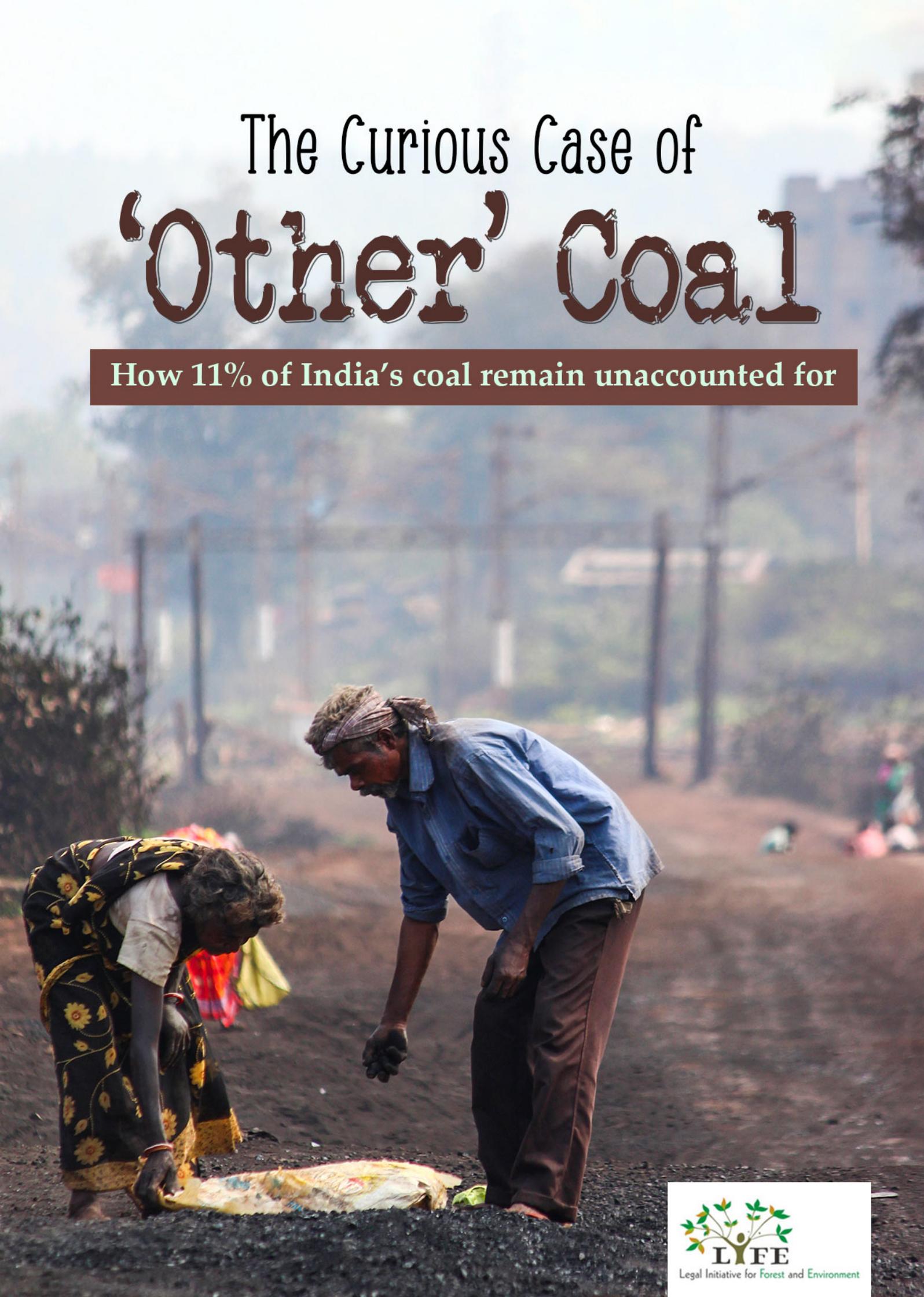


The Curious Case of 'Other' Coal

How 11% of India's coal remain unaccounted for



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EXECUTIVE SUMMARY

India is one of the largest consumers of coal globally, ranking second after China in terms of coal usage (Statista, 2022). However, the country lacks documentation in terms of all of its sector specific usage. According to the Coal Controller's Organisation (CCO), the power sector remains the largest coal user in 2020-21 with 580,558 MT (84.03 percent) dispatched to them in that year (CCO, 2021). This was followed by the steel (8,943 MT), sponge iron (9,572 MT) and cement (6,751 MT) among others (CCO, 2021).

