to make living and working spaces comfortable.

Chart 52: Indian HVAC Market Size (by Value)



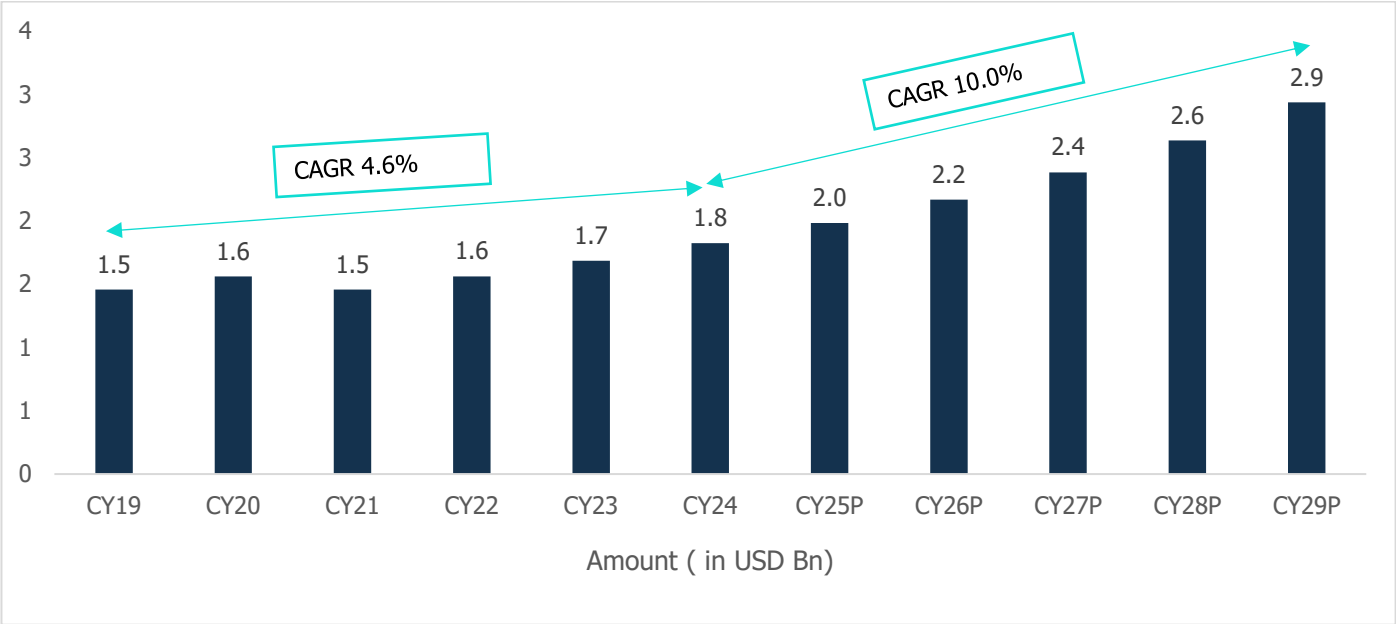
Notes: P denotes Projected; Source: EMIS, CareEdge Research

The Indian HVAC market size is forecasted to grow in an upward trend at a CAGR of 10.5% from CY24-CY29, gaining a market size of USD 8.9 billion by CY29. Increasing urbanisation, higher disposable incomes, growing awareness about indoor air quality and growing demand for energy-efficient and technologically advanced modern HVAC systems are the major contributors to this forecasted growth. Also, the domestically manufactured HVAC products will enhance accessibility, expand the service network, and increase support to different channels, further providing impetus to future growth.

5.3.2.1 Residential

Residential was the smallest segment in CY19 and continued to be the smallest segment of the market in CY24. As per the market disruptions during the historical period, the segment grew at a compound annual growth rate of 4.6%.

Chart 53: Indian HVAC Market Size for Residential (by value)



Notes: P denotes Projected; Source: EMIS, CareEdge Research

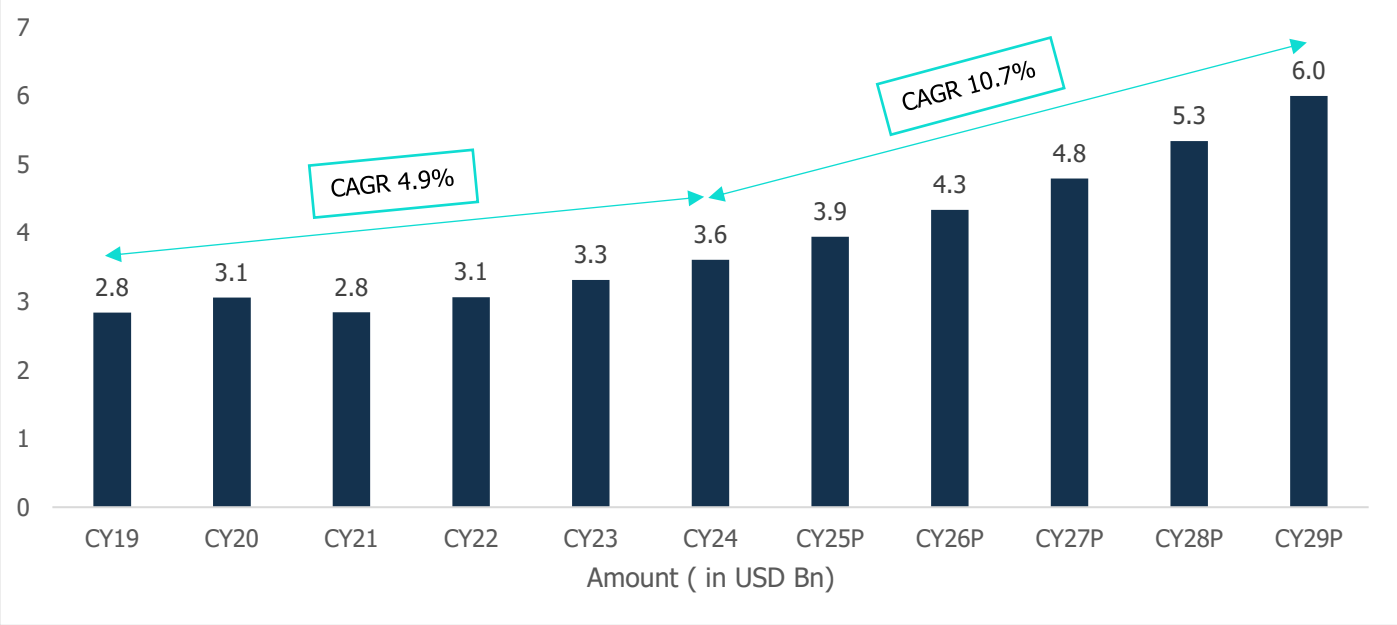
The residential segment was the smallest part of the market in CY24 and is expected to remain the smallest in CY29, growing at a slower pace than the overall market. It will experience a compound annual growth rate (CAGR) of 10.0% from 2024 to 2029, increasing from USD 1.8 billion in CY24 to USD 2.9 billion in CY29. Despite being the slowest-growing segment, residential will account for 31.7% of the total market growth during this period. The segment's contribution to the overall HVAC systems market in India is projected to decrease from 33.6% in CY24 to 32.8% by CY29.

The residential segment is expected to grow steadily over the forecast period, driven by factors such as rising temperatures from climate change, increasing disposable incomes, and population growth. Urbanisation and higher commuting distances, particularly in cities, are contributing to a higher number of vehicles on the road, further exacerbating temperature increases due to vehicular emissions. In addition, the steady rise in per capita disposable income is fuelling demand for HVAC systems in residential areas. The growing construction of smart residential buildings and extreme temperatures in northern India are also boosting demand for HVAC systems. As competition among HVAC manufacturers in India intensifies, companies are adopting disruptive pricing strategies and expanding their product portfolios, including low-cost HVAC systems.

5.3.2.2 Non-Residential

Non-residential was the largest segment in CY19 and continued to be the largest segment of the market in CY24. As per the market disruptions during the historical period, the segment grew at a compound annual growth rate of 4.9%.

