

Non Traditional Security Digest

India's Coal Sector

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मनोहर पर्रिकर रक्षा अध्ययन एवं विश्लेषण संस्थान

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History of Coal in India

India has a long history of commercial coal mining covering nearly 220 years starting from 1774 by M/s Sumner and Heatly of East India Company in the Raniganj Coalfield along the western bank of river Damodar. For initial 100 years, the Indian coal mining did not witness much growth as a result of low demand, but the scenario drastically changed post 1853 with the introduction of steam locomotives. Soon thereafter, Coal production in India rose to an annual average of 1 million tonne (MT) and by 1900 production of 6.12 MT. Thereon, India's production capacity reached to 18 MT. by 1920 as a result of First World War. The years thereafter witnessed substantial decline, and it again increased to the levels of 29 MT by 1942 and 30 MT by 1946.

During the first 5-year development plans, India's annual production of coal went up to 33 MT. As a result of India's growing demands of coal, a need for systematic and scientific development of the coal industry was felt that led to setting up of the National Coal Development Corporation (NCDC), in 1956 with the collieries owned by the railways. This has been also considered as

the first major step towards planned development of Indian coal industry. Apart from NCDC, another Indian company the Singareni Collieries Company Ltd. (SCCL), which already maintained its operations in India since 1945, came under the control of Government of Andhra Pradesh in 1956. SCCL is now a joint undertaking of Government of Andhra Pradesh and Government of India sharing its equity in 51:49 ratio.

Nationalisation of Coal Mines

Commercial coal mining in modern times in India has been dictated by the needs of the domestic consumption. In order to cater to the demands of growing Indian steel industry, emphasis was given on systematic exploitation of coking coal reserves in Jharia coalfield. Lack of adequate capital investments, unscientific mining practices and poor working conditions in some of the private coal mines became matters of concern. As a result of this the Central Government took a decision to nationalise private coal mines in India. This nationalisation was done in two phases, the first with the coking coal mines in 1971-72 and then with the non-coking coal mines in 1973. In October, 1971, the Coking Coal Mines (Emergency Provisions) Act, 1971 provided for taking over, in public interest, of the management of coking coal mines

and coke oven plants pending nationalisation. This was followed by the [Coking Coal Mines Nationalisation Act, 1972](#) under which the coking coal mines and the coke oven plants other than those with the Tata Iron & Steel Company Limited and Indian Iron & Steel Company Limited, were nationalised on 1 May 1972 and brought under the [Bharat Coking Coal Limited](#) (BCCL). Another enactment, namely the [Coal Mines Taking Over of Management Act, 1973](#), extended the right of the Government of India to take over the management of the coking and non-coking coal mines in seven states including the coking coal mines taken over in 1971. Subsequently, the nationalisation of all these mines occurred on 1 May 1973 with the enactment of the [Coal Mines \(Nationalisation\) Act, 1973](#), which now is the piece of Central legislation determining the eligibility of coal mining in India.

In 1975, the [Eastern Coalfields Limited](#), a subsidiary of [Coal India Limited](#), was formed that took over all the earlier private collieries in [Raniganj Coalfield](#). Raniganj Coalfield covers an area of 443.50 sq. km. and has total coal reserves of 8,552.85 million metric tonnes. Eastern Coalfields puts the reserves at 29.72 billion metric tonnes which, in terms of reserves, makes it the second largest coalfield in India.

India's North East states enjoys special privileges with regards to coal mining as per the existing provisions of the constitution of India. The [Sixth Schedule of Constitution](#) and [article 371 of Constitution](#) allows state governments to formulate its own policy to recognize customary tribal laws. Nagaland, for example, has its own coal policy which allows its natives to mine coal from their respective lands. Similarly, till imposition of ban on coal mining by [National Green Tribunal](#), Meghalaya had its own coal mining policy. The Nagaland Coal and Meghalaya Coal has large buyers in North India, Central India and Eastern India.

De-nationalisation of coal mines in India

The Parliament in March 2015 enacted the [Coal Mines Special Provisions Act, 2015](#), which contained provisions for enabling the Government of India to allocate coal mines through auctions. The law also allowed private players to mine coal for use in their own cement, steel, power or aluminum plants. On 20 February 2018, the Cabinet Committee on Economic Affairs (CCEA) permitted private firms to enter into commercial coal mining industry in India. Under this new policy, mines will be auctioned to the firm offering the highest

per tonne price. The move broke the monopoly over commercial mining that state-owned [Coal India](#) has enjoyed since nationalisation in 1973. The Coking Coal Mines (Nationalization) Act, 1972 and the Coal Mines (Nationalisation) Act, 1973 were repealed by the [Repealing and Amending \(Second\) Act, 2017](#) on 8 January 2018.