The Ministry of Coal (MoC) in its annual report of 2020-21 has also specified that, the coal of Coal India Limited (CIL) is dispatched to the power sector, steel, cement and to some unspecified users, which the MoC has termed as 'OTHERS' (MoC, 2021). Coal utilisation by the 'others' has increased from 9.94 percent in 2019 to 13.21 percent in 2020, whereas for power, cement etc. usage has come down from 2019 to 2020 (MoC, 2021). The term 'others', however, has no further industry-wise breakup.

Yearly trend of data in terms of pan India coal distribution to this 'others' showed that the concerned regulatory body has hardly made any attempt to document this unspecified 'others' user of coal. Rather, it continues to focus only on a few coal usage sectors, by notifying standards for various emission and effluent parameters for them. 'Others' continues to remain unexplained and subsequently unaddressed. The multi-level stakeholders engaged in coal handling has also not found it necessary to specifically deal with coal handled by the 'others'. RTI responses from various departments have substantiated this fact.

Given this, an attempt has been made to look into the 'others' coal usage, using the data from India Energy Dashboards of NITI Aayog for a period of 2007-2020. Some of the key findings from the analysis:

KEY FINDINGS:

- ❑ Unspecified 'others' constitute 11 percent of total raw coal consumed, which amounts to 842.844 million tonnes, over a period of 13 years.
- ❑ The yearly trend of unspecified raw coal usage from 2007 till 2020 shows that no attempt has been made to track and document coal movement to this unspecified sector.
- ❑ Unspecified coal consumption is highest in Odisha, followed by Jharkhand and Chhattisgarh.
- ❑ Unspecified coal consumption is largely prevalent in coal producing states which are Odisha, Jharkhand, Chhattisgarh, Maharashtra, Uttar Pradesh, Meghalaya and West Bengal
- ❑ Meghalaya reported 95.5 percent and Arunachal Pradesh reported 100 percent of their coal movement to 'others' unspecified sectors

BACKGROUND

India ranked at second position in terms of coal consumption worldwide in 2020, a report published by Statista Research Department revealed (Statista, 2022). One of the major users of coal in India is its energy sector. According to a report by International Energy Agency (IEA) released in 2021, India's energy usage has doubled since 2000, with 80 percent of the demand still being met by coal, oil and solid biomass (IEA, 2021). The latest published data of the Central Electricity Authority (CEA) has also reported coal as the dominant fuel, used by the energy sector of India (CEA, 2022). According to this data, as on 31st January, 2022, coal constitutes 51.6% of the fuel share, being used by the installed power sector.

It is however important to mention here that, besides meeting the energy sector demand, coal is also used as fuel by many other industries. According to the annual report of 2020-21 by the Ministry of Coal (MoC), the coal of Coal India Limited is dispatched to the power sector, steel, cement and to some unspecified users, which the MoC has termed as 'others' (MoC, 2021). Coal utilisation by the 'others' has increased from 9.94 percent in 2019 to 13.21 percent in 2020, whereas for power, cement etc. the usage has come down from 2019 to 2020 (MoC, 2021). The term 'others', however, has no further industry-wise breakup.

In spite of these documented facts, India continues to focus only on a few coal usage sectors by notifying standards for various emission and effluent parameters for them. 'Others' continues to remain unexplained therefore its pollution potential are far from coming into the discussion realm.

An energy dashboard of NITI Aayog is worth mentioning here. The dashboard titled India Energy Dashboards (IED) gives an insight into coal usage besides the power, cement and steel sectors. According to the dashboard, a total of the 7653.663 million tonnes of raw coal¹ was used by 17 sectors during 2007-2020, out of which power sector⁰¹ consumed 83 percent, cement consumed two percent, steel boilers consumed another 0.2 percent and the unspecified 'others' consumed 11 percent of the total coal. It goes without saying that, absence of any data regarding these users will lead to a complete difficulty in their monitoring and the resultant pollution caused by them.

Given this, it is quite important to look at the pan India consumption and distribution pattern of coal under the 'others' sector over the years.

OBJECTIVE

The present paper aims at assessing the trends of coal usage by the unspecified 'others' sector in terms of country-wide channelisation and the consumption pattern over the years.

