



Institute for Energy Economics
and Financial Analysis

India's steel sector confronts growing coal risks

Rising doubts over Australia's long-term supply underlines the need for India to further reduce reliance on imported met coal

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Key findings

India has taken steps to strengthen its energy security, but more action is needed to avoid the risks clouding its fast-expanding steel sector. The country still relies on imports, primarily from Australia, for about 90% of its metallurgical (met) coal needs.

Australia is by far the largest met coal exporter globally. However, its long-term production is increasingly at risk from financial, legal, regulatory and climate risks, increasing the likelihood that future met coal supply from the country may fall short for India.

If India's continued blast furnace capacity expansion keeps met coal demand high, a global shortfall could drive significant and structural price increases given the risks associated with developing new supply.

Green hydrogen and scrap steel will become strategic, domestic resources that can reduce energy and materials security risk in India's steel sector. Actions to accelerate their long-term availability should begin now.



Executive summary

India has been working to address the energy security risks facing its growing steel sector, but further action is needed for the country to stay ahead of emerging challenges.

As the world's key market for steel demand growth, India is seeing a major expansion of capacity within the sector, with plans largely centred on the blast furnace-basic oxygen furnace (BF-BOF) technology that requires metallurgical (met) coal. The country is currently dependent on imports for around 90% of its met coal needs.

Australia is the world's largest met coal exporter, accounting for almost half of global exports. However, concerns over the reliability of its future supply have persisted for years now. The Australian met coal sector is characterised by numerous risks that could result in future supply disappointing Indian steelmakers. Keeping this in mind, the Indian government and steelmakers have been taking effective steps to reduce dependence on Australian met coal. The risks, though, are rising and India will need to take additional measures to avoid locking in steelmaking technology permanently weighed down by long-term energy security concerns.

The risks faced by Indian steelmakers include:

- **Over-optimistic forecasting despite declining exports:** The Australian government has a clear track record of over-estimating its met coal export forecasts, having revised its projections downward each year for the past six years with actual exports in decline. Given this gap, India should not rely on Australian government forecasts of increased met coal exports.
- **Slowing mine development:** The recent wave of acquisition activity in the Australian met coal market highlights miners' preference to acquire existing operations rather than navigate the long and increasingly difficult process of opening new mine capacities. The International Energy Agency (IEA) has noted that the project pipeline of new coal mines in Australia has shrunk and that, "progress in announced new projects has been very slow".
- **Growing methane risks:** The mounting challenge of methane emissions is likely to make opening new met coal mine capacity even harder in the long term. Methane emissions produced by Australian met coal mines, which add significantly to total steelmaking emissions, are receiving growing attention from stakeholders, including governments and civil society. It seems highly likely that Australian coal mine methane emissions are significantly under-reported.

Australia joined the Global Methane Pledge in 2022, committing to reducing the nation's methane emissions by 30% below 2020 levels by 2030. With the true scale of met coal mine methane emissions starting to become apparent, opening new mine capacity may become difficult if the Australian government is serious about the pledge. In September 2025, the Australian government announced its interim target to reduce emissions by 62%-70% below 2005 levels by 2035 and published sector plans for reaching this target, including for the

resources sector. India has a 2070 net zero emissions target but is reliant on met coal imports from a country that has a 2050 target.

- **No carbon capture progress:** Carbon capture and storage (CCS) for steelmaking does nothing to address the methane emissions from met coal mining. Moreover, its poor track record shows it cannot meaningfully address steelmaking's carbon emissions either. There is still not a single commercial-scale CCS facility for met coal-based steelmaking anywhere in the world. There are also significant doubts over the availability of suitable CO₂ storage locations globally, including in India. With alternative steelmaking technologies, that don't use met coal, becoming more prominent, the realisation that CCS cannot meaningfully decarbonise blast furnaces will lead banks and other financiers to move away from financing met coal projects.
- **Finance risks:** Australian banks have already begun denying finance for new (greenfield) met coal mines. As lower-carbon steelmaking technologies become more accessible, policies will tighten across financial institutions, echoing the withdrawal of support seen in the thermal coal sector. This will further increase the risk of future met coal supply from Australia disappointing the Indian steel sector.
- **Legal and regulatory risks:** Although Australian governments are still currently approving coal mine expansions, it is not a foregone conclusion that this will continue at the same pace going forward. Instances of Australian coal mines not getting planning approval or having their approval successfully challenged in court are rising. Coal mine extensions are being rejected due to concerns about greenhouse gas (GHG) emissions. Such concerns will likely grow as the nation's 2050 net zero emissions target gets nearer. There is a significant and rising risk that legal and regulatory barriers will limit future met coal supply to India.
- **Rising mining costs:** Queensland, Australia's largest met coal producing state and the world's leading seaborne exporter, is seeing the cost of mining rise, eroding the financial case for investment in more met coal capacity, with unit costs having risen as much as 50% since 2018. The cheaply available coal has been mined already and mining operations are having to dig deeper to maintain production, incurring higher costs. Labour costs have also been rising. In addition, there are emerging costs that are likely to continue putting pressure on miners' cost base, including those related to climate change impacts and emissions management.
- **Structural price rises in the longer term:** If India continues to build blast furnace capacity leading to significantly higher met coal demand, any potential future shortfall in Australian met coal production arising from the risks highlighted above could lead to higher prices. This may help Australian coal miners overcome their increasingly high cost base but would transfer the impact of higher costs onto Indian steelmakers. Australian met coal miners are highlighting their expectations of higher longer-term prices to their investors. In a high price environment, it might be expected that new supply would open up in response, bringing the market into balance and bringing prices down towards historical levels. However, in a world increasingly affected by

climate impacts, legal, regulatory and financing hurdles are likely to grow ever higher, meaning that any price rises could become structural.

- **Climate risks:** India also faces met coal supply and price-related implications linked to climate change. Queensland is prone to intense rainfall and flooding events which impact mining and coal rail logistics. The intensity of rainfall and flooding events in Australia is forecast to increase, and with it the risk of more supply interruptions and price spikes.

Recommendations

The growing energy security risks faced by India's steel sector are a long-term problem that will require long-term solutions. Investment by Indian steelmakers in mines overseas is unlikely to be that solution given the threat of all the risks highlighted above. However, the great majority of India's domestic met coal does not meet the quality requirements of steelmakers due to high ash content and sulphur levels. With the global steel sector technology transitioning away from coal, and India needing to protect its steel sector from future supply and cost shocks, the country must accelerate the transition to alternative steelmaking technologies that don't rely on met coal.

- One clear alternative gaining traction is scrap steel recycling through electric arc furnaces (EAFs). Scrap steel has the potential to be a strategic resource that can reduce India's requirement for import of both met coal and iron ore in the long-term. While larger volumes of scrap steel won't become available for some time, its benefits in terms of energy and materials security are such that India should prioritise scrap collection, logistics and processing now in order to put itself in the best possible position to gain from increasing volumes in the future.
- Domestically produced green hydrogen, used in steelmaking as an alternative to met coal, also represents a major energy security opportunity for India which is among the most promising locations to produce cost-competitive green hydrogen. Future production should prioritise domestic use in sectors such as steel over export. Indian steelmakers have begun to turn to green hydrogen, but this option should become an even greater priority for India.

Ultimately, these shifts represent the next stage of India's energy and industrial transition. They would not only enhance India's energy security but also strengthen its competitiveness in global low-carbon steel markets.

Introduction

India is the world's key growth market for steel demand, and the sector is experiencing a major capacity expansion, dominated by the blast furnace-basic oxygen furnace (BF-BOF) technology pathway.

Blast furnaces require metallurgical (met) coal, which includes coking coal and pulverised coal injection (PCI). India produces relatively little met coal domestically and what it does produce is often

of unsuitable quality for steelmakers. As a result, India is dependent on imports of met coal for around 90% of its needs.¹

If India continues to build blast furnaces needed to meet its growing steel demand, volumes of met coal imports will have to rise.

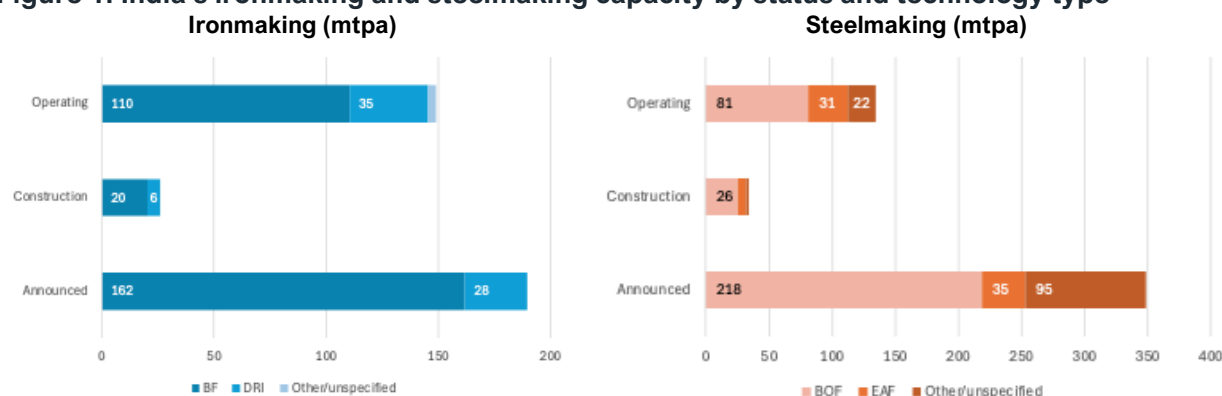
The Australian government forecasts that India will overtake China to become the world's largest met coal importer from 2028.² However, there are significant and growing doubts about whether long-term seaborne met coal supply will be sufficient to meet this demand, and about the cost.

