

Industry Research Report on Steel Industry

24th June 2025

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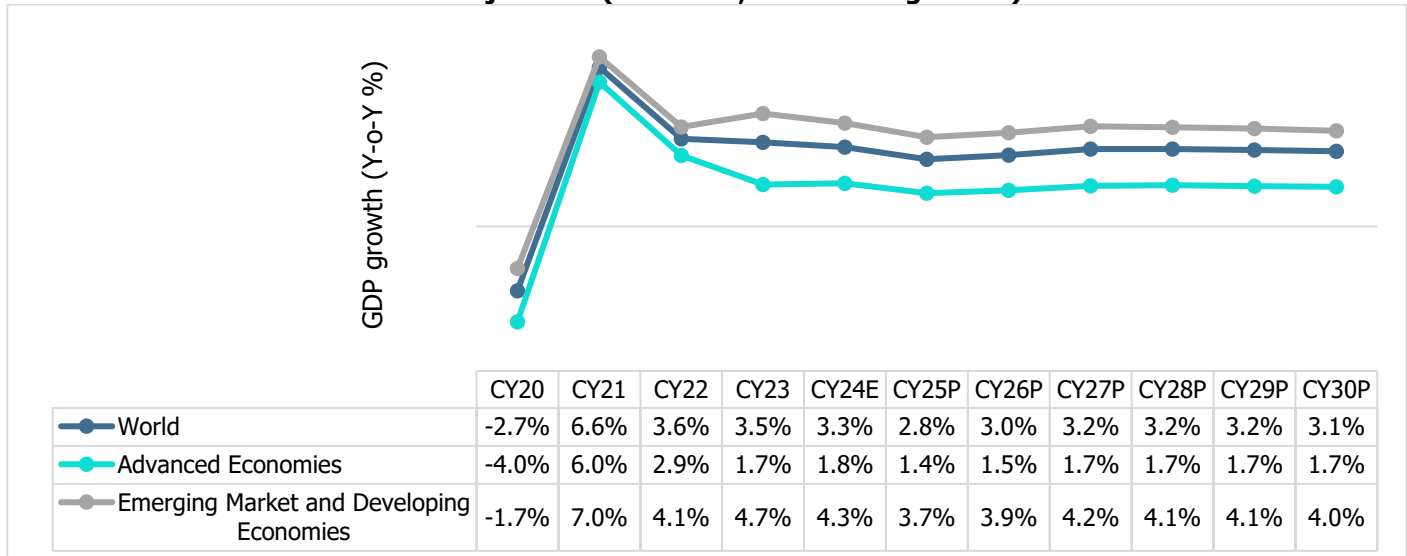
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1 Economic Outlook

1.1 Global Economy

Global growth, which reached 3.5% in calendar year 2023, is estimated to stabilize at 3.3% in 2024 and is projected to decline further to 2.8% in 2025. Global trade is expected to be disrupted by new tariffs imposed by the US and retaliatory measures from major trading partners. These tariffs have pushed average import duties in the US to levels not seen since the early twentieth century, prompting swift countermeasures from countries including China, the European Union, Canada, and Mexico. This escalation is placing strain on global supply chains, as companies are forced to stockpile inputs and reroute logistics, driving up costs for both producers and consumers. Trade flows are weakening, and inflationary pressures are mounting. In response, governments are rethinking trade agreements, diversifying supply lines, and adjusting economic strategies to support growth. Central banks are expected to recalibrate monetary policy, while effective fiscal planning and structural reforms will be essential to managing debt and reducing global inequalities.

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



Source: IMF – World Economic Outlook, April 2025; Notes: P-Projection, E-Estimated

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	CY24E	CY25P	CY26P	CY27P	CY28P	CY29P	CY30P
India	-5.8	9.7	7.6	9.2	6.5	6.2	6.3	6.5	6.5	6.5	6.5
China	2.3	8.6	3.1	5.4	5.0	4.0	4.0	4.2	4.1	3.7	3.4
Indonesia	-2.1	3.7	5.3	5.0	5.0	4.7	4.7	4.9	5.0	5.1	5.1
Saudi Arabia	-3.6	5.1	7.5	-0.8	1.3	3.0	3.7	3.6	3.2	3.2	3.3
Brazil	-3.3	4.8	3.0	3.2	3.4	2.0	2.0	2.2	2.3	2.4	2.5
Euro Area	-6.0	6.3	3.5	0.4	0.9	0.8	1.2	1.3	1.3	1.2	1.1
United States	-2.2	6.1	2.5	2.9	2.8	1.8	1.7	2.0	2.1	2.1	2.1

Source: IMF- World Economic Outlook Database (April 2025)

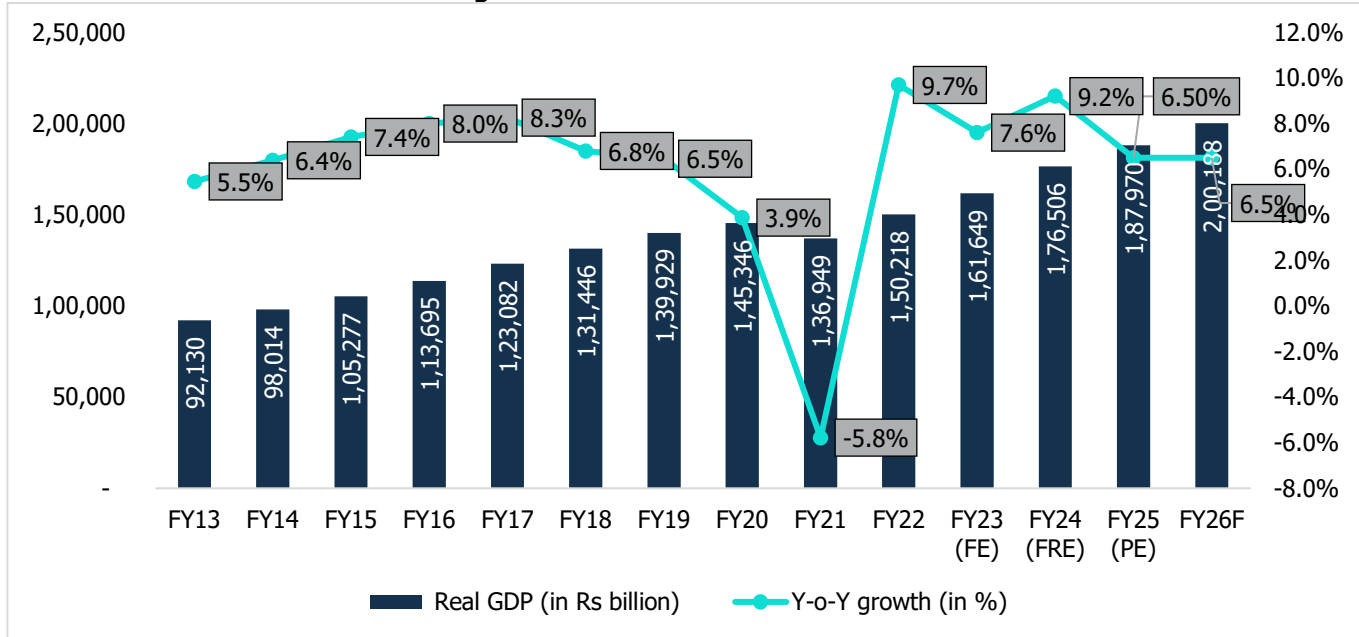
Note: P- Projections, E-Estimate; India's fiscal year (FY) aligns with the IMF's calendar year (CY). For instance, FY24 corresponds to CY23.

1.2 Indian Economic Outlook

1.2.1 GDP Growth and Outlook

Resilience to External Shocks remains Critical for Near-Term Outlook

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

India's real GDP grew by 9.2% in FY24 (Rs. 176,506 billion) which is the highest in the previous 12 years (excluding FY22, on account of end of pandemic) and as per provisional estimates, it grew at 6.5% in FY25 (Rs. 187,970 billion), driven by double digit growth particularly in the Manufacturing sector, Construction sector and Financial, Real Estate & Professional Services. This growth is also led by private consumption increasing by 7.6% and government spending increasing by 3.8% Y-o-Y. Real GDP growth is projected at 6.5% in FY26 as well, driven by strong rural demand, improving employment, and robust business activity.

GDP Growth Outlook (April 2025)

FY26 GDP Outlook: The RBI projects real GDP growth at 6.5% for 2025–26, driven by strong private consumption, steady investment, and resilient rural and urban demand. A favourable monsoon, robust services sector, and improving corporate balance sheets support this outlook.

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 %)

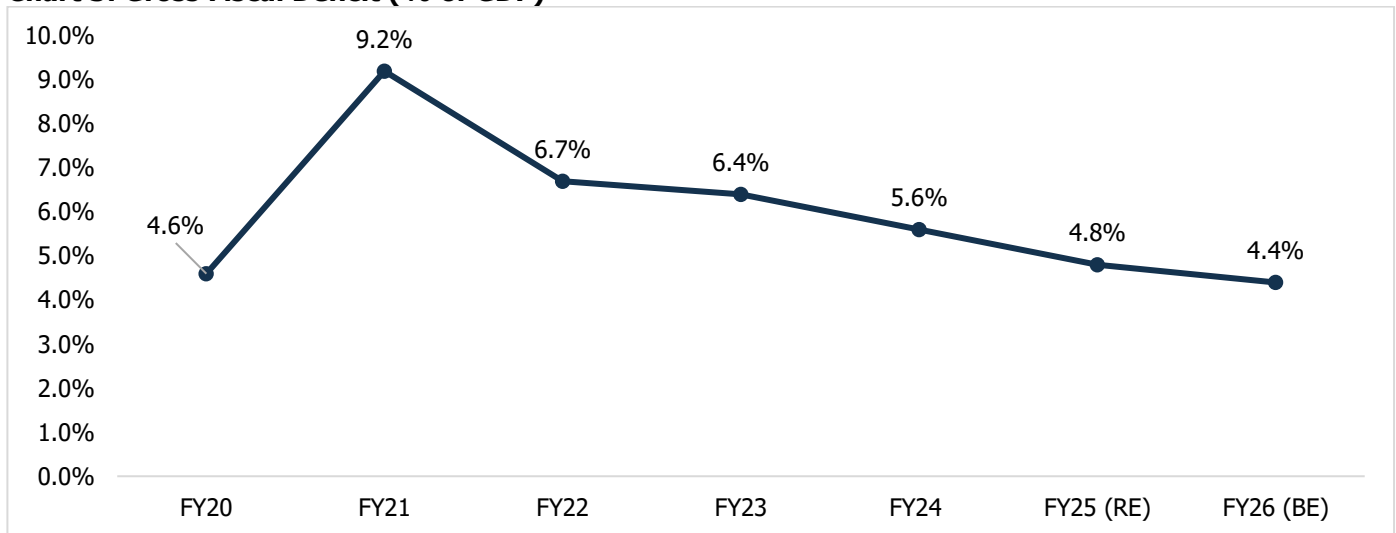
FY26P (complete year)	Q1FY26P	Q2FY26P	Q3FY26P	Q4FY26P
6.5%	6.5%	6.7%	6.6%	6.3%

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.

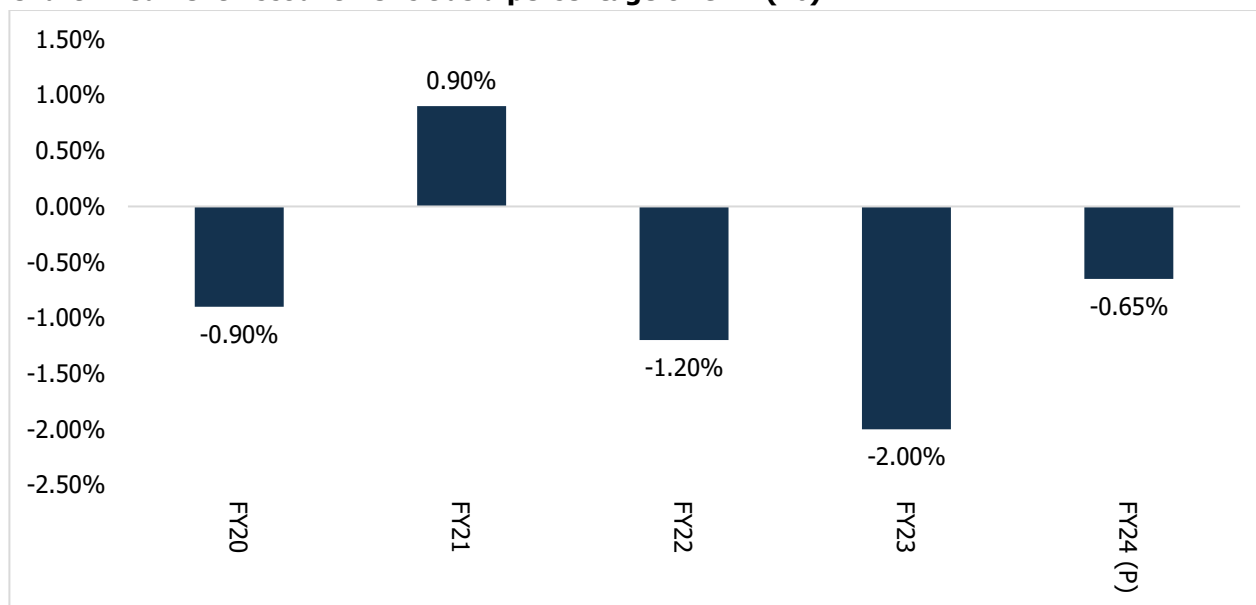
Chart 3: Gross Fiscal Deficit (% of GDP)



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

1.2.3 Historical movement of Current Account Deficit

The Current Account Deficit (CAD), which reflects the difference between a country's total foreign income and expenditures, is a key indicator of the strength of a nation's external sector. Between FY20 and FY24, India's Current Account Deficit (CAD) exhibited a current account surplus in FY21 attributed to reduced import absorption amid GDP contraction. India's CAD widened post FY21 from 1.2% in FY22 to USD 67 billion, or 2% of GDP in FY23. However, the trend reversed in FY24, with the deficit narrowing to USD 23.3 billion, or 0.65% of GDP. This reduction was driven by a decrease in the merchandise trade deficit, a rise in net services exports, and increased remittances. Robust global demand for India's service sectors, including IT, accountancy, and legal services, played a crucial role in this positive shift.

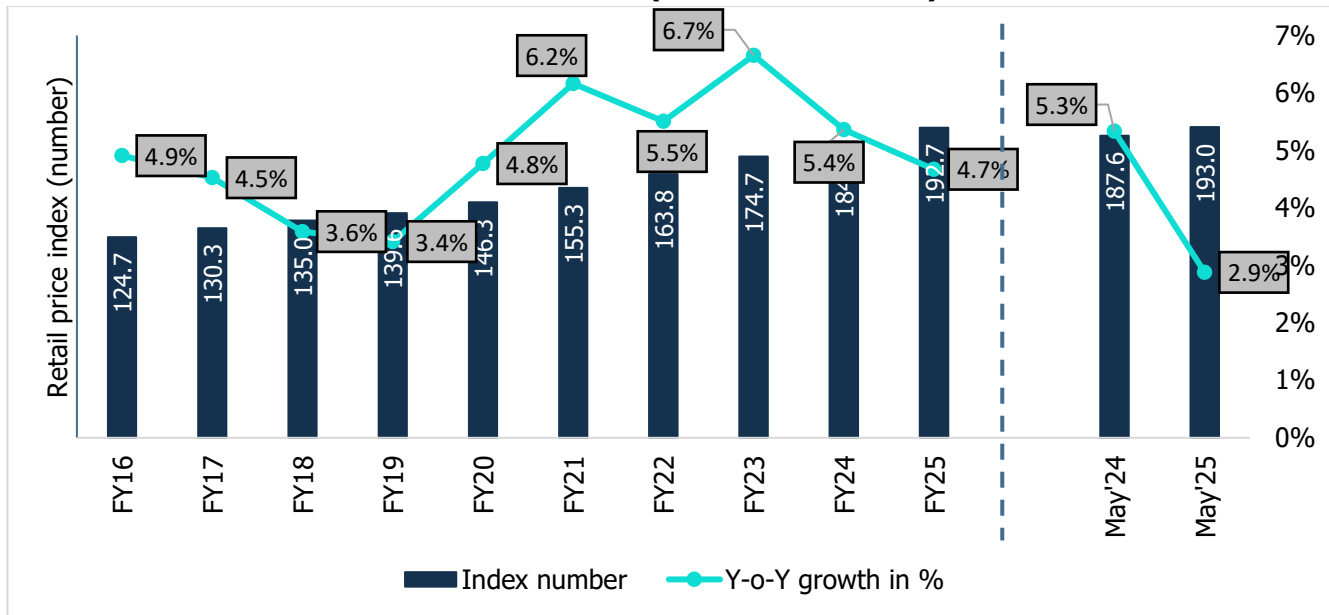
Chart 4: Current Account Deficit as a percentage of GDP (%)

Source: RBI; Note: P-Data are Provisional

1.2.4 Consumer Price Index

The CPI (general) and food inflation in May 2025 over May 2024 (2.9%, provisional) witnessed lowest Y-o-Y inflation since February 2019. The moderation was driven by decline of inflation in pulses, vegetables, fruits, cereals, households' goods & services, sugar & confectionary and eggs.

Chart 5: Inflation in terms of Retail Price Index (Base: 2011-12=100)

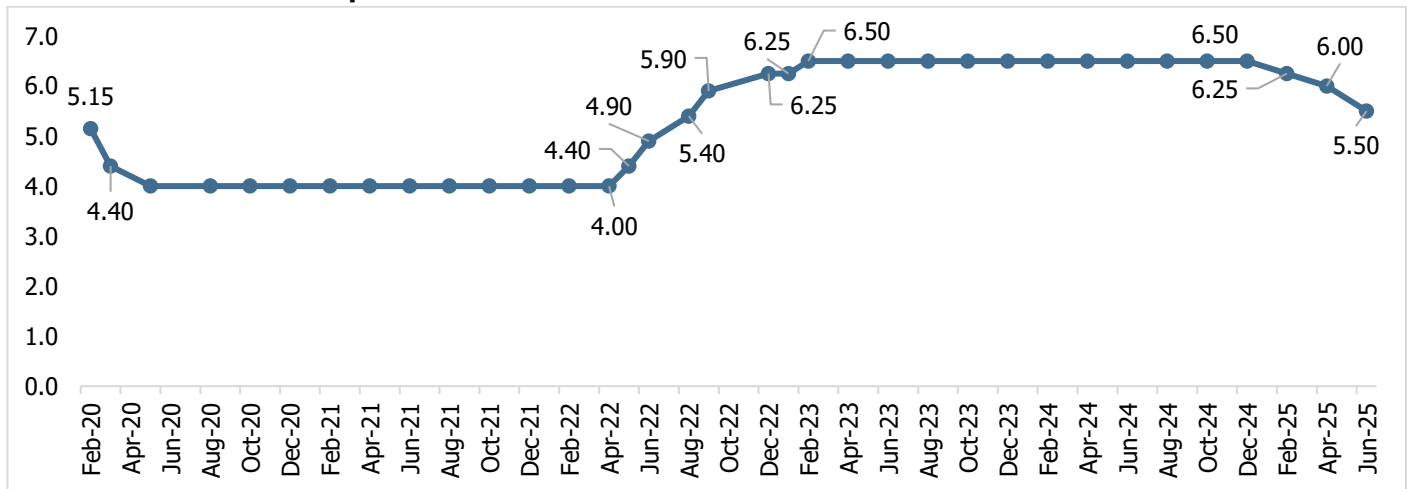


Source: MOSPI

The CPI is primarily factored in by RBI while preparing their bi-monthly monetary policy. At the bi-monthly meeting held in June 2025, RBI projected inflation at 3.7% for FY26 with inflation during Q1FY26 at 2.9%, Q2FY26 at 3.4% and Q3FY26 at 3.9% and Q4FY26 4.4%.

Considering the current inflation situation, RBI has cut the repo rate to 5.5% in the June 2025 meeting of the Monetary Policy Committee.

Chart 6: RBI historical Repo Rate



Source: RBI

Further, the central bank shifted its policy stance from 'accommodative' to 'neutral'. With a decline in food inflation, the headline inflation moderated to a six-year low to 3.2% in April 2025.

The economic growth outlook for India is expected to maintain momentum, supported by private consumption and continued growth in fixed capital formation. The uncertainty regarding the global outlook has reduced given the

temporary tariff stay and optimism with trade negotiations. However, global growth and trade has been revised downward due to weakened sentiments and lower growth prospects.

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.

1.2.5 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, construction, and utility services. The slow down can be attributed to the manufacturing segment likely to grow at 4.5%, lower than the previous year's 12.3%.

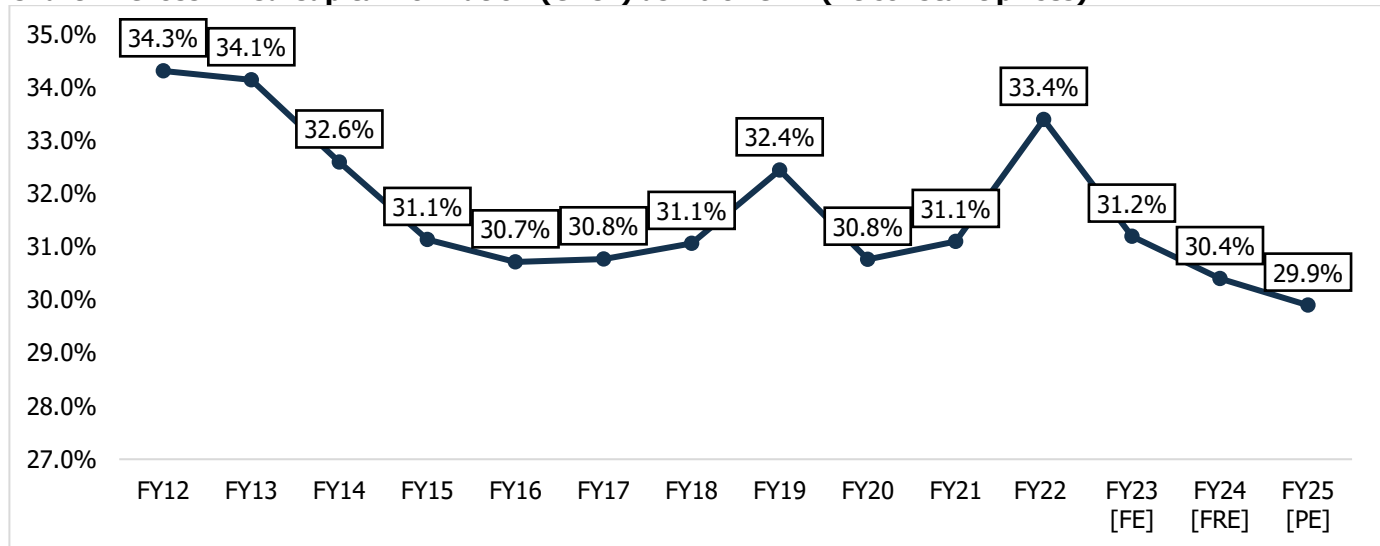
Table 3: Industrial sector growth (Y-o-Y growth) -at Constant Prices

At constant Prices	FY19	FY20	FY21	FY22	FY23 (FE)	FY24 (FRE)	FY25 (PE)
Industry	5.3	-1.4	-0.9	11.6	2.0	10.8	5.9
Mining & Quarrying	-0.9	-3.0	-8.6	7.1	2.8	3.2	2.7
Manufacturing	5.4	-3.0	2.9	11.1	-3.0	12.3	4.5
Electricity, Gas, Water Supply & Other Utility Services	7.9	2.3	-4.3	9.9	11.5	8.6	5.9
Construction	6.5	1.6	-5.7	14.8	10.0	10.4	9.4
GVA at Basic Price	5.8	3.9	-4.2	8.8	7.4	8.6	6.4

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

1.2.6 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.

Chart 7: Gross Fixed Capital Formation (GFCF) as % of GDP (At constant prices)

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

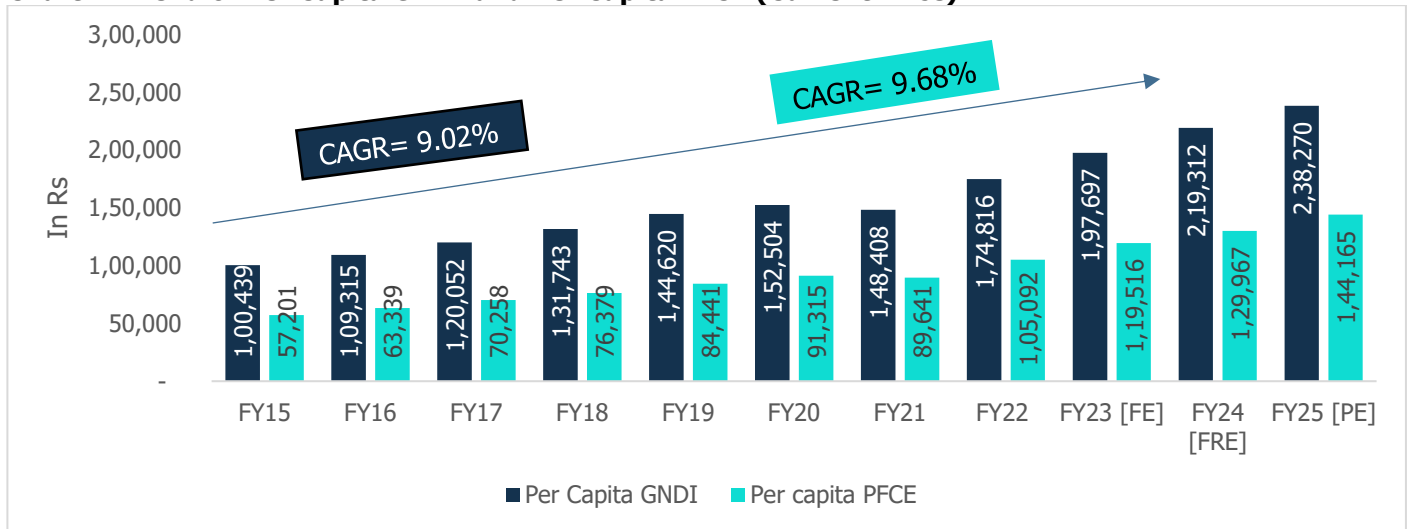
Overall, the support of public investment in infrastructure is likely to gain traction due to initiatives such as Atmanirbhar Bharat, Make in India, and Production-linked Incentive (PLI) scheme announced across various sectors.

1.2.7 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 9.02%. 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 9.68%.

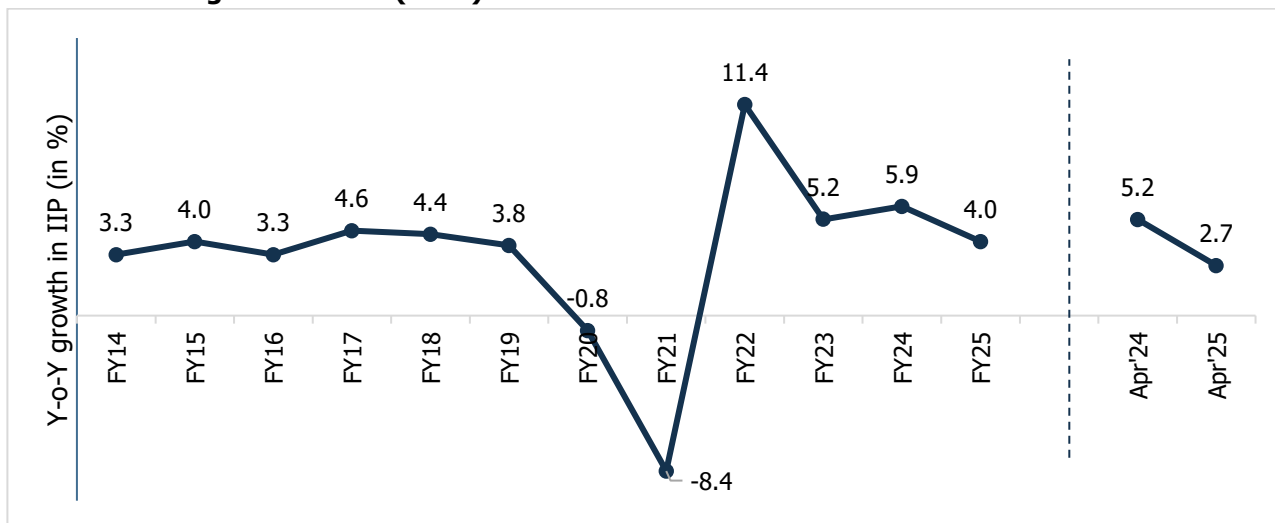
Chart 7: Trend of Per Capita GNDI and Per Capita PFCE (Current Price)


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

1.2.8 Industrial Growth

The Quick Estimates of the Index of Industrial Production (IIP) for April 2025 show a growth of 2.7%, compared to 5.2% in April 2024. The year-on-year growth moderation reflects subdued performance across key segments, largely due to a contraction in consumer non-durables, infrastructure industries, intermediate goods, capital goods, and primary goods.

In April 2025, industrial growth was supported by Manufacturing (3.4%) and Electricity (1.1%), while the Mining sector contracted by 0.2%. Within the manufacturing sector, industry groups such as pharmaceuticals, motor vehicles, and beverages recorded notable growth. Specifically, the electrical equipment and fabricated metal products segments contributed positively. Use-based indices highlighted slower growth across Primary Goods, Capital Goods, and Intermediate Goods. Capital Goods, however, stood out with a strong 20.3% rise, suggesting continued investment momentum.

Chart 8: Y-o-Y growth in IIP (in %)


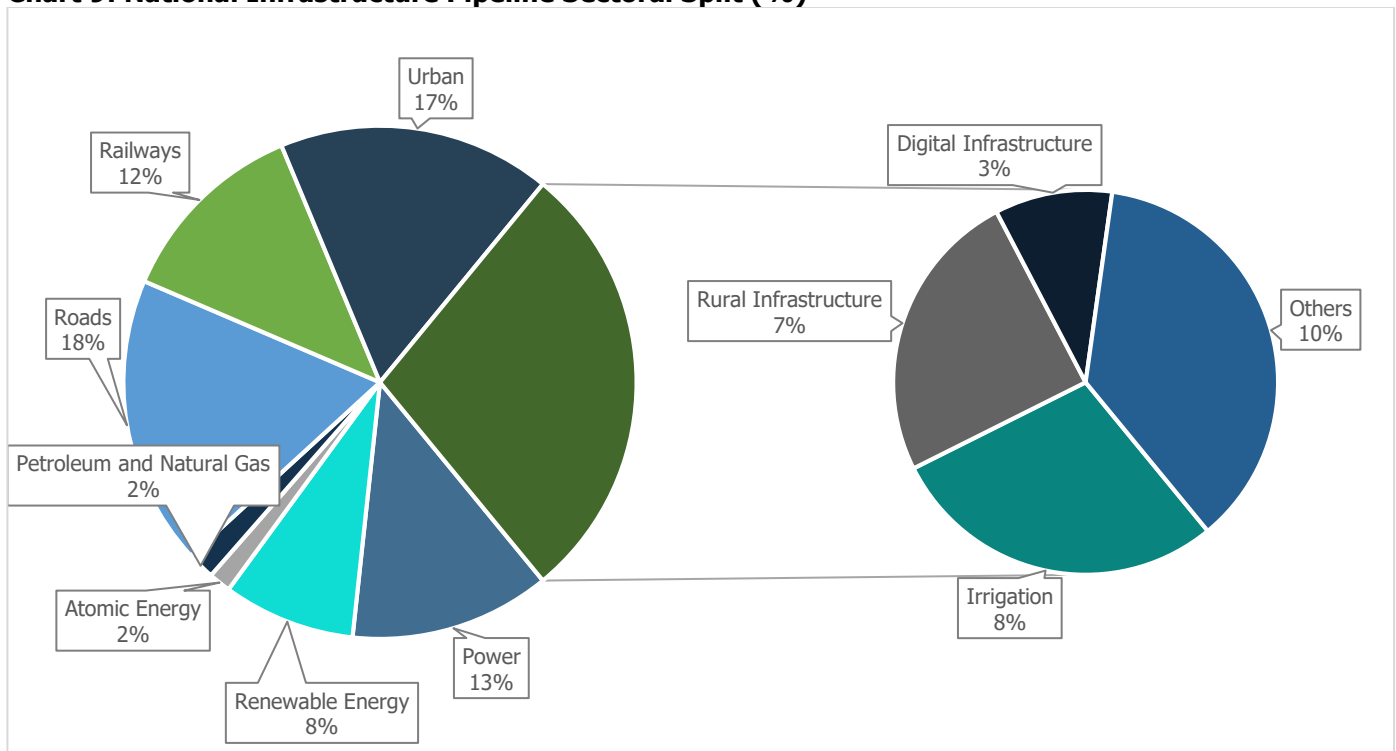
Source: MOSPI

1.2.9 National Infrastructure Pipeline

NIP was launched in December 2019 with a focus on infrastructure development to enable the country to achieve its target of USD 5 trillion economy by FY25 and USD 10 trillion by FY30. Infrastructure to play a major role with 3% contribution to the GDP by FY25 (Rs 11.21 lakh crore) and is expected to remain same or increase its share by FY30 (Rs 25.00 lakh crore).

A taskforce was created to set up the pipeline. In the final report submitted by the task force in April 2020, the pipeline covers multiple sectors, such as urban infrastructure, renewable and conventional energy, roads and railways that constitute nearly 71% of the projected total capex of Rs 11.21 lakh crore. It also includes investments in other sectors such as rural infrastructure, ports, airports among others. The proposed investments will be implemented by both the government and the private sector.

Chart 9: National Infrastructure Pipeline Sectoral Split (%)

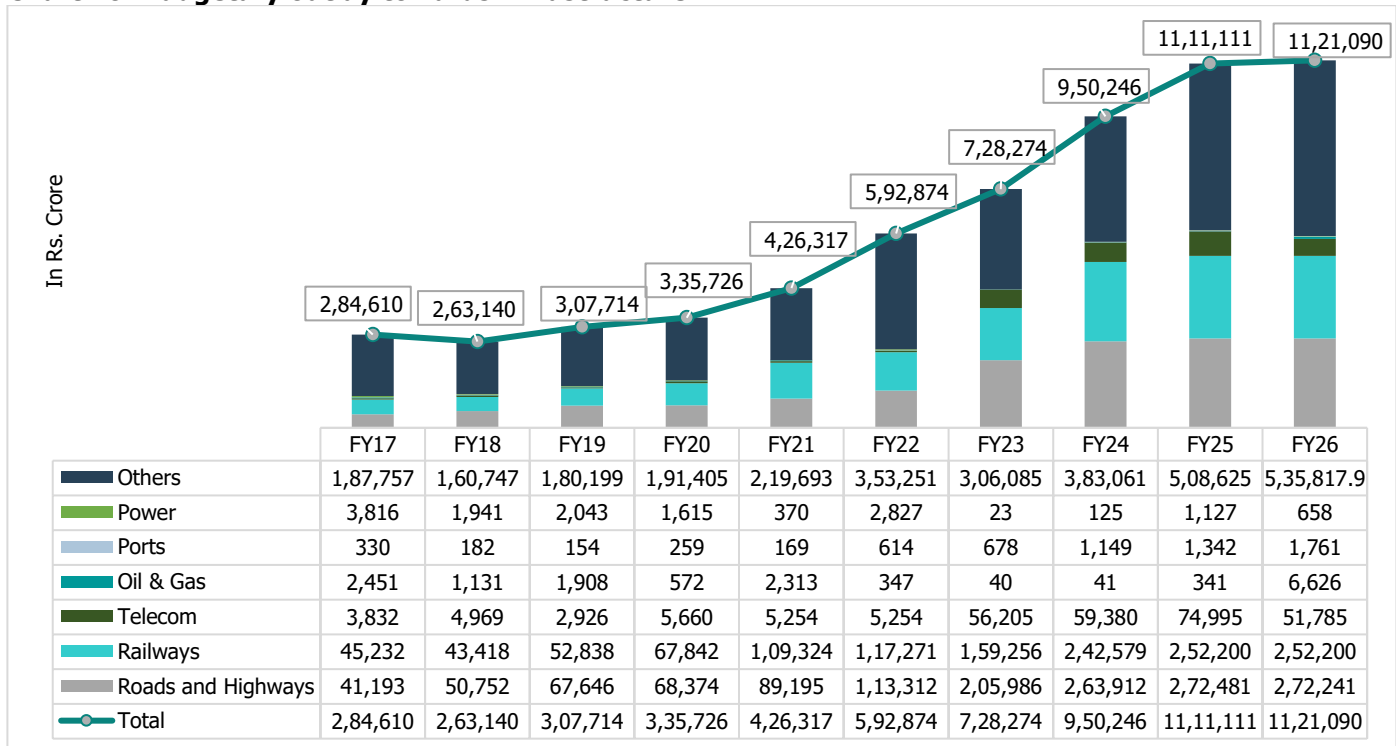


Source: NITI Aayog's report on National Infrastructure Pipeline

During FY20–25, sectors-wise breakup of NIP investment is with energy contributing the highest at Rs 26,900 billion around 24% of the total plan followed by roads Rs. 20,338 billion at 18%, urban Rs. 19,193 billion at 17%, and railways with an investment of Rs. 13,676 billion, which contributes 12% amount to ~71% of the projected infrastructure investments in India.

1.2.10 Budgetary expenditure on Infrastructure

With the growing population, the long-term need for robust infrastructure is necessary for economic development. This generates the need for massive investments in the development and modernization of infrastructure facilities, which will not only cater to the growing demand but will also ensure competitiveness in the global market.

Chart 10: Budgetary outlay towards infrastructure


Source: Union Budget FY26 document

Some of the key government infrastructure schemes include:

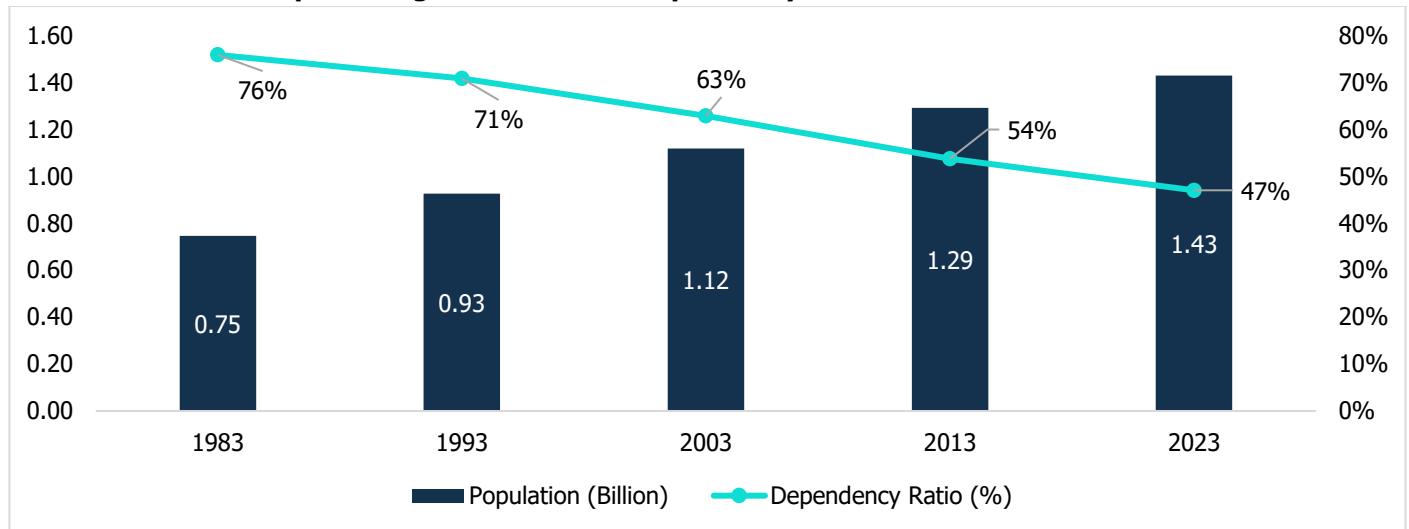
- The government has announced plans for the National Monetization Pipeline (NMP) and Development Finance Institution (DFI) to improve the financing of infrastructure projects
- The government has helped the growth of urbanization through a number of schemes and projects, including the **Smart Cities Mission**, the **Atal Mission for Rejuvenation and Urban Transformation (AMRUT)**, and the **Pradhan Mantri Awas Yojana (Urban)**.

