A STUDY ON COAL IMPORTS IN INDIA

Submitted for the partial fulfilment of the requirement for the degree of

MASTER OF BUSINESS ADMINISTRATION

in

PORT AND SHIPPING MANAGEMENT

Submitted By

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CHENNAI CAMPUS

MAY 2022

DECLARATION

I, **SEENI MOHAMED SIKKANDER (Registration No. 2003304029)** hereby declare the project report entitled **"A STUDY ON COAL IMPORTS IN INDIA"**, submitted by me in School of Maritime Management, Indian Maritime University, Chennai Campus under the guidance **Dr. A MOUROUGANE**, Associate Professor, School of Maritime Management, Indian Maritime University, Chennai Campus in partial fulfillment of the requirements of award of the degree **MASTER OF BUSINESS ADMINISTRATION** in **PORT AND SHIPPING MANAGEMENT** is a report of original work done by me and the project report has not been submitted either in part or full this or any other university or institution for the award of any degree, diploma or other similar titles.

Seeni Mohamed Sikkander T N

Place: Chennai

Date: 25/05/2022

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I would like to extend my heartfelt thanks to my beloved parents for their blessing, my classmates and friends for their help and wishes.

CERTIFICATE

SCHOOL OF MARITIME MANAGEMENT

INDIAN MARITIME UNIVERSITY

CHENNAI CAMPUS

This is to certify that the project report entitled **"A STUDY ON COAL IMPORTS IN INDIA"**, submitted to the School of Maritime Management, Indian Maritime University, Chennai Campus., in partial fulfillment for the award of the degree of Master of Business Administration in Port and Shipping Management, is a record of work carried out entirely by SEENI MOHAMED SIKKANDER T N, Registration No. 2003304029.

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Date: 25th May 2022

EXECUTIVE SUMMARY

Coal is the most important indigenous source of energy for Indian economy with a geological reserve of 2, 85,863 million tones and more than half of the current commercial energy is met by coal. The widening gap between the demand and domestic production of coal and consequent increase in coal imports to fill up the gap warranted a study to examine the adequacy and effectiveness of the actions taken by Coal India Limited (CIL) and Ministry of Coal (MOC) for argumentation of coal production. This assumes significance as there are instances where capacities in the power sector have been lying idle or facing difficulties in argumentation of capacity for want of coal. Further, though the Government of India (GOI) has notified certain sectors which may undertake captive mining of coal. The process of allocation of coal mines should be objective and transparent.

In order to bring 'objectivity' and 'transparency in the allocation and for tapping of a part of benefit accruing to the allottees of the captive coal blocks, MOC should urgently work out the modalities to implement the procedure of allocation of coal blocks for captive mining through competitive bidding.

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CHAPTER 1
INTRODUCTION

1.1 Introduction:

Power is an important fuel for a growing economy. The Indian economy is on a strong growth path, with GDP growth rates of 8.5-9 % expected. It is critical that the electricity infrastructure be in place in order to achieve this expansion. As of February 2, 2016, India had the world's fifth greatest generating capacity, with approximately 237GW of installed capacity. The country is also the world's sixth largest energy user, with total consumption estimated at 975 billion kWh in 2017-2018. In comparison to other sectors, the industrial sector has the biggest demand for power due to increased capacity increases (domestic, commercial and agriculture). Its proportion is likely to stay strong in the future due to the country's increased industrial activity. Domestic and commercial demand for energy is expected to remain stable, while agriculture's share is expected to fall in the future years.

Thermal energy provides for a large portion of India's generation. Coal, electricity, and gas are used to generate thermal power. Wind and other renewable energy sources presently account for 11% of total installed capacity. In the following years, the government intends to increase the percentage of power generated from renewable sources. With planned capacity expansions, India is estimated to reach 350GW installed capacity by 2024. Although India has lofty intentions to enhance generation capacity, annual additions in the past have fallen short of the objective established in previous Five-Year Plans.

1.2 Scope of Study:

The study is all about how the shipping and port industry is helping the country in meeting the demand of 'coal'. It also finds the current port capacity to handle the coal and how much capacity and other backend infrastructure to be developed to meet such demand. This study is basically done to identify the major countries that are producing coal and to identify the major players in the Indian market of coal imports so that the productivity of the movement of cargo can be facilitated. This study also includes to know about the coal flow in India year of 2011-12 to 2020-21.

1.3 Limitations of Study:

- There were certain limitations to the research that the researcher has forced.
- The Approach of the study is limited only one study area i.e., Import of Coal in India.
- The Study is based on the secondary data published by the researchers.
- The Time was the major constraint for the researcher in collecting the data.

1.4 Objectives of Study:

The main objectives of the study are as below

- To study and analysis of global coal trade framework.
- To evaluate the coal consumption pattern in India.
- To analysis the role of selected Ports in Coal Trade in India.

1.5 Research Methodology:

A research project is basically a methodical study of something and the provision of numerous components in order to get a correct conclusion. This methodical technique entails enunciating the problem, establishing a hypothesis, gathering facts or data, evaluating the facts, and arriving at certain conclusions, either in the form of a solution to the concerned problem or specific generalisation for certain theoretical equations.

Research methodology is the detailed plan of action for a study that outlines how data will be collected, processed, and evaluated.

Source of Data:

Data can simply be defined as facts and statistics collected for reference or analysis. The primary goal of any research is to obtain the necessary data on the subject of study.

The data is divided into two types:

- Primary Data
- Secondary Data

Primary Data:

Primary data are those that are obtained for the first time and are hence unique in nature. Because the research topic is so broad and the time and space available are insufficient, no primary data were collected in this study.

Secondary Data:

Secondary data refers to information that is easily available, i.e., information that has previously been collected and analysed by someone else.

1.6 Literature Review:

There are many studies and researchers have been conducted to investigate the elements that influence Indian and other countries coal pricing. All of this research falls into two categories: theory and data-driven analysis. Wang Lijie (2011), for example, forecasted coal prices using the B-J approach and the Qinhuangdao coal market trade. Zhang Tonggong (2015) addresses transportation costs as well as the supply-demand connection. Transportation. He also examined how factors such as national policy and associated products impact coal prices. The research was primarily theoretical in nature and was tied to national policy. The analysis result cannot perform the effect of each element. Wang Xilian (2018): demonstrated why coal prices change so much by merging the Brownain motion features of coal prices using a computer.

Researchers can obtain the correlation coefficient by processing the data or anticipate the trend of coal prices by analysing time series in this type of study. In comparison to theoretical research, data-based research and analysis has more persuasion, although it is still erroneous. They just obtained a data finding but did not explain the outcome using economic theory. The meaning of the outcome is just in math, but not in reality. As a result, the prediction's credibility will suffer. In this work, the mathematic formulation of the general sense based on a vast number of real data processing is concluded utilizing the experience of predecessors' study. After that, describe each element affecting coal prices. The elements that influence coal pricing and their impacts will be identified.

CHAPTER 2

OVERVIEW OF THE GLOBAL COAL TRADE

The majority of international coal trading takes place at sea. Because of the high delivery costs and environmental concerns, coal is used mostly in producing countries and within a limited geographical range, with long-distance trading taking place on a relatively small scale. Two-thirds of the increased coking coal exports are intended to be consumed by Asian nations, primarily India and China; approximately 30% of the increased coking coal exports are expected to be consumed in the Americas, presumably in Brazil and Chile; and the remaining increase in export tonnage is expected to be consumed in Europe.