India's coal demands and present status

Coal is India's most affordable energy source, with current substantial reserves of 361.41 billion tonnes (BT). Coal contributes to around 73% of the India's energy mix, and around 75% of electricity generation, [as per Indian Ministry of Coal](#). Estimates suggests that India's coal demands are likely to rise to 1.5 BT by 2029-30 and 2 BT by 2047. Coal will remain a major source of energy in the foreseeable future. Estimates suggests that the coal demands in the country is yet to peak. Electricity generated by coal-based power plants increased by 10% between 2021-22 and 2022-23.

India's domestic coal production

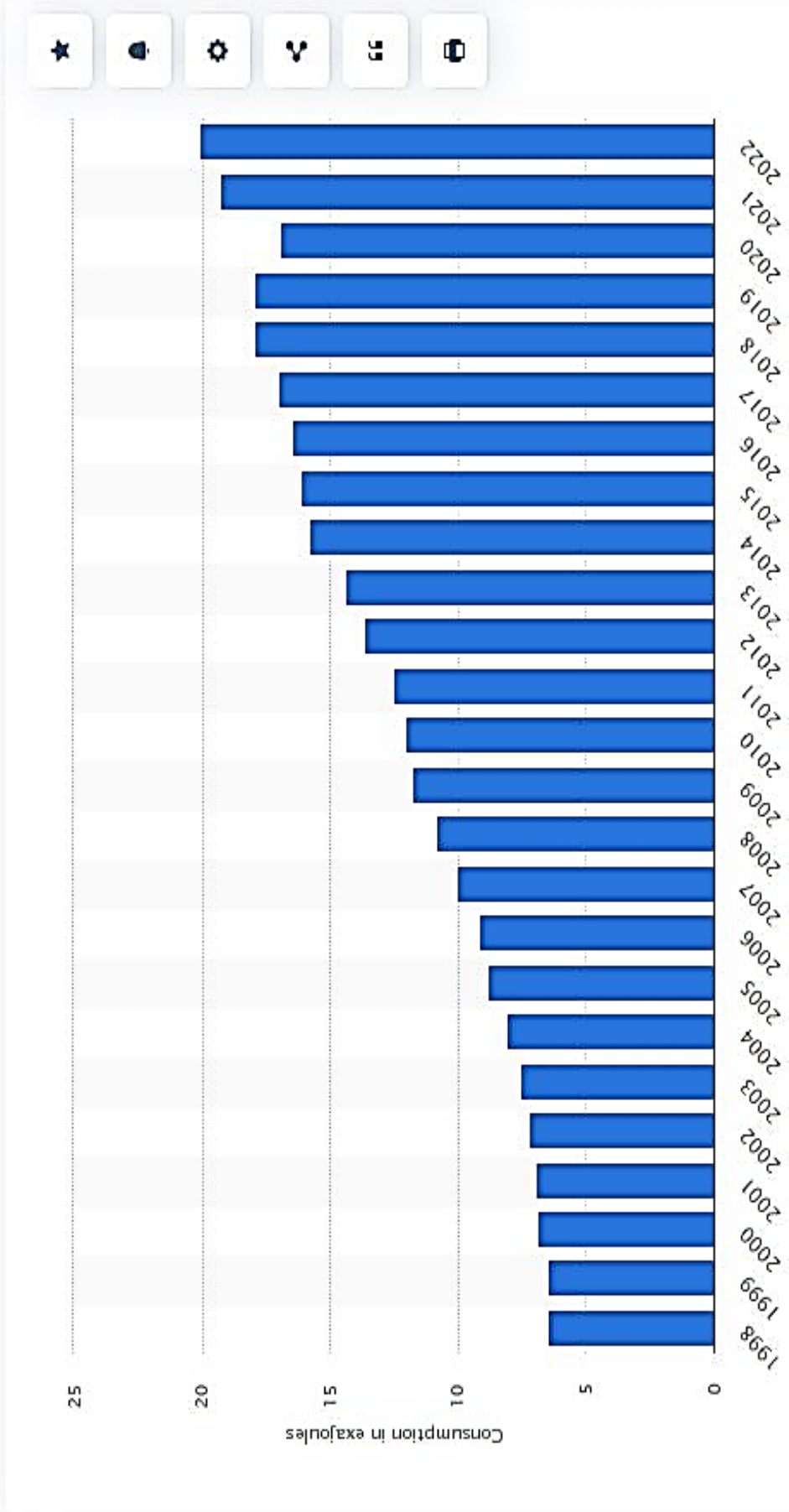
India's coal production during September 2023, was 67.33 MT production, surpassing