Australia is the world's largest met coal exporter by far, accounting for almost half of global exports. But, as this report sets out, the Australian met coal sector is characterised by numerous risks that could see future supply disappoint Indian steelmakers. The Indian government and steelmakers are already alive to these risks and have been taking effective steps to reduce reliance on Australian met coal. The risks, though, are rising and India will need to take further steps to avoid locking in steelmaking technology that is permanently weighed down by energy security concerns.

India's steel capacity expansion plans

India aims to achieve a crude steel production capacity of 300 million tonnes per annum (mtpa) by 2030, reflecting the country's ambitious agenda for its steel sector. A large share of this expansion is driven by the blast furnace (BF) steelmaking route, the most coal intensive pathway, which relies heavily on imported coking coal. Global Energy Monitor reports that as of March 2025, India operates about 110mtpa of BF capacity, with 20mtpa under construction and 162mtpa announced.³

Figure 1: India's ironmaking and steelmaking capacity by status and technology type



Source: Global Energy Monitor, Global Iron and Steel Tracker, September 2025 (V1)

¹ EY Parthenon and Indian Steel Association. [India's coking coal strategy: Building resilience through innovation, sustainability and policy](#). September 2025.

² Australian Government, DISR, [Resources and Energy Quarterly](#), March 2025.

³ Global Energy Monitor. [Iron Capacity by Method and Development Status in Each Country/Area](#). September 2025.

Further along the steelmaking process, molten pig iron from the BF feeds into the basic oxygen furnace (BOF), which remains the dominant technology in India's steel production. Of India's 134mtpa operating crude steel capacity, 81mtpa (61%) comes from BOF. The project pipeline reinforces this reliance, considering that of the 382mtpa of steel capacity under development (construction and announced), 64% is linked to coal-based BF-BOF projects.⁴ Worldwide, India alone accounts for 40% of all new coal-intensive steel capacity, although only 8% of the projects have advanced to the construction stage. Whenever these projects materialise, BF-BOF capacity would more than double from today's levels, substantially increasing coking coal demand and raising energy security concerns, given that nearly 90% of India's coking coal is imported, primarily from Australia.

Assuming 770kg of met coal required to make one tonne of crude steel⁵, the 182mtpa of BF capacity either announced or under construction in India would require an additional 140mtpa of metallurgical coal supply. India's current met coal imports are around 58mtpa.⁶

Opportunities to reduce met coal reliance exist through direct reduced iron and electric arc furnace (DRI-EAF) technology, though these capacities remain relatively small. India operates 35mtpa of DRI and 31mtpa of EAF, with an additional 28mtpa of DRI and 35mtpa of EAF announced. The DRI-EAF route does not use met coal, yet BF-BOF projects still dominate the development pipeline.

Existing concerns over future coking coal supply

Indian steelmakers have had concerns about future supply of Australian met coal for years. On a visit to Australia in 2022, Tata Steel CEO and Managing Director T.V. Narendran expressed concerns over there not being enough investment in new Australian met coal mines to meet future Indian demand stating, "The concern I have on this visit is a bit more that I don't see too much investment happening in growing coking coal capacities in Queensland because there is a concern about coal as a whole."⁷

Concerns have only mounted since then. At the Indian Steel Association's Delhi Coking Coal Summit in September 2025, Amita Khurana, Group Chief for raw material procurement at Tata Steel, said, "The fundamental problem that we are facing is that steel in India is going to grow at a certain pace, while visibly there's just not enough additional coking coal that is developing at this stage to meet that demand."⁸

Meanwhile, energy and resources consulting firm Wood Mackenzie noted that more than 100mt of new hard coking coal mine capacity will be required by 2050 to meet expected demand.

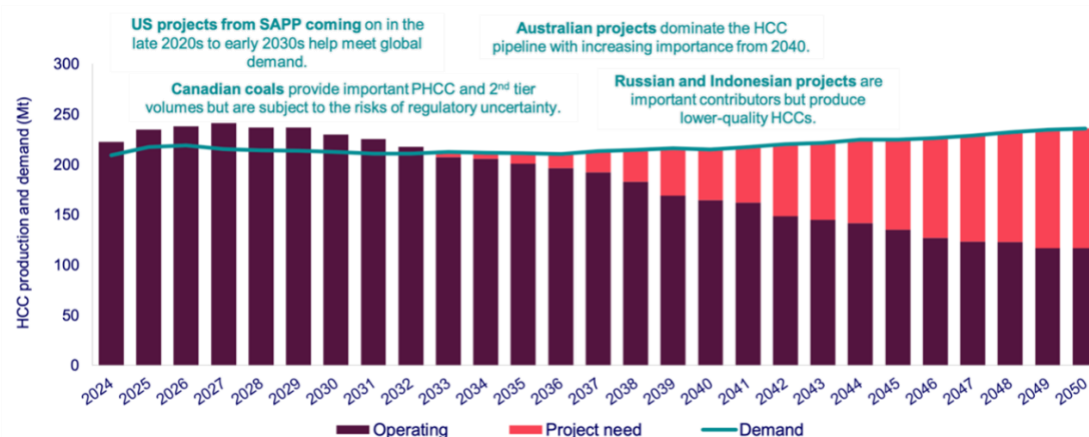
⁴ Global Energy Monitor. [Steel Capacity by Method and Development Status in Each Country/Area](#). September 2025.

⁵ BHP. [Metallurgical coal](#).

⁶ Reuters. [India's steel secretary says coking coal imports to accelerate](#). 25 April 2025.

⁷ Australian Financial Review. [This global steel boss says Australia is not investing enough in coal](#). 11 August 2022.

⁸ S&P Global. [India to strive for diversification, self-reliance in met coal sourcing: ISA conference](#). 9 September 2025.

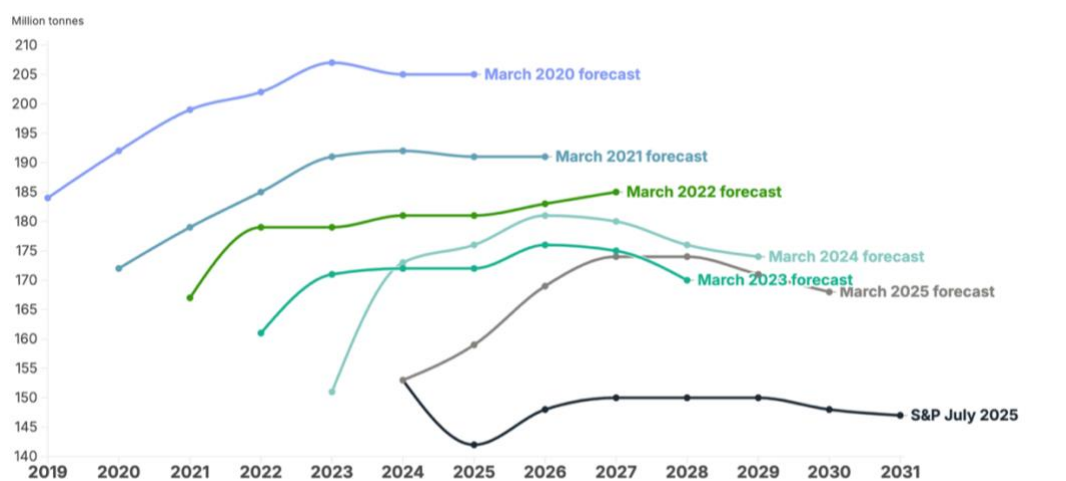
Figure 2: Over 100mt of new hard coking coal (HCC) capacity required by 2050

Source: Wood Mackenzie. Note: Operating mines include a disruption allowance of 8.8% on base case

Given the size of its exports, much of this would need to come from Australia. However, there are a growing number of factors that increase the risk of future supply shortfalls out of Australia.

The Australian government's history of overly optimistic met coal export forecasts

It should be acknowledged that the Australian government has a track record of over-estimating its met coal export forecasts. Its Department of Industry, Science and Resources (DISR) publishes its Resources and Energy Quarterly reports which include short-term forecasts for the nation's resources exports. The March reports include a medium-term forecast. Figure 4 below collates DISR's medium-term met coal export forecasts for the past six years.

Figure 3: Australian government's medium-term met coal export forecasts (2019 onwards)

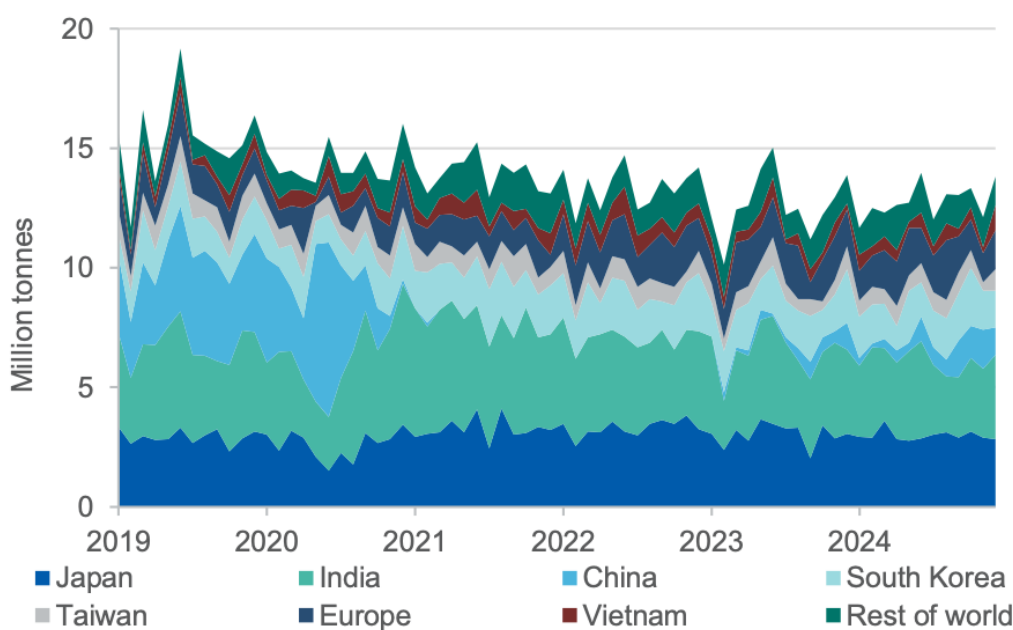
Sources: DISR, S&P Global, IEEFA

DISR's most recent, the March 2025 forecast, sees Australia's met coal exports rising until 2027 and 2028 before falling towards the end of the decade. But Figure 4 clearly shows the trend of successive over-estimates with the forecasts having to be reduced year after year. In 2020, DISR was forecasting that Australia's exports would reach 205mt in 2025. The most recent forecast revises that down to 159mt.