1.2.11 Overview on Key Demographic Parameters

Population growth and Urbanization

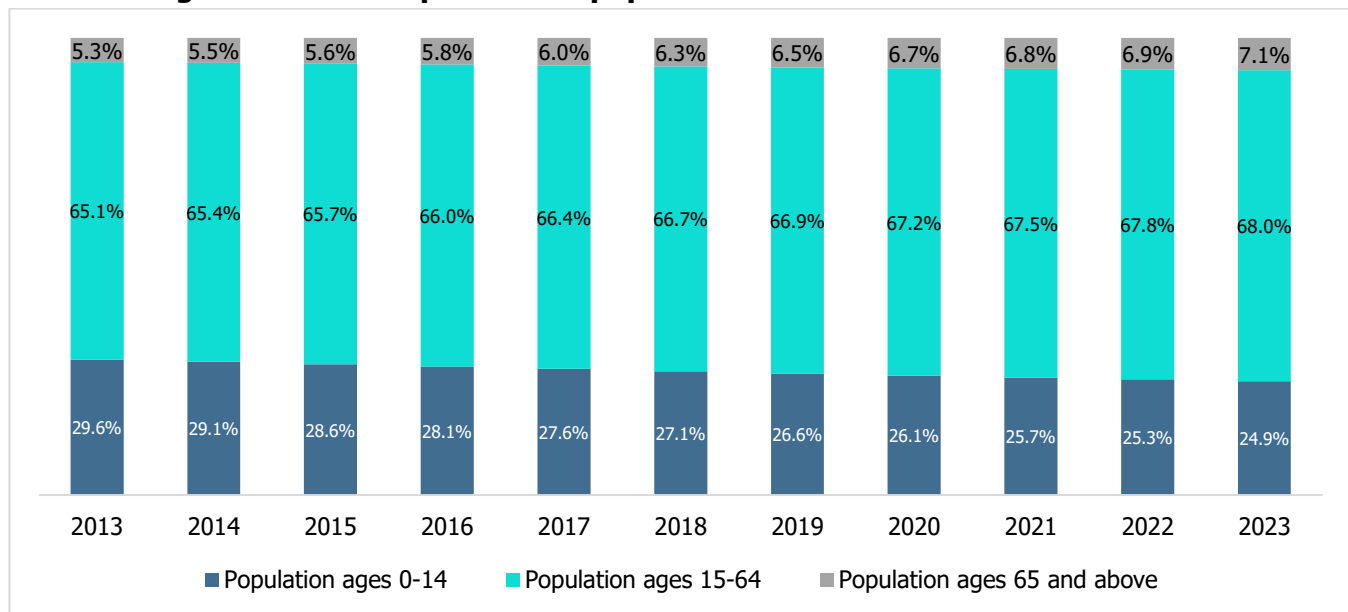
The trajectory of economic growth of India and private consumption is driven by socio-economic factors such as demographics and urbanization. According to the world bank, India's population in 2022 surpassed 1.42 billion slightly higher than China's population 1.41 billion and became the most populous 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. It was as high as 76% in 1983, which has reduced to 47% in 2023. Declining dependency means the country has an improving share of working-age population generating income, which is a good sign for the economy.

Chart 11: Trend in Population growth vis-à-vis dependency ratio in India


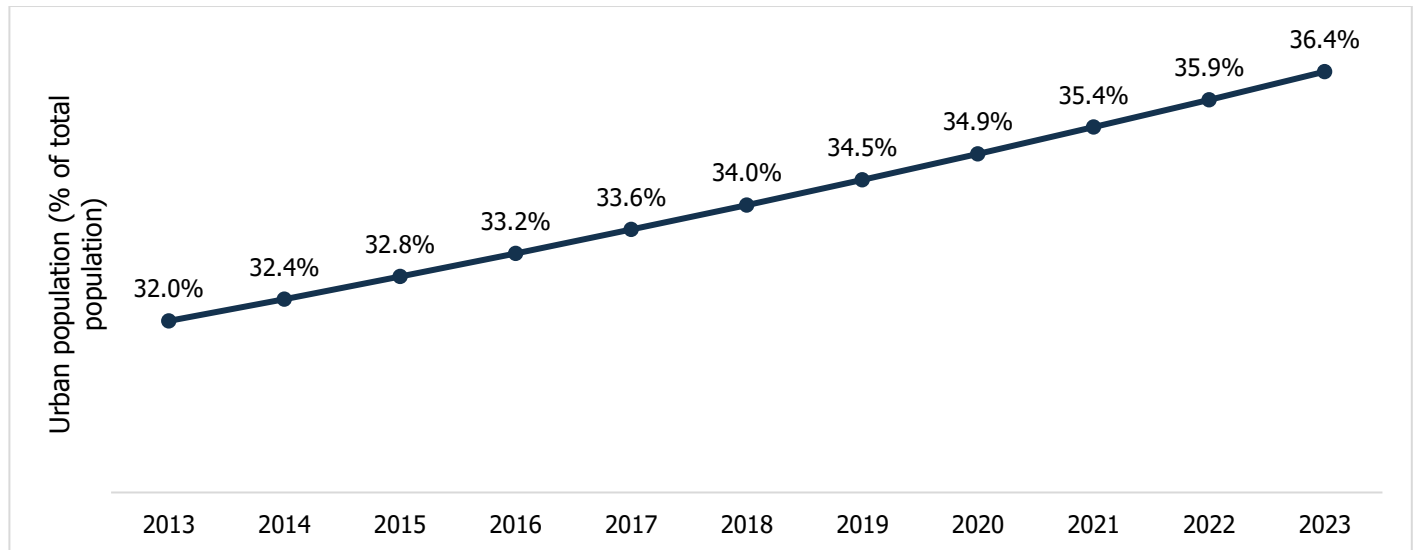
Source: World Bank Database

With an average age of 29, India has one of the youngest populations globally. With vast resources of young citizens entering the workforce every year, it is expected to create a 'demographic dividend'. India is home to a fifth of the world's youth demographic and this population advantage will play a critical role in economic growth.

Chart 12: Age-Wise Break Up of Indian population


Source: World Bank Database

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 2013 to 519.5 million (36.4% of total population) in the year 2023.

Chart 13: Urbanization Trend in India

Source: World Bank Database

- **Increasing Disposable Income and Consumer Spending**

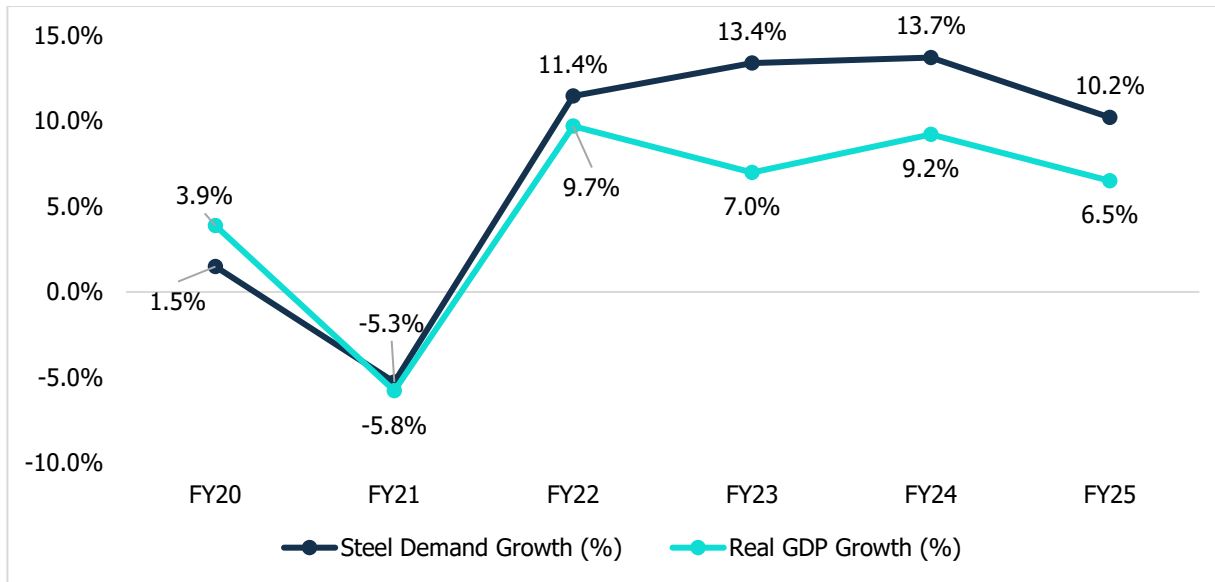
Gross National Disposable Income (GNDI) is a measure of the income available to the nation for final consumption and gross savings. Between the period FY15 to FY25, per capita GNDI at current prices registered a CAGR of 9.02%. More disposable income drives more consumption, thereby driving economic growth.

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 9.68%.

1.2.12 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.

Chart 14: Growth in Steel Demand Vs Real GDP Growth

Source: CMIE, MOSPI

Note: FY23 number for Real GDP are Final Estimates, FY24 number for Real GDP are First Revised Estimates, FY25 number for Real GDP are Second Advance Estimates

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 6.5% GDP growth in CY24 (FY25 according to the fiscal year), compared to the global projection of 3.3%. 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 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 13, Prime Minister Narendra Modi and President Donald Trump 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. Negotiations for a multi-sector bilateral trade agreement (BTA) are expected to commence later this year, focusing on trade fairness, national security, and job creation.

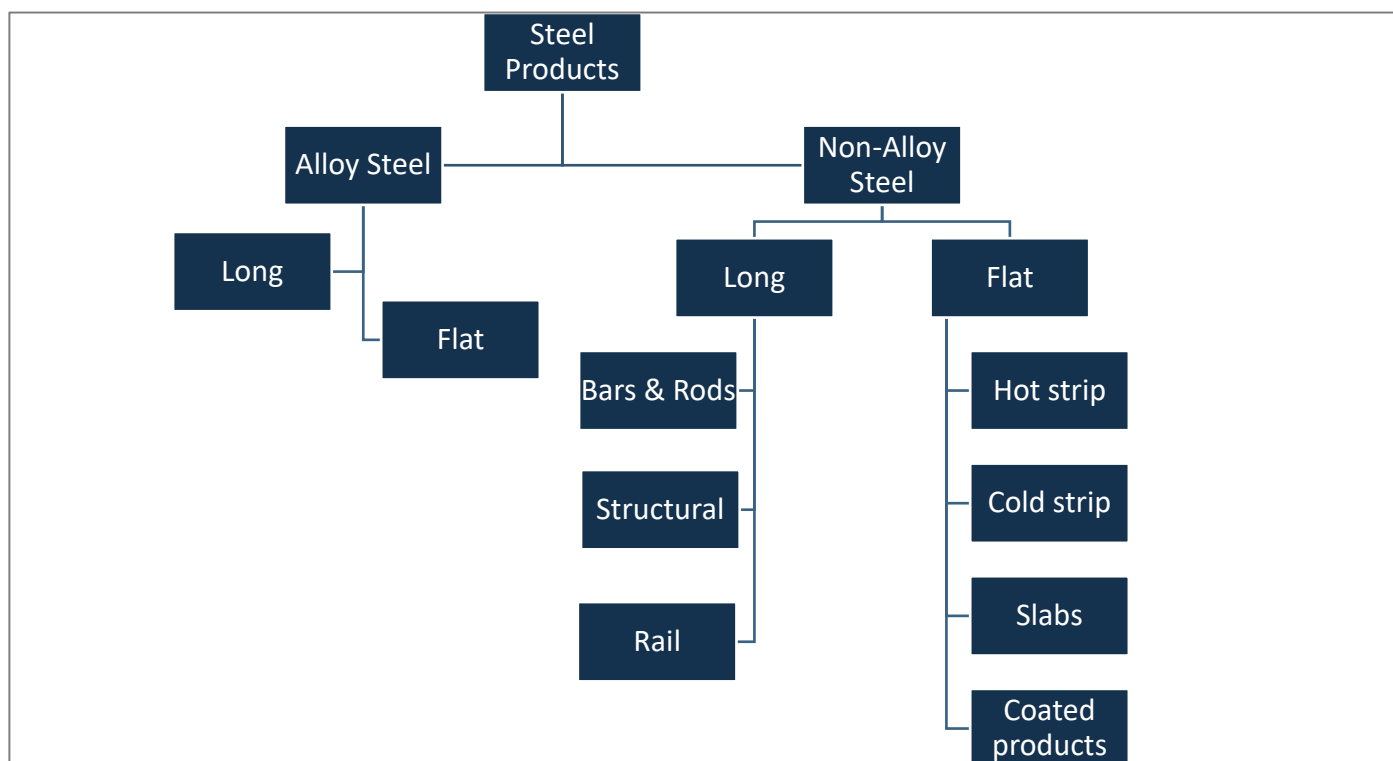
Thus, while U.S. tariffs may have a limited impact on India's exports, ongoing trade negotiations and India's competitive manufacturing advantage position it well for continued growth in global trade..

2 Global Steel Industry

2.1 Global Per Capita Steel Consumption Declines Amid Geopolitical and Economic Challenges, Asia Leads with Highest Usage in CY23

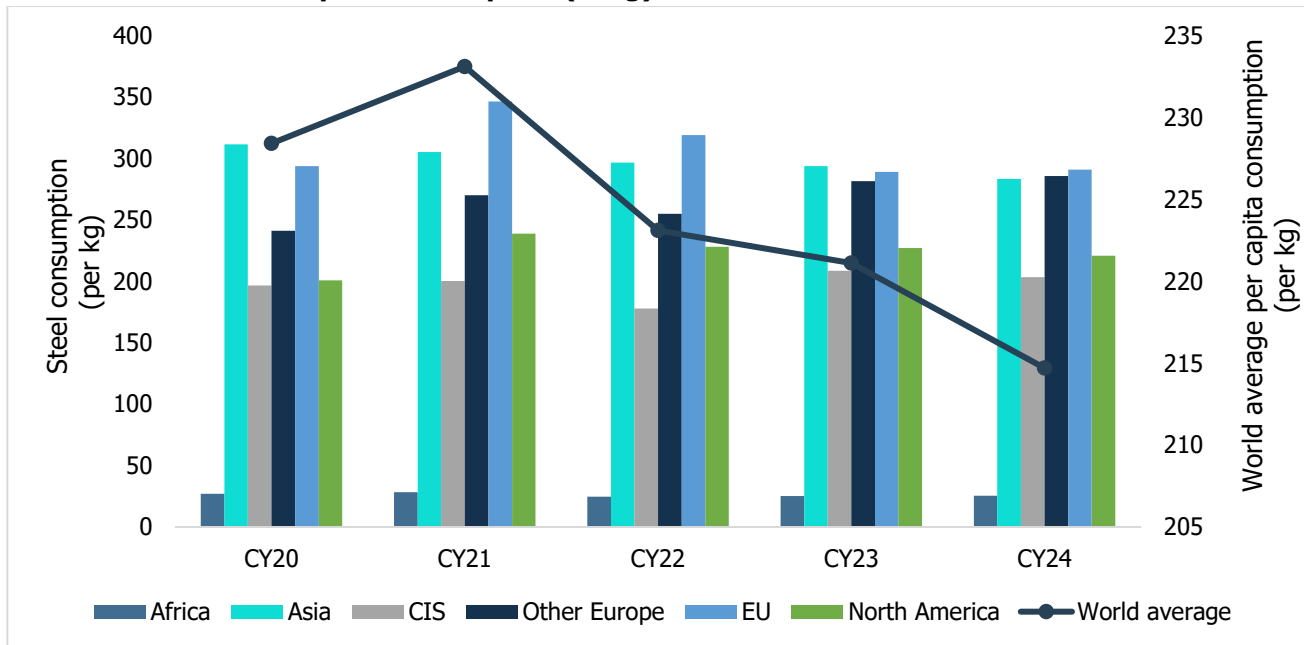
Steel is a paramount material in the fields of construction and engineering. It has widespread applications in industries such as automotive, construction, consumer goods, infrastructure, capital goods, mechanical & medical equipment, packaging, and utensils, among others. Its popularity stems from its 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.

Chart 15 : Types of Steel Products



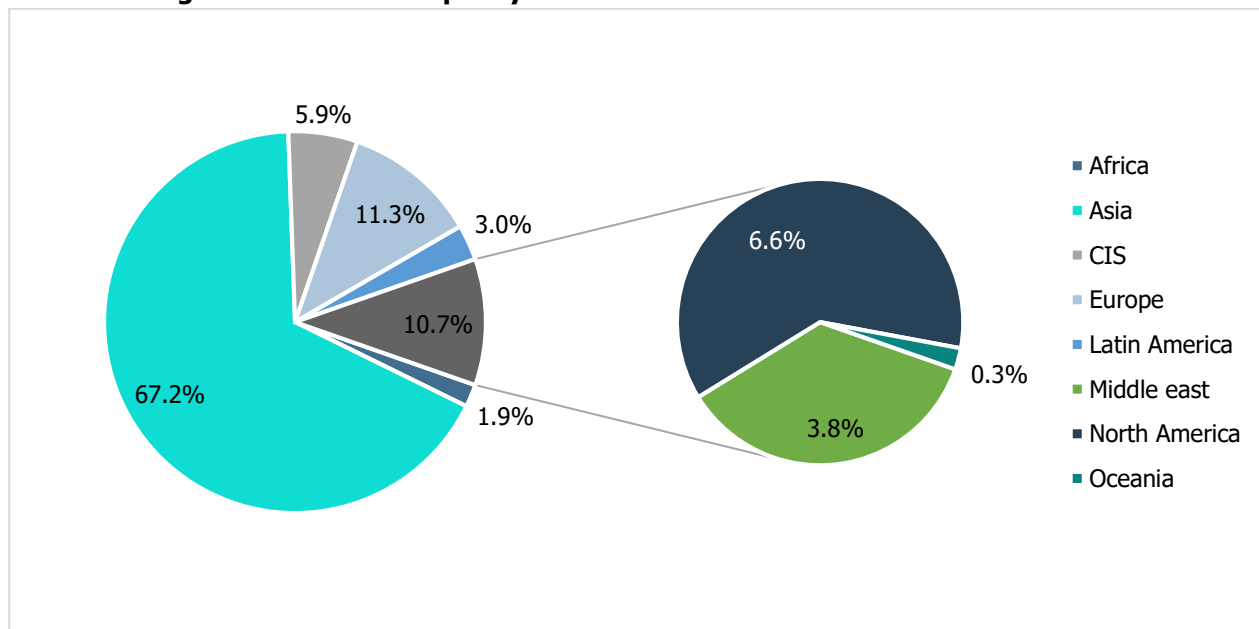
Source: Industry Sources, CareEdge Research

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 16: Global Per Capita Consumption (in kg)


Source: World Steel Association

The global steel production capacity was 2,472.1 million metric tonnes (MT) 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 17: Region-wise Global Capacity in CY24


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

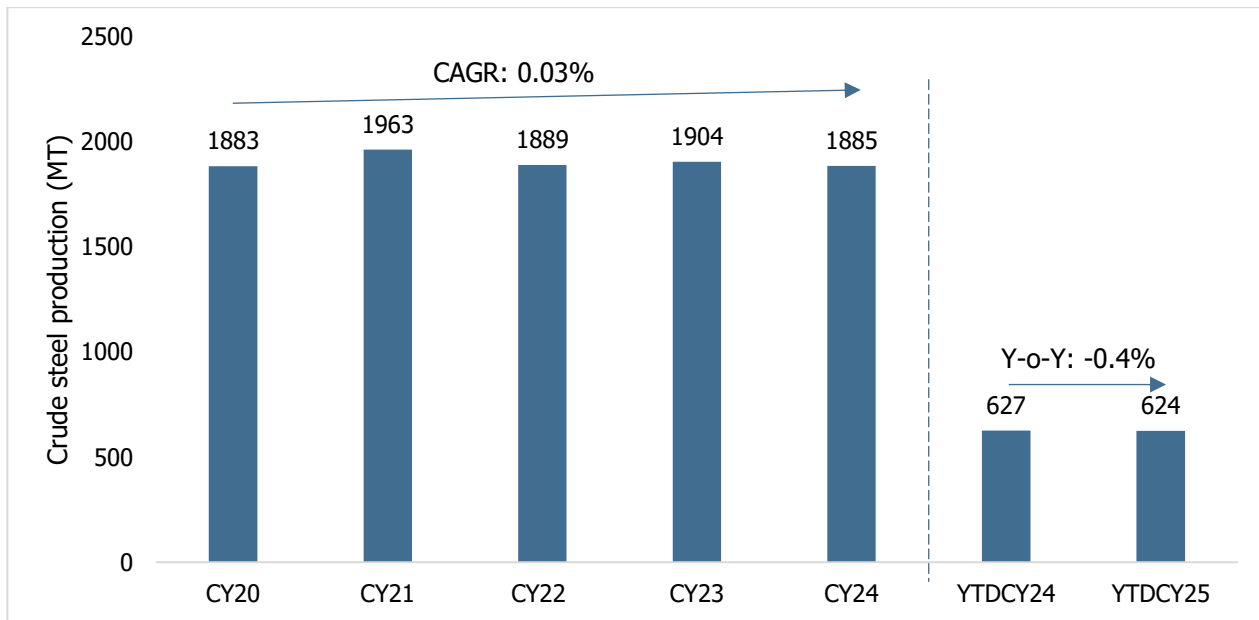
2.2 Global Crude Steel Output Slows

In YTD CY25 (Jan-Apr 2025), world crude steel output dropped by 0.4% 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 infra 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 subsequent to 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 productions 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 18: Global Crude Steel Production



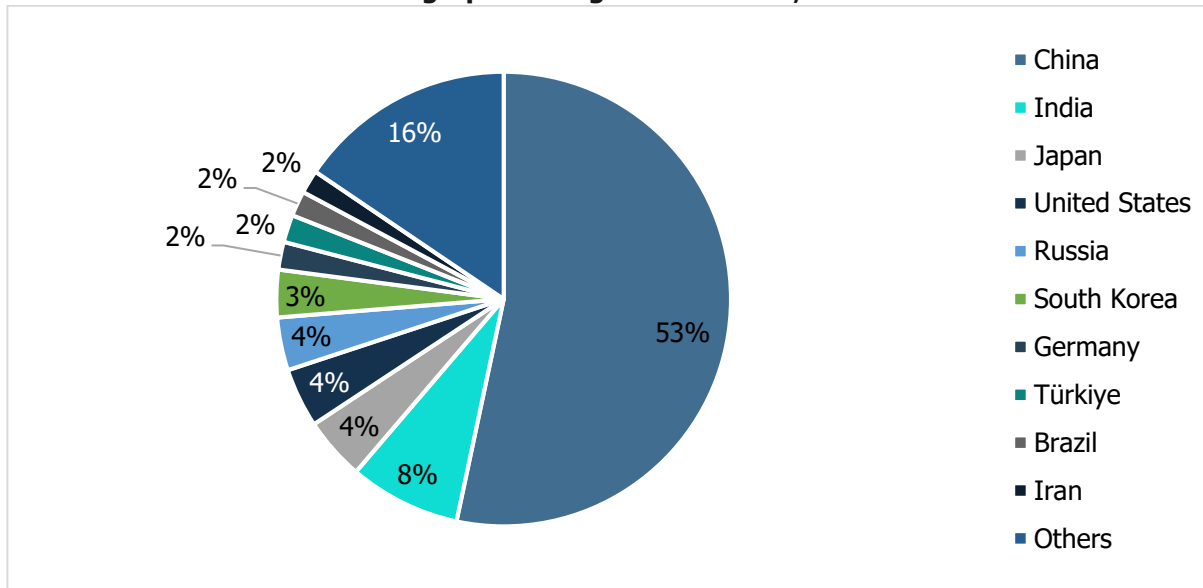
Source: World Steel Association

Note: YTD CY24 refers to the period from January 2024 - April 2024

YTD CY25 refers to the period from January 2025 - April 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 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 19: Steel Production Geographical Region in CY24- 1,885 MT


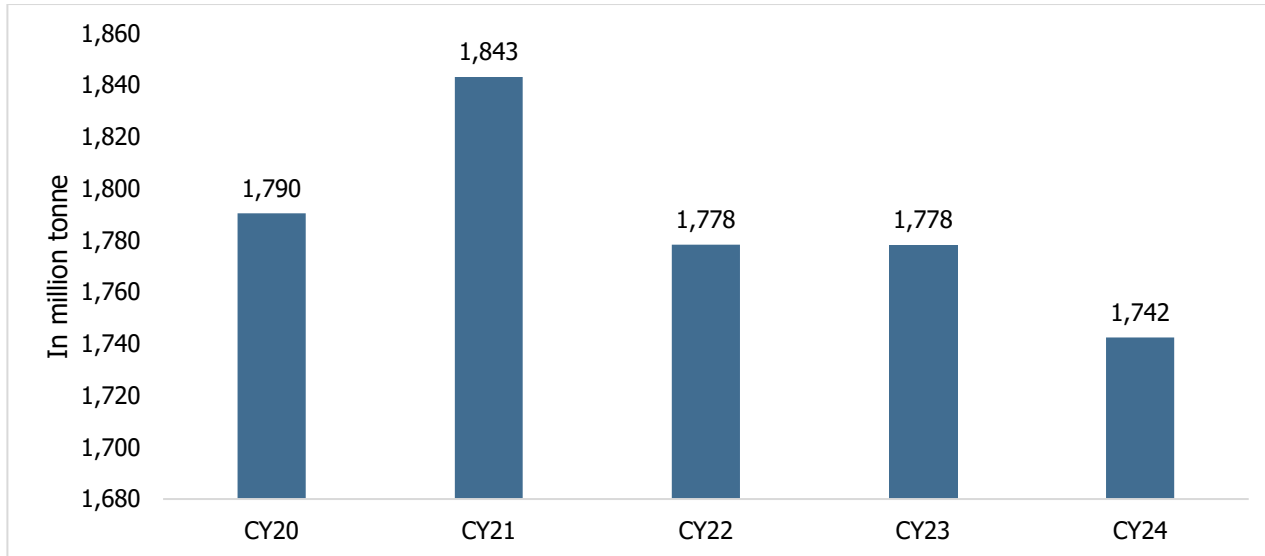
Source: World Steel Association

2.3 Global Steel Demand Weakens Further

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 (MT), 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 (MT). 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.

In CY21, global finished steel consumption rose to 1,843 million tonnes, marking a strong recovery from the pandemic-induced slowdown. This growth was primarily driven by robust demand from the automotive and durable goods sectors in developed economies such as the United States, Europe, Japan, and South Korea. In CY20, consumption stood at 1,790 million tonnes due to widespread disruptions caused by the COVID-19 pandemic, which had led to reduced industrial activity and weaker demand across major sectors.

Chart 20: Global Steel Demand

Source: World Steel Association

2.4 Global Steel Prices Continue to Slide

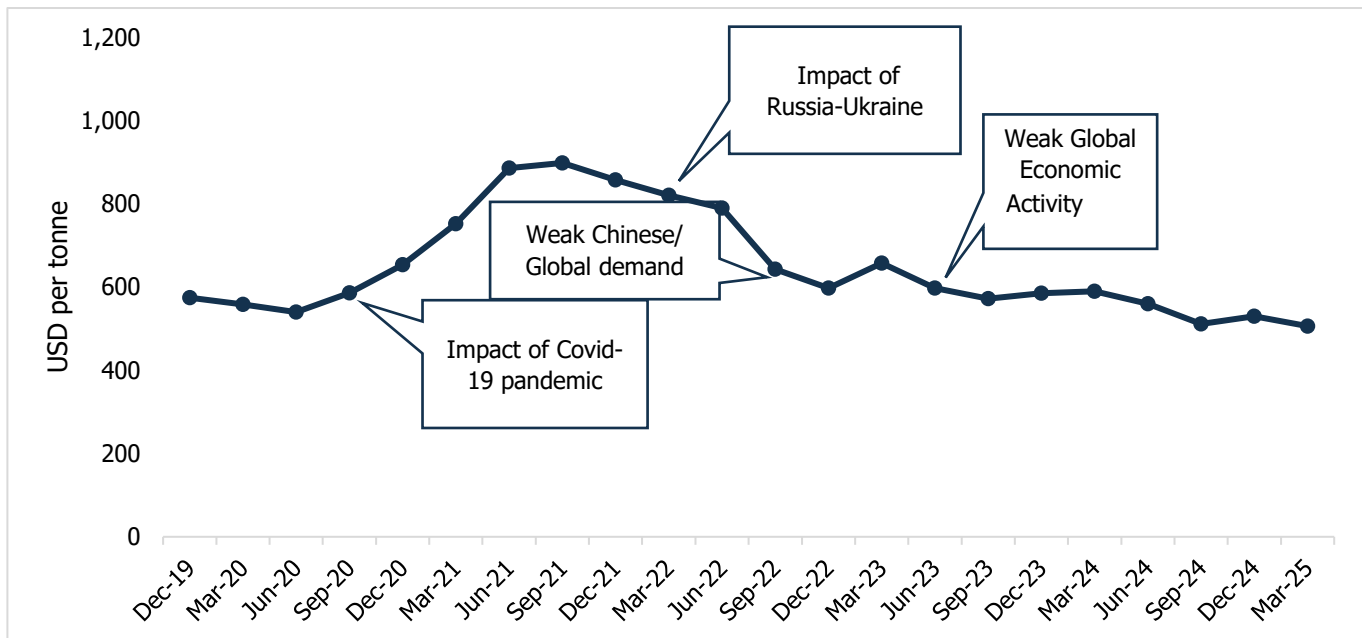
As of March 2025, international steel prices stood at USD 506 per tonne, marking a decrease of 4.4% q-o-q and 14.1% y-o-y. This price decline reflects a continued weak demand and subdued economic activity in global steel-consuming hubs, with China contributing to increased global supply amidst its domestic 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 21: Trend in Global Steel Prices

Source: CMIE

Note: Global Steel Prices refer to Prices of Steel in China

2.5 Outlook : Global Steel Demand to Rebound

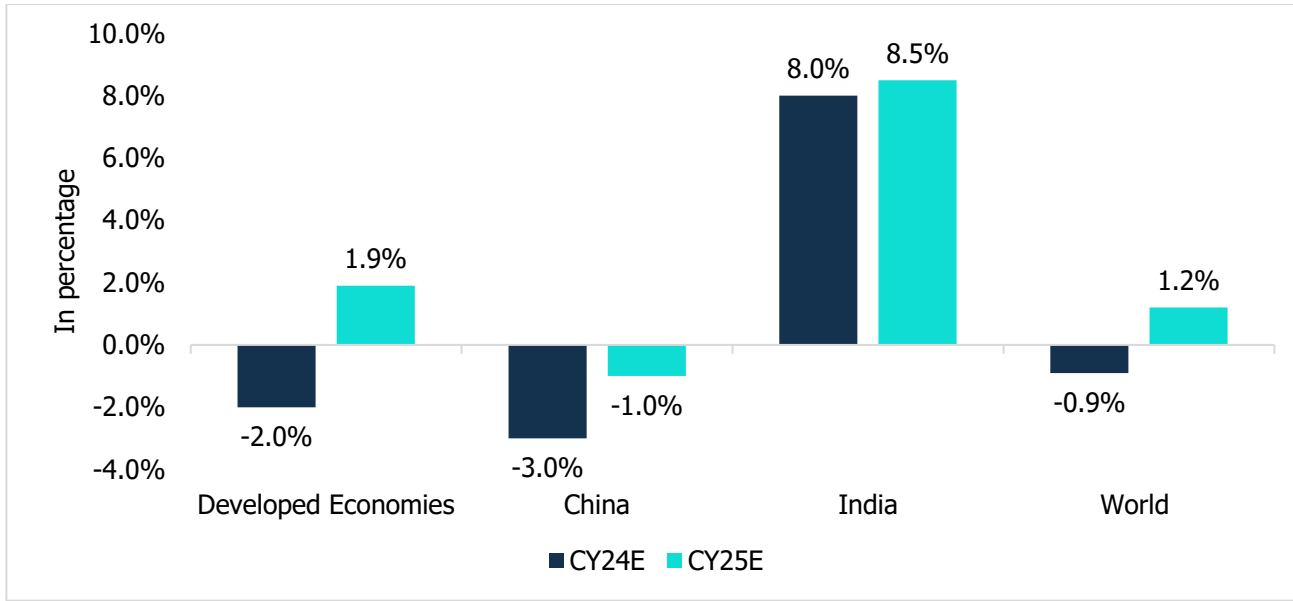
The World Steel Association forecasts world steel demand to bounce back by 1.2% year-on-year (y-o-y) to 1,771.5 million tonnes (MT) in CY25, after falling by 0.9% y-o-y to 1,750.9 MT in CY24. This projected CY25 rebound is expected to be driven by stabilization in China's real estate market, supportive interest rate measures stimulating private consumption and investment, and higher infrastructure expenditure for decarbonization and digitalization.

In spite of this worldwide pick-up, China—responsible for more than 50% of world steel consumption—is projected to experience steel demand decline by 1% in CY25, following a steeper 3% decline in CY24. The long-running downturn in the nation's real estate market continues to take its toll on demand. Yet potential large-scale government intervention may provide some upside for Chinese steel demand in the future.

India's steel consumption is one of the few bright spots in the world. World Steel Association projects an 8% growth in CY24 and an 8.5% increase in CY25. Strong growth in all steel-consuming industries, led by infrastructure, continues to propel this trend.

Conversely, developed economies are expected to experience a 2% drop in steel demand in CY24, primarily as a result of declines in major markets like South Korea, Germany, Japan, and the United States. The situation is better for CY25, however, with a 1.9% increase anticipated. This expected rebound will be spearheaded by a recovery in the European Union and modest demand recoveries in Japan and the U.S.

Chart 22: Steel Demand Growth Estimates



Source: World Steel Association (As per October 2024 Outlook report)

3 Domestic Steel Industry

3.1 India's Steel Sector Powers Growth

Steel is a vital and versatile material that greatly enhances convenience in 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.

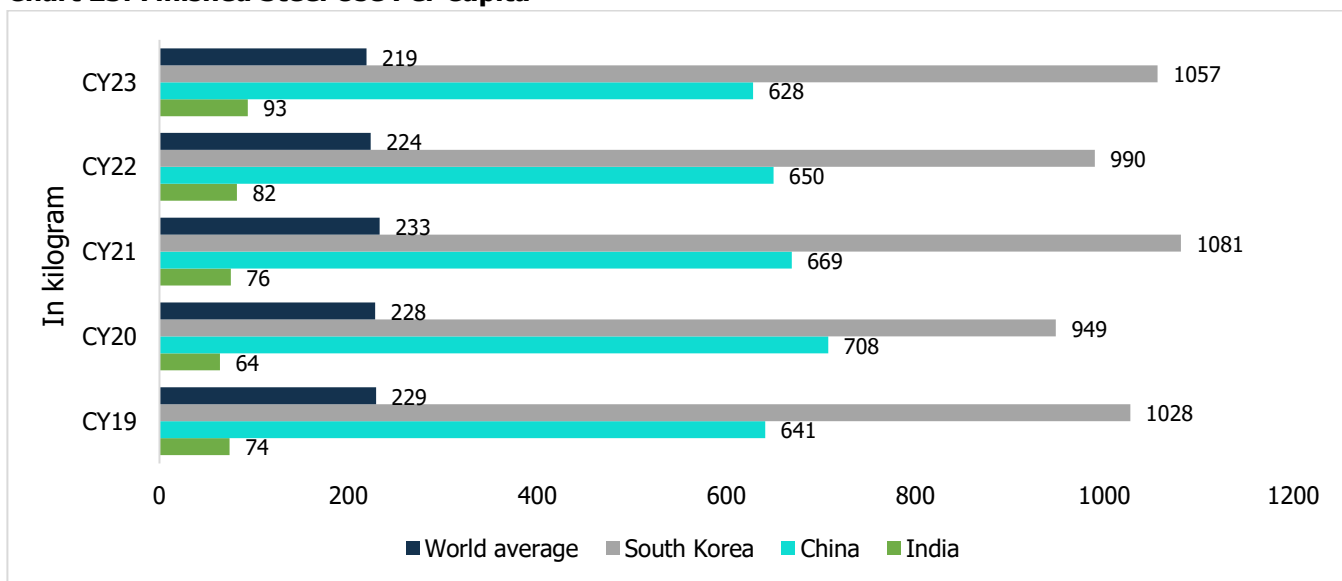
Additionally, initiatives such as joint ventures and 100% foreign direct investment (FDI) have propelled substantial investments into India's steel sector.

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 6.8x¹.

India has an installed capacity of steel production of 179.5 MT (as of FY24). It's also the second-largest consumer of finished steel, with an FY25 consumption of 150 MT. 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 labor. Additionally, the industry has benefitted from domestic demand in sectors such as construction, consumer durables, capital good, railways, real estate, and automobiles. Whereas 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 93.4 kg in CY23, significantly lower than the world average of 219.3 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. Thus, the steel industry has significant domestic potential and is expected to play a key role in the future economic growth of the country.