the figures of 58.04 MT of the corresponding month in the previous year, representing an increase of 16.01%. The cumulative coal production (up to September 2023) has seen a quantum jump to 428.38 MT in FY 23-24 compared to 382.16 MT during the same period in FY 22-23, with a growth of 12.09 %. Overall coal imports from April to September declined by 8.22% to 124.53 MT in FY 2023-24, over 135.68 MT in FY 2022-23, which depicts the country's efforts towards self-sustainability in fossil fuels. India has the world's third-largest hard coal reserves, after the United States and China. Indian coal is generally low in sulphur but high in ash and low in calorific value.

India's Coal Imports

Assessments as per [Ministry of Coal](#) suggest that despite the country's effort towards declining coal imports, it has been observed that there is a slight increase in total coal imports by 4.35% to 20.61 MT in September FY 2023-24 over 19.75 MT in the corresponding month of the previous FY 2022-23. Of the total imports, non-coking

Coal consumption in India from 1998 to 2022 (in exajoules)



coal imports were 13.89 MT in September FY24 against 12.08 MT in September FY23, and coking coal imports were at 4.59 MT in September FY24 against 4.88 MT in September FY23. Overall coal imports from April to September declined by 8.95% to 124.53 MT in FY 2023-24, over 135.68 MT in FY 2022-23, which shows the country's efforts towards self-sustainability in fossil fuels.

The Indian iron and steel sector is the second largest coal market after power generation, but only 20% of domestic coal meets coking coal quality standards. Domestic coking coal requires intensive washing to make it suitable for coke-making. Even then, it is only marginally acceptable because of its inert material content. For this reason India imports much of its coking coal

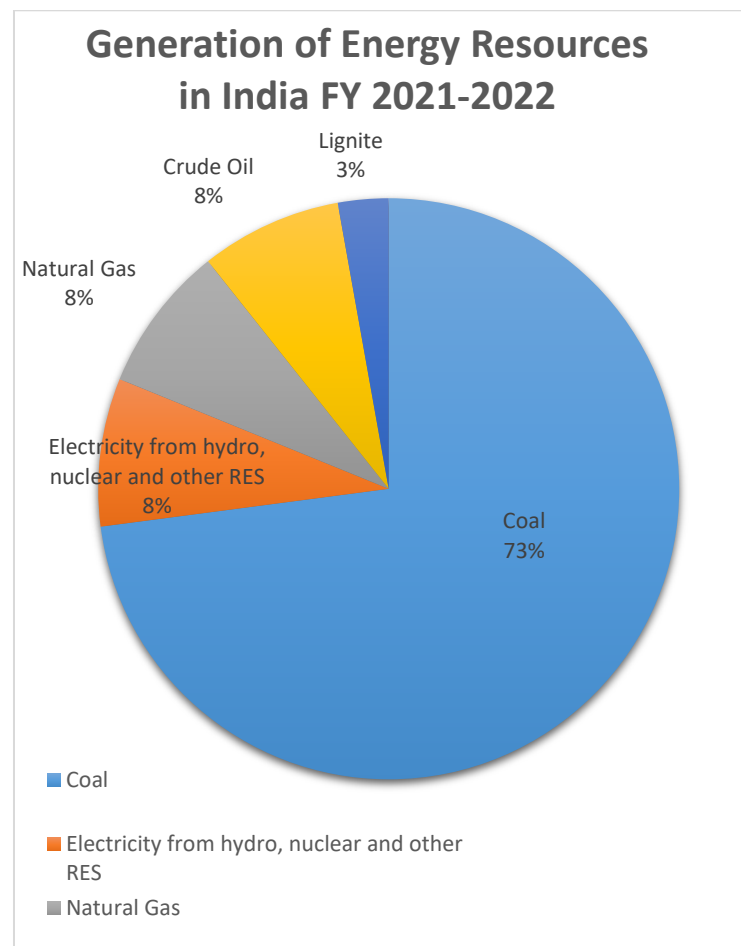
Country	2022-23 (Upto Dec-22)	2021-22
Indonesia	90.31	72.5
Australia	35.27	66.76
Russia	15.65	8.27
South Africa	13.01	26.11
USA	10.6	14.37

