

METALS AND MINING



November 2024

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Executive summary

1. Coal production

- India's overall coal production saw a quantum jump to 997.25 MT in FY24 as compared to 893.19 MT in FY23 with a growth of about 11.65%.
- In October 2024, India's coal production reached 84.45 million tonnes (MT) (Provisional), exhibiting a growth rate of 7.48% compared to the corresponding period of the previous year, which stood at 78.57 MT.
- Ministry of Coal aims to enhance coal production to ambitious target of 1.23 Billion Tonne (BT) by 2024-25.

2. Fourth-largest iron ore producer

- India's iron ore production reached a new high of 277 million metric tonne (MMT) in FY24, up 7.4% from 258 MMT in FY23.
- In 2022-23, exports of iron ore stood at US\$ 1.75 billion as compared to US\$ 3.18 billion in 2021-22.



5. Long duration mining lease

- India has a vast mineral potential with mining leases granted for a longer duration of 50 years.

4. Aluminium production

- India has the second-largest production capacity of aluminium in the world of about 4.2 million tonnes per annum (MTPA).
- The production of aluminium was 41.59 lakh tons in FY24.

3. Steel production

- India is a global force in steel production and the second-largest crude steel producer in the world.
- In April-Oct 2024, the production of crude steel stood at 84.945 MT and that of finished steel was 82.652 MT.
- In FY24, production of crude steel at 143 million tonnes (MT), finished steel at 138.5 MT and consumption of finished steel at 136 MT exceeded their respective levels achieved over the corresponding period of not only COVID-19 affected last two years but also pre-COVID years as well.



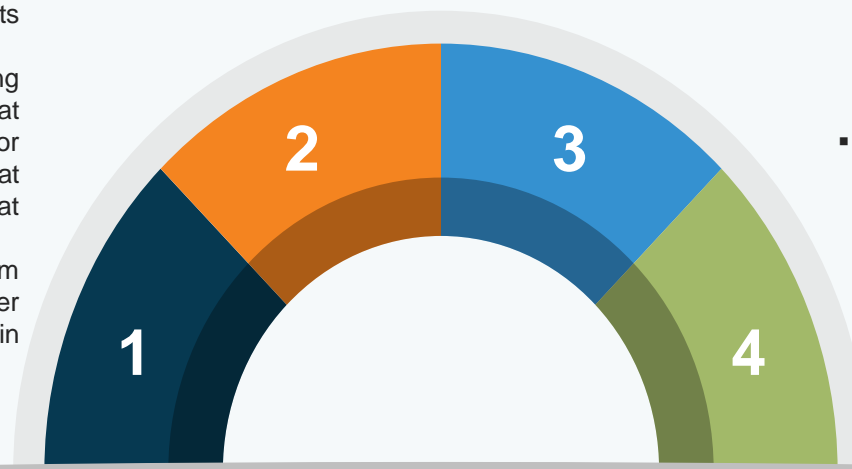
Advantage India

2. DEMAND GROWTH

- India has set the targets of achieving a total crude steel capacity of 300 million tonnes per annum (MTPA) and total crude steel demand/production of 255 MTPA by 2030-31.
- Being the third largest energy consuming country in the world, there is always increased demand for power and electricity in the country, and hence the surge in demand for coal.
- Demand for steel is likely to grow by ~10% as the government's augmented focus on infrastructural development continues with increased construction of roads, railways, airports, etc.
- The demand of zinc is expected to double in India in the next five to 10 years on the back of huge investments in infrastructure sector, including steel, International Zinc Association.

1. COMPETITIVE ADVANTAGE

- India holds a fair advantage in cost of production and conversion costs in steel and alumina.
- As of FY22, the number of reporting mines in India were estimated at 1,319, of which reporting mines for metallic minerals were estimated at 545 and non-metallic minerals at 774.
- India is the 2nd largest Aluminium producer, 3rd largest lime producer and 4th largest iron ore producer in the world.



3. ATTRACTIVE OPPORTUNITIES

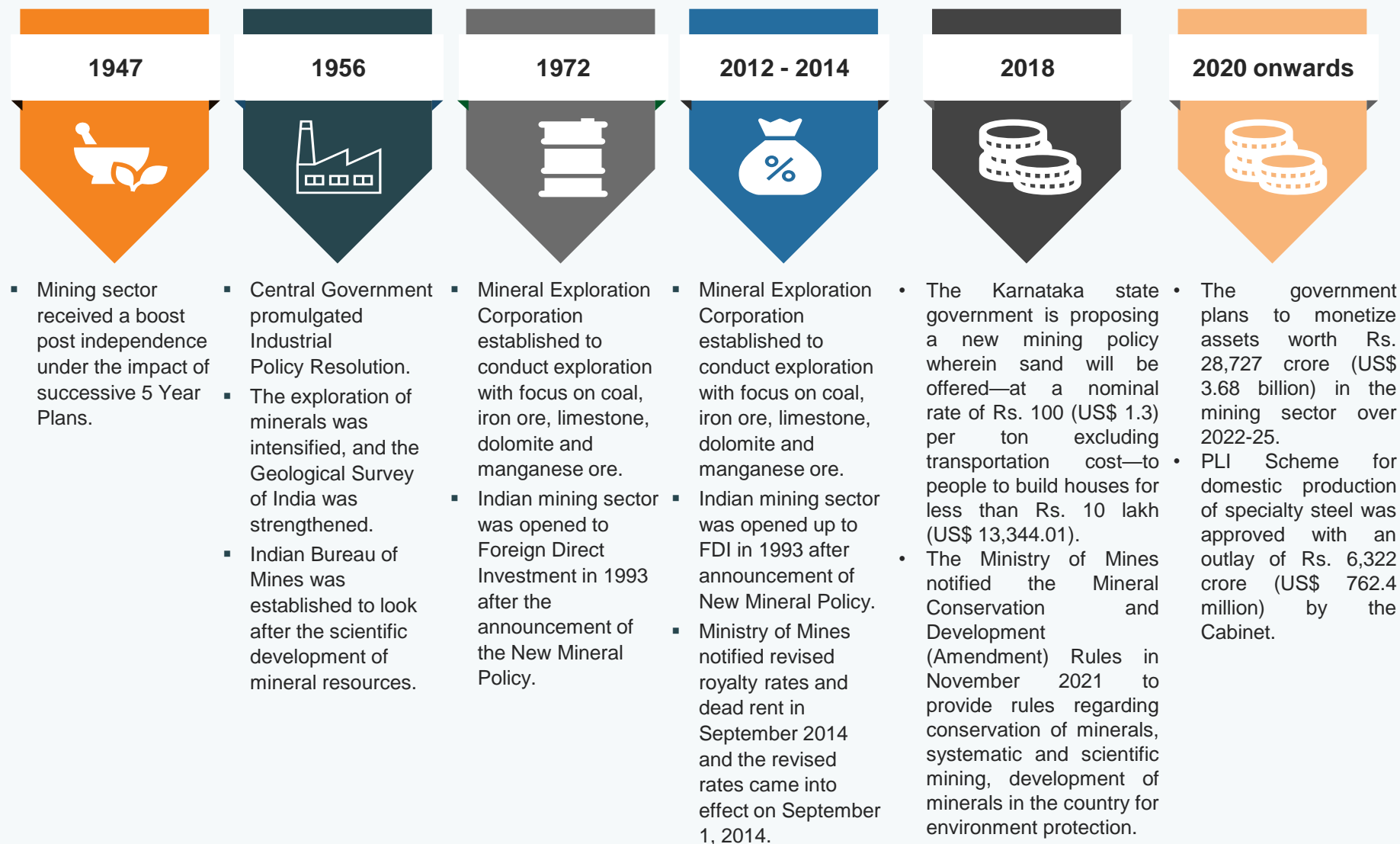
- By becoming Aatmanirbhar in producing specialty steel, India will move up the steel value chain and come at par with advanced steel-making countries like Korea and Japan.
- Under the PLI Scheme for Specialty Steel, 67 applications from 30 companies were selected that will attract committed investment of Rs. 42,500 crore (US\$ 5.1 billion) with a downstream capacity addition of 26 million tonnes and employment generation potential of 70,000.
- Under the PLI Scheme for Specialty Steel, 57 MoUs with 27 companies have been signed, attracting investments of US\$ 3.55 billion (Rs. 29,500 crores), creating an additional capacity of 25 MT and generating employment for 17,000 people by FY 2027-28. As of December 2023, companies have invested US\$ 1.55 billion (Rs.12,900 crores), with an expected investment of US\$ 360 million (Rs. 3,000 crores) in FY'24. Five units have already commenced production, and nine more are set to begin operations in the last quarter of FY24.

4. POLICY SUPPORT

- Enactment of Mines and Minerals (Development and Regulation) Amendment Act, 2021 enabled captive mines owners (other than atomic minerals) to sell up to 50% of their annual mineral (including coal) production in the open market.
- In December 2023, the Ministry of Mines proposed capping performance security and upfront amounts for mining critical minerals to attract more bidders. Currently based on a percentage of the Value of Estimated Resources (VER), the move aims to reduce barriers to participation in auctions and expedite the process for mining leases.