Chart 54: Indian HVAC Market Size for Non-Residential (by value)



Notes: P denotes Projected; Source: EMIS, CareEdge Research

The non-residential segment was the largest part of the market in CY24 and is expected to remain the largest in CY29, growing at a faster rate than the overall market. It will grow at a compound annual growth rate (CAGR) of 10.7% from CY24 to CY29, increasing from USD 3.6 billion in CY24 to USD 6 billion in CY29. The non-residential segment will be the fastest growing within the overall market, contributing 68.3% of the total market growth during this period. Its share of the HVAC systems market in India will rise from 66.4% in CY24 to 67.2% by CY29.

This segment, which includes both commercial and industrial HVAC systems, is expected to see steady growth driven by factors such as the expansion of the construction sector, increased infrastructure investments, and the growing demand for office spaces. The demand for office spaces in India has been rising consistently and is anticipated to continue growing throughout the forecast period.

Rapid urbanisation and policies promoting commercial real estate are boosting the demand for office spaces, particularly in fast-growing cities like Hyderabad, Bengaluru, NCR Delhi, Mumbai, and Pune. The increasing number of start-ups and the rise of co-working spaces are also expected to contribute to the demand for HVAC systems. Moreover, significant investments in infrastructure, such as the Government of India's plan to build 220 new airports by CY25, are expected to drive further demand for HVAC systems. These factors are expected to increase the demand for centralised split ACs, which will, in turn, support the growth of the non-residential segment in the HVAC systems market in India during the forecast period.

5.3.3 Market Drivers

- **Increasing infrastructural development:** The increasing number of infrastructure development plans are significantly driving growth in the Indian HVAC market. As cities are expanding, new commercial complexes, residential towers, and industrial facilities are being constructed, thus surging demand for climate control systems to maintain comfortable indoor temperatures and air quality for occupants. Moreover, the modernisation of existing infrastructure, including airports, railway stations, and hospitals, also fuels the demand for advanced HVAC systems. Upgrading these facilities often involves integrating modern HVAC solutions that enhance occupant comfort and improve energy efficiency, addressing the growing concerns about energy consumption in India. Additionally, the focus on cold chain infrastructure for food storage highlights the necessity for reliable refrigeration systems, benefiting India's agricultural sector.

- **Government Initiatives**: Government initiatives regarding infrastructure development are further driving demand for HVAC systems. The Regional Connectivity Scheme UDAN, led by the Ministry of Civil Aviation, aims to enhance air links to smaller towns in India, inaugurating 58 airports in its first five years. With a notable budget increase in 2023–24, totalling INR 1,244.07 Cr, the government underscores its commitment to UDAN's expansion, including reviving 22 airports and revitalising 50 more. This surge in airport projects, under the National Infrastructure Pipeline (NIP), emphasises Public-Private Partnerships (PPP) as key drivers for infrastructure development, promising growth in the HVAC market. Another such initiative is the "Smart Cities Mission" which further boosts demand for energy-efficient HVAC solutions, promoting smart technologies like occupancy-based air conditioning adjustments.

- **Rising focus towards energy-efficient systems:** The increasing emphasis on energy-efficient HVAC systems is driven by rising energy costs, environmental concerns, and government regulations. Both commercial and residential sectors prioritize energy efficiency to reduce costs and carbon footprints. Technologies like inverter-based air conditioners, Variable Speed Drives (VSDs), and smart thermostats adjust system output in real-time, minimising energy wastage. Government policies, such as BEE's star rating system and initiatives like the Smart Cities Mission and ECBC, promote the adoption of energy-efficient technologies. Commercial entities invest in building management systems to optimize energy usage. These trends lead to significant energy savings, environmental benefits, and support India's sustainable development and energy security goals.

- **Growing awareness of Indoor Air Quality (IAQ)**: Growing consciousness of indoor air quality (IAQ) is fuelling the need for sophisticated HVAC systems that control and improve IAQ in different environments. In pollution-prone urban areas, indoor clean air is necessary for both residential and commercial establishments. Therefore, installations of HVAC systems incorporating sophisticated filtration and purification technologies have picked up to eliminate allergens and pollutants. Segments like offices, education, and healthcare are spending on IAQ-centred HVAC systems to ensure the health of occupants. The COVID-19 crisis has further put the spotlight on the need for IAQ, speeding up demand for models with improved ventilation, UV-C disinfection, and HEPA filters. Players like Carrier, Blue Star, and Daikin are developing innovative solutions to address these needs through multi-stage filtration and real-time air quality monitoring. With health and wellness at the forefront, IAQ is influencing consumer behaviour and industry trends, creating robust growth potential for the HVAC industry.

- **Increasing focus on green buildings:** green building certifications, including LEED, focus on energy efficiency and sustainability, propelling the demand for sophisticated HVAC systems in India. Voltas and Blue Star use

technologies such as Variable Speed Drives (VSDs) to reduce energy consumption. Daikin provides heat pumps that harness renewable energy sources like geothermal energy to be consistent with green building standards. Specialised HVAC systems are becoming increasingly popular, with firms such as Johnson Controls and Siemens investing in energy-saving technology and building management systems. The indoor air quality continues to be of concern, mitigated by firms such as Carrier and Honeywell through HEPA filtration and specialised ventilation systems. Innovation is also flourishing, with firms such as Thermax creating radiant cooling systems and Sorbent Technologies working on desiccant dehumidification. Green buildings with effective HVAC systems offer long-term advantages, such as reduced operating expenses and lower environmental footprint, like the ITC Green Centre in Gurgaon, USGBC LEED certified.

- **Rising demand in Tier-I and Tier-II cities:** As urbanisation reaches the Tier-II and Tier-III cities in India, the demand for HVAC systems in Tier-II and Tier-III cities is growing. Infrastructure growth and business development fuel the demand for cosy indoor conditions in commercial buildings like malls, hotels, and offices. Likewise, housing construction is also on the rise, with builders incorporating HVAC systems into buildings to appeal to homebuyers who want state-of-the-art facilities. Players such as Blue Star and Voltas are increasing their products and reach in these markets, customising solutions to suit local requirements. Government programs like the Smart Cities Mission further drive investments in HVAC infrastructure in Tier-II and Tier-III cities.

5.3.4 Market Challenges

- **Lack of access to credit for public and private investments:** In India, access to credit poses significant challenges for infrastructure development, including HVAC projects. Macroeconomic conditions and government policies influence credit availability, impacting banks' willingness to fund large-scale projects. Risk assessment criteria, collateral availability, and borrower creditworthiness further affect lending decisions. Concerns over non-performing assets (NPAs) in the banking sector can also limit financing options. Additionally, the high upfront costs and longer payback periods of HVAC projects deter some investors and lenders. Addressing these challenges requires supportive policies, financial incentives, and efforts to streamline financing processes to promote sustainable growth in the HVAC sector.

- **Competition from unorganised players:** Competition from unorganised players in the Indian HVAC market presents significant hurdles due to their informal operations and disregard for industry standards and regulations. These players often offer cheaper products and services, drawing price-sensitive customers and exerting pricing pressures on established HVAC firms. This dynamic undermines the market share and profitability of reputable companies that prioritise quality, reliability, and customer service. Moreover, the presence of unorganised players tarnishes the overall reputation of the HVAC industry, as instances of substandard workmanship and inadequate support erode consumer trust. Furthermore, unorganised players typically do not invest in research and development or adopt innovative technologies to enhance energy efficiency and environmental sustainability. This technological disparity hampers the overall progress of the HVAC industry in India and limits the availability of advanced solutions for consumers.