Chart 23: Finished Steel Use Per Capita

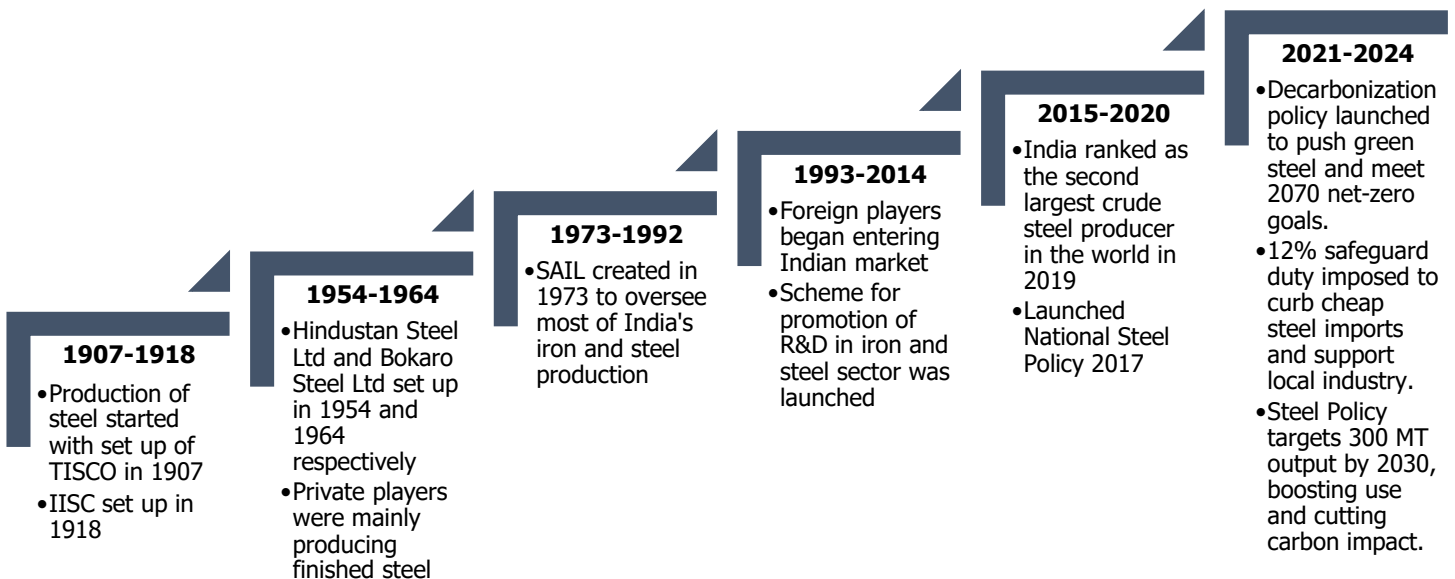


Source: World Steel Association

¹ National Steel Policy 2017

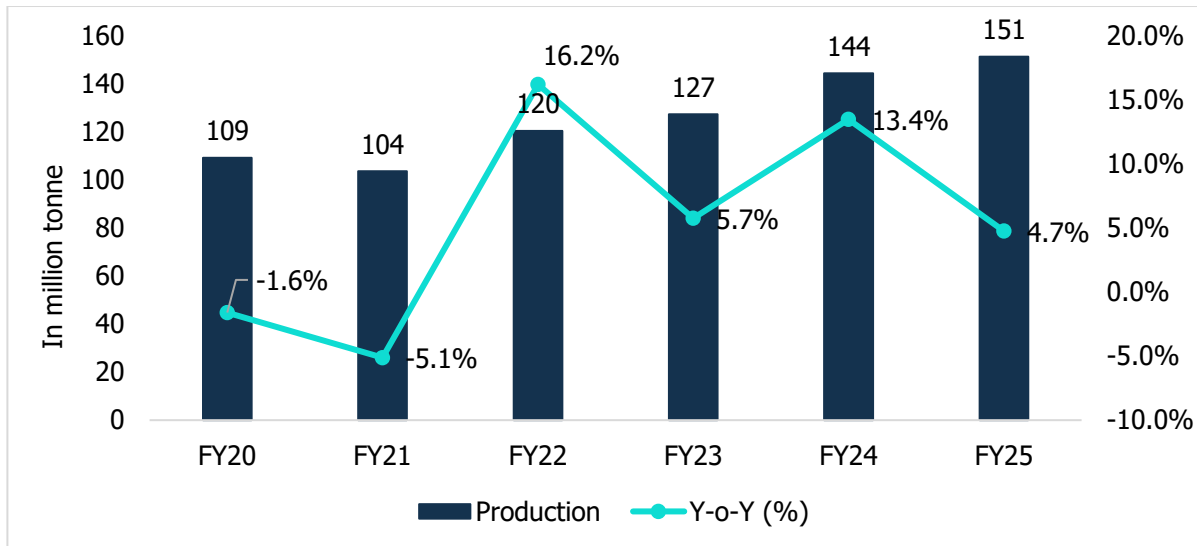
3.2 Journey of Indian Steel Industry

The Indian steel industry has played a pivotal role in the country's economic development since the twentieth century. As India transitioned to independence and adopted a mixed economy model, the development of its primary, secondary, and tertiary sectors became imperative. Steel, serving as a crucial raw material and intermediate product, formed the backbone connecting these sectors. Its extensive usage in manufacturing, owing to qualities like corrosion resistance, strength, durability, and cost-effectiveness, solidified its significance. Modern steel production in India began in the late nineteenth century, with notable milestones such as the establishment of the Bengal Iron and Steel Company and later the Tata Iron & Steel Company (TISCO) in 1907. Post-independence, the Indian steel industry expanded further with the formation of the Steel Authority of India Ltd. (SAIL) in 1973. Collaboration with foreign countries, evidenced by partnerships with Britain, Germany, and Russia in establishing steel plants, has been integral to its growth. Over the years ahead, India's steel industry has transformed from a modest producer to the world's second-largest, driven by strategic policies, strong domestic demand, and sustainability goals. With expanding capacity, rising consumption, and initiatives like the PLI Scheme and National Steel Policy, the sector is poised to play a crucial role in India's economic and industrial growth.



3.3 India's Crude Steel Output Rising

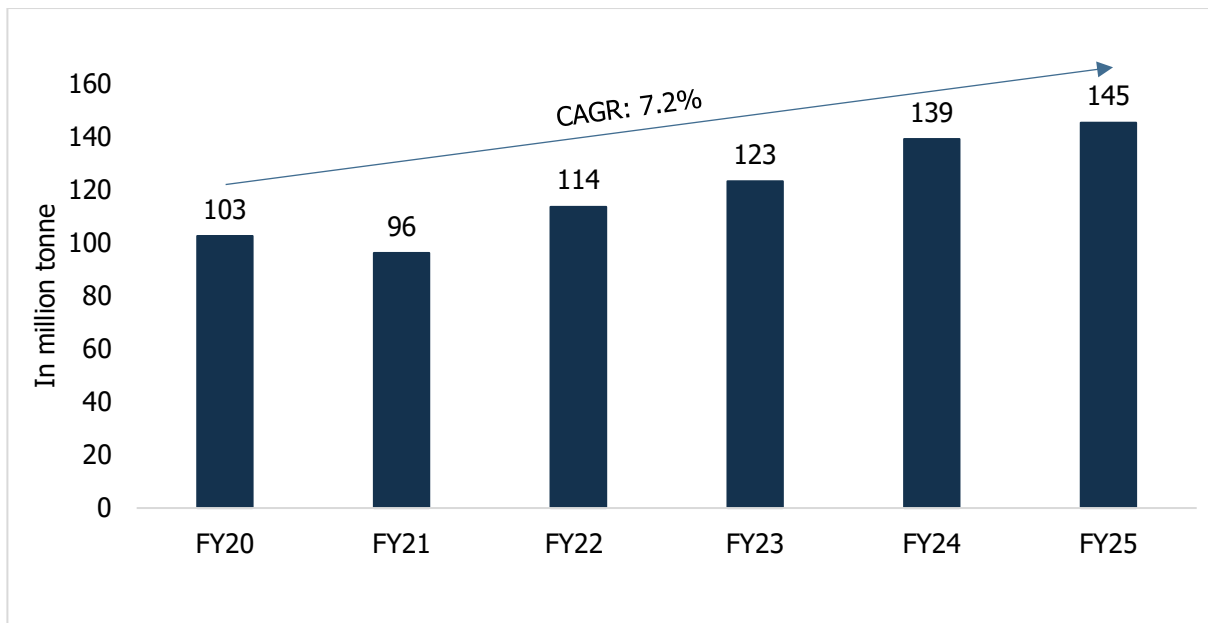
The domestic crude steel production has grown at a CAGR of 6.7% in the past six years to reach 151 MT in FY25 from 109 MT in FY20. Large steel manufacturers' capacity utilization has been 81% in FY24 and most players have announced the expansion of crude steel capacities. Additionally, improvements in the financial health of steel companies will also ensure that industry is comfortably leveraged to undertake capital expenditure for further capacity addition. The National Steel Policy 2017 envisages achieving 300 MT of production capacity from the current level of 179.5 MT in FY24 to cater to the expected steel demand of 230 MT by FY31.

Chart 24: Domestic Crude Steel Production

Source: CMIE

3.4 India's Finished Steel Demand Surges

In the last 6 years, the finished steel production has grown at a CAGR of 7.2% to 145 MT in FY25 from 103 MT in FY20. The growth in production has been supported by the rising domestic steel consumption due to increasing economic activities in the country. This is further supplemented by increased infrastructure and construction spending by the government and a rise in automobile and consumer durable demand, among others.

Chart 25: India's Finished Steel Production

Source: CMIE

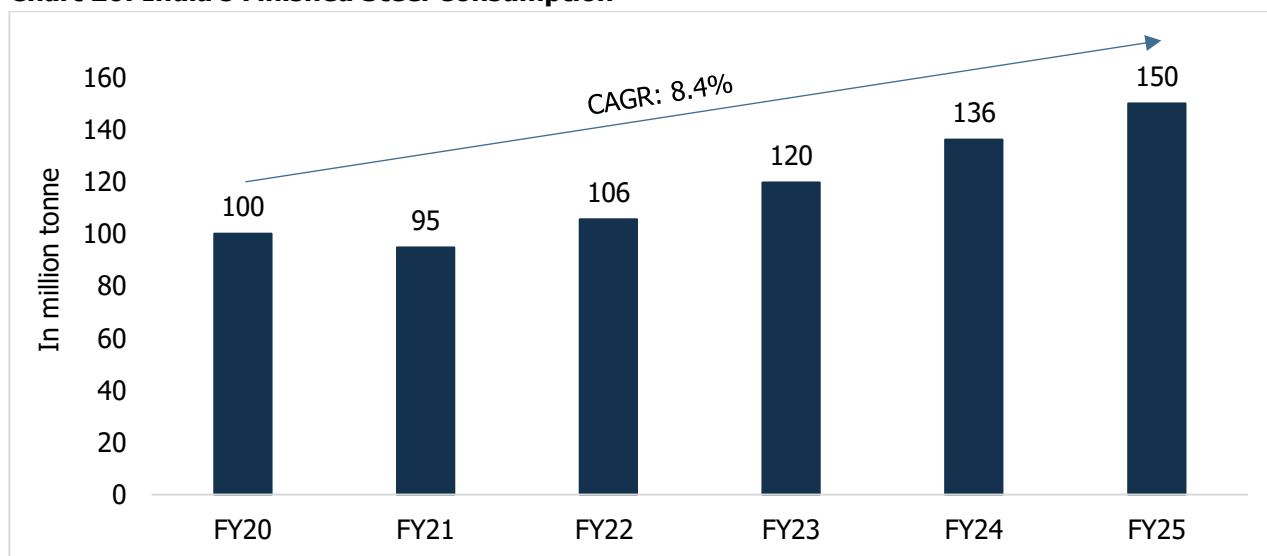
The domestic finished steel consumption has increased at a CAGR of 8.4% to 150 MT in FY25 from 100 MT in FY20. During FY25, India's consumption of finished steel increased by 10.2% compared to the same period last year. This rise was primarily driven by a surge in infrastructure spending, particularly in preparation for the General Elections, which

boosted demand in construction and related sectors. In addition to infrastructure and construction, other sectors such as general engineering, automotive, consumer goods, and railways also contributed to the overall growth in steel consumption. The combination of heightened investment in infrastructure and rising demand across various industries played a significant role in driving steel consumption.

In FY23, the rebound in domestic demand from the impacts of COVID-19, coupled with continuous investment in infrastructure, policy support from the government, and a pickup in real estate construction, led to a 13.4% y-o-y growth in finished steel consumption, reaching 120 MT.

However, India experienced a 6.3% y-o-y decline in steel production during FY21 due to the outbreak of COVID-19, which temporarily disrupted both production and demand.

Chart 26: India's Finished Steel Consumption



Source: CMIE

3.5 Price Trends

Low-Cost Imports Pressure Domestic Steel Prices

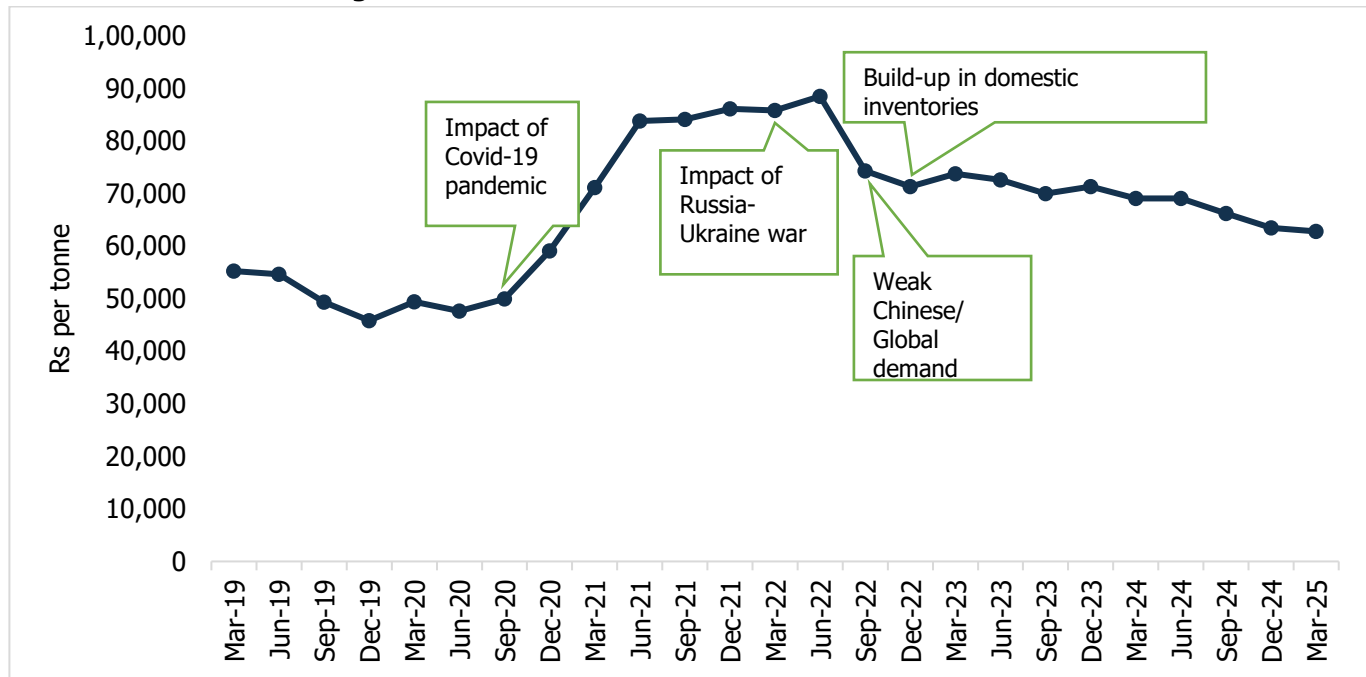
As of March 2025, domestic finished steel prices stood at Rs. 62,811 per tonne, reflecting a 1% quarter-on-quarter decline. This downward trend continued from September 2024, when prices had already dropped by 4.18% q-o-q to Rs. 66,195 per tonne. The sustained decline since the June 2022 peak of Rs. 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.

Chart 27: Domestic Average Finished Steel Prices



Source: CMIE

Note: Average finished steel prices are based on prices of hot rolled coils (3.15 mm) and cold rolled coils (0.63 mm) in the Delhi, Chennai, Mumbai and Kolkata markets.

Sponge Iron Prices Volatile Amid Export Duty, Demand Weakness

As of March 2025, domestic sponge iron prices averaged Rs. 34,232 per tonne, marking a 2% quarter-on-quarter decline from Rs. 34,916 per tonne in December 2024. This downward trend has been consistent since June 2024, when prices stood at Rs. 37,935 per tonne, reflecting a 10% drop over three quarters. The sustained decline is attributed to several factors, including weak demand from steel mills, a surge in low-cost imports, and reduced export volumes.

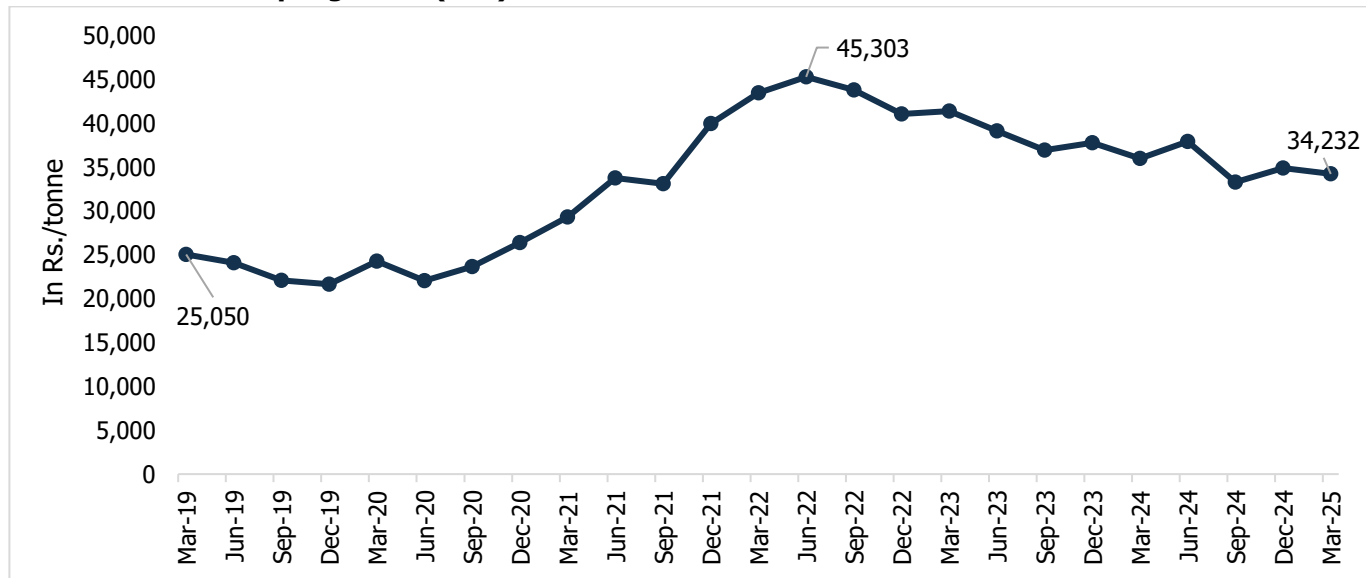
In September 2024, prices fell to Rs. 33,301 per tonne, a 12% decline since March 2024. The price softness during this period mirrored ongoing downward pressure in raw material prices and demand.

Previously, during March 2024, prices dropped to Rs. 35,986 per tonne from Rs. 37,788 per tonne in December 2023, indicating a brief price surge that fizzled out. This fluctuation was influenced by the volatility in the steel market and limited buying interest.

The trend started earlier in FY23, when prices declined from Rs. 43,803 per tonne in September 2022 to Rs. 41,077 per tonne in December 2022. The decline was mostly due to the imposition of export duties on some finished steel items,

which 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, further pulling down domestic sponge iron prices.

Chart 28: Trend in Sponge Iron (HBI) Domestic Prices



Source: CMIE

Trade Data of Sponge Iron

Rising Production Supports Export Momentum

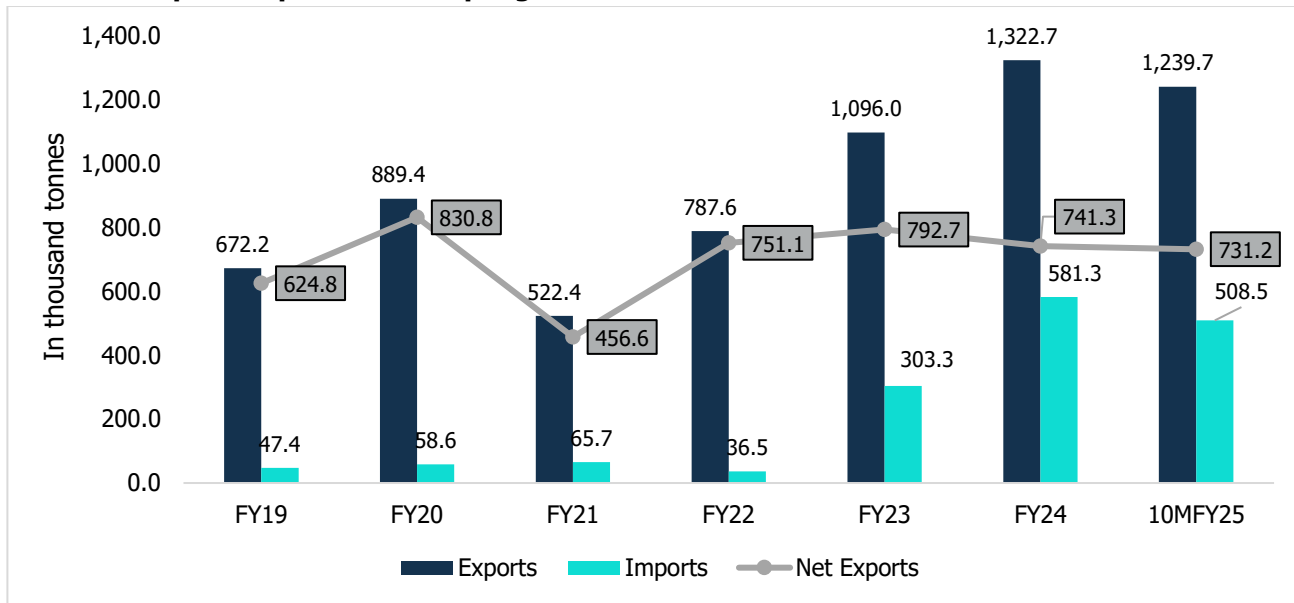
As of the first ten months of FY25, India exported 1,239.7 thousand tonne of sponge iron and imported 508.5 thousand tonne, resulting in net exports of 731.2 thousand tonne. This continues the trend of India being a net exporter of sponge iron, with exports significantly surpassing imports.

Historically, India's sponge iron exports have shown a steady increase, rising from 672.2 thousand tonne in FY19 to 1,322.7 thousand tonne in FY24. Imports have also grown, particularly from FY22 onwards, due to factors such as increased domestic demand and competitive international pricing.

The growth in exports is driven by rising demand from neighbouring countries like Nepal and Bangladesh, which rely on India's sponge iron for their steel production needs. Domestically, the surge in sponge iron production, which reached approximately 52 million tonnes in FY24, is attributed to the expansion of induction furnace capacities and the cost-effectiveness of sponge iron compared to scrap. Additionally, the Indian government's focus on infrastructure development has bolstered domestic steel demand, further stimulating sponge iron production.

However, the industry faces challenges due to raw material shortages, particularly iron ore, as exports of low-grade iron ore have increased. To address this, the Sponge Iron Manufacturers Association has urged the government to impose duties on iron ore exports to ensure adequate domestic supply.

Looking ahead, India's sponge iron production is expected to continue its upward trajectory, with projections indicating a rise to 55 million tonnes in FY25 and potentially surpassing 75 million tonnes by FY30.

Chart 29: Export-Import Data of Sponge Iron

Source: Ministry of Commerce and Industry

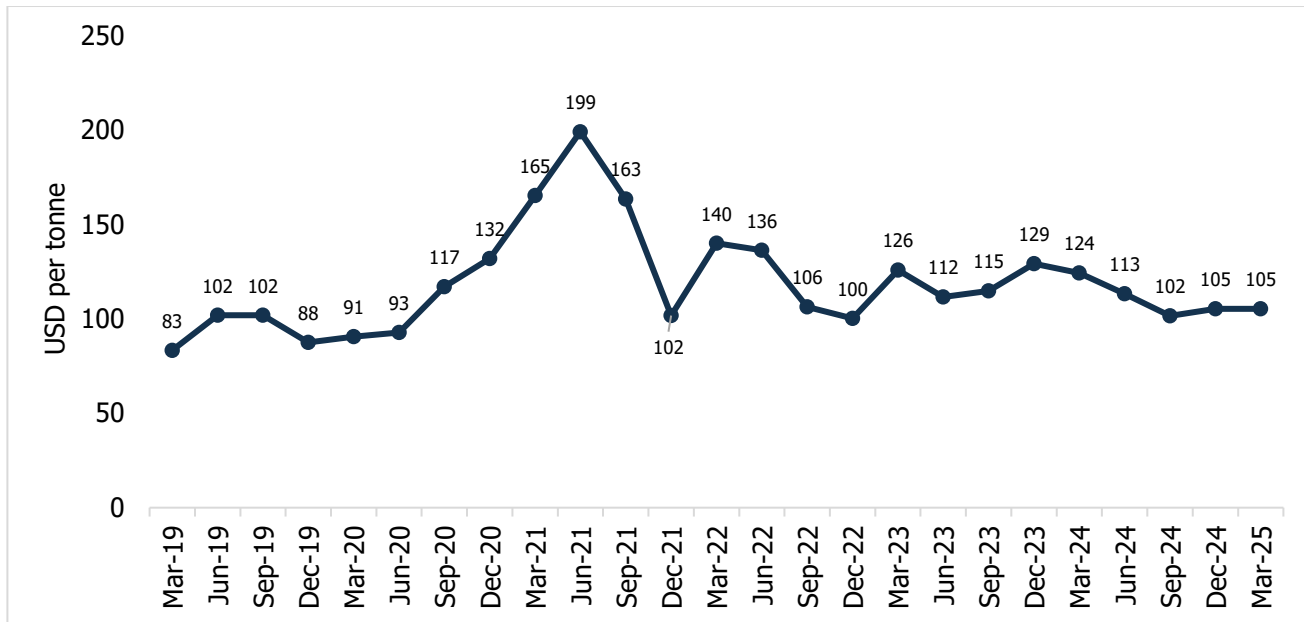
Trend in Raw Material Prices

Global Iron Ore Prices Impacted by China Slowdown

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 30: Trend in International Iron ore Prices

Source: CMIE

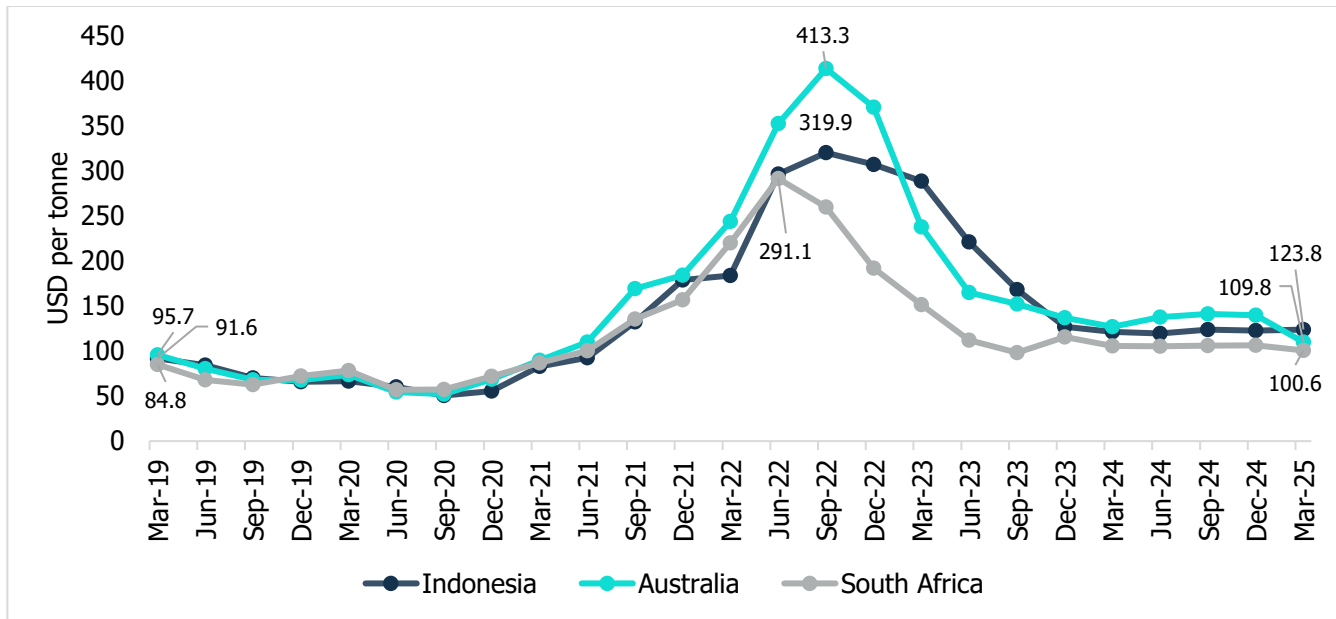
Geopolitical Strains and Rising Demand Keep Coal Prices Elevated

During the quarter ended in December 2024, international coal prices were at USD 122.7 a tonne for Indonesian, USD 139.5 a tonne for Australian, and USD 106.4 a tonne for South African coal. While prices were still comfortably higher than pre-COVID levels, they were appreciably lower than FY23. Analysts expect global coal prices to remain soft in FY24 compared to FY23, though continued demand—particularly from China and India—is likely to keep them elevated relative to pre-pandemic norms.

Through Q4 2023, coal prices already reflected a steep year-on-year fall. Indonesian, South African, and Australian coal prices fell by 59%, 63%, and 40%, respectively, vis-à-vis the equivalent quarter of FY23. The fall was much prompted by South African and Colombian coal supplies rising, easing the European market supply squeeze following smaller Russian imports.

Coal prices had begun weakening from November 2022, following a long rally since CY21. The rally initially started due to global production restrictions and supply interruption, which was further accelerated by the Russia-Ukraine war during February 2022. The war seriously disturbed coal supplies in Europe, leading to an upward price momentum.

In FY23, Indonesian, South African, and Australian coal average prices jumped by 108%, 72%, and 99%, respectively, from the preceding year. This rise was a result of the global rush for energy security in light of increased geopolitical tensions and the supply shortage.

Chart 31: Prices of Coal


Source: CMIE

Government Policies and Rising Costs Weigh on TMT Bar Prices

Long steel products are items produced from billets or blooms through processes like hot rolling or forging. These products, integral to the construction industry, are typically supplied as straight lengths or cut to specified sizes. They are manufactured primarily in Electric Arc Furnaces (EAFs). These majorly include TMT Bars, Angles and Channels.

TMT bars are available in various sizes including but not limited to 8 mm, 10 mm, 12 mm, and 25 mm. For all four sizes, prices have fallen in March 2025, y-o-y, by 0.8%, 2.9%, 2.8%, and 3.1% respectively. Other long products like Angles and Channels have faced fluctuations in trend in prices y-o-y in March 2025.

Domestic TMT bar prices in India have fluctuated due to factors such as rising raw material costs, increased supply from secondary producers, and seasonal demand variations. Additionally, higher energy and transportation costs, along with government policy changes, have impacted pricing trends.

Table 4: Pricing Trends in TMT Bars (In Rs./Tonne)

Size	Jun-22	Sep-22	Dec-22	Mar-23	Jun-23	Sep-23	Dec-23	Mar-24	Jun-24	Sep-24	Dec-24	Mar-25
10 mm	77,138	68,317	65,635	69,375	66,170	61,777	62,915	59,849	65,807	57,622	58,643	58,127
12 mm	76,277	67,553	65,058	68,883	65,543	61,054	62,203	59,030	65,057	56,873	57,859	57,379
25 mm	76,219	67,551	64,924	68,892	65,646	61,309	62,339	59,298	65,467	57,100	58,108	57,473

Source: CMIE

Table 5: Pricing Trends of TMT Bars (Gobindgarh) (In Rs./Tonne)

Size	Jun-22	Sep-22	Dec-22	Mar-23	Jun-23	Sep-23	Dec-23	Mar-24	Jun-24	Sep-24	Dec-24	Mar-25
8 mm (ISI)	66,063	66,983	65,435	65,775	64,282	62,932	61,308	60,280	62,850	60,718	60,578	59,827

Source: CMIE

Table 6: Pricing Trends in Angles (In Rs./Tonne)

Size	Jun-22	Sep-22	Dec-22	Mar-23	Jun-23	Sep-23	Dec-23	Mar-24	Jun-24	Sep-24	Dec-24	Mar-25
25X32X40X3 mm	63,404	63,406	63,664	63,885	62,203	61,130	60,500	60,633	61,655	60,843	62,280	62,375
45X5,50X5 mm	62,891	62,603	62,722	62,938	61,292	60,217	59,582	59,542	59,155	59,530	60,967	61,062
50X50X6 mm	72,817	68,409	67,523	68,862	66,530	62,697	63,256	60,582	63,950	59,359	59,477	58,488
60X6, 65X6 mm	62,491	62,203	62,322	62,538	60,853	59,750	59,120	59,142	60,555	59,130	60,567	60,687
75X75X6 mm	72,368	68,040	66,250	67,824	65,919	62,208	62,691	60,161	62,970	58,772	59,356	58,270

Source: CMIE

Table 7: Pricing Trends in Channels (In Rs./Tonne)

Size	Jun-22	Sep-22	Dec-22	Mar-23	Jun-23	Sep-23	Dec-23	Mar-24	Jun-24	Sep-24	Dec-24	Mar-25
75X40 mm	73,894	69,036	66,884	68,978	67,016	63,191	63,347	60,396	63,434	59,126	59,555	58,397
100X50 mm	62,213	63,567	63,685	63,902	62,217	61,113	60,483	60,505	61,408	59,465	60,609	60,581
150X75 mm	74,159	68,578	67,063	68,354	66,299	62,356	62,532	59,947	62,834	58,927	59,397	58,874

Source: CMIE

Flat Steel Prices Under Pressure from Oversupply and Raw Material Price Decline

Flat steel products are produced by processing slabs in rolling mills using flat rolls. Flat steel products provide structural support, corrosion resistance, and electrical conductivity, ensuring durability and reliability making them essential across various industries, including automotive, construction, and appliances. These majorly include Galvanized Plain (GP) Sheets, Cold Rolled (CR) Coils, and Hot Rolled (HR) Coils. For all three products across all sizes, prices have fallen y-o-y in March 2025. For GP Sheets of sizes 0.63 mm and 0.40 mm, prices fell by 9.9% and 8.9% respectively. For CR Coils of sizes 0.63 mm and 1 mm, prices fell by 8.4% and 8.2% respectively. For HR Coils of sizes 2 mm, 2.5 mm, and 3.15 mm prices fell by 9.7%, 9.5%, and 9.8% respectively. The decline in prices is attributed to increased steel imports, which put pressure on local prices. Weak domestic demand, especially in sectors like construction and automotive, also contributed to the oversupply of steel in the market. Additionally, lower raw material costs, such as iron ore and coking coal, along with global price trends, further influenced the price drop.

Table 8: Pricing Trends in GP Sheets (In Rs./Tonne)

Size	Jun-22	Sep-22	Dec-22	Mar-23	Jun-23	Sep-23	Dec-23	Mar-24	Jun-24	Sep-24	Dec-24	Mar-25
0.63 mm	1,01,292	85,775	80,509	83,967	83,952	78,499	80,208	78,362	78,110	74,948	77,037	70,606
0.40 mm	1,03,588	88,331	83,237	86,480	86,141	80,868	82,453	81,048	79,929	72,090	75,233	73,865

Source: CMIE

Table 9: Pricing Trends in CR Coils (In Rs./Tonne)

Size	Jun-22	Sep-22	Dec-22	Mar-23	Jun-23	Sep-23	Dec-23	Mar-24	Jun-24	Sep-24	Dec-24	Mar-25
0.63 mm	93,799	79,722	76,383	78,043	76,293	73,533	74,823	73,391	73,443	71,310	68,443	67,243
1 mm	92,535	79,147	75,955	77,088	75,587	72,749	74,455	72,296	72,714	70,671	68,257	66,387

Source: CMIE

Table 10: Pricing Trends in HR Coils (In Rs./Tonne)

Size	Jun-22	Sep-22	Dec-22	Mar-23	Jun-23	Sep-23	Dec-23	Mar-24	Jun-24	Sep-24	Dec-24	Mar-25
2 mm	85,027	70,824	67,737	70,960	70,082	68,106	68,912	66,000	65,817	62,203	59,326	59,631
2.5 mm	83,302	68,975	66,435	69,497	68,848	66,506	67,825	64,600	64,735	61,191	58,442	58,453
3.15 mm	83,197	68,858	66,268	69,470	68,924	66,468	67,818	64,712	64,722	61,080	58,445	58,378

Source: CMIE

3.6 Types of Steel

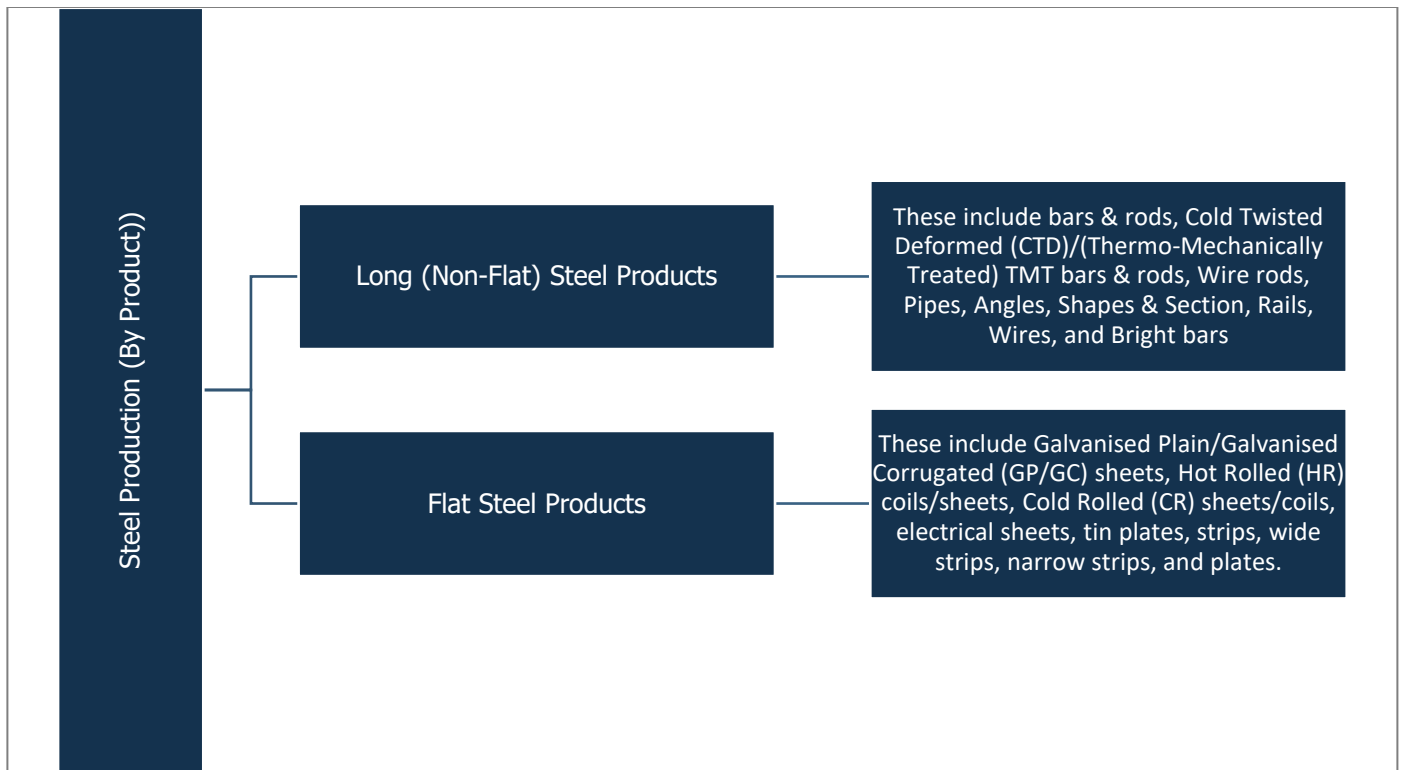
3.6.1 By Product

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.

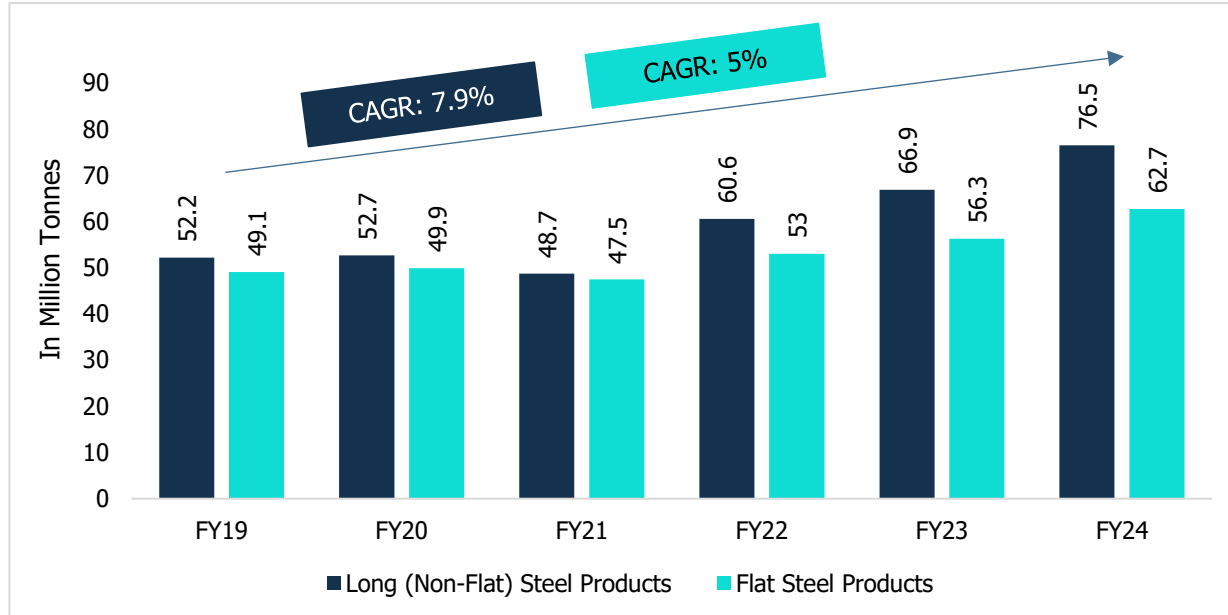
- **Long (Non-Flat) Steel products:** Long steel products encompass a variety of forms primarily used in construction, mechanical engineering, and energy sectors. Typically, available in straight lengths or custom-cut sizes, with wire rods being the exception, often wound in irregular coils, these products undergo shaping or sizing processes from hot-rolled or forged blooms, billets, or pencil ingots to achieve their final form. Different types of long products include bars & rods, CTD/TMT bars & rods, Wire rods, Angles, Shapes & Section, Rails, Wires, and bright bars for railways. These versatile materials offer durability and structural integrity, serving as essential components in various infrastructure projects and industrial applications worldwide.