Evolution of the Indian mining sector

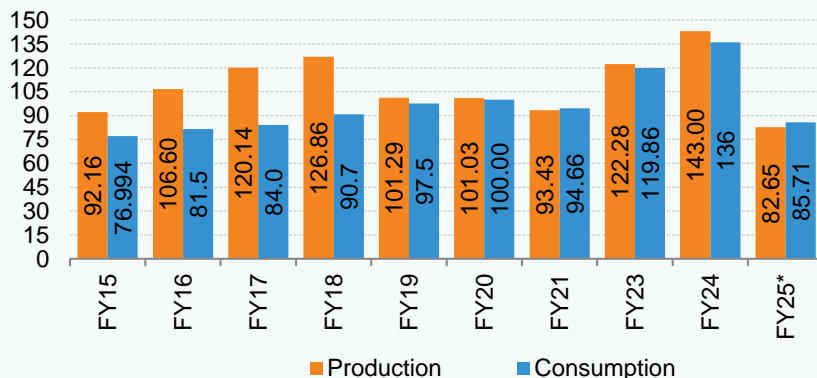


Segments of metals and mining industry

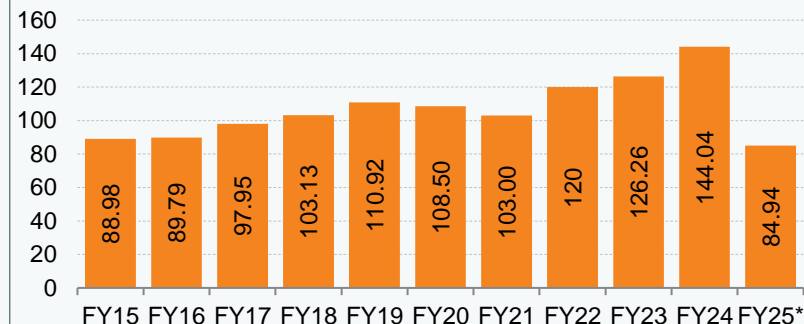


Rising steel demand driving growth

Finished steel production and consumption (million tonnes)



Crude steel production (million tonnes)



- India is a global force in steel production and the second-largest crude steel producer in the world.
- In FY24, the cumulative production of crude steel stood at 144.04 MT, finished steel stood at 143 MT, and consumption of finished steel stood at 136 MT. **During April-October 2024, crude steel production stood at 84.94 MT, finished steel production stood at 82.65 MT and consumption at 85.71 MT.**
- Production of steel in India could go up to 500 million tonnes by 2050, nearly four times the current output, as New Delhi seeks to undergird its evident growth ambitions with rapid capacity expansion for the primary infrastructure alloy, a senior executive at mining major BHP said.
- The Indian government's approved National Steel Policy (NSP) 2017 envisages 300 million tonnes (MT) steel-making capacity and 160 kgs per capita steel consumption by 2030-31.
- In August 2022, Tata Steel signed a MoU with the Government of Punjab for setting up a 0.75 MnTPA long products steel plant with a scrap-based electric arc furnace.
- SAIL supplied about 30,000 tons of specialty steel for the nation's first indigenously built Aircraft Carrier INS Vikrant for the Indian Navy which was commissioned on September 2, 2022, at Cochin Shipyard Ltd.
- In November 2022, IIT Bombay and JSW Group entered into an exclusive strategic agreement to establish a first-of-its-kind, state-of-the-art JSW Technology Hub in India for steel manufacturing in India.

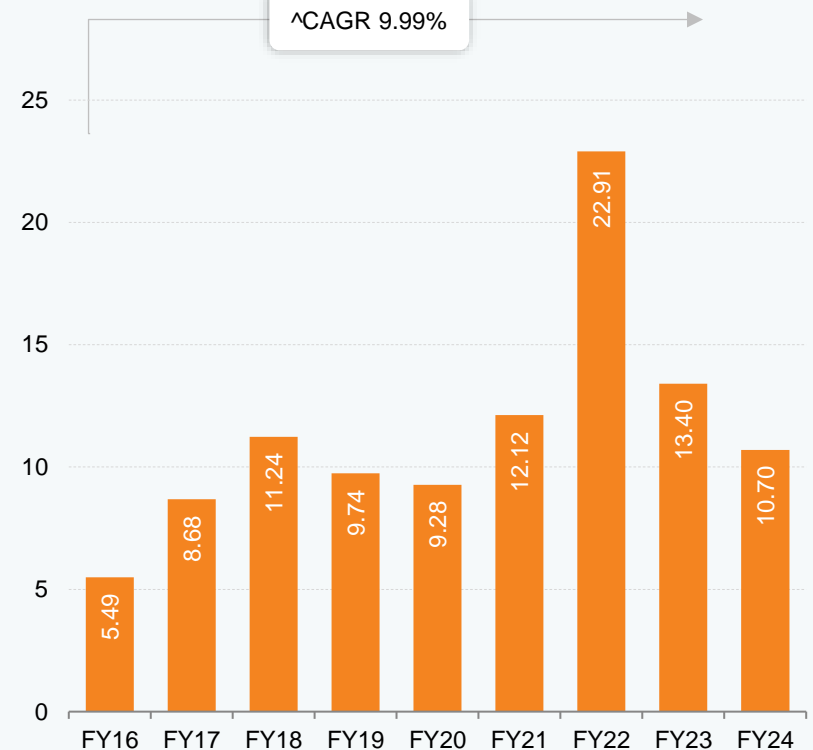
Notes: CAGR - Compound Annual Growth Rate, MT - Million Tonnes, *Until October 2024

Source: World Steel Association, News Articles

Rising domestic demand puts pressure on supply of iron and steel... (1/2)

- In FY24, exports of finished steel stood at 7.5 MT up by 11.5% from last year.
- During April-October FY25, export of finished steel stood at 2.75 MT.
- In 2022-23, exports of iron ore stood at US\$ 1.75 billion as compared to US\$ 3.18 billion in 2021-22.
- In November 2022, the government has withdrawn the export duty on steel products, iron ore lumps and fines (less than 58% iron content) and iron pellets, while the export duty of iron ore lumps and fines (more than 58% iron content) has been reduced from 50% to 30%. The reversal of the export duty hike is expected to boost the Indian exports of steel products in the near to medium term.
- Demand for steel is expected to grow by around 10% through 2022 amid the government's continued focus on the construction of roads, railways, ports and airports.

India's export of iron and steel (US\$ billion)

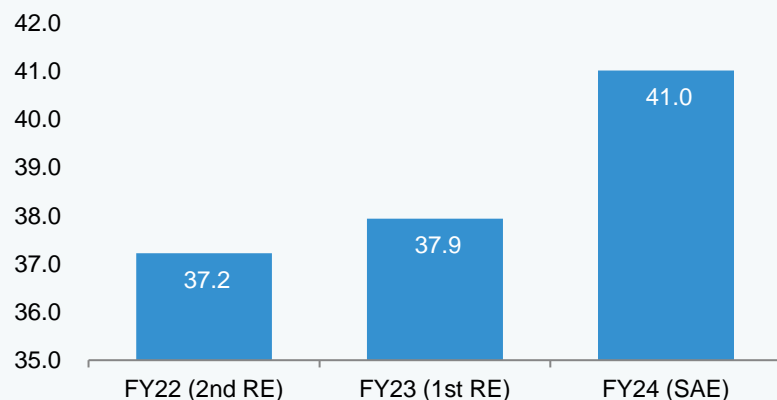


Notes: CAGR - Compound Annual Growth Rate, ^CAGR is up to FY23

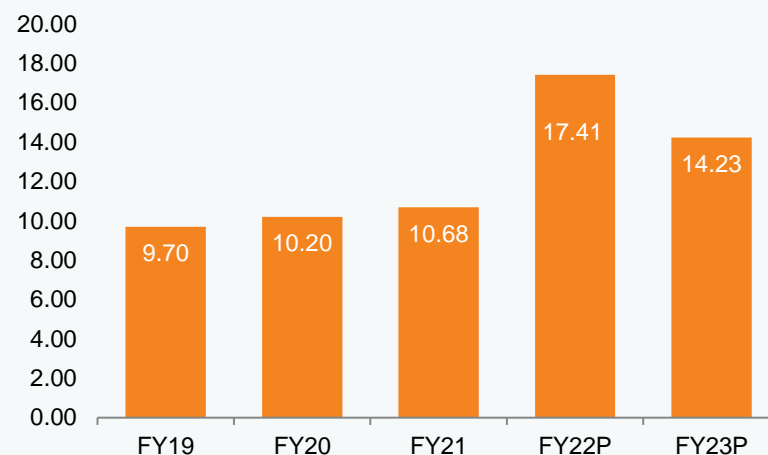
Source: Ministry of Commerce, DGCIS - Directorate General of Commercial Intelligence and Statistics, Engineering Exports Promotion Council

Strong growth in India's metals & mining sector over the years

GVA from mining at Constant Prices (US\$ billion)



Mineral production in India (US\$ billion)

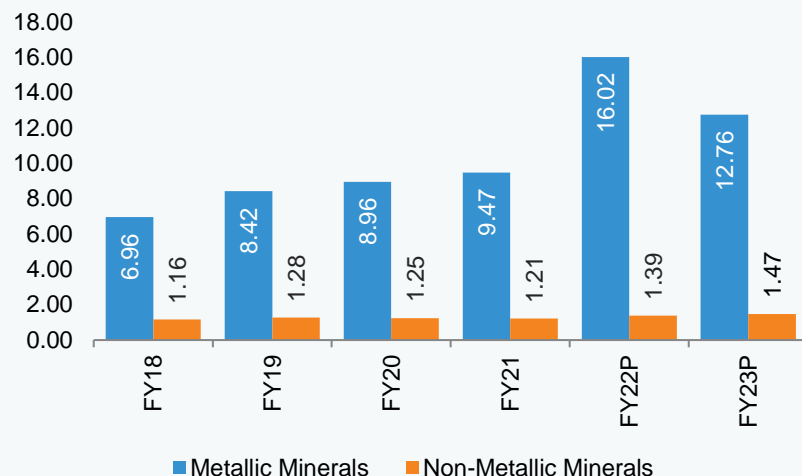


- GVA from mining and quarrying stood at US\$ 37.9 billion in FY23, as per the first revised estimates.
- In FY23, mineral production is estimated at Rs.118,246 crore (US\$ 14.37 billion).
- Production level of important minerals in February 2024 were Coal 966 lakh tonne, Lignite 42 lakh tonne, Natural gas (utilized) 2886 million cu.m., Petroleum (crude) 23 lakh tonne, Bauxite 2414 thousand tonne, Chromite 400 thousand tonne, Copper conc. 11 thousand tonne, Gold 255 kg, Iron ore 244 lakh tonne, Lead conc. 27 thousand tonne, Manganese ore 295 thousand tonne, Zinc conc. 149 thousand tonne, Limestone 387 lakh tonne, Phosphorite 218 thousand tonne, and Magnesite 10 thousand tonne.
- Important minerals showing positive growth during February 2024 over February 2023 include Gold (86%), Copper Conc.(28.7%), Bauxite (21%), Chromite (21%), Phosphorite (19%), Limestone(13%), Coal (12%), Natural gas (U) (11%), Petroleum(crude) (8%), Manganese Ore (6%), Magnesite (3%), Lignite(2.8%), and Zinc Conc.(2.8%). Other important minerals showing negative growth include Iron Ore (-0.7%) and Lead Conc.(-14%).
- The index of mineral production of the mining and quarrying sector for the month of February 2024 at 139.6, was 8% higher compared to the level in the month of February 2023.