Figure 4 also shows a recent forecast from S&P Global⁹ which projects Australia's met coal exports to be significantly lower still, suggesting that the Australian government's forecast may need to be lowered yet again in 2026.

Australia's met coal exports saw some stabilisation in 2024. Its met coal volumes to China have never recovered following the unofficial, temporary ban China imposed on Australian coal in 2020¹⁰. The decline is also partly due to weather impacts—Australia's key exporting state of Queensland is prone to major rain and flooding events that impact the operation of coal mines and rail logistics. Another factor is India's efforts at reducing reliance on Australian met coal.

Figure 4: Australia's monthly met coal export volumes



Source: DISR, Australian Bureau of Statistics

The International Energy Agency (IEA) doesn't see any prospect of this decline changing in the short term, forecasting Australian met coal production and exports to decline 5% through to 2027.¹¹

⁹ S&P Global Market Intelligence. Metallurgical Coal CBS Data. July 2025.

¹⁰ S&P Global. [China starts buying Australian coal as unofficial ban ends](#). 22 Feb 2023.

¹¹ IEA. [Coal 2024](#). December 2024.

Australian miners prefer acquiring existing met coal mines over opening new capacity

The IEA noted that the project pipeline of new coal mines in Australia has shrunk and stated, “Even in the met coal sector, the brief periods of high margins have not been sufficient to stimulate significant new investment in mining operations, and hence progress in announced new projects has been very slow.”¹²

Opening new coal mines in Australia is becoming increasingly difficult. As a developed nation with a 2050 net-zero emissions target, there is growing political pressure against opening new coal mine capacity, along with the likelihood of tighter regulations on emissions and air pollution. In addition, banks and insurers are increasingly reluctant to finance coal mines, particularly newly developed mines. As the IEA has stated, “In light of these increasing political, regulatory and financial obstacles, investing in already developed assets is less risky for producers, which want to maintain marketed volumes.”¹³

There has been a wave of recent acquisition activity in the Australian met coal market with an emphasis on obtaining operating coal mines. Australia's largest met coal exporter, the BHP-Mitsubishi Alliance (BMA), sold its operational Daunia and Blackwater met coal mines to Whitehaven Coal in 2024.¹⁴ This followed BHP's divestment of 80% of its holding in BHP-Mitsui Coal to Stanmore Resources in 2022.¹⁵ Mitsui later sold its 20% holding to Stanmore.¹⁶

Australian diversified miner South32 sold its met coal business to Golden Energy and Resources (GEAR) and M Resources in 2024.¹⁷ Also in 2024, Anglo American agreed to sell its Australian met coal mines to Peabody, although Peabody withdrew from the deal this year following a methane-related fire at the Anglo's mines.¹⁸ Anglo now intends to find another buyer. Once sold, both Anglo American and South32 will join Rio Tinto and Vale as major, diversified international miners that no longer produce coal.

These transactions show a very clear preference for acquiring existing mines over the development of new mine capacity. As Wood Mackenzie put it: “The importance of buying into producing assets rather than project development is proving pivotal.”¹⁹

¹² IEA. [Coal 2024](#). December 2024.

¹³ IEA. [Coal 2024](#). December 2024.

¹⁴ BHP. [BHP completes the divestment of Daunia and Blackwater](#). 2 April 2024.

¹⁵ BHP. [BHP completes the divestment of its BMC interest](#). 3 May 2022.

¹⁶ Mitsui & Co. [Mitsui to divest equity shares in Australian coking coal business](#). 12 August 2022.

¹⁷ South32. [Completion of Illawarra Metallurgical Coal Sale](#). 29 August 2024.

¹⁸ IEEFA. [Methane in the spotlight as Peabody-Anglo deal falls apart](#). 20 August 2025.

¹⁹ Wood Mackenzie. [Metallurgical coal: Five things to look out for in 2025](#). January 2025.

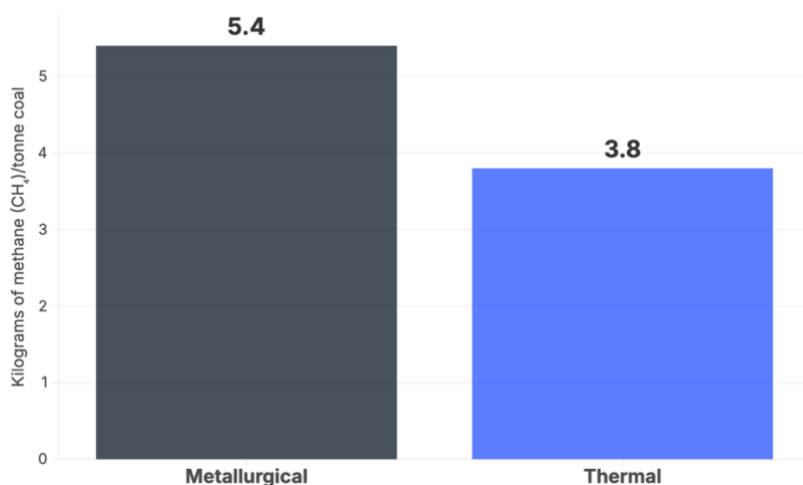
This raises an import concern for India. With the world's largest met coal exporter lagging in new mine development, the risk of long-term supply falling short grows, especially if India continues to develop new blast furnace capacity.

Growing methane risks

The methane-related fire that led Peabody to withdraw from its deal to acquire met coal mines from Anglo American hints at this growing risk faced by the Australian met coal sector.

The methane emissions produced by Australian met coal mines, which add significantly to total steelmaking emissions, are receiving growing attention from stakeholders including governments and civil society.²⁰ Estimates of how much met coal mine methane adds to global steel emissions vary, but calculations show it could add 22% when measured using a 20-year global warming potential (GWP20).²¹

Figure 5: Australian coal methane intensity



Source: IEEFA, IEA Methane Tracker data

Moreover, it seems highly likely that there is significant under-reporting of Australian coal mine methane emissions with a growing range of analyses bringing attention to this issue.^{22 23 24 25} Australia's met coal mines are often particularly methane-intensive. According to Ember²⁶, eight of

²⁰ Fidelity International. [Steel value chain emissions: Overlooked methane risk](#). 14 October 2025.

²¹ Global Efficiency Intelligence. [Steel Climate Impact 2025](#).

²² IEEFA. [Australia's coal mine methane mirage: The urgent need for accurate emissions reporting](#). 17 April 2025.

²³ University of NSW. [Coal mine methane emissions much higher than previously reported: study](#). 26 March 2025.

²⁴ Ember. [Satellite analysis identifies 40% more methane from Australian coal mines](#). 16 April 2025.

²⁵ The Superpower Institute. [Groundbreaking satellite monitoring tool shows significant underestimation of methane emissions from fossil fuel sites](#). 9 October 2024.

²⁶ Ember. [Hidden impact of Australian coking coal in steelmaking](#). 4 September 2025.

the top 10 most methane-emitting mines in Australia produce met coal. In fact, Australian met coal mines are around 40% more methane-intensive than thermal coal mines²⁷ (Figure 6).

Australia signed the Global Methane Pledge in 2022, meaning it is now committed to reducing the nation's methane emissions by at least 30% by 2030.²⁸ With the true scale of met coal mine methane emissions starting to become apparent, opening new mines may become more difficult if the Australian government is serious about the pledge.

The Environmental Defenders Office found that, of 10 coal miners audited, none had methane targets aligned with the Global Methane Pledge. Furthermore, few coal miners are addressing methane risks or even adequately disclosing them.²⁹ The Australian government has estimated that there are about 130,000 abandoned coal exploration boreholes in Queensland, some of which are known to be leaking methane.³⁰

India has a 2070 net-zero emissions target but is reliant on met coal imports from a country that has a 2050 target and will need to take emissions reduction actions sooner. In addition to the Australian Government, the Queensland government also has a 2050 net zero emissions target.³¹

The Australian government's Safeguard Mechanism regulation is designed to reduce emissions from the nation's highest greenhouse gas-emitting facilities, including coal mines. Baselines are set for each facility, and operators are required to keep emissions below this level or address them via the purchase of carbon credits. In theory, carbon credits are meant to be a lower-cost way for companies to address their emissions. In practice, though, there are significant doubts about the integrity of carbon credits.³² Baseline emissions levels decline each year out to 2030.³³

The significance of methane to coal miners' Scope 1 emissions—those directly from their own operations—combined with the likelihood of significant under-reporting, means Australian coal miners are at risk of missing their own emissions reduction targets or breaching government-regulated targets. BHP has not implemented any methane emissions abatement processes at its open-cut coal mines, while Whitehaven Coal has taken no action on reducing methane emissions at all. Without abatement, coal miners will be required to redress their methane emissions through purchasing carbon credits which are likely to become more expensive going forward.³⁴

²⁷ IEEFA. [Methane: A ticking time bomb for Australian investors](#). March 2025.

²⁸ Department of Climate Change, Energy, the Environment and Water. [Australia joins Global Methane Pledge](#). 23 October 2022.

²⁹ Environmental Defenders Office. [Australia's gassiest coal companies are failing to address and disclose methane-related risks](#). 4 August 2025.