2.1 Usage of Coal:

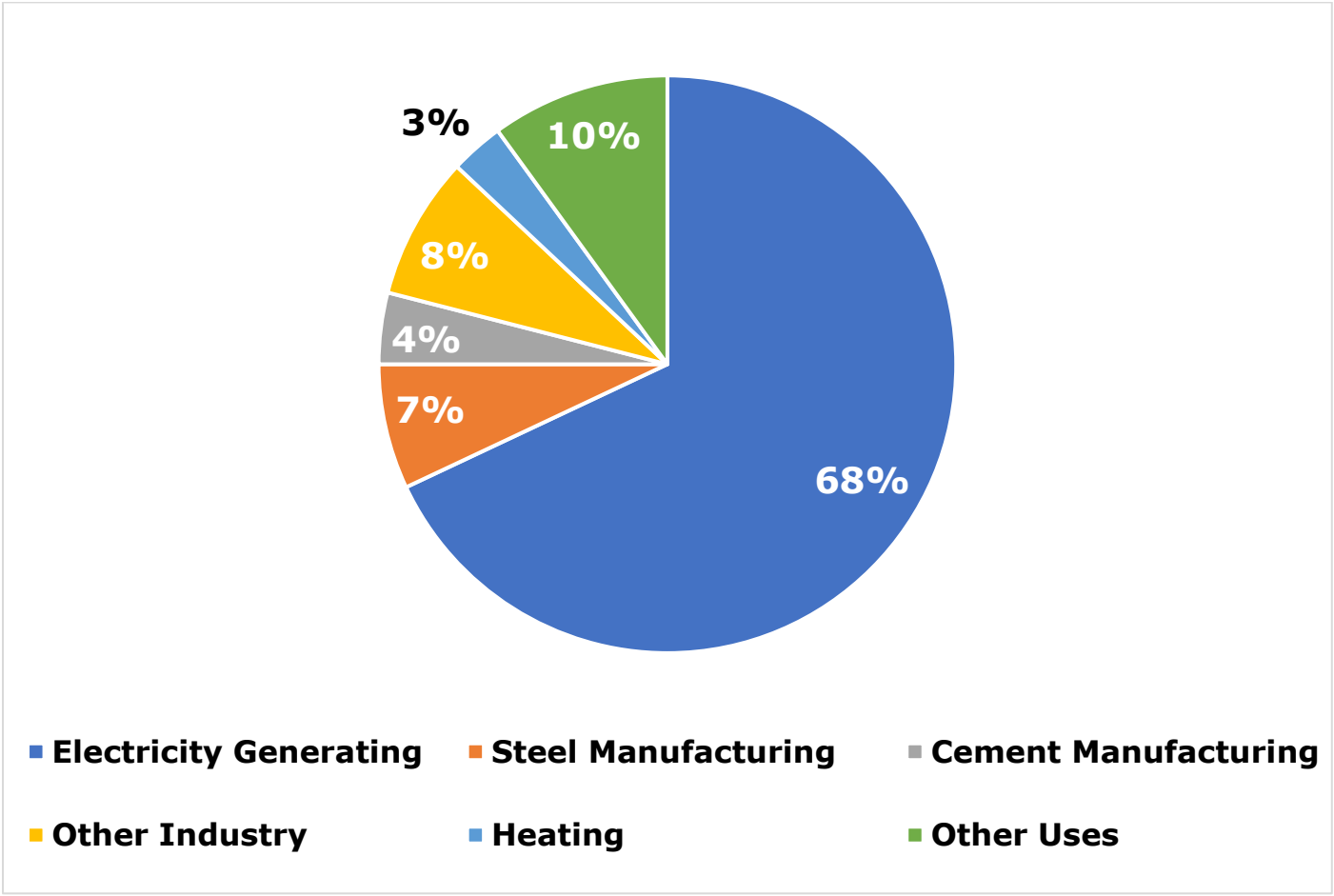


Figure 2.1

Source: World Coal Association

2.1.1 Usage for Electricity Production:

A coal power plant or coal-fired power station, is a type of thermal power station that generates electricity by burning coal. There are around 8,500 coal-fired power plants worldwide, with over 2,000 gigatonnes of capacity. They provide nearly one-third of the world's electricity yet cause many diseases and early deaths, primarily due to air pollution.

A coal power plant is a type of fossil fuel power station. Usually, the Coal is pulverized and then burned in a pulverized coal-fired boiler. The heat from the furnace transforms boiler water to steam, which is then utilised to spin turbines, which in turn generate generators. As a result, the chemical energy held in coal is turned into thermal energy, mechanical energy and finally electrical energy.

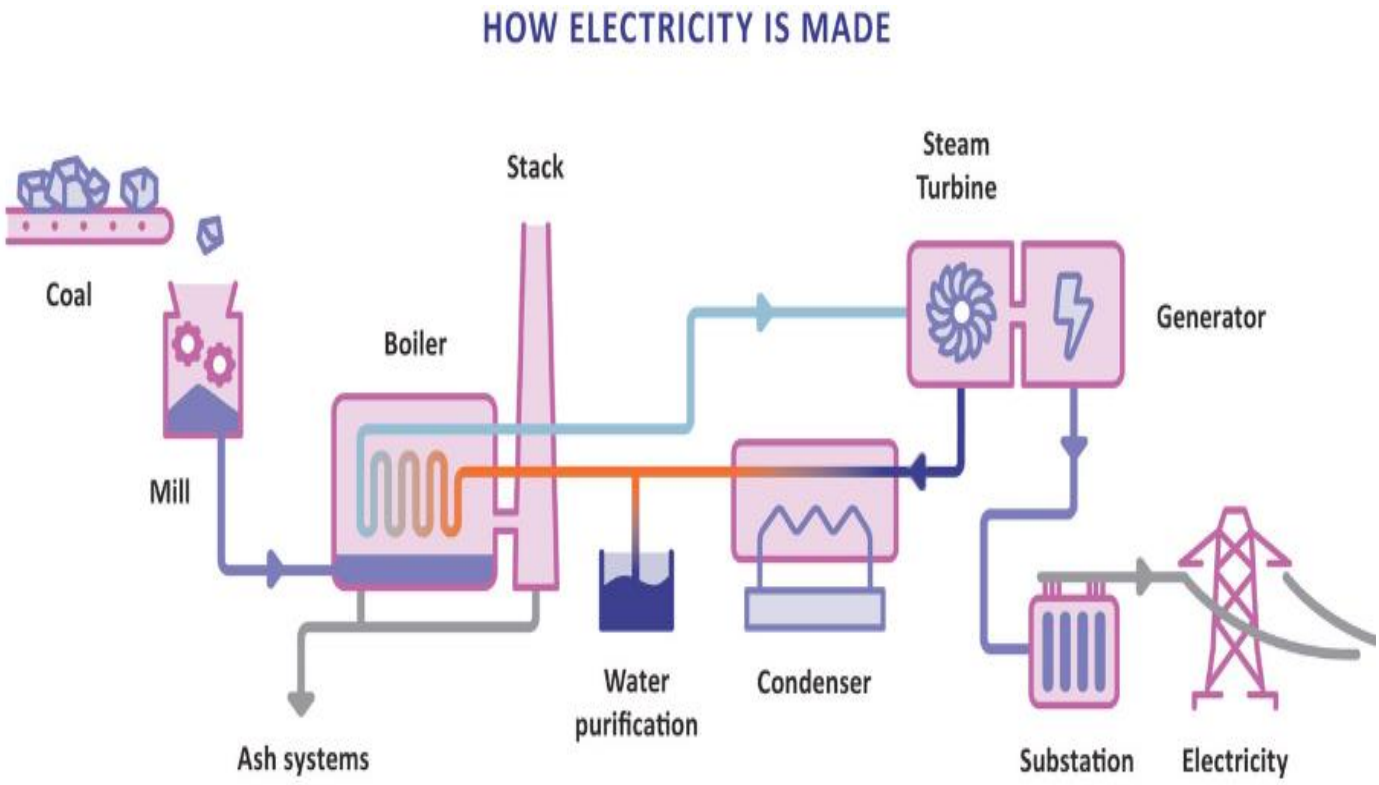


Figure 2.2

Source: World Coal Association

2.1.2 Usage for Steel Manufacturing:

Steel is produced in two ways: blast furnace-basic oxygen furnace (BF-BOF) and electric arc furnace (EAF). The BF-BOF route accounts for 71% of total steel production, whereas the EAF route accounts for 29% of total steel production. The primary distinction between both routes is the steel-making material employed and the plant architecture.

