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BLACK DIAMOND:

Coal - Backbone of India's Energy Security



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Executive Summary

This report provides a strategic assessment of the global and Indian coal and energy markets, examining the structural changes that shaped recently. It analyses developments across coal production, trade, imports, electricity generation and competitive power markets, while evaluating how India's energy transition is transforming coal procurement, price discovery and commercial risk management.

Globally, coal markets have remained broadly balanced in the recent past despite diverging regional trends. Thermal coal demand softened in several developed economies due to expanding renewable generation and higher domestic production, while metallurgical coal demand remained resilient, supported by stable steel production across Asia. Although seaborne thermal coal trade moderated, emerging Asian economies continued to underpin global demand, highlighting coal's ongoing role in supporting energy security and industrial growth.

India's coal sector has entered a new phase of structural evolution. Growth in public sector production moderated, while captive and commercial mines have emerged as the primary source of incremental domestic supply, improving fuel security and reducing dependence on imported thermal coal. Consequently, India's import profile is becoming increasingly steel-centric, with declining non-coking coal imports offset by sustained growth in coking coal and PCI imports required by the expanding steel industry.

The year 2025-26 marked an important inflection point for India's power sector. Record renewable energy additions of 44.62 GW accelerated the transition towards a more diversified electricity mix, reducing coal's share of generation to around 69% while reinforcing its critical role in ensuring grid reliability and balancing variable renewable energy. Simultaneously, competitive electricity markets became deeper and more liquid, strengthening transparent price discovery and increasing the influence of market-based dispatch on procurement decisions.

These developments are fundamentally reshaping commercial decision-making across the coal and energy value chain. Procurement strategies are increasingly being driven by portfolio optimisation, fuel quality, logistics efficiency, inventory management and market pricing rather than simply securing physical supply. At the same time, market participants face growing exposure to commodity price volatility, electricity prices, freight, foreign exchange and renewable-driven variability, making integrated physical and financial risk management increasingly important.

The report concludes that India's coal and energy sector is transitioning from a volume-driven market to one that is increasingly shaped by operational flexibility, transparent price discovery and sophisticated risk management. As electricity and commodity markets continue to mature, organised exchanges and market-based risk management tools will play an increasingly important role in enhancing market efficiency, supporting informed commercial decisions and strengthening India's long-term energy security and economic competitiveness.



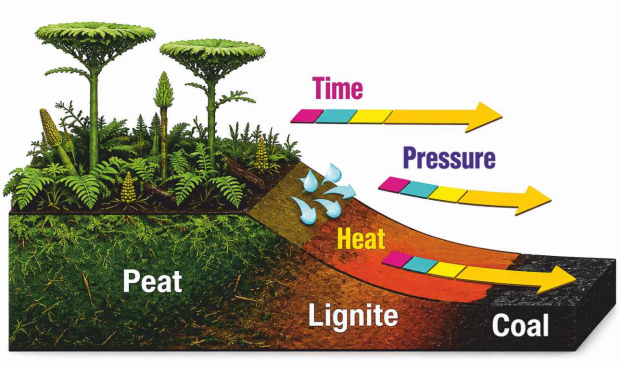


BLACK DIAMOND: COAL - BACKBONE OF INDIA'S ENERGY SECURITY

1. What Is Coal, Its Classifications and Industrial Usage

Coal is a naturally occurring sedimentary fossil fuel formed over millions of years from the remains of ancient plants subjected to heat and pressure beneath the Earth's surface. It is one of the world's most abundant energy resources and plays a critical role in power generation, steelmaking, cement production, and various industrial processes.

Coal is primarily composed of carbon, along with varying amounts of hydrogen, oxygen, sulphur, nitrogen, and mineral matter. Its quality and characteristics depend on factors such as carbon content, calorific value, moisture, volatile matter, and ash content. Based on the degree of coalification, coal is classified into different ranks, including lignite, sub-bituminous, bituminous, and anthracite.



Broadly, coal is categorised into two major types based on its end use: thermal coal and coking (metallurgical) coal.

TYPES OF COAL

1. Peat: It is the earliest stage of the coalification process and is generally not classified as true coal. It is formed from partially decomposed plant material in waterlogged environments and is characterized by a very high moisture content (70-90%), low carbon content, and low calorific value, making it a low-grade fuel and the precursor to higher-rank coals.

Key characteristics

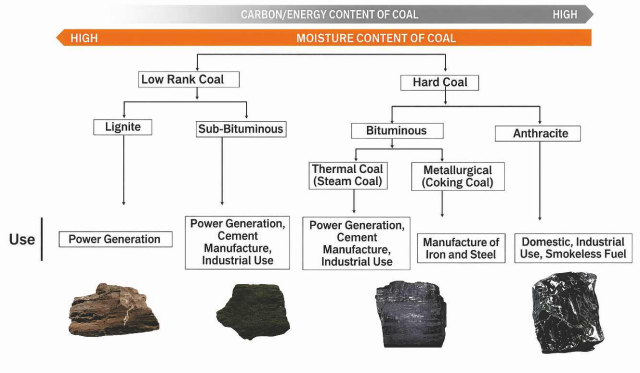
- Brown in colour
- Soft and fibrous
- High smoke generation
- Difficult to transport

2. Lignite: It also known as brown coal, is the lowest-rank commercially mined coal formed through the partial coalification of peat. It is a relatively young sedimentary fuel characterized by high moisture content, moderate carbon content, and a low to medium calorific value, making it primarily suitable for electricity generation near mining sites.

Key characteristics

- Contains 60-70% carbon and 30-50% moisture.
- Soft, brown, and highly porous with high volatile matter.
- Lower energy density and higher emissions than higher-rank coals.
- Best suited for mine-mouth power generation due to its high moisture and transportation limitations.

TYPES OF COAL AND USE



3. Thermal coal (Steam coal): Thermal coal is primarily used as a fuel for electricity generation and industrial heating. It is combusted in thermal power plants to produce steam, which drives turbines to generate electricity. It is also widely consumed in industries such as cement, paper, textiles, and chemicals for process heat.

Key characteristics:

- High calorific value for efficient energy generation.
- Generally higher ash content compared to coking coal.
- Not suitable for coke production.
- Also known as non-coking coal, steam coal or thermal coal.

4. Coking Coal (Metallurgical Coal): Coking coal is a specialised grade of coal used in the production of coke, an essential raw material for blast furnace ironmaking. When heated in the absence of air, coking coal softens, becomes plastic, and resolidifies into strong, porous coke capable of supporting the burden inside a blast furnace.

Key characteristics:

- Excellent caking and coking properties.
- Low ash, sulphur, and phosphorus content.
- High carbon content and mechanical strength.
- Classified into premium hard coking coal (PHCC), hard coking coal (HCC), semi-hard coking coal (SHCC) and semi soft coking coal (SSCC) based on quality and application.

5. Anthracite: It is the highest rank of coal, formed through the maximum degree of coalification. It possesses the highest carbon content, lowest moisture and volatile matter, and the greatest calorific value among all coal types, making it the cleanest and most energy-efficient natural coal.

Key characteristics

- 90-95% carbon content and the highest fixed carbon.
- Very low moisture and volatile matter, ensuring clean and efficient combustion.
- Hard, dense, and lustrous with excellent energy density.
- Burns with a blue flame, producing minimal smoke and emissions.

02. Global Coal Scenario & Trend Analysis

The global coal market remained relatively balanced in 2025, with stable production and consumption supported by resilient electricity demand and steelmaking activity across Asia. While thermal coal demand softened in several developed economies amid rising renewable energy penetration and improved domestic coal availability, metallurgical coal consumption remained supported by steady blast furnace operations.

Global seaborne coal trade moderated due to weaker import demand from China and Europe, although trade flows remained resilient owing to continued procurement by emerging Asian economies. Overall, the market was characterized by adequate supply, cautious buying activity, and region-specific demand variations.

PRODUCTION ANALYSIS

Global coal production remained broadly stable in 2025 despite mixed regional performance. Lower production across Asia-Pacific and Europe was largely offset by increased output from Eurasia and North America. Thermal coal production witnessed a marginal decline as miners adjusted output to softer seaborne demand and growing renewable energy generation.

Global coal production scenario					
Region/country	2021	2022	2023	2024	2025
Asia Pacific	5947	6587	7085	7311	7274
North America	579	592	579	513	529
Central and South America	66	61	73	82	67
Europe	485	498	414	378	370
Eurasia	564	585	581	564	607
Africa	245	257	258	265	263
Middle East	2	2	2	2	2
Total	**7888**	**8582**	**8993**	**9114**	**9111**

Quantity in million tonnes | Source: IEA, BigMint.

Conversely, metallurgical coal production remained resilient, supported by stable crude steel production and favourable export opportunities. Overall, adequate mine supply ensured balanced market fundamentals without significant supply disruptions.

Key Highlights

- Stable overall global coal production.
- Thermal coal output declined marginally amid weaker demand.
- Metallurgical coal production remained largely resilient.
- Production growth concentrated in selected exporting countries.

CONSUMPTION ANALYSIS

Global coal consumption remained largely unchanged during 2025. Electricity demand continued to support thermal coal consumption across emerging Asian economies, while coal usage declined in Europe due to accelerating energy transition policies and increased renewable generation. Metallurgical coal demand remained firm as blast furnace steel production continued at healthy levels in major steel-producing countries. Consumption trends reflected divergent regional energy policies and industrial activity.