01. Utility or Grid based power and Captive or industries' own usage

METHODOLOGY ADOPTED

■ **Use of NITI Aayog dashboard called India Energy Dashboards (IED):** IED has data on coal used for the period of 2006 to 2020. It is bifurcated into five broad coal types: raw coal, washed coal, middlings, total coal, and lignite coal. Among these five broad heads, raw coal constitutes 85 percent of the total coal consumed in 13 years (2007-2020) and hence the present analysis has been carried out using the raw coal consumption data.

■ **Use of Right to Information Act, 2005:** Information has also been sought from the various government departments under the Right to Information Act, 2005 and based on the responses received, further substantial inference has been drawn.

FINDINGS

The above stated raw coal has been distributed to a total of 17 consuming sectors which are listed in the table 1 (Refer Table 1 and Figure 1).

Table 1: Sector-wise cumulative coal usage during 2007-2020

Sectors	Cumulative Coal usage from 2007-2020 in Million Tonnes	Sector-wise share of total cumulative Usage (%)
POWER (UTILITY)	5136.566	67.11
POWER (CAPTIVE)	1214.594	15.87
OTHER	842.844	11.01
SPONGE IRON	174.619	2.28
CEMENT	154.535	2.02
FERTILISERS	31.034	0.41
PULP & PAPER	26.734	0.35
METALLURGICAL USE- DIRECT FEED	15.678	0.20
STEEL (BOILERS)	14.074	0.18
OTHER BASIC-METAL (ALUMINIUM ETC)	10.324	0.13
METALLURGICAL USE- COKERIES	8.887	0.12
BRICKS	8.151	0.11
TEXTILES & RAYONS	6.235	0.08
CHEMICAL	5.584	0.07
COLLIERY OWN – CONSUMPTION	3.243	0.04
COKERIES	0.559	0.01
COLLIERY STAFF	0.002	0
Total	7653.663	100

Source: India Energy Dashboards by NITI Aayog



As shown in Table 1, from 2007-2020 a total of 7653.663 million tonnes of raw coal was used by 17 sectors, out of which captive⁰² and utility⁰³ power together consumed 83 percent, 'others' (unspecified) consumed 11 percent and rest of the 15 sectors combined consumed six percent, of the total raw coal consumed.

Sector-wise Cumulative Coal Usage during 2007-2020

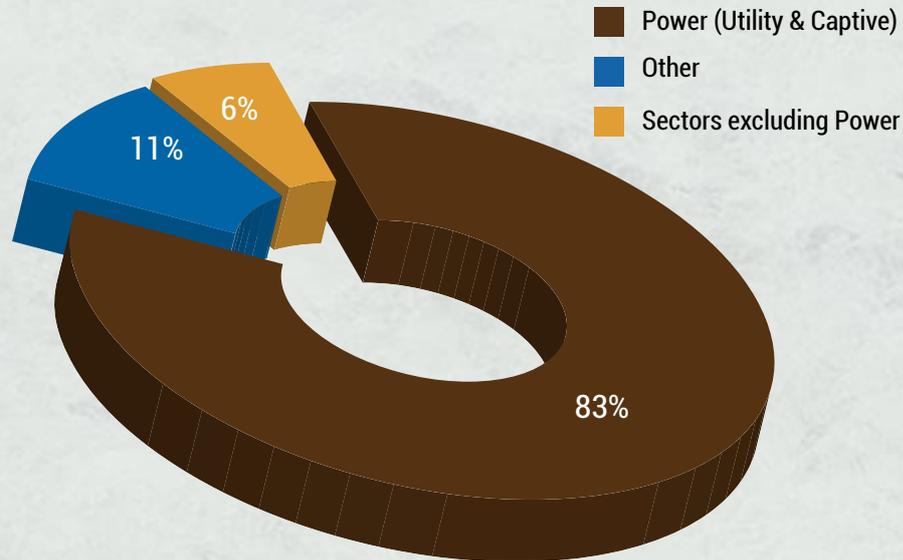


Figure 1: Consuming Sector-wise cumulative Raw Coal Usage (2007-2020) (source: Indian Energy Dashboard by NITI Aayog)

It can be seen from the above Figure 1, that from 2007 to 2020 the combined 15 sectors together consumed lesser coal than the unspecified 'others'. Given this, a further in-depth analysis is carried out for the unspecified or 'others' sector in the following section.

02. Captive power plants are those which run by a specific industry for meeting their own power requirements

03. Utility power plants are for supplying energy to grid for ultimate supply of power to end users

'OTHERS' SECTOR

It can be seen from the above that the unspecified users 'others' account for 842.844 million tonnes of coal, which means 11 percent of the total coal consumed during 13 years. This is almost double the coal consumed by 15 sectors cumulatively (6 percent) vis-à-vis such coal amounts to more than 30 million truckloads of coal movement (considering average capacity of coal truck as 27 tons of coal).