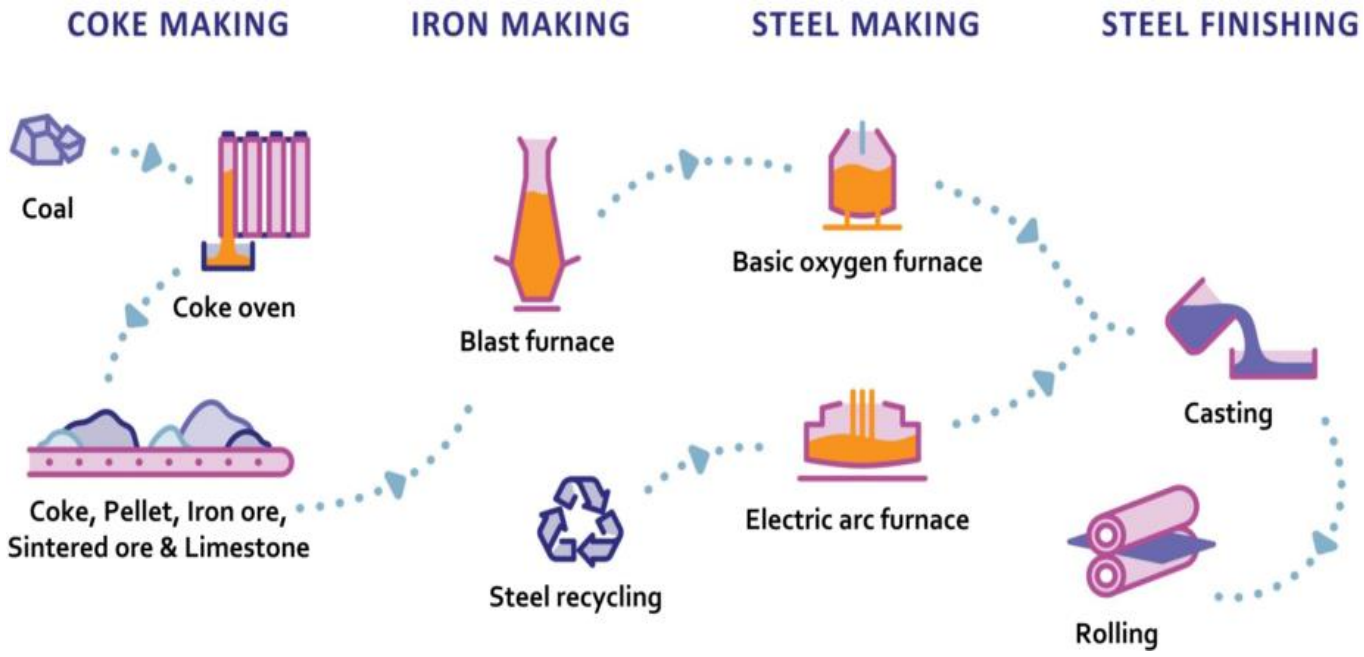


Figure 2.3

Source: World Coal Association

2.1.3 Usage of Cement Manufacturing:

Cement is essential in the construction sector because it is used to make concrete, which is a common building material. Energy is necessary to make cement. Coal is a major source of the required energy. The basic materials of calcium carbonate (usually in the form of limestone), silica, iron oxide, and alumina are heated to a partial melt at 1450°C in a high-temperature kiln, which chemically and physically transforms them into clinker. Special chemicals in this grey pebble-like substance give cement its binding capabilities

2.2 Types of Coal:

Different forms of coal are all minerals and rocks made largely of carbon. This fossil fuel produces approximately 25% of the world's primary energy and 40% of the world's electricity. However, not all coal is created equal; different quantities of carbon determine the coal's grade. Lower-quality coal produces less smoke, burns for longer periods of time, and provides more energy.

Coal	Dry, Carbon content (%)	Moisture content before drying (%)	Dry, volatile content (%)	Heat Content (MJ/kg)
Anthracite	86-92	7-10	3-14	32-33
Bituminous coal	76-86	8-18	14-46	23-33
Sub-Bituminous coal	70-76	18-38	42-53	18-23
Lignite	65-70	35-55	53-63	17-18
Peat	<60	75	63-69	15

Table 2.1

Source: Energy Education

2.3 Coal Transportation:

The mode of transportation to be chosen is determined by the distance to be covered. Short distances are usually covered by conveyors or vehicles. Within domestic markets, trains and barges are employed for larger distances, or coal might be combined with water to make a coal slurry and carried through a pipeline.

Ships are commonly used for international transportation, in sizes ranging from:

- Handymax – about 20-50,000 DWT
- Panamax - about 60-80,000 DWT
- Capesize vessels - over 80,000 DWT

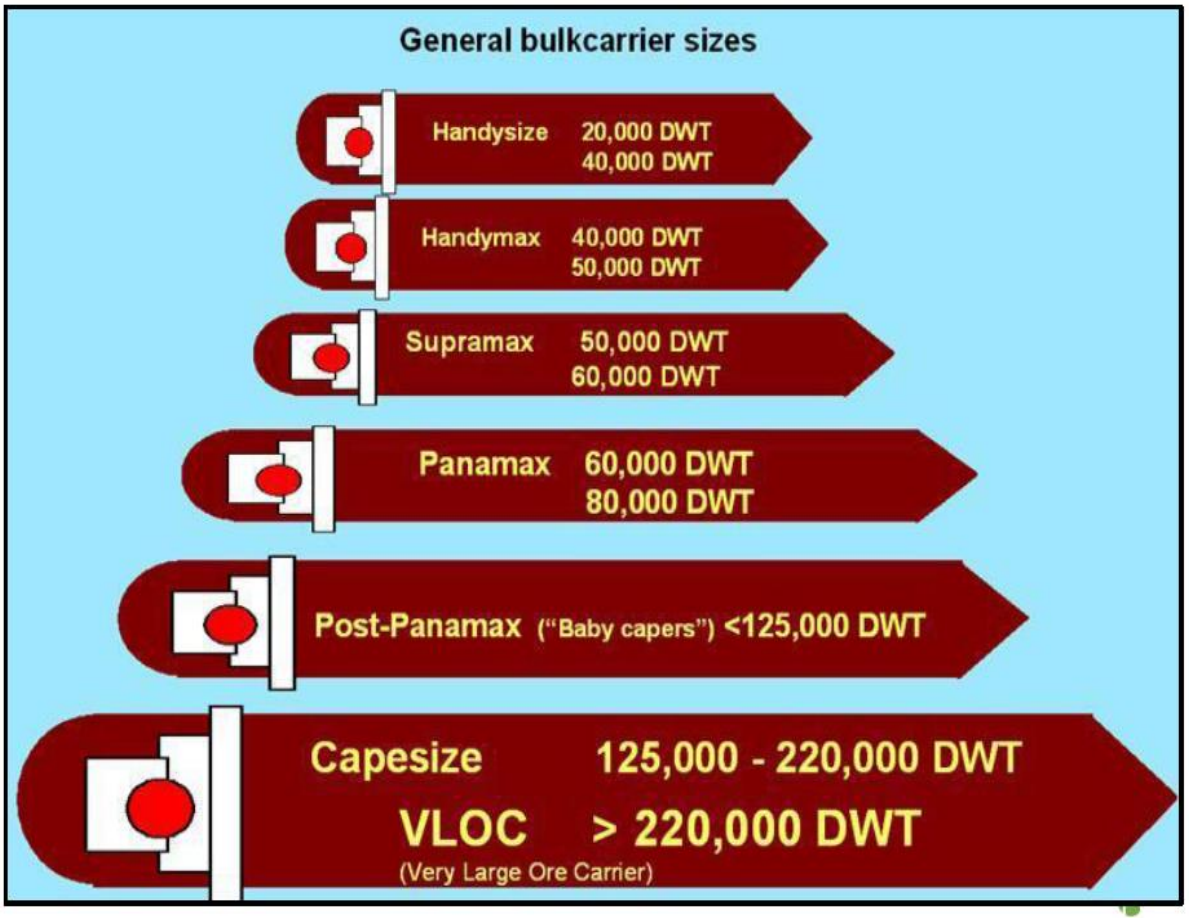


Figure 2.4

Source: Interest.co.nz

2.4 Coal – Backbone of Electricity

Coal's critical role in the world's energy supply is also shown by the fact it counts for about a third of the world's total energy demand.
Coal has been described as the "forgotten fuel," perhaps because many are unaware of the huge role it plays in powering the global economy.

Coal generates 37% of the world's electricity, about double the next most common source, natural gas. Coal is the backbone of electrical supply on almost every continent, and it is essential for the vast majority of countries to have safe, reliable, and secure energy sources. One of the reasons coal is so important to global electricity is its widespread availability. Unlike oil and gas, coal is found in almost every country, with nearly 80 countries having viable coal reserves. Although the biggest reserves of coal are found in the United States, India and China, it is actively mined in more than 70 countries. Most of the coal is consumed domestically. In a number of countries have only domestically available energy fuel and so it is essential to a secure and economic energy supply.

