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Briefing Note

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Saumya Nautiyal, Energy Finance Analyst, Steel – South Asia, IEEFA
Simon Nicholas, Lead Analyst – Global Steel, IEEFA

India's looming iron ore challenge

- *India's iron ore challenge is shifting from securing sufficient supply to securing the right quality of ore needed for an expanding and lower-emissions steel industry.*
- *As iron ore imports become more important, the type of ore India sources could influence steelmaking technology choices and long-term dependence on imported coking coal.*
- *With global suppliers increasingly producing premium direct reduction (DR)-grade feedstocks and green iron, India should evaluate future iron ore sourcing through the lens of technology, energy security and industrial competitiveness — not simply cost.*
- *Beyond Australia, Brazil is well positioned to benefit from India's shift towards lower-emissions steelmaking, given its abundant high-grade iron ore resources and growing production of DR-grade feedstocks.*

Introduction

India's abundant iron ore resources have long underpinned the growth of its steel industry. That resource advantage is becoming increasingly significant as India pursues one of the world's most ambitious steel expansion plans. Under the proposed National Steel Policy 2025, the government reportedly aims to more than double crude steel production capacity to 400 million tonnes (Mt) by 2035–36, while reducing the steel sector's emissions intensity and dependence on coking coal. Achieving these ambitions will require not only significantly more iron ore, but also iron ore of a quality that supports India's evolving steelmaking technologies.

India produced around 289Mt of iron ore in FY2025, making it the world's fourth-largest producer. It possesses one of the largest iron ore resource bases in the world. However, a growing share of India's remaining iron ore resources comprises medium- and low-grade ores that require beneficiation to a higher grade (Box 1). In addition, many Indian ores contain relatively high alumina levels, which reduce blast furnace productivity and increase energy consumption. An Indian study found that every 1% increase in alumina raises coke consumption by 2.2% and reduces productivity by 4%. Improving ore quality through beneficiation and pelletisation will therefore become important as India's steel sector expands.

Improving domestic ore quality should remain the foundation of India's long-term iron ore strategy. With more than 357Mt per annum of steelmaking capacity under development, access to premium iron ore is becoming an essential strategic consideration. The question is therefore shifting from whether India has sufficient iron ore to whether it has access to the right quality of ore for the steelmaking technologies it intends to deploy.

This shift is already influencing corporate strategy. During Tata Steel's FY2026 fourth-quarter earnings call, Chief Executive Officer T.V. Narendran outlined a post-2030 raw material strategy based on three pillars — securing domestic mining leases, expanding production where iron ore is available, and evaluating imported iron ore to complement domestic supply. Rather than presenting imports as a substitute for domestic resources, Narendran described them as one way to improve supply flexibility, logistics and access to higher-quality, lower-alumina ores. Tata Steel has already trialled imported Canadian iron ore to assess both logistics and operational performance. Narendran noted that lower-alumina ores can deliver a better "value in use", particularly for its expanding portfolio of coastal steel plants in India.

Box 1: Overview of iron ore beneficiation in India

As per an inter-ministerial committee constituted by the Ministry of Mines, 23.4% of the country's iron ore reserves are classified as high-grade, while 66.5% comprise medium- and low-grade ores that require beneficiation before they can be efficiently used in steelmaking. The remaining reserves fall under the "others" category. In addition, hematite mining generates 60–70% fines, much of which requires further processing to recover value. The committee also highlighted the significant potential of lower-grade resources such as Banded Hematite Quartzite (BHQ) and Banded Hematite Jasper (BHJ), but noted that unlocking these resources will require substantial investment in beneficiation infrastructure and supportive policy measures.

India currently has 27 beneficiation plants and an installed capacity of around 136 million tonnes per annum (MTPA). However, production in FY2024 was estimated at only 94Mt, suggesting that capacity utilisation remains well below installed levels. Odisha and Jharkhand account for more than half of the country's beneficiation capacity, reflecting the concentration of iron ore resources in eastern India. As steel production expands and ore grades decline, the challenge will shift from opening new mines to upgrading more domestic ore into higher-quality feedstocks suitable for efficient blast furnace operations and, where possible, direct reduced iron (DRI) production.