Global coal consumption scenario					
Region/country	2021	2022	2023	2024	2025
Asia Pacific	6153	6639	7100	7265	7264
North America	529	489	417	404	440
Central and South America	50	48	51	49	46
Europe	649	671	555	494	483
Eurasia	348	368	368	387	408
Africa	189	187	185	197	195
Middle East	12	13	11	10	10
Total	**7930**	**8415**	**8687**	**8805**	**8845**

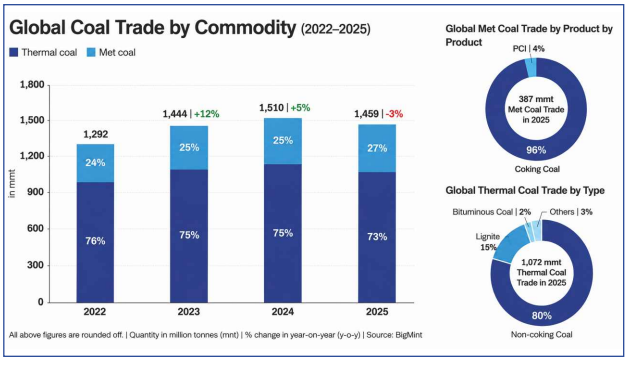
Quantity in million tonnes | Source: IEA, BigMint

Key highlights

- Stable overall coal consumption.
- Thermal coal demand softened in developed economies.
- Metallurgical coal demand supported by steady steel production.
- Asia remained the primary driver of global coal consumption.

GLOBAL TRADE ANALYSIS

Global seaborne coal trade moderated in 2025 following weaker import demand from key consuming nations. Thermal coal trade declined due to increased domestic coal production in China and India, higher renewable energy generation, and cautious procurement by utilities.



In contrast, metallurgical coal trade remained comparatively stable, supported by sustained import requirements from Asian steelmakers. Trade flows increasingly shifted towards emerging Asian markets as traditional importers reduced dependence on imported coal.

Key Highlights

- Overall seaborne coal trade moderated.
- Thermal coal trade declined more sharply than metallurgical coal.
- Asian markets continued to dominate global imports.
- Buyers preferred short-term procurement amid price uncertainty.

EXPORT MARKET ANALYSIS

Global thermal and metallurgical coal (a collective term for coking coal and pulverised coal injection) markets have historically tended to move in tandem, with stronger or weaker economic activity influencing demand for both power generation and steel production. However, currently these two markets are responding to very different economic drivers, resulting in a clear divergence in both pricing behaviour and trade flows.

Global thermal coal exporters

Load Country	2022	2023	2024	2025
Indonesia	447.2	494.4	529.7	499
Australia	177	199.4	202.8	205.3
Russia	120.1	132	112.7	107.6
South Africa	70.4	73.2	70.7	71.3
Colombia	54.6	54.6	58.9	45.9
United States	34.3	43.3	45.4	38.0
Others	79.3	89.4	105.7	104.7
Total	**983**	**1086**	**1126**	**1072**

Quantity in million tonnes
Source: BigMint

The metallurgical coal market is operating under a different set of conditions in CY'26. Although global crude steel production declined by 1.5% during January-May 2026 to 773.1 mnt and steel demand remains uneven across many regions, PHCC prices are around 26% higher than CY'25 averages.



Global met coal exporters

Load Country	2022	2023	2024	2025
Australia	153.2	147.9	156.4	148.5
Russia	36.3	48.2	55.8	65.2
Mongolia	27.5	54.3	56.8	60.1
United States	42.1	46.5	51.6	45.5
Canada	28.1	30.6	28.9	30.6
Indonesia	18.1	24.9	26.6	24.1
Others	3.6	5.7	8.3	13
Total	**309**	**358**	**384**	**387**

Quantity in million tonnes
Source: BigMint

However, shipments from competitive exporters remained relatively stable owing to long-term contracts and established trade relationships. Metallurgical coal exports remained resilient, supported by healthy steel sector demand and steady procurement from Asian importers despite market volatility.

Key Highlights

- Thermal coal exports declined moderately.
- Metallurgical coal exports remained relatively firm.
- Export competition intensified amid subdued demand.
- Supply remained adequate across major exporting regions.

Key Market Drivers

Supply-side Drivers

- Stable mining operations across major producing countries.
- Improved mine productivity and adequate inventory levels.
- Limited supply disruptions despite weather-related challenges.
- Rational production management by exporters to balance market conditions.

Demand-side Drivers

- Resilient electricity demand across Asia.
- Stable crude steel production supporting metallurgical coal demand.
- Increased renewable energy generation reducing thermal coal consumption in developed economies.
- Higher domestic coal production lowering import dependency in key consuming countries.

Trade & Pricing Drivers

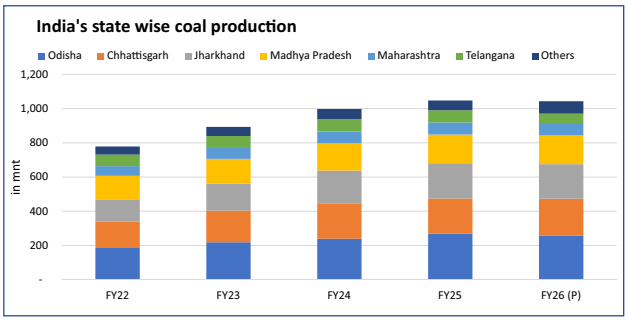
- Softer Chinese import demand influencing global prices.
- Cautious procurement strategies amid ample supply.
- Freight rate fluctuations impacting delivered coal costs.
- Geopolitical developments continuing to influence trade flows.

03. India's Coal Production: Growth Momentum vs Structural Shift

ANALYTICAL INTERPRETATION

Headline growth has normalised sharply

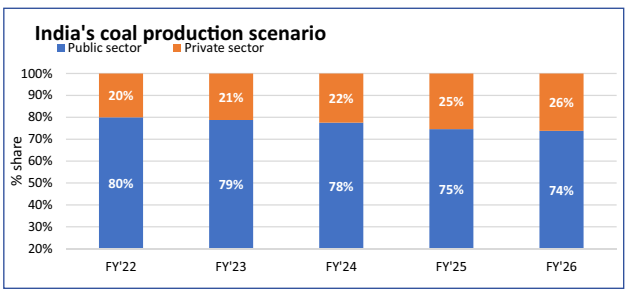
India's coal production growth has slowed materially after three years of strong expansion. After double-digit growth in FY23 and FY24, and still-healthy growth in FY25 and FY26 marked a near-plateau, with national output dropping by just 1% y-o-y. This slowdown reflects supply-side constraints and maturity in legacy mining systems, rather than a collapse in coal demand.



Source: Ministry of Coal, BigMint | Data in financial year.

CAPTIVE & PRIVATE PRODUCERS: THE MARGINAL TONNE HAS SHIFTED

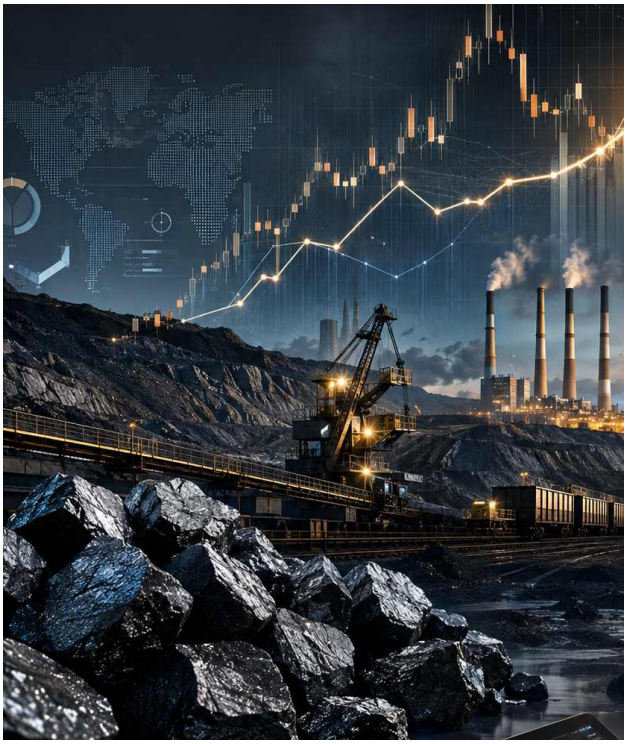
The most important structural change is the sustained expansion of captive and private coal production, which has consistently delivered double-digit growth even as public-sector output slowed. By FY26, this segment accounted for over 20% of India's total coal production, nearly doubling its share from FY22.



Source: Ministry of Coal, BigMint | Data in financial year | A financial year starts from 1st April and ends on 31st March.

This segment has effectively supplied most of India's incremental coal demand, driven by:

- Faster execution of commercial coal mine auctions
- Steel, cement, and power producers prioritising fuel security
- Better alignment between mine output and end-use consumption



IMPLICATIONS FOR IMPORTS AND MARKET BALANCE

The rise of captive and private production has structurally reduced India's reliance on imported non-coking coal, particularly outside peak demand periods. Thermal coal imports increasingly play a balancing role, while metallurgical coal imports remain structurally unavoidable due to quality constraints.