As of 2020 two thirds of coal burned is to generate electricity. In 2020 coal was the largest source of electricity at 34%. Over half coal generation in 2020 was in China. About 60% of electricity in China, India and Indonesia is from coal.

In 2020 worldwide 2059 GW of coal power was operational, 50 GW was commissioned, and 25 GW started construction (most of these three in China); and 38 GW retired (mostly USA and EU).

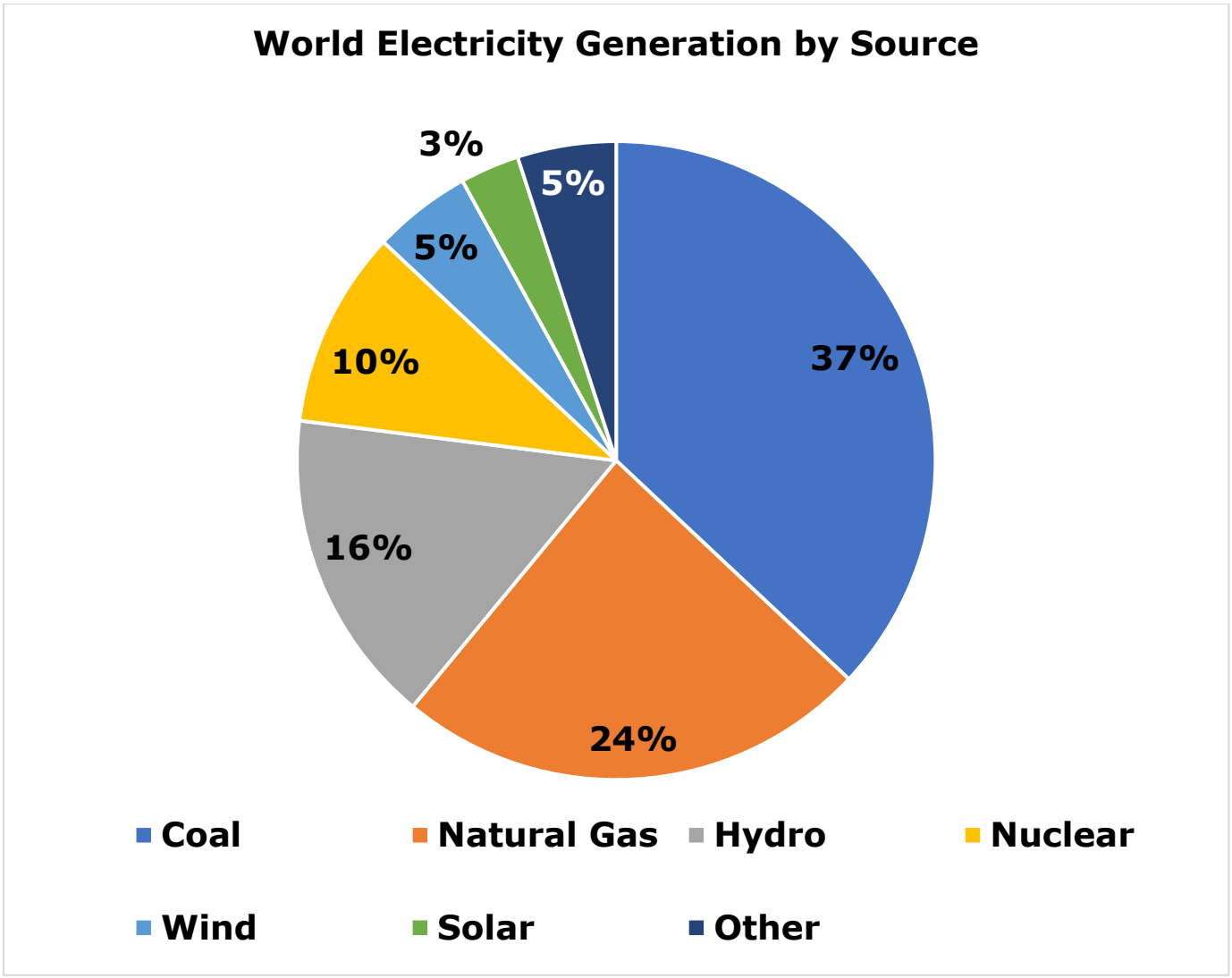


Figure 2.5

Source: Scientific American

2.5 Top 15 Coal Exporting Countries:

List	Country	Value in USD	Total Coal Exports
1	Australia	43.9 billion	35.7%
2	Indonesia	26.5 billion	21.6%
3	Russia	17.6 billion	14.3%
4	United States	9.7 billion	7.9%
5	South Africa	6.08 billion	4.9%
6	Canada	6.05 billion	4.9%
7	Colombia	4.4 billion	3.6%
8	Mongolia	1.9 billion	1.5%
9	Mozambique	1.1 billion	0.9%
10	Kazakhstan	929 million	0.8%
11	Netherlands	882.5 million	0.7%
12	Poland	828 million	0.7%
13	Philippines	596.4 million	0.5%
14	Mainland China	419.4 million	0.3%
15	Vietnam	315.1 million	0.3%

Table 2.2

Source: World's Top Exports

- In 2021, global coal exports from all countries totalled $122.9 billion.
- Since 2017, when total coal shipments were valued at $107.5 billion, the global value of coal exports has increased by an average of 14.3 percent for all exporting countries.
- The value of exported coal increased by 48.7% from 2020 to 2021.
- Top 15 countries that exported the highest dollar value worth of coal during 2021.

- In 2021, the 15 countries listed above exported 98.6 % coal exports in terms of value.
- Among the top exporting countries, the fastest-growing coal exporters from 2020 to 2021 were: Kazakhstan (up 173.4%), Vietnam (up 172.6%), Philippines (up 158.1%) and Netherlands (up 101.9%).
- Two top suppliers posted declines in their exported coal sales, they are Mongolia (down -12.5%) and Mainland China (down -3.7%).

2.6 Top 15 Coal Importing Countries:

List	Country	Value in USD	Total Coal Imports
1	China	16.4 billion	17.3%
2	Japan	15.95 billion	16.8%
3	India	15.87 billion	16.7%
4	South Korea	9.5 billion	10%
5	Taiwan	4.9 billion	5.2%
6	Vietnam	3 billion	3.2%
7	Turkey	2.7 billion	3.2%
8	Germany	2.9 billion	2.9%
9	Malaysia	2.3 billion	2.4%
10	Ukraine	1.7 billion	1.8%
11	Brazil	1.6 billion	1.7%
12	Philippines	1.5 billion	1.6%
13	Thailand	1.3 billion	1.4%
14	Pakistan	1.2 billion	1.3%
15	Poland	1 billion `	1.1%

Table 2.3

Source: World's Top Exports

- In 2020, global imports of coal were worth $94.9 billion.
- The cost of imported coal has increased by 11.6 % since 2016, when it cost $85 billion, but has decreased by -29 % between 2019 to 2020.
- None of the countries listed above boosted their coal purchases from 2019 to 2020.
- Those countries that posted reduced in their imported coal purchases were led by: Brazil (down -44%), Germany (down -40.9%), Ukraine (down -40.1%) and Poland (down -40%).
- In 2020, the 15 countries listed above purchased 86.2% of the coal imports.

CHAPTER 3
COAL CONSUMPTION PATTERN IN INDIAN

3.1 Coal – Indian Energy Choice:

Coal is the most important and abundant fossil fuel in India. It accounts for 55% of the country's energy need. The country's industrial heritage was built upon indigenous coal.

Commercial primary energy consumption in India has grown by about 700% in the last four decades. The current per capita commercial primary energy consumption in India is about 350 kgoe/year which is well below that of developed countries. Driven by the rising population, expanding economy and a quest for improved quality of life, energy usage in India is expected to rise. Considering the limited reserve potentiality of petroleum & natural gas, eco-conservation restriction on hydel project and geo-political perception of nuclear power, coal will continue to occupy centre-stage of India 's energy scenario.

Indian coal offers a unique eco-friendly fuel source to domestic energy market for the next century and beyond. Hard coal deposit spread over 27 major coalfields, are mainly confined to eastern and south-central parts of the country. The lignite reserves stand at a level around 36 billion tonnes, of which 90 % occur in the southern State of Tamil Nadu.