³⁰ The Guardian. ['Tip of the methane iceberg': 130,000 coal boreholes must be audited after toxic leaks in Queensland, experts say](#). 8 September 2025.

³¹ Queensland Government. [Energy Roadmap](#). 2025.

³² Australian National University. [The unsafe Safeguard Mechanism: how carbon credits could blow up Australia's main climate policy](#). 10 November 2023.

³³ Clean Energy Regulator. [Safeguard Mechanism](#).

³⁴ IEEFA. [Methane: A ticking time bomb for investors](#). March 2025.

Global fund manager Fidelity International has recently made clear that the financial risks associated with met coal mine methane are rising. The global warming impact of methane is 84 times higher than carbon dioxide over a 20-year period. Fidelity noted that, if methane emissions were priced in line with its impact, the financial consequence of methane emissions could rise substantially. “For miners and steel companies, this could affect operational margins, investment decisions and competitiveness, especially in export markets where buyers are increasingly scrutinising full value chain emissions,” according to Fidelity. Greater transparency and accuracy of real methane emissions levels will only increase this risk.³⁵

In September 2025, the Australian government announced its interim target to reduce emissions by 62%-70% below 2005 levels by 2035. Queensland has legislated its own emissions reduction target, including a 75% cut by 2035.³⁶ The federal government also published sector plans for reaching this target. The one for the resources sector³⁷ recognises the need for improved detection and measurement of methane emissions, as well as for more methane abatement at coal mines. Ultimately, though, achieving sufficient reduction in methane emissions for Australia to reach its 2050 net zero target will require scaling down of coal extraction and export.

During COP30 in November 2025, Australia was among the dozens of countries that signed the Belém Declaration which calls for a quick and just transition away from oil, gas and coal.³⁸

Carbon capture and storage unable to decarbonise met coal-based steel

Many steelmakers claim that carbon capture and storage (CCS) technology will help reduce the emissions of met coal-based steel. However, across all sectors that it has been applied to, CCS remains an unproven and expensive technology that consistently fails to live up to expectations. The capture rates of CCS projects habitually fail to match the assurances made by proponents of the technology.³⁹

At a steel plant, CCS does nothing to address the methane emissions from met coal mining, and is unable to meaningfully address the carbon emissions of steelmaking either. Moreover, there is not a single commercial-scale CCS facility for met coal-based steelmaking in operation anywhere in the world,⁴⁰ and very little in the project pipeline.⁴¹

Development projects for met coal-based steel CCS are making little progress. One of the most prominent is ArcelorMittal's flagship CCS project at its steel plant in Ghent, Belgium. This €200

³⁵ Fidelity International. [Steel value chain emissions: Overlooked methane risk](#). 14 October 2025.

³⁶ ABC. [Queensland's greenhouse emission 2050 net zero target to be enshrined in law](#). 18 April 2024.

³⁷ Australian Government. [Resources Sector Plan](#). September 2025.

³⁸ The Guardian. [‘Now is the hour’: Labor urged to speed up fossil fuel phase-out to justify Cop30 pledge](#). 23 November 2025.

³⁹ IEEFA. [Carbon Capture and Storage](#).

⁴⁰ IEEFA. [Carbon Capture for Steel: CCUS will not play a major role in steel decarbonisation](#). April 2024.

⁴¹ IEEFA. [Steel CCUS Update: Carbon capture technology looks ever less convincing](#). November 2024.

million (INR2,068 crore) 'Steelanol' project captures carbon for use in making ethanol.⁴² The facility can capture up to 125,000 tonnes of CO₂ per annum, which is less than 2% of the steel plant's total carbon emissions.⁴³ As a result, the steel produced at the Ghent plant cannot be considered "green" or "low-carbon".

Despite receiving funding from the European Union (EU), and the Belgian and Flemish governments, the project now appears to be in financial trouble and may even be shut down only a few years after becoming operational in December 2022. ArcelorMittal has stated, "Even if we solve the technical issues and reach the planned output of 60,000 tonnes of ethanol per year, the economics will remain challenging without changes to the regulatory framework."⁴⁴

Another key CCS problem that steelmakers would have to deal with is the issue of storage. Integrated, met coal-based steel plants tend to not be located close to convenient storage sites, which means significant extra costs for transporting captured CO₂. And the cost of storage itself is likely to remain high given the unique nature of each storage opportunity. Every CCS project faces different geological constraints, restricting the chance of cost reductions through 'learning-by-doing'. The cost of CCS implementation has barely reduced in 40 years⁴⁵ while the cost of alternative and truly low-carbon alternatives like green hydrogen-based steelmaking have opportunities for cost declines going forward.

NITI Aayog recognises CCS as a critical lever for decarbonising sectors such as steel, although, it remains cautious that CCS deployment faces high costs, limited storage and transport infrastructure, and regulatory gaps.⁴⁶ The Energy and Resources Institute (TERI) is similarly concerned about the cost, stating in July this year, "Building out the required infrastructure would be very costly, particularly given India's low availability of CO₂ storage sites."⁴⁷

And it's not just India, there are significant doubts over the availability of suitable CO₂ storage locations globally. A 2025 study has found that there is far less suitable CO₂ storage capacity around the world than previously assumed. The risk of issues like engineering failures and earthquakes significantly restricts the number of sites found to be suitable.⁴⁸

In India, Carbon Transition Analytics and Carbon Tracker found in October 2025 that "the potential of CCS to abate blast furnace emissions in India is limited". They added that "carbon sinks are either too small, too far, or too late", noting that Indian oil and gas basins have limited storage capacity,

⁴² ArcelorMittal. [ArcelorMittal and LanzaTech announce first ethanol samples from commercial flagship carbon capture and utilisation facility in Ghent, Belgium](#). 14 June 2023.

⁴³ Financial Times. [Can the steel industry go green?](#) 31 October 2023.

⁴⁴ Belga News Agency. [Europe puts flagship green project in jeopardy: ArcelorMittal considers shutting down the Steelanol plant in Ghent](#). 18 June 2025.

⁴⁵ IEEFA. [Carbon Capture for Steel: CCUS will not play a major role in steel decarbonisation](#). April 2024.

⁴⁶ NITI Aayog. [NITI Aayog holds Two Day Workshop on Carbon Capture Utilization and Storage \(CCUS\)](#). 23 August 2024.

⁴⁷ TERI. [Technology Ready Reckoner Low Emission Ironmaking: Suitability to India](#). 18 July 2025.

⁴⁸ Financial Times. [Carbon capture set to be less useful in tackling climate change, scientists warn](#). 4 September 2024.

while other suitable basalt formations are typically more than 400km away from any Indian steel plants.⁴⁹

In addition, there is little clarity as to which entities would be responsible for transporting and storing carbon, processes that steelmakers do not have any experience in. In the US, oil and gas producer Exxon is involved with CO₂ transportation via pipeline. Oil and gas producers in the US have experience with capture and transportation of carbon due to its use in enhanced oil recovery (EOR) projects which allow further production of fossil fuels and release of emissions. EOR projects are not focused on permanent storage of CO₂. In 2024 a major leak of CO₂ from one of Exxon's pipelines highlighted the risks related to CO₂ transportation.⁵⁰ There are no EOR projects in India, so there is little to no experience of CO₂ capture and transport nationally.

CCS is unlikely to play a significant role in decarbonising met coal-based steelmaking. As this becomes clearer, it will only add to the multiple pressures that will slow down new met coal mine capacity development in Australia. With alternative steelmaking technologies not using met coal becoming more prominent, the realisation that CCS cannot meaningfully decarbonise blast furnaces will lead banks and other financiers away from the financing of met coal projects.

Bank restrictions on met coal finance

Nearly 200 financial institutions around the world have restrictions on financing thermal coal.⁵¹ The rapid spread of such restrictions was, in part, driven by the emergence of cost-competitive and clean alternatives like wind and solar power. There is still a perception that alternative, lower-carbon steelmaking technologies to replace met coal consuming-blast furnaces are not yet available. As a result, there are currently far fewer banks with restrictions on metallurgical coal finance. However, this is likely set to change.

The reality is that there are already cost-competitive, alternative technologies in use on a commercial scale around the world today. Most prominently, these include recycling of scrap steel in electric arc furnaces (EAFs) and gas-based direct reduced iron (DRI) based steelmaking. DRI can also run on green hydrogen, a major potential steel decarbonisation pathway going forward.

Partly, because of this, some banks have already begun to restrict finance for met coal mine projects. Most of the financial institutions that have such restrictions are Europe-based⁵², but Australia's major banks, too, are starting to shift their policies.

For instance, Commonwealth Bank of Australia (CBA) will only provide project finance for a met coal mine if aligned to the goal of the Paris Agreement and only provide corporate finance to met coal

⁴⁹ Carbon Transition Analytics and Carbon Tracker. [Measuring Transition: The Indian Steel Majors](#). October 2025.

⁵⁰ The Guardian. ['Wake-up call': pipeline leak exposes carbon capture safety gaps, advocates say](#). 19 April 2024.

⁵¹ Global Coal Exit List. [Metallurgical Coal Exit List 2025](#).

⁵² Reclaim Finance. [Beyond thermal: Europe's financial institutions must act on metallurgical coal](#). 20 December 2024.

miners if they present a transition plan. The CBA defines a transition plan as one that “contains a time-bound decarbonisation plan which is aligned to the goal of the Paris Agreement to limit global warming to well below two degrees above pre-industrial levels”.⁵³

From 1 October 2025, National Australia Bank (NAB) requires new and existing met coal mining customers to have a customer transition plan in place for it to receive new or renewed corporate or project finance. NAB's review of a customer transition plan includes an assessment of emissions and targets against Paris Agreement-aligned scenarios, and consideration of action and targets to reduce methane emissions and future production plans.⁵⁴

NAB has also gone further than this. In its 2024 Climate Report, the bank stated, “The Group will not provide project finance for a greenfield metallurgical coal mine,” adding that “as technology in this sector matures, it is expected that demand for metallurgical coal and associated emissions will decrease”.⁵⁵ Although this means that NAB could continue to finance expansions of existing met coal mines, such expansions won't be enough to maintain Australia's exports in the long term.