At the same time, the stagnation in public-sector output implies that future domestic supply flexibility will depend disproportionately on private and captive miners, making their ramp-up execution, logistics performance, and cost structure critical to the overall coal balance.

WHAT THE DATA ULTIMATELY SIGNALS

India's coal sector is no longer driven by headline production growth, but by who supplies the marginal tonne. The data clearly shows a transition:

- From public-sector-led expansion
- To a private and captive-led stabilisation model

This structural shift strengthens domestic coal availability, limits upside for thermal coal imports, and reshapes pricing dynamics across India's coal value chain.

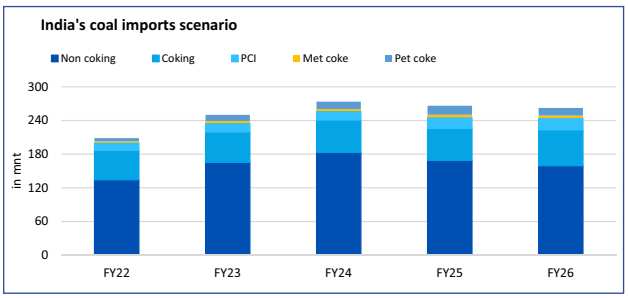
04. Indian Coal & Coke Import Trends & Overview

India's total coal (including thermal, coking, PCI) and coke (metallurgical, petroleum coke) imports remained broadly range-bound between 260-270 million tonnes over FY2025 and FY2026. The modest decline in FY2026 (-1.5% y-o-y) masks a significant reallocation within the import basket, rather than a contraction in underlying demand.

Metallurgical coal imports drive growth: The most consistent growth is visible in metallurgical inputs:

- Coking coal imports rose steadily from 56.73 mnt in FY25 to 63.74 mnt in FY26, reflecting sustained blast furnace utilisation and limited scope for domestic substitution.
- PCI imports expanded up 6% over two years, highlighting higher PCI injection rates as steelmakers optimise coke consumption and costs.

Together, coking coal and PCI now account for a materially higher share of India's import mix, underscoring the steel sector as the primary source of incremental import demand.



Source: BigMint

Structural decline in non-coking coal imports: Non-coking coal imports fell from 168.9 mnt in FY25 to 159.5 mnt in FY26, a decline of nearly 6% over two years. This reflects:

- Rising domestic coal production, particularly from captive and private mines
- Improved logistics and dispatch efficiency from domestic suppliers
- Greater use of blending and inventory discipline by power and cement consumers

Thermal coal imports are increasingly used as a balancing mechanism, rather than a base-load supply source.

WHAT THE DATA SIGNALS

- India is not importing less coal overall because demand is falling, but because domestic thermal coal availability has improved materially.
- Incremental import demand is now concentrated in metallurgical segments, where domestic supply cannot match quality requirements.
- The import basket is steadily shifting away from power-sector fuels toward steel-linked raw materials, making future import trends more sensitive to steel output than electricity demand.

FORWARD IMPLICATIONS

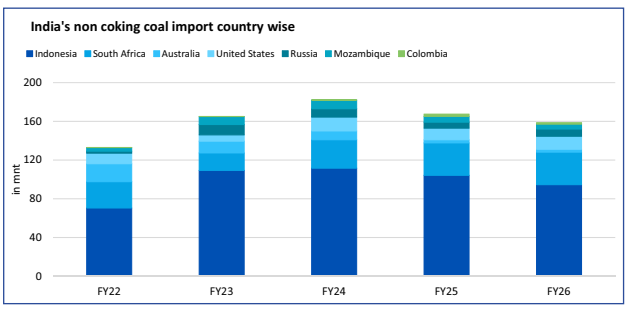
- Upside risk to imports lies primarily in coking coal and PCI, linked to steel capacity utilisation.
- Downside risk is concentrated in non-coking coal and petcoke, especially during non-peak power demand periods.
- Overall, India's coal import profile is becoming structurally more specialised and less volume-driven.



05. Indian Coal Imports: Origin-Wise Analysis

India imported around 244.2 mnt of non-coking and metallurgical coal (Coking & PCI coal) in FY'26, compared with approximately 245.3 mnt in FY'25, indicating broadly stable import demand despite changing consumption patterns. Non-coking coal imports declined by 5.5% y-o-y to 159.7 mnt in FY'26 from 169.0 mnt in FY'25, reflecting improved domestic coal availability and lower dependence on imported thermal coal.

In contrast, coking coal imports increased by 12.4% y-o-y to 63.7 mnt from 56.6 mnt, while PCI imports rose by 6.2% y-o-y to 20.9 mnt from 19.6 mnt, taking total metallurgical coal imports to 84.5 mnt in FY'26, up 10.4% from 76.3 mnt in FY'25, supported by sustained demand from India's steel sector. Despite the marginal decline in overall coal imports, the supplier landscape continued to evolve. Imports remained highly concentrated, with the top five supplier countries accounting for the majority of volumes, while procurement gradually shifted away from thermal coal-dominated origins towards metallurgical coal.



Source: BigMInt

AUSTRALIA: METALLURGICAL ANCHOR, THERMAL IRRELEVANT

Australia's coal exports to India increased by 9.3% y-o-y to 43 mnt in FY'26 from 39.3 mnt in FY'25, with shipments continuing to be dominated by metallurgical coal.

- Coking coal imports rose by 13.4% y-o-y to 34.3 mnt in FY'26 from 30.2 mnt in FY'25, reinforcing Australia's position as India's leading supplier of premium hard coking coal.
- PCI coal imports declined by 2.8% y-o-y to 5.7 mnt from 5.8 mnt, though volumes remained significant for blast furnace operations.
- Non-coking coal imports eased by 7.2% y-o-y to 3 mnt in FY'26 from 3.2 mnt, underscoring Australia's limited role in India's thermal coal imports.

Australia's importance in India's import basket remains firmly linked to the steel sector, with trade flows increasingly influenced by blast furnace utilisation and coking coal demand rather than power-sector requirements.

INDONESIA: STILL DOMINANT, BUT LOSING THERMAL SHARE

Indonesia remained India's largest coal supplier, although imports declined by 9.1% y-o-y to 97.0 mnt in FY'26 from 106.7 mnt in FY'25.

- The decline was driven almost entirely by non-coking coal imports, which fell by 9.2% y-o-y to 94.6 mnt in FY'26 from 104.3 mnt in FY'25, reflecting higher domestic coal production, improved availability and lower import dependence by India's power sector.
- Coking coal imports declined by 4.4% y-o-y to 2.3 mnt from 2.5 mnt, while metallurgical coal shipments remained limited due to the absence of PCI imports.
- Indonesia continues to be India's dominant thermal coal supplier, although its share is gradually moderating as domestic coal availability improves.

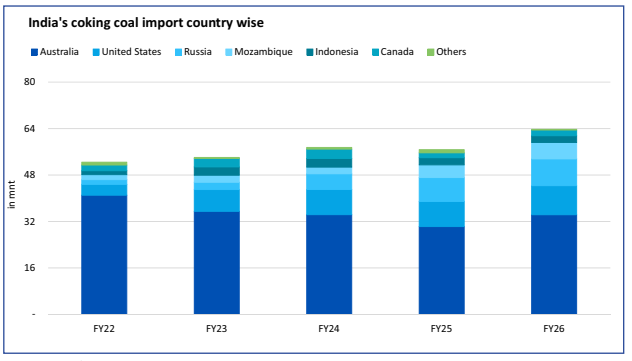
The trend highlights Indonesia's increasing exposure to India's import substitution strategy, particularly in the non-coking coal segment.

SOUTH AFRICA: STRUCTURAL THERMAL SUPPLIER

South Africa remained a key thermal coal supplier to India, with coal exports increasing marginally by 0.6% y-o-y to 33.7 mnt in FY'26 from 33.5 mnt in FY'25, driven almost entirely by non-coking coal.

- Non-coking coal imports rose by 0.6% y-o-y to 33.6 mnt, underscoring South Africa's position as a reliable alternative source of thermal coal amid India's evolving import mix.
- The export basket remained overwhelmingly focused on non-coking coal, with only negligible coking coal shipments.

South Africa continues to strengthen its position as a dependable long-term thermal coal supplier to India, supported by consistent demand from coastal power utilities and industrial consumers.



Source: BigMInt



RUSSIA: THE FASTEST-GROWING STRATEGIC SUPPLIER

Russia strengthened its position as one of India's fastest-growing coal suppliers, with exports increasing by 13.1% y-o-y to 32 mnt in FY'26 from 28.3 mnt in FY'25.

- PCI coal imports rose by 10.4% y-o-y to 15.2 mnt, remaining Russia's largest export segment to India and supporting blast furnace operations.
- Coking coal imports increased by 12.1% y-o-y to 9.2 mnt, reinforcing Russia's expanding role in India's metallurgical coal supply chain.
- Non-coking coal imports grew by 20% y-o-y to 7.5 mnt, reflecting broader demand across industrial and power-sector consumers.

Russia's growing presence in India's import basket reflects its competitive pricing, diversified coal portfolio, and increasing importance as a strategic supplier for both metallurgical and thermal coal requirements.