3.2 Current Situation of Coal Stocks in India:

According to data from the Central Electricity Authority (CEA), as of September 29, 16 of India's 135 coal-fired power facilities have no coal reserves. More than 80% of the plants had less than a week's supply remaining, and more than half had inventories that would last less than three days.

As of September 29, the domestic coal power plants have only four days of coal left.

India imports around 300-400 million tonnes of coal, the majority of which comes from Indonesia, Australia, and South Africa. Coal India generates more than 600 million tonnes of coal for domestic use. Now, with a domestic shortage, India's reliance on Indonesia for coal imports has increased.

3.3 India Facing a Severe Shortage of Coal:

In the following of the second wave of the Covid-19 epidemic, India is experiencing a major local coal shortage. While Coal India has promised to increase output to satisfy current demand, rising import coal costs have made it harder for Indian enterprises to run their operations successfully.

With increased domestic power demand, Indian utilities are facing a critical shortage of coal, the major fuel that powers 70% of India's energy consumption. Even though Coal India, the country's largest coal producer, has indicated that supply would be increased to meet local demand, many coal-fired power plants only have a few days of stock remaining, which is unlikely to be satisfied in the medium term unless coal is imported.

However, coal has recently become a valuable commodity in a white-hot market, with prices rising by more than 100%, mostly due to China and India, the world's two largest users of thermal coal.

3.4 Reasons of India Facing a Shortage of Coal:

Following the second coronavirus outbreak earlier this year, India's industrial electricity usage increased dramatically. The country's electricity consumption climbed by 13.2% in the first eight months of 2021.

The unexpected increase occurred after electricity demand fell for the first time in over three decades in 2020 owing to a coronavirus-induced slowdown.

According to Reuters, Coal India, which supplies more than 80% of India's coal, provided nearly 243 million tonnes of coal to power firms from April 1 to September 28 to fulfil surging demand. This is a 24% increase over the same time last year and an 11% increase over April-September 2019.

Some enterprises in India have a fixed coal connection with Coal India and its subsidiaries, which guarantees them a set coal supply throughout the year. However, heavy rains at various mines around the country, along with logistical issues, have resulted in a domestic supply crisis.

Every year, Coal India requests that utilities stock up before to the start of the monsoon season, when rains make transportation and output of raw materials problematic. Despite this, many coal companies were unable to stockpile enough since domestic supply was limited and imported coal was at an all-time high.

As a result, several enterprises, particularly those on the coastal line, which rely heavily on imported coal, have decreased or stopped production.

3.5 Major Coal Importers for Power Sector:

3.5.1 Tata Power:

A pioneer in the Indian power sector. Tata Power (TPL) is one of India's largest energy utilities. Started as the Tata Hydroelectric Power Supply Company in 1911, it is an amalgamation of two entities: Tata Hydroelectric Power Supply Company. Andhra Valley Power Supply Company (1916).

TPL provides services in power generation, distribution and transmission; oil and gas and broadband and communications. The company has big overseas power projects in a number of countries, including the UAE, Malaysia, Saudi Arabia, Kuwait and Algeria ti has also undertaken projects in power plant / utility operations and management in Saudi Arabia, Liberia, Iran, Sierra Leone and Algeria.

3.5.2 Reliance Energy:

Reliance Energy Ltd is India's leading integrated power utility company in the private sector. It has a significant presence in generation, transmission and distribution of power in Maharashtra, Goa and Andhra Pradesh. Reliance's gas finds in KG-D6 block in Krishna Godavari basin constitutes 60 per cent of India's present total gas production.

REL and its affiliate power companies rank among the top 25 listed private sector companies on major financial parameters. REL is part of the Reliance industries-India's private sector company ranked among the world's 175 largest companies in terms of net profit and the 500 largest companies in terms of sales.

3.5.3 National Thermal Power Corporation (NTPC):

NTPC Limited is the largest thermal power generating company of India A public sector company, it was incorporated in the year 1975 to accelerate power development in the country as a wholly owned company of the Government of India.

Government of India holds 89.5per cent of the total equity shares of the company and the balance 19.5per cent is held by Flls, Domestic Banks, Public and others. Within a span of 31 years, NTPC emerged as a truly national power company, with power generating facilities in all the major regions of the country.

3.5.4 Andhra Pradesh Power Generation Corporation Limited (APGENCO):

APGENCO is one of the pivotal organizations of Andhra Pradesh, engaged in the business of Power generation. Apart from operation & Maintenance of the power plants it has undertaken the execution of the on Government of India & new power projects scheduled under capacity addition programmer and is taking up renovation & modernization works of the old power stations.

APGENCO started operations in 1999. This was a sequel to Government's reforms in Power Sector to unbundle the activities relating to Generation, Transmission and Distribution of Power. All the Generating Stations owned by erstwhile Andhra Pradesh State electricity Board (APSEB) were transferred to the control of APGENCO.

3.5.5 National Hydroelectric Power Corporation Limited (NHPC):

NHPC, A Govt. of India Enterprise, was incorporated in the year 1975 with an authorised capital of Rs. 2000 million and with an objective to plan, promote and organise an integrated and efficient development of hydroelectric power in all aspects. Later on, NHPC expanded its objects to include other sources of energy like Geothermal, Tidal and Wind etc. At present, NHPC is a schedule 'A' enterprise of the Govt. of India with an authorised share capital of Rs. 1, 50,000 million. With an investment base of over Rs. 2, 20,000 million approx. NHPC is among the TOP TEN companies in the country in terms of investment.

3.5.6 Adani Power Limited:

Adani Power Ltd. is part of Adani Group with capacity of 1980MW. The company currently operates India's only super-critical power plant in Gujarat. The company is currently implementing 16500 MW at different stages of construction. The company is currently implementing thermal projects of 3300MW at Maharashtra and 1320MW at Rajasthan. The Adani Group has bought coal mines outside the country and with its port and shipping companies forms an integrated coal to power story.

3.5.7 Lanco Infratech:

Lanco is fast emerging Andhra Pradesh based Group and has become a top private sector power developer with 2 GW capacity and another 18 GW under development. Lanco through its step-down Australian subsidiary, Lanco Resources Australia, has acquired Griffin Coal Mining Company and Carpenter Mine Management.

3.6 Major Coal Importers for Steel Sector:

- Steel Authority of India Limited
- National Mineral Development Corp Limited
- Tata Iron & Steel Company
- Jindal SAW Limited
- Rashtriya Ispat Nigam Limited
- Kudremukh Iron Ore Company Limited
- Metallurgical & Engineering Consultants Limited
- Bharat Refractories Limited
- Visa Steel Limited
- Uttam Glava Steels Limited