TMT (Thermo-Mechanically Treated) bars, a key category of long products, are extensively used in infrastructure and real estate developments for their superior strength, flexibility, and corrosion resistance. These bars, along with wire rods and other long products, are typically manufactured from billets—intermediate steel forms produced using either sponge iron or scrap. Sponge iron, a porous material derived by reducing iron ore without melting, serves as a cost-effective and energy-efficient input for induction and electric arc furnaces, playing a vital role in captive steelmaking processes.

- **Flat Steel products:** Flat steel products are the result of processing slabs or thin slabs in rolling mills using flat rolls, offering versatility in applications across automotive and truck manufacturing, heavy machinery, construction, packaging, and appliances. These finished steel products, supplied in Hot Rolled (HR), Cold Rolled (CR), or coated conditions, cater to diverse needs. The product range encompasses Galvanised Plain/Galvanised Corrugated (GP/GC) sheets, Hot Rolled (HR) coils/sheets, Cold Rolled (CR) sheets/coils, pipes, electrical sheets, tin plates, strips, wide strips, narrow strips, and plates. Whether it's providing structural support, corrosion resistance, or electrical conductivity, flat steel products play a crucial role in various industries globally, ensuring durability and reliability in a multitude of applications.



Long Steel Production Outpaces Flat Steel Amid Infrastructure Boom: 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. The production of both Long (Non-Flat) Steel Products and Flat Steel Products experienced consistent growth, registering a Compound Annual Growth Rate (CAGR) of 7.9% and 5% respectively, from FY19 to FY24. This robust growth can be attributed to factors such as increased infrastructure development, urbanization, and strong demand from sectors like construction and automotive.

Chart 32: Steel Domestic Production, by Product

Source: JPC

Trade Data of Long Products

India's TMT Trade Balance Shifts

Thermo-mechanically treated (TMT) bars are high-strength reinforcement steel bars characterized by a tough outer martensitic shell and a ductile ferrite–pearlite core. These bars are prized in construction for exceptional tensile strength, ductility and earthquake resilience. Production begins with melting steel in a furnace and casting it into billets via continuous casting. The billets then undergo hot rolling followed by a rapid quenching step that hardens the surface, and a controlled self-tempering phase that tempers the core. A final cooling stage stabilizes the microstructure, delivering bars that balance rigidity and flexibility for demanding structural applications.

TMT Bars are also manufactured using Thermax technology. It is an advanced quenching and tempering process used in the production of high-performance TMT bars like TMX. In this process, hot-rolled steel bars are rapidly cooled using a specially designed water spray system immediately after they exit the rolling mill. This creates a hardened martensitic outer layer while the core remains hot and malleable. The heat from the core then tempers the outer layer (self-tempering), followed by atmospheric cooling that transforms the core into a ductile ferrite–pearlite structure. This precise thermal treatment results in bars that offer superior strength, ductility, weldability, and thermal resistance—making them ideal for demanding construction environments, including seismic zones and large-scale infrastructure projects.

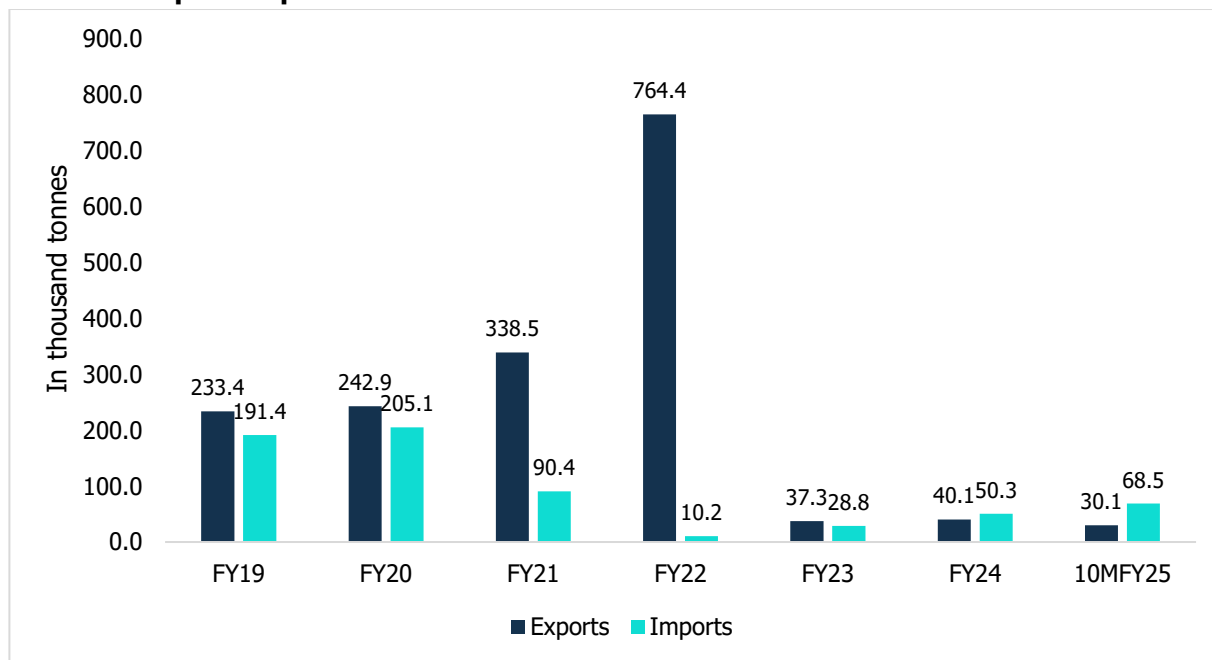
As of the first ten months of FY25, India's trade dynamics in TMT bars have shifted, with exports declining to 30.1 thousand tonne and imports rising to 68.5 thousand tonne, resulting in net imports of 38.4 thousand tonne. This marks a significant reversal from FY22, where exports peaked at 764.4 thousand tonne and imports were just 10.2 thousand tonne, leading to net exports of 754.1 thousand tonne.

The surge in imports is largely attributed to increased shipments from countries like China, South Korea, and Japan. In the first ten months of FY25, these three nations accounted for 78% of India's finished steel imports, with Japan's

exports to India surging by 88.6% year-on-year. The influx of competitively priced foreign steel has impacted domestic producers, prompting the Indian government to consider imposing safeguard duties of 15% to 25% to protect the local industry.

Despite the rise in imports, domestic demand for TMT bars remains robust, driven by government-led infrastructure initiatives such as the National Infrastructure Pipeline and Smart Cities Mission. In FY23, India consumed 50.3 million tonnes of TMT bars, up from 46 million tonnes in the previous fiscal year. The emphasis on building quality and sustainable infrastructure continues to bolster the domestic TMT bar industry, even as it navigates the challenges posed by increased foreign competition.

Chart 33: Export-Import Data of TMT Bars



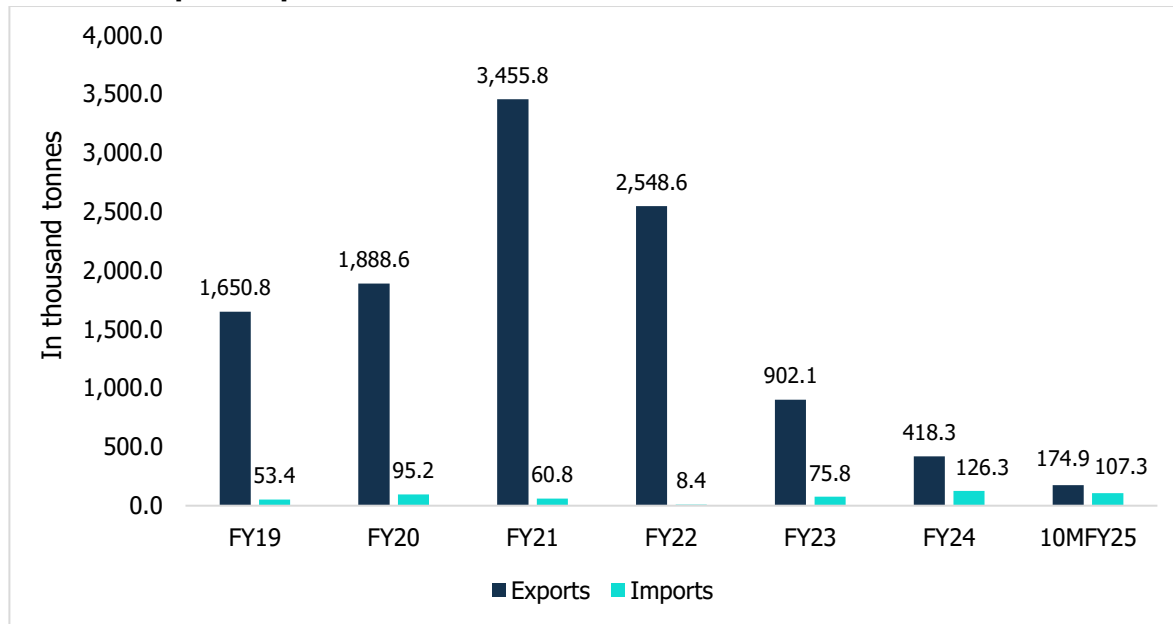
Source: Ministry of Commerce and Industry

Domestic Demand Shifts Billet Trade Balance

India's billet trade has undergone a significant transformation in recent years. In the first ten months of FY25, exports declined to 174.9 thousand tonne, while imports rose to 107.3 thousand tonne, resulting in net imports of -67.7 thousand tonne. This marks a shift from FY21, when exports peaked at 3,455.8 thousand tonne and imports were just 60.8 thousand tonne, leading to net exports of 3,395 thousand tonne.

The decline in exports can be due to several factors, including global economic slowdown, rising shipping costs, and increased competition from other steel-producing nations. Additionally, India's focus on domestic infrastructure projects has increased internal demand for billets, reducing the surplus available for export. On the import side, the rise is driven by the need to meet the growing domestic demand that local production cannot fully satisfy.

Looking ahead, India's billet trade is expected to continue evolving in response to global market dynamics and domestic economic policies. The government's emphasis on infrastructure development and self-reliance in steel production will play a crucial role in shaping future trade patterns.

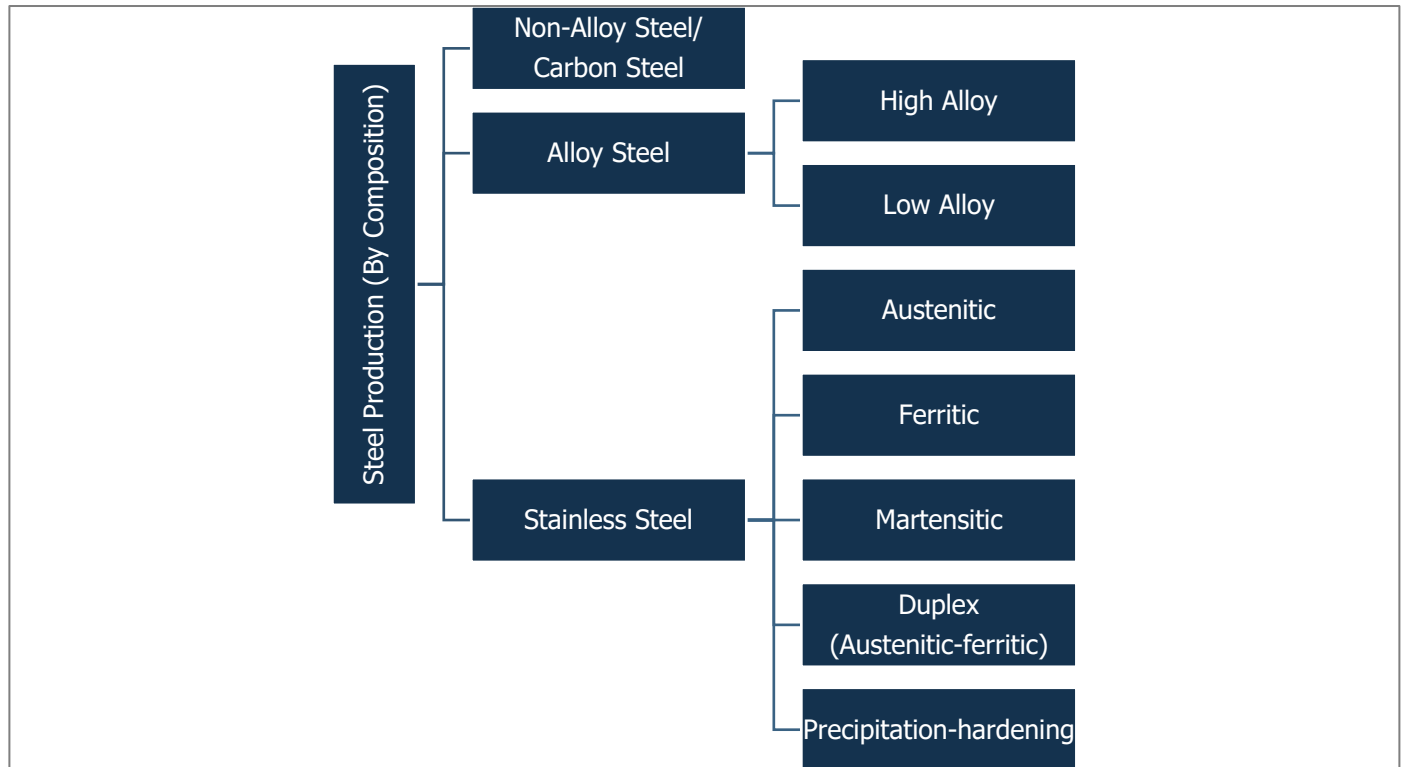
Chart 34: Export-Import Data of Billets

Source: Ministry of Commerce and Industry

3.6.1.1 Demand Drivers of TMX Bars

- Accelerated Infrastructure Development:** India's ambitious infrastructure projects like the National Infrastructure Pipeline (NIP), Bharatmala, and Sagarmala, along with rapid urbanization and government schemes such as Pradhan Mantri Awas Yojana (PMAY), are driving large-scale construction activities. This combined push has significantly increased demand for high-strength, durable materials like TMX bars, which are essential for building safe, long-lasting structures across both public infrastructure and urban housing sectors.
- Emphasis on Earthquake-Resistant Structures:** Given India's susceptibility to seismic activities, especially in certain zones, there is a growing emphasis on constructing earthquake-resistant buildings. TMX bars, with their superior ductility and strength, are ideal for such constructions, ensuring better safety and compliance with building codes.
- Focus on Sustainable and Durable Construction:** The construction industry is increasingly prioritizing sustainability and longevity. TMX bars, produced using advanced technologies, offer enhanced corrosion resistance and strength, aligning with the goals of sustainable construction and reducing the need for frequent repairs or replacements.

3.6.2 By Composition



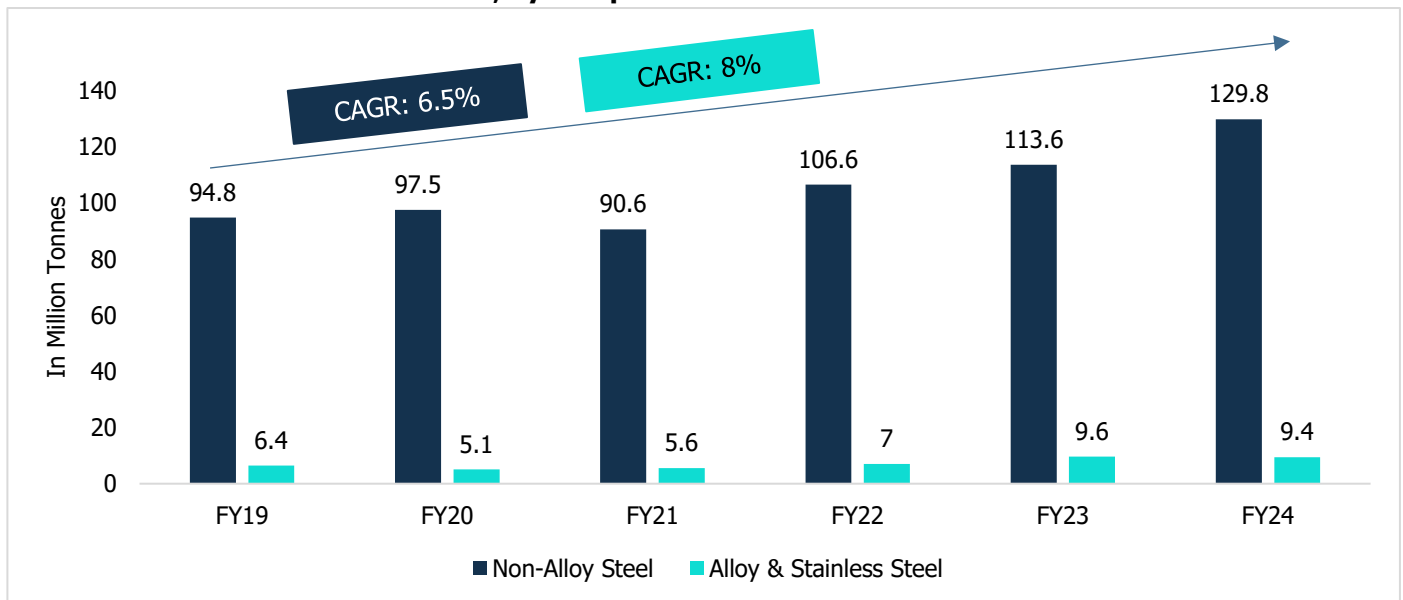
Steel production, by composition, can be divided into Non-Alloy, Alloy, and Stainless Steel products.

- **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 utilized 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** contain 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 percent, of alloying elements and are 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.

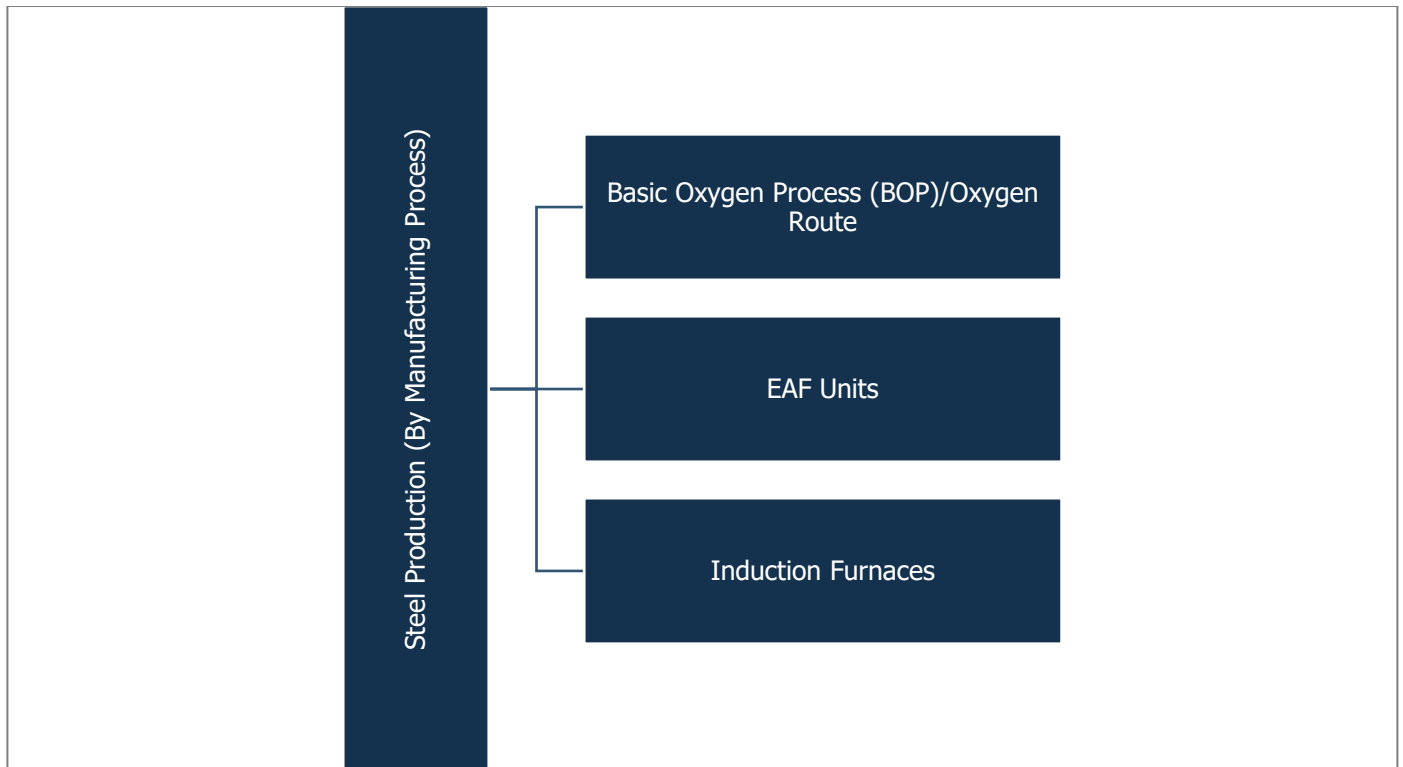
Non-Alloy and Alloy Steel Production Growth Driven by Infrastructure and Urbanization: The production of Non-Alloy Steel and Alloy & Stainless Steel experienced consistent growth, registering a Compound Annual Growth Rate (CAGR) of 6.5% and 8% respectively from FY19 to FY24 due to rising infrastructure investments, a manufacturing resurgence, and rapid urbanization. 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.

Chart 35: Steel Domestic Production, by Composition



Source: JPC

3.6.3 By Manufacturing Process



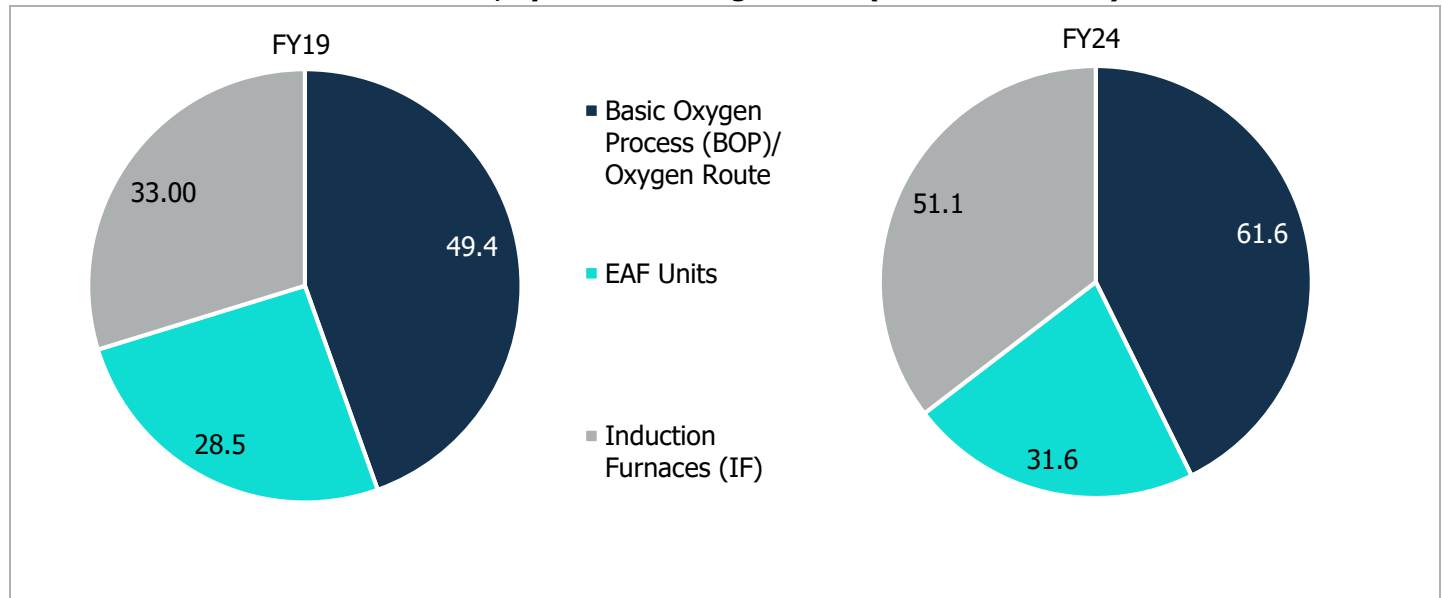
Steel is produced using three different production processes: Oxygen Route, Electric Arc Furnace (EAF) units, and Induction Furnace.

- **Basic Oxygen Process (BOP)/Oxygen Route:** The Basic Oxygen Process (BOP), a prominent method in steelmaking, involves injecting pure oxygen into a mixture of molten blast-furnace iron and scrap steel, initiating exothermic reactions that eliminate impurities like carbon, silicon, phosphorus, and manganese. Also referred to as oxygen conversion steelmaking, it alters the carbon ratio of steel by leveraging oxygen. Initially, pig iron is smelted in a blast furnace, then transferred to a ladle for oxygen pre-treatment. Ingredients essential for steel, including carbon and other elements, are charged into the furnace. Pure oxygen is subsequently injected into the molten steel via a lance, facilitating carbon dissolution and generating high temperatures exceeding 3,000 degrees Fahrenheit. Fluxes are introduced to produce slag, which absorbs impurities, before being separated from the steel. Finally, the steel is allowed to cool. It is a low-cost process.
- **EAF Units:** The Electric Arc Furnace (EAF) serves as a key method for melting and refining steel products, particularly in recycling scrap steel and producing high-grade alloy steel, as well as other metals like aluminium, copper, and lead. This batch melting process involves several steps within its tap-to-tap cycle, including furnace charging, melting, refining, de-slagging, tapping, and furnace turn-around, aiming for tap-to-tap times under 60 minutes, with some twin-shell EAFs achieving times as low as 35 to 40 minutes. The EAF operates by heating and melting steel scrap through electric arcs generated between furnace electrodes and the metal bath, utilizing either direct (DC) or alternating (AC) electric currents.
- **Induction Furnaces (IF):** The induction furnace is a steelmaking technology powered by electrical energy, comprising one of the two main methods of electrical steel production. This process utilizes the induction

electrothermal effect to heat and melt metals. Comprising a crucible to contain the metal and an induction coil generating a high-frequency electromagnetic field, these furnaces operate by inducing an electric current in the metal. This induced electric current results in the metal's heating and melting. Known for their efficiency, induction furnaces can melt various metals like steel, iron, copper, and aluminum, finding widespread use in foundries and metal processing facilities.

More than 40% of the production of steel happens through the BOP/Oxygen Route in India all periods from FY19 to FY24. As of FY24, 42.7% (62 million tonnes) of the production of steel happened through the oxygen route followed by 35.4% (51 million tonnes) of production through Induction Furnaces and 21.9% (32 million tonnes) of production using Electric Arc Furnace units.

Chart 36: Steel Domestic Production, by Manufacturing Process (In Million Tonnes)



Source: JPC

Steel Production Growth Driven by Technology and Government Policies: Steel production is carried out through different methods, including the Basic Oxygen Process (BOP) or Oxygen Route, Electric Arc Furnace (EAF) Units, and Induction Furnaces (IF). Between FY19 and FY24, steel production via the Basic Oxygen Process saw a growth at a CAGR of 4.5%. Similarly, the EAF Units and Induction Furnaces experienced growth rates of 2.1% and 9.1% CAGR, respectively, during the same period. EAF growth is moderate due to its reliance on scrap availability, which can be affected by market prices and demand fluctuations. Additionally, BOP's efficiency in producing high-quality steel and favourable government policies often draw more investment and capacity expansion. The overall growth can be attributed to factors such as increasing demand for steel across various sectors, advancements in production technology, and favourable government policies promoting infrastructure and industrial development.

3.7 Pellets

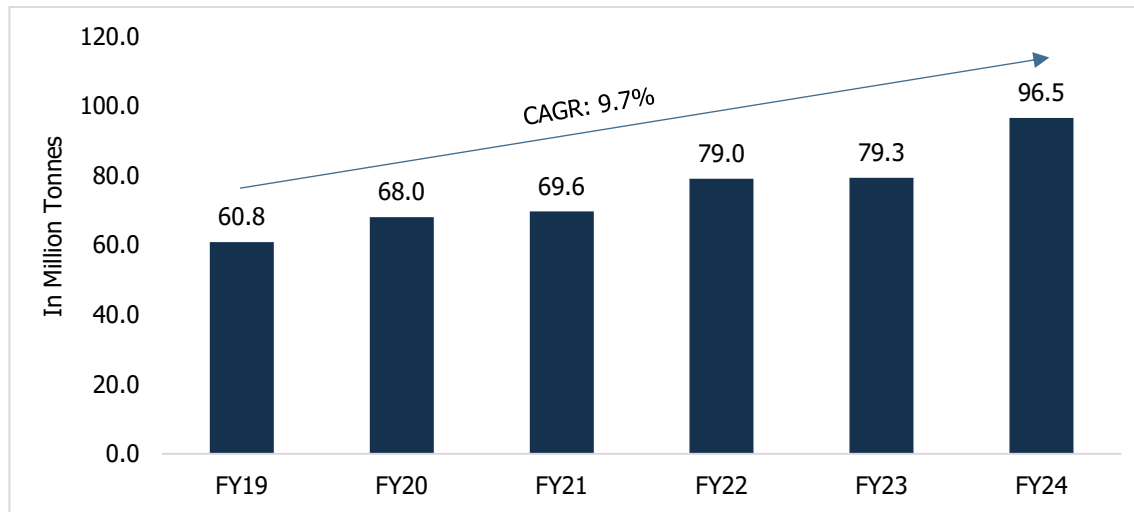
Pellets are used in the production of steel. They are finely ground iron ore, fines transformed into spherical balls with superior physical and metallurgical properties compared to raw ore. Through a process called pelletizing, these pellets are created, typically ranging from 6mm to 16mm in diameter, making them ideal for use in blast furnaces and direct reduction furnaces. With excellent strength and uniformity, pellets serve as an efficient substitute for lump ore, particularly in regions where the latter is scarce. Their ability to withstand bulk transportation over long distances makes

them essential for steel production. In essence, pellets serve as a crucial ingredient in the steelmaking process, contributing to the creation of high-quality steel products.

Shift to Energy-Efficient, Green Steelmaking Boosts Pellet Production in India

Production of Pellets has increased steadily from 60.8 million tonnes in FY19 to 96.5 million tonnes in FY24 at a CAGR of 9.7%. Furthermore, production of pellets saw a y-o-y increase of 21.7% in FY24. This growth in production has been due to increased steel production, higher pellet usage in blast furnaces, and expanded Direct Reduced Iron (DRI) capacity. The shift towards pellets is driven by their energy efficiency, environmental benefits, and quicker delivery compared to iron ore. Additionally, challenges with sourcing high-grade iron ore lumps and a focus on greener steelmaking methods have further boosted demand for pellets in the country.

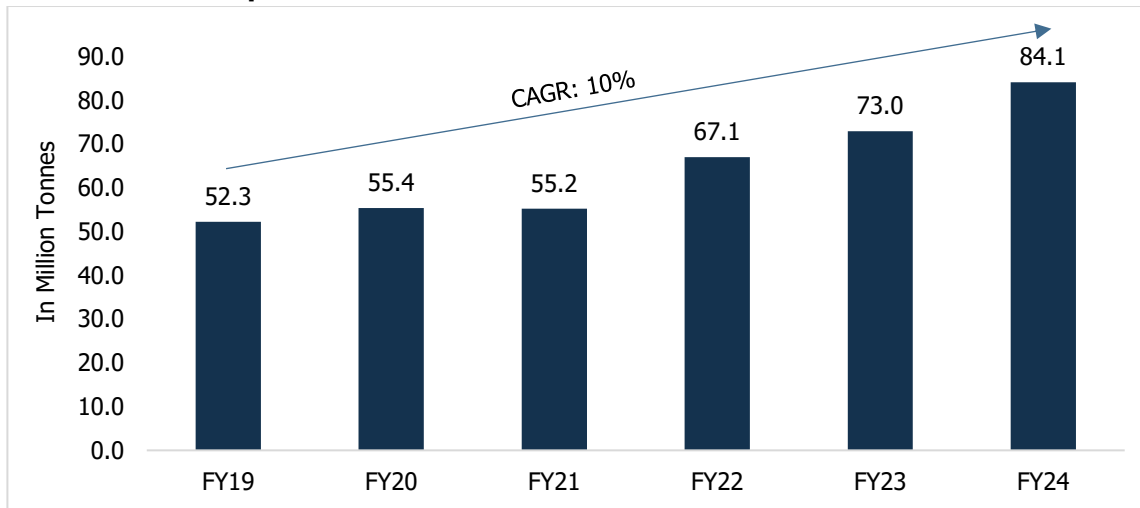
Chart 37: Production of Pellets



Source: JPC

India's Pellet Consumption Surges with Growing Steel Production and Expanding DRI Use

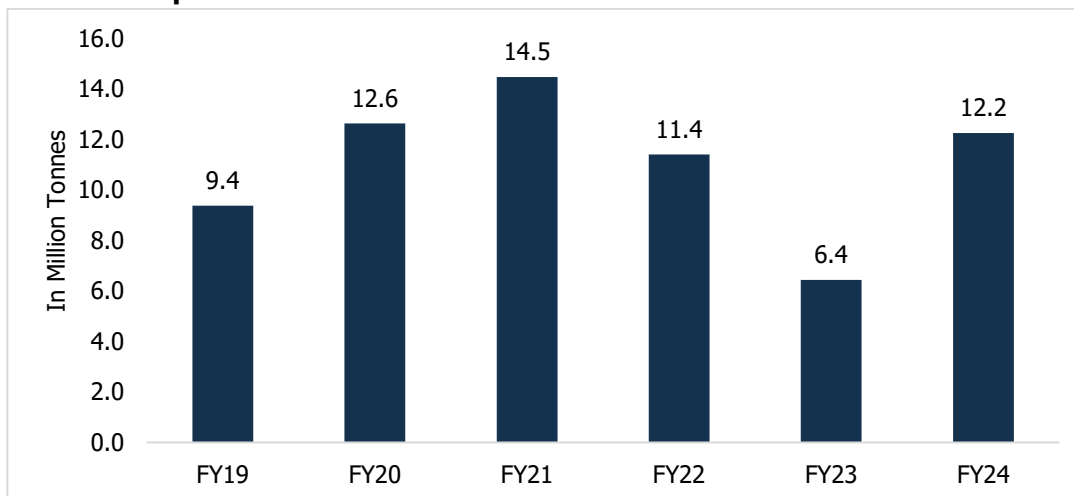
Except for being almost flat from FY20 to FY21, consumption of pellets has steadily increased from 52.3 million tonnes in FY19 to 84.1 million tonnes in FY24 at a CAGR of 10%. Furthermore, consumption of pellets saw a y-o-y increase of 15.3% in FY24. This growth is driven by growing steel production, a shift towards more efficient and eco-friendly inputs, and logistical advantages over traditional iron ore. Additionally, increased pellet use in blast furnaces and DRI processes, policy support, export demand, and expanding production capacity have also contributed to this growth.

Chart 38: Consumption of Pellets

Source: JPC

FY24 Sees Record Surge in Pellet Exports After Decline in Previous Years

In FY24, India's pellet exports experienced a significant surge of 90.5% year-on-year (y-o-y), primarily driven by strong demand from China, which accounted for over 90% of India's pellet exports. This growth was further supported by the increase in global iron ore prices and the improved competitiveness of Indian pellets. Additionally, the Indian government's removal of export duties on low-grade iron ore in November 2022 contributed to the rise in export volumes. This surge followed a period of steady decline in exports, which had dropped from 14.5 million tonnes in FY21 to 6.4 million tonnes in FY23. The decrease in exports post-FY21 was primarily due to the imposition of export tariffs by the government. Moreover, low steel margins in China favoured the export of low-grade iron over pellets, further contributing to the decline in pellet exports. Earlier, India's pellet exports had steadily increased, rising from 9.4 million tonnes in FY19 to 14.5 million tonnes in FY21.

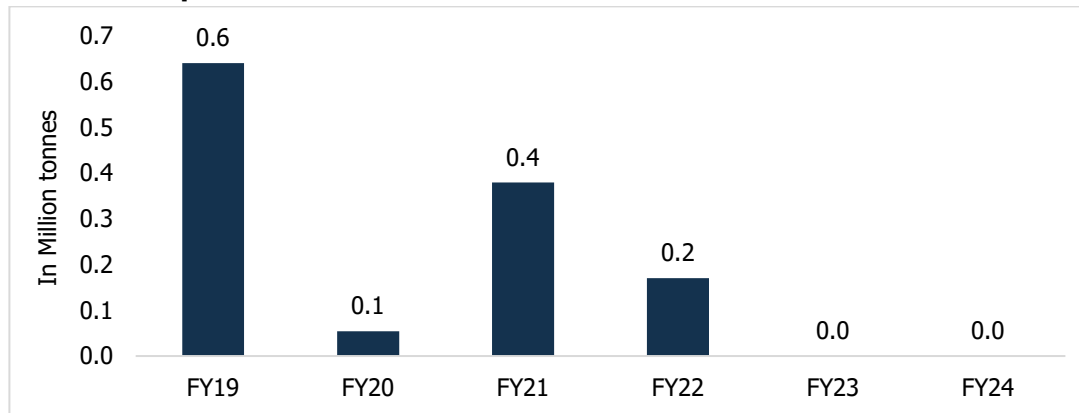
Chart 39: Exports of Pellets

Source: JPC

India's Pellet Imports Drop to Zero in FY24 After Steady Decline Since FY21

Imports fell to 0 million tonnes in FY24, following a steady decline after FY21. Prior to this, imports had increased to 0.4 million tonnes in FY21 after a small dip in FY20. The highest level of imports was recorded in FY19, at 0.6 million tonnes.

Chart 40: Imports of Pellets



Source: JPC

3.8 India's Steel Sector Faces Rising Imports, Government Implements Tariff Changes and Safeguard Measures

The import duty on steel remains a critical issue for India, especially with the rise in imports, primarily from China. Over the past two years, steel imports have surged as China redirected its excess production due to a slowdown in domestic demand. Steel imports increased by 38.2% in FY24, with a further 14.6% rise in imports in FY25.

Despite this surge, India's Ministry of Steel has not proposed higher taxes on imports, citing the need for steel to meet growing domestic demand and the current duty structure's role in supporting production costs. However, domestic producers are calling for higher tariffs, noting vulnerabilities to China's subsidies and the inverted duty structure on raw materials. In response, India is considering revising its free trade agreements (FTAs) to address rising imports. The proposed changes include 'melt and pour' provisions, which specify that only steel products melted and poured into shape in partner countries can benefit from FTA tariffs when imported into India, aiming to deter steel re-routing through third countries.