UNITED STATES: DIVERSIFIED METALLURGICAL AND THERMAL COAL SUPPLIER

The United States remained a diversified coal supplier to India, with exports increasing by 15.4% y-o-y to 23.5 mnt in FY'26 from 20.4 mnt in FY'25.

- Non-coking coal imports rose by 11.3% y-o-y to 13.4 mnt, making it the largest component of U.S. coal shipments to India.
- Coking coal imports increased by 17.4% y-o-y to 10.0 mnt, reflecting sustained demand from India's steel sector.

The United States continues to play a strategic role in India's coal import basket through its diversified portfolio of thermal and metallurgical coal, enabling it to respond flexibly to changing market dynamics and sector-specific demand.

MOZAMBIQUE: DECLINING THERMAL, RISING METALLURGICAL SHARE

Mozambique's coal exports to India increased by 3.9% y-o-y to 10.7 mnt in FY'26 from 10.3 mnt in FY'25, with a notable shift in the product mix.

- Coking coal imports surged by 28.9% y-o-y to 5.6 mnt, highlighting Mozambique's growing importance as a supplier of metallurgical coal to India's steel sector.
- In contrast, non-coking coal imports declined by 14.5% y-o-y to 5.1 mnt, reflecting softer demand for thermal coal.

The changing import mix underscores Mozambique's increasing relevance in India's metallurgical coal supply chain, mirroring the broader shift in India's import basket towards steel-making raw materials and away from thermal coal.

OTHER COAL SUPPLIERS: LIMITED BUT STRATEGIC CONTRIBUTORS

Countries such as Tanzania, the United Arab Emirates and several other origins continued to account for relatively small shares of India's coal imports, catering to niche market requirements rather than bulk demand.

- Volumes remained limited and were largely driven by specific grade requirements and regional trade dynamics.
- These suppliers complement India's diversified sourcing strategy by providing supply flexibility, particularly in the metallurgical coal segment, rather than serving as core import partners.

LONG-TAIL ORIGINS: OPTIONALITY, NOT SCALE

Imports from smaller supplier countries remained fragmented and marginal, contributing supply flexibility but limited structural volumes to India's coal import basket.

What the Data Ultimately Shows

1. India's coal import dependence is not declining uniformly—it is being restructured, with demand gradually shifting from non-coking coal towards metallurgical coal.
2. Non-coking coal imports are becoming increasingly concentrated, with Indonesia gradually losing market share while South Africa continues to strengthen its position as a dependable thermal coal supplier.
3. Metallurgical coal imports (coking coal and PCI) are expanding, with Australia reinforcing its dominance in coking coal and Russia emerging as a key supplier across both PCI and coking coal.
4. India's coal procurement strategy is becoming more diversified and steel-centric, reflecting the country's growing reliance on metallurgical coal to support expanding steel production while reducing dependence on imported thermal coal.

06. Coal Price Trends and Market Developments

India's coal market witnessed contrasting trends during FY2025-26, through Jun'26 (Q1 FY27). With imported coal prices largely influenced by global supply disruptions, freight volatility and geopolitical developments, while domestic coal remained comparatively stable on the back of comfortable availability and regular Coal India auctions.

Buyers across key consuming sectors largely followed requirement-based procurement, with purchasing decisions driven by cost competitiveness, inventory levels and downstream demand from the steel, power and cement industries.

COKING COAL

Premium hard coking coal prices remained volatile throughout FY26, reflecting the tug-of-war between supply disruptions and cautious steel demand. BigMint's Premium Hard Coking Coal (PHCC) Index, after remaining relatively range-bound through much of 2025, strengthened sharply during January-May 2026 before easing slightly towards June. The rally was primarily driven by weather-related disruptions in Australia, including heavy rainfall and cyclone activity, which affected mine production, rail movements and port operations, tightening seaborne availability. Mining delays, force majeure declarations and longer vessel waiting times further constrained supply, while higher freight rates amplified landed costs into India.

Australian FOB premium hard coking coal prices moved in tandem with CNF India values, supported by limited spot cargo availability and periodic increases in Chinese coke prices. Rising freight rates, particularly during February and March 2026, further lifted import parity despite relatively stable FOB prices during certain periods. However, towards Jun-July 2026, sufficient inventories with Indian steelmakers, weaker finished steel prices and slower procurement activity moderated buying interest, leading to a gradual correction in the PHCC index despite continued supply-side concerns.

Overall, coking coal prices were largely dictated by supply disruptions and logistics rather than robust demand growth. Indian buyers largely adopted a requirement-based procurement strategy, while healthy inventories and cautious steel sector sentiment prevented sustained price escalation.

METALLURGICAL COKE

Domestic metallurgical coke prices generally followed movements in coking coal costs throughout FY25-26. Prices strengthened steadily during the first quarter of 2026 as higher Australian coking coal prices increased production costs, while firm import parity and uncertainty surrounding India's anti-dumping duty on imported met coke provided additional support to domestic producers.

Eastern India consistently commanded a premium over western markets due to stronger steelmaking activity and relatively tighter availability. BF-grade coke prices gradually increased from nearly INR 32,000/t in January 2026 to above INR 36,500/t by June 2026, while western India witnessed comparatively moderate gains owing to comfortable inventories and slower buying interest. Indonesian coke offers also moved higher as FOB prices strengthened and Chinese coke producers implemented multiple rounds of price increases, improving global sentiment.

Import economics become even more favourable for export-oriented steelmakers operating under the

Benchmark Prices	Currency	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Deo-25	Jan-26	Feb-26	Mar-26	Apr-25	May-25
BigMint Coking Coal Index, CNF Paradip, India : 0-20 mm,PHCC	$	204.5	213	188	182.75	202.2	205	207	215.5	231.75	250	260.25	251.75	255.75	284.2	287.75
Coking Coal, FOB Hay Point, Australia : Premium HCC	$	181.4	182	179.29	176.57	186.15	187.18	191.32	196.65	210.66	233.05	248.8	225.62	233.05	238.7	243
Met Coke, Exw-Tangshan, Habei : 25-50mm,Quasi-Grade I	元	1335	1325.26	1194.5	1187.63	1422.5	1430.91	1455.38	1555.79	1499.52	1392.5	1440	1399.52	1463.33	1552	1736
Met Coke, Exy-Gandhidham, India : 25-90 mm,Blast Furnace-grade	INR	32,240	30,950	29,563	29,200	30,000	30,000	30,000	30,050	29,980	30,150	30,400	30,875	32,980	33,500	34,000
Met Coke, Exy-Jaipur, India : 25-90 mm, Biast Furnace-grade	INR	34,110	32,275	29,325	28,700	29,000	29,375	29,940	31,525	32,000	33,000	34,725	35,400	36,320	36,550	36,600
Non Coking, Ex-Bilaspur, India : 0-250 mm,5000 GCV	INR	6,144	5,625	5,675	5,256	4,950	4,856	4,725	4,733	5,156	5,813	6,275	6,325	5,856	5,750	5,850
Non Coking, Portside, Ex-Kandla, India : 4200 GAR, Indonesia	INR	6,200	6,160	5,913	5,713	5,700	5,725	5,820	5,842	5,783	5,639	6,119	7,611	7,625	8,217	9,083
Non Coking, Portside, Ex-Kandla, India : 6900 NAR, US	INR	11,190	10,100	9,625	9,630	9,850	10,288	10,330	10,113	10,370	10,950	11,938	15,700	14,980	13,638	13,713
Non Coking, Portside, Ex-Navlakhi, India : 3400 GAR, Indonesia	INR	4,925	4,590	4,400	4,313	4,440	4,325	4,440	4,558	4,622	4,472	4,713	5,683	5,263	6,100	6,905
Non Coking, Portside, Ex-Paradip, India : 5800 NAR, South Africa	INR	8,461	8,132	7,686	7,757	8,248	8,130	8,195	8,310	8,850	9,174	10,063	11,802	11,073	11,257	11,184
Non Coking, Portside, Ex-Paradip, India : 4800 NAR, South Africa	INR	7,211	7,084	6,731	6,737	7,178	7,059	7,100	7,188	7,459	7,793	8,640	10,424	9,934	9,776	9,764

Source: BigMint | Prices on per tonne basis

Advance Authorisation Scheme. In India, every tonne of pig iron requires around 450 kg of metallurgical coke, allowing exporters to recover approximately US$21/t of the anti-dumping duty when finished material is exported. As a result, imported coke remains around INR 4,000-5,000/t cheaper than domestic material on an advance licence basis, encouraging mills to continue sourcing overseas material despite the duty.

Apart from pricing, imported coal continues to offer operational advantages. Domestic coal typically contains 29-40% ash, increasing slag generation and blast furnace fuel consumption, whereas imported coal generally contains only 12-14% ash. The lower ash content improves furnace productivity, reduces coke consumption and helps steelmakers maintain consistent hot metal quality, making imported material difficult to substitute despite higher duties.

Despite rising production costs, market activity remained largely requirement-based. Steelmakers refrained from aggressive purchases amid fluctuating steel margins, softer pig iron prices and uncertainty regarding government policy on anti-dumping duties. Towards the latter part of the review period, improved import availability and balanced domestic supply helped stabilise prices despite elevated raw material costs.

INDONESIAN THERMAL COAL

Indonesian non-coking coal witnessed one of the strongest price recoveries in Q1 FY27. After remaining largely stable during late 2025 owing to comfortable Indian inventories and subdued industrial demand, prices rallied sharply between February and June 2026, with several grades reaching their highest levels in nearly three years.