3.7 Coal Importing Countries to India:

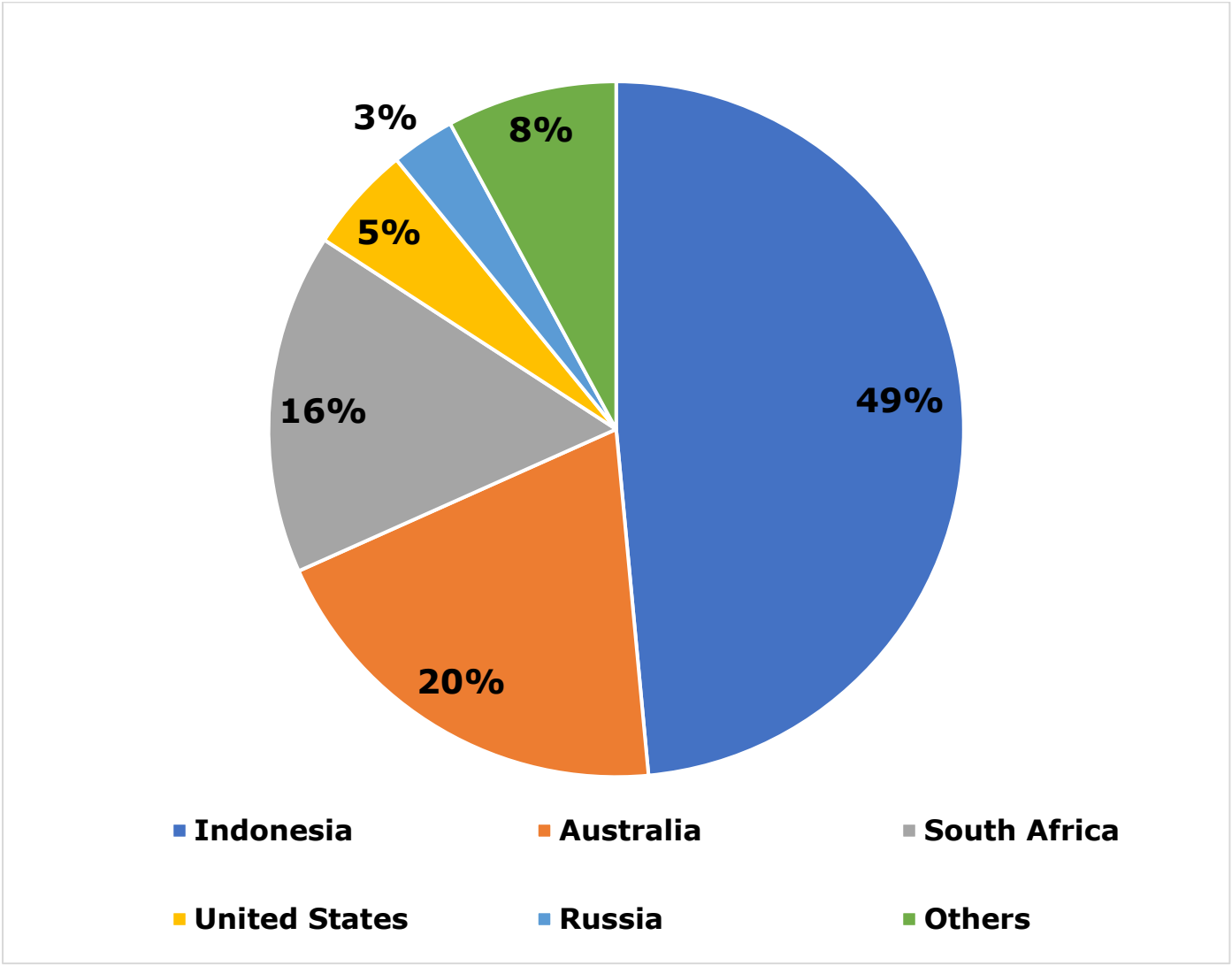


Figure 3.1

Source: Statista.com

According to the 2020-21 coal directory, India is the second largest importer, importing coal mostly from Indonesia, Australia, South Africa, and the United States. In 2020-21, the country imported 215.25 million tonnes, 248.54 million tonnes in 2019-20, and 235.35 million tonnes in 2018-19.

"India imports and exports coal from and to other countries. Indonesia, Australia, South Africa, and the United States are the major importers of coal. In compared to imports, India's coal exports are negligible. The majority of Indian coal is sold to Nepal, Bangladesh, and Bhutan "Prahlad Joshi, the coal minister, stated in Parliament.

This year, the government is attempting to significantly reduce coal imports. The reason is a substantial increase in international coal prices as well as an increase in domestic production. The government aims to reduce coal imports (coking and non-coking) by 35-40 million tonnes (mt) in fiscal 2022-23, to about 180-190 mt in FY-22, from 214.99 mt in FY-21.

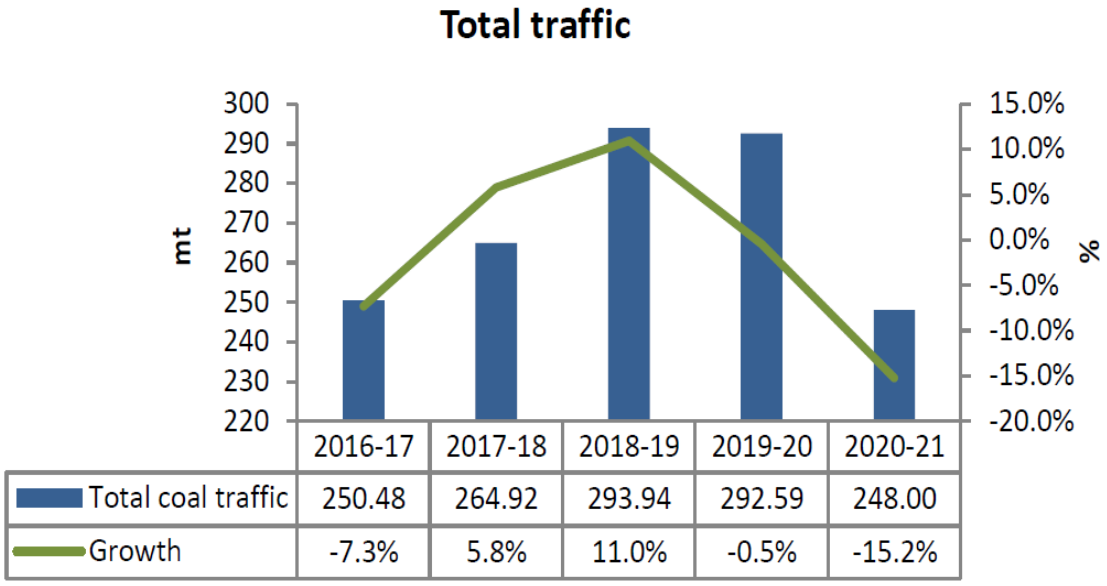
The country faced a serious coal issue in October 2021, raising concerns about a possible energy shortfall. As of October 8, 2021, the coal supply at power plants has been decreased to 7.2 million Tonnes.

CHAPTER 4

COAL TRAFFIC IN INDIAN PORTS

4.1 Traffic Trends - Overall Traffic:

Coal Traffic in Indian Ports during 2016-17 to 2020-21



	2016-17	2017-18	2018-19	2019-20	2020-21
Total coal traffic	250.48	264.92	293.94	292.59	248.00
Growth	-7.3%	5.8%	11.0%	-0.5%	-15.2%

Figure 4.1

Source: Indian Ports Association

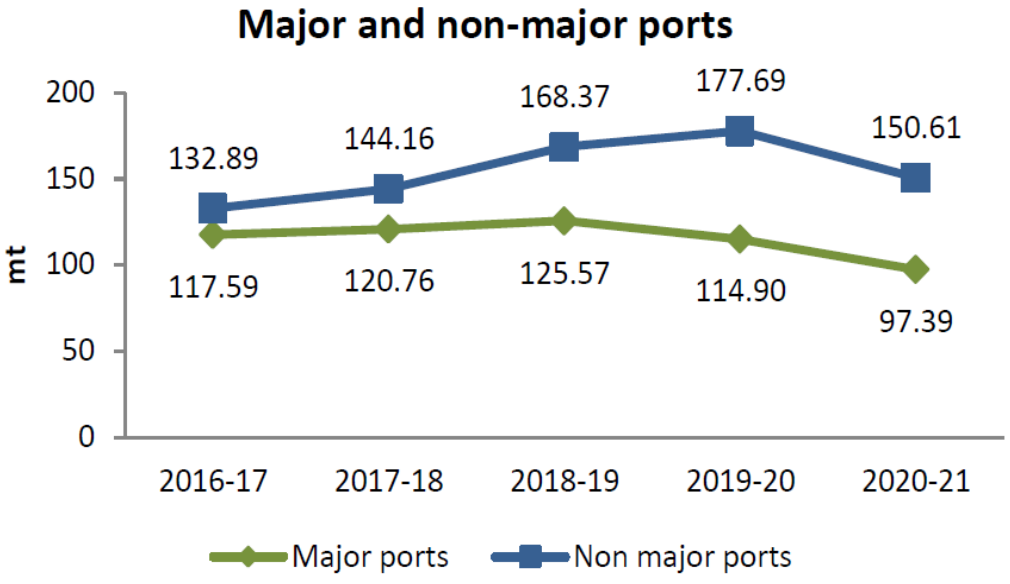


Figure 4.2

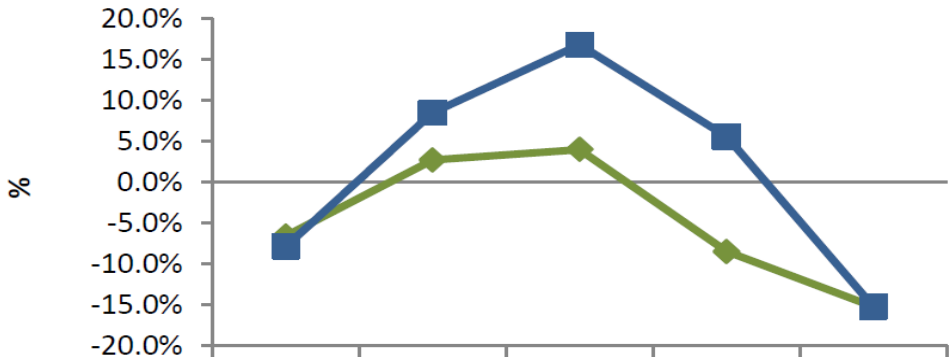
Source: Indian Ports Association

Between 2016-17 and 2020-21, the total coal traffic (major and non-major ports) declined at a rate of 0.2%