In line with efforts to safeguard the domestic steel industry, the Union Budget 2024-25 introduced important changes to the import policy. The Basic Customs Duty (BCD) on Ferro-Nickel and Molybdenum ores, crucial raw materials for steel production, was reduced from 2.5% to nil. Additionally, BCD exemptions on Ferrous Scrap and specified raw materials for CRGO steel production were extended until March 31, 2026. Furthermore, a 12% safeguard duty was imposed on non-alloy and alloy steel flat products to protect Indian manufacturers from the adverse effects of rising imports. Anti-Dumping Duty (ADD) and Countervailing Duty (CVD) measures remain in place for specific steel products, such as seamless tubes, pipes, and welded stainless steel pipes from China, Vietnam, Korea, and Japan.

These measures reflect India's ongoing efforts to protect its steel sector from import surges, particularly from China and Vietnam, and to strengthen its domestic production capabilities in line with the vision of Atmanirbhar Bharat.

3.9 India Secures 2nd Spot in Global Steel Consumption, Outpaced Only by China, with 7.6% Share in 2023

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 2023, India holds the 2nd largest steel consumer position, with a share of 7.6% (133.4 million tonnes). This is followed by European Union, United States,

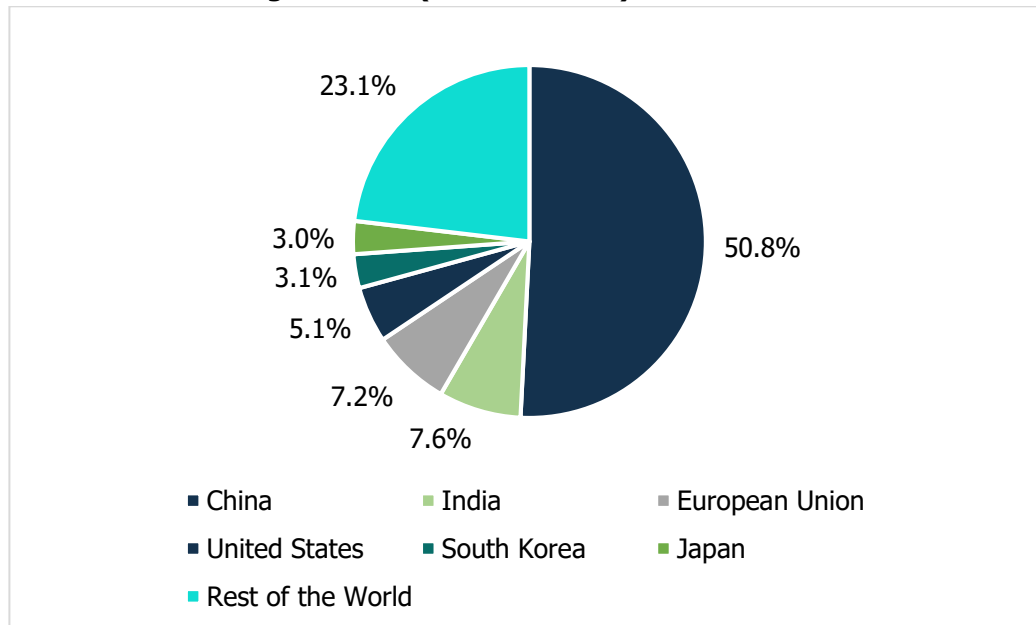
South Korea, and Japan having share of 7.2% (127.6 million tonnes), 5.1% (90.5 million tonnes), 3.1% (54.7 million tonnes), and 3.0% (53.3 million tonnes) respectively. China has the largest consumption share of 50.8% (895.7 million tonnes) while countries in the rest of the world combined consume a share of 23.1% (407.8 million tonnes).

In FY25, India's steel exports declined by 35.1% y-o-y due to weak global demand and rising Chinese competition, continuing the downward trend from FY23. Despite a brief 11.5% recovery in FY24, India became a net steel importer, with FY25 imports rising 14.6% y-o-y, led by low-cost, high-grade steel from China, Russia, and others.

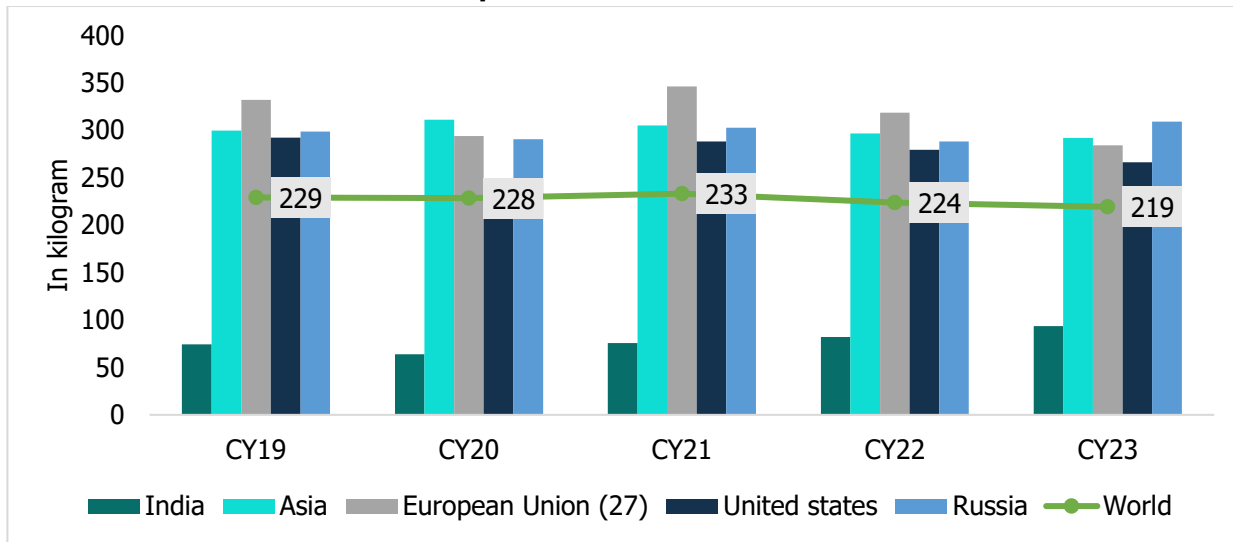
Furthermore, the steel demand will be driven by end-user industries such as construction, real estate, railways, roads, power, auto, capital goods, consumer durables, etc. In addition, government expenditure on infrastructure is expected to augur well for the sector.

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.

Chart 41: Steel Usage in CY23 (million tonnes)



Source: World Steel Association

Chart 42: Finished Steel Use Per Capita

Source: World Steel Association

3.10 Steel Demand Surge in India Drives Major Projects in Finished Steel, Alloy Steel, and Primary Steel Sectors

Across India, a total of **634 steel industry projects** have been underway between **2023 and 2025**, spanning various segments such as **Alloy Steel, Articles of Iron & Steel, Finished Steel, Primary Steel, and Stainless Steel**. These projects are at different stages of development:

- **41 projects** are in the **initial phase**,
- **12 projects** are **partially completed**,
- **200 projects** are in the **execution stage**, and
- **381 projects** are currently in the **planning phase**.

The projects can be further breakdown is as follows:

- **409 projects** are focused on **building new units**,
- **5 projects** are undergoing **renovation**, and
- **220 projects** are aimed at **expanding capacity**.

The **expected completion timeline** varies, ranging from **1 to 8 years** depending on the project's scale and complexity.

In terms of segment distribution:

- **Finished Steel** accounts for the largest share, representing **50% of all projects**.
- This is followed by **Articles of Iron & Steel** at **27.5%** and **Primary Steel** at **21.8%**.

The dominance of **Finished Steel projects** reflects India's robust steel demand, driven by strong growth in the **construction, real estate, and automobile sectors**.

Table 11: No. of Projects across various sub industries

Sub Industry	No. of Projects	Cost (In Rs. billion)
Alloy Steel	3	~54.68
Articles of Iron & Steel	174	~247.82
Finished Steel	317	~13636.57
Primary Steel	138	~2219.32
Stainless Steel	2	0.72

Source: Projects Today, CareEdge Research

Note: Projects covered from 25.04.23-25.04.25

4 Steel Intermediaries Industry Outlook

Steel significantly impacts our lives, found in everything from buildings and vehicles to power lines and pipelines. Its versatility makes it vital for modern development, supporting advanced economies and enhancing daily life safety and convenience. It is extensively used in industries like oil and gas, infrastructure and construction, shipbuilding, consumer durables, automotive and power.

4.1 Infrastructure & Construction

4.1.1 Airports

Steel plays a pivotal role in constructing essential infrastructure of airports due to its strength, durability, and versatility. Steel is integral to building expansive structures such as passenger terminals, cargo terminals, and maintenance hangars, which require large clear spans without intermediate columns. It is also used for critical infrastructure including runways, bridges, and walkways, ensuring robust support and longevity. Steel products are employed in the manufacturing of doors, windows, security systems, luggage handling systems, escalators, and elevators, enhancing operational efficiency and passenger convenience. This widespread use of steel underscores its significance in facilitating the growth and modernization of airport facilities.

The Indian airport sector has experienced remarkable growth driven by factors like increased passenger traffic, private sector involvement, technological advancements, and government infrastructure improvements. India now ranks as the third-largest aviation market globally, showcasing substantial developments such as the construction of new airports, privatization initiatives, the emergence of new airlines, and the implementation of a drone policy. Private sector participation has spurred innovations like airport retailing, while government schemes like RCS UDAN have bolstered air connectivity. Technology integration, including digital boarding procedures and biometrics, aims to enhance passenger experience and operational efficiency across airports and airlines.

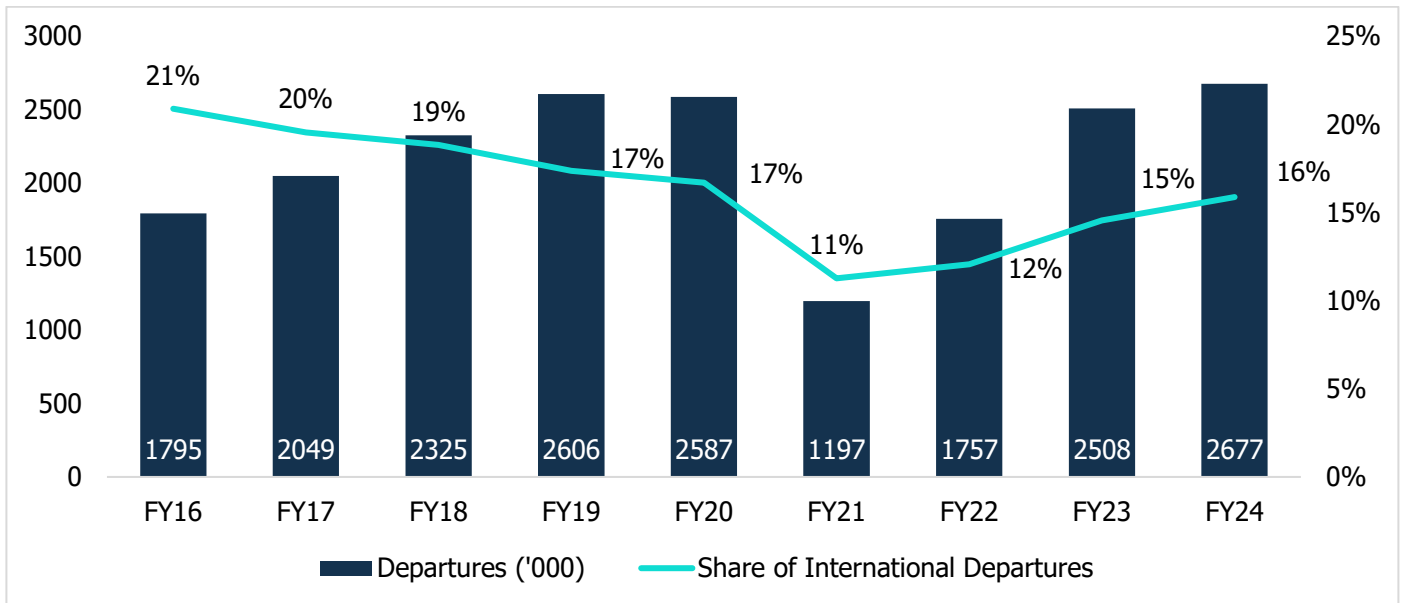
In India, Public-Private Partnerships (PPPs) have emerged as the primary model for developing and managing major airports, facilitated by the Airports Authority of India (AAI) partnering with private companies or consortiums. Models such as Design-Build-Finance-Operate (DBFO) and Operate-Maintain-Develop (OMD) are commonly utilized for large-scale projects and major hubs, leveraging private sector investment and expertise. Concurrently, Non-PPPs, or Private Greenfield Airports, operate independently of AAI involvement, often receiving government incentives like land lease concessions and tax breaks to encourage development in smaller Tier-I and Tier-II cities where AAI support may be limited. This dual approach aims to foster comprehensive airport development across diverse regions of the country.

Table 12: Total Airports in India

Airports in India	No. of Airports
Government – Operational	110
Private – Operational	14
Government – Non - Operational	23

Source: PIB, AAI, and Media Reports

In FY24 total flight count reached 2.67 million higher than FY23 at 2.50 million. International flights were 16% of the total flights departed. The count of International flight was at 0.42 million and Domestic flights were 2.25 million as of FY24.

Chart 43: Air Traffic Movement

Source: AAI, CareEdge Research

Outlook:

The Indian airport industry anticipates robust growth in both passenger and freight sectors driven by factors like increasing e-commerce, manufacturing activities, and international trade. Freight traffic is projected to grow steadily from FY24 to FY28, supported by initiatives such as the Krishi Udan Scheme aimed at enhancing agricultural product transport. The sector will continue to prioritize air cargo for perishable goods due to its efficiency, while improvements in regional airports and cargo facilities will enhance connectivity in underserved areas. Integration with road and rail networks through initiatives like Sagarmala and Bharatmala will further bolster logistics efficiency. Additionally, major airports across India are undergoing substantial investment projects to expand capacity, upgrade facilities, and improve operational efficiency, aiming to boost economic growth, connectivity, and job creation.

4.1.2 Real Estate

The real estate industry is one of the most crucial sectors across the globe. The industry can be further segmented into four sub-sections, housing, commercial, retail, and hospitality. Of these, the residential segment contributes a majority share in the overall sector, where TMT bars (Thermo-Mechanically Treated bars) are extensively used for structural reinforcement. The growth of the overall real estate industry also depends upon the growth in the corporate environment

and the demand for office space and urban & semi-urban accommodations, both of which rely heavily on structural steel and TMT bars for safe and durable construction.

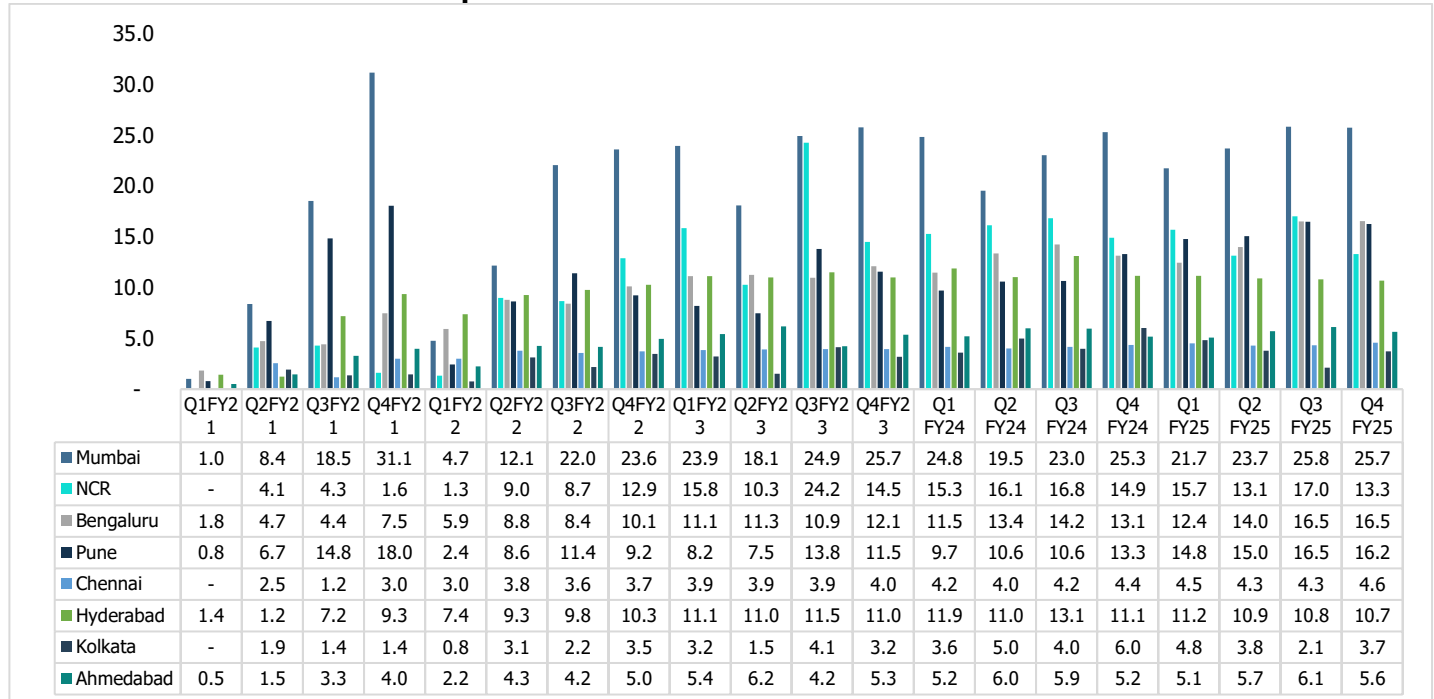
Strong Momentum in Residential Real Estate Continues

The residential real estate sector has continued to show steady growth into FY25, with sales increasing by 2% year-on-year in Q4FY25. This growth was driven by a favourable macroeconomic environment, reduced interest rates, and liquidity initiatives by the Reserve Bank of India (RBI). New project launches also rose by 3% y-o-y during the same period, supported by strong developer activity and sustained demand, particularly for larger, premium homes. Properties priced above INR 10 million continued to lead sales growth. Despite rising inventory levels, the market remained well-balanced due to robust demand and ongoing development efforts.

In FY24, the sector maintained strong momentum, with Q4FY24 sales and new project launches growing by 9.1% and 7%, respectively, compared to the same period in the previous year. This momentum was largely supported by a healthy pipeline of past inventory and continued launches, particularly in the affordable and mid-size housing segments.

Earlier, in FY23, the market had already shown signs of recovery with increased sales and renewed buyer interest, especially in affordable and mid-size segments. This resurgence followed the pandemic-related disruptions of 2020, which had posed severe challenges to the sector due to project delays, stalling, and overall market uncertainty. The recovery was fuelled by the reopening of the economy, growing demand from end-users—particularly in the affordable segment—and a resurgence of foreign investment. Easing of the pandemic, resumption of international travel, favourable policy measures such as tax benefits, and advantageous currency exchange rates contributed to increased investments from Non-Resident Indians (NRIs), especially in the residential sector.

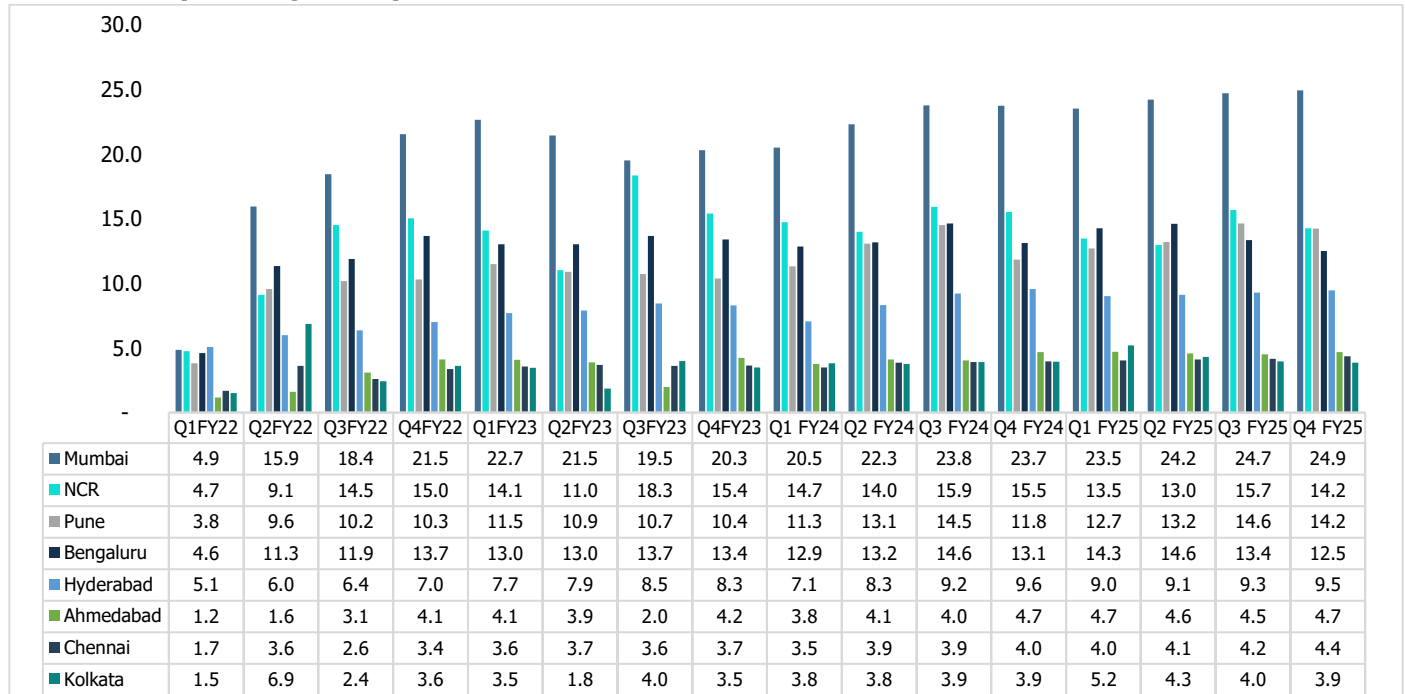
Chart 44: New Launches in the Top 8 Indian Cities in Residential Real Estate



Source: Knight Frank & CareEdge Research

Trend in Sales in Top 8 Cities in Residential Real Estate

Chart 45: City-Wise Quarterly Unit Sales in Residential Real Estate

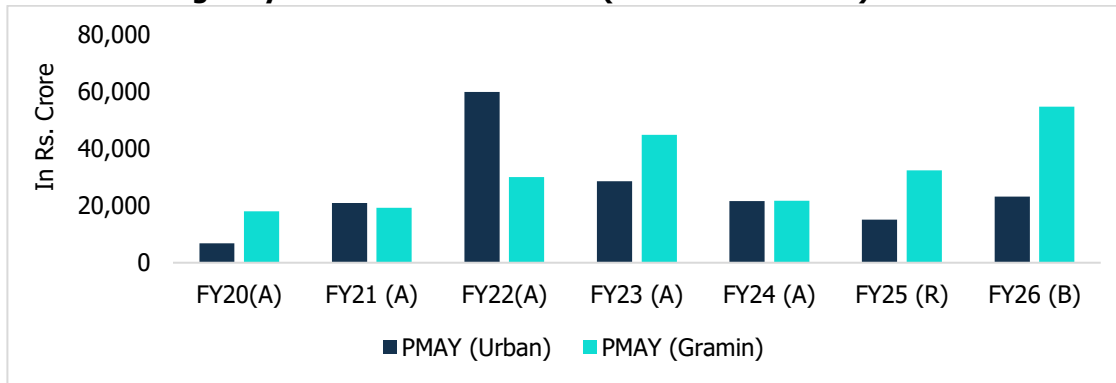


Source: Knight Frank & CareEdge Research

Outlook:

The relocations and shifting buying behavior with a desire to live in a space with modern amenities, proximity to their workplace, and leisure & desire to relocate closer to extended families and friends are projected to increase the demand for projects with good architecture, uncluttered space, and recreational activities for children and elderly.

Furthermore, the government's initiatives, including the Pradhan Mantri Awas Yojna (PMAY), the Urban Development Plan, and the digitization of land records, have been playing a pivotal role in stimulating growth within the sector. Under the PMAY scheme of the Union Ministry of Housing and Urban Affairs, 1.19 crore houses have been sanctioned under the PMAY-Urban, out of which 92.21 lakhs have been completed, and the rest are under construction. Moreover, about 3.65 crore houses have been sanctioned under PMAY-Gramin out of which 2.75 crore have been completed.

Chart 46: Budgetary Allocation Under PMAY (Urban and Gramin)

Source: Budget Documents

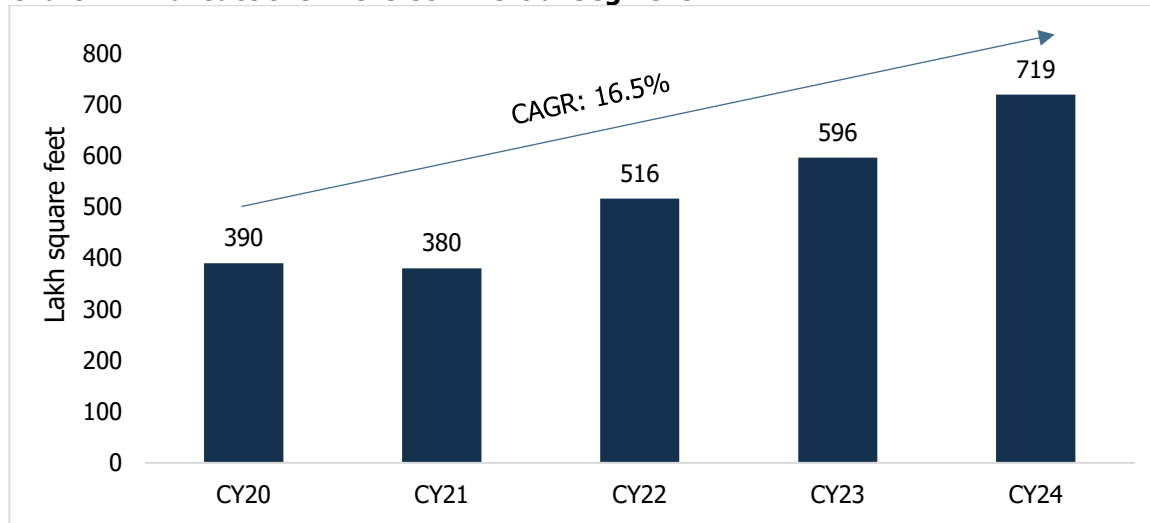
Note: A – Actual budget; R- Revised budget; B- Budgeted

Resilient Growth in India's Commercial Real Estate Fueled by Strong Demand and Strategic Investments

The Indian real estate industry witnessed a slowdown in the years prior to the pandemic due to the general slowdown in the economy. However, this had little impact on the demand for office space. The demand for office space grew by leaps and bounds for the better part of the past decade with the unavailability of good quality supply being the only impediment to higher growth. The office segment growth was aided by investors with a keen interest in the commercial space. Alongside, NRIs have initiated investing in this segment, given the lucrative returns.

Furthermore, with residential real estate becoming end-user-driven, commercial real estate emerged as a more attractive investment proposition for individual investors and institutional funds. Commercial properties typically offer higher rental yields and potential returns compared to residential properties as businesses are willing to pay premium rents for prime locations

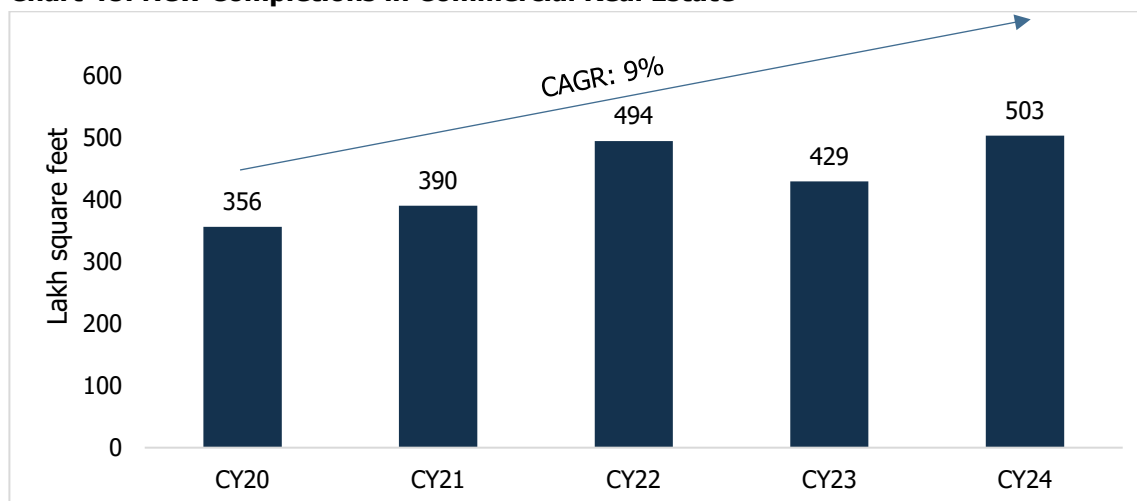
Accordingly, due to the investment potential of commercial spaces, developers are responding to the demand. Eventually, a better performance of the office segment will trickle to greater demand for the residential segment. This is because as job opportunities expand, there is a potential influx of individuals looking for housing near their workplace, which can drive up demand for residential properties. As a result, the commercial space is crucial in terms of both, its impact and its linkages.

Chart 47: Transactions in the Commercial Segment

Source: Knight Frank & CareEdge Research

Transactions gained momentum in CY24, growing at 20.6% y-o-y. This was on account of positive business sentiment fuelled by India's robust economic growth, strategic corporate investments driven by the need for friend-shoring and the China+1 trend, and the expansion of Global Capability Centres (GCCs). Additionally, the demand for high-quality office spaces, particularly from India-facing businesses and flex space operators, has been supported by strong occupier activity, low vacancy levels, and limited new supply.

In CY23, transactions continued to rise, reaching 596 lakh square feet, reflecting a 15.5% growth over the previous year. This growth followed the strong momentum of CY22, which saw a 36% year-on-year increase, reaching 516 lakh square feet. However, the pandemic's impact on business activities led to a significant slowdown in CY20, with transactions dropping to 390 lakh square feet. Although there was a gradual recovery in the second half of CY20, the second wave of the pandemic in CY21 caused a 2.5% decline in transactions.

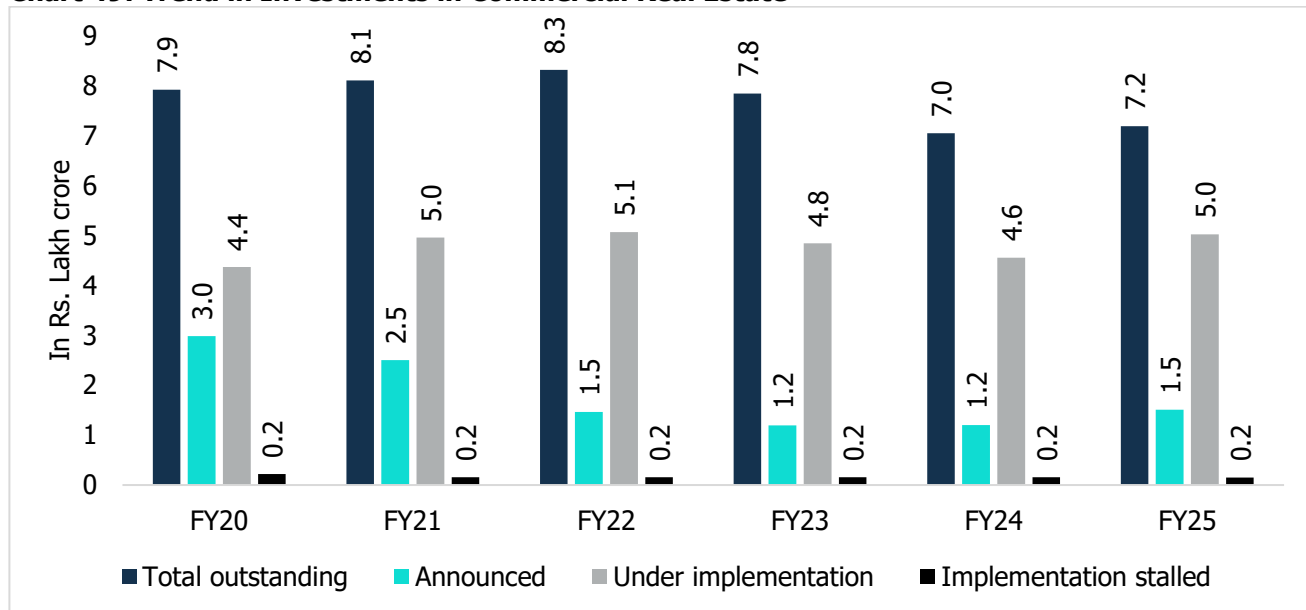
Chart 48: New Completions in Commercial Real Estate

Source: Knight Frank and CareEdge Research

Completions picked up in CY24, reflecting a growth of 17.2% y-o-y. This was driven by strong demand, record-high transactions, falling vacancy rates, and rising rents across major office markets creating favorable conditions for increased future completions.

In contrast, in CY23, new completions had declined by 13.2% y-o-y, following the recovery seen in CY22 when completions rose to 494 lakh square feet. This uptick in CY22 was driven by improved office space demand as corporates returned to physical workplaces, and by the gradual return of labor to cities after pandemic-related migration. In contrast, CY21 saw 390 lakh square feet of completions, recovering slightly in the second half after a significant drop during H1 CY21. The slowdown had started in H2 CY20 due to pandemic-related uncertainty, which initially hampered construction activity.

Chart 49: Trend in Investments in Commercial Real Estate



Source: CMIE and CareEdge Research

During FY25, the total outstanding investments increased by 2.1% while the value of new announcements picked up by 25.4% y-o-y. In FY23 and FY24, the value of announced projects dipped, but the ticket size of projects under implementation was marginally lower than FY22 as demand stabilized. In FY22, the value of projects under implementation rose to a three-year high, while the value of stalled projects remained low. The value of new announcements peaked in FY20 but fell in FY21 due to COVID-19-related disruptions and uncertainty.

Outlook:

The Indian commercial real estate market is set to experience strong growth in the coming years, supported by a stable economic environment and positive business sentiment. Despite global economic uncertainties, India's economic fundamentals remain robust, fueling high demand in the office space sector. The country's office market has seen a significant surge in transaction volumes, particularly in key cities like Bengaluru, Mumbai, and Pune, driven by strong activity from sectors such as IT, e-commerce, Data Centers, and Global Capability Centers (GCCs).

The demand for office spaces continues to rise, as businesses increasingly turn to India for its cost advantages and skilled workforce. Additionally, the flex space segment is thriving, as more small businesses seek co-working spaces to enhance productivity and flexibility.

While the market faces challenges in terms of lower office completions, resulting in lower vacancy rates and rising rents, the outlook for commercial real estate remains positive. The return to office and hybrid work models, alongside continued corporate investments and strategic business decisions, ensures that India's commercial real estate market is well-positioned for sustained growth in the near future.

4.1.3 Roads

Transportation of freight as well as passengers by road is one of the most cost-effective mode. India's road network spans a total of 6.35 million kilometers, facilitating 60% of the country's freight traffic and 87% of its passenger traffic. The Indian road network comprises of National Highways, Expressways, State Highways, Major District Roads, Other District Roads and Village Roads. In the construction of these roads, steel products such as steel rebars, structural steel, and steel wire rods are widely used for reinforcing concrete pavements, bridges, flyovers, and other supporting infrastructure. To get the country in fast forward mode, development of National Highways has been key focus area, however state highways, district and rural roads continue to be large part of overall road network.

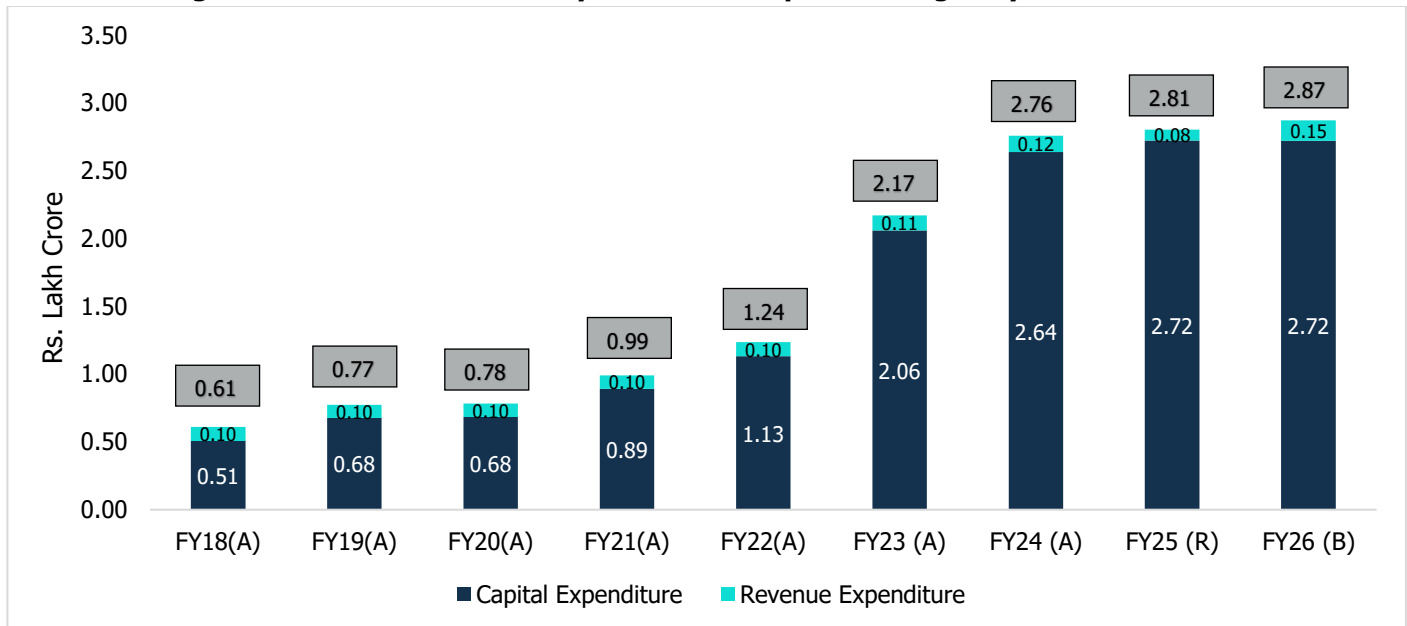
Table 13: Breakup of Road Network

	Million kms	%
National Highways	0.15	2%
State Highways	0.18	3%
Other Roads	6.02	95%
Total	6.35	100%

Source: MoRTH (Annual Report 2024-25) & CareEdge Research

Connectivity has always been the backbone of any economy as it not only reduces the overall cost of logistics but also reduces the overall cost of production. To achieve last mile connectivity, roads and highways pave the way as they are cost effective way of connectivity. Over the years budgetary allocation has been increased from Rs 0.61 lakh crore in FY18 to Rs 2.87 lakh crore in FY26 demonstrating the Government's high focus on infrastructure sector. For better connectivity and faster movement of goods, Government is expanding 2 lane highways to 4 lanes and 4 lanes to 6 lanes. Government has also identified border areas for better connectivity and have launched various projects. This sector has higher opportunities as the connectivity of ports and other key locations such as consumption centers, metros, Tier-2 cities and strategic importance is still under developed.