- **Skilled workforce shortage:** A critical challenge in the Indian HVAC market is the scarcity of adequately trained technicians and engineers specialised in HVAC systems. The complexity of modern HVAC technologies demands skilled professionals proficient in installation, troubleshooting, and servicing. However, India faces a shortage of qualified HVAC personnel, leading to project delays and diminished service quality. This shortage also impedes the adoption of advanced HVAC solutions, such as variable refrigerant flow (VRF) systems and smart HVAC controls, which require specialised expertise. Additionally, the dearth of skilled technicians results in heightened maintenance costs and system downtime, as personnel may lack the proficiency to address complex issues promptly. The rapid growth of the construction and infrastructure sectors exacerbates this challenge, amplifying the demand for HVAC services and widening the skills gap further.

- **High maintenance and installation cost of HVAC systems:** The Indian HVAC market faces a significant challenge due to the high maintenance and installation costs associated with HVAC systems, affecting both customers and industry players. For customers, the substantial initial investment required for purchasing and installing HVAC systems, especially in commercial and industrial settings, can be prohibitive. Ongoing maintenance expenses further add to the total cost of ownership. From the industry perspective, these prohibitive costs can deter potential customers and limit market penetration, especially in price-sensitive segments.

- **Geopolitical tensions:** Geopolitical tensions often disrupt the supply chain of HVAC components, affecting availability and increasing costs. With many components sourced internationally, conflicts or strained relations with major trading partners can lead to delays and higher expenses. Tariffs, trade restrictions, and embargoes further complicate procurement for Indian manufacturers. In response, the Indian HVAC market is prioritising energy efficiency and sustainability to reduce dependency on imported materials and mitigate geopolitical instability on energy prices. Government initiatives like star labelling and the Perform, Achieve and Trade (PAT) scheme promote efficient HVAC systems adoption. However, the recent geopolitical unrest has exacerbated input costs, with major raw materials prices rising by 18–63% y-o-y basis. Increased logistics costs due to rerouted shipments and enhanced security measures further inflate expenses, reducing the competitiveness of Indian air conditioners in the global market.

5.3.5 Outlook

The Indian HVAC market, valued at USD 5.4 billion in CY24, is projected to grow to USD 8.9 billion by CY30, with a CAGR of 4.8%, driven by urbanisation and the need for efficient climate control systems in residential, commercial, and industrial buildings. The market is mainly driven by HVAC equipment like air conditioners, chillers, and ventilation systems, with the equipment segment expected to dominate with a 71.1% market share by CY30. The commercial and residential sectors are projected to lead in market size, reaching USD 6 billion (67.4%) and USD 2.9 billion (32.6%), respectively. This growth is supported by the increasing adoption of smart, energy-efficient, and sustainable HVAC systems. Challenges like limited access to credit, competition from unorganised players, and high installation costs need to be addressed for continued market growth, particularly in Tier-II and Tier-III cities.

The Indian HVAC market is also seeing a rise in smart, connected systems, driven by IoT-enabled devices that improve efficiency and allow for predictive maintenance. Companies are collaborating with start-ups and IoT providers to enhance offerings. The integration of Industrial Internet of Things (IIoT) in large industries is also reducing energy loss and costs. The increasing focus on smart factories is expected to boost the adoption of these systems.

Concerns about indoor air quality (IAQ) are further driving the adoption of advanced HVAC systems, as they improve ventilation and air quality in buildings. As people spend a significant amount of time indoors, efficient HVAC systems are vital for better health and well-being. Organisations like ISHRAE are raising awareness about IAQ, promoting energy-efficient practices such as maintaining HVAC systems at 24°C (75°F).

Additionally, there is a global shift towards low-GWP refrigerants, and HVAC manufacturers in India are investing in these alternatives, replacing high-GWP refrigerants like HFCs. This change is expected to positively impact the HVAC market in India, driven by government regulations and environmental concerns.

6 Electricity Transmission and Distribution

6.1 Transmission

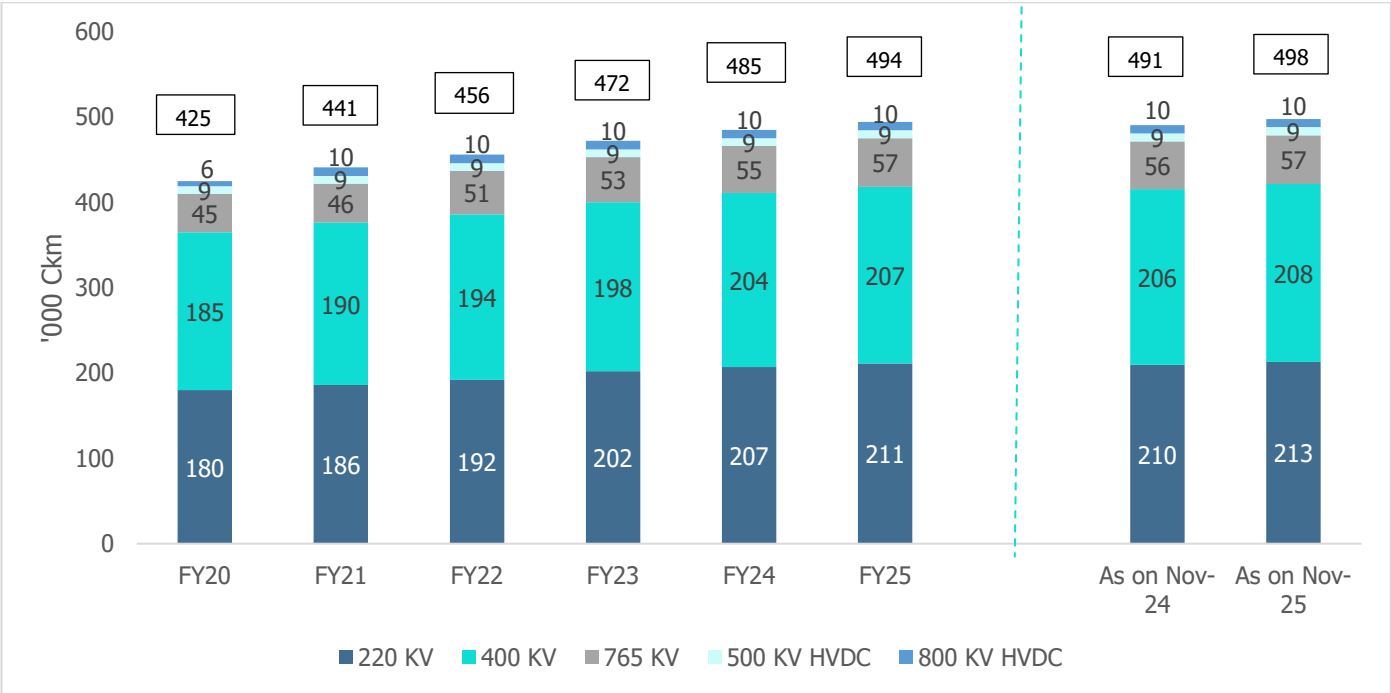
A transmission line is used for transmitting electrical power from a generating substation to several distribution units. Transmission planning has become even more essential to integrate and evacuate RE power with the current growth trajectory of RE in the last few years, coupled with the Government of India's target of integrating 500 GW non-fossil-based installed capacity by 2030.

India's power transmission system has expanded at a significant pace, driven by growing demand, the government's focus on providing electricity in rural areas, and the need for connecting the generation stations, including the integration of RE sources from the RE-rich states. Further, with the implementation of two central sector schemes, namely, the North Eastern Regional Power System Improvement Project (NERPSIP) and the Comprehensive Scheme for Strengthening of Transmission & Distribution Systems in Arunachal Pradesh and Sikkim, the transmission and distribution infrastructure of the Northeastern states are also being strengthened.

Further, the government-owned Power Grid Corporation of India Ltd (PGCIL) is the industry leader that owns and operates most of the inter-state and inter-regional transmission lines in the country, facilitating the transfer of power between different regions. While PGCIL and other state transmission utilities remain major players in the sector, the private sector participation has seen a healthy growth with the introduction of Tariff-based Competitive Bidding (TBCB) and a viability gap funding scheme for the inter-state projects.