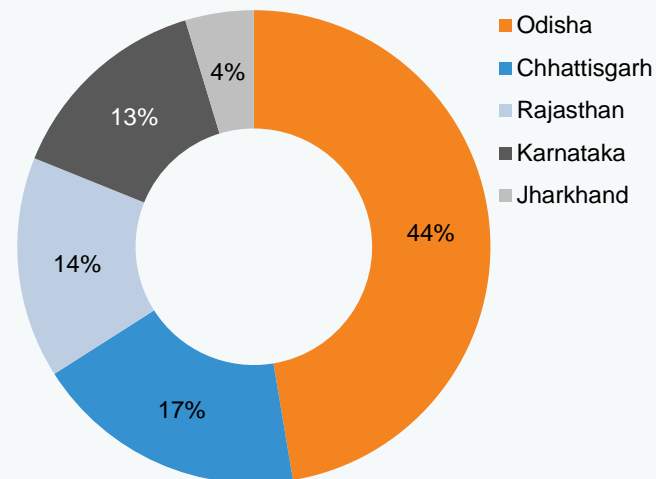
Notes: CAGR - Compound Annual Growth Rate, ^Excluding atomic and fuel minerals, GVA - Gross Value Added, P- Provisional, RE- Revised Estimate, SAE- Second Advance Estimate
Source: Ministry of Statistics and Programme Implementation, Ministry of Mines

Composition of India's metals and mining sector

Production of metallic and non-metallic minerals (US\$ billion)



Share of states in mineral production FY22



- India is home to 1,319 reporting mines. Production of as many as 95 minerals is undertaken in India, including 4 fuel minerals, 10 metallic minerals, 23 non-metallic minerals, 3 atomic minerals and 55 minor minerals (including building and other materials).
- The country has large reserves of iron ore, bauxite, chromium, manganese ore, baryte, rare earth and mineral salts.
- Odisha was the leading producer of minerals with 44% market share, followed by Chhattisgarh at 17% and Rajasthan at 14%.
- Production of metallic minerals in the country increased from US\$ 6.96 billion in FY18 to US\$ 12.76 billion in FY23P. In the same period, production of non-metallic minerals increased from US\$ 1.16 billion in FY18 to US\$ 1.47 billion in FY23P.

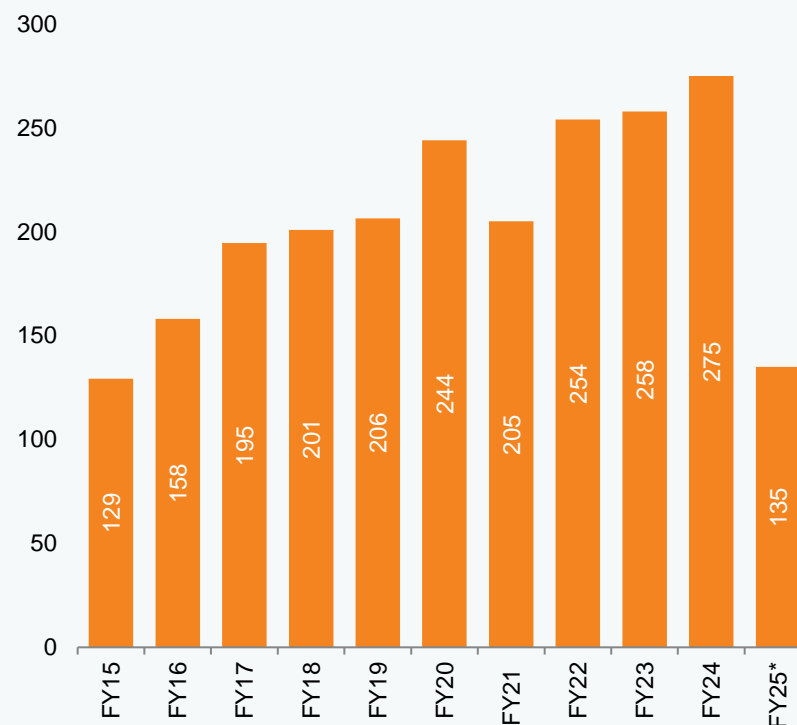
Notes: MMT- Million Metric Tonnes, E-Estimate, ^ - excluding fuel and atomic minerals, P- Provisional, E- Estimate

Source: Ministry of Mines

Iron ore production

- Iron ore is a key input for production of steel and primary iron.
- India's iron ore production stood at 275 MT in FY24, an increase of 6.6% compared with 258 MT in FY23.
- Iron ore production in August 2024 stood at 18.14 MT.**
- Majority (over 85%) of iron ore reserves are of medium- to high-grade and are directly used in blast furnace and direct reduced iron (DRI) plants in the form of sized lumps or sinters or pellets.
- In 2022-23, exports of iron ore stood at US\$ 1.75 billion as compared to US\$ 3.18 billion in 2021-22.
- The index of mineral production of the mining and quarrying sector for the month of December 2023 at 139.4, was 5.1% higher compared to the level in the month of December 2022.
- Government has taken various steps to increase production and availability of iron ore, which inter-alia include Mining and Mineral Policy reforms to ensure enhanced production, early auction & operationalization of expired mines, ease of doing business, seamless transfer of all valid rights & approvals, incentivizing for starting of mining operation & dispatch, transfer of mining leases, allowing captive mines to sell upto 50% of the minerals produced, enhancing exploration activities, etc.

Iron ore production (million tonnes)



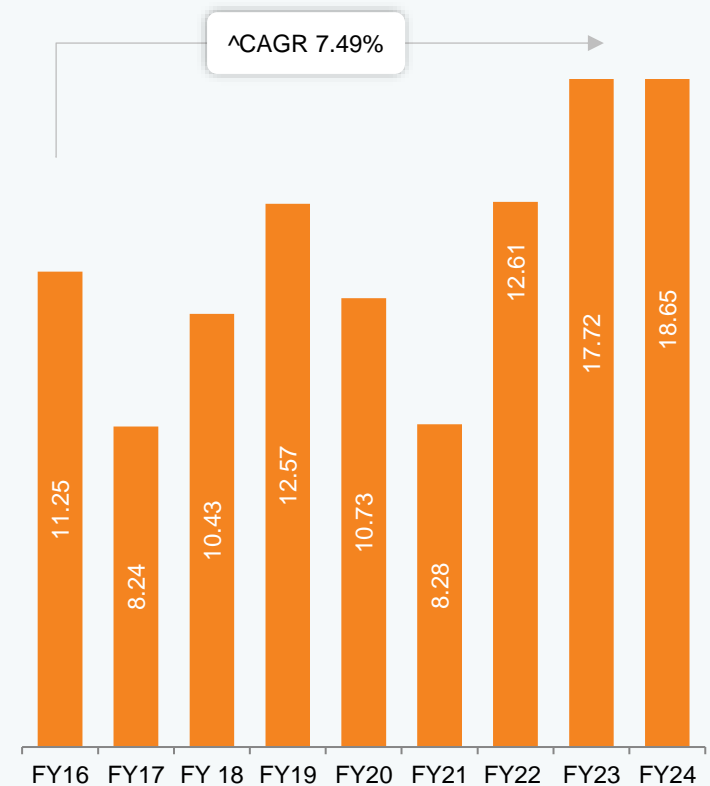
Notes: P- Provisional, *Until June 2024

Source: Business Standard, Ministry of Mines (Annual Report)

Rising domestic demand puts pressure on supply of iron and steel... (2/2)

- Iron and steel imports stood at US\$ 1.83 billion in December 2023
- Imports of steel increased by 5.25% to 18.65 million tonnes in FY24 from 17.12 million tonnes in FY23.
- The domestic steel demand growth will be healthy at 7-8% in FY2024-25, driven by moderate government spending during the election period.
- In FY23, production of crude steel at 125.32 million tonnes (MT), finished steel at 121.29 MT and consumption of finished steel at 119.17 MT exceeded their respective levels achieved over the corresponding period of not only COVID affected last two years but also pre-COVID years as well.
- In October 2022, Welspun Metalics Limited forayed into Steel manufacturing as a part of the company's overall business growth and diversification strategy by launching a state-of-the-art Greenfield manufacturing facility in Anjar, Gujarat.
- In February 2023, JSW Group announced to build a steel plant in Andhra Pradesh's YSR Kadapa district with an investment of Rs. 8,800 crore (US\$ 1 billion).

India's import of iron and steel (US\$ billion)



Notes: CAGR - Compound Annual Growth Rate, ^CAGR is up to FY23, *Until December 2023

Source: Ministry of Commerce, DGCIS - Directorate General of Commercial Intelligence and Statistics

Coal production growing at a steady pace

- India's overall coal production has seen a quantum jump to 893.08 MT in FY23 as compared to 728.72 MT in FY19 with a growth of about 22.6%.
- In FY25 April-October, the coal production stood at 537.41 MT.**
- In FY24, the coal production stood at 997.25 MT, registering a growth of 12% from last year.
- The power sector continued to be the largest consumer of domestic coal, accounting for the total dispatches of 678.54 MT during FY24 (April-March), an increase of 5.97% y-o-y.
- Coal production from captive/other mines increased by 25% y-o-y in FY24 (April- March) and contributed 15.40% to the total coal production.
- By the end of this fiscal year, Coal production is estimated to reach 1,111 MT and domestic demand is estimated at 1290 MT.
- Steady growth in captive coal production was led by the government's support and allowing the sale of up to 50% of the annual production from existing operational captive coal mines in the open market.
- Overall coal imports during April-March 2024 increase by 7.7% to 268.24 MT in FY 24, over 249.06 MT in FY23.
- To reduce dependence on imported coal over the medium-long term, the Government has taken various initiatives including auctioning of coal blocks for commercial mining, FDI under the automatic route, expansion of existing mines, the opening of new mines under CIL and development of evacuation infrastructure.