- The respective CAGRs for major and non-major ports were – 4.6% and 3.2%
- The share of non-major ports in total coal traffic remained at 61% in 2019-20 and 2020-21

4.2 Year on Year Growth:

YoY Growth in Coal Traffic at Major and Non-major Ports 2016-17 to 2020-21 (%)



	2016-17	2017-18	2018-19	2019-20	2020-21
Major ports	-6.6%	2.7%	4.0%	-8.5%	-15.2%
Non major ports	-7.9%	8.5%	16.8%	5.5%	-15.2%

Figure 4.3

Source: Indian Ports Association

- In terms of YoY growth, the coal traffic in Indian ports witnessed a negative growth in 2020-21 primarily due to an increase in the domestic coal production by Coal India Limited

4.3 Traffic Trends – Thermal and Coking Coal:

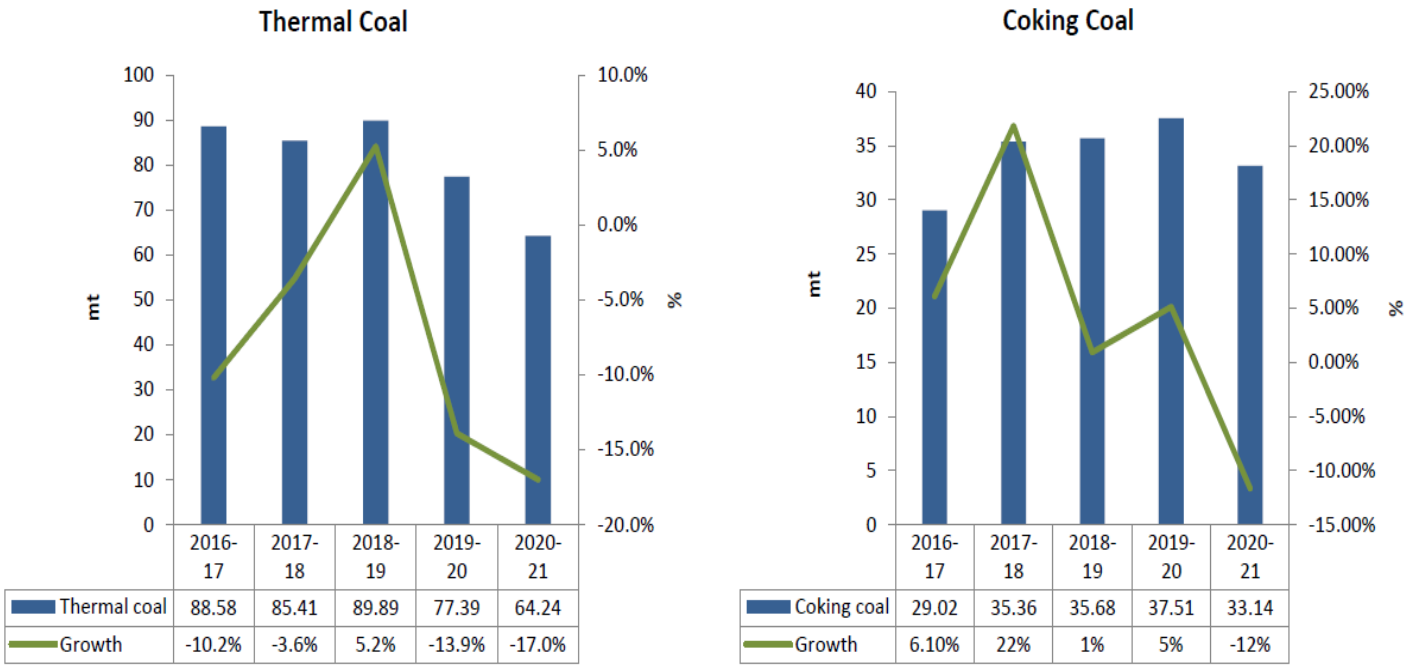
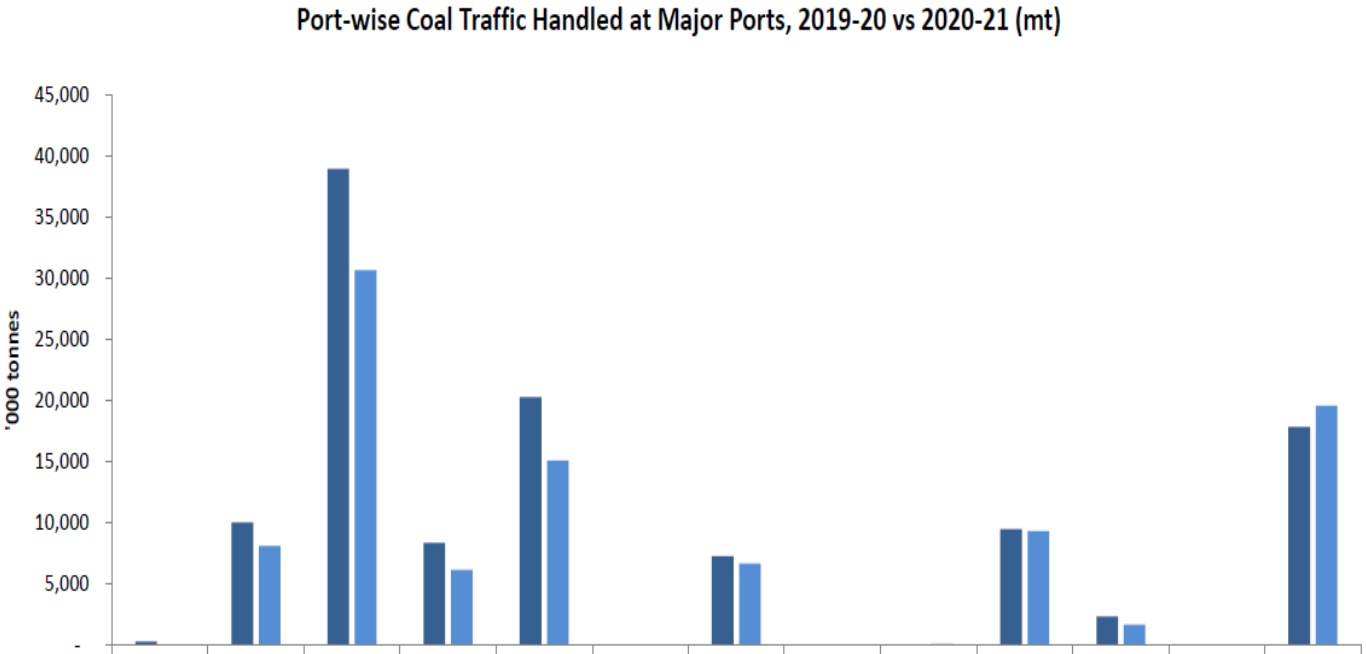


Figure 4.4

Source: Indian Ports Association

- In 2020-21, major ports handled 64.24 mt of thermal coal traffic, a 17 % decrease year on year
- In 2020-21, coking coal traffic handled at major ports decreased by 12% at 33 mt
- The reduction was primarily caused by the covid-19-imposed lockdown in April-May 2020

4.4 Traffic Trends – Port wise:



	Kolkata	Haldia	Paradip	Visakhapatnam	Ennore	Chennai	Chidambaranar	Cochin	New Mangalore	Mormugao	Mumbai	JNPT	Deendayal
2019-20	286	10,039	38,998	8,373	20,266	-	7,251	-	10	9,486	2,335	-	17,861
2020-21	34	8,109	30,692	6,139	15,081	-	6,675	-	94	9,297	1,680	-	19,593

Figure 4.5

Source: Indian Ports Association

- In 2020-21, Paradip port handled the most coal traffic (32%) at major ports, followed by Deendayal port (20%)
- Except for New Mangalore and Deendayal, all ports had a decrease in coal traffic handled in 2020-21 compared to 2019-20, with a significant decrease observed at Kolkata and Mumbai Ports