To achieve the complete connectivity, private player participation is must and to attract the investment of private players, Government has brought in several Public-Private Partnership (PPP) models which has attracted significant investment over the past decade. Of all the PPP models, Hybrid Annuity Model (HAM) has proven to be successful. It has given favorable condition for the participation of private players. Government is looking forward to bring in more projects under HAM followed by Engineering, Procurement, and Construction (EPC). Lower participation for private players has at some point hampered the overall development of roads and highway sector. Issues of delay in project completion, due to land unavailability has been dealt by NHAI's decision to allot project, post completion of 90% of land acquisition. Also, to ease the burden of debt and avoid NPAs in books of private players & banks, Government has allowed 100% FDI in the sector and also allowed asset monetization for private players post construction is complete.

Chart 50: Budget Allocation for the Ministry of Road Transport and Highways

Source: Budget Documents

Note: A – Actual budget; R- Revised budget; B- Budgeted

4.1.4 Water Infrastructure

Water infrastructure is another major end-user that uses steel products. In general, water infrastructure comprises drinking water facilities (treatment plants and distribution lines), sewage lines, storage tanks, dams, reservoirs, etc.

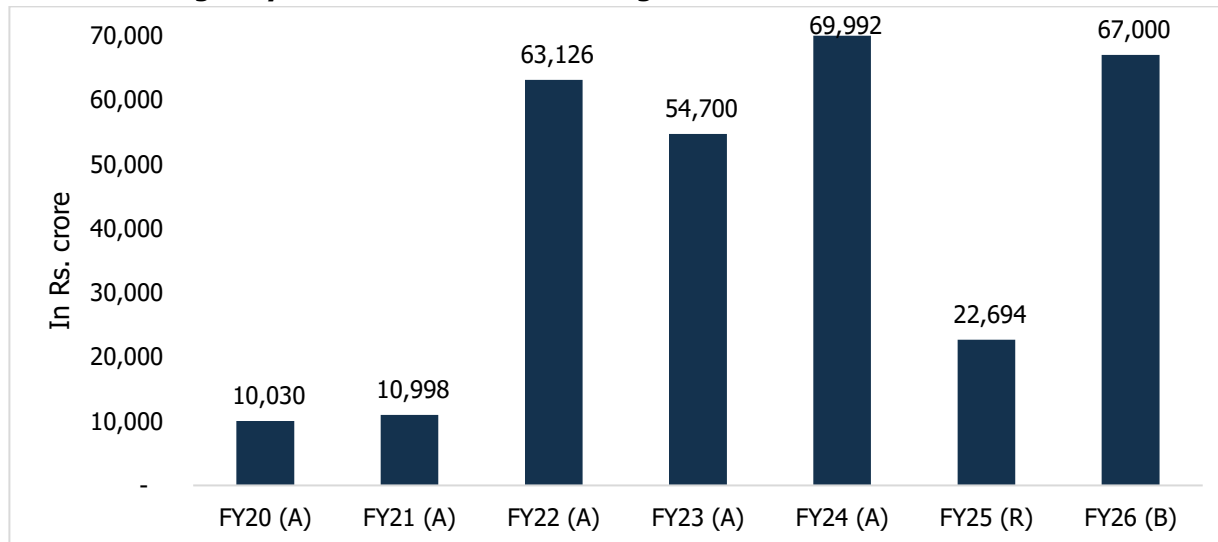
Steel pipes are considered the most durable pipes for water supply because of their non-corrosion properties. They can sustain high water pressure and are more readily available in longer lengths than most other pipes. Demand for steel tubes and pipes is increasing, supplemented by the agriculture sector, where steel pipes are used in borewells or irrigation facilities. Moreover, there is a constant demand for improving water infrastructure in both rural and urban cities alongside a focus on enhancing wastewater management. This is expected to augment the demand and push the volumes of galvanised pipes.

However, with growing urbanization, India continues to fall behind in groundwater infrastructure. Water consumption has been growing at an exponential rate on account of rising population, increasing urbanization, and shifting lifestyles. In India, many households have access to water for only a few hours a day. Moreover, water demand in India is expected to exceed available supply by 2030, resulting in severe water scarcity for billions of people. To ensure there is a water supply, which is both affordable and sustainable, the government has launched the 'Atal Bhujal Yojana' (Atal Jal) to upgrade the groundwater management system through community participation. The major objective of this scheme is to improve the management of groundwater resources in select water-stressed areas in identified states namely Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, and Uttar Pradesh.

Further, on 15th August 2019, the 'Jal Jeevan Mission' programme was launched by the government to provide safe and adequate drinking water to all households in rural India by 2028. The functional household tap connections as of 29th April 2025 were about 15.59 crore. This programme will further enhance the water infrastructure and aid in the demand for pipes in the country.

Although, the budgetary allocation trend toward this scheme increased in the latest budget 2025-26, the government's push toward cleanliness and sanitation will boost the water infrastructure in the country.

Chart 51: Budgetary Allocation Toward Drinking Water



Source: Budget Documents

Note: A – Actual budget; R- Revised budget; B- Budgeted

4.1.5 Railways

The Indian Railways is among the world's largest rail networks. It is the 4th largest railway system in the world behind the US, Russia, and China with a total track length of 1,26,366 km with 7,337 stations as of FY21. Steel tubes or pipes are used in applications such as rails, wagons, and coaches. The Indian railway sector has seen multiple developments in the last decade such as the introduction of high-speed trains, modernization of railway stations, increase in rolling stock inventories, etc.

Further, the government has been increasing its focus on the augmentation of railways to reduce the cost and time of logistics and to minimize the overall carbon footprint of the country as railways are more environment friendly compared to road transport. The key focus areas have been the decongestion of the overutilized rail network, construction of new lines, doubling, tripling, quadrupling of rail lines, and purchase of rolling stock such as wagons, locomotives, coaches, etc.

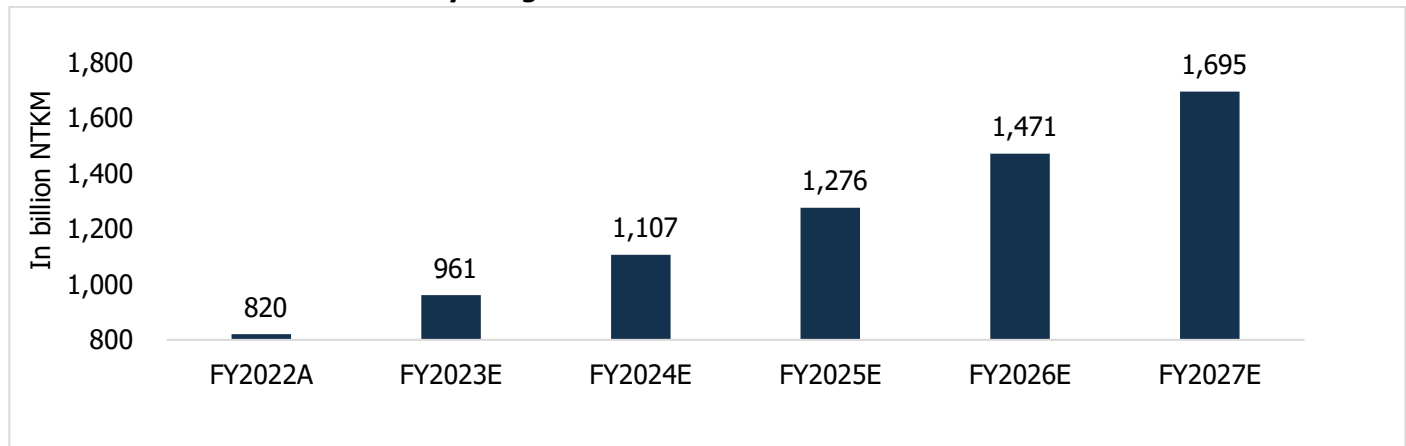
The Indian government has announced plans to launch 200 new Vande Bharat Express trains over the next two to three years. These trains will include both sleeper and chair car variants, aimed at enhancing connectivity across the country. Additionally, the government has approved the manufacturing of 100 Amrit Bharat trains and 50 Namo Bharat trains during the same period in the Union Budget 2025-26. Additionally, the construction of a Dedicated Freight Corridor (DFC), which are broad gauge rail network to be utilized exclusively for freight trains, will lead to an increase in the railway's share in domestic freight movement. 96.4% of both the western and eastern DFCs have been commissioned and operational. Also, the Detailed Project Reports (DPRs) of the East Coast Corridor, East-West Corridor, and North-South Corridor are under examination.

Moreover, the Railways Station Redevelopment Program, which was launched in February 2017 to modernize the infrastructure across the nation, will enhance the experience of the passengers through intelligent building and state-

of-the-art facilities. For this, the government has launched the 'Amrit Bharat Station Scheme' where a total of 1,275 railway stations under 32 different states have been identified for development. This will further boost the demand for steel pipes in the economy.

Under the National Rail Plan (NRP), the railway's share in freight transport is expected to increase to 45% by 2030 from the existing 26%. This implies that the total freight transported by Indian Railways will increase to 3,000 million tonnes by FY2027 and 3,600 million tonnes by FY2030 from 1,418 million tonnes in FY2022. Further, railway freight traffic measured in Net Tonne Kilometers (NTKM) is expected to double to 1,695 billion NTKM by FY2027 from 820 billion NTKM in FY2022.

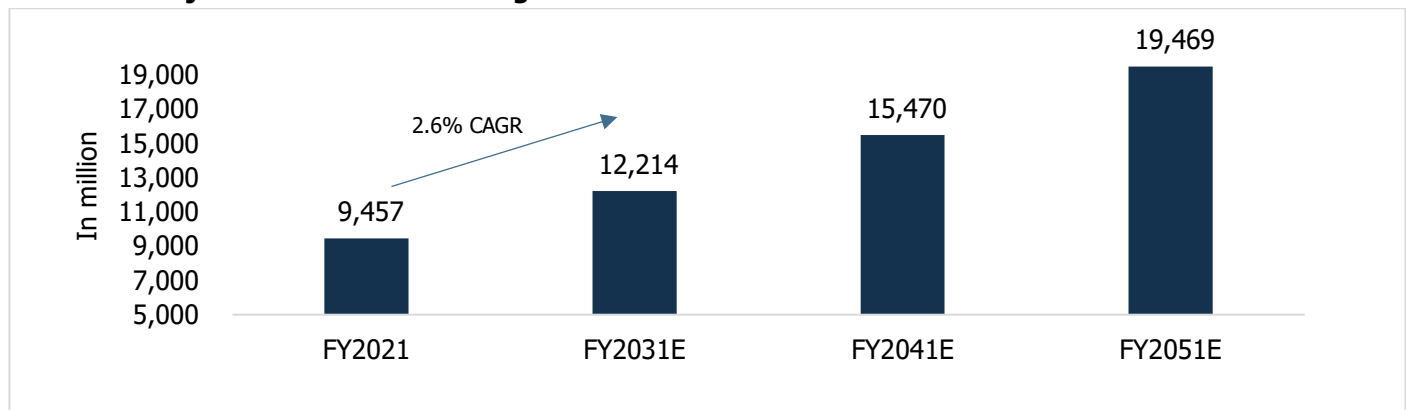
Chart 52: Trend in Indian Railway Freight Traffic



Source: Indian Railways, Report of the Committee on Mission 3000 Million Tonnes

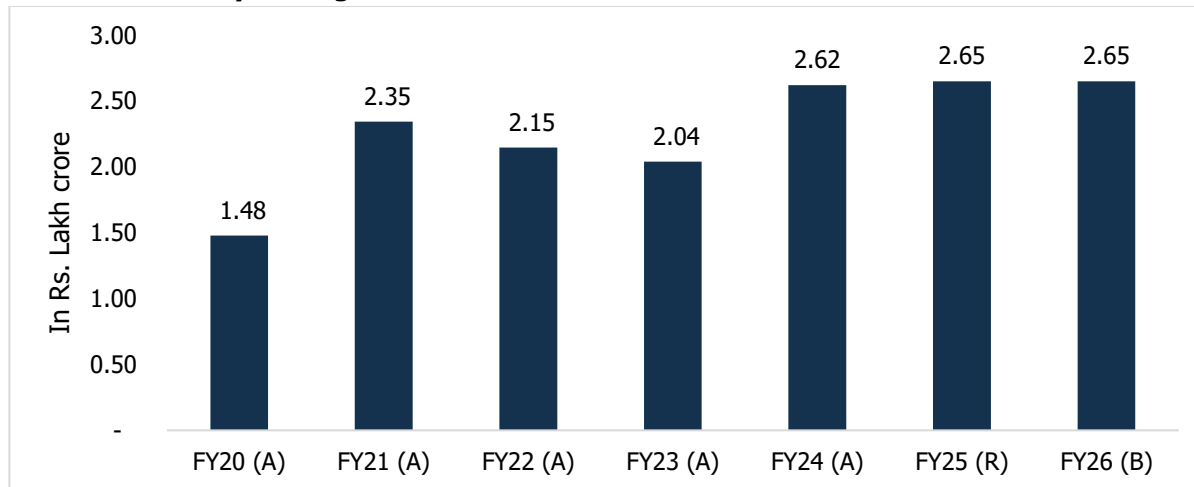
The passenger traffic is expected to grow at a CAGR of 2.6% between 2021 and 2031 driven by population growth and a growing workforce.

Chart 53: Projected Growth in Passenger Traffic



Source: Indian Railways, National Railway Plan

In the Union Budget 2025-26, the government has allocated Rs 2.65 lakh crore toward railways. The allocation toward the rolling stock has more than doubled y-o-y to Rs 45,530 crore in the union budget 2025-26 from Rs 15,158 crore (revised budget) in 2022-23. The above factors augur well for the demand for steel from the Indian Railways.

Chart 54: Railways- Budget Allocation Over The Years

Source: Budget Documents; Note: B – Budgeted, A – Actual, R – Revised and Includes Internal and Extra Budgetary Resources (IEBR)

4.2 Oil & Gas Industry's Expanding Infrastructure Boosts Demand for Steel

Oil & gas is the one of the major end-users driving the demand for steel. Refineries, pipelines, gas terminals, storage capacity, gas cylinder bottling plants, retail outlets, etc., require large amounts of steel pipes. Oil and gas are generally transported through steel pipelines. Further, steel tubes and pipes are widely used in this sector for drilling and extraction operations. Additionally, lot of components such as ship propellers, deck components, and storage and process vessels also require stainless steel.

Steel Demand to Surge in India's Growing Natural Gas Sector as Government Expands Infrastructure

The natural gas industry in India is expected to witness substantial growth over the next decade. The current industry and regulatory environment bode well for achieving a shift toward gas becoming more prominent in the Indian fuel mix. Driven by the increasing usage across various end-user customer segments, the Government of India has come up with multiple reforms to raise the share of natural gas in the primary energy mix to 15% by 2030 from around 6% - 7% currently. Accordingly, the government has been taking a range of measures to expand domestic production, facilitate imports, and encourage demand by expanding National Gas Grid and City Gas Distribution (CGD) network.

The sector requires significant investments in the coming years to build up terminals and pipelines. India's first floating LNG terminals at Chhara and Jafrabad are set to play a crucial role in the country's energy infrastructure. The Chhara terminal has already commenced operations in February 2025, while the Jafrabad terminal is still under development. Further, the increasing production and exploration activities will drive the requirement of steel pipes in the industry. In order to facilitate the National Gas Grid (One Nation, One Gas Grid) and increase the availability of natural gas across the country, the Petroleum and Natural Gas Regulatory Board (PNGRB) has authorised approximately 33,475 km of natural gas pipeline network across the country. Around 25,124 km of gas pipelines were operational in India as of December 31, 2024, while 10,676 km of pipelines were under construction.

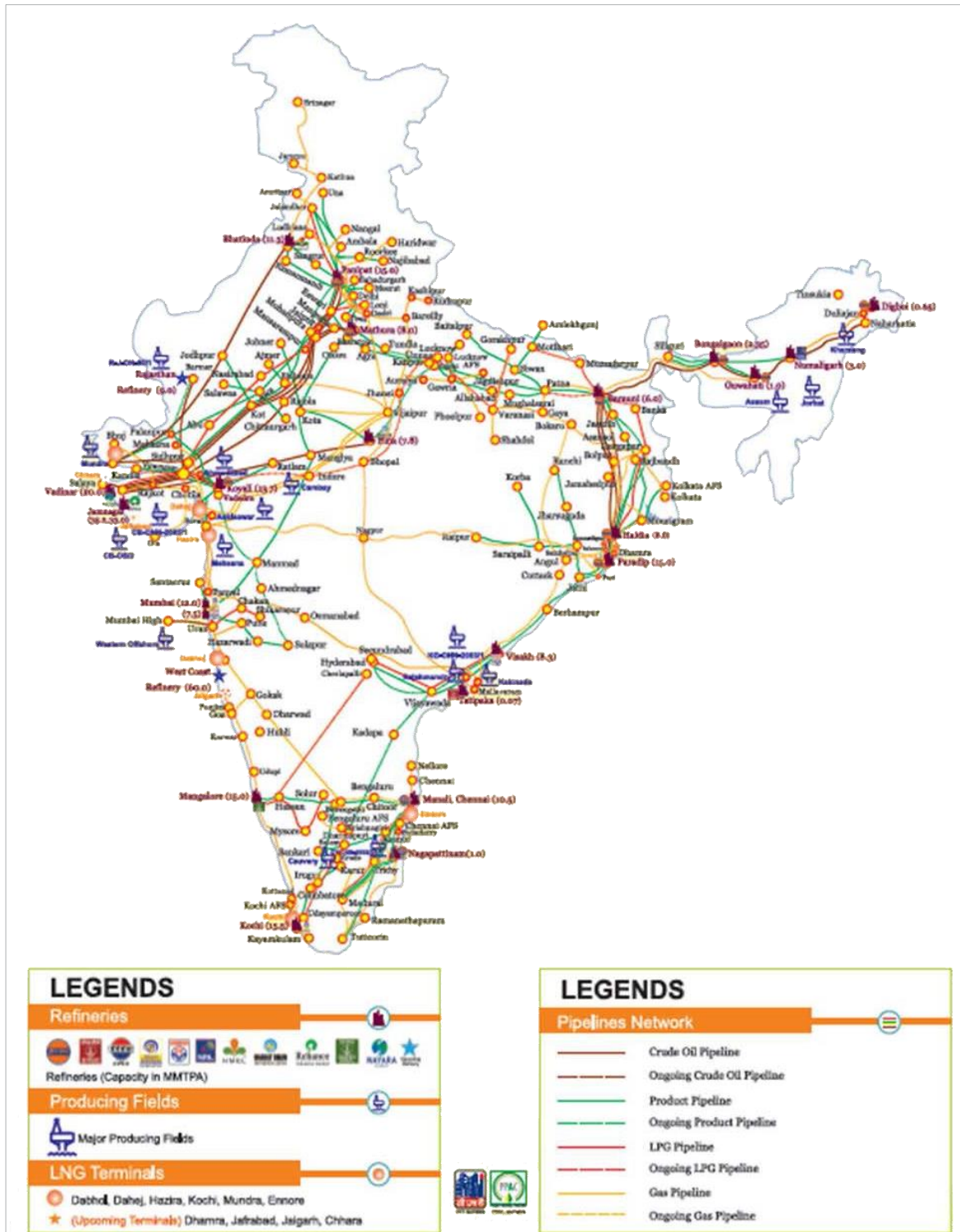
Furthermore, there is the government's thrust to enhance the supply and consumption of natural gas. Also, the usage of cleaner sources of energy such as natural gas is being encouraged in line with the growing concern toward the environment and climate change. This has received significant impetus from the government's commitment toward clean energy under COP 27. Moreover, the demand for natural gas is expected to increase subsequently in the coming

years in anticipation of higher power demand. The demand revival will also be supported by the ease in natural gas prices.

Expansion of India's National Gas Grid and LNG Terminals Drives Surge in Steel Demand

According to the Petroleum Planning and Analysis Cell (PPAC), 10,445 km of crude oil pipeline and 24,130 km of petroleum product pipeline were operational in India as of April 01, 2025. As pipelines are more efficient mode of fuel transportation, the crude and petroleum product pipeline infrastructure are expected to be expanded to cater to the growing domestic demand.

Chart 55: Oil & Gas Map of India



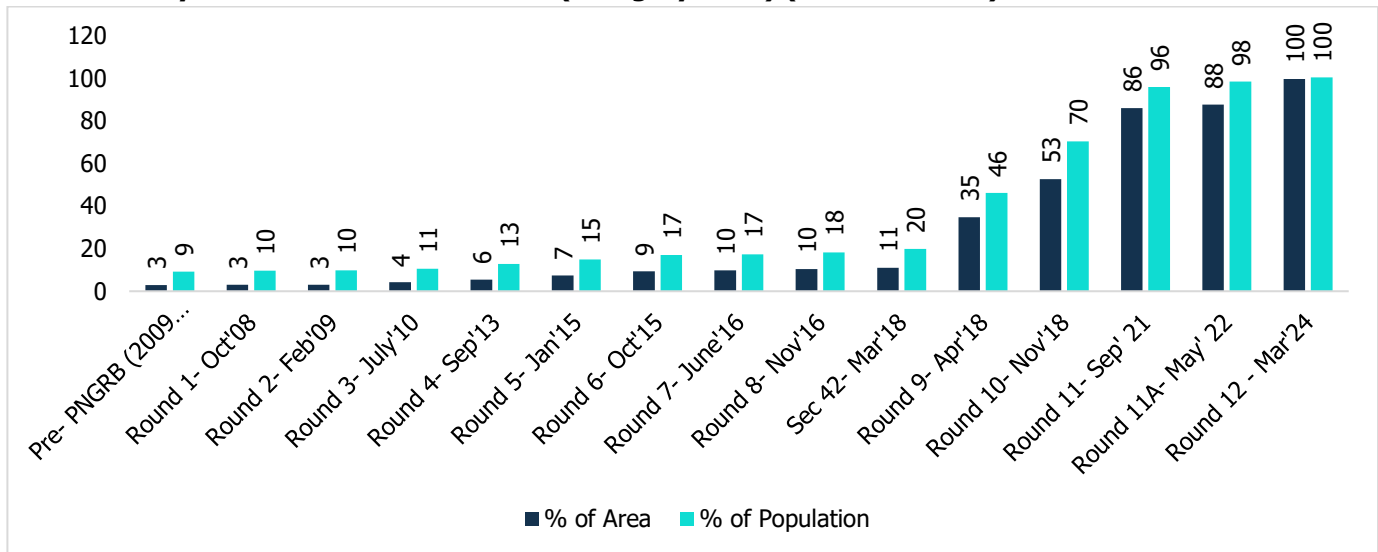
Source: PPAC

Compressed Natural Gas Stations and Domestic Pipelines Surge as CGD Expands Across India

The CGD network in India has expanded significantly in the past decade. Cumulatively up to Round 12 of CGD Bidding, there are 307 GAs authorised by PNGRB covering around 100% of the country's geographical area and 100% of its population. To cover 100% geographical area for the development of the CGD network, the 12th CGD bidding round offers 7 Geographical Areas (GA) covering five North East states viz. Arunachal Pradesh, Meghalaya, Manipur, Nagaland, and Sikkim and UTs of Jammu & Kashmir and Ladakh.

Further, CGD now constitutes around 20% of the total natural gas consumption in India. Over the past few years, the overall consumption of natural gas was driven by the CGD sector, the contribution of which has significantly increased from around 6% to around 24% from 2012-13 to 2024-25 (April-February).

Chart 56: City Gas Authorization in India (Category-wise) (Cumulative %)



Source: PNGRB

As per PPAC, there were 7,720 compressed natural gas (CNG) stations, 1.47 crore domestic piped natural gas (PNG) connections, 44,869 commercial PNG connections, and 20,253 industrial PNG connections as of February 28, 2025 (Provisional).

The following factors will drive the expansion of CGD network going forward:

- Expansion of CGD network to around 307 geographical areas post-Round 12th of CGD bidding.
- Industries using blast furnaces such as steel, oil refineries, long-haul transport, and heating & cooling requirements.
- Continued high requirements from the fertilizer as well as power sector.

4.3 Shipbuilding

India's shipbuilding industry continues to demonstrate resilience and gradual progress amidst shifting global trade dynamics and freight rate volatility. The sector, traditionally order-driven and reliant on steady demand from global commerce, has seen mixed trends in recent years. Crude tanker utilization has declined due to sanctions-related uncertainties and fluctuating oil demand, impacting freight rates and leading to oversupply. Conversely, dry bulk cargo traffic has remained relatively stable, despite subdued charter rates and ongoing demand challenges. Port traffic has

shown modest growth, supported by increased movement of key commodities like fertilizers, coal, and petroleum products.

Shipbuilding giants such as Mazagon Dock, Cochin Shipyard, and Garden Reach have maintained healthy order books, supported by sustained trading activity and emerging environmental regulations necessitating fleet upgrades. Government initiatives under Atmanirbhar Bharat, along with increased budgetary allocations for R&D and shipbuilding assistance, underscore India's commitment to strengthening its maritime sector. As global demand recovers and regulatory shifts push for newer, eco-friendly vessels, India's shipbuilding industry is poised for steady expansion, balancing commercial opportunities with strategic national interests.

Steel is a fundamental material in the shipbuilding industry, integral to constructing various components and structures that ensure the functionality, safety, and efficiency of vessels. It is used in construction of container vessels, where high-strength steel is employed for wide container openings, enhancing load and unload capabilities. Additionally, it is crucial for the construction of bottom plates in crude petroleum tankers, offering corrosion resistance to prevent environmental contamination. Watertight doors, made from mild and cast steel, safeguard compartments from flooding and provide durability during emergencies on passenger ships. Moreover, steel is essential in crafting propellers and rudders, using processed plates coated with protective foam to prevent corrosion, thereby ensuring operational reliability and longevity in maritime environments.

As India continues to prioritize domestic manufacturing and maritime development, its shipbuilding industry is poised for moderate growth driven by rising demand for container ships, defence vessels, and ship repair services, while tanker demand remains subdued.

4.4 Consumer Durables

The consumer durables industry can be broadly classified into: **consumer electronics** (brown products like TVs, laptops, audio & video systems, personal computers, and other electronic accessories) and **consumer appliances** (white goods like air conditioners, washing machines, refrigerators, and other appliances). These products, designed for domestic use with extended lifespan, have seen significant growth driven by favourable economic conditions, demographic trends, and technological innovations. India's consumer durables industry continues to witness strong growth, fuelled by several structural and economic drivers such as the expansion of the retail sector, rapid real estate development, increasing disposable incomes, and technological innovations. Alongside robust domestic consumption, the industry is strengthening its global footprint, with India emerging as a key exporter of products like televisions, refrigeration units, air-conditioning components, and automated washing machines. According to the Consumer Electronics and Appliances Manufacturers Association (CEAMA), the sector is poised to double in market value within the next three years, with a long-term vision of reaching ₹1.48 trillion by 2050. CEAMA also envisions India as a competitive alternative hub for global exports, leveraging its manufacturing capabilities and favourable policy environment to attract global supply chains. This outlook positions the industry as a vital contributor to India's economic and export growth trajectory.

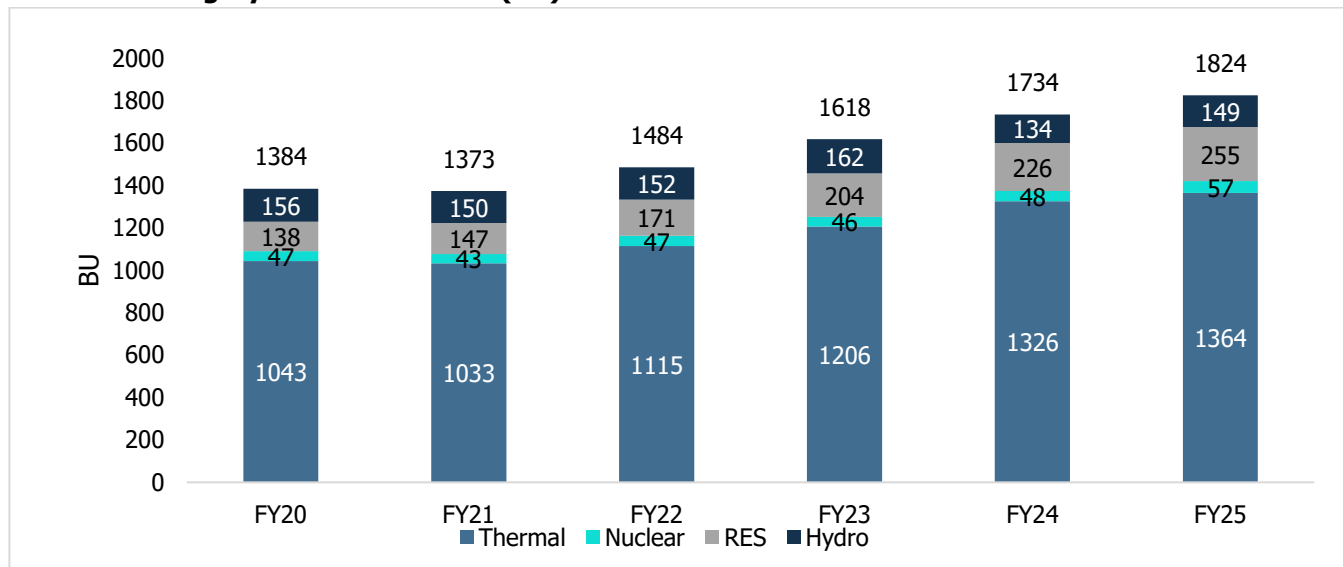
Steel plays a crucial role in various aspects of the consumer durables industry, providing structural support, durability, and functionality to a wide range of products. In consumer electronics, steel is used in the framework and chassis of devices like televisions, laptops, and audio systems, providing robustness and stability. For consumer appliances such as refrigerators, washing machines, and air conditioners, steel is utilized in the outer casings and internal components to ensure strength and longevity. In kitchen appliances like stoves, ovens, and microwaves, stainless steel is preferred for its heat and corrosion resistance, low-maintenance, high strength, and easy cleaning properties. Moreover, steel is integral in the manufacturing of small appliances and accessories, including parts like screws, hinges, and brackets that

contribute to the overall durability and reliability of these products. Thus, steel's versatility and strength make it indispensable in enhancing the performance and longevity of consumer durables across various categories.

4.5 Power

India's power sector is characterized by significant growth and evolving dynamics, with the country emerging as the world's third-largest energy producer and second-largest electricity consumer. As of FY25, India boasts an installed power generation capacity of 475 GW, primarily fuelled by conventional sources like coal, lignite, gas, diesel, and nuclear power, which comprise 54% of the capacity. However, renewable energy sources (RES) are gaining traction and now contribute to 36% of the installed capacity, with expectations of parity with conventional sources in the long term. Power generation has seen a notable increase, rising from 1,384 BU in FY20 to 1,824 BU in FY24, fuelled by a 3.4% year-on-year growth from conventional sources. Despite a temporary dip in demand during FY21 due to COVID-19 restrictions, India's electricity demand has rebounded, driven by industrial and economic recovery efforts, necessitating further expansion of the power infrastructure, including transmission capabilities to accommodate growing RES capacity and minimize transmission losses.

Chart 57: Category Wise Generation (BU)



Source: CEA

Note: RES consists of small hydro power, wind power, bio-power and solar power

Steel is indispensable in the power sector, serving critical roles across various stages of energy production and distribution. It is essential for transformers, where its magnetic properties enable efficient electricity transmission. Steel also forms the core of generators and electric motors, crucial for converting mechanical energy into electrical power. In infrastructure, steel reinforces power distribution pylons and cables, ensuring reliable electricity transmission over long distances. The advantages of steel in this sector are numerous: it contains recycled materials and is fully recyclable, providing sustainability benefits; it offers structural integrity and durability, ensuring long-term reliability; it is strong and cost-efficient compared to alternatives, while its precision and low environmental impact make it an ideal material for maintaining and enhancing energy infrastructure worldwide.

Driven by urbanisation, rural electrification, rising electricity demand, planned capacity additions of renewable and conventional power, and the government's vision for 24X7 reliable and affordable power, the power sector is expected to have a positive outlook. This growth in power demand will drive supply side further driving demand in the steel industry to close the deficit gap between power demand and supply.

4.5.1 Solar

India has a significant amount of solar energy potential. According to Ministry of New and Renewable Energy (MNRE), approximately 5,000 trillion kWh of energy is incident over India's geographical area each year incident over India's land area with most parts receiving 4-7 kWh per square meter per day. In the development of solar infrastructure, steel structures such as galvanized steel frames, mounting systems, and support poles are crucial for installing and securing solar photovoltaic (PV) panels. Solar PV power can be effectively harnessed, offering huge scalability across the country. It also enables power generation on a distributed basis and allows for rapid capacity addition with short lead times, supported by the durability and strength of steel-based mounting solutions.

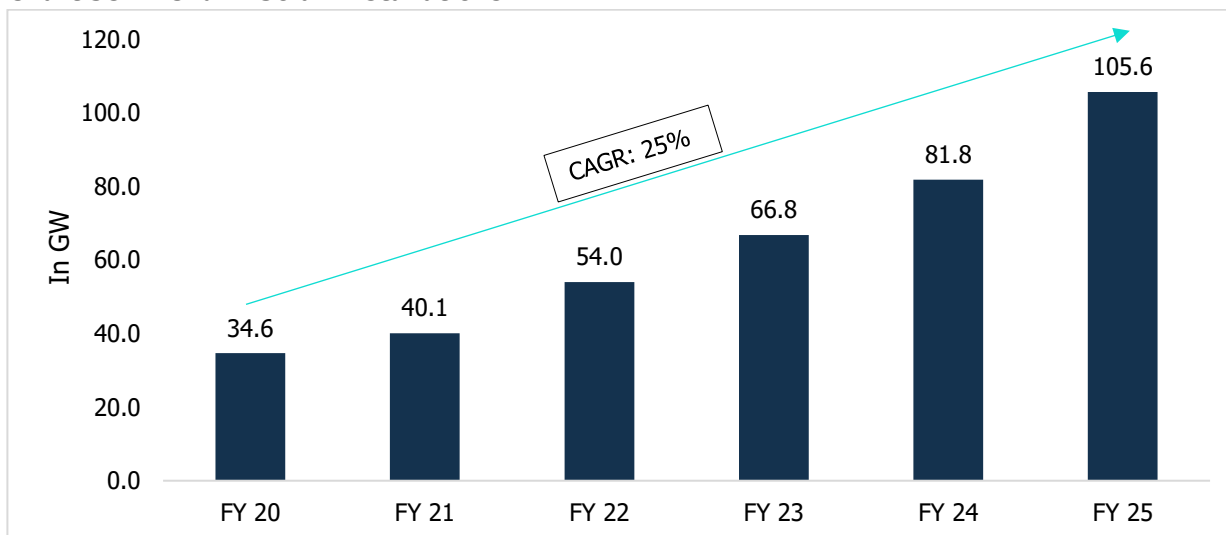
India's solar energy sector has emerged as a key participant in grid-connected power generation capacity over the past decade. It contributes significantly to the government's objective of sustainable growth while emerging as a key anchor in meeting the nation's energy demands and ensuring energy security. Due to its abundant availability, solar energy is the most secure among all sources from an energy security perspective.

According to MNRE, India has a solar potential of 749 GW, assuming that solar PV modules cover 3% of the waste land area. Comparatively, India had an installed capacity of 105.6 GW of as on March 2025.

Capacity Addition Trends:

Solar energy accounted for 61.29% of the renewable energy basket (excluding Hydro Power) as of March 2025. Over the previous years, the solar power industry has experienced strong growth. During FY20 to FY25, the segment added around 71 GW of capacity, registering a CAGR of 25%, albeit on a low base. A total of about 9.5 GW of solar capacity was added in Q4FY24. Solar capacity addition contributed to about 66% of the total renewable capacity added in the period. The surge was due to the rush to complete projects before the reinstatement of Approved List of Models and Manufacturers (ALMM) from April 1st, 2024, delayed projects getting commissioned and falling module prices. The increase in installed capacity is also the result of favorable market conditions and strategic policy interventions and technological innovations.

Chart 58: Trend in Solar Installations



Source: CareEdge Research, CEA

The capacity under construction or in advance stages of development that are likely to be commissioned during 2022-23 to 2026-27 is around 92.6 GW for Solar while the capacity under construction as on December 2024 is around 82,348 MW.

Table 14: Solar Capacity awarded and under construction as on April 2024

Sr. No	Scheme	Total Capacity Awarded (MW)	Under Construction Capacity (MW)
1	Solar Energy Corporation of India Limited	19,463	18,137
2	National Thermal Power Corporation Limited	523	499
3	Satluj Jal Vidyut Nigam Limited	3,503	3,353
4	National Hydro Power Corporation	440	440
5	Solar Projects in Solar Parks and Ultra Mega Renewable Energy Power projects	22,449	11,316
6	Other State Projects (including Assam, Delhi, Maharashtra, Chhattisgarh, Bihar, Madhya Pradesh, Uttar Pradesh, Andhra Pradesh, Rajasthan, Karnataka, and Gujarat)	23,628	22,530
	Total		56,275

Source: CEA, CareEdge Research

Some of the schemes initiated by Government to promote solar power are Jawaharlal Nehru National Solar Mission (JNNSM), The International Solar Alliance (ISA), Pradhan Mantri Kisan Urja Suraksha Evam Utthan Mahabhiyan (PM KUSUM), Rooftop solar power (RTS), Solar Parks programme, Solar Cities programme, Off-Grid Solar PV Applications Programme Phase III for Solar Street Lights, Solar Study Lamps, and Solar Power Packs etc.

Apart from these, the Cabinet Committee on Economic Affairs ("CCEA") has approved the MNRE's proposal for implementation of the Central PSU (Public Sector Undertaking) Scheme Phase-II for setting up 12,000 MW grid-connected solar PV power projects with VGF support of Rs. 858 million for self-use or use by Government or Government entities, of both Central and State Governments. Under this scheme, around 8.2 GW of projects have been awarded, as on 31st December 2022, out of which around 1.5 GW has been commissioned as on 31.12.2022 and balance are under implementation.

Overview of Captive Renewable Power Framework in Gujarat

Gujarat has established a clear and supportive framework for industries to develop captive solar and wind power plants, overseen primarily by the Gujarat Energy Development Agency (GEDA) and the Gujarat Electricity Regulatory Commission (GERC). Projects begin with provisional registration and grid evacuation permissions, progress through "in-principle" and commissioning approvals, and then operate under GERC's Green Energy Open Access Regulations. While captive generators are exempt from a formal generation licence under the Electricity Act, they must still meet grid-connectivity technical standards and secure environmental clearances. Open access regulations define wheeling, transmission and cross-subsidy charges, banking provisions for surplus energy, and ancillary fees. Recent amendments aim to streamline procedures, reduce lead times and incentivize on-site renewable deployment, supporting Gujarat's industrial decarbonization goals and cost-effective green steel manufacturing.

Registration and Approvals

Captive solar and wind projects must first obtain provisional and final registration certificates from GEDA under the Gujarat Renewable Energy Policy-2023, which validate site feasibility and grid evacuation plans with GETCO and the relevant DISCOMs. Applicants submit standard forms and technical data; upon in-principle approval GEDA issues a provisional registration, followed by a commissioning certificate once safety and technical inspections are cleared. This two-stage process ensures that only technically viable projects advance to commissioning, maintaining grid stability.

Statutory Approvals & Licenses

Under Section 9 of the Electricity Act 2003, captive generating plants using renewable sources are exempt from requiring a formal generation licence, provided they comply with the Central Electricity Authority's technical standards for grid connectivity. However, developers must secure environmental clearances from the Ministry of Environment, Forest and Climate Change (MoEFCC) and any necessary land-use permissions from state or local authorities. Projects sited near ecologically sensitive areas may also require additional forest or coastal zone clearances, depending on location.

Open Access Costs and Charges

GERC's Green Energy Open Access Regulations 2024 set out the charges for wheeling and transmission to recover grid usage costs, alongside a cross-subsidy surcharge levied to compensate DISCOMs for revenue impacts. Banking provisions allow renewable generators to inject surplus energy into the grid and draw it back later, subject to banking charges and a limit on carry-over days. Ancillary levies—including application, arrangement and inspection fees—are defined to cover administrative costs, while medium-, long- and short-term open access categories govern contract durations and corresponding fee structures. Recent amendments have extended interim banking charges and aimed to reduce procedural lead times, further promoting renewable captive power adoption in Gujarat.