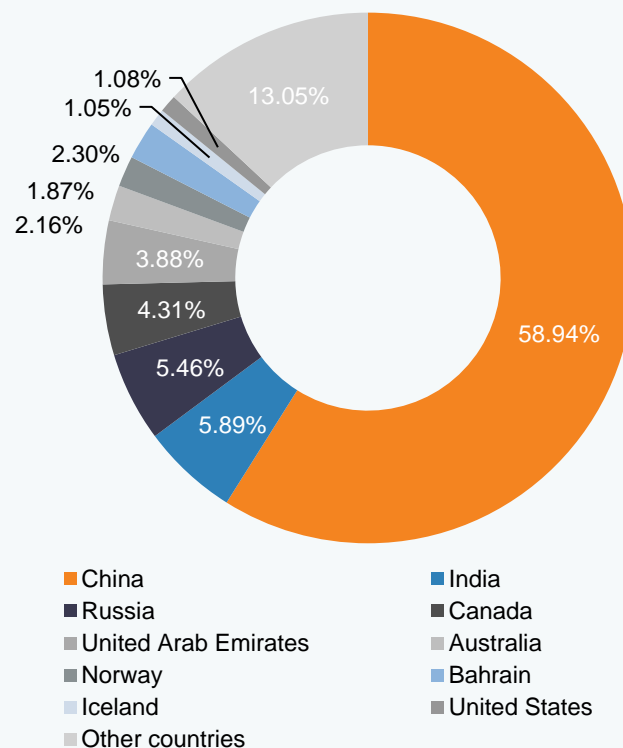
Notes: CAGR - Compound Annual Growth Rate, *-Until October 2024

Source: Ministry of Coal, News Articles

India's role in global Aluminium production

- The world production of primary aluminium during April-September 2024, was 36.19 million tons against world consumption of 36.34 million tons, resulting in a market deficit of 0.14 million tons.
- The US Geological Survey noted that world aluminium output increased slightly in 2023, coming in at 70 million metric tons (MMT) compared to 68.4 million MMT the previous year.
- The share of India in the world production was 5.8% during April-September 2024.
- The per capita consumption of Aluminium in India is about 3.1 kg, compared to the world average of about 12 kg and China's 31.7 kg.
- India is ranked fourth in the world in terms of bauxite reserves and has high-quality metallurgical grade bauxite deposits with close to 4 billion ton reserves.
- India will be the "stand-out growth market" for aluminium consumption in the coming years as it pursues construction projects to resolve an infrastructure deficit, which sees usage more than tripling to 9.5 million tonnes by 2030 from 2.6 million tons in 2021.

India's share in global aluminium production (2023E)



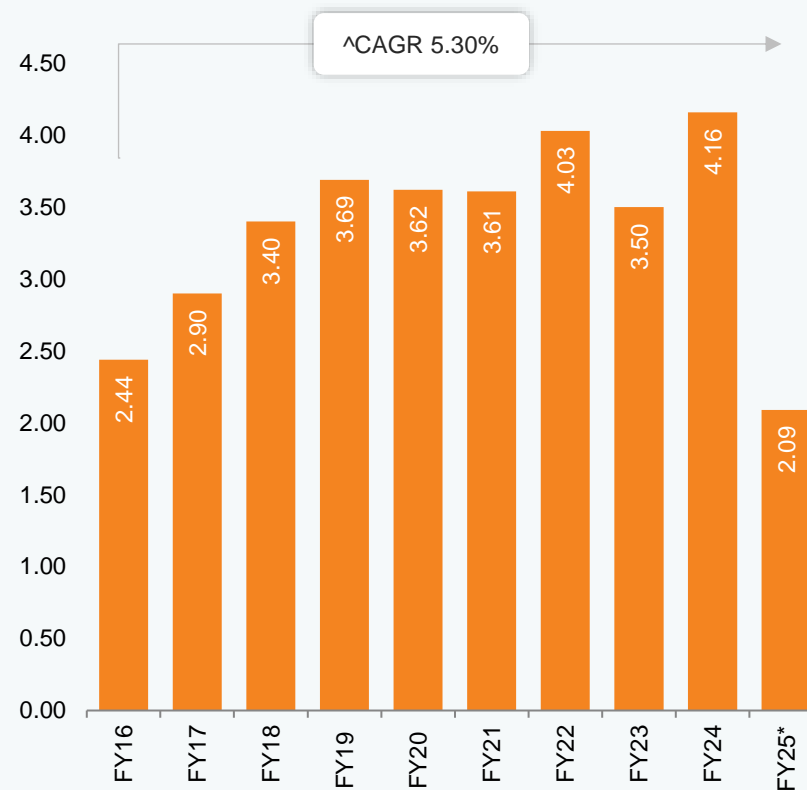
Note: ICRA - Information Credit Rating Agency Ltd.

Source: World Bureau of Metal Statistics (WBMS), Aluminium Association of India, Economist Intelligence Unit (EIU), ICRA Management Consulting Services Ltd (IMaCS)

Growing domestic demand to support Aluminium production

- Aluminium is a critical for all the key sectors that will aid in India becoming a US\$ 5 trillion economy.
- ICRA has estimated the domestic aluminium demand growth to remain healthy at around 9% in the next two fiscal years, given the Government's thrust on infrastructure development.
- Increasing infrastructural development and automotive production are the key factors driving the market growth.
- The production of aluminium stood at 4.159 lakh tonnes in FY24.
- NALCO produced 38,554 metric tonnes of aluminium and sold 43,064 metric tonnes of in May 2024.
- India's aluminium exports were reported at US\$ 5.3 billion during April-December FY24.
- In 2021, an Indian state committee recommended the expansion of Vedanta Ltd.'s Lanjigarh Alumina refinery from 1 million tons to 6 million tonnes, an investment that would cost the company Rs. 64.83 billion (US\$ 993 million).
- In July 2022, Hindalco Industries Limited signed an MoU with Phinergy and IOC Phinergy Private Limited (IOP) on R&D and pilot production of aluminium plates for Aluminium-Air batteries, and recycling of aluminium, after usage in these batteries.

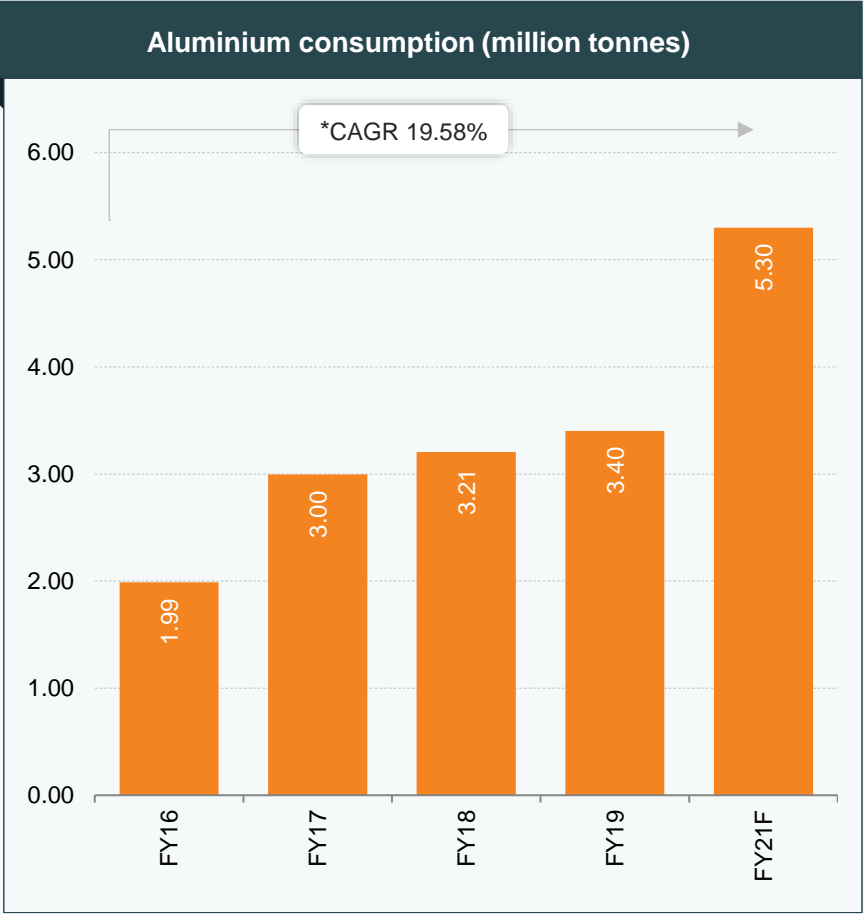
Aluminium production (million tonnes)



Note: CAGR - Compound Annual Growth Rate, F- Forecast, ^CAGR is till FY23, *Until September 2024
Source: CARE Ratings, Ministry of Mines, DGCIIS, News Articles

Stronger economic growth to support Aluminium consumption

- Extensive growth in electric vehicles, renewables, modern infrastructure, energy-efficient consumer goods and greater dependence on strategic sectors such as aerospace defence, will drive Aluminium consumption to grow at a CAGR of more than 10%.
- The global Aluminium consumption has been driven majorly by India and China having a growth rate of approximately 10% till pre-COVID times.
- Last decade has seen India's consumption almost double from 2.2 million tons in FY11 to about 4 million tonnes in FY19.
- India's Aluminium demand is estimated to double again by the year 2025 with the current resilient GDP growth rate driven by increasing urbanization and push for boosting domestic infrastructure, automotive, aviation, defence, and power sectors.
- Aluminium consumption is expected to reach 7.2 million tons in the next five years.
- Aluminium demand in India is expected to jump to 9 million metric tons by 2033 from about 4.5 million in 2023.