Scaling beneficiation will require significant investment. Industry estimates suggest that expanding beneficiation capacity from 136MTPA to around 170MTPA by FY2030 could require approximately INR51,000 crore (USD5.37 billion) of capital investment. Recognising these challenges, the Ministry of Mines has proposed several policy measures, including a reduced royalty for beneficiated low-grade ore, infrastructure support and financial incentives to encourage greater utilisation of domestic resources. While beneficiation alone is unlikely to eliminate India's future need for imported premium iron ore, expanding domestic upgrading capacity can improve resource efficiency, reduce dependence on higher-grade imports and strengthen the resilience of India's long-term steel supply chain.

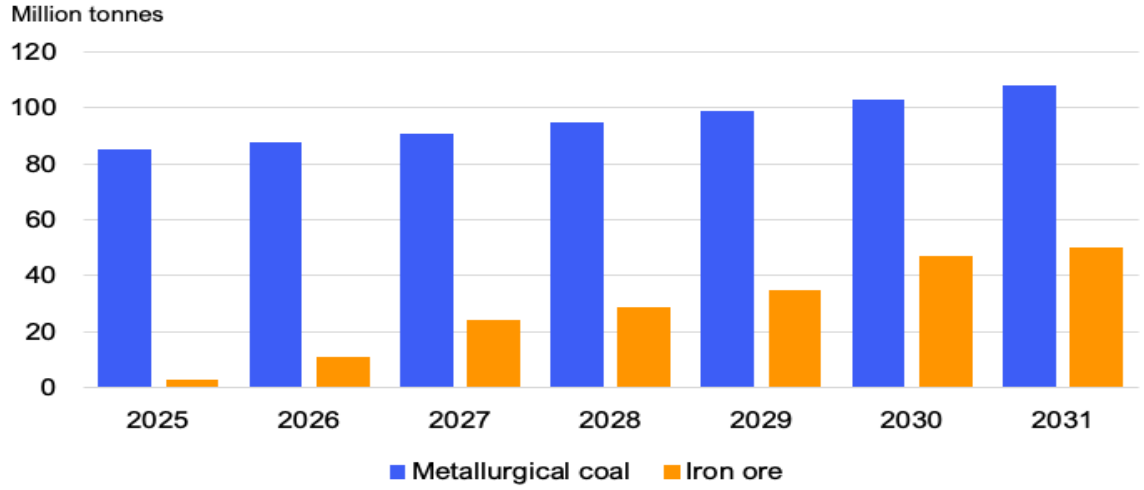
The global iron ore market is changing

Tata Steel's evolving strategy reflects broader structural changes in the global iron ore market. After more than two decades, in which China drove global seaborne iron ore demand, future growth is now expected to come from emerging steel-producing economies, particularly

Southeast Asia and India, as Chinese steel production matures. Reflecting this, global iron ore giant Vale has identified India as a strategic growth market, recognising the country's growing importance in the future seaborne iron ore trade.

The Australian government forecasts a steady increase in India's iron ore imports, from 3Mt in 2025 to 50Mt in 2031, even as domestic production continues to expand. Industry estimates point to a similar trend: The head of raw materials at India's Jindal Steel estimates that producing around 220Mt of steel by 2030 would require about 500Mt of iron ore, leaving a potential 40Mt supply gap even after planned mine expansions. Even as domestic production continues to expand. Industry estimates point to a similar trend. Together, these projections suggest India could become increasingly dependent on imports of both iron ore and metallurgical coal as its steel sector expands (Figure 1).

Figure 1: India's metallurgical coal and iron ore imports are forecast to grow



Source: Australian government's June 2026 Resources and Energy Quarterly

Although India is expected to remain a much smaller iron ore importer than China, imported ore is likely to play an increasingly important role in meeting the requirements of India's expanding steel industry.

As steelmakers pursue lower-emissions production, the challenge is changing not only how much iron ore is traded, but also what quality of iron ore is required. While blast furnaces can use a broader range of iron ore grades, DRI technologies require premium feedstocks (iron ore containing around 67% iron with fewer impurities). As investment in DRI grows, demand for these higher-quality feedstocks is expected to increase.

This shift presents different opportunities for the world's largest iron ore exporters. Brazil is well positioned to meet growing demand for premium iron ore feedstocks because of its abundant high-grade iron ore resources and ongoing investments to expand direct reduction (DR)-grade concentrates and pellet feed. According to researchers, Brazil could become one of the world's leading exporters of green iron, leveraging its high-grade iron ore resources together with abundant renewable energy and competitive production costs.

Australia, meanwhile, continues to dominate global iron ore exports through its Pilbara hematite operations, which remain the backbone of blast furnace steelmaking in Asia. However, Australia's longer-term opportunity may lie in supplying higher-value iron ore products for low-emissions steelmaking. Through beneficiation, magnetite ore can be upgraded into premium concentrates containing around 67–70% iron with very low impurity levels, making it suitable for DR-grade pellets used in direct reduction.