4.5 Coal Handling Capacity and Utilisation:

Coal (Thermal) Handling Capacity and Utilisation at Major Ports (2016-17 to 2020-21) (mt)

Port	2016-17	2018-19	2019-20	2020-21	Capacity utilisation (%)
Kolkata	-	-	-	-	-
Haldia	10.00	18.65	18.65	18.65	54
Paradip	32.00	41.20	41.20	41.20	95
Vizag	-	17.60	17.60	17.60	48
Kamarajar	32.00	44.82	44.82	44.82	45
Chennai	-	-	-	-	-
VOC	26.82	33.40	33.40	33.40	22
Cochin	-	-	-	-	-
New Mangalore	7.67	13.80	27.91	27.91	0.04
Mormugao	8.94	31.10	31.10	31.10	30
Mumbai	-	-	-	-	-
Kandla	-	-	-	-	-
JNPT	-	-	-	-	-
Total	**117.43**	**200.57**	**214.68**	**214.68**	**54**

Figure 4.6

Source: Indian Ports Association

- During 2020-21, Kamarajar Port and Paradip Port accounted for the maximum coal capacity among the major ports.
- However, New Mangalore port saw the most development in coal capacity, with considerable coal capacity added during 2019-20
- Overall, coal capacity at major ports in 2020-21 remained the same as in 2019-20. Except for the port of Paradip, capacity utilisation has been low

4.6 Coal Terminals in Indian Ports (All Ports):

Port	Terminal Operator	State	Capacity(mtpa)
Bedi Port	Gujarat Maritime Board	Gujarat	6
Cochin Port	Adani Enterprises + Cochin Port Trust	Kerala	5 + 0.3
Dahanu Port	Maharashtra Maritime Board	Maharashtra	-
Dahej Port	Adani Petronet Port Pvt Ltd	Gujarat	20
Ennore Port	TANGEDCO + JSW Infrastructure	Tamil Nadu	16 + 10
Gangavaram Port	Gangavaram Port Ltd	Andhra Pradesh	10
Haji Bunder Port	Mumbai Port Trust	Maharashtra	-
Haldia Port	Kolkata Port Trust	West Bengal	Coal imports indefinitely suspended October 2012
Kakinada Port	Kakinada Seaports Ltd, Bothra Group	Andhra Pradesh	14
Kandla Port	Adani	Gujarat	14
Karaikal Port	MARG ltd	Pondicherry	10 (existing + 10 proposed)
Krishnapatnam Port	Krishnapatnam Port Company Ltd, CVR Group	Andhra Pradesh	40
Mormugao Port	Mormugao Port Trust+JSW+Adani Vedanta+Gammon Infrastructure	Goa	12.5 existing + 6.99 proposed

Muldwarka Port	Gujarat Maritime Board	Gujarat	-
Mundra Port	Adani Enterprises	Gujarat	60
New Mangalore Port	New Mangalore Port Trust	Karnataka	15
Okha Port	Gujarat Maritime Board	Gujarat	-
Panjim (Panaji) Port	Captain of Ports, Government of Goa	Goa	-
Paradip Port	Paradip Port Trust	Oddisa	21 existing + 40 million (30 mtpa from JSW Terminal; 10 mtpa from Kakinada Seaports terminal)
Pipavev Port	APM Terminals	Gujarat	5 exsiting + 5 proposed
Porbandar Port	Gujarat Maritime Board	Gujarat	0.2 - 0.8
Sikka Port	Shree Digvijay Cement Company Ltd	Gujarat	3
Trombay Coal Terminal	Tata Power	Maharashtra	2.4 existing + 2 proposed
Tuticorin Port	Tuticorin Port Trust	Tamil Nadu	10
Visakhapatnam Port	Adani's Vizag Coal Terminal Private Ltd + SEW Vizag Coal Terminal Private Ltd	Andhra Pradesh	6.5 + 7.38

Table 4.1

Source: Global Energy Monitor

4.7 Upcoming Coal Berth in Indian Ports:

Port	Project Name	State	Cost (Rs billion)	Capacity (mtpa)	Model of Implementation	Status
Kamarajar	Modification of existing iron ore terminal to handle coal by SIOTL	Tamil Nadu	0.23	12	PPP	Under Construction
VOC	Upgradation of existing coal jetty – CJ1 and CJ2	Tamil Nadu	0.98	18	EPC	Under Construction
Cochin	Reconstruction of South Coal Berth at Cochin Port for Handling Chemicals	Kerala	0.19	1.3	EPC	Announced
Nana Layja	M/s Sealand Port Private Limited Coal Jetty & Multipurpose Jetty under Gujarat SEZ act	Gujarat	10	17	NA	Announced
Nana Layja	M/s Sealand Port Private Limited Coal Multipurpose Jetty under Gujarat SEZ act	Gujarat	2.56	3	NA	Announced
Paradip	New deep draft coal import berth on BOT basis	Odisha	6.56	12	PPP	Under Construction

Table 4.2

Source: Indian Infrastructure Research

4.8 Year wise Import of Coal and Coke to India during Last 10 Years

(quantity in mt & value in million rupees)

Year	Coking Coal		Non-Coking Coal		Coke & Others Coal Products		Lignite	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
2011-12	31.8	424692	71.05	363683	2.36	47584.5		
2012-13	35.55	378398	110.28	490057	3.08	56918.8	0.00065	10.22
2013-14	36.87	348319	129.98	574973	4.17	67994.9	0.00127	23.73
2014-15	43.71	337656	174.06	707411	3.29	43806.2		17.03
2015-16	44.56	282519	159.38	577819	3.07	32683.5	0.00105	14.83
2016-17	41.64	412301	149.3	590013	4.34	54019.4	0.01912	433.29
2017-18	47.03	595226	161.24	789543	4.58	91524.7	0.01041	116.5
2018-19	51.83	720498	183.51	988707	4.93	120645	0.01937	403.43
2019-20	51.83	612668	196.7	914652	2.87	60256.7	0.05425	1074.46
2020-21	51.28	454355	163.7	706017	2.45	44688.6	0.01886	409.24

Table 4.3

Source: Ministry of Coal

CHAPTER 5

CONCLUSION

5.1 Findings:

- India is the world's second-largest coal consumer, accounting for 84.8% of global consumption of 1,139,471,430 tonnes.
- India's coal imports fall 23 % during Apr-Jan 2022 as domestic output grows.
- The new Indonesian regulation requiring coal prices to be globally recognized to international market rates is likely to raise the cost of coal imports from that country for Indian companies.
- As a result of a new law in Indonesia, the world's largest coal exporter, Indian power producers have sought government assistance.
- After September 23, 2022 Indonesia has stated that exporting enterprises would not be allowed to sell coal at prices below the announced rates.
- The introduction of China into the global coal market Despite the global recession, Australian coal prices fell while Chinese coal prices stayed high, inverting their historic relationship and creating a significant arbitrage opportunity.
- For Indian power companies, the change in coal pricing technique is likely to increase coal costs by Rs 1,500 per tonnes. Until now, the Indonesian government had not regulated coal pricing.
- Australia, which accounts for roughly 5% of Indian power sector imports, proposes to impose a carbon tax and a fee on mining corporations' exceptional profits.

5.2 Conclusion:

Government efforts to identify power as a significant source of economic growth are lauded by industry leaders. However, it is believed that the government should work on a comprehensive fuel plan to ensure that utilities can reach their capacity plans for expansion. i The opening up of coal mines to the private sector is a positive step forward with this regard. However, auctioning coal blocks should be prioritized in order to lessen reliance on imported coal.

Although it is extremely difficult to close the coal demand supply gap in today's reality, there are certain methods by which we can lower supply. One conceivable option is to sell Coal India's production via e-auction to power plants. Apart from that, before resorting to the e-auction, Coal India should uphold its pledge to supply quantities as agreed to the newly commissioned units. We also need to develop alternate coal supply sources, either domestically or internationally, to aid power utilities and independent power producers in their operations.

In addition, industry faces other obstacles related to site acquisition, environmental clearances, fuel supply, equipment shortages, project funding, and skilled workforce shortages. Before India can reach the aim of adding 1,000,000 MW in the 12th Plan, several critical concerns must be solved.

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