Moreover, the transmission line network grew at a CAGR of approximately 3% to 4,94,374 CKm as of March 2025 from ~4,25,000 CKm as of March 2020. During FY25, 8,830 CKm of transmission lines were added to the total network. Also, total transformation capacity addition during November 2025 was 13,97,773 MVA. Whereas the transformation line capacity is at 12,89,885 MVA as of November 2024.

Chart 55: Transmission Line Network (220 kV & Above)



Source: Central Electricity Authority, CareEdge Research

There are many transmission projects under construction. These include various projects of transmission systems associated with renewable projects and conventional projects in Rajasthan, Karnataka, Maharashtra, etc. These projects are being executed mainly by PGCIL along with private players like Sterlite Power Transmission Limited, Adani Transmission Limited, ReNew Transmission Ventures Private Limited, etc.

Further, the substation line network grew at a CAGR of approximately 6.8% to 1.34 million MVA as of March 2025 from 0.969 million MVA as of March 2020.

Moreover, India has a target of 500 GW of non-fossil fuel capacity by 2030, and there have been significant investments in increasing and upgrading the transmission infrastructure.

The transmission system has been planned for the following RE capacity to be commissioned by 2030:

Table 14: Transmission System planned for Renewable Energy

Sr. No.	Category	Capacity (MW)	As of November'25
1.	RE capacity already commissioned (As on 30.11.2025)	1,65,943	2,53,955
2.	66.5 GW RE capacity to be integrated into Inter State Transmission System (ISTS) network (18.86111 GW already commissioned)	57,639	51,149
3.	Additional RE capacity totalling 236.58 GW to be integrated into ISTS network	2,36,580	Not available
4.	Margin already available in the ISTS sub-station, which can be used for the integration of RE capacity	33,658	Not available
5.	Balance RE capacity to be integrated into an intra-state system under the Green Energy Corridor-I Scheme	7,000	Not available
6.	RE capacity to be integrated to the intra-state system under the Green Energy Corridor -II Scheme	19,431	Not available
7.	Additional Hydro Capacity likely by 2030	16,673	Not available
	Total (RE)	**5,36,924**	

Source: CEA Report- Transmission System Integration of over 500GW RE Capacity by 2030, CareEdge Research

6.2 Distribution

Distribution is the decisive step in the power sector value chain. It connects the transmission utilities to the final consumers, such as residential, commercial, agricultural, and industrial consumers. It is the most critical step for the entire power sector, where the revenues are generated and transferred to the first two segments of generation and transmission. The process is mostly conducted by state-owned distribution companies (DISCOMs).

The government permitted private participation in power distribution in the Electricity Act, 2003, to promote competition among DISCOMs and increase the efficiency of operations. Even though most of the DISCOMs in India are state-owned, about 10% of India's population is served by private distribution licensees. Further, distribution franchisees have helped bring down distribution losses significantly in the regions they operate. In India, distribution for cities such as Delhi, Surat, Ahmedabad, Kolkata, and Mumbai has been awarded to private licensees that are running efficiently.

The consumer mixes DISCOMs comprises five main components, namely, domestic, commercial, agriculture, industrial, and others. The industrial segment brings the highest revenue for the DISCOMs, followed by the agriculture and domestic sectors.

7 Impact of 2025 GST Reforms

The 2025 GST reforms are a structural positive for both consumption and manufacturing.

Consumer Electronics & Appliances:

Tax rates on large TVs, dishwashers, and air conditioners have been cut from 28% to 18%. This makes products more affordable, expands the addressable consumer base, and should drive volume growth in a sector already benefiting from rising discretionary spending. Lower effective costs also improve the competitiveness of domestic brands versus imports, supporting margin expansion for Indian manufacturers.

Automotive & Ancillaries:

Small cars and two-wheelers (≤350cc) now face an 18% GST rate, down from 28%, while all auto parts have been standardised under the 18% slab. This simplification reduces compliance risk and pricing uncertainty. For OEMs, affordability-led demand recovery is likely; for ancillaries, lower input taxes reduce cost pressures, improve profitability, and provide headroom for capacity expansion and investment.

Macroeconomic Impact:

At a broader level, the reforms enhance household purchasing power, stimulate consumption, and accelerate formalisation. The move to a streamlined two-slab structure simplifies compliance and widens the tax net, while lower input costs across sectors (autos, construction, consumer goods) improve the competitiveness of SMEs and domestic supply chains. The combined effect is an environment supportive of sustained demand, manufacturing growth, and long-term earnings visibility.

Key Takeaway:

The reforms are pro-consumption and pro-manufacturing. Beneficiaries include listed consumer appliance makers, auto OEMs, and ancillary suppliers with high exposure to small cars and two-wheelers. Over the medium term, the policy shift supports higher volumes, margin resilience, and stronger capex cycles.

8 Government Key Policies and Regulatory Actions with focus on EMS

8.1 Make in India

Launched in 2014 during an economic downturn, the Make in India program has significantly influenced India's Electronics Manufacturing Services (EMS) sector. To reactivate growth and make India a manufacturing powerhouse, it targets drawing in investment, innovation, and infrastructure development. As a lead Vocal for Local effort, it enhances India's manufacturing industry and global industrial base.

Make in India has accelerated economic growth and employment, especially for the youth. In its second phase involving 27 sectors, it goes on to solidify India's manufacturing base by enhancing infrastructure, rationalising processes and encouraging foreign investment. Amidst odds of skill deficits and global competition, it has managed to bring in huge foreign direct investment (FDI), high-tech equipment, and generate crores of jobs.

For the EMS sector, Make in India has facilitated localisation, decreased dependence on imports, and strengthened technological competence. Investments and government policies have laid a solid foundation for self-reliance and competitiveness in electronics production, making India a top choice for foreign investment. EMS providers that fit into this vision are rewarded by increasing demand for cost-efficient, high-quality electronics while reinforcing India's global position.

8.2 Production Linked Incentive (PLI) Scheme

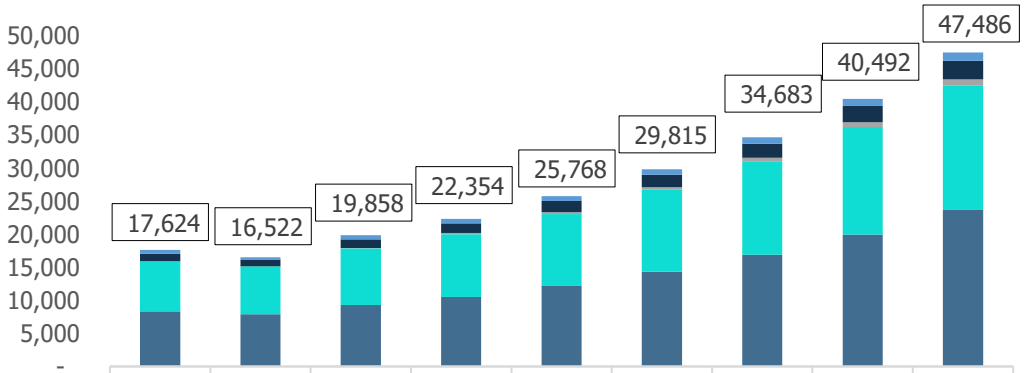
India's manufacturing sector is undergoing a significant transformation, driven by policies aimed at enhancing global competitiveness. Central to this shift is the Production Linked Incentive (PLI) Scheme, which fosters innovation, efficiency, and competitiveness, particularly in the Electronics Manufacturing Services (EMS) sector.

Launched in 2020, the PLI Scheme goes beyond policy changes, it strategically targets self-sufficiency by offering financial incentives to sectors like electronics, textiles, pharmaceuticals, and automobiles, based on production and sales growth. This performance-based model attracts both domestic and international investments, encouraging businesses to embrace advanced technologies and scale operations effectively.

In the EMS sector, the PLI Scheme has driven noteworthy progress. By August 2024, Rs 1.46 lakh crore in investments led to a sharp rise in production and sales, totalling Rs 12.50 lakh crore, and created approximately 9.5 lakh jobs. Exports, particularly in electronics, surged to over Rs 4 lakh crore, showcasing the success of the scheme in enhancing India’s global position and boosting economic growth.