The uptrend was primarily driven by tightening Indonesian spot availability following uncertainty surrounding RKAB approvals, domestic market obligation (DMO) compliance, and evolving export regulations. Strong Chinese buying further reduced export availability, while depreciation of the Indian rupee significantly increased import parity costs. Higher Supramax freight rates during February-May 2026 further supported landed prices across Indian ports.

However, despite higher prices, buying interest remained subdued. Indian consumers continued to rely on ample domestic coal supplies, maintaining procurement strictly on an immediate requirement basis. Comfortable inventories at ports and thermal power plants, combined with slowing industrial activity ahead of the monsoon, prevented any meaningful revival in import demand. By June 2026, prices largely stabilised as adequate domestic availability and softer freight rates partially offset persistent supply-side concerns.

SOUTH AFRICAN THERMAL COAL

South African thermal coal experienced the sharpest price volatility among imported thermal coal grades. Prices climbed steadily from January 2026, reaching multi-year highs during March 2026 as lower exports from Richards Bay, mine maintenance, weather disruptions, tightening port inventories and sharply higher freight rates significantly reduced prompt availability.

Freight costs surged considerably during February 2026 and March 2026 amid geopolitical tensions in the Middle East, higher bunker prices and tighter vessel availability, substantially increasing replacement costs for Indian buyers. Export offers remained elevated throughout this period, while declining portside inventories further reinforced bullish sentiment.

However, demand failed to match higher prices. Sponge iron producers, one of the largest consumers of South African coal, operated under severe margin pressure due to weak finished steel demand, restricting procurement. Comfortable domestic coal availability, frequent Coal India auctions and rising imported coal inventories further reduced buying interest. Consequently, from April onwards prices corrected gradually as seaborne offers softened, freight rates eased and buyers increasingly preferred domestic coal over higher-priced imported cargoes. By June 2026, South African coal remained well below its March 2026 peak despite continuing supply-side support.

US NORTH APPALACHIAN (NAPP) COAL

US North Appalachian (NAPP) thermal coal gained significant prominence during Q1 FY27, particularly within India's cement sector. The extraordinary rise in international pet coke prices during the first quarter of 2026 significantly improved the competitiveness of high-calorific-value US coal, prompting several cement producers to switch fuels.

Strong import arrivals supported inventories at Kandla and Tuna ports, while weekly retail lifting remained healthy during end Jun'26. However, as imported pet coke prices corrected sharply from May 2026, coal gradually lost part of its pricing advantage. Rising inventories, slowing cement demand ahead of the monsoon and softer industrial activity reduced procurement, leading to lower weekly dispatches and increased competition from domestic coal, South African coal and Russian material.

Although US coal remained an important blending fuel for cement producers, buying became increasingly requirement-based as comfortable inventories and seasonal demand weakness limited fresh cargo bookings.

DOMESTIC NON-COKING COAL

India's domestic non-coking coal exhibited mixed trends in the last fiscal and increasingly emerged as the preferred fuel source across industrial sectors. Regular Coal India auctions, adequate production and comfortable availability ensured uninterrupted supplies, significantly reducing dependence on imported coal.

SECL, MCL and other Coal India subsidiaries conducted frequent auctions, with allocation trends largely reflecting cautious but consistent industrial demand. Elevated imported coal prices, stronger auction participation supported modest increases in domestic coal prices. However, subsequent declines in sponge iron production, weaker steel demand and higher auction volumes resulted in softer premiums and price corrections.

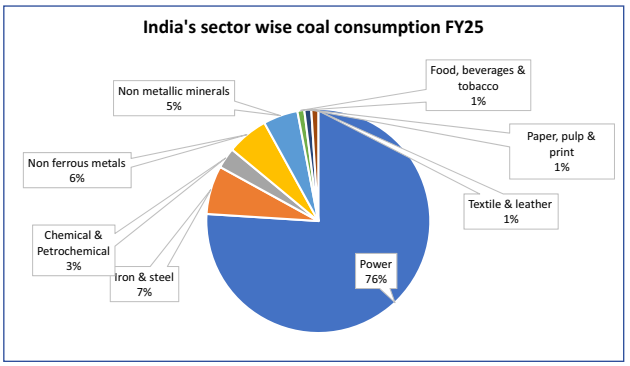
Compared with imported alternatives, domestic coal consistently offered superior economics, encouraging consumers across sponge iron, cement and industrial sectors to prioritise domestic procurement. Buyers largely restricted purchases to immediate operational requirements, with ample availability preventing any sustained upward pressure on prices.



07. Power Sector Dominates India's Coal Consumption, Accounting for Over Three-Fourths Of Demand

India's coal consumption exceeded 1,300 million tonnes (mnt) in FY2025-26, underscoring coal's continued importance in meeting the country's expanding energy and industrial requirements. The power sector remained the dominant consumer, accounting for 76% of total coal consumption.

This overwhelming share was driven by sustained growth in electricity demand, coal's role as the primary source of reliable baseload generation, and its ability to ensure grid stability by complementing the intermittency of renewable energy sources. In addition, the expansion of thermal power capacity and rising captive power generation across energy-intensive industries further supported coal demand.



Although coal remains indispensable for energy security, procurement strategies are increasingly influenced by renewable generation, electricity market dynamics and changing dispatch patterns. The growing role of renewables is strengthening the need for efficient price discovery, risk management and financial hedging across fuel and power markets.

The iron and steel sector accounted for 7% of total coal consumption, reflecting the indispensable role of coking coal and coke in blast furnace operations, along with the use of thermal coal in direct reduced iron (DRI) production. The non-ferrous metals sector represented 6%, primarily due to the energy-intensive nature of aluminium smelting and other metal processing activities that rely heavily on coal-based electricity.

The non-metallic minerals sector, including cement manufacturing, contributed 5%, where coal serves as the principal kiln fuel owing to its cost competitiveness and high thermal efficiency. Meanwhile, the chemical and petrochemical industry accounted for 3%, utilizing coal for process heating, steam generation, and feedstock applications.



The remaining 3% was consumed by industries such as food, beverages & tobacco, paper, pulp & printing, and textiles & leather, where coal continues to be used in industrial boilers and captive power plants to provide reliable and economical thermal energy.

Coal-fired stations generated approximately 1,280 BU, accounting for 69% of total electricity generation during FY2025-26. Although this represented a decline from 72% in the previous financial year, coal continued to produce more electricity than all other generation sources combined.

The reduction in coal generation should therefore be interpreted carefully. It does not indicate a structural decline in the importance of coal, nor does it imply reduced investment requirements for thermal generation. Instead, it reflects changing dispatch economics arising from three concurrent developments:

- record additions of solar and wind capacity;
- significantly higher hydroelectric generation following favourable monsoon conditions; and
- increased availability of zero-marginal-cost electricity during daylight hours.

Consequently, coal-fired generators are increasingly being required to operate more flexibly. Rather than functioning solely as baseload generators, thermal stations are progressively assuming the role of balancing resources that compensate for fluctuations in renewable generation, provide evening peak support and maintain overall grid stability.

This operational transition is likely to become even more pronounced over the remainder of this decade as renewable penetration continues to increase.

08. Coal In India's Energy Transition: Changing Role, Procurement Dynamics and Market Implications

Despite record renewable energy additions in FY2025-26, coal remained the backbone of India's electricity sector, generating approximately 1,280 BU and accounting for nearly 69% of total power generation. While renewable energy increasingly met incremental electricity demand, coal continued to provide reliable, dispatchable power essential for grid stability, peak demand management and system balancing. The year marked a gradual transition in coal's role from conventional baseload generation to a more flexible resource supporting renewable integration.

COAL REMAINED CENTRAL TO ENERGY SECURITY

Coal continued to play a strategic role in ensuring India's energy security. Supported by abundant domestic resources and an extensive thermal generation fleet, coal-fired power plants remained indispensable for delivering uninterrupted electricity irrespective of weather conditions. Their ability to provide dependable baseload supply and operational flexibility remained critical during periods of high demand, low renewable generation and transmission constraints.

THERMAL GENERATION TRANSITIONED TOWARDS FLEXIBLE OPERATIONS

The rapid expansion of renewable energy altered the operating profile of thermal power plants. Instead of operating continuously at stable output levels, coal-fired stations increasingly adjusted generation to accommodate variable solar and wind output, reducing generation during periods of high renewable availability and ramping up to meet evening peak demand. This transition increased the importance of plant flexibility, operational efficiency and reliability.

RENEWABLE EXPANSION RESHAPED COAL DISPATCH

The commissioning of 44.62 GW of renewable capacity during FY2025-26 significantly increased the availability of zero-marginal-cost electricity. Consequently, thermal generation was increasingly displaced during periods of strong renewable output, making coal dispatch more dependent on renewable generation patterns, weather conditions, electricity prices, reservoir levels and transmission availability. Coal demand therefore became more dynamic, requiring greater operational adaptability.

COAL PROCUREMENT BECAME MORE STRATEGIC

The changing generation mix encouraged utilities to adopt more sophisticated coal procurement strategies. Beyond securing adequate fuel volumes, procurement decisions increasingly focused on balancing delivered cost, fuel quality, logistics efficiency, inventory levels, blending requirements, environmental compliance and supply reliability. Integrated management of domestic and imported coal also gained greater importance in optimising generation costs.