4.6 Automotive

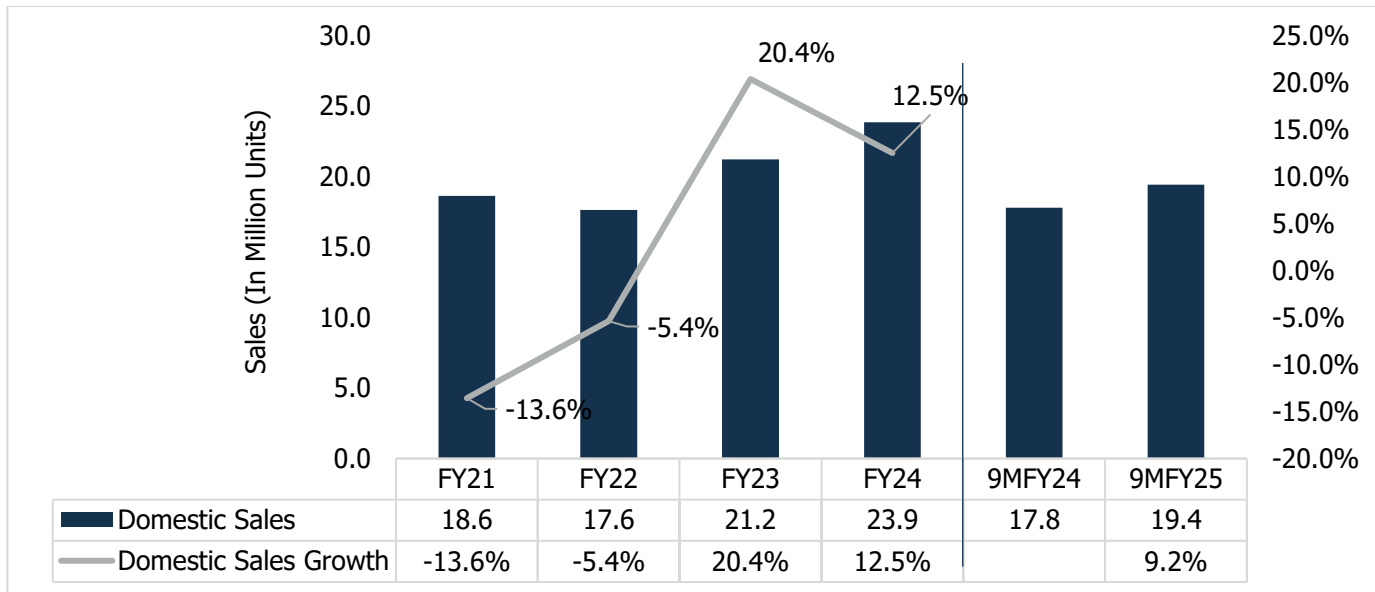
The automotive industry is considered to be one of the major drivers of economic growth due to its linkages with multiple industries. Its contribution to the GDP of India stands at around 7%. The growth of this sector benefits the commodity sector as vehicle manufacturing requires steel, aluminum, plastic, 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.

Steel is indispensable in the automotive industry for its versatility and durability. From stainless steel in high-temperature engine components to advanced high-strength steels for lightweight vehicle structures, and from high-carbon steel for robust chassis and frames to low-carbon steel for cost-effective smaller parts, steel's diverse types cater to various automotive needs. It ensures both safety and performance across critical components like car bodies, frames, suspension parts, and fasteners, highlighting its integral role in vehicle manufacturing worldwide.

India is the largest manufacturer of two-wheelers, three-wheelers, and tractors. Domestic automobile sales increased by 9.2% year-on-year (y-o-y) in 9MFY25. The growth in sales volume across segments was supported by healthy demand in the urban areas, increasing replacement demand, growing demand for utility vehicles in the passenger vehicle segment, and vehicle scrappage policy. However, exports increased by 17.9% in 9MFY25 due to ongoing driven by a rebound in key global markets, however it marks an improvement compared to 12.5% decline in 9MFY24.

All the categories saw a decent growth owing to high growth base of 9MFY25, with two-wheelers at 12%, passenger vehicles at 2% y-o-y growth in domestic sales. Commercial vehicles on the other hand shrink by 2% in domestic sales, whereas 3-wheelers sales grew at 6%. The automobile exports have increased at a CAGR of 8.6% from FY21 to FY24.

On the other hand, exports increased by 17.9% y-o-y in 9MFY25 driven by a rebound in key global markets like Brazil, Columbia, Nepal, Mexico, and Guatemala. Barring the three-wheeler segment, which shrink by 0.76%, the exports for passenger vehicles, two-wheelers, and commercial vehicles increased by 14%, 20%, and 13% respectively. Accordingly, exports are expected to remain robust in FY25 due to recovery across key export markets.

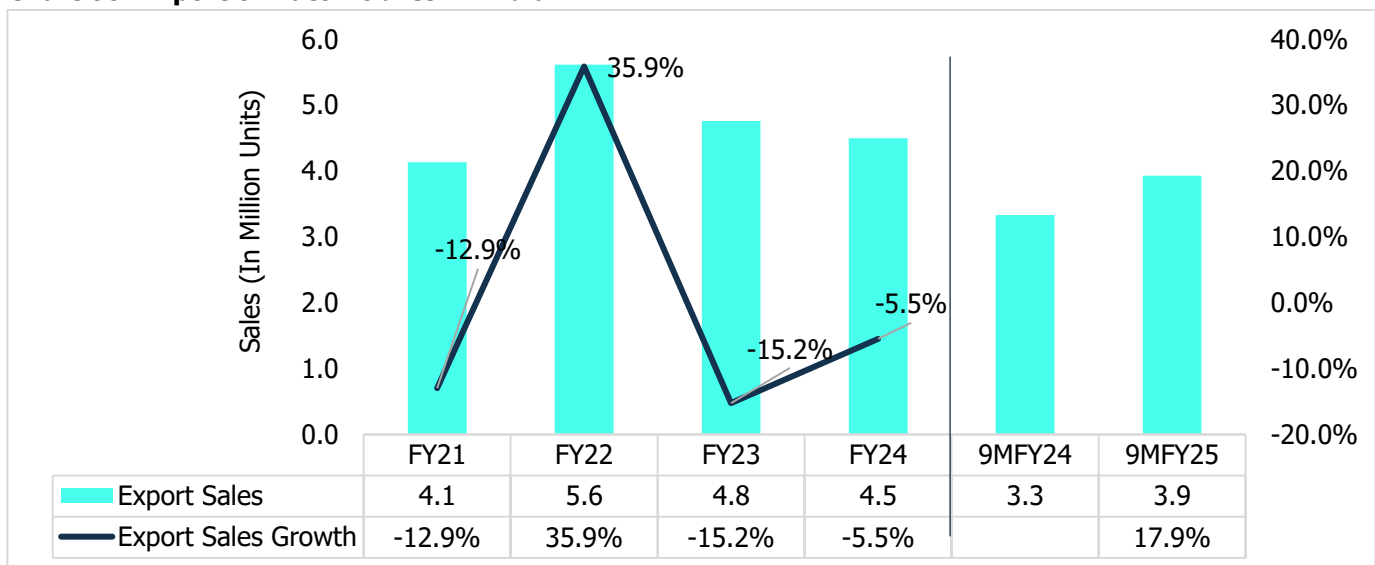
Chart 59: Domestic Sales of Automobiles in India


Source: Society of India Automobile Manufacturers (SIAM)

Note: Tractors sales is not included in domestic sales graph

9MFY24 refers to April 2023-December 2023

9MFY25 refers to April 2024-December 2024

Chart 60: Export of Automobiles in India


Source: Society of India Automobile Manufacturers (SIAM)

Note: Tractors sales is not included in exports graph

9MFY24 refers to April 2023-December 2023

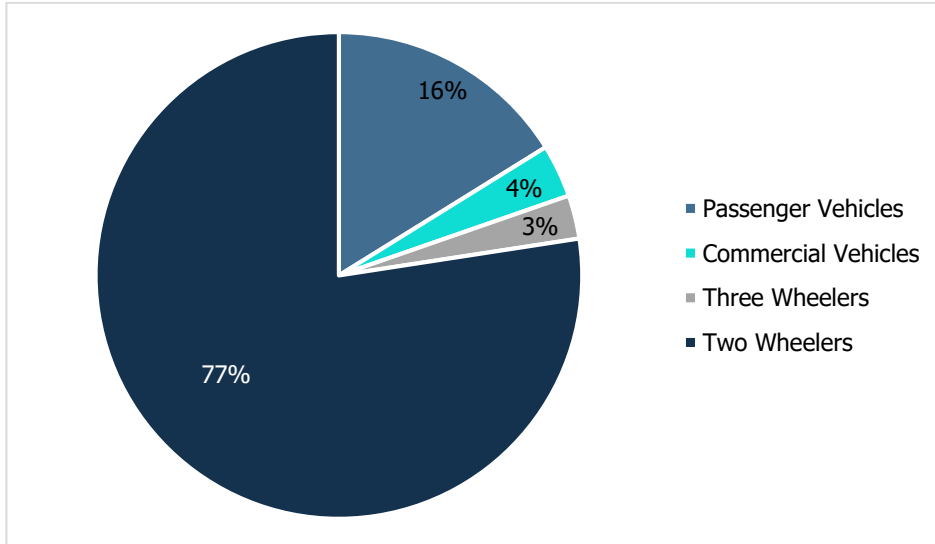
9MFY25 refers to April 2024-December 2024

India is expected to be the third-largest in terms of volume by FY26. 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, favorable demographics with a large proportion of the young population, expanding R&D hub, and government support.

The Indian automobile market can be categorized 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 16% respectively of total automobile sales in 9MFY25. The share of various segments in automobile sales in India in 9MFY25 is depicted below:

Chart 61: Share of different categories in Automobile Domestic Sales (9MFY25)



Source: SIAM

Note: 9MFY25 refers to April 2024-December 2024

Besides growth prospects, India's favorable Foreign Direct Investment (FDI) policy with 100% FDI through automatic route, relatively 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.

5 Outlook on the Steel Industry

India's steel consumption is set to achieve 8% year-on-year growth in FY26, says CareEdge Research. This comes after a good show in FY25, when consumption achieved double-digit growth for the fourth straight year, driven by red-hot activity in the construction, real estate, and automobile industries.

Looking forward, steel demand momentum is tightly linked with underlying end-user industries—construction, real estate, railways, roads, capital goods, and consumer durables. Infrastructure investments led by the government are also supporting demand.

Union Budget 2025–26 allocations also reflect this trend:

- Rs. 305 crore to the PLI scheme for Specialty Steel, a sharp increase compared to previous years.
- Rs. 11.1 lakh crore for overall capital spending, up 0.9% from the last Rs. 11.2 lakh crore.
- A Rs. 2.5 lakh crore capital expenditure for the Indian Railways.
- An unprecedented Rs. 78,126 crore under PMAY, an increase from Rs. 47,596 crore, for 2 crore new houses under PMAY-Grameen in the next 5 years.
- The Jal Jeevan Mission received its allocation increased to Rs. 67,000 crore, almost 3x the amount allocated last year of Rs. 22,694 crore.

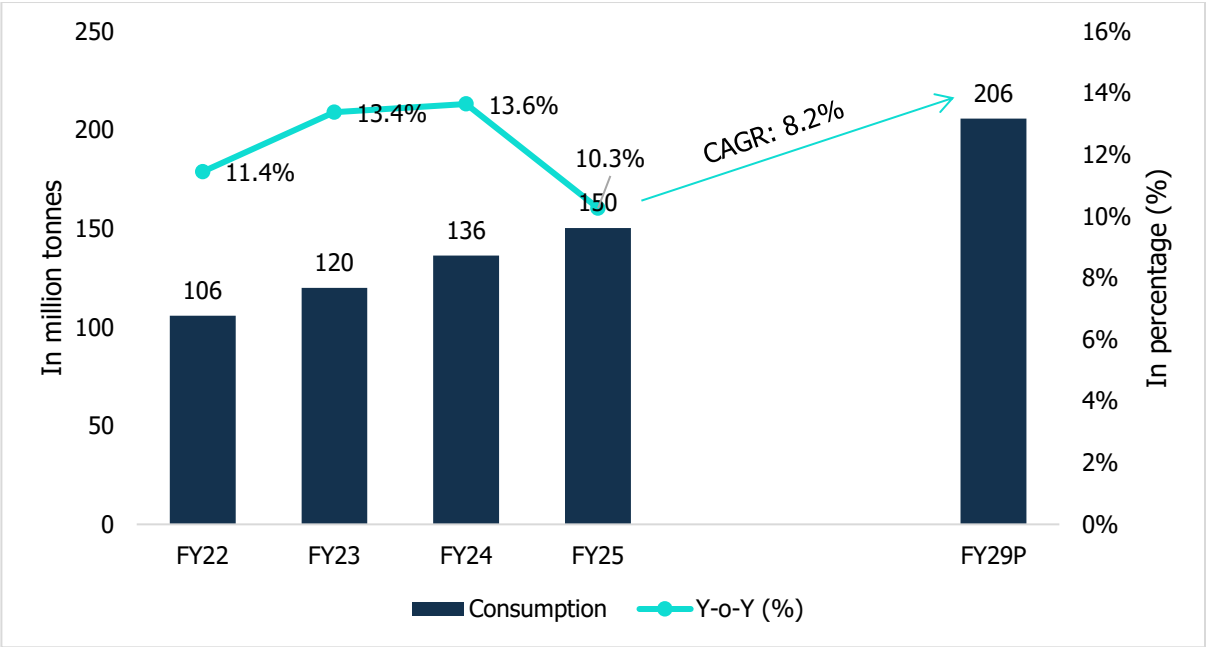
Other drivers of growth are airport expansion under the UDAN scheme, sustained investments in metro rail networks, and urban infrastructure development—all adding to increasing steel demand.

Going forward, government initiatives such as Pradhan Mantri Awas Yojana (PMAY) to provide affordable housing, Sagarmala Programme to enhance port connectivity and overall coastal infrastructure, Bharatmala Pariyojana to improve roads and highway network, Atal Mission for Rejuvenation and Urban Transformation (AMRUT) to develop water infrastructure, National Industrial Corridor Development Programme to develop smart cities, National capital goods policy to promote manufacturing of capital goods, The Automotive Mission Plan 2026, Production Linked Incentive (PLI) scheme to encourage manufacturing and reduce import substitution of steel, etc will supplement the steel demand in coming years. Significant infrastructure developments and stable growth from auto sector is expected to bolster the steel industry in the medium to long term. Further, the steel demand is projected to grow at a CAGR of about 8.2% over the forecast period FY25-FY29, surpassing more than 200 million tonnes of finished steel consumption.

While the domestic steel market drivers show good momentum, globally the steel market is navigating challenges due to shifting trade policies, particularly involving U.S.-China tensions and India's potential safeguard duties. The following scenarios explore the possible impacts of these developments on India's steel exports and market dynamics which may impact the above mentioned outlook for the industry.

India has proposed retaliatory tariffs on select U.S. products in response to the United States' reimposition of 25% tariffs on steel and aluminium imports, now increased to 50% effective June 4. Concurrently, India has imposed a 12% safeguard duty on certain steel imports for 200 days to protect domestic producers from a surge in low-cost imports, primarily from China, Japan, and South Korea. This measure has led to a rise in domestic steel prices, benefiting major producers like Tata Steel. However, the increased steel prices may raise input costs for downstream industries, including construction equipment manufacturers and MSMEs, potentially affecting their competitiveness. These developments could influence ongoing trade negotiations between India and the U.S., as both countries seek to balance domestic economic interests with international trade relations.

Chart 62: Finished Steel Demand Forecast in India



Source: Industry sources, CareEdge Research

6 Key Demand Drivers

- **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.

The government has expanded the National Infrastructure Policy (NIP) to over 9,000 projects from 6,835 projects and announced plans for the National Monetization Pipeline (NMP) and the Development Finance Institution (DFI) to improve the financing of infrastructure projects. The NIP covering rural and urban infrastructure, entails investments to the tune of Rs. 111 lakh crores, which is being undertaken by the central government, state governments, and the private sector during FY20-25. Moreover, the alignment of PM Gati Shakti National Master Plan and National Infrastructure Policy (NIP) will aid in debottlenecking hurdles for faster execution of projects.

- **Development of the Natural Gas Sector**

With the government's focus on increasing natural gas consumption, massive investments are expected in developing the natural gas infrastructure. Many infrastructural developments are in progress including expansion of LNG import capacity, addition of new gas pipelines, and development of city gas distribution networks. As of March 2025, the total operational length of the national gas pipeline network is 25,429 km whereas 10,459 km are under construction. The government's favourable policies will help drive the gas demand growth over the next decade, and this, in turn, will boost the demand for steel.

The natural gas sector, with the announcement of the 'One Nation One Gas Grid' initiative, will attract new investments. It is expected that the gas pipeline network which has already crossed 23,300 km as of December 2023, will reach 35,000 km in the coming 4-5 years. Accordingly, the increasing length of natural gas pipelines by 2024-2025 is expected to contribute toward the expansion of steel pipe production. The efforts of moving towards a gas-based economy and the implementation of city gas distribution networks are expected to augment the demand for pipes going forward. Besides, the increasing number of CNG stations (8,108 as of April 2025 (Provisional)), bio-refineries, bio plants, etc., will support the infrastructure for gas.

- **Stable Growth in the Automotive Industry**

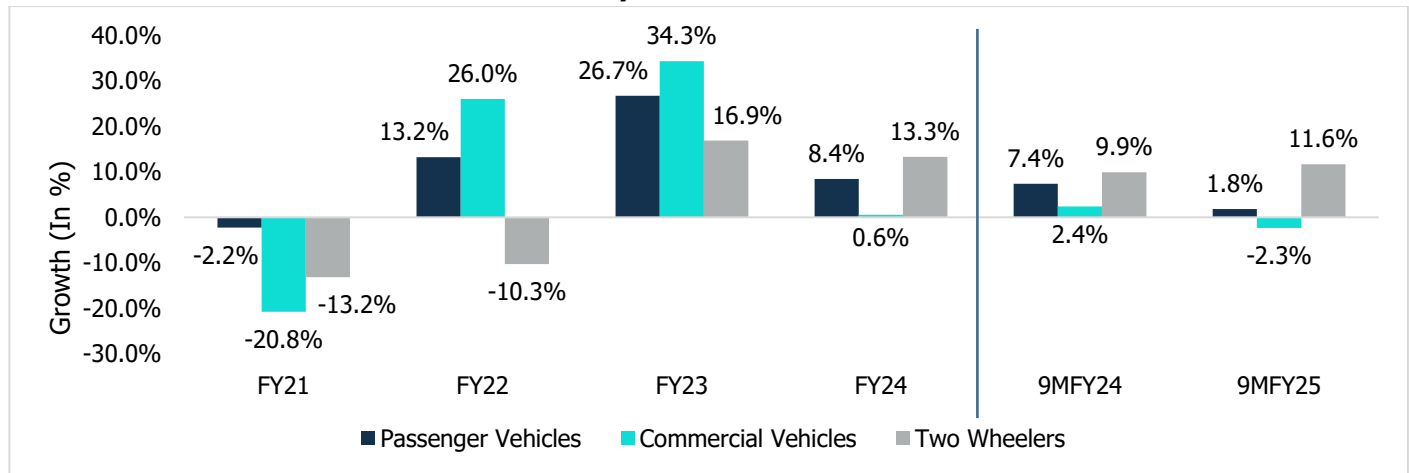
Steel products are used in the main structure of the vehicle known as the chassis. They are also used in other automotive components such as control shaft tube stack pipes, shock absorbers, exhaust pipes, sway bars, other vehicle accessories (side railings, bumpers, and grill guards), etc.

India was the third-largest automobile market in 2022. After witnessing a de-growth due to the pandemic, the automobile sector began to recover on account of a revival in economic activities. For instance, domestic automobile sales grew by 20% y-o-y in FY23, the first full year without any impact of the pandemic after a gap of two years. The growth in sales volume across segments was supported by healthy demand in the urban areas, increasing replacement demand, growing demand for utility vehicles in the passenger vehicle segment, vehicle scrappage policy, and higher infrastructure spending.

Despite inflationary pressure throughout the year, preponing purchases before the implementation of new fuel emission norms (BS-VI Phase -II), easing of semiconductor chip supply, and pent-up demand supported the sales growth. During

FY23, all the categories saw double-digit growth, with two-wheelers at 17%, passenger vehicles at 27%, commercial vehicles at 34%, tractors at 12%, and 3-wheelers at 87% y-o-y growth in domestic sales.

Chart 63: Trend in Indian Automobile Industry Domestic Sales Growth



Source: CareEdge Research, SIAM, CMIE

During FY24, growth in domestic sales growth for two-wheelers was 13.3%. For passenger and commercial vehicles, it was 8.4% and 0.6% in FY24 respectively. Total domestic sales (excluding tractors) grew by 12.5% in FY24. The growth momentum is expected to continue after the robust demand (20% sales growth) seen in FY23, supported by favourable demand sentiments and various government initiatives for the rural and urban development.

The domestic automobile sales grew by 9% on a year-on-year (y-o-y) basis in 9MFY25, due to demand remaining strong despite a tough business environment. The growth in sales volume across segments was supported by healthy demand in the urban areas, increasing replacement demand, growing demand for utility vehicles in the passenger vehicle segment, vehicle scrappage policy, and higher infrastructure spending.

Furthermore, the automobile sector growth will be supported by electric vehicles (EVs) due to the increasing shift toward electric vehicles. In September 2024, the government approved the PM E-Drive scheme with a budget of Rs.10,900 crore over two years, providing Rs.3,679 crore in subsidies to incentivize E2Ws, E3Ws, e-ambulances, e-trucks, and other emerging EVs. The scheme aims to support 24.79 lakh E2Ws, 3.16 lakh E3Ws, and 14,028 e-buses, while also allocating Rs.780 crore to enhance vehicle testing infrastructure. The scheme proposes the installation of 1800 fast chargers for e-buses. A notable feature is the scheme's promotion of electric ambulances, marking a key step in integrating EVs into the healthcare sector. The total fund support from Ministry of Heavy Industries (MHI) for E-Ambulance and E-Trucks is Rs. 500 crores each and the maximum number of vehicles to be supported for each of the category will be notified later on.

• Growing Infrastructure for Railways

As the infrastructure expenditure to GDP multiplier is estimated to be 2.5-3.5x, the government has identified infrastructure development as a key focus area to become a USD 5 trillion economy by 2026-27. To achieve this objective, the government launched the National Infrastructure Pipeline (NIP) in 2020, which identified a group of social and economic infrastructure projects to be implemented during FY20-25. The expected CapEx under NIP is USD 1.4 trillion with railways having an allocation of 12%. Railways are one of the key enablers for economic growth and an

investment of USD 750 billion was suggested by the government in the Union Budget 2019-20 to improve the railway infrastructure over 2018-2030.

Accordingly, the budgetary allocation to Indian Railways has consistently been on the rise. The CapEx for Indian Railways has increased substantially from Rs. 1.48 lakh crore during FY20 to Rs. 2.65 lakh crore allocated in the 2025-26 budget.

- **Expansion of Metro Rail**

As of August, 2024, about 945 Km of metro lines have been operationalized across 21 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 which are suitable for smaller cities with lower peak traffic. Currently, approximately 2,500 coaches have been deployed in the operational metro lines roughly costing INR 325 Billion. 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 significant increase.

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

Rising Urbanization

Rapid urbanization bodes well for the sector. India is the second-largest urban system in the world. Indian cities are home to about 11% of the total global urban population.

According to the Ministry of Health and Family Welfare (MoHFW), 2019, urban growth is expected to contribute to around 73% of the total population increase by 2036. Further, as per the Census of India 2011, India has an urbanization level of 31.1%, which has only increased over the years. Earlier estimations indicate that about 416 million people will be added as urban dwellers in India between 2018 and 2050, according to a United Nations study dated 2018. Moreover, India will be 50% urban by 2050, according to UN-Habitat, 2017.

Therefore, the growing urbanization will lead to increased demand for tubular steel structures as it involves usage in the construction of buildings, pipes for water supply, improved drainage systems, waste treatment plants, elevators, etc.

Growing Purchasing Power

The rising disposable income, which has grown at a CAGR of 11.3% between the period FY14 to FY25, is expected to lead to increased demand for residential real estate in India as more and more people are able to afford real estate purchases. This will lead to more consumption of steel in the country and help the steel manufacturers to produce more steel, thus improving the demand in the steel industry.

- **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 discussed earlier in the 2nd chapter.

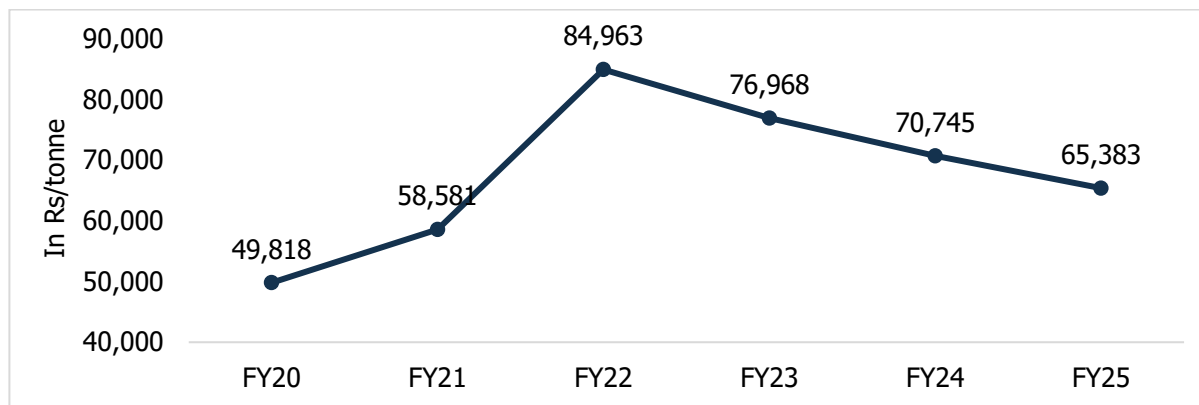
7 Challenges Faced by the Industry

• Volatility in Prices of Raw Materials and Finished goods

Raw materials such as iron ore, coal, steel scrap, etc., are used in making TMT bars. The prices of steel have been volatile due to geopolitical tensions, weak international demand, and fluctuation in raw material costs, such as coking coal as discussed in earlier sections.

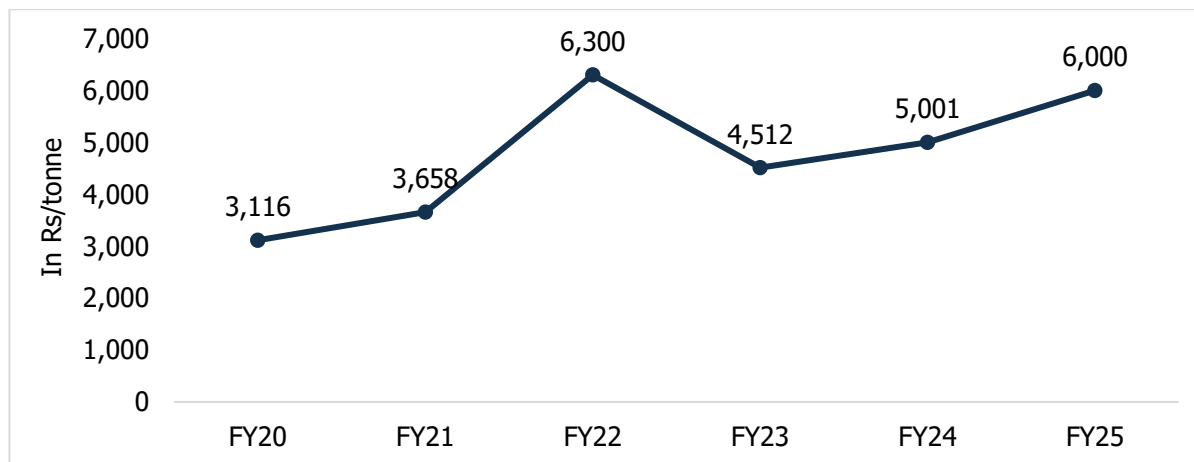
Further, volatility in steel prices could impact the input cost of steel tubes and pipe manufacturers. In case of a sharp correction in steel prices, players need to sell high-cost inventory at lower prices which temporarily impacts their margin. Further, if the prices remain high over a long period, the procurement from industries such as water infra, irrigation, etc., gets postponed, thereby impacting the demand.

Chart 64: Domestic Steel Prices

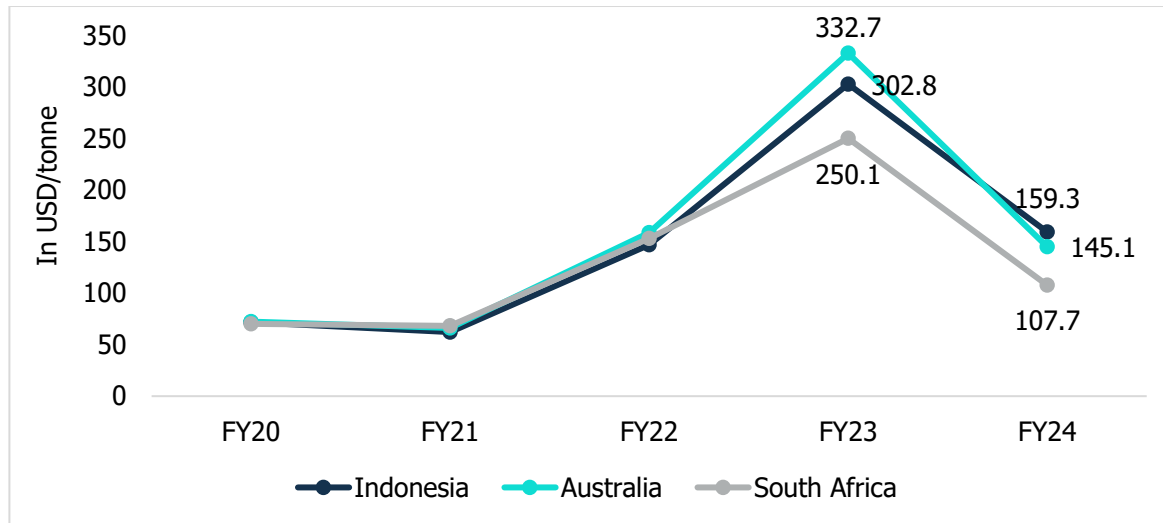


Source: CMIE

Chart 65: Iron Ore Prices



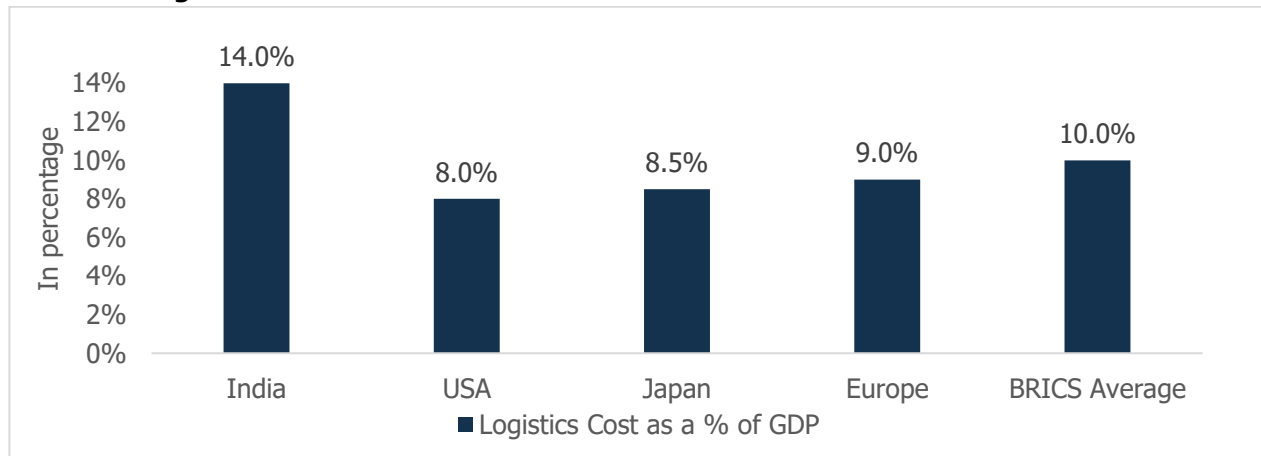
Source: CMIE

Chart 66: Coal Prices

Source: CMIE

- **High Logistics Costs**

Logistics costs in India are significantly higher compared to global peers and account for about 14% of the GDP. The chart below shows the comparison of the share of logistics cost in GDP of India vs. developed economies.

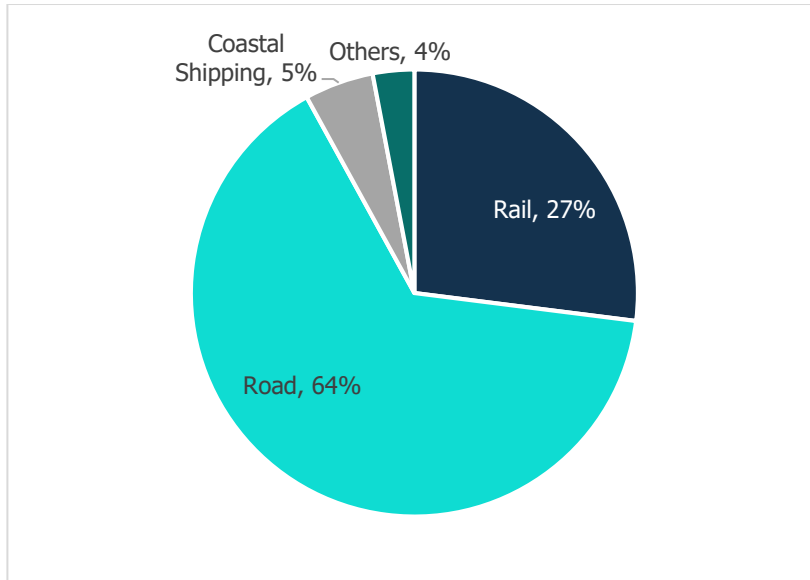
Chart 67: Logistics Cost as a Share of GDP

Source: Ministry of Railways, Report of the Committee on Mission 3000 million tonnes, Industry Sources

The logistics industry connects other industries to domestic and international markets. It affects the efficiency of the manufacturing global value chains and the competitiveness of a country's economy within these value chains.

Some of the reasons that can be attributed to the higher cost of logistics in India are:

- **Inter-Modal Mix is Skewed toward Road Transport:** The capacity of Indian railways is constrained and there are various challenges like rake availability and delays in rake placements. Road transport is preferred compared to railways despite it being a cheaper alternative. Road transport currently has a share of about 64% in the freight movement in the country.

Chart 68: Inter-modal Mix for Freight Movement in India as of FY22


Source: National Railway Plan

- **Inefficient Transport Vehicles:** India has a fleet of small and inefficient trucks. The highest capacity of trucks in India is between 16 tonnes and 32 tonnes. Whereas in countries like China, the trucks have 26-40T capacity.
- **Road Infrastructure Constraints:** Underdeveloped road infrastructure leads to inefficient movement of freight. Additionally, there is a lack of 4/6 lane roads, which further results in congestion across the key routes leading to an increase in costs.

The high cost of logistics adversely affects the global competitiveness of Indian steel products.

• **Global Slowdown**

Global growth, which reached 3.5% in CY23, is estimated to stabilize at 3.3% for CY24 and projected to decrease at 2.8% for CY25. Global trade is expected to be disrupted by new US tariffs and countermeasures from trading partners, leading to historically high tariff rates and negatively impacting economic growth projections. The global landscape is expected to change as countries rethink their priorities and policies in response to these new developments. Central banks priority will be to adjust policies, while smart fiscal planning and reforms are key to handling debt and reducing global inequalities. The economic growth of key export destinations of finished steel such as Italy, Belgium, and Spain are expected to grow at 0.44%, 0.84%, and 2.5% in CY25 as compared to 0.73%, 0.9%, and 3.2% in CY24, respectively.

• **Decarbonisation and Environmental Concerns**

The Indian steel industry is responsible for roughly 12% of India's carbon dioxide (CO₂) emissions, surpassing the global average of 7-9%². The emission intensity in the Indian steel industry stands at 2.55 T/TCS³, while the global average emission intensity is 1.91 T/TCS.

India has committed to decrease the emissions intensity of its Gross Domestic Product (GDP) by 45% by 2030, compared to 2005 levels and achieve net zero by 2070. To support this target, the Ministry of Steel has committed to achieving

²World Steel Association

³ Tonne of CO₂ equivalent per tonne of crude steel

Net Zero by 2070 and has taken a medium-term target to reduce the emission intensity of the steel sector to 2.4 T/TCS by 2030.

A significant initiative in this direction is the adoption of green hydrogen in steel manufacturing. Under the National Green Hydrogen Mission, launched in January 2023 with an outlay of Rs. 19,744 crore, the Ministry of Steel has been allocated Rs. 455 crore for implementing pilot projects in the steel sector until FY30. These projects explore three approaches: producing Direct Reduced Iron (DRI) using 100% hydrogen in vertical shafts, injecting hydrogen into existing blast furnaces to reduce coal/coke consumption, and partially substituting natural gas with hydrogen in vertical shaft-based DRI units. These initiatives aim to demonstrate the technical feasibility and economic viability of green hydrogen-based steel production, contributing to the sector's decarbonization goals.

Additionally, one of the ongoing challenges in reducing emissions is the handling and disposal of steel slags. Improper slag management not only contributes to environmental degradation but also limits opportunities for recycling and reuse in construction or cement production. Efficient slag handling requires investment in advanced processing technologies and infrastructure, which remains a hurdle for many domestic players, especially smaller manufacturers.

Further, emission reduction is vital for the industry to maintain its competitiveness in export markets since they are becoming increasingly environment-conscious. The recent implementation of the Carbon Border Adjustment Mechanism (CBAM) – a tariff on carbon-intensive imports, aimed at preventing carbon leakage commenced in October 2023 by the European Union (EU), is likely to impact the competitiveness in the global trade market. The first phase of CBAM will cover the iron & steel, cement, aluminium, fertilizer, electricity, and hydrogen sectors and the first reporting period for importers was 31st January 2024. This phase, running until the end of 2025, requires importers to report the embedded greenhouse gas (GHG) emissions of certain carbon-intensive goods without incurring any financial adjustments. The aim is to provide a learning period for all stakeholders and to refine the methodology for the definitive phase starting in 2026.

8 SWOT Analysis of Steel Industry India

Strength	Weakness
- India's steel consumption is driven by infrastructure projects like Bharatmala, Sagarmala, and the National Infrastructure Pipeline (NIP). - Healthy demand from end-user segments such as real estate, water infrastructure, automobiles, railways, capital goods, etc. - Rich reserves of iron ore and coal support domestic steel production. - Availability of skilled labor in manufacturing and engineering. - Partially self-sufficient sector as far as power is concerned, as major industry players use captive power for production.	- Challenges in logistics and transportation infrastructure, including high logistics cost. - High energy consumption in steel production and rising environmental concerns over its significant carbon emissions. - Limited adoption of advanced technologies and automation. - Dependency on imports for raw materials especially, iron scrap.
Opportunity	Threat
- Increasing global demand presents export opportunities for Indian steel. - Continued investments in infrastructure projects drive steel demand. - Focus on research and development for process improvements. - Government focus on expanding the natural gas infrastructure. - Growing global emphasis on sustainability presents strong export potential for India's emerging green steel industry. - Expansion of water infrastructure in India as the majority of household's lack access to safe water daily. - Significant capacity additions in power generation are expected over the next 7-8 years, including renewable resources. - Initiatives like Production-Linked Incentive (PLI) schemes to boost manufacturing and export competitiveness. - Government initiatives such as 'One Nation, One Gas Grid', 'Jal Jeevan Mission' and 'Pradhan Mantri Awas Yojana'.	- Competition from global steel producers with lower costs and subsidies. - Fluctuations in global iron ore, coal, and steel prices could affect the profitability of the business. - Compliance with stringent environmental regulations. - Volatility in U.S. trade policies and tariffs may pose risk to Indian steel exports and global market access. - Recession fears and weak global demand may have an impact on export growth.