Specifically for electronics, the PLI Scheme is instrumental in fostering growth in India’s EMS industry, projecting a rise from Rs 1.46 lakh crore in FY22 to Rs 6 lakh crore by FY27. This sector is expected to grow at a 26% annual rate between CY23 and CY30, reaching USD 500 billion. The government's efforts to increase assembly activities in areas like mobile phones, automotive, and industrial segments, along with the launch of other initiatives like the Semicon India program, are accelerating this growth. Future incentives for critical components such as printed circuit boards (PCBs) will strengthen India’s manufacturing ecosystem, enhancing self-reliance and global competitiveness.

Chart 56: Trend of projected incremental production (in '000 tonnes)



	FY20	FY21	FY22	FY23	FY24	FY25P	FY26P	FY27P	FY28P
Electrical Steel	590	353	632	678	746	820	953	1,088	1,258
Alloy Steel Products and Steel wires	1,082	1,014	1,305	1,463	1,659	1,885	2,143	2,441	2,783
Specialty Rails	1	1	37	212	286	386	526	719	987
High Strength/Wear Resistant Steel	7,633	7,256	8,554	9,492	10,814	12,357	14,162	16,285	18,787
Coated/Plated Steel Products	8,318	7,898	9,330	10,509	12,263	14,367	16,899	19,959	23,671

Source: Ministry of Steel, CareEdge Research
Note: P denotes Projected

9.3 Others

Indian Steel Processing Centres are governed by a robust regulatory framework of labour laws, taxation, and environmental laws. Taxation has become much more organised with the rollout of the Goods and Services Tax (GST), which has reduced the tax incidence to a uniform GST rate on steel products, with 12% on domestic use items such as iron and steel household articles and 18% on articles such as railway tracks and pipes). Further, India is planning to impose a border adjustment tax on steel imports to put the domestic producers on an equal footing. The tax would cover various charges that are not included under GST, i.e., cess and state charges, which form approximately 12% of the price of steel available for sale in India.

Indian labour laws have been merged into four principal codes to ease compliance and enhance workers' welfare. They are the Code on Wages, the Occupational Safety, Health and Working Conditions Code, the Code on Social Security, and the Industrial Relations Code. The reforms seek to universalise minimum wages, make timely payment, and give emphasis to occupational safety, thus fostering a good work environment and promoting economic growth.

Environmental laws for Steel Processing Centres are strict, and the operations are sustainable. The Environment Protection Act, 1986, and other rules and regulations control pollution and environmental protection). Initiatives by the government, such as the National Action Plan on Climate Change (NAPCC) and the Corporate Responsibility for Environmental Protection (CREP) have also encouraged industries to implement cleaner technologies and minimise their impact on the environment. Recent policies also encourage decarbonization in the steel sector via improvements in energy efficiency and renewable energy use

9 Key Threats and Challenges to the Indian Steel Industry

- **Raw Material Price Volatility:** The Indian steel industry is highly dependent on raw materials such as iron ore, coking coal, and scrap. Price fluctuations in these inputs significantly impact production costs and market competitiveness. While India benefits from abundant iron ore reserves, domestic price volatility arises from factors like mining regulations and environmental concerns. The steel sector's heavy reliance on imported coking coal, which constitutes a significant portion of steel production costs, further exposes it to global price fluctuations and supply disruptions, adding instability to the industry's pricing structure.

- **Logistics Costs:** Logistics remains a major bottleneck for India's steel industry, with transportation inefficiencies inflating costs. Steel production and its raw materials require bulk transportation, yet India's infrastructure lags behind global standards. With a high percentage of steel plants located inland, the cost of rail and road freight is elevated, leading to significant cost disadvantages compared to global competitors. Logistics costs account for 15-18% of steel production costs, far exceeding the global average and impacting India's competitiveness in both domestic and international markets.

- **Dependency on Imports for Certain Grades of Steel:** Despite being a major steel producer, India remains reliant on imports for high-grade coking coal and specialised steel grades such as structural steel and high-end alloys. The country's limited indigenous technological capacity prevents it from producing these advanced steel grades competitively. The heavy reliance on imports, especially for coking coal, not only stresses foreign exchange reserves but also makes the industry vulnerable to global market fluctuations, trade tensions, and supply chain disruptions, hindering self-reliance and exposing local producers to price instability.

10 Use of Automation, AI, and Digital Tracking for Efficiency and Optimisation

The integration of Artificial Intelligence (AI), automation, and digital tracking technologies holds transformative potential for the Indian steel industry, addressing several critical challenges. These technologies improve efficiency, reduce waste, and optimise distribution, driving competitiveness and sustainability.

AI and Predictive Analytics can forecast raw material prices with high accuracy, enabling steelmakers to time procurement and hedge against price volatility. Additionally, AI-driven inventory management allows for better demand forecasting and optimised stockpiles, reducing excess inventories. For instance, Tata Steel has used AI to cut excess inventories by up to 15%. AI can also identify alternative sourcing options, reducing reliance on volatile imports like coking coal.

Automation enhances production processes by employing robotics and automated guided vehicles (AGVs), increasing throughput and reducing labour costs. Automated material handling systems and port automation can reduce turnaround times, cutting logistics costs by 30-40%. AI systems also optimise production schedules, improving capacity utilisation.

Digital Tracking and IoT enable real-time monitoring of raw material shipments, improving supply chain transparency and reducing delays. AI-powered route optimisation and smart logistics platforms further enhance distribution efficiency by minimising idle time and freight costs. These innovations could reduce logistics expenses by up to 10-15%, aiding in meeting the National Logistics Policy's cost-reduction targets.

Together, these technologies can reduce production costs, improve energy efficiency, and meet stringent environmental standards, positioning India’s steel industry as a leader in both efficiency and sustainability. With significant investments and government support, these advancements could help the sector meet its 300 MT production goal by 2030.

11 Peer Comparison

11.1 Company Profiling

Bombay Coated & Special Steel Limited	
Year of Incorporation	2019
Headquarters	Mumbai, India
Services	Slitting, Cut to length, Embossing, Shearing
Products	HRPO (Hard Roll Pickled and oiled), CRCA (Cold Rolled Close Annealed), CRFH (Cold Rolled full hard steel), CRHH (Half Hard Temper), GPSP (Galvanised Plain Skin Pass), GPRS (Galvanised Plain Regular Spangle), PPGI (pre-painted galvanised iron) and PPGI EMBO Coil & Sheets)
Description	Bombay Coated & Special Steels Limited was incorporated on 26 December 2019, formed to bring fundamental changes in the steel processing industry. The company bring in the legacy of over four decades. The company is an expert in slitting and cutting to length steel coils for a wide range of clientele, mostly OEM suppliers for automobile companies and appliance manufacturers. Bombay Coated is an authorised service partner of JSW Steel Coated Products Limited (JSCPL) and/or its holding company and sources raw material from their plants in Tarapur, Kalmeshwar, Bellary, and Vasind plants.
Plants	The company has plants situated in Bhiwandi, Wada, Ghiloth and Sricity. The maximum production volume is met by Wada, followed by Ghiloth, Sricity and then Bhiwandi.
Production Capacity	

Location	Established Since	Capacity MT p.a.
Bhiwandi, Maharashtra	2011	15,960
Wada, Maharashtra	2021	1,45,800
Ghiloth, NCR- Delhi	2022	1,54,800
Sricity, AP (Near Chennai)	2024	33,851
	Total	3,50,411