Note: CAGR - Compound Annual Growth Rate, F - Forecast, *CAGR is till FY19

Source: Care Ratings, Indian Bureau of Mines

Major metals and mining players in the country

Segment	Major player	Market share	Other players
Iron and Steel		NA	Sesa Goa, SAIL, Orissa Minerals
Coal	 कोल इण्डिया लिमिटेड Coal India Limited भारत सरकार का उपक्रम A Government of India Undertaking एक महारत्न कंपनी A Maharatna Company	80%	Singareni Collieries Company, Reliance Natural Resources
Aluminium		60%	National Aluminium Company (NALCO), Bharat Aluminium Company (BALCO)

Recent Trends and Strategies



Notable trends in the metals and mining sector... (1/4)

1

Captive mining for coal

- Steady growth in captive coal production was led by the government's support and allowing the sale of up to 50% of the annual production from existing operational captive coal mines in the open market.

2

Longer duration lease

- India has seen a significant growth in minerals with the Government granting lease for longer duration, between 20-30 years.

3

Focus on domestic market

- The Ministry of Coal signed agreements with six winning bidders for coal mines in the 7th round of auctions, marking the successful auctioning of 91 coal mines since the inception of Commercial Coal Mining in 2020. Among these, four mines have undergone partial exploration, while the other two are fully explored.
- As per data from the Ministry of Statistics and Programme Implementation (MOSPI), India's mining GDP increased from Rs. 76,877 crore (US\$ 9.25 billion) in the third quarter of FY23 to Rs. 82,680 crore (US\$ 9.95 billion) in the third quarter of FY24.
- In February 2023, JSW Group announced to build a steel plant in Andhra Pradesh's YSR Kadapa district with an investment of Rs. 8,800 crore (US\$ 1 billion).
- In 2021, an Indian state committee recommended the expansion of Vedanta Ltd.'s Lanjigarh Alumina refinery from 1 million tonnes to 6 million tons, an investment that would cost the company Rs. 64.83 billion (US\$ 993 million).
- India stands as 2nd largest in Aluminium producer, 3rd largest in lime production and 4th largest iron ore producer in the world.

Notable trends in the metals and mining sector... (2/4)

4

Overseas ventures

- Three Indian state-run companies, National Aluminium Co Ltd, Hindustan Copper Ltd and Mineral Exploration Corp formed a joint venture to buy mining assets overseas that have minerals such as lithium and cobalt, which are used in the manufacture of batteries for electric vehicles.

5

Outlook of metal and mining

- The index of mineral production of the mining and quarrying sector for the month of December 2023 stood at 139.4, 5.1% higher compared to the level in the month of December 2022.

6

Build strategic alliances

- In February 2023, Tata Steel and Central Building Research Institute (CBRI), a constituent of the Council of Scientific and Industrial Research (CSIR), signed an MoU to collaborate on research, academic growth, and sustainable solutions in mining.
- In February 2023, ArcelorMittal - Nippon Steel is investing Rs. 60,000 crore (US\$ 7.3 billion) to expand its steelmaking capacity in Hazira to 15MT a year from 9MT.
- In February 2023, NMDC signed an agreement for collaborative research with CSIR-IMMT, Bhubaneswar on "Feasibility Studies for Preparation of Fused Magnesia from Kimberlite Tailings" at its Head Office in Hyderabad.
- In November 2022, IIT Bombay and JSW Group entered into an exclusive strategic agreement to establish first-of-its-kind, state-of-the-art JSW Technology Hub in India for steel manufacturing in India.
- In August 2022, Tata Steel signed a MoU with the Government of Punjab for setting up a 0.75 MnTPA long products steel plant with a scrap-based electric arc furnace.
- In July 2022, Hindalco Industries Limited has signed an MoU with Phinergy and IOC Phinergy Private Limited (IOP) on R&D and pilot production of aluminium plates for Aluminium-Air batteries, and recycling of aluminium, after usage in these batteries.
- In October 2022, Coal India Limited (CIL) signed a MoU with Rajasthan Rajya Vidyut Utpadan Nigam Limited (RVUNL), for setting up 1,190 MW solar power project.

Notable trends in the metals and mining sector... (3/4)

7

International Collaboration

- Innovative mineral exploration activities using state-of-the-art technology by Geological Survey of India (GSI), stepped up efforts by Khanij Bidesh India Limited (KABIL) to source strategic minerals from countries like Australia, Argentina and Chile.
- In January 2024, India and Argentina signed an agreement to undertake the exploration and development of five lithium blocks, enhancing India's efforts in sourcing lithium. KABIL has obtained exploration and exclusivity right for these five blocks.
- In February 2024, An MoU has been signed between India and the Republic of Cote d'Ivoire, for collaboration in field of Geology and Mineral Resources.

8

Focus on technology

- By accelerating digital transformation, metals and mining players can boost throughput, simplify processes, lower costs, improve metal recovery and yield, and reduce supply chain complexity.
- India should focus on making investments in cutting-edge mine planning technology and software to map out the ecological impacts of mining and extraction operations.
- Focusing on cutting-edge exploratory technologies will provide miners with a competitive edge, and the transformation will multiply with the size of the economy.
- In order to address the sector's negative social and environmental ripple effects and achieve unnoticeable societal and ecological harmony, sustainability in the sector will drive additional technological innovation and development.
- Automation and digitization, among other technological breakthroughs, have had a profound impact on the mining industry globally, and India needs to adapt those in order to improve its global positioning in the sector.
- A new Sub-sector 'Production of Syn-Gas leading to coal gasification' has been created in 2022 under the NRS linkage auctions in order to encourage coal gasification technology so that new consumers requiring coal for gasification are incentivized.

Notable trends in the metals and mining sector... (4/4)

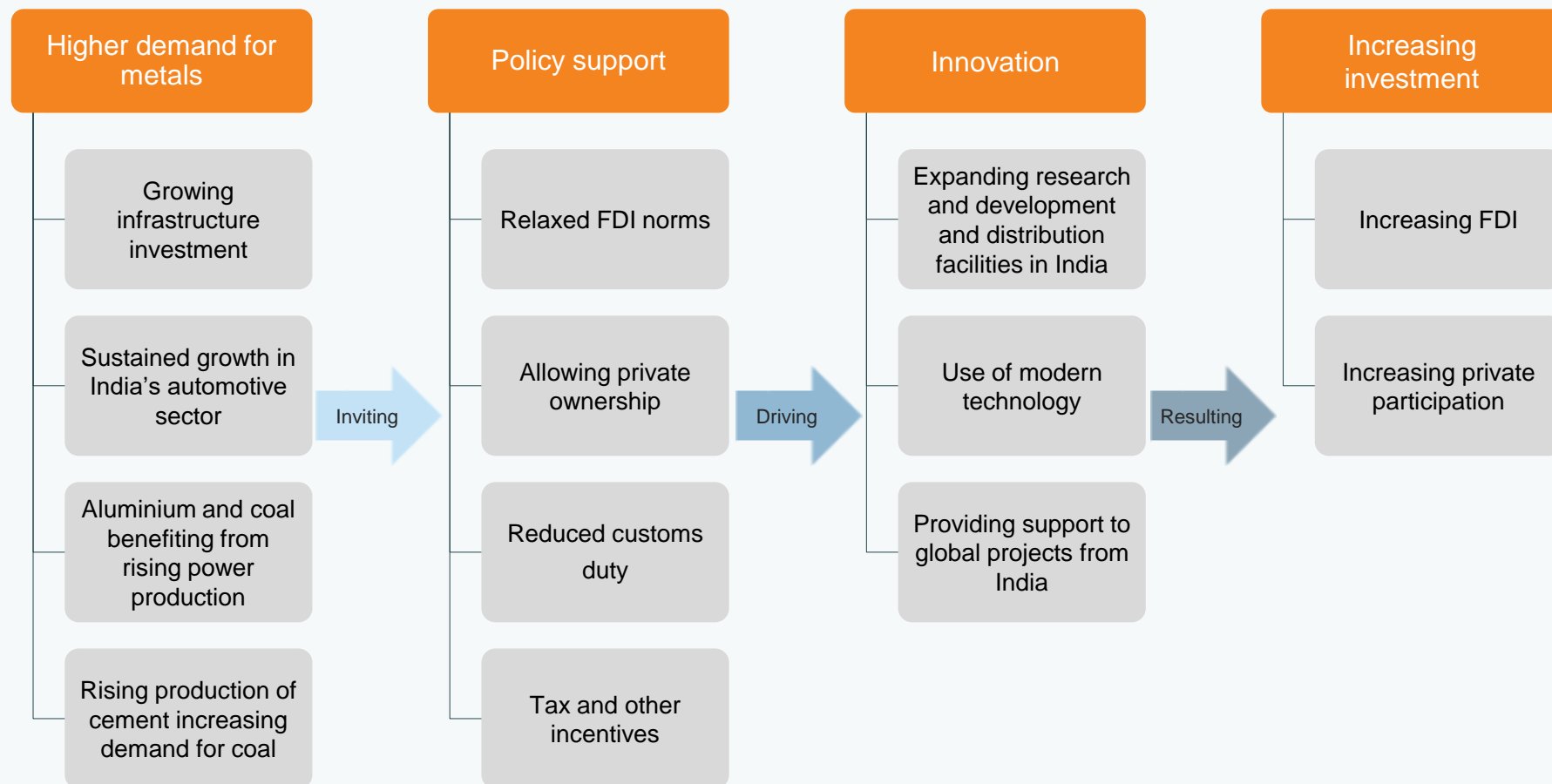
9

Cost optimisation

- Players in the industry are trying to minimise cost to gain competitive advantage.
 - For example, SAIL is trying to reduce cost by entering into an MoU for coal bed methane and propane gas to reduce cost of energy.
- Optimising input resources, operating efficiency for handling assets available with the company, reducing overhead costs and stabilising newly formed operation units.