Another of Australia's 'Big 4' banks, Westpac, has also ruled out project finance for new (greenfield) met coal mines.⁵⁶

These are only some of the existing policies on met coal finance. As lower-carbon steelmaking technologies like DRI become more widespread, and it becomes ever clearer that CCS will not be able to decarbonise met coal-based steelmaking, policies will become more strict and widespread among financial institutions. This will likely be accelerated by the increasing attention that met coal finance is getting from civil society organisations.⁵⁷

It could also impact insurance for coal mining. Insurers withdrawing from coal mining have made covering the sector more difficult and expensive.⁵⁸ This has mostly impacted thermal coal mining to date but early examples of insurers withdrawing from met coal are now also apparent.⁵⁹

These factors together further increase the risk that future met coal supply from Australia will disappoint the Indian steel sector.

Legal and regulatory risks

As highlighted earlier, recent moves by Australian coal miners wanting to expand their met coal production have been focused on the acquisition of existing mine operations, as opposed to the long

⁵³ CBA. [2025 Environmental and Social Framework](#).

⁵⁴ NAB. [Climate Report 2024](#).

⁵⁵ Ibid.

⁵⁶ Westpac. [2024 Climate Report](#).

⁵⁷ Global Coal Exit List. [Metallurgical Coal Exit List 2025](#).

⁵⁸ Insurance News. [‘Moral challenge’ jacks up rates for coal mining sector](#). 11 July 2024.

⁵⁹ Bloomberg. [Zurich Insurance to Halt Coverage of New Fossil-Fuel Exposures](#). 8 April 2024.

and increasingly difficult process of gaining approval and finance to open new (greenfield) capacity. As the IEA noted in its Coal 2024 report⁶⁰, “New projects face the issue that countries in the western hemisphere are committed to ambitious climate targets which could induce lower demand for coal”.

There is also the risk that coal miners will face further regulations and financial burden when mines reach the end of their production. The estimated cost of rehabilitating mine sites is rising in Australia. Queensland Treasury estimates mine rehabilitation cost have risen from AUD8.7 billion (INR5.07 lakh crore) in 2027 to AUD13 billion (INR75.65 lakh crore) in 2023.⁶¹ Coal miners are exposed to the potential of regulatory change in the face of these rising costs.

Although Australian governments are still currently approving coal mine expansions, it is far from a foregone conclusion that this will continue at the same level going forward. There are a growing number of examples of Australian coal mines not getting planning approval or having their approval successfully challenged in court.

In July 2025, the Queensland government rejected an exploration licence for a proposed met coal mine near Bundaberg after finding it not in the public interest. The project proponent, Fox Resources, has now gone into administration and any mining project seems unlikely to proceed.⁶²

In March 2025, the Land Court of Queensland recommended that a proposal to extend the Ensham thermal coal mine “not be approved unless and until the applicants show real and significant progress towards mitigating their GHG emissions”.⁶³ This was particularly significant since it was only the second time that the Land Court recommended to the government that a mine be rejected on environmental grounds, which could have implications for further attempts to expand coal mine capacity in Queensland.⁶⁴

In July 2025, the New South Wales (NSW) Court of Appeal sided with a community group challenging the decision to allow an extension to the Mount Pleasant coal mine. The Court of Appeal found that the NSW Independent Planning Commission (IPC) failed to adequately consider the impact of Scope 3 emissions—indirect emissions that occur in the upstream and downstream activities of an organisation—on climate change resulting from burning the coal overseas, rendering the IPC’s approval of the project invalid.⁶⁵ The decision sets an important precedent for future coal mine proposals, indicating that the Scope 3 emissions arising from Australia’s coal exports when burned overseas must be considered in local environmental impact assessments.⁶⁶

Four months after the Mount Pleasant mine decision, the NSW Land and Environment Court struck down another coal mine approval on climate grounds. In November 2025, state approval for an

⁶⁰ IEA. [Coal 2024](#). December 2024.

⁶¹ IEEFA. [Filling the Voids](#). August 2024.

⁶² ABC. [Fox Resources collapses, but fight against coal exploration in Bundaberg food bowl continues](#). 13 October 2025.

⁶³ Land Court of Queensland. [Re Sungela Pty Ltd & Anor \[2025\] QLC 5](#). 20 March 2025.

⁶⁴ ABC. [Land Court urges Ensham Coal Mine plan be rejected over climate concerns](#). 27 March 2025.

⁶⁵ ABC. [Mount Pleasant coal mine expansion halted after community legal challenge](#). 24 July 2025.

⁶⁶ LSJ Online. [Climate change concerns lead court to overturn Mount Pleasant coal mine expansion](#). 25 July 2025.

extension to the Ulan thermal coal mine was invalidated after it was conceded that the NSW Department of Planning, Housing and Infrastructure had failed to consider climate change as required.⁶⁷

In an ongoing case, legal action is underway seeking the refusal of approvals for Whitehaven Coal's Winchester South met coal mine in Queensland. The case is again focused on the climate impacts caused by burning coal overseas.⁶⁸

There are numerous other mine capacity expansion proposals in Australia. While some of these may get approvals, some may never proceed due to financial or economic reasons, or because of the changing long-term outlook for met coal as the global steel industry switches to alternative technology. Some others may fail to get regulatory approval or lose approval following well-informed legal challenges, the frequency of which is unlikely to see a decline. Concerns about Australia's emissions and the impacts of climate change will grow as the nation's 2050 target comes closer.

Rising cost of met coal mining in Australia

Queensland, Australia's largest met coal producing state and the world's leading seaborne exporter, is seeing the cost of mining met coal rise leading to reduced profits and losses in some cases. Some operations have been forced to close completely. The financial case for investing in met coal mining has reduced, further calling into doubt the long-term Australia met coal supply available to Indian steelmakers.

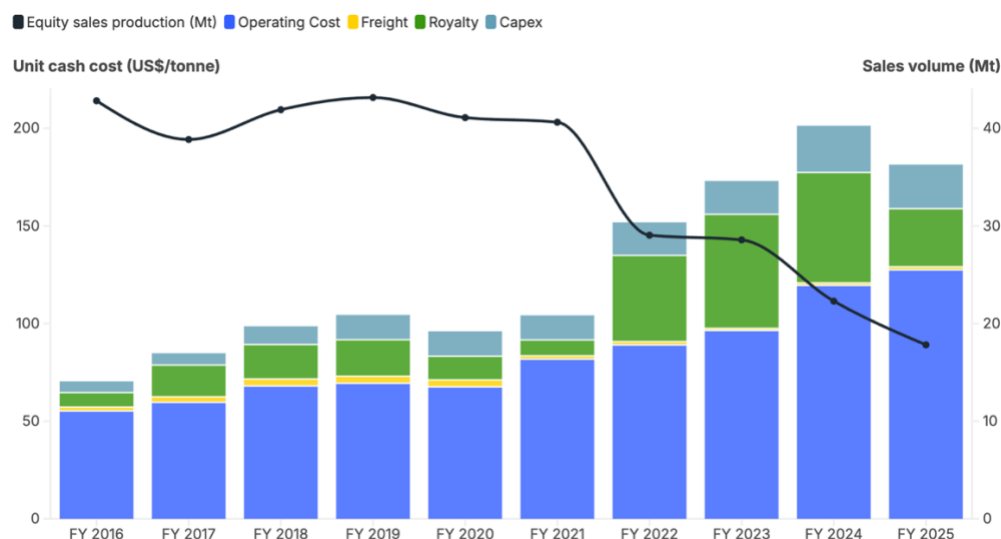
BHP, the world's largest miner and leading met coal exporter through its BHP-Mitsubishi Alliance (BMA), has disclosed in a previous company statement⁶⁹ that around 40% of its met coal exports go to India. BMA has suffered from increasing cost for several years now, including higher labour costs and the impact of lower production on the cost per tonne of coal mined (Figure 7).⁷⁰

⁶⁷ SMH. [Courts turn on coal mines over climate impacts](#), 15 November 2025.

⁶⁸ Environmental Defenders Office. [The case challenging the approval of Winchester South Mine: Australia's largest proposed new coal mine](#).

⁶⁹ BHP, [BMO Metals. Mining & Critical Minerals Conference CEO speech](#), 26 February 2024.

⁷⁰ IEEFA. [BHP Coal – from cash cow to capital trap?](#) 31 October 2025.

Figure 6: Decade-long trend in BHP Queensland coal unit costs

Source: BHP Annual Reports

Note: "Operating" reflects BHP reported "Unit Costs".

Earlier this year, CEO Mike Henry said that BHP will “not invest any growth capital in Queensland, both for cost and risk” calling the state “no longer investible” for long-term projects.⁷¹ The company’s latest ‘Economic and Commodity Outlook’⁷² reinforced this, noting that “new seaborne supply will increasingly be challenged as Queensland’s royalty and approvals environment remain uncondusive to long-life capital investment”. This is part of a concerted attempt by the Queensland coal sector to pressure the state government into reducing coal royalties. However, as Figure 7 shows, royalties only make up a small part of the cost increases that Queensland miners face. Royalties incurred by BHP actually declined in FY2025.

The simple fact facing Queensland coal miners is that the cheaply available coal has been mined out already and operations are having to mine deeper to maintain production. This incurs higher cost from more earth needing to be moved, more fuel used and higher equipment maintenance.⁷³ This is not a reversible trend given that it will likely get harder to open up greenfield met coal mines in Queensland.

Comparing coal mining company costs from 2018 to 2025 shows that unit costs have risen by up to 50%. Over the years, miners have suggested much of the cost inflation was temporary, but it increasingly looks permanent. There are also emerging costs that look likely continue to put pressure on miners’ cost base, including the costs of climate change impacts and emissions management.⁷⁴

⁷¹ BHP, [Financial results for the year ended 30 June 2025](#), 19 August 2025.