11.2 End User Profiling

Voltas Limited	
Year of Incorporation	1954
Headquarters	Mumbai, India

Key products	Voltas is India's largest air conditioning company and offers a comprehensive range of cooling & home appliances, including air conditioners, coolers, air purifiers, refrigerators, washing machines, water dispensers, water coolers, dishwashers, microwaves, Water heaters, Commercial Refrigerators and stabilisers in its portfolio, etc.
Description	Voltas Limited, established in 1954, is a public company and part of the leading Indian multinational Tata group, which has operations in over 100 countries across 6 continents and has more than a million employees. Voltas is a Trusted brand well known for the quality of products, extensive range, its reach & sensible pricing. Voltas was created six decades ago when Tata Sons joined hands with a Swiss company, Volkart Brothers. Voltas is also one of the most reputed engineering solution providers, specialising in project management. Voltas is engaged in the business of air conditioning, refrigeration, electro-mechanical projects as an EPC contractor, both in domestic and international geographies (Middle East and Singapore) and engineering product services for mining, water management and treatment, construction equipment's and the textile industry.
Revenue Classification	

	FY25 (In Rs. Million.)	%
Segment - A (Unitary Cooling Products)	1,06,140	68.86%
Segment - B (Electro-Mechanical Projects and Services)	41,570	26.97%
Segment - C (Engineering Products and Services)	5,690	3.69%
Gross Segment Total	1,53,400	99.53%
Less: Inter-segment revenue	195.0	0.13%
Segment Total	1,53,204.5	99.40%
Add: Other operating income	923.4	0.60%
Revenue from operations	1,54,127.9	100%

Unitary Cooling Products segment reports the highest revenue, around 65% of revenue from total revenue, which includes products like air conditioners, coolers, air purifiers, refrigerators, water dispensers, water coolers, etc, and other segments are Electro-Mechanical Projects and Services and Engineering Products and Services.

Daikin Industries Limited	
Year of Incorporation	1934
Headquarters	Osaka, Japan
Key products	Air Conditioning & Refrigeration, Split/ Multi-Split, Unitary, Heating Systems, Air Purifiers, SkyAir, Ventilation, Rooftops, Container, Air Filters, Marine HVAC, Refrigeration, Packaged, Control Systems, Fluorochemicals, Oil Hydraulics, etc.

Description	Daikin Industries was founded in 1924, in Osaka, Japan. The global group employs over 96,000 people worldwide and is the market leader for heat pump and air conditioning systems and air filtration. Daikin is the world's only manufacturer that develops and manufactures heating, ventilation, air conditioning and refrigeration equipment, as well as refrigerants in-house.
Revenue Classification	<table><tr><th></th><th>FY25 (Millions of Yen)</th><th>%</th></tr><tr><td>Air Conditioning</td><td>43,87,234</td><td>91.74%</td></tr><tr><td>Chemicals</td><td>2,88,657</td><td>6.04%</td></tr><tr><td>Others</td><td>106,180</td><td>2.22%</td></tr><tr><td>Net sales</td><td>47,82,071</td><td>100%</td></tr></table> Air Conditioning segment reports the highest percentage of revenue, around 92% of revenue from total sales, which includes products like (Heating Systems, Split/ Multi Split Air Conditioners, Air Purifiers, Air cooled chillers, Container Refrigeration Units, Rooftops, Ventilation Products, etc) and other segments are Fluorochemicals and Oil Hydraulics.

Haier Smart Home Co. Limited	
Year of Incorporation	1994
Headquarters	Qingdao, China
Key products	Home appliances, including refrigerators, air conditioners, washing machines, dryers, and microwave ovens under the brand names Haier, Casarte, Leader, GE Appliances, Fisher & Paykel, Aqua and Candy.
Description	Haier Smart Home Co Ltd, formerly Qingdao Haier Co Ltd, is a China-based company principally engaged in research and development, manufacturing, and sales of home appliances. The Company operates its businesses through five segments. The Household Food Storage and Cooking Solutions segment is engaged in manufacturing and selling refrigerators/freezers and kitchen appliances. The Air Solutions segment is engaged in manufacturing and selling air conditioners. The Household Laundry Management Solutions segment is engaged in manufacturing and selling washing machines and dryers. The Household Water Solutions segment is engaged in manufacturing and selling water home appliances such as water heaters and water purifiers. The Other business segment includes channel, equipment components, small home appliance business and others. The Company mainly operates its businesses in the domestic and overseas markets.

Revenue Classification		**FY24 (In Rs. Million)**	**%**
	Household Food Storage and Cooking Solutions		
	Refrigerator/Freezers	81,910	23.87%
	Kitchen Appliances	41,654	12.14%
	Air Solutions	46,104	13.43%
	Household Laundry Management Solutions	61,492	17.92%
	Household Water Solutions	15,336	4.47%
	Other Businesses	96,718	28.18%
	Total Revenue	3,43,214	100%
	Segments like Refrigerator/ Freezers, Kitchen Appliances and Air Solutions report highest percentage of around 49% from total revenue. It includes products like (refrigerators, air conditioners, etc). Other segments are Household Laundry Management Solutions, Household Water Solutions and others which include (Water Heater, Washing Machine, Dryer, Water Purifiers, etc).		

V Guard Industries Limited			
Year of Incorporation	1996		
Headquarters	Kerala, India		
Key products	V-GUARD offers a range of products from Voltage Stabilizer to Digital UPS, Inverter and Inverter Batteries, Electric Water Heaters, Solar Water Heaters, Kitchen Appliances, Solar Power Systems, Air Cooler, Room Heaters, Fans, Water Purifiers, Pumps, etc.		
Description	V Guard Industries Limited, established in 1996 with a burning passion to make a difference set out to build a robust brand in the Indian electric and electronic goods panorama. The company extended their range of products to Voltage Stabiliser, Digital UPS, Inverter and Inverter Batteries, Electric Water Heaters, Solar Water Heaters, Domestic Pumps, Agricultural Pumps, Industrial Motors, Domestic Switch Gears, Distribution Boards, Wiring Cables, Industrial Cables, Induction Cooktops, Mixer Grinders, Fans, Rice Cooker, Gas Stoves & Solar Power Systems.		
Revenue Classification		**FY25 (In Rs. Million.)**	**%**
	Electronics	15,096.3	27.00%
	Electricals	21,699.4	38.9%
	Consumer Durables	16,438.7	29.5%
	Sunflame	2,543.8	4.60%
	Total Revenue	55,778.2	100%
	Consumer Durables segment reports around 30% of revenue from total revenue, which includes products like (Solar & Electric Water Heaters, Fans, Air Coolers,		

	Kitchen Appliances, and other segments are Electronics, Electricals and Sunflame, etc., which reports around 70% of total revenue.

LG Electronics India Private Limited	
Year of Incorporation	1997
Headquarters	Delhi, India
Key products	The company manufactures various products such as LED TVs, panel displays, refrigerators, washing machines, ACs (room and commercial), microwave ovens, water purifiers and air purifiers etc.
Description	LG Electronics India Limited, a wholly owned subsidiary of LG Electronics, South Korea, was established in January 1997 in India. The company has one of the widest product portfolios among consumer durables players in India. It manufactures various products such as panel displays, refrigerators, washing machines, ACs (room and commercial), microwave ovens, water purifiers and air purifiers, and has a leading market position in most of these segments. It began operations by trading goods imported from the parent. Manufacturing facilities were set up in Greater Noida in 1998 and in Pune in 2004.
Revenue Classification	NA

11.3 Competitive Benchmarking

Bombay Coated & Special Steel Limited (BCSSL), incorporated in 2019, emerged as one of the steel processing centres in India, specialising in transforming Steel Coils into high-quality Processed Steel Products. Their expertise encompasses slitting, cut-to-length, shearing, and embossing, enabling the delivery of processed steel products tailored to meet exact customer needs. They serve a wide range of industries through OEMs and ODMs, with applications in home and commercial appliances (such as air conditioners, refrigerators, washing machines, and water heaters), as well as general engineering sectors including cleanrooms, electrical components, ventilation systems, automotive parts, and more.

For the Home & Commercial Appliances sector, the company processes coated and hot-rolled steel coils into products used in air conditioners, refrigerators, washing machines, water heaters, and more. For the General Engineering sector, the company specialise in processing non-coated and galvanised plain coils into blanks, supporting the manufacture of automobiles, pharmaceutical cleanrooms, electrical components, and air ventilation systems.