This indicates even if India adopts the best pollution control devices for its power plants and ensures the formulation and implementation of air quality standards for all of its identified industries, emissions from the 'others' sector will continue to happen and that too, in the form of greenhouse gases like Carbon dioxide (CO₂) or methane or as criteria pollutants like particulate matter, Sulphur dioxide or Oxides of nitrogen. With this, India's commitments on greenhouse gas emission might get affected.

An attempt has been made to see the state-wise and year-wise distribution of this coal to unspecified 'others' sector. Figure 2 shows the state-wise and the Figure 3 shows yearly trend of such coal usage by 'others'.

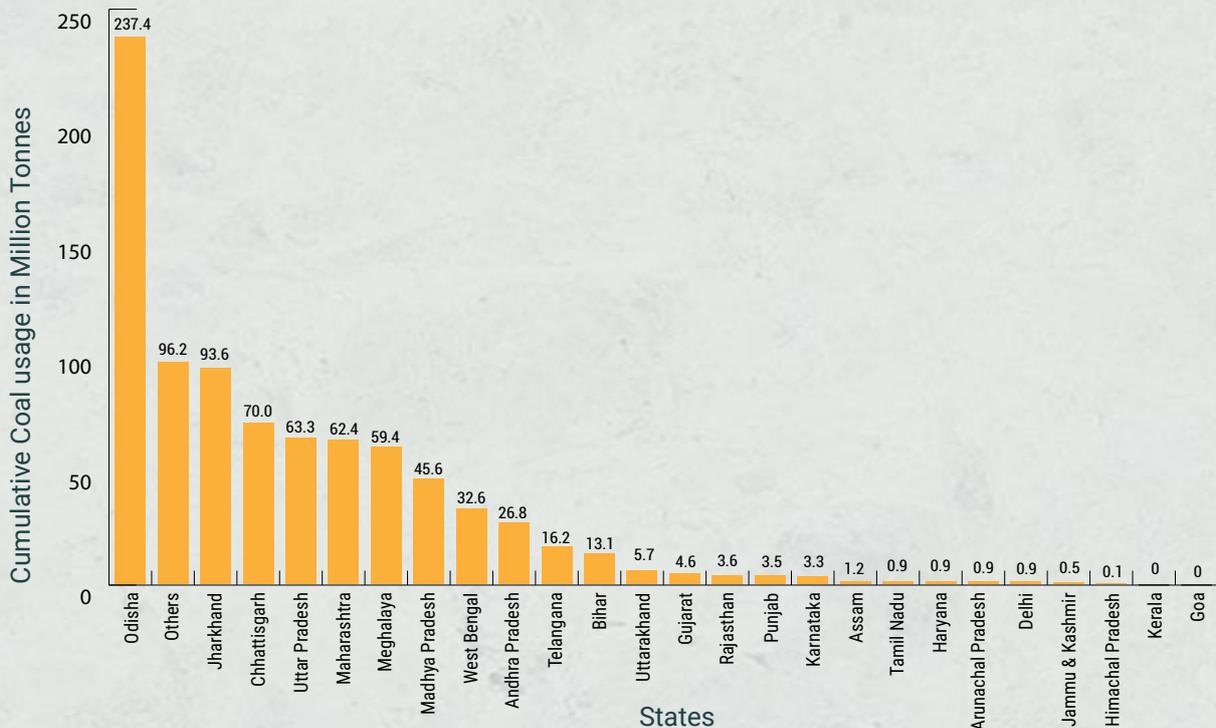


Figure 2: State-wise Distribution of Coal to 'others' during 2007 to 2020

As can be seen from the above Figure 2, the states which are mostly dominating the coal production map of India are the ones where large share of the unspecified 'others' consumption of coal is prevailing. Odisha, Jharkhand, Chhattisgarh, Uttar Pradesh, Meghalaya, Maharashtra, Madhya Pradesh, West Bengal, Andhra Pradesh and Telangana are amongst them. Ideally it should be the responsibility of the Ministry of Coal or the Coal Controller's Organisation to maintain a data on this 'others' sector.