FUEL QUALITY AND INVENTORY MANAGEMENT GAINED IMPORTANCE

As thermal plants operated more flexibly, consistent coal quality became increasingly important for maintaining plant efficiency and operational performance. Simultaneously, inventory management evolved from maintaining high stock levels to optimising inventories based on market conditions, logistics, working capital efficiency and supply security, increasing the importance of market intelligence and procurement planning.

Key Takeaways

FY2025-26 demonstrated that coal remains indispensable to India's electricity system even as renewable energy expands rapidly.

The key developments include:

- Coal continued to generate nearly 70% of India's electricity.
- Renewable energy increasingly displaced thermal generation during periods of high renewable output.
- Coal-fired power plants are evolving from traditional baseload assets into flexible balancing resources.
- Procurement strategies are becoming more sophisticated and portfolio-based.
- Fuel quality and operational consistency are gaining commercial importance.
- Inventory optimisation is replacing inventory maximisation.
- Coal demand is becoming more dynamic, increasing exposure to price and operational risk.
- The evolving market structure strengthens the need for transparent price discovery and robust risk-management mechanisms.

09. Price Risk Management in India's Coal And Energy Markets: From Physical Procurement To Financial Risk Management

FY2025-26 marked a significant shift in the commercial risk profile of India's coal and electricity sector. Traditionally, risk management focused on securing physical coal supplies under long-term fuel supply agreements and power purchase contracts. However, rapid renewable energy deployment, expanding competitive electricity markets, increasing reliance on imported fuels, evolving regulations and global commodity price volatility have broadened the range of commercial risks.

Market participants must now manage exposure not only to fuel availability but also to coal prices, electricity prices, freight rates, foreign exchange movements, inventory values and contractual pricing differentials. Accordingly, integrated financial and physical risk management has become increasingly important.

PRICE RISK ACROSS THE COAL VALUE CHAIN

Coal procurement involves multiple cost components beyond benchmark coal prices, including freight, foreign exchange, logistics, quality adjustments, financing costs and taxes. Domestic procurement is similarly exposed to auction premiums and transportation costs.

Effective risk management therefore requires a portfolio approach that considers all cost drivers collectively rather than individually.

EVOLUTION OF COAL PRICE DISCOVERY

Coal pricing has evolved from long-term negotiated contracts to transparent, index-linked pricing based on internationally recognised benchmarks for Australian, Indonesian, South African and other coal grades.

While benchmark pricing has improved transparency, it has also increased exposure to short-term market volatility, making future price expectations an increasingly important consideration for procurement decisions.

NEED FOR AN ORGANIZED DOMESTIC COAL MARKET PLACE

In a key reform aimed at modernising coal marketing, the Ministry of Coal has notified the Coal Exchange Rules, 2026, enabling the establishment of coal exchanges and introducing a competitive trading framework in the sector.

The move follows the amendment to the Mines and Minerals (Development and Regulation) Act, 2025, which laid the foundation for mineral exchanges. With the notification of rules, the government has operationalised the framework for transparent and efficient coal trading.

The Coal Controller Organisation (CCO) has been designated as the regulator for coal exchanges, responsible for registration and oversight. Entities meeting eligibility criteria will be allowed to set up exchanges, with licences valid for 25 years.

The introduction of coal exchanges is expected to shift the market structure from the existing one-to-many sales model to a many-to-many platform, enabling competitive bidding and market-driven price discovery.

Market implications

- Improved price transparency: Open trading platforms to enable efficient price discovery
- Wider market access: Commercial and captive miners to reach a broader buyer base
- Higher participation: Public sector miners likely to leverage exchanges for better market reach
- Efficiency gains: Streamlined supply chain and reduced transaction frictions.

The Ministry of Coal has launched an online application portal for the registration of Coal Exchanges, marking the first operational step towards establishing a regulated, market-based coal trading ecosystem in India. The portal was inaugurated by Union Minister of Coal and Mines G. Kishan Reddy during the curtain raiser event for Indian Mining Week 2026 in New Delhi.

EMERGING RISKS IN ELECTRICITY MARKETS

Historically, utilities primarily managed fuel-price risk because electricity tariffs were largely determined through regulated long-term contracts. The expansion of competitive electricity markets has introduced an additional layer of commercial uncertainty.

Power generators now increasingly face simultaneous exposure to:

- coal prices;
- electricity prices;
- renewable generation;
- dispatch risk;
- plant utilisation;
- ancillary service requirements;
- and balancing market outcomes.

During FY2025-26, increasing renewable penetration contributed to softer average wholesale electricity prices even while participation in the Day-Ahead Market continued to expand. As electricity prices become increasingly influenced by weather conditions and renewable availability, thermal generators face greater uncertainty regarding plant utilisation and realised revenues.

Managing electricity price exposure therefore becomes increasingly important alongside traditional fuel procurement strategies.

FOREIGN EXCHANGE RISK

India remains one of the world's largest importers of thermal coal, metallurgical coal and petroleum coke. Consequently, most imported fuel purchases are denominated in US dollars, while electricity revenues are largely earned in Indian Rupees. This creates significant foreign exchange exposure.

Even when international coal prices remain unchanged, depreciation of the Indian Rupee increases the delivered cost of imported fuel.

Foreign exchange movements also affect:

- Ocean freight
- Insurance
- Port costs
- Working capital requirements

As a result, fuel procurement strategies increasingly require coordination with treasury functions responsible for currency risk management.

FREIGHT RISK: Ocean freight represents a major component of imported coal costs and is influenced by vessel availability, fuel prices, weather, congestion and global trade flows. As freight rates often move independently of coal prices, importers must manage freight risk separately from commodity price risk.

INVENTORY RISK

Inventory management has become an increasingly important source of financial risk. Holding excessive inventories increases:

- working capital requirements;
- financing costs;
- quality deterioration risk;
- and exposure to declining market prices.

Conversely, maintaining insufficient inventories increases exposure to:

- supply disruptions;
- procurement during price spikes;
- logistics bottlenecks;
- and operational interruptions.

During FY2025-26, improving domestic coal availability allowed many consumers to optimise rather than maximise inventories. This shift reduced carrying costs but simultaneously increased sensitivity to short-term market movements.

Inventory management therefore represents both an operational and financial risk-management decision.

BASIS RISK: Basis risk arises when the pricing benchmark used for financial settlement differs from the price applicable to physical transactions. Such mismatches can materially affect realised margins, highlighting the importance of selecting financial benchmarks that closely reflect underlying physical exposure.

GROWING IMPORTANCE OF FINANCIAL RISK MANAGEMENT

Historically, India's energy sector relied primarily upon long-term contracts to manage commercial uncertainty. Increasing market liberalisation, greater renewable penetration and expanding short-term electricity markets are changing this approach.

Market participants increasingly require tools capable of managing:

- coal price volatility;
- electricity price volatility;
- freight risk;
- foreign exchange exposure;
- inventory valuation;
- and procurement timing.
- financial instruments cannot eliminate price risk.

10. Hedging Strategies and Market Practices in The Coal and Energy Sector

Market participants are increasingly exposed to volatility in coal prices, freight rates, foreign exchange and wholesale electricity prices, necessitating integrated procurement and risk-management strategies beyond traditional long-term contracts.

Globally, financial instruments such as futures, swaps and options are widely used to manage price uncertainty and improve cost predictability. While financial hedging remains at an early stage in India's coal sector, its adoption is gradually increasing with greater market liberalisation and price transparency. The primary objective of hedging is to reduce price uncertainty by stabilising procurement costs and revenues, thereby enabling businesses to focus on operational performance rather than short-term market fluctuations.

RISK EXPOSURE ACROSS THE COAL VALUE CHAIN

Different participants face fundamentally different categories of commercial risk. Consequently, no single hedging strategy is appropriate for all market participants.

Typical risk exposure by participant		
Market participant	**Principal risk**	**Commercial objective**
Coal Producers	Falling coal prices	Protect revenues
Coal Importers	Rising international prices, freight and foreign exchange	Stabilise procurement costs
Power Utilities	Fuel costs versus electricity prices	Protect generation margins
Cement Producers	Coal and petcoke price movements	Optimise fuel costs
Steel Producers	Metallurgical coal and coke prices	Secure predictable raw material costs
Commodity Traders	Flat-price and basis risk	Preserve trading margins
Financial Institutions	Market and credit exposure	Portfolio risk management

Although each participant operates within the same value chain, their commercial objectives differ significantly. Effective hedging therefore requires an understanding of the underlying physical exposure before selecting an appropriate financial instrument.

HEDGING STRATEGIES USED BY COAL PRODUCERS

Coal producers are primarily exposed to the risk of declining commodity prices. A significant fall in international coal prices can reduce realised revenues, affect profitability and influence investment decisions. To manage this risk, producers in mature export markets frequently use forward sales or financial derivatives to secure future selling prices before production is delivered.

Typical producer strategies include:

- Forward sales linked to benchmark indices.
- Fixed-price supply agreements with consumers.
- Rolling hedge programmes covering part of expected production.
- Options strategies that provide downside protection while retaining upside participation.
- Portfolio diversification across multiple export markets.