BCSSL, being a Steel Processing Centre ("SPC"), plays a crucial role in India's steel supply chain by acting as intermediaries between steel producers and end-users. Beyond precision processing, slitting, cut-to-length, shearing, and embossing, SPCs add value by managing inventory and enabling just-in-time delivery. This ensures businesses across both urban and remote regions receive processed steel products in a timely and cost-efficient manner.

Since 2021, the Company has been an authorised service partner of JSW Steel Coated Products Limited and/or its holding company (**"JSWCPL"**), pursuant to an agreement for the regular supply of steel coils. They procure steel coils from JSWCPL as well as other suppliers and process them using advanced engineering techniques and high-precision machinery to manufacture Processed Steel Products. Their long-standing and strong supplier relationships ensure

stability and reliability in sourcing, enabling us to efficiently and consistently meet customer requirements. The Company also carries out embossing for colour-coated sheets, which is required for refrigerator panels.

The Company's customer-centric approach enables it to provide tailored solutions that align with both functional and aesthetic expectations, and just-in-time deliveries of Processed Steel Products align with the requirements of their customers. Their customers majorly include OEMs and ODMs like Haier Appliances India Private Limited, IFB Refrigeration Limited, Dixon Electro Manufacturing Private Limited, Amber Enterprises India Limited, Western Refrigeration Private Limited, PG Technoplast Private Limited, EPack Durable Limited, Kruger Ventilation Industries (India) Private Limited, Elegant Coatings Private Limited, Magnum MI Steel Private Limited and A. K. Engineering. These customers span multiple industries, including consumer durables and home appliances, electrical equipment and components, automotive and auto components, HVAC and refrigeration, electronics and electrical manufacturing services, industrial engineering and capital goods, steel processing and metal fabrication, infrastructure and construction-related industries, renewable energy and power equipment, FMCG and packaging, as well as general manufacturing and industrial trading enterprises. Such diversification of their customer base across industries reduces our dependence on any single customer or industry segment.

The company operates in four strategically located facilities across India, serving both the Home & Commercial Appliances and General Engineering sectors.

- **Western Region (Maharashtra & Gujarat):** Their facilities at Wada (Palghar) and Bhiwandi (Thane) are well-connected through the Mumbai–Ahmedabad and Mumbai–Nashik highways. Their proximity to major industrial hubs, Pune, Nashik, Vasai-Virar, Boisar, Umbergaon, Khopoli, Silvasa, Aurangabad, and Vadodara, enables efficient material flow, quick turnaround times, and cost-effective logistics.
- **Northern Region (Rajasthan):** The Ghiloth facility, located on the Delhi–Jaipur Highway (NH8) about 90 km from Delhi International Airport, caters to OEMs and ODMs across Gurgaon, Noida, Bhiwadi, Manesar, Jhajjar, Rudrapur, and Dehradun, ensuring timely supply and reduced transit costs.
- **Southern Region (Andhra Pradesh):** Their Sri City facility, situated within one of South India's advanced industrial corridors along NH16, benefits from its presence in a multiproduct SEZ with DTZ, FTWZ, and an electronics cluster. Located around 100 km from Chennai Airport, it serves appliance manufacturers in Chennai, Gummidipoondi, and Sriperumbudur, offering just-in-time delivery while also supporting the General Engineering sector.

The company has demonstrated robust financial performance, with a 39.78% y-o-y growth in FY25 and a 33.67% compound annual growth rate (CAGR), outpacing its industry peers. While competitors have faced volatility in their profit margins, BCSSL has consistently improved its EBITDA, EBIT, and PAT margins, reflecting strong operational efficiency and enhanced profitability. Additionally, the company has effectively reduced its gearing ratio, signalling a reduction in financial leverage, and has shown significant improvement in its return on capital employed (ROCE). These metrics underscore BCSSL's ability to efficiently allocate capital and deliver sustainable, good returns, positioning it as a standout performer within the sector. The company generally observes lower order volume for volumes for air conditioners, home refrigeration, and commercial refrigeration, typically observed during June to September.

Table 15: Revenue from Operations of Peer Companies (in Rs. Millions)

Company	FY23	FY24	FY25	H1FY26	Growth y-o-y (FY25 vs FY24)	CAGR (FY23-FY25)
Bombay Coated & Special Steel Limited	5,908.75	7,552.59	10,557.07	4,915.10	39.78%	33.67%

BMW Industries Limited	5,076.80	5,353.31	5,570.84	2,930.41	4.06%	4.75%
Manaksia Coated Metals & Industries Limited	6,516.06	7,396.23	7,816.28	4,701.11	5.68%	9.52%
Shiv Aum Steels Limited	4,959.27	5,475.28	5,481.96	2,209.10	0.12%	5.14%
Median	5,492.78	6,435.76	6,693.56	3,815.76	4.87%	7.33%

Source: Company Financials

Bombay Coated & Special Steel Limited leads in revenue growth with a strong 39.78% y-o-y growth in FY25 and a solid 33.67% CAGR in FY25. The company reported a healthy revenue of Rs 4915.10 million, reflecting consistent momentum. BMW Industries posted the FY25 growth at 4.06%, though it maintains a CAGR of 4.75%, below the industry median, and it posted revenues of Rs 2930.21 million in H1FY26. Manaksia Coated Metals showed a moderate 5.68% y-o-y rise but trails above peers with a relatively higher CAGR of 9.52%. The company also reported a revenue of Rs 4701.11 million in H1FY26, indicating long-term growth. Shiv Aum Steels reported poor performance with a 0.12% increase in FY25 and a 5.14% CAGR in revenues of Rs 2209.10 million in H1FY26, marginally below the median.

Table 16: EBITDA Margin (in %)

	FY23	FY24	FY25	H1FY26
Bombay Coated & Special Steel Limited	6.37%	6.51%	7.02%	7.84%
BMW Industries Limited	21.63%	24.97%	21.23%	23.47%
Manaksia Coated Metals & Industries Limited	5.04%	6.86%	6.88%	10.77%
Shiv Aum Steels Limited	4.78%	3.48%	2.67%	2.96%
Median	5.71%	6.69%	6.95%	9.31%

Source: Company Financials

Bombay Coated & Special Steel maintained a steady upward trajectory, increasing its margin from 6.37% in FY23 to 7.02% in FY25 and 7.84% in H1FY26. Manaksia Coated Metals saw a sharp jump from 5.04% in FY23 and increased to 6.88% in FY25 and to 10.77% in H1FY26, being higher than the median. Shiv Aum Steels experienced a gradual margin contraction over three years, falling to 2.67% in FY25, followed by a slight rise to 2.96% in H1FY26, below the industry median of 9.31%. BMW Industries also showed good EBITDA margin levels, stable from 21.63% in FY23 to 21.23% in FY25 and 23.47% in H1FY26.

Table 17: EBIT Margin (in %)

	FY23	FY24	FY25	H1FY26
Bombay Coated & Special Steel Limited	6.16%	7.17%	6.48%	6.84%
BMW Industries Limited	16.77%	18.60%	16.21%	16.96%
Manaksia Coated Metals & Industries Limited	4.49%	6.50%	6.93%	11.47%
Shiv Aum Steels Limited	4.93%	3.74%	3.75%	3.39%
Median	5.55%	6.84%	6.71%	9.16%

Source: Company Financials

Bombay Coated & Special Steel showed a steady rise in EBIT margins, improving from 6.16% in FY23 to 6.48% in FY25 and 6.84% in H1FY26, reflecting consistent operational strengthening. BMW Industries showed good margin levels, inching up to 16.21% in FY25 and rising to 16.96% in H1FY26. Manaksia Coated Metals experienced a surge, going from 4.49% in FY23 to 6.93% in FY25 and rising above the median in H1FY26 at 11.47%. Meanwhile, Shiv Aum Steels saw continued margin compression, declining from 4.93% in FY23 to 3.75% in FY25, followed by 3.39% in H1FY26, underperforming against the peer group.