Australia's emerging magnetite industry is therefore attracting growing strategic interest. Several large magnetite projects are under development in Western Australia and South Australia. At the same time, Australia's policy and industry focus is now shifting towards downstream value addition, including beneficiation, low-emissions ironmaking and green iron production, although most projects remain in the early stages of development.

This shift is visible in the proposed sale of the Whyalla Steelworks in South Australia. The Australian and South Australian governments have shortlisted Jindal Steel and M Resources as the final bidders, with the successful buyer expected to modernise Whyalla into a low-emissions steelmaking facility. The sale includes the significant nearby magnetite resource. If Jindal Steel were to win the bid, it could soon be mining magnetite both for the Whyalla steel plant and for export.

While the outcome of the sale remains uncertain, the project highlights Australia's growing focus on combining premium iron ore resources with downstream ironmaking.

Why iron ore quality matters for India

As major exporters diversify their product offerings, India's future iron ore imports may involve a choice between conventional blast furnace feedstocks and premium DR-grade products. If conventional blast furnace-grade ore dominates future imports, it could reinforce continued investment in blast furnace-basic oxygen furnace (BF-BOF) steelmaking and extend India's long-term dependence on imported coking coal. By contrast, greater availability of premium DR-grade feedstocks could support the gradual expansion of DRI using natural gas, coal-derived syngas and, over time, green hydrogen.

This distinction has important implications for India's energy security. IEEFA has shown that India's growing dependence on imported coking coal is becoming one of the steel sector's most significant strategic vulnerabilities. India currently imports around 85% of its coking coal requirements, exposing steelmakers to international price volatility, supply disruptions and geopolitical risks. At the same time, Global Energy Monitor estimates that around 57% of India's announced steelmaking capacity under development remains based on the BF-BOF route, reinforcing long-term dependence on imported coking coal.

Looking ahead

The iron ore debate is already becoming relevant for India's steel producers. Steel Authority of India Limited Chairman, Ashok Kumar Panda, warned in July 2026 that rising royalties, mining levies and logistics costs are expected to increase domestic iron ore costs over time, reducing the traditional cost advantage enjoyed by integrated steelmakers. He also noted that the growing availability of steel scrap would reshape India's future raw material mix, with scrap expected to become a key raw material for the sector.

These remarks show that future competitiveness will depend not only on securing sufficient raw materials, but also on choosing iron ores that align with evolving steelmaking technologies.

Major iron ore producers are looking beyond conventional ore exports. Brazil and Australia are exploring opportunities to expand exports of premium DR-grade iron ore while developing downstream green iron industries. At the same time, Oman is positioning itself as a regional hub for green iron production using green hydrogen. Jindal Steel owns one DRI plant in Oman and is developing another. The company recently stated it is considering the import of DRI due to a shortage of available metallics in India.

As these markets mature, India could have access to a broader range of premium iron ore and lower-emissions iron products that support its steel transition and improve energy security.

India's iron ore strategy is therefore shifting from securing sufficient volumes to securing the right quality of raw materials. As imports become significant, the key question is not just whether India imports iron ore, but whether those imports support the steelmaking technologies the country wants to build. Future sourcing decisions should be guided not only by cost, but also by their implications for energy security, industrial competitiveness and steel decarbonisation.

About IEEFA

The Institute for Energy Economics and Financial Analysis (IEEFA) examines issues related to energy markets, trends and policies. The Institute's mission is to accelerate the transition to a diverse, sustainable, and profitable energy economy. www.ieefa.org

About the authors

Saumya Nautiyal

Saumya Nautiyal is an Energy Finance Analyst, Steel Sector, South Asia at IEEFA. She examines the steel sector's technology transition, energy and resource security and pathways for industrial decarbonisation. She began her career at STENUM Asia, where she supported sustainability programme management and business development with international development agencies and corporate clients. snautiyal@ieefa.org

Simon Nicholas

Simon Nicholas is IEEFA's Lead Analyst for the global steel sector. Simon's focus is on the long-term outlook for steel production, as well as on the implications for the global iron ore and metallurgical coal markets. Before joining IEEFA in 2016, Simon had 16 years' experience in the finance industry at ABN Amro, Macquarie Group and Commonwealth Bank of Australia in Sydney and London. snicholas@ieefa.org