⁷² BHP, [BHP’s Economic and Commodity Outlook, August 2025](#).

⁷³ Bloomberg, [The Biggest Miner Held on to Its Coal for Too Long](#), 28 August 2025.

⁷⁴ IEEFA, [Queensland’s coalmines: An open and shut case of royalties versus harsh realities](#), 24 September 2025.

The impact of higher mining costs is beginning to show in Queensland. In September 2025, BMA announced it will cut 750 jobs across its Queensland low-margin met coal operations and mothball its Saraji South mine from November.⁷⁵

In September, Anglo American also announced around 200 job cuts across its Queensland coal operations, including both in its Bowen Basin mines and its Brisbane office.⁷⁶ These changes affect sites such as the Grosvenor underground mine, which had been offline since a fire in mid-2024. The company commented that the workforce changes were necessary “to secure the future of our steelmaking coal operations in Central Queensland”, and cited lower coal prices, rising costs, and market pressures as reasons.

QCoal has also recently shuttered its Cook Colliery⁷⁷ while Bowen Coking Coal went into administration in July 2025, citing higher costs in a low coal price environment.⁷⁸

Price risks

Longer term, any future shortfall in Australian met coal production arising from the risks highlighted above could lead to structurally higher prices for India if it is still reliant on blast furnace technology. This may help Australian coal miners overcome their increasingly high cost base but would transfer the impact of higher costs onto Indian steelmakers.

As McKinsey & Company has noted, “The volume of seaborne met coal supply could drop, adding to the challenges of higher emission levels. Additionally, with increased demand from India and other Asian countries, there will be growing competition for high-quality met coal, which could lift premiums higher”.⁷⁹

In January 2022—prior to the Russian invasion of Ukraine and the subsequent spike on global coal prices—McKinsey highlighted that record high met coal prices in 2021 provided a “glimpse into steelmaking’s future”. It noted, “There is an underlying long-term trend that could result in coking prices remaining elevated. Investment in both coking coal mines and coke batteries has been declining and is expected to continue to decline, given sustainability concerns”.⁸⁰

In fact, Australian met coal miners are depending on structurally higher met coal prices, as they are making clear to their investors. Whitehaven Coal is consistently stating the following in its quarterly updates to its investors: “The expected structural shortfall in global metallurgical coal production, particularly the long-term depletion of HCC from Australian producers combined with increased

⁷⁵ News.com.au, ‘Un-Australian’: Mining giant BHP to axe 750 Qld coal jobs, 17 September 2025.

⁷⁶ ABC, Coal miner Anglo American confirms job cuts in Brisbane, Bowen Basin, 18 September 2025.

⁷⁷ The Guardian, Queensland coalmines marked for closure ‘uneconomic’, analysis shows, despite sector blaming royalties scheme, 23 September 2025.

⁷⁸ ABC, Owners of Bowen Basin mine enter administration amid coal price slump, 30 July 2025.

⁷⁹ McKinsey & Company, Evolving with steel: Future growth opportunities, September 2024.

⁸⁰ McKinsey & Company, High coking coal prices provide glimpse into steelmaking’s future, 25 January 2022.

seaborne demand from India, is anticipated to drive higher metallurgical coal prices over the long-term. Whitehaven's metallurgical coal portfolio is expected to benefit from these supply constrained market dynamics".⁸¹

While Whitehaven would benefit from higher met coal prices, Indian steelmakers would suffer. Although Whitehaven may find that a prolonged period of higher prices makes alternative steelmaking routes more cost-competitive, impacting long-term demand.

BHP recently noted that "the scarcity value of higher quality steelmaking coals may also increase over time".⁸² The founder of Australian met coal miner M Resources, Matt Latimore, last month said, "We firmly believe the demand for metallurgical coal is going to outstrip the supply... There are not many metallurgical coal mines coming online."⁸³

In addition to the risk of lower supply, another trend could raise the potential for more frequent or more significant met coal price spikes. Given the significance of Australia's met coal exports, even temporary disruptions to supply coming out of Queensland could impact global seaborne met coal prices.

Climate risks

Queensland is prone to intense rainfall and flooding events which impact mining and coal rail logistics.⁸⁴

The year 2022 saw coal mining impacted once again by such events.⁸⁵ The most recent State of the Climate report from Australia's Bureau of Meteorology and the Commonwealth Scientific and Industrial Research Organisation (CSIRO) notes that "heavy short-term rainfall events are becoming more intense", adding that the trend of increased intensity in rainfall from thunderstorms since 1979 has particularly impacted northern Australia. It's clear that climate change is likely to result in this trend continuing. The 2024 State of the Climate report makes clear that the "intensity of heavy rainfall events in Australia is increasing as the climate warms" and that "climate model simulations project that heavy rainfall events will further intensify during the 21st century".⁸⁶

Queensland is also impacted by cyclones. Although the frequency of cyclones is expected to drop as the climate continues to warm. The ones that do occur are expected to be more intense and "the intensity of rainfall associated with cyclones is also expected to increase", according to the 2024 State of the Climate report.⁸⁷

⁸¹ Whitehaven Coal. [September 2025 Quarterly Production Report](#). 24 October 2025.

⁸² BHP. [Annual Report 2025](#).

⁸³ Australian Financial Review. [The moment that led to a \\$750m coal fortune and a Ferrari obsession](#). 18 November 2025.

⁸⁴ IEEFA. [The hidden costs of coalmines' unquenchable thirst: Water-related risks are eroding coal's profitability](#). March 2024.

⁸⁵ Reneweconomy. [Coal-driven climate change is becoming a big problem – for coal](#). 24 November 2022.

⁸⁶ CSIRO and Bureau of Meteorology. [State of the Climate 2024](#).

⁸⁷ Ibid.

Increased intensity of rainfall events in Australia's key met coal exporting state raises the risk of more frequent supply interruptions and price spikes.

Higher met coal prices clearly have a financial impact on steelmakers. In 2024, S&P Global noted that higher met coal prices have the potential to keep Indian steelmakers' debt levels higher for longer, impacting their steel capacity expansion plans.⁸⁸

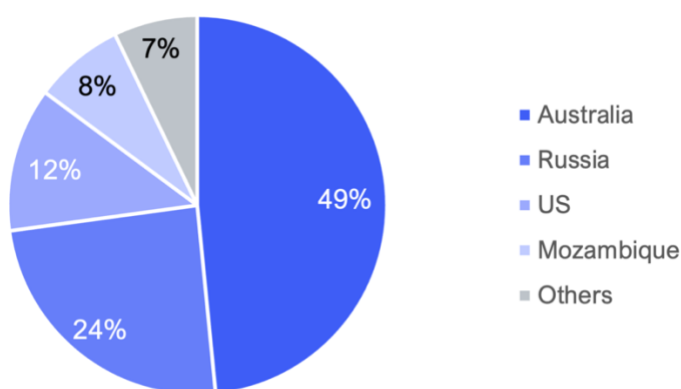
Seaborne met coal prices are relatively low at the end of 2025, impacting the Australian coal sector facing higher costs. However, there is rising risk that Indian steelmakers will be faced with higher met coal prices in the longer term. In a high price environment, it might be expected that new supply avenues would open in response, bringing the market into balance and bringing prices down towards historical levels. However, in a world increasingly affected by climate impacts, legal, regulatory and financing hurdles will only grow. It will likely get ever harder to open new coal capacity in Australia, meaning that the price rises become structural.

Previous efforts to reduce met coal risks

India's push for met coal diversification

India is trying to reduce its dependence on Australian met coal as part of its efforts to manage energy security risks. According to S&P Global, India imported 54.5mt of coking coal in the January-August 2025 period. Of this, Australia supplied 26.4mt (49%), Russia 13.3mt (24%), the US 6.7mt (12%), and Mozambique 4.2mt (8%).⁸⁹

Figure 7: India's coking coal imports in Jan-Aug 2025



Source: S&P Global, IEEFA

⁸⁸ Mint. [Higher coal prices hurt steel industry's growth plans, says S&P Global](#). 14 February 2024.

⁸⁹ S&P Global Commodity Insights, [India to strive for diversification, self-reliance in met coal sourcing: ISA conference](#), 09 September 2025.

Since 2020, India's coking coal imports from Russia have surged from 4mt (about 7%) to 16mt (22%) in 2024—a four-fold increase in as many years.⁹⁰ During the same period, Australia's share of imports fell by around 40%, while the US, Mozambique, and South Africa increased their market share in India⁹¹. The rise in Russian supplies has been supported by discounted prices and new shipping routes that became available after European sanctions.

Indian steelmakers are also changing the mix of coal they use. Many are blending semi-hard and semi-soft coals or using Russian pulverised coal injection (PCI) to lower costs and reduce dependence on premium Australian coal.⁹² However, fully replacing Australian coal remains difficult. Australia's coal offers high quality, reliability, and large-scale supply, which newer suppliers struggle to match.

Some new trade options have also proven challenging. For instance, JSW Steel recently paused plans to import coking coal from Mongolia due to logistical and transportation hurdles.⁹³

To manage these risks, Indian steelmakers are also securing long-term supply through overseas mine investments. JSW Steel has expanded its stake in Australian operations through the Illawarra metallurgical coal mines (Appin and Dendrobium in New South Wales)⁹⁴, and by increasing its holding in M Resources NSW from 66.7% to 83.3% with an investment of USD60 million (INR500 crore). This move increases JSW's share of coal output from these mines from 20% to 30%, strengthening its access to premium hard coking coal.⁹⁵

Beyond Australia, JSW has been pursuing Mozambique's Minas de Revuboe (MDR) project, which holds more than 800mt of high-quality reserves.⁹⁶ Although the mining concession in Mozambique faced revocation in 2024, it was reinstated in early 2025, reopening the pathway for development and positioning the project as a potential long-term supply source for India.⁹⁷

Meanwhile, state-owned Steel Authority of India Ltd (SAIL), through its joint venture International Coal Ventures Ltd (ICVL), is investing between USD150-200 million (INR1,245-1660 crore) to ramp up production at Mozambique's Benga mines, targeting an increase in output to 4mtpa.⁹⁸ These strategic acquisitions highlight a growing trend among Indian steelmakers to diversify their coking coal supply beyond traditional partners, not only to secure resources but also to stay protected against price volatility and future trade disruptions.