Table 18: Profit Margin (in %)

	FY23	FY24	FY25	H1FY26
Bombay Coated & Special Steel Limited	2.65%	2.80%	2.72%	2.24%
BMW Industries Limited	8.70%	11.03%	11.42%	10.44%

Manaksia Coated Metals & Industries Limited	0.77%	1.57%	2.00%	5.98%
Shiv Aum Steels Limited	2.89%	1.86%	1.76%	1.18%
Median	2.77%	2.33%	2.36%	4.11%

Source: Company Financials

Bombay Coated & Special Steel remained steady in profitability, with PAT margins marginally improving from 2.65% in FY23 to 2.72% in FY25, followed by 2.24% in H1FY26, underperforming the median. BMW Industries is strengthening its position with a rise from 8.70% to 11.42% over the three years to 10.44% in H1FY26. Manaksia Coated Metals showed marginal but stable growth in PAT margins, reaching 2.00% in FY25 from 0.77% in FY23, but jumped to 5.98% in H1FY26. In contrast, Shiv Aum Steels experienced a steady decline, with margins dropping from 2.89% in FY23 to 1.76% in FY25 and 1.18% in H1FY26, falling below the median.

Table 19: Gearing Ratio (Debt to Equity) (in x)

	FY23	FY24	FY25	H1FY26
Bombay Coated & Special Steel Limited	5.07	4.31	3.33	2.88
BMW Industries Limited	0.37	0.13	0.15	0.23
Manaksia Coated Metals & Industries Limited	1.59	1.20	0.64	0.31
Shiv Aum Steels Limited	0.61	0.65	0.81	0.63
Median	1.10	0.93	0.73	0.47

Source: Company Financials.

Bombay Coated & Special Steel significantly reduced its financial leverage over the three years, with the gearing ratio dropping from a high of 5.07 in FY23 to 3.33 in FY25 and further reducing to 2.88 in H1FY26, a still elevated but clear indication of a deleveraging trend. BMW Industries maintained a conservative capital structure, reducing its gearing from 0.37 in FY23 to 0.23 in H1FY26, the lowest among its peers. Manaksia Coated Metals improved moderately, with gearing falling from 1.59 in FY23 and 0.64 in FY25 and falling to 0.31 in H1FY26. In contrast, Shiv Aum Steels saw a slight increase in leverage, rising steadily from 0.61 in FY23to 0.81 in FY25 and again falling to 0.63 in H1FY26, ending above the industry median of 0.47 in H1FY26.

Table 20: Return on Equity (in %)

	FY23	FY24	FY25	H1FY26
Bombay Coated & Special Steel Limited	67.90%	48.20%	41.76%	12.45%
BMW Industries Limited	7.85%	9.69%	9.57%	4.23%
Manaksia Coated Metals & Industries Limited	4.47%	8.91%	8.44%	10.17%
Shiv Aum Steels Limited	16.16%	10.08%	8.73%	2.24%
Median	12.01%	9.89%	9.15%	7.20%

Source: Company Financials.

Bombay Coated & Special Steel posted an exceptionally high return on equity, though it declined from 67.90% in FY23 to 41.76% in FY25 and further falling to 12.45% in H1FY26, still well above the median. BMW Industries showed steady improvement, with ROE rising from 7.85% to 9.57% over three years but falling to 4.23% in H1FY26 far below the median. Manaksia Coated Metals showed good growth, from 4.47% in FY23 to 8.44% in FY25 and reaching 10.17% in H1FY26. Meanwhile, Shiv Aum Steels saw a continuous decline in ROE, falling from 16.16% in FY23 to 2.24% in H1FY26, far below the median in H1FY26.

Table 21: Return on Capital Employed (in %)

	FY23	FY24	FY25	H1FY26
Bombay Coated & Special Steel Limited	17.89%	18.60%	18.78%	9.07%
BMW Industries Limited	10.22%	13.20%	10.83%	5.15%
Manaksia Coated Metals & Industries Limited	9.38%	14.13%	14.31%	12.04%
Shiv Aum Steels Limited	15.82%	11.72%	9.85%	3.88%
Median	13.02%	13.67%	12.57%	7.11%

Source: Company Financials.

Bombay Coated & Special Steel demonstrated remarkable improvement in capital efficiency, with ROCE increasing steadily from 17.89% in FY23 to 18.78% in FY25, outperforming peers, but in H1FY26 it fell to 9.07%. BMW Industries maintained a gradual upward trend, with ROCE rising from 10.22% to 10.83% over the respective period but falling to 5.15% in H1FY26. Manaksia Coated Metals experienced high volatility after surging to 9.38% in FY23; its ROCE normalised to 14.31% in FY25 and settling at 12.04% in H1FY26. Shiv Aum Steels showed a consistent decline in capital returns, with ROCE falling from 15.82% in FY23 to 9.85% in FY25 to 3.88% in H1FY26, lower than the FY25 industry median.

Table 22: Debtors' Days (in Days)

	FY23	FY24	FY25	H1FY26
Bombay Coated & Special Steel Limited	46	45	42	47
BMW Industries Limited	93	85	67	61
Manaksia Coated Metals & Industries Limited	25	24	24	27
Shiv Aum Steels Limited	26	28	34	39
Median	36	37	38	43

Source: Company Financials.

Bombay Coated & Special Steel maintained consistent receivables management, with debtor days remaining at 46 in FY23 and decreasing to 42 in FY25 and 47 at H1FY26. BMW Industries delivered an improvement, reducing debtor days from a high of 93 in FY23 to 67 in FY25 and further reducing it to 61 in H1FY26. Manaksia Coated Metals also maintained its efficiency, lowering debtor days from 25 in FY23 to 24 in FY25 but rising to 27 in H1FY26. In contrast, Shiv Aum Steels showed increased pressure on collections, with debtor days rising from 26 in FY23 to 34 in FY25 and further rising to 39, still below the H1FY26 median of 43.

Table 23: Net Working Capital Days (in Days)

	FY23	FY24	FY25	H1FY26
Bombay Coated & Special Steel Limited	61	66	63	73
BMW Industries Limited	237	178	136	139
Manaksia Coated Metals & Industries Limited	64	66	73	76
Shiv Aum Steels Limited	96	103	119	154
Median	80	85	96	108

Source: Company Financials.

Bombay Coated & Special Steel Limited reported working capital days from 61 days in FY23 to 63 days in FY25 and reaching 73 days in H1FY26. BMW Industries Limited showed fluctuations, reducing its working capital days from 237 in FY23 to 136 in FY25 and 139 in H1FY26. Manaksia Coated Metals & Industries Limited experienced working capital intensity, increasing from 64 days in FY23 to 73 days in FY25 to 76 in H1FY26, indicating longer cash conversion cycles. Shiv Aum Steels Limited maintained a relatively stable cycle, with working capital days moving from 96 in FY23 to 119 in FY25 and 154 in H1FY26.

12.4 Definitions

Blanks	Blanks are the output of the process, which involves cutting Slit Coils or Embossed Slit Coils into the desired length based on customer specifications.
Steel Coils	Steel Coils shall include Coated Steel Coils and Non-Coated Steel Coils.
Coated Steel Coils	Coated Steel Coils shall include galvalume steel coils, colour-coated steel coils and galvanised steel coils.
Non-Coated Steel Coils	Non-Coated Steel Coils shall include both cold-rolled steel coils and hot-rolled steel coils.
Processed Steel Products	Processed Steel Products shall include Slit Coils, Embossed Slit Coils, Blanks, Embossed Blanks and Sheared Blanks.
Slit Coils	Slit Coils are the output of the process, which involves the slitting of Steel Coils into narrower widths based on customer specifications.
Embossed Slit Coils	Embossed Slit Coils are the output of the process, which involves slitting of embossed colour-coated steel coils into the desired width based on customer specifications.
Embossed Blanks	Embossed Blanks are the output of the process, which involves cutting Embossed Slit Coils into the desired length based on customer specifications.
Sheared Blanks	Sheared Blanks are the output of the process, which involves cutting Blanks into the desired length, width or both based on customer specifications.

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