In conclusion, India's steel industry exhibits significant strengths in abundant resources, growing domestic demand fueled by infrastructure projects, and government support through initiatives like Production-Linked Incentives (PLI) and the National Steel Policy. However, challenges such as infrastructure bottlenecks, environmental impact, and global competition remain pertinent. With a current crude steel production of approximately 149.6 million tonnes from Jan 2024 to Dec 2024 and government targets to increase per capita steel consumption from 74 kg to 160 kg by 2030. India's steel sector is poised for growth. Future plans emphasize infrastructure investments, technology upgrades, and fostering innovation to sustain this momentum.

9 Key Threats and Challenges Related to the Issuer Company and its products

- **Overcapacity and Competitive Pressure in Gujarat's Steel Sector:** Gujarat has emerged as a significant hub for steel production in India, with 68 new steel units established over the past five years, the highest among all states. This rapid expansion has led to overcapacity, intensifying competition among producers. The influx of cheaper imported steel, particularly from China, has further exacerbated the situation, posing challenges to local manufacturers.
- **Competitive Pressure due to Import dumping:** The Indian steel industry is facing significant challenges due to the influx of low-cost steel imports, particularly from countries like China. These imports, often priced below production costs—a practice known as dumping—have disrupted the domestic market, leading to decreased prices and profitability for local producers. In response, the Indian government has implemented measures such as a temporary 12% safeguard tariff on certain steel imports to protect the domestic industry and ensure fair competition.
- **Fluctuating Raw Material Prices:** The cost of essential inputs like iron ore and scrap metal is subject to global market volatility, impacting production costs and pricing strategies.
- **Energy-Intensive Operations:** Manufacturing processes, especially for sponge iron and billets, require substantial energy. Rising energy costs can affect profitability and competitiveness. This is mitigated by company's investment in captive power plant and also renewable energy.
- **Stringent Quality Standards:** Adhering to national and international quality certifications like BIS, ISO, etc. demands continuous investment in quality control and compliance mechanisms.
- **Market Competition:** The steel industry is highly competitive, with numerous players offering similar products, necessitating differentiation through quality, pricing, or service.
- **Technological Advancements:** Keeping pace with technological innovations is essential to improve efficiency and meet evolving customer demands. Delays in adoption can lead to obsolescence.
- **Logistical Challenges:** Efficient distribution is crucial. Any disruptions in transportation or supply chain can lead to delays and increased costs. Additionally, the company might face pricing disadvantage when transporting products out of Gujarat.
- **Environmental Regulations:** Increasing emphasis on sustainable and eco-friendly practices requires investment in cleaner technologies and processes to meet environmental standards.
- **Economic Fluctuations:** Economic downturns or slowdowns in the construction and infrastructure sectors can reduce demand for TMT bars and related products.

10 Regulatory Policies/ Government Initiatives

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

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

- Domestically Manufactured Iron & Steel Products (DMI&SP) are those iron and steel products manufactured by entities registered and established in India, including in Special Economic Zones (SEZs). In addition, such products shall meet the criteria of domestic minimum value-addition.
- On 8th May 2017, the policy was approved by the government which mandates to provide preference to DMI&SP, in Government Procurement in which a minimum value addition of 15% - 50% has taken place domestically. This has been revised to 20% - 50% in the revised policy dated 31 December 2020.
- As on March 2024, The Union Cabinet has extended the policy by 6 months with effect from May 29, 2024.
- The policy is intended to encourage domestic production and consumption of steel and import substitution and promote growth in the industry.

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.
- This measure is taken to enhance the availability of quality steel to the users. According to the Order, it is ensured that only quality steel conforming to the relevant BIS standards is made available to the end users. BIS (Bureau of Indian Standards) Certification is a quality assurance process that ensures products meet Indian standards, verifying their quality, safety, and reliability. While BIS certification is voluntary for many products, it is mandatory for specific items, including certain steel products like TMT bars, to ensure public safety and compliance with Indian Standards. Certified products bear the ISI mark, indicating adherence to prescribed quality standards. The certification is typically valid for one to two years and can be renewed if the product and standards remain unchanged.
- 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 to increase 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 15: Target Set Under the NSP, 2017

Parameter	Projections (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

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 specialty 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 specialty 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 a growth in the exports.
- Through this scheme, the production of specialty 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 specialty 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 specialty steel. This drive for self-reliance supports sustained growth in the industry, benefiting both businesses and the broader economy.

India's Carbon Emission Reduction Targets:

During COP29, India reaffirmed its strong commitment to tackling climate change, balancing rapid development with the need for sustainability. The country emphasized the critical role of climate finance in supporting its ambitious targets, while highlighting the significant challenges posed by its growing population and dependence on coal. India's climate commitments focus on both enhancing renewable energy capacity and reducing emissions intensity, demonstrating a comprehensive approach to climate resilience.

India's major climate commitments include:

- a. Achieving 500 GW of non-fossil energy capacity by 2030, a major step toward reducing reliance on fossil fuels.
- b. Reducing carbon emissions intensity by 33-35% from 2005 levels by 2030, aligning with the country's goal of decoupling economic growth from environmental degradation.
- c. Targeting net-zero emissions by 2070, emphasizing long-term commitment despite immediate financial and technological challenges.

These commitments showcase India's determination to transition to a cleaner economy, while also underscoring the need for international support to meet these ambitious targets.

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

• Pradhan Mantri Awas Yojana (PMAY)

The Pradhan Mantri Awas Yojana (PMAY) was introduced as part of the 'Housing for All' initiative with the objective of facilitating the provision of affordable housing at a reduced cost by the deadline of 2029. It offers various forms of support to different income groups, including interest subsidies on home loans, financial assistance for self-construction, public-private partnerships for affordable housing projects, and slum redevelopment initiatives.

The scheme also promotes the use of innovative construction technologies and the development of affordable rental housing complexes. PMAY embodies the government's commitment to ensuring housing for all and improving living conditions for people across the country.

In the Union Budget 2025-26, the government allocated Rs. 78,126 crores towards this scheme. Under the PMAY-Urban scheme, pucca houses are provided to individuals falling within the Economically Weaker Sections/Low Income Group

(EWS/LIG) and Middle-Income Group (MIG) categories, including slum dwellers. 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 main objectives of the programme are:

- To provide FHTC (Functional Household Tap Connection) to every rural household
- To prioritize the provision of FHTCs in quality-affected areas, villages in drought-prone and desert areas, Sansad Adarsh Gram Yojana (SAGY) villages, etc.
- To provide functional tap connection to Schools, Anganwadi centres, GP buildings, Health centres, wellness centres and community buildings
- To monitor the functionality of tap connections
- To promote and ensure voluntary ownership among the local community by way of contribution in cash, kind and/or labour, and voluntary labour (shramdaan)
- To assist in ensuring the sustainability of the water supply system, i.e., water source, water supply infrastructure, and funds for regular O&M
- To empower and develop human resources in the sector such that the demands of construction, plumbing, electrical, water quality management, water treatment, catchment protection, O&M, etc., are taken care of in short and long-term
- To bring awareness on various aspects and significance of safe drinking water and involvement of stakeholders in a manner that makes water everyone's business

The functional household tap connections as of 29th April 2025 were about 15.59 crore. This programme will further enhance the water infrastructure and aid in the demand for pipes in the country.

The budgetary allocation trend toward this scheme has been increasing over the years and this government's push toward cleanliness and sanitation will boost the water infrastructure in the country.

- **One Nation, One Gas Grid Project**

The main objective of the Indian government to focus on developing the natural gas infrastructure in the country and to implement the "One Nation One Gas Grid" is to increase the share of natural gas in the primary energy mix. As of 31st December 2024, the Petroleum and Natural Gas Regulatory Board (PNGRB) has authorized a 33,475 km natural gas pipeline network for the development of pipelines across the country. Out of this, 25,124 km of natural gas pipelines were operational and a total of 10,676 km length of pipelines were under construction. The projects are being undertaken as per the timelines approved by PNGRB.

11 Entry Barriers and Moats in the Sector

- **High Capital Investment & Economies of Scale:** Establishing a steel manufacturing plant involves significant capital expenditure in machinery, technology, and infrastructure. Large, established companies benefit from economies of scale, allowing them to reduce per-unit production costs, making it difficult for smaller or new players to compete on pricing and efficiency.
- **Access to Raw Materials & Strong Supplier Relationships:** Steel production depends on securing a steady and cost-effective supply of raw materials, such as iron ore and coal. Large steel producers often have long-term contracts and strong relationships with suppliers, ensuring reliable access to these critical resources. New entrants would face challenges in establishing similar supplier networks, which could impact their competitiveness.
- **Technological Complexity & Innovation:** Steel manufacturing requires sophisticated technologies, such as blast furnaces, electric arc furnaces, and specialized processes like Thermex quenching for high-quality TMT bars. These technologies are often patented or developed over many years, and the capital investment required for innovation in these areas creates a technological moat for established players.
- **Brand Loyalty & Market Reputation:** Several companies have established strong reputations for manufacturing high-quality steel products that are widely trusted by infrastructure developers and large-scale construction projects. This brand loyalty, coupled with established relationships, provides a significant competitive advantage. New entrants would need substantial time and effort to build similar credibility.
- **Regulatory Compliance & Sustainability:** Steel production is subject to strict environmental regulations concerning emissions, water usage, and waste management. Established companies have already invested in systems to meet these requirements, giving them an advantage over new entrants who would need to make large investments to comply with these standards. Additionally, adopting sustainable practices like reducing carbon emissions creates further entry barriers.
- **Financial Strength & Market Resilience:** Many established steel producers have strong balance sheets and access to favorable financing due to their market track record. This financial strength allows them to invest in expanding production capacity, improving technology, and navigating economic downturns. New entrants would struggle to secure the same level of financial backing, making it harder for them to compete on long-term strategies.

12 Competitive Landscape

12.1 Overview of Peer Companies

The following companies have been selected for peer benchmarking as they are comparable on the basis of their business operations and revenue performance.

German Green Steel and Power Limited

German Green Steel & Power Ltd. is a vertically integrated iron and steel manufacturing entity based in Gujarat, India, with manufacturing facilities located in Samakhiali and Viramgam. The company primarily operates in the western region of India, with presence in Gujarat, mainly focusing on TMX Bars. Formerly known as Haq Steels & Metaliks Ltd., the company sells the products under the brand name German TMX, specializing in the production of TMT bars, MS billets, and sponge iron for the infrastructure and construction sectors. The company's integrated facility includes a captive thermal power plant and a Solar-Wind hybrid power plant, ensuring energy efficiency and a reduced carbon footprint. A key sustainability feature is its Waste Heat Recovery Plant (WHRP), which serves as an integrated system that efficiently utilizes waste heat, including carbon emissions, to generate power. This approach proportionately reduces the need for new coal usage, making the company's operations environmentally friendly. German Green Steel & Power Ltd. employs Thermex quenching technology, for producing TMT bars with enhanced strength and durability. Its robust distribution network, combined with in-house production capabilities, positions the company strategically to serve the growing construction markets of western India. With an installed capacity of 3,01,950 MTPA in Gujarat, it is among the few players in the region with considerable manufacturing capabilities. Other companies with similarly sized facilities include Gallantt Ispat Limited (4,22,400 MTPA), Welspun Corp Limited (3,00,000 MTPA), and Rudra Global Infra Products Limited (2,40,000 MTPA), among others. The company's strategic location aligns with Gujarat's industrial growth and infrastructure development plans, supporting its vision of expanding integrated steel manufacturing while maintaining focus on quality and customer relationships.

MSP Steel & Power Limited

Incorporated on 18 November 1968 and based in Kolkata, MSP Steel & Power Limited is a public limited company. The company's product range includes sponge iron, mild steel billets, construction bars, industrial oxygen, and ferro alloys. Additionally, MSP operates a 32 MW power plant in Raigarh.

Gallantt Ispat Limited

Gallantt Ispat Limited, formerly Gallantt Metal Limited post amalgamation, operates from plants located in Uttar Pradesh's Purvanchal region and Gujarat's Kutch district. The company employs around 3,500 individuals, both directly and indirectly. The company's future plans include expanding the Integrated Steel Plant in Gorakhpur to achieve an annual steel production capacity of 5.28 lakh MT. They will also install a new Cement manufacturing Plant with an annual capacity of 3,96,000 MT, increase captive power production to 78 MW, and integrate backwards with a Pelletisation plant of 8 lakh MT capacity annually.

Kamdhenu Limited

Kamdhenu Limited, established on 12 September 1994, operates as a public company. The company's own manufacturing capacity is 1.20 Lakhs MTPA. Deploying asset-light business model, the company also has franchisee-based model which has 80+ manufacturing units of KAMDHENU Brand Products. It has 8,500+ dealers & distributors marketing network. 15,000+ employees are connected with Kamdhenu brand.

VMS TMT Limited

VM Steel Products Limited (VMSTMT) is a Gujarat-based manufacturer specializing in Thermo Mechanically Treated (TMT) Bars used primarily in the construction industry. Established in 2008, the company operates a manufacturing facility in Bhayla Village near Ahmedabad. It derives over 96% of its revenue from Gujarat, catering to both retail and

institutional clients. VMSTMT also markets its products under the Kamdhenu brand through a licensing agreement, enhancing its brand outreach.

Beekay Steel Industries Limited

Beekay Steel Industries Limited, established in 1981 and headquartered in Kolkata, India, is a prominent player in the steel manufacturing sector. With production facilities across West Bengal, Jharkhand, Andhra Pradesh, and Tamil Nadu, the company produces a diverse range of steel products, including hot-rolled sections, bright bars, structural items, TMT bars, spring steel, and crane rails. These products cater to various industries such as automotive, engineering, infrastructure, railways, and housing. Beekay Steel has a significant international presence, exporting to countries like Australia, the UAE, and the EU. The company is recognized as a Star Export House by the Government of India and holds multiple quality certifications, including ISO 9001:2015 and TS/16949, demonstrating its commitment to quality and global standards.

12.2 Operational Parameter Benchmarking

Table 16: Operational Parameter Benchmarking

Name of Company	Product Sold	TMT Bar Production Capacity	Type and Capacity of Power Plant	Plant Location
GERMAN STEEL	- TMT BARS - BILLETS - SPONGE IRON	3.02 Lakh MTPA	Captive Power Plant (34.1 MW): Hybrid (Solar and Wind Renewable) Power Plant of 14.1 MW: Wind (8.1 MW) and Solar (6.0 MW) Waste Heat Recovery Plant (4 MW) Coal Based Power Plant (16 MW)	Gujarat
MSP STEEL & POWER LTD.	- PREMIUM TMT BARS - TMT BARS - STRUCTURAL STEEL - PIPES	4.8 Lakh MTPA*	Captive Power Plant (76 MW): Waste Heat Recovery Plant (24 MW) and Thermal Power Plant (52 MW)	Chhattisgarh
GALLANTT ISPAT LTD.	- MS BILLETS - TMT BARS - IRON ORE PELLET	9.5 Lakh MTPA	Captive Power Plant using Waste Heat Recovery (129 MW)	Uttar Pradesh, Gujarat, Gorakhpur
KAMDHENU LIMITED	- TMT REBARS - STRUCTURAL STEEL PRODUCTS - COLOUR COATED SHEETS	1.2 Lakh MTPA	NA	Rajasthan

	• ROOFING SHEETS • MS PIPES AND TUBES • WIREBOND			
VMS TMT	• TMT BARS • BILLETS	2 Lakh MTPA	Captive Solar Power Plant (15 MW)**	Gujarat
BEEKAY STEEL INDUSTRIES LIMITED	• BRIGHT BARS • SPRING STEEL • TMT BARS • ROLLED BARS • CRANE RAILS • SECTIONS • STRUCTURALS	5.5 Lakh MTPA	NA	Kolkata, Chennai, Jamshedpur, Visakhapatnam

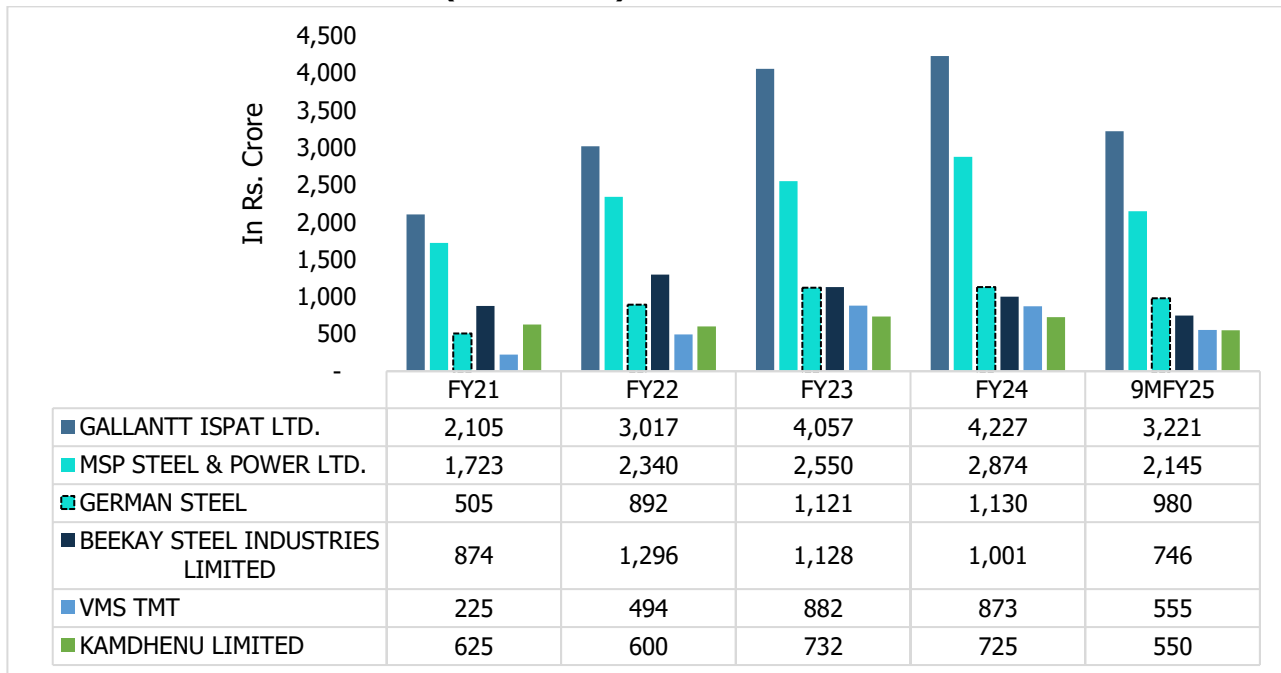
Source: Company Website and Annual Reports

Note: *Number as of Environmental Clearance document dated November 2022

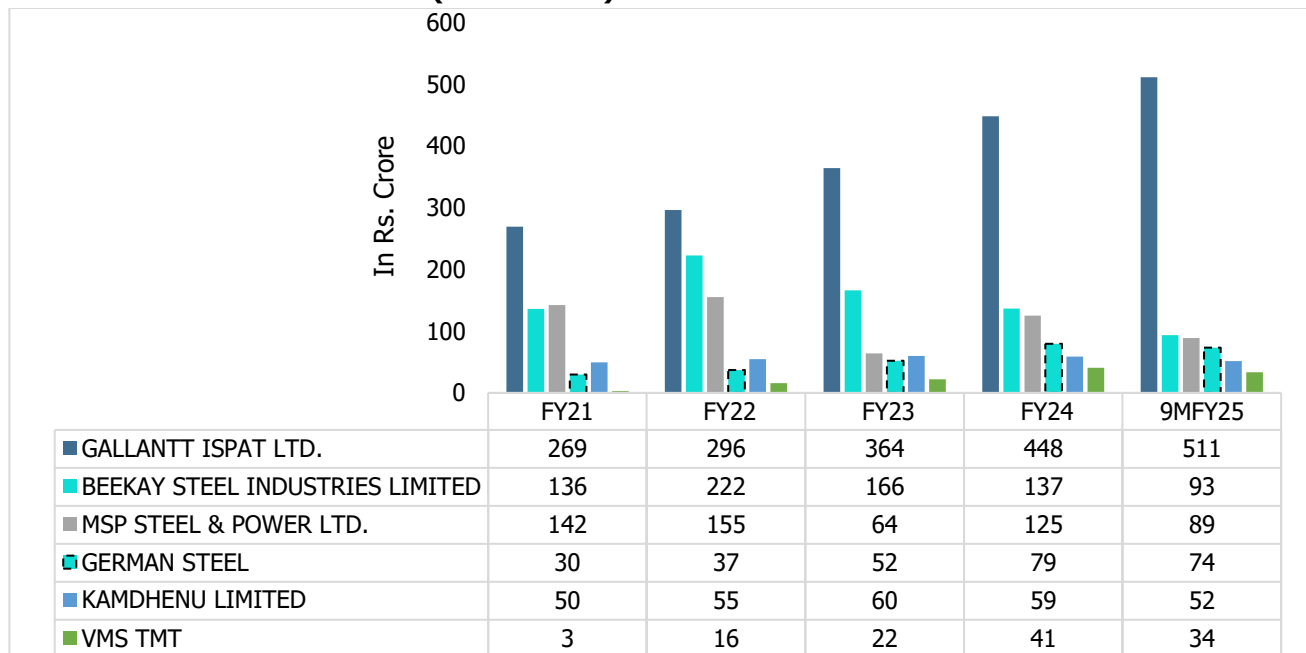
**It is still in planning stage

12.3 Financial Parameter Benchmarking

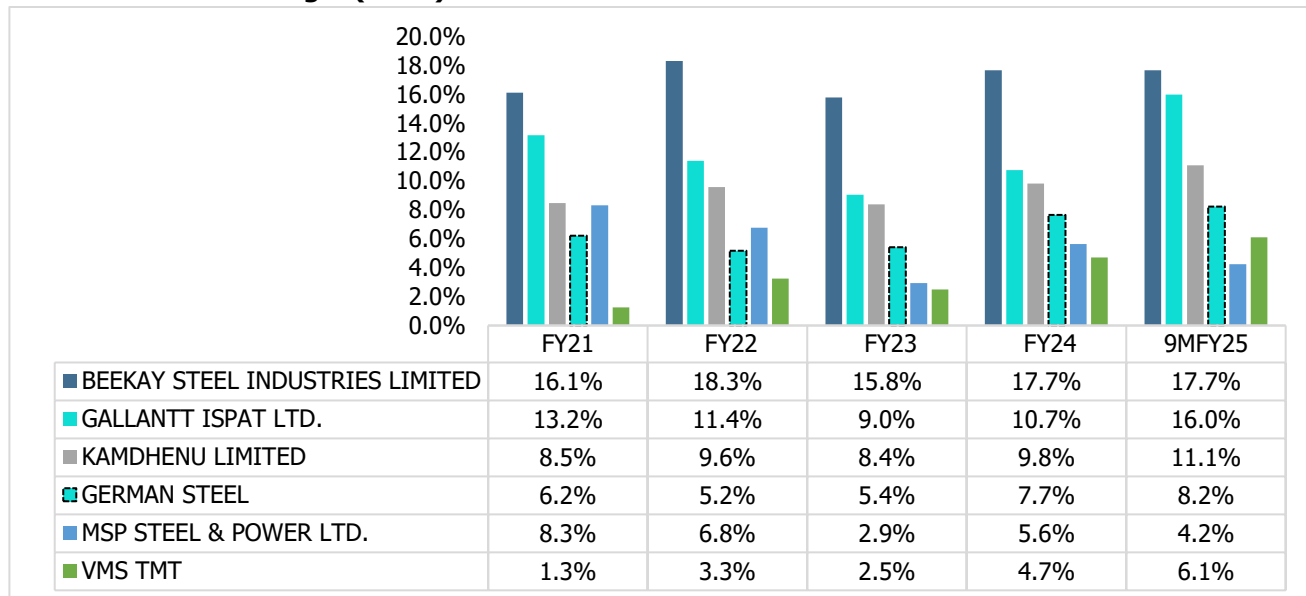
Chart 69: Revenue Performance (In Rs. Crore)



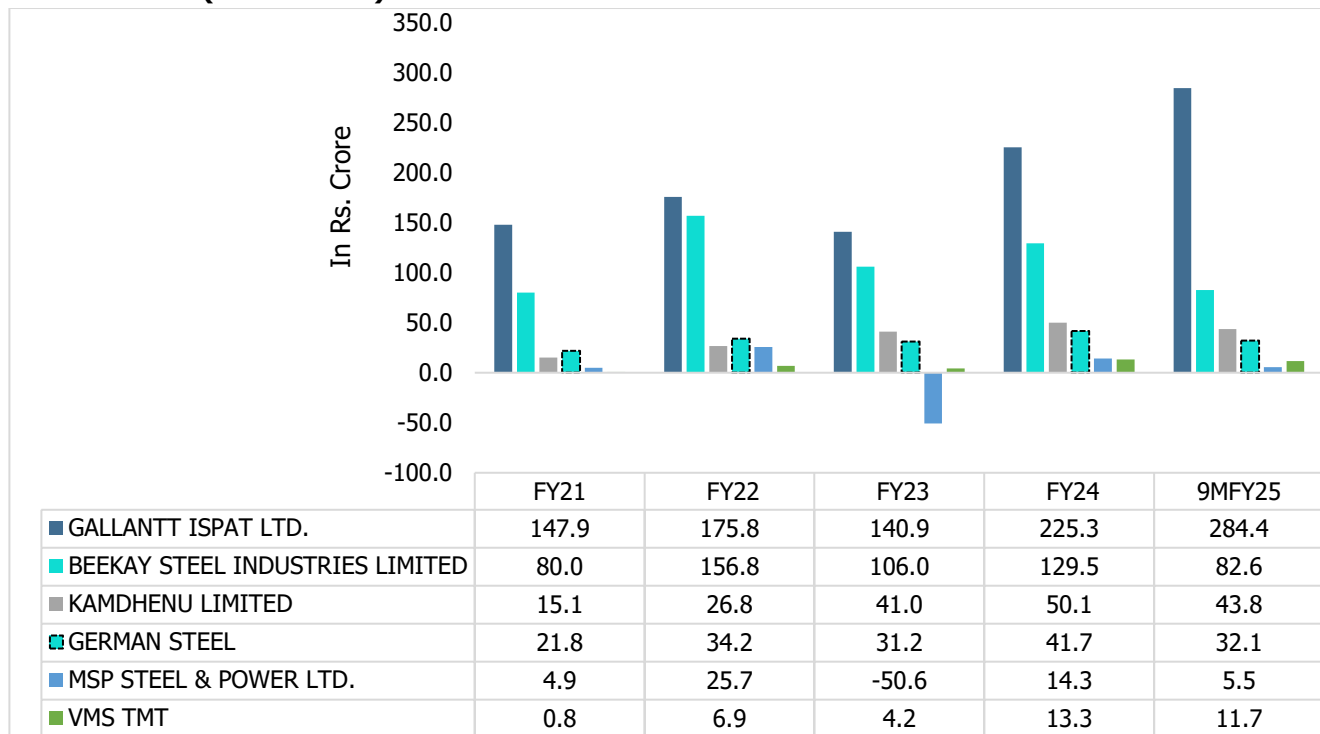
Source: Company Annual Reports

Chart 70: EBITDA Performance (In Rs. Crore)


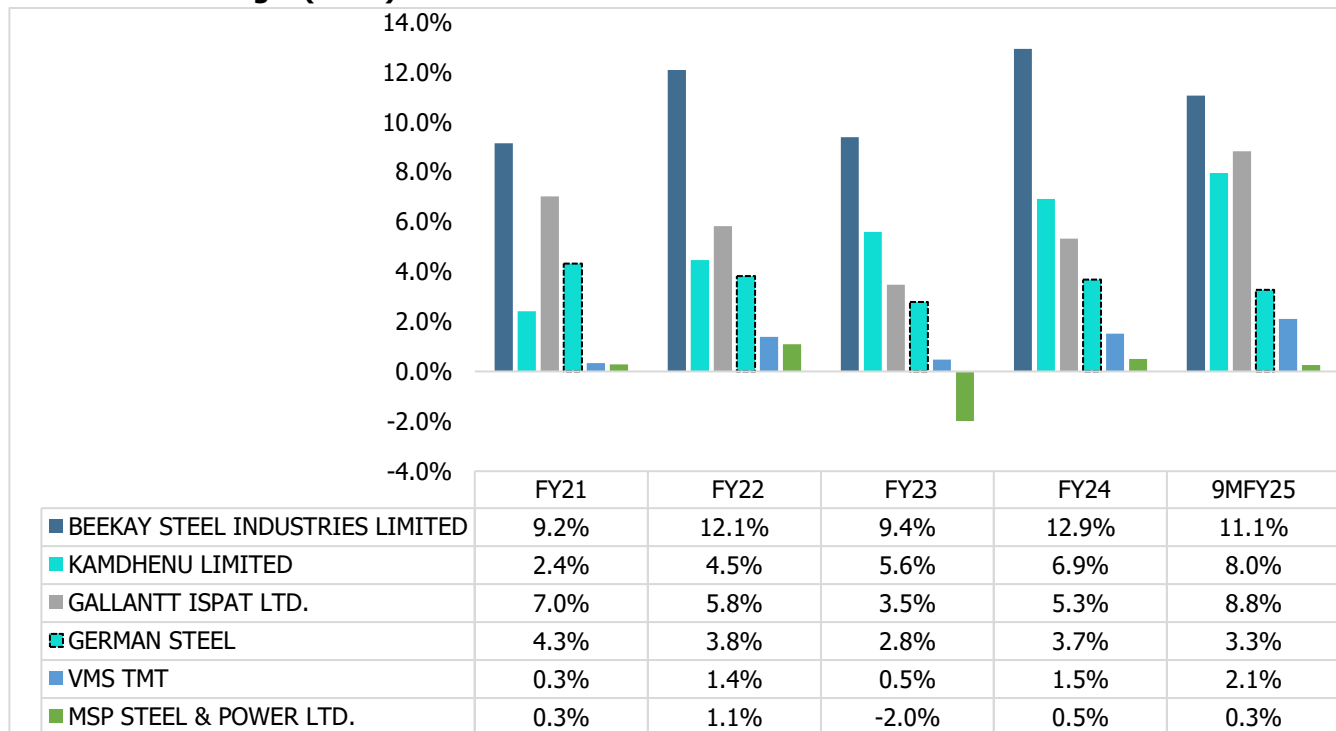
Source: Company Annual Reports

Chart 71: EBITDA Margin (In %)


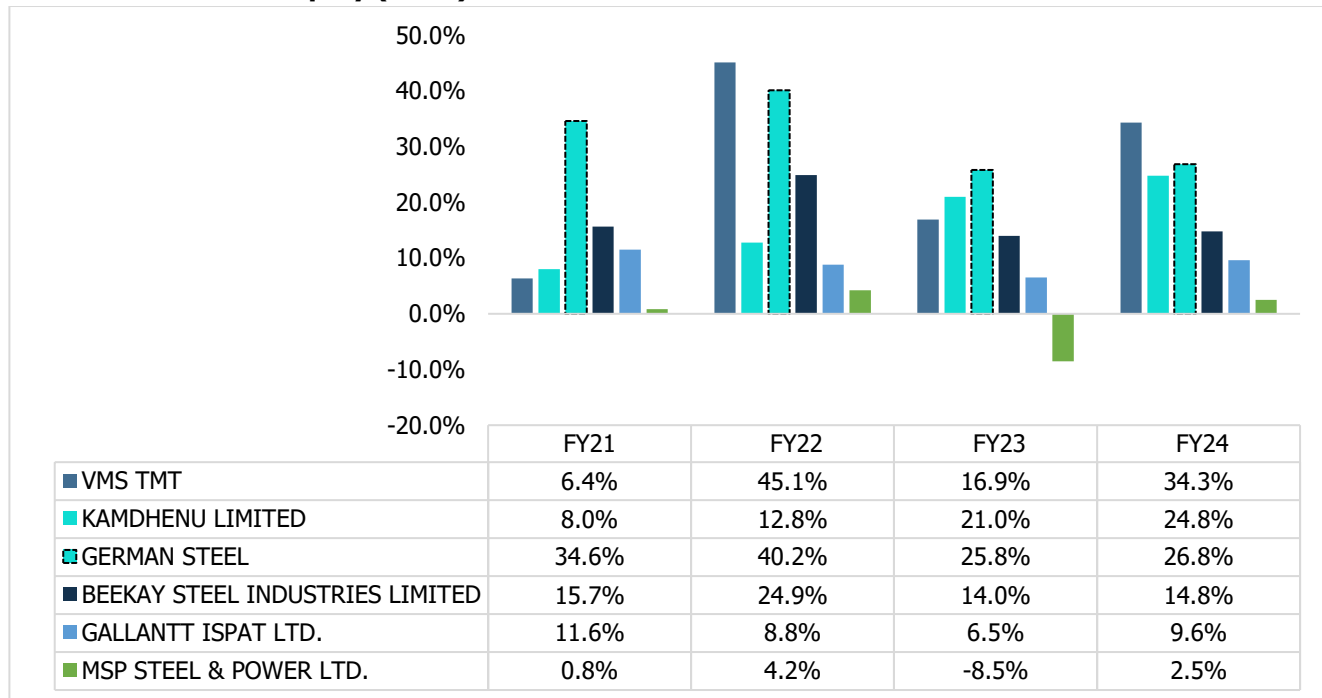
Source: Company Annual Reports

Chart 72: PAT (In Rs. Crore)


Source: Company Annual Reports

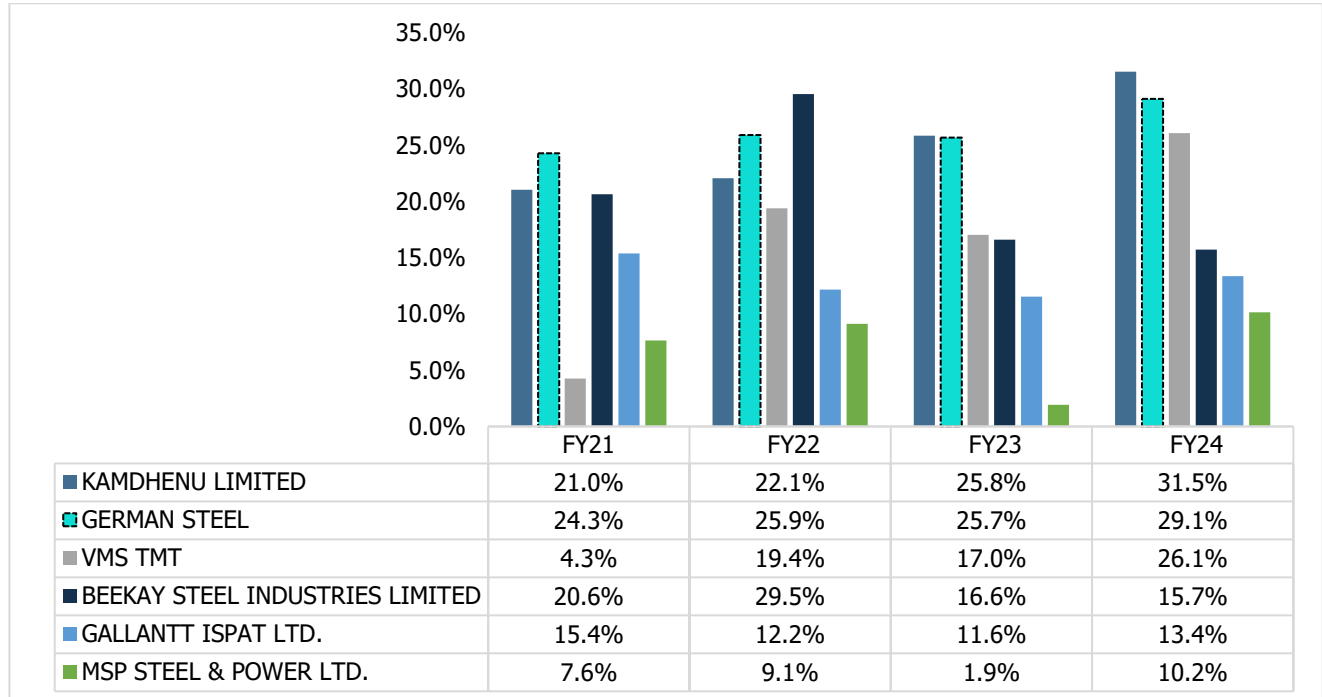
Chart 73: PAT Margin (In %)


Source: Company Annual Reports

Chart 74: Return on Equity (In %)


Source: Company Annual Reports

Note: In FY21, for German Steel and VMS TMT, denominator is taken as absolute number.

Chart 75: Return on Capital Employed (In %)


Source: Company Annual Reports

Note: In FY21, for German Steel and VMS TMT, denominator is taken as absolute number.

Chart 76: Debt to Equity Ratio


Source: Company Annual Reports

Latest Financials

Table 17: Return on Equity (In %)

COMPANIES	9MFY25
GERMAN STEEL	13.7%
VMS TMT	16.8%
KAMDHENU LIMITED	NA
BEEKAY STEEL INDUSTRIES LIMITED	NA
GALLANTT ISPAT LTD.	NA
MSP STEEL & POWER LTD.	NA

Source: Company Annual Reports

Note: For 9MFY25 numbers, average equity is calculated using 9MFY25 and FY24 numbers.

Table 18: Debt to Equity Ratio

COMPANIES	9MFY25
GERMAN STEEL	1.48
VMS TMT	3.32
KAMDHENU LIMITED	NA
BEEKAY STEEL INDUSTRIES LIMITED	NA
GALLANTT ISPAT LTD.	NA
MSP STEEL & POWER LTD.	NA

Source: Company Annual Reports

Table 19: Return on Capital Employed (In %)

COMPANIES	9MFY25
GERMAN STEEL	15.2%
VMS TMT	14.3%
KAMDHENU LIMITED	NA
BEEKAY STEEL INDUSTRIES LIMITED	NA
GALLANTT ISPAT LTD.	NA
MSP STEEL & POWER LTD.	NA

Source: Company Annual Reports

Note: For 9MFY25 numbers, average capital employed is calculated using 9MFY25 and FY24 numbers.

Table 20: Formula Sheet

Parameter	Formula
Revenue	Revenue from Operations
EBITDA Margin	$(EBITDA + Operating Income) / (Revenue + Operating Income)$
PAT Margin	Profit after Tax/ Revenue from operations
Return on Equity	$PAT / Total\ Equity$
Return on Capital Employed	$EBIT / Average\ (Total\ Assets - Total\ Current\ Liabilities)$
Debt to Equity	$Debt / Average\ (Total\ Equity)$

Source: CareEdge

Table 21: List of Abbreviations

Abbreviation	Full Form
BE	Budget Estimates
BIS	Bureau of Indian Standards
CAGR	Compound Annual Growth Rate
CMIE	Centre for Monitoring Indian Economy
CR	Cold Rolled
CY	Calendar Year
FDI	Foreign Direct Investment
FE	Final Estimate
FRE	First Revised Estimates
FY	Financial Year
GC	Galvanized Corrugated
GDP	Gross Domestic Product
GP	Galvanized Plain
GVA	Gross Value Added
HR	Hot Rolled
IIP	Index of Industrial Production
ISO	International Organization for Standardization
MOSPI	Ministry of Statistics and Programme Implementation
NIP	National Infrastructure Pipeline
PLI	Production Linked Incentive
RBI	Reserve Bank of India
RE	Revised Estimates
SAE	Second Advance Estimates
TMT	Thermo Mechanically Treated
TMX	Thermo Mechanically Treated Extra

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