Most producers avoid hedging 100% of anticipated production, preferring instead to maintain partial exposure to favourable market movements while protecting minimum revenue requirements.

HEDGING STRATEGIES USED BY COAL IMPORTERS

Coal importers face one of the most complex risk profiles within the industry. The landed cost of imported coal depends upon several independent variables:

- International benchmark prices.
- Ocean freight.
- Foreign exchange.
- Port charges.
- Inland transportation.
- Quality adjustments.

Accordingly, importers increasingly adopt portfolio-based procurement strategies rather than purchasing all cargoes on a spot basis. Common practices include:

- Procurement diversification
- Purchasing cargoes across different time periods to reduce concentration risk.
- Supplier diversification

However, they allow participants to transfer unwanted price exposure while retaining operational flexibility. Consequently, financial risk management should be viewed as a complement to physical procurement rather than a substitute for it.

STRATEGIC ROLE OF COMMODITY EXCHANGES

Commodity exchanges play an increasingly important role in modern energy markets. They contribute by providing:

- transparent benchmark prices;
- independent price discovery;
- liquidity;
- standardised contracts;
- clearing and settlement;
- counterparty risk management;
- and improved market confidence.

International experience demonstrates that mature coal and electricity markets increasingly rely upon organised exchanges to complement physical trading.

As India's coal and electricity markets continue to evolve, the development of robust exchange-traded risk-management products can support greater market efficiency, facilitate investment decisions and enhance the resilience of the broader energy sector.

Key Takeaways

The experience of FY2025-26 demonstrates that price risk within India's coal and energy markets is becoming broader, more interconnected and increasingly financial in nature.

The principal conclusions are:

- Coal procurement now involves multiple sources of financial risk beyond benchmark fuel prices.
- Electricity markets introduce additional uncertainty for generators.
- Renewable energy increases variability in dispatch and wholesale prices.
- Foreign exchange and freight have become integral components of delivered fuel costs.
- Inventory management has evolved into a strategic financial decision.
- Basis risk is becoming increasingly important as pricing mechanisms diversify.
- Integrated risk management combining physical procurement with financial hedging is emerging as industry best practice.
- Transparent commodity exchanges and benchmark prices will play an increasingly important role in supporting India's transition towards a more sophisticated, market-based energy economy.



benefit from favourable market movements. The availability of monthly, quarterly and annual instruments allows companies to construct hedging programmes suited to different procurement and production cycles.

The significance of ICE coal contracts lies not only in their trading volumes but also in their role in creating observable forward price curves. A utility planning future coal purchases, a producer budgeting revenues or a trader valuing an indexed cargo can use these forward prices as market references even where the underlying physical transaction occurs outside the exchange.

Dalian coking coal futures

China's Dalian Commodity Exchange (DCE) provides one of the clearest examples of the scale that an exchange-traded coal contract can achieve. DCE's hard coking coal futures contract represents 60 metric tonnes per lot and is linked to a commodity of central importance to China's coke and steel industries.

According to the Futures Industry Association, approximately 257.44 million DCE hard coking coal futures contracts were traded during 2025, compared with about 34.62 million contracts in 2024. Annual volume consequently increased by 643.6%, making hard coking coal the second-most actively traded energy futures contract globally by number of contracts in 2025, behind ICE Brent crude oil futures.

Open interest—the number of contracts remaining outstanding rather than closed or settled—reached 553,514 contracts at the end of December 2025, an increase of 100.3% year on year. The simultaneous expansion of trading volume and open interest indicates growth not only in short-term transaction activity but also in positions being maintained for hedging, trading and portfolio-management purposes.

The volume should not be interpreted as an equivalent quantity of physical coking coal consumed or delivered. Futures contracts can be bought and sold several times before expiry, and most positions are closed financially rather than resulting in physical delivery. Nevertheless, the scale of turnover demonstrates the capacity of an organised market to attract liquidity and continuously incorporate market expectations into transparent prices.

Dalian's coking coal and coke contracts provide reference points across China's integrated steel value chain. Their relevance extends beyond financial investors: coal producers, coke manufacturers, steel mills and commodity traders can use futures prices when evaluating inventories, procurement timing, raw-material margins and forward physical contracts.

DIVERSITY OF MARKET PARTICIPATION

A defining characteristic of mature derivatives markets is participation by entities with different commercial objectives. Coal producers may sell futures to protect revenues against falling prices, while power generators, steelmakers and other consumers may buy futures to protect procurement costs against price increases. Commodity traders may use futures to manage flat-price, inventory and basis exposure arising from physical positions.

Banks, brokers, asset managers and proprietary trading firms may provide additional liquidity and facilitate transactions between participants seeking to transfer opposing risks. Although their motivations differ from those of physical coal users, financial participants can contribute to tighter bid-offer spreads, more continuous price discovery and improved market depth.

However, liquidity alone does not guarantee that a contract will provide an effective hedge. The contract's underlying benchmark, coal quality, location, currency and settlement methodology must closely correspond with the participant's physical exposure. A mismatch between the derivative contract and the physical coal being purchased or sold creates basis risk and can reduce hedge effectiveness.

LESSONS FROM INTERNATIONAL MARKETS

International experience suggests that successful coal derivatives markets generally evolve through a series of interconnected stages. Active physical trading first generates sufficient transactional information to support credible price assessments. Transparent and widely accepted benchmark indices then provide the foundation for standardised futures, swaps and options. As commercial participation and confidence increase, liquidity deepens and the resulting forward price curves become useful for procurement, budgeting, investment appraisal and inventory valuation.

The ICE and Dalian markets illustrate two different but complementary models. ICE's financially settled thermal coal contracts connect internationally traded cargoes with recognised regional benchmarks and forward curves. Dalian's coking coal futures operate within a large domestic industrial ecosystem encompassing coal mining, coke production and steelmaking.

Both examples demonstrate that exchange-traded products do not replace physical procurement. Instead, they separate the management of price risk from the movement of physical coal. A company can continue purchasing coal from its preferred suppliers, under its

- Maintaining relationships with multiple origins to improve commercial flexibility.
- Index-linked contracts
- Pricing cargoes against recognized international benchmark indices rather than negotiated fixed prices.
- Foreign exchange management
- Separately managing USD exposure through treasury operations.
- Freight optimization
- Chartering vessels opportunistically depending upon freight market conditions.

These practices reduce the impact of adverse price movements without attempting to predict market direction.

COMMODITY TRADERS: MANAGING MULTIPLE RISKS SIMULTANEOUSLY

Commodity traders typically manage the broadest range of commercial risks. Their exposures may include:

- flat-price and freight risk;
- foreign exchange;
- basis risk;
- inventory risk;
- counterparty credit risk;
- logistics risk;
- timing risk.

Professional trading organisations therefore rely upon integrated risk-management systems that continuously monitor market exposure across multiple commodities and jurisdictions. Successful trading increasingly depends upon disciplined risk management rather than simply accurate price forecasting.

INTERNATIONAL BEST PRACTICES

International energy markets have progressively shifted towards integrated risk-management frameworks. Leading utilities and commodity companies typically:

- establish formal risk-management policies approved by Boards;
- define maximum market exposure;
- separate procurement from risk oversight;
- employ independent market intelligence;
- utilise transparent benchmark pricing;
- review hedge effectiveness continuously;
- maintain diversified procurement portfolios.

Increasingly, procurement decisions are evaluated on a portfolio basis rather than considering individual cargoes independently.

INTERNATIONAL EXPERIENCE WITH EXCHANGE-TRADED COAL MARKETS

The evolution of international coal markets demonstrates how transparent benchmark pricing and organised derivatives markets can strengthen price discovery, liquidity and commercial risk management. Several major commodity exchanges now offer coal futures and options that allow producers, utilities, steelmakers, industrial consumers and traders to manage price exposure independently of their underlying physical transactions.

ICE thermal coal derivatives

The Intercontinental Exchange (ICE) is an important platform for derivatives linked to the international seaborne thermal coal market. Its principal contracts include API2 Rotterdam coal futures, representing coal delivered into northwest Europe; API4 Richards Bay coal futures, representing South African exports; and globalCOAL Newcastle coal futures, representing Australian high-grade thermal coal. These benchmarks provide reference prices for the Atlantic and Asia-Pacific coal markets and are widely incorporated into physical supply contracts and commercial risk-management strategies.

ICE's API2 Rotterdam futures are available for up to 84 consecutive contract months, providing a forward price curve extending as far as seven years. Each contract represents 1,000 metric tonnes of coal. ICE also lists quarterly, seasonal and calendar-year contracts, allowing market participants to align hedges with cargo schedules, annual procurement programmes and longer-term commercial exposures.

These contracts are financially settled against independently assessed coal price indices rather than requiring delivery of physical coal. Trading can take place electronically or through block trades, exchanges for physicals and exchanges for swaps. Central clearing reduces bilateral counterparty exposure by placing the clearing house between the buyer and seller of the financial contract.

ICE also offers options linked to several of these futures contracts, enabling participants to protect themselves against adverse price movements while retaining some

required quality and delivery terms, while independently using a futures or options contract to reduce exposure to adverse benchmark-price movements.

For India, the central lesson is that effective financial risk management depends upon more than merely listing a futures contract. It requires an active and transparent physical marketplace, credible domestic benchmarks, standardised quality specifications, adequate participation by commercial users, regulatory confidence and sufficient liquidity. The gradual development of these foundations would determine whether exchange-traded coal instruments can become reliable tools for domestic price discovery and risk management.