Strong fundamentals and policy support aiding growth



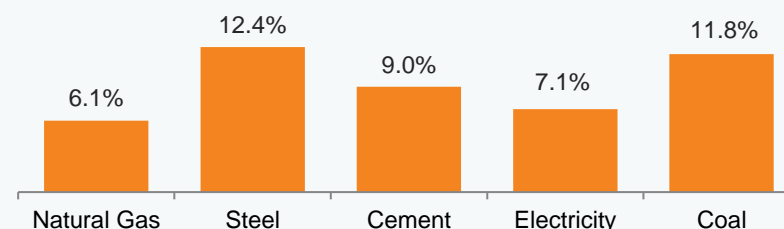
Notes: Manda - Mergers and Acquisitions, FDI - Foreign Direct Investment

Source: : TechSci Research

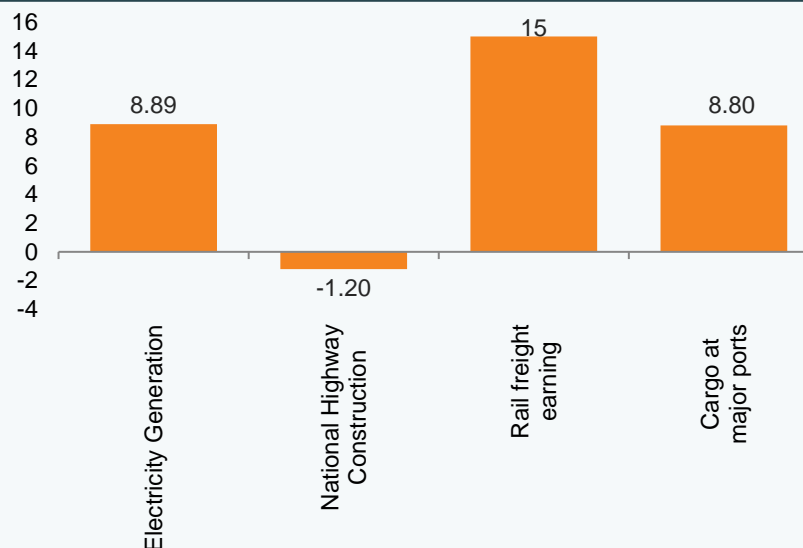
A fast-expanding construction sector has aided growth... (1/2)

- India is witnessing sustained growth in the infrastructure build-up.
- In FY24 (until April 2024), the combined index of eight core industries stood at 157.8 driven by the production of coal, refinery products, fertilizers, steel, electricity and cement industries.
- The total length of National Highways was 91,287 km in 2013-14, which increased to 146,145 km in 2023-24 (up to November 2023), which is a rise of more than 60% during this period.
- The pace of construction had improved from 12.1 km a day in FY15 to 28.3 km in FY23.
- The official stated that In freight loading, in the financial year 2023-24 1,591 MT were loaded compared to 1,512 MT in 2022-23, marking a 5% increase.
- Revenue growth has been strong over the years. Indian Railways' earnings from freight loadings reached Rs. 14,931.89 crore (US\$ 1.79 billion) in February 2024.
- During April-March 2023-24 cargo handled at Major Ports increased by 4.38% as compared to April-March 2022-23. During April-March 2023-24 total cargo handled had increased to 817.98 million tonnes (MMT) from 783.62 MMT handled during April-March 2022-23.
- As of April 2024, India's total installed power capacity stood at 442.87 GW.
- It has been estimated that India is going to require US\$ 4.5 trillion of investment by 2040 for infrastructure development.
- In Interim Budget 2024-25, capital investment outlay for infrastructure is being increased by 11.1% to Rs. 11.1 lakh crore (US\$ 133.72 billion), which would be 3.4% of GDP.

Production Growth of Key Core Industries (% YoY) between April–March 2023-24



Growth in infrastructure-related activities in FY23 (in %)



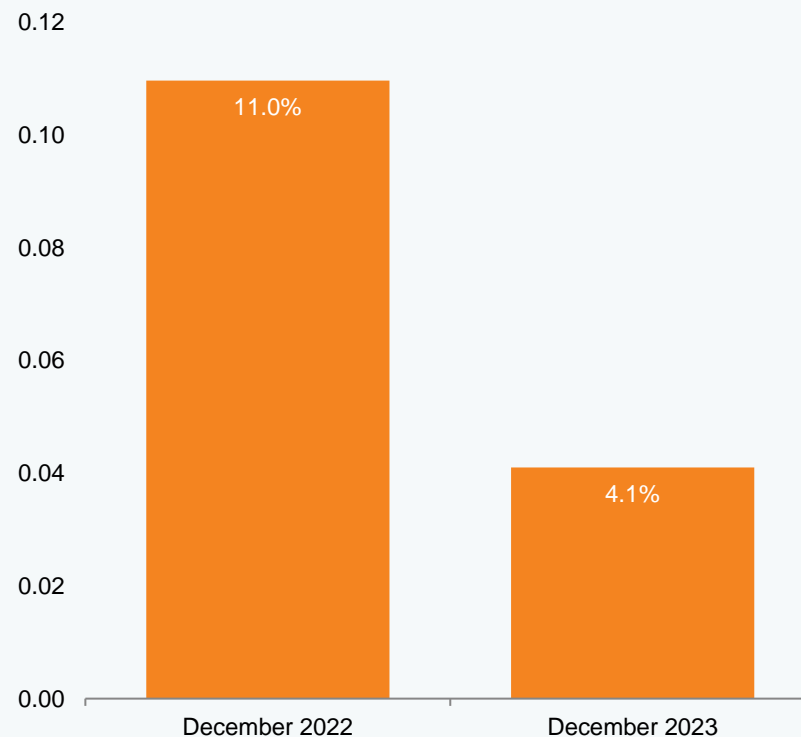
Note: F - Forecasts (by BMI), CAGR - Compounded Annual Growth Rate, BU- Billion Unit

Source: Business Monitor International's (BMI) Report on infrastructure industry in India

A fast-expanding construction sector has aided growth... (2/2)

- The construction sector's Gross Value Added (GVA) at current prices was estimated at US\$ 262.2 billion (Rs. 21,78,693 crore) for FY23 and US\$ 288.5 billion (Rs. 23,97,798 crore) for FY24 as per the Second Advance Estimates of National Income 2023-24.
- India is experiencing a construction boom driven by a growing housing economy and significant government infrastructure investments. The country is projected to become the third-largest construction market in the world, following China and the US, by 2025.
- India's FDI steady at US\$ 70.9 billion in FY24, inflows more than doubled in the construction sector.
- The construction market size in India was \$825.6 billion in 2023 and will achieve an AAGR of more than 5% during 2025-2028. The growth of the market is attributed to investment in the construction of hotels, industrial, green energy, and transport infrastructure projects.
- The share of building and infrastructure construction in overall steel consumption is 60-65% today.
- Mandatory road crash barriers on national highways, rising concretization, use of pre-engineered buildings, design changes in urban housing (underground parking and bigger span) – all augur well for steel demand in the long term.

Annual Growth Rates of IIP (%) for construction



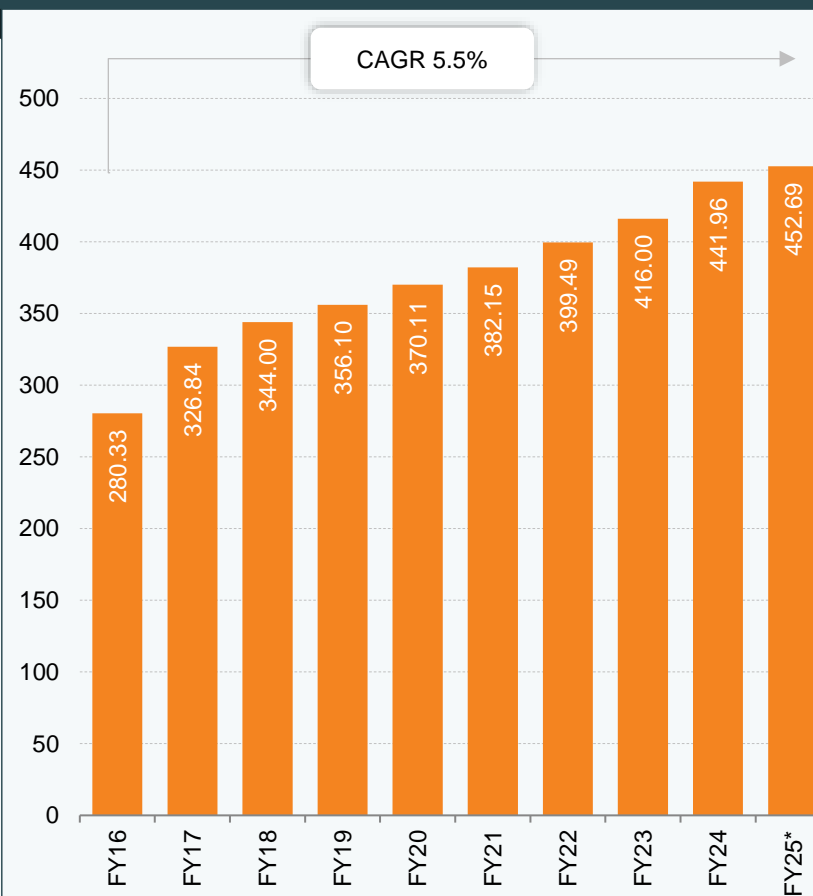
Note: PE - Provisional Estimated, YoY - Year on Year

Source: Business Monitor International's (BMI) Report on infrastructure industry in India

Power fuelling demand

- As of September 2024, India's total installed electricity generation capacity stood at 452.69 GW.
- India's power generation witnessed its highest growth rate in over 30 years in FY23. Power generation in India increased by 8.89% to 1,624.46 billion kilowatt-hours (kWh) in FY23.
- India's installed renewable energy capacity has increased 249% in over 9 years till FY23 and stood at more than 125.16 Giga Watts (excluding large Hydro power).
- Till April 2024, the installed solar energy capacity is 18.66% of total installed capacity and stood at 82.64 GW.
- India's power consumption grew by 8.47% on y-o-y basis to 1622.6 billion units (BU) during FY23-24.
- The electricity generation target of Conventional Sources for the year 2021-22 was fixed at 1,356 BU i.e., a growth of around 9.83% over the actual conventional generation of 1,234.60 BU for the previous year (2020-21).
- As of January 2024, India has a total thermal installed capacity of 240.43 GW of which 86% of the thermal power is obtained from coal and the rest from Lignite, Diesel, and Gas.
- Share of non-fossil fuel-based generation capacity in the total installed capacity of the Country is likely to increase from 42% as of October 2022 to more than 64% by 2029-30.