⁹⁰ MOL Solutions, [Dry bulk commodity Trade in India \(Updated in 2025\)](#), 07 July 2025.

⁹¹ S&P Global Commodity Insights, [India boosts coking coal diversification amid rising steel output](#), 28 May 2025.

⁹² Australian Government, DISR, [Resources and Energy Quarterly](#), December 2024.

⁹³ ETEnergyworld.com, [JSW Steel puts coking coal sourcing plans from Mongolia on hold amid logistics challenges](#), 02 September 2025.

⁹⁴ M Resources, [M Resources and JSW Steel Announce Joint Venture](#), 13 August 2024.

⁹⁵ M Resources, [Additional Commitment from JSW Steel Limited](#), 18 September 2025.

⁹⁶ Argus media, [India's JSW Steel to buy coking coal firm in Mozambique](#), 20 May 2024.

⁹⁷ Bloomberg News, [Indian Steel Tycoon's Pathway to Mozambique Coal Deal Reopens](#), 26 May 2025.

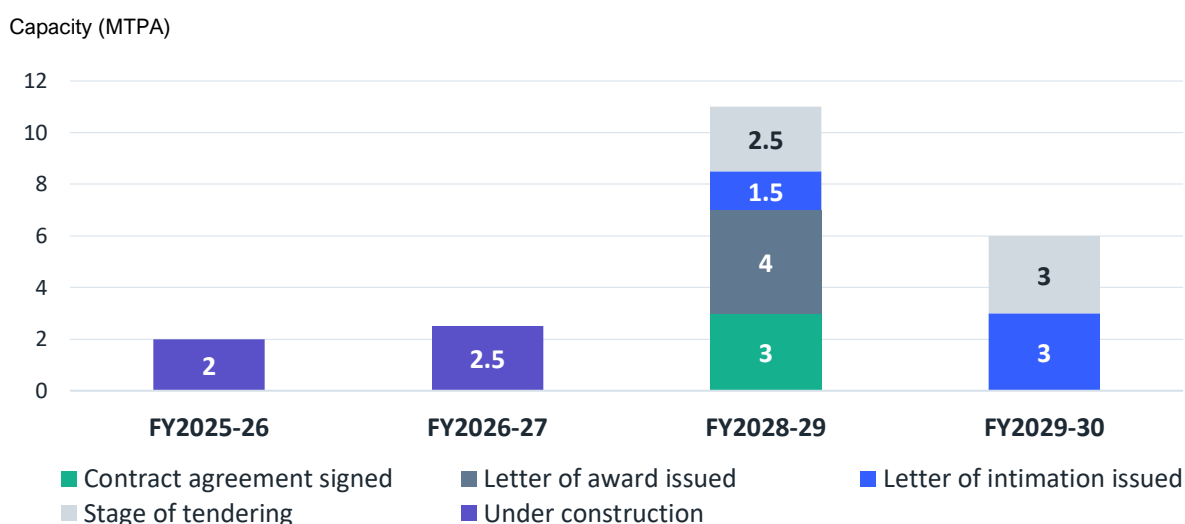
⁹⁸ The Hindu Business Line, [SAIL eyes \\$150-200 million investments to ramp up capacities at Mozambique mines](#), 06 November 2023.

Domestic met coal production

India is ramping up efforts to boost domestic metallurgical coal production, and its evolving policies and production targets are creating a path toward reduced import dependence.

India's ambition to become *atmanirbhar* (self-reliant) in coal production is evident in the Ministry of Coal's Action Plan for 2025-26, which sets an ambitious goal of opening 100 new mines by FY2029-30, creating an additional 500mt of capacity.⁹⁹ Within this framework, the ministry's 'Mission Coking Coal' targets doubling domestic coking coal output from 66mt in FY2025 to 140mt by FY2029-30.¹⁰⁰ The initiative also includes the rollout of eight new washeries with a combined capacity of 21.5mtpa to improve the quality of India's high-ash coking coal, the great majority of which currently fails to meet industrial standards.¹⁰¹

Figure 8: New coking coal washery capacity (mtpa) and project status



Source: [Indian Ministry of Coal](#), IEEFA

Private sector investments are also complementing the government's mission to expand domestic coking coal availability.

Policy support to reduce import dependence

Other policy measures are being implemented to encourage long-term import substitution. In 2020, the Indian government amended the Non-Regulated Sector (NRS) linkage auction policy to extend the tenure of coking coal linkages to 30 years, providing greater security to domestic users. In March

⁹⁹ Ministry of Coal, [Action Plan FY 2025-26](#), 22 May 2025.

¹⁰⁰ Ministry of Coal, [Ministry of Coal's Year End Review-2024](#), 27 December 2024.

¹⁰¹ Ministry of Coal, [Diversifying Coal Usage and Reducing Dependence on Imports](#), 11 August 2025.

2024, a new NRS subsector, Steel using Coking Coal through WDO route, was introduced to promote greater domestic consumption and expand the availability of washed coking coal.¹⁰¹

In addition, the Ministry of Steel highlights in its annual report that it is already taking steps to lower the sector's import bill by diversifying import destinations and optimising coking coal blends. It is also promoting increased use of iron ore pellets to reduce coke requirements and encouraging beneficiation of iron ore to raise its iron content.¹⁰²

The government has also announced 102 First Mile Connectivity (FMC) projects to be completed by FY2029-30. FMC refers to systems where coal is directly loaded into railway wagons through conveyor or rapid loading systems at the mine site, eliminating road transport. These projects are expected to create 1,092mtpa of capacity, with an estimated investment of INR31,370 crore (USD3.5 billion)¹⁰³. For instance, Central Coalfields Ltd (CCL) is developing new washeries and FMC facilities to handle 110mt of coal by FY2025-26.¹⁰⁴

In FY2024-25, India saved approximately INR60,680 crore (USD6.8 billion) in foreign exchange by cutting coal imports.¹⁰⁵ Recent tax reforms have resulted in elimination of the existing INR400 (USD4.48) per tonne coal cess with a consumption levy of 18%, potentially making domestic coal 6-20% cheaper for users.¹⁰⁶

India moves towards met coke import curbs and anti-dumping options to ensure energy security

By late 2024, India's efforts to cut import dependence in raw material for steel production gathered pace, prompting government action to regulate imports of low-ash metallurgical (met) coke used in blast furnaces. Met coke—used as the fuel and reductant in blast furnaces—is produced from metallurgical coal by heating it in coke ovens without the presence of oxygen. Steel mills in India only fulfilled half of their met coke needs from domestic suppliers in the first half of 2025.¹⁰⁷

The government acted through two measures: Import quota restrictions (QRs) and anti-dumping investigations to curb rising imports and protect domestic producers.

Import quota restrictions (QRs)

The first step was the notification from Directorate General of Foreign Trade (DGFT) that, as of 1 January 2025, QRs will be imposed on imports of met coke with ash content below 18%. The

¹⁰² Ministry of Steel, [Annual Report 2024-2025](#), 2025.

¹⁰³ Ministry of Coal, [First Mile Connectivity Projects in Coal Transportation](#), 18 August 2025.

¹⁰⁴ ETEnergyworld.com, [CCL targets 110 MT coal output in FY26, five coking coal washeries to become operational in 2-3 years](#), 24 June 2024.

¹⁰⁵ Ministry of Coal, [Efforts to Reduce Coal Import Dependency](#), 21 July 2025.

¹⁰⁶ Ministry of Coal, [GST reform in Coal Sector – A Transformative Step Towards AatmNirbharta in Coal](#), 22 September 2025.

¹⁰⁷ Reuters, [Indian producers concerned about met coke import curbs: JSW Steel CEO](#), 4 November 2025.

measure, aimed at protecting domestic producers from a surge in cheap imports, capped total import volumes for the January-June 2025 period at around 1.4 million tonnes.¹⁰⁸

In June 2025, the government extended the quantitative restrictions on met coke imports for another six months, from 1 July to 31 December 2025, maintaining an import ceiling of around 1.4 million tonnes and continuing country-wise quotas.¹⁰⁹ This move showed the government's cautious approach to reducing import dependence, even as steelmakers warned of a possible supply shortage. The strain on supply was evident as steelmakers had requested import approvals for up to 2.6 million tonnes from Indonesia, far exceeding the government's current allocation of 66,364 tonnes, according to a government document reviewed by Reuters.¹¹⁰ Around the same time, JSW Steel formally requested the government to raise its import quota for low-ash met coke to ease shortages at its Karnataka and Chhattisgarh plants.¹¹¹ Meanwhile, India's commerce and industry minister has urged the steel industry to learn from the rare earth crisis and accelerate efforts toward self-reliance, warning against overdependence on met coke imports.¹¹²

Anti-dumping investigation and duty considerations

India launched an anti-dumping investigation into low-ash met coke imports in late March 2025. The Indian Metallurgical Coke Manufacturers Association (IMCOM), which represents local coke producers, submitted a request claiming material injury from increased dumped imports. The investigation covers shipments from Australia, China, Colombia, Indonesia, Japan, and Russia. Concerns were raised on rising imports that have more than doubled in the past four years. In its petition, the association noted that imported and domestic met coke are of similar quality and reiterated its call for anti-dumping duties on major supplier countries.¹¹³

On 14 November, the Directorate General of Trade Remedies (DGTR) presented its preliminary findings from the investigation, which revealed a significant rise in imports from countries under scrutiny. Volumes from these six countries had jumped by about 179% during the injury period. They went from 51% of India's total imports in the base year to 81% during the investigation period, making up roughly 52% of domestic consumption. The DGTR also reported that rising low-ash met coke imports are significantly undercutting domestic prices, while domestic inventories have increased and industry profitability has declined over the injury period. It recommended provisional

¹⁰⁸ Government of India, Ministry of Commerce & Industry Department of Commerce, Directorate General of Foreign Trade, [Notification No. 44/2024-25, Imposition of Quantitative Restriction on import of Low Ash Metallurgical Coke under Chapter 27 of ITC \(HS\) 2022, Schedule - I \(Import Policy\)](#), 26 December 2025.