EMERGING OPPORTUNITIES FOR INDIA

India's energy markets are becoming progressively larger, more transparent and increasingly integrated with global commodity markets. Several developments are likely to accelerate adoption of structured risk management:

- increasing renewable penetration;
- expanding electricity exchanges;
- growing imported fuel requirements;
- greater use of market-linked pricing;
- improved availability of benchmark indices;
- increasing participation by sophisticated industrial consumers.

As these trends continue, market participants are likely to require a wider range of exchange-traded instruments covering:

- thermal coal;
- metallurgical coal;
- electricity;
- freight;
- carbon markets (if introduced);
- and integrated energy products.

Such instruments would complement existing physical procurement practices while improving transparency, liquidity and market efficiency.

WHY EXCHANGE-TRADED PRODUCTS MATTER

Although over-the-counter agreements continue to dominate many commodity markets, exchange-traded products provide several important advantages:

- Transparent and publicly observable price discovery.
- Standardised contract specifications.
- Reduced counterparty credit risk through central clearing.
- Improved market liquidity.
- Easier portfolio valuation.
- Independent settlement prices.
- Greater confidence among lenders and investors.
- Broader participation by industrial consumers.

As India's coal and electricity markets mature, exchange-traded contracts can play an increasingly important role in supporting efficient procurement, prudent risk management and informed investment decisions.

Key takeaways

Hedging has evolved from a specialist financial activity into a core component of commercial strategy across global energy markets. The experience of FY2025-26 demonstrates several important trends:

- Price risk differs significantly across producers, importers, utilities and industrial consumers.
- Modern procurement increasingly combines physical sourcing with structured financial risk management.
- Fuel diversification can provide a natural operational hedge.
- Portfolio-based procurement is replacing transaction-based purchasing.
- Transparent benchmark prices are essential for effective risk.
- Exchange-traded products enhance liquidity, price discovery and market confidence.
- As India's energy transition accelerates, sophisticated hedging strategies will become increasingly important in managing the growing complexity of coal and electricity markets.

  Rather than seeking the lowest-priced cargo, integrated steel producers increasingly focused on maximising blast furnace productivity through consistent raw material quality. This demonstrates that procurement optimisation extends beyond price alone and increasingly incorporates operational performance and productivity considerations.

11. End-user Behavior Trends and The Future of Coal & Energy Markets

FY2025-26 highlighted that India's energy transition is reshaping not only electricity generation but also fuel procurement and commercial decision-making. Across the power, steel, cement and industrial sectors, procurement strategies increasingly prioritised cost optimisation, supply flexibility and risk management, supported by improved domestic coal availability, growing renewable energy penetration and expanding electricity markets.

Unlike previous years, where fuel security was the primary focus, procurement decisions increasingly balanced cost, quality and supply reliability. This shift reflects the gradual transition of India's coal and energy markets from volume-driven purchasing to portfolio-based fuel management, underscoring the growing importance of sophisticated risk-management practices and organised commodity markets.

POWER UTILITIES: FROM SECURITY OF SUPPLY TO PROCUREMENT OPTIMISATION

India's electricity generators remained the largest consumers of coal during FY2025-26. However, their procurement priorities continued to evolve alongside changing generation patterns.

The rapid expansion of renewable energy reduced thermal generation during periods of high solar and wind availability, while coal-fired stations increasingly operated as balancing resources capable of responding to changing system conditions. Consequently, utilities increasingly focused on:

- maintaining optimal rather than maximum inventories;
- improving fuel quality consistency;
- coordinating procurement with expected renewable generation;
- managing dispatch flexibility;
- reducing working capital tied up in coal stocks;
- improving logistics efficiency.

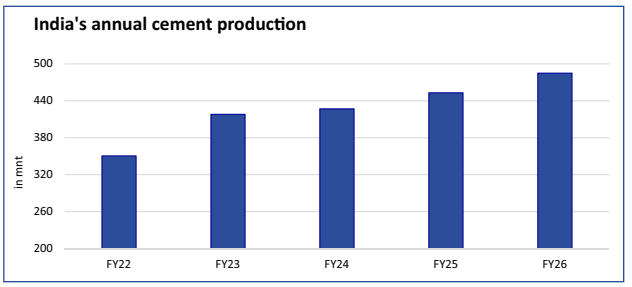
Procurement decisions therefore became increasingly dynamic, with utilities balancing operational flexibility against procurement cost rather than focusing exclusively on securing annual fuel volumes.

INDIA CEMENT INDUSTRY: MAXIMISING FUEL FLEXIBILITY

Among major industrial consumers, the cement sector continued to demonstrate the highest degree of fuel flexibility. Unlike electricity generators, cement manufacturers possess considerable operational freedom to optimise fuel mixes according to prevailing market conditions. Depending upon relative economics, producers may utilise:

- domestic coal;
- imported coal;
- petroleum coke;
- biomass;
- refuse-derived fuel;
- alternative fuels.

During FY2025-26, procurement strategies increasingly reflected comparative fuel economics rather than historical purchasing patterns.



Source: IBEF, BigMint | Data in financial year | Financial year starts from 1st April and ends on 31st March

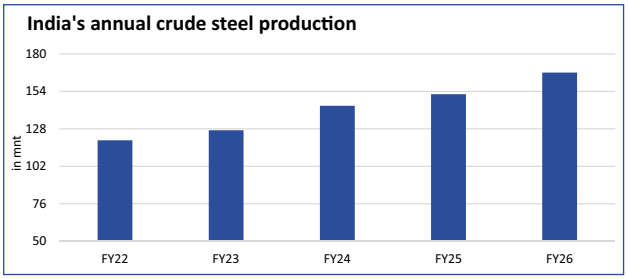
Fuel flexibility effectively served as a natural hedge, enabling producers to reduce exposure to price spikes in individual fuel markets.

As carbon considerations become increasingly important, the role of alternative fuels is expected to expand further over the coming decade.

STEEL INDUSTRY: PRIORITISING SECURITY AND QUALITY

The steel industry's procurement behaviour differed significantly from other energy-intensive sectors. Because metallurgical coal remains an essential raw material for blast furnace operations, opportunities for substitution remain limited. Consequently, procurement priorities continued to emphasise:

- security of supply;
- consistent coal quality;
- blending optimisation;
- diversification of sourcing;
- supplier reliability.



Source: BigMint

Rather than seeking the lowest-priced cargo, integrated steel producers increasingly focused on maximising blast furnace productivity through consistent raw material quality. This demonstrates that procurement optimisation extends beyond price alone and increasingly incorporates operational performance and productivity considerations.

INDUSTRIAL CONSUMERS BECOME MORE MARKET-ORIENTED

Industrial consumers across sectors are becoming increasingly responsive to market signals. Greater availability of market information, improved benchmark pricing and increased transparency have enabled buyers to make more informed procurement decisions.

Several behavioural trends became increasingly evident during FY2025-26:

- shorter procurement cycles;
- increased monitoring of market benchmarks;
- greater emphasis on procurement timing;
- improved inventory planning;
- wider supplier diversification;
- stronger integration between procurement and treasury functions.

Rather than purchasing fuels solely according to fixed annual schedules, buyers increasingly adjusted procurement according to prevailing market conditions and price expectations.

IMPLICATIONS FOR INDIA'S COMMODITY MARKETS

The behavioural changes observed across end users have important implications for India's commodity markets. As procurement becomes increasingly market-oriented, demand is expected to grow for:

- transparent benchmark prices;
- reliable market intelligence;
- organised trading platforms;
- financial hedging instruments;
- standardised contracts;
- efficient clearing mechanisms.

Commodity exchanges are well positioned to support this evolution by facilitating transparent price discovery and enabling market participants to manage commercial risk more effectively.

Although physical procurement will continue to dominate India's energy sector, financial markets are expected to play an increasingly complementary role in improving market efficiency and reducing commercial uncertainty.

CONCLUSION

FY2025-26 can be viewed as a year of structural transition for India's coal and energy sector.

The power system continued to demonstrate remarkable resilience while accommodating record renewable capacity additions and maintaining reliable electricity supply. Coal remained the dominant source of generation, but its role evolved from traditional baseload generation towards a more flexible resource supporting an increasingly diversified electricity system.

At the same time, market participants demonstrated growing sophistication in procurement, inventory management and commercial decision-making. Price discovery became increasingly transparent, electricity markets became more liquid and procurement strategies increasingly reflected portfolio management principles rather than simple volume acquisition.

These developments collectively strengthen the case for more sophisticated risk-management frameworks capable of addressing the increasingly interconnected risks associated with commodity prices, electricity markets, freight, foreign exchange and procurement timing.

For India, the next phase of energy market development will not be defined solely by additional generation capacity. It will increasingly depend upon the ability of market participants to efficiently allocate risk, improve price transparency and optimise commercial decision-making through well-functioning physical and financial markets.

In this context, organised commodity exchanges have the potential to play an increasingly important role in supporting India's evolving energy ecosystem. By facilitating transparent price discovery, enhancing market liquidity and enabling effective risk management, exchanges can contribute to a more resilient, efficient and competitive coal and energy sector, supporting India's broader objectives of energy security, economic growth and sustainable development.



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