Installed electricity generation capacity (GW)



Source: Ministry of Power, Central Electricity Authority (CEA), *As of September 2024

Favourable policies are supporting the sector growth

1. Mines and Minerals Development & Regulation Act 2021

- For increasing mineral production and time bound operationalization of mines, increasing employment and investment in the mining sector, maintaining continuity in mining operations after change of lessee, increasing the pace of exploration and auction of mineral resources and resolving long pending issues that have slowed the growth of the sector.

2. National Mineral Policy 2019

- To bring more transparency, better regulation and enforcement, balanced socio-economic growth along with sustainable mining practices.
- Proposed to grant 'industry' status to mining with an objective of boosting financing of private sector.
- Supported M&A of mining players.

3. Relaxed FDI norms

- FDI up to 100% is allowed in exploration, mining, minerals processing metallurgy and exploration of metal and non-metal ores under the automatic route for all non-fuel and non-atomic minerals including diamonds and precious stones.

4. Allowing private ownership

- Government of India is encouraging private ownership for steel operations and other high priority industry.

7. Bank Loans

- State Bank of India (SBI) is planning to introduce a policy to lend loans to the coal miners before the landmark auction.
- As per the planned policy, SBI is open to provide some of the financing required to put 41 coal mines with a combined annual production capacity of 225 million tonnes to private companies.

6. Skill Development Plan for the Mining Sector (2016-22)

- Focus on upgradation of skill sets to foster adaptation of new state of art technology.
- Increase the capacity and quality of training infrastructure and trainers to address human resource needs.

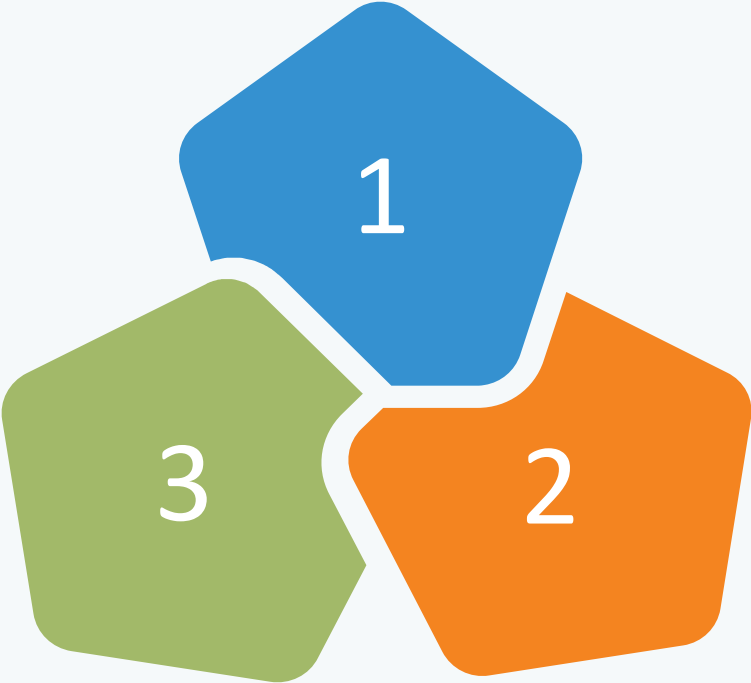
5. Reduced custom duty

- Government of India significantly reduced the duty payable on finished steel products and has streamlined the associated approval process.



1. Relaxation on duties

- In November 2022, the government removed export duties on steel and stainless steel to strengthen the nation's steel sector, and allow it to firmly establish its position in the global market.
- The Basic Customs Duty (BCD) on
 - ships imported for breaking up is being reduced from 5% to 2.5%.
 - coal-tar pitch is being reduced from 10% to 5%.
 - battery waste and battery scrap is being reduced from 10% to 5%.
 - steel grade limestone and steel grade dolomite is being reduced from 5% to 2.5%.



3. General restrictions and concessions

- To ensure ease of doing business, restriction on transfer of mineral concessions are removed and now mineral concession can be transferred without any transfer charge.

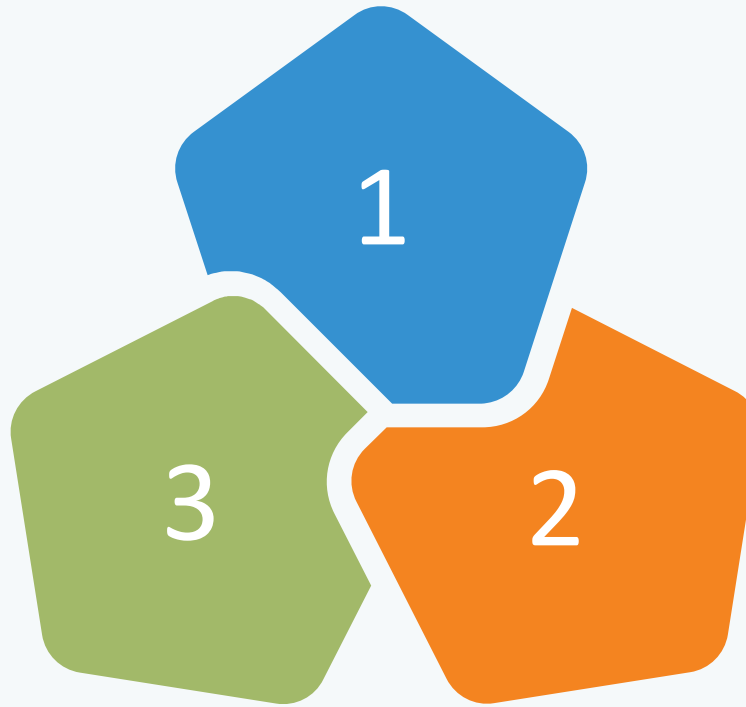
2. Process of revenue collection and usage

- The Union Cabinet approved the amendment to the Mines and Minerals (Development and Regulation) Act, 1957 specifying royalty rates for 12 critical minerals, thus completing the rationalization process for all 24 strategic minerals. This move aims to streamline the mining sector and auction processes, aligning with recent amendments to the MMDR Act.
- District Mineral Foundation (DMF) has been established in 622 districts of 23 States and a total of Rs. 71,128.71 Crore (US\$ 8.5 billion) has been collected till October 2022 under DMF.
- To implement projects under PMKKKY, by utilizing the funds under DMF, Rs. 64,185.76 Crore (US\$ 7.7 billion) have been allocated for various projects and Rs. 37,923.18 Crore (US\$ 4.6 billion) has been utilized.
- Total of 253,747 projects have been sanctioned under the scheme and 135,912 projects have been completed till October 2022 benefitting a large number of people in different States.

Mineral auction rules, 2015

1. Auction modalities

- In order to facilitate the auction of large area blocks, global positioning system has been allowed for identification and demarcation of the area where a composite licence is proposed to be granted through auction. Further, the requirement of classification of area to be auctioned, for composite licence, into forests land, land owned by the State Government, and land not owned by the State Government has been removed.
- In 2022, 90 mineral blocks have been successfully auctioned in the country. Of these, 51 mineral blocks were auctioned for Mining Lease (ML) and the remaining 39 were auctioned as Composite Licences (CL).
- In December 2023, the Ministry of Mines proposed capping performance security and upfront amounts for mining critical minerals to attract more bidders. Currently based on a percentage of the Value of Estimated Resources (VER), the move aims to reduce barriers to participation in auctions and expedite the process for mining leases.



2. Net worth requirements

- For annual average production up to
 - Rs 2 crore (US\$ 311,090) - net worth required: Rs. 50 lakh (US\$ 77,773).
 - Rs 20 crore (US\$ 3.11 million) - net worth required: Rs. 10 crore (US\$ 1.56 million).
 - Small bidders can include value of unencumbered immovable property in net worth.

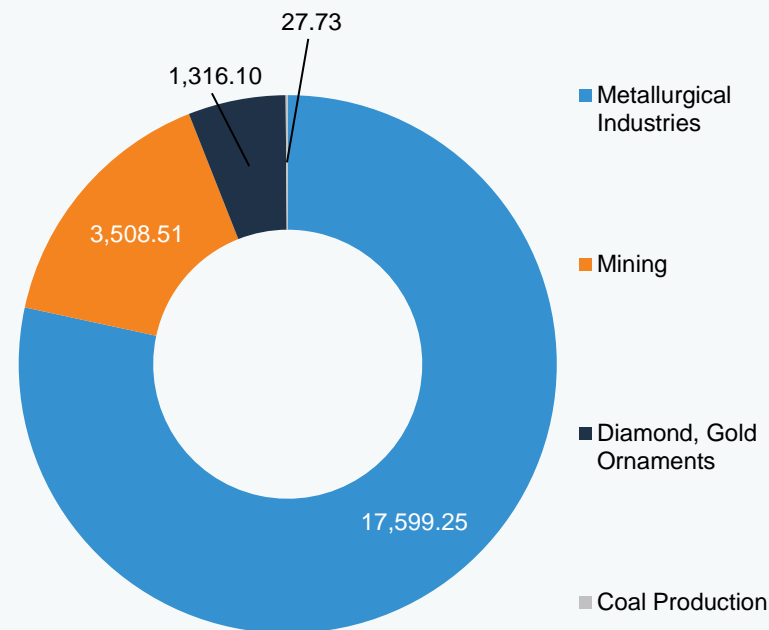
3. Mining lease

- Mining auctions conducted under the ambit of state Government.
- Types of lease granted:
 - Mining lease - where evidence of mineral contents is established.
 - Composite lease - combination of a prospecting licence and a mining lease.

Foreign investments flowing in India

- FDI up to 100% is allowed in exploration, mining, minerals processing metallurgy and exploration of metal and non-metal ores under the automatic route for all non-fuel and non-atomic minerals including diamonds and precious stones.
- Between April 2000-June 2024, FDI inflows in the metallurgical industry stood at US\$ 17.59 billion, followed by the mining (US\$ 3.50 billion), diamond & gold ornaments (US\$ 1.31 billion), and coal production (US\$ 27.73 million) industries.
- The metals and mining sector received the third highest inflows from foreign investors in FY23.
- In January 2023, Vedanta announced that its board had approved the sale of its international zinc assets in South Africa and Namibia to subsidiary Hindustan Zinc (HZL) for US\$ 2.98 billion.
- In March 2022, an MOU with a detailed collaborative framework was signed between KABIL, India and Critical Mineral Office (CMO), Department of Industry, Science and Resources (DISER), Govt. of Australia for carrying out joint due diligence and further joint investment in Li & Co mineral assets of Australia.
- In February 2023, Essar Capital Limited, investment manager of Essar Global Fund Limited, announced to set up steel plants in Odisha and a facility to import liquefied natural gas (LNG) at Hazira in Gujarat.