¹⁰⁹ Reuters, [India extends import curbs on met coke for six months](#), 30 June 2025.

¹¹⁰ Reuters, [India steelmakers seek near-sevenfold rise in met coke import quota amid supply crunch](#), 27 August 2025.

¹¹¹ Business Standard, [JSW Steel seeks higher met coke import quota to ease supply shortfall](#), 07 August 2025.

¹¹² Livemint, [Goyal urges steelmakers to become self-reliant, learn from rare earth crisis](#), 09 September 2025.

¹¹³ Ministry of Commerce & Industry, Directorate General of Trade Remedies, [Initiation notification - Case No. AD\(OI\) -03/2025](#), 29 March 2025.

anti-dumping duties on low-ash met coke with ash content below 18%, ranging from USD60.87 (INR5,440) per tonne to USD130.66 (INR11,679) per tonne, based on the country of origin.¹¹⁴

These duties await final approval from the Ministry of Finance, but industry observers expect the final amounts to be similar to DGTR's suggested range. This measure, if finalised, would mark a further step in India's broader push to balance import regulation with energy security and industrial competitiveness.

Recommendations

The growing energy security risks faced by India's steel sector is a long-term problem needing long-term solutions. Investment by Indian steelmakers in mines overseas looks unlikely to be that solution. Indian steelmakers' investments in Australian met coal mining would face all the risks highlighted above. Outside of Australia, further met coal investment in places such as Mozambique will likely face difficulties given the risks associated with foreign investments in developing Africa.¹¹⁵ Meanwhile, the great majority of India's domestic met coal does not meet the quality requirements of steelmakers due to high ash content and sulphur levels.¹¹⁶

With the global steel sector's technology transition away from coal underway, and India needing to protect its steel sector against future supply and cost shocks, India must accelerate the transition to alternative steelmaking technologies that don't rely on met coal.

One clear alternative gaining traction is scrap steel recycling through electric arc furnaces (EAFs). This technology, allows steelmaking without the use of met coal. It can also provide a long-term materials security boost while lessening any future need to import iron ore as the Indian steel sector scales up. Scrap steel can become a strategic domestic resource, the benefits of which are starting to be experienced by China.¹¹⁷

India also has a fleet of small induction furnaces which are fed with scrap steel as well as sponge iron made via coal-based direct reduced iron (DRI) technology—an emissions-intensive process. Increased scrap availability could be absorbed by these induction furnaces, but over the longer term, India will need to sift to larger-scale, efficient, modern EAFs capable of producing high-grades of steel often associated with the BF-BOF route.¹¹⁸

Adoption in India has been limited by scrap availability, but improving recycling infrastructure and rising scrap from vehicles, appliances, and construction are set to expand scrap-based

¹¹⁴ Ministry of Commerce & Industry, Directorate General of Trade Remedies, [Preliminary findings – Case No. AD\(OI\) – 03/2025](#), 14 November 2025.

¹¹⁵ U.S. Department of State, [2024 Investment Climate Statements: Mozambique](#).

¹¹⁶ EY Parthenon and Indian Steel Association, [India's coking coal strategy: Building resilience through innovation, sustainability and policy](#), September 2025.

¹¹⁷ Bloomberg, [China's 'Scrapitalism' Pushes Back on Mining Giants](#), 31 October 2025.

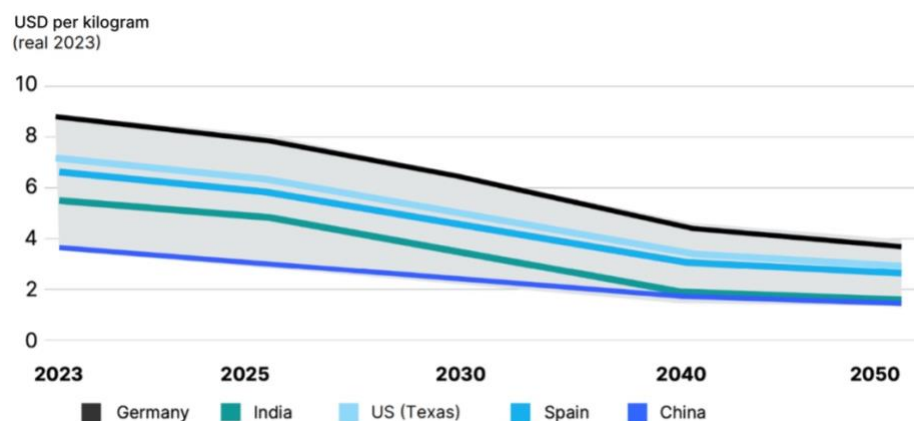
¹¹⁸ Nucor, [Advanced EAF Steel Capabilities for Automotive Platforms](#).

steelmaking.¹¹⁹ Scrap steel recycling is also a significantly less carbon-intensive. In September 2025, the Ministry of Steel announced an INR5,000 crore (USD560 million) package to support low-emission steel technologies, with a strong focus on secondary steelmakers using EAFs¹²⁰. JSW Steel recently announced that it is to set up a scrap steel recycling facility in Chennai.¹²¹

Larger volumes of scrap steel won't become available for some time. However, given its benefit in terms of energy and materials security, India should increase focus on scrap collection, logistics and processing now to put itself in the best possible position to gain from increasing volumes going forward.

Direct reduced iron (DRI) based on domestically produced green hydrogen also offers an energy secure alternative by replacing coking coal in ironmaking. Launched in 2023, the National Green Hydrogen Mission aims to make India a global hub for green hydrogen by targeting 5mtpa production by 2030¹²² although it seems likely that this target will be pushed back by two years.¹²³ India is also among the most promising locations to produce cost-competitive green hydrogen. Bloomberg New Energy Finance forecasts the levelled cost of green hydrogen will remain higher for longer in most markets, but China and India are expected to emerge as exceptions.¹²⁴ The cost in both countries will likely fall such that it will be competitive with grey hydrogen in the 2030s. This makes India one of the most attractive global markets for green hydrogen development.¹²⁵

Figure 9: Projected levelled costs of green hydrogen



Source: BloombergNEF. Note: Shows the optimised levelled cost scenario without subsidies.

¹¹⁹ S&P Global – Commodity Insights, [India's circular economy goals - Spotlight on ferrous scrap](#), 2024.

¹²⁰ ETEnergyworld.com, [Govt plans ₹5,000 crore scheme to promote decarbonisation in steel industry: Steel secy](#), 17 September 2025.

¹²¹ The Hindu Businessline, [JSW Steel to set up scrap recycling facility in Chennai](#), 23 October 2025.

¹²² Ministry of New and Renewable Energy, [National Green Hydrogen Mission \(NGHM\)](#), 24 July 2024.

¹²³ Money Control, [India's Green Hydrogen Mission target to be delayed by two years: MNRE Secretary](#), 11 November 2025.

¹²⁴ Hydrogen Insights, ['Green hydrogen in most markets will need government support to compete with grey H₂ even up to 2050'](#): BNEF, 16 April 2025.

¹²⁵ Hydrogen Insights, [Eleven reasons why India is now one of the world's most attractive markets for green hydrogen](#), 2 December 2024.

Indian steelmakers are already preparing for this transition. Jindal Steel plans to begin using green hydrogen at its Angul DRI units in Odisha by late 2025.¹²⁶ JSW Steel is piloting green hydrogen in its Vijayanagar plant¹²⁷ where JSW Energy has just commissioned a green hydrogen plant¹²⁸ and is expanding DRI capacity at its Salav facility in Maharashtra, initially running on methane but designed to switch to green hydrogen as costs decline.¹²⁹

There is a narrow range of sectors where green hydrogen will likely be successfully applied, and steel is among them.¹³⁰ Green hydrogen represents a potential significant energy security boost to the India economy in the longer term. With that in mind, instead of prioritising export, India should focus on domestic use, given the value in terms of energy security and that shipping of green hydrogen and green ammonia is structurally expensive.¹³¹ Green hydrogen use in the steel sector should become an even greater priority for India.

Ultimately, these shifts represent the next stage of India's energy and industrial transition. The combination of scrap-based EAF expansion, green hydrogen use, and policy incentives for low-carbon technologies could gradually reduce India's reliance on imported met coal. In doing so, India would not only enhance its energy security but also strengthen its competitiveness in global low-carbon steel markets.

¹²⁶ S&P Global. [INTERVIEW: India's Jindal Steel set to introduce renewable hydrogen in DRI unit in 3-4 months](#). 16 July 2025.

¹²⁷ NDTV Profit. [JSW Energy to Set Up India's Largest 25 MW Green Hydrogen Project For JSW Steel](#). 10 June 2024.

¹²⁸ Business Standard. [JSW Energy commissions its first green hydrogen manufacturing plant](#). 11 November 2025.

¹²⁹ ET Energyworld. [JSW Steel bets big on green steel with ₹60,000Cr Maharashtra expansion](#). 16 April 2025.

¹³⁰ ET Energyworld. [Green hydrogen is the industrial game-changer for India's steel sector](#). 30 October 2025.

¹³¹ IEEFA. [Australia needs to get smarter with green hydrogen](#). 30 July 2025.

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