Quantity in Million Tonne Source: Rajya Sabha Question

Image Source: [New Indian Express](#)

As per [Government data](#), India imported 90.31 MT coal from Indonesia, followed by 35.27 MT from Australia, 15.64 MT from Russia and 13.01 MT from South Africa so far in 2022-23. The country has doubled its coal import from Russia and has halved its import from Australia in the current year.

Coal percentage in India’s total energy Mix



Data Source: <https://coal.nic.in/sites/default/files/2024-02/14-02-2024b-wn.pdf>

Coal accounts for major chunk in the basket of India's total energy mix. During the FY 2021-22, energy generated from coal accounted for about 72.92% of the total generation of energy, followed by electricity (from hydro, nuclear and other renewable energy sources) (8.24%), natural gas (8.16%), crude oil (7.87%) and lignite (2.81%).

India's concerns on Coal at Conference of Parties (COP) meetings

On the issue of phasing out of the coal that has been consistently raised at the COP summits India has maintained its fierce stand on the issue. India in its deliberation has continuously emphasized that coal remains an important contributor in India's total energy mix. Union Environment Minister Bhupender Yadav, in 2023 has [highlighted](#) that India remains committed to meeting the energy needs of its people and will also have to rely on coal power until it achieves developed country status. He further mentioned that while India is focusing on increasing its renewable capacities, it still has to rely on coal power.

India's Coal Reserves

A [cumulative total estimated coal reserve](#) (resource) of India as per the Coal

Inventory published by Geological Survey of India, as on 01.04.2022 is 361411.46 MTs. Details of State-wise coal resource as follows:

State	Total Resource
Odisha	88104.60
Jharkhand	86660.10
Chhattisgarh	74191.76
West Bengal	33871.25
Madhya Pradesh	30916.73
Telangana	23034.20
Maharashtra	13220.71
Bihar	4437.18
Andhra Pradesh	4141.87
Uttar Pradesh	1061.80
Meghalaya	576.48
Assam	525.01
Nagaland	478.31
Sikkim	101.23
Arunachal Pradesh	90.23
Total	361411.46

Some Important Updates

India's coal sector sees huge leaps in output and demand

The 2024 [Coaltrans India Conference](#) in Goa highlighted that India's coal production, imports and demand are all going to rise in coming years, and by substantial volumes. India may have committed to eventually starting to phase down consumption of the polluting fuel on its road to net-zero emissions by a targeted 2070, but for the coming decade, Indian coal industry would witness a [significant surge](#). Even the most cautious of forecasts at the conference saw demand for all grades of coal reaching 1.5 billion metric tonnes by 2030, with some reaching as high as 1.9 billion. India's coal demand was 1.23 BT, composed of domestic production of 964 MT and imports of around 266 MT. Even the more pessimistic of forecasts expects an increase of nearly 300 MT of coal demand in India in the next six years, an increase of 25%.

Met coal imports from Russia up nearly three-fold in last 3 financial years

Imports of metallurgical coal from Russia have spurred around [three-fold in the last](#)

[three years](#) to around 15.1 MT in 2023-24 mainly due to lower prices while the same from Australia have significantly declined. The import of metallurgical coal, which includes coking coal and pulverised coal injection (PCI), from Russia, stood at 5.1 MT, accounting for 8 per cent of India's total imports of 65.6 MT of the commodity in 2021-22. Metallurgical coal or met-coal imports from Russia rose to 11.3 MT in 2022-23, accounting for 16 per cent of 69.9 MT met-coal imports in that year. In 2023-24, met-coal imports from Russia were 15.1 MT or 21 per cent of total met coal imports of 73.2 MT.

Non-Traditional Security Centre

This digest has been prepared by the Non-Traditional Security Centre, Manohar Parrikar Institute for Defence Studies and Analyses, New Delhi.



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