FDI equity inflow in the sector from April 2000-June 2024 (US\$ million)



Source: Department of Industrial Policy and Promotion

Merger and acquisitions

M&A activities

Acquirer	Target	Acquisition price (US\$ billion)
JSW Steel Ltd.	Bhushan Power and Steel (BPSL)	2.69
ArcelorMittal	Essar Steel	6.01
Tata Steel	Bhushan Steel	7.04
Mr. Anil Agarwal	Anglo American (Partial stake purchased)	2.0
JSW Energy Ltd.	Jindal Steel and Power Ltd.	0.97
SAIL	Reiterated its interest to acquire majority stake in Neelachal Ispat Nigam Ltd (NINL) in Jajpur, Odisha	-
Joint Venture between Vedanta Resources and Sesa Goa	Merger of Sterlite Industries (Indian subsidiary of Vedanta Resources) and Sesa Goa	3.90
GVK Power and Infrastructure Ltd.	Hancock Coal-Queensland Coal	1.26
Sesa Goa Ltd.	Cairn India Ltd.	1.18
JFE Steel Corp.	JSW Steel Ltd.	1.03
Lanco Resources Australia	Griffin Coal Mining Co Pty Ltd.	0.72
Vedanta	Cairn India	1.56
Oil and Natural Gas Corporation (ONGC)	Gujarat State Petroleum - KG Basin	1.20
Tata Steel Ltd.	Brahmani River Pellets Ltd.	0.13

Source: Thomson Banker, Deal Tracker

Opportunities



Opportunities (1/2)

1

Government initiatives

- The Union Cabinet approved the amendment to the Mines and Minerals (Development and Regulation) Act, 1957 specifying royalty rates for 12 critical minerals, thus completing the rationalization process for all 24 strategic minerals. This move aims to streamline the mining sector and auction processes, aligning with recent amendments to the MMDR Amendment Act, 2023.
- **India and Kazakhstan have launched IREUK Titanium Limited, a joint venture to produce Titanium Slag in India, marking India's first venture in Central Asia. The company will convert low-grade Ilmenite into high-grade titanium feedstock, aiming to enhance the titanium value chain in India and create jobs in Odisha.**
- The Union Cabinet approved the amendment of the Second Schedule of the Mines and Minerals (Development and Regulation) Act, 1957, specifying royalty rates for three critical minerals: Lithium, Niobium, and Rare Earth Elements (REEs) paving the way for the auctioning of blocks for these minerals, as outlined in the MMDR Amendment Act, 2023.
- On August 3, 2023, the Rajya Sabha passed the Offshore Areas Mineral (Development and Regulation) Amendment Bill, 2023 which seeks to make amendments to the Offshore Areas Mineral (Development and Regulation) Act, 2002 ('OAMDR Act'). The Bill was passed by Lok Sabha on August 1, 2023.
- The government plans to monetize assets worth Rs. 28,727 crore (US\$ 3.68 billion) in the mining sector over 2022-25.
- In 2022, PLI Scheme for domestic production of specialty steel has been approved with an outlay of Rs. 6,322 crore (US\$ 762.4 million) by the Cabinet.
- District Mineral Foundation (DMF) has been established in 622 districts of 23 States and a total of Rs. 71,128.71 Crore (US\$ 8.5 billion) has been collected till October 2022 under DMF.

2

Scope for new mining capacities in iron ore, bauxite and coal

- India has the world's seventh-largest reserve base of bauxite and fourth-largest base of iron ore, which accounts for about 7% and 11% of the total world production, respectively.
- Moreover, India had the world's fifth-largest coal reserve at 361.41 billion tonnes in FY22.
- Southeastern Coalfields Limited (SECL), a subsidiary of Coal India in Chhattisgarh, has reached a milestone with its Gevra and Kusmunda coal mines ranking 2nd and 4th on WorldAtlas.com's list of the world's largest coal mines. Located in Korba district, these mines together produce over 100 million tons of coal annually, accounting for about 10% of India's total coal production.

Opportunities (2/2)

3

Rapid growth of user-industries to drive demand for metals and minerals

- In 2023, the mineral's demand is likely to increase by 3%, driven by expanded electrification and overall economic growth in India.
- Being the third largest energy consuming country in the world, there is always increased demand for power and electricity in the country, and hence the surge in demand for coal.
- Demand for steel is likely to grow by ~10% as the government's augmented focus on infrastructural development continues with increased construction of roads, railways, airports, etc.

4

Expansion by existing players

- As announced in February 2023, ArcelorMittal - Nippon Steel is investing Rs. 60,000 crore (US\$ 7.3 billion) to expand its steelmaking capacity in Hazira to 15 MT a year from 9 MT.
- In February 2023, JSW Group announced to build a steel plant in Andhra Pradesh's YSR Kadapa district with an investment of Rs. 8,800 crore (US\$ 1 billion).
- In 2021, an Indian state committee recommended the expansion of Vedanta Ltd.'s Lanjigarh Alumina refinery from 1 million tonnes to 6 million tons, an investment that would cost the company Rs. 64.83 billion (US\$ 993 million).

5

Ongoing feasibility study on steel projects

- In May 2021, ArcelorMittal Nippon Steel (AMNS) India collaborated with the Odisha government to carry out a feasibility study for a steel project in the state at a proposed capacity of 12 million tonnes per annum (MTPA). Estimated investment of the project stands at Rs. 50,000 crore (US\$ 6.89 billion).

Source: WSA, Ernst and Young, Press Release

Opportunities in the iron ore sector

1

Exploration in proposed exploration zones

- Odisha: Bonai (Keonjhar belt) and Tomka (Daitari and Umerkoke belts).
- Jharkhand: All major high-grade ore deposits; contain low-grade lateritic ores.
- Karnataka: Bagalkot, Tumkur, and Chitradurga districts.
- Maharashtra: Sindhudurg, Gadchiroli and Gondia.
- Chhattisgarh: All 14 deposits of Bailadila range, Dantewada district.
- Andhra Pradesh: Kadapa, Kurnool, Karimnagar, Adilabad, and Guntur districts.

2

Scope for new mining capacities in iron ore, bauxite and coal

- For 11 coal mines, the government had received 26 proposals. The online bids were encrypted and opened electronically.
 - Pelletisation capacity is about 59.30 metric tonnes per annum (MTPA)*.
 - Sintering capacity is about 70.05 MTPA*.
- Scope for domestic and foreign firms to explore PPP opportunities.
 - Joint Venture or technical participation with midcap players with lease/license and seeking capital, expertise and technology.
 - Through the auction route, players can get access to coal mines and iron ore reserves.
 - Introduction of Mines and Minerals (Development and Regulation) Amendment Bill 2015 to encourage investment and introducing viable mining practices.
- The National Mineral Exploration Trust (NMET), established in 2015 to enhance regional and detailed mineral exploration in India has plays a crucial role in advancing mineral exploration activities in the country. Since inception NMET has funded 270 mineral exploration projects, out of which 162 projects have been completed and remaining 108 projects are ongoing. Madhya Pradesh (22) has highest number of ongoing mineral exploration projects followed by Odisha (21) and Jharkhand, Karnataka and Maharashtra (12 each) for minerals including Iron ore, Bauxite, Coal, and Limestone.




Notes: MT - Metric Tonnes, MTPA - Metric Tonnes Per Annum, *: As per Indian Minerals Yearbook 2017

Source: PwC, Ministry of Mines

Key Industry Contacts



Key industry contacts

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Appendix

- BMI's Mining Business Environment Ratings
 - Market structure: It takes into consideration mining output in US\$ billion, sector value growth,% y-o-y r, mining sector,% of GDP
 - Country structure: It takes into consideration labour market infrastructure, physical infrastructure r, tax, and scope of state
 - Market risks: It considers metals prices, 5-year, forecast average, metals price forecast, average 5-year growth, regulatory framework, legal framework
 - Country risk: It considers, long-term external risk, corruption, bureaucracy, long-term policy continuity
 - Mining ratings: It shows the overall scores of the above indicators

Glossary

- CAGR: Compound Annual Growth Rate
- FDI: Foreign Direct Investment
- FY: Indian Financial Year (April to March); So, FY10 implies April 2009 to March 2010
- GOI: Government of India
- IBM: The Indian Bureau of Mines
- MoU: Memorandum of Understanding
- PPP: It could denote two things (mentioned in the presentation accordingly) -
 - Purchasing Power Parity (used in calculating per-capita GDP)
 - Public Private Partnership (a type of joint venture between the public and private sectors)
- PE: Private Equity
- US\$: US Dollar
- Wherever applicable, numbers have been rounded off to the nearest whole number

Exchange rates

Exchange Rates (Fiscal Year)

Year	Rs. Equivalent of one US\$
2004-05	44.95
2005-06	44.28
2006-07	45.29
2007-08	40.24
2008-09	45.91
2009-10	47.42
2010-11	45.58
2011-12	47.95
2012-13	54.45
2013-14	60.50
2014-15	61.15
2015-16	65.46
2016-17	67.09
2017-18	64.45
2018-19	69.89
2019-20	70.49
2020-21	73.20
2021-22	74.42
2022-23	78.60
2023-24	82.80
2024-25**	83.89

Exchange Rates (Calendar Year)

Year	Rs. Equivalent of one US\$
2005	44.11
2006	45.33
2007	41.29
2008	43.42
2009	48.35
2010	45.74
2011	46.67
2012	53.49
2013	58.63
2014	61.03
2015	64.15
2016	67.21
2017	65.12
2018	68.36
2019	69.89
2020	74.18
2021	73.93
2022	79.82
2023	82.61
2024*	83.70

*Note: * - Until October 2024, ** - April- October 2024*

Source: Foreign Exchange Dealers' Association of India

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