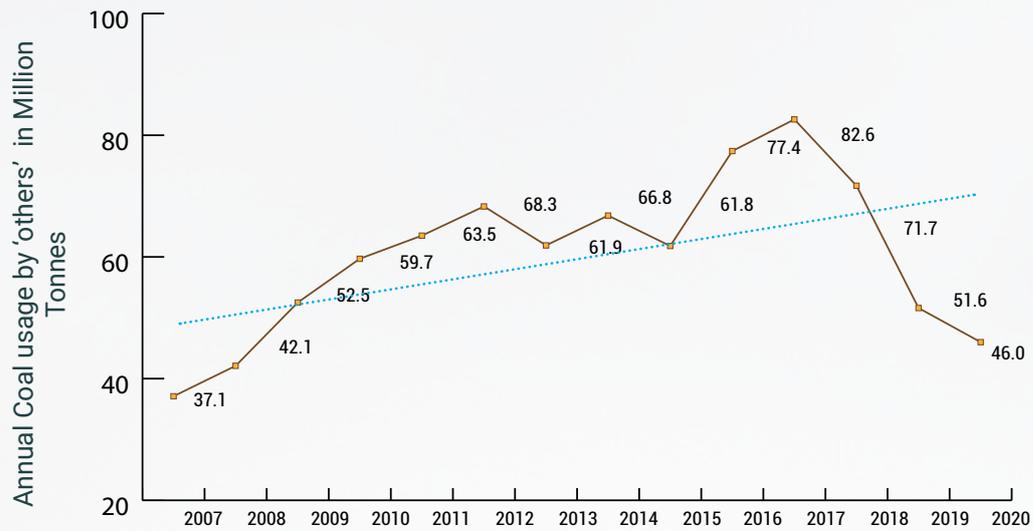


Figure 3: Year-wise trend in Coal Consumption by 'others' from 2007 to 2020

Figure 3 indicates year-wise trend of coal consumption by the 'others' sector over a period of 2007-2020. In spite of such significant share in total annual coal consumption, it is surprising that no attempt has been made to document the details of this sector over a period of 13 years. It is just that the quantity has plummeted two times, once in 2007 and once in 2020 respectively. The same is likely to be attributed to the recession period of 2007-2008 and the COVID Pandemic led country-wide lockdown in 2020 respectively.



LACK OF DOCUMENTATION ON UNSPECIFIED SECTOR

It is evident that the lack of documentation on coal channelisation to 'others' sectors has been a practice that is being followed by multiple departments. Responses received under the Right to Information Act, 2005 (RTI Act) from departments including NITI Aayog, Ministry of Coal, Coal India Limited, have substantiated this fact. Table 2 presents the summary of responses received from the NITI Aayog and other aforementioned government departments in relation to detailed industry-wise break up of 842.844 million tonnes of coal. It is indeed strange that not even the Ministry of Coal has provided any details as to which consumers constitute as 'others'.

Table 2: RTI Responses

SI No	Department	File Details and Date of RTI Response	Response
1	NITI Aayog	Office Memorandum No. I-22/2/74/2020-P&E, Government of India NITI Aayog (Energy Vertical), dated 31st August 2021	Transferred the RTI to Ministry of Coal, stating "India Energy Dashboard maintained by NITI Aayog does not contain sector wise coal consumption."
2	Ministry of Coal	File No.CPD-23011/19/2021-CPD, Government of India, Ministry of Coal, dated 20/9/21	The information sought is not maintained by the Ministry of Coal. The information sought is related to Coal India Limited (CIL), Kolkata and Singareni Collieries Company Limited (SCCL), Telangana, which are separate public authorities under RTI Act. Hence the RTI application is being transferred to CPIO, CIL Kolkata & CPIO, SCCL, Telangana
3	Coal India Limited	Ref. No. CIL/C-5C/PIO/21-22/F-5426/552, dated 23rd September 2021	It has received the forwarded letter from the Ministry of Coal dated 13th September & dated 20th September respectively. The same has been forwarded to the concerned department of CIL and on receipt of the response from them, the information sought will be furnished to the applicant
4	Singareni Collieries Company Limited	Ref No. CRP/RTI-PIO/3497/1017, dated 7th October 2021	It has shared year-wise and sector-wise coal consumption data, under the following heads - Power Plants, Captive Power Plants, Cement Plants, Sponge Iron Plants and Other Industries - Response attached as Annexure I



LACK OF TRANSPARENCY AND ACCOUNTABILITY

The above stated RTI responses indicates a very casual approach by the regulatory bodies who are supposed to maintain detailed data on the coal starting from its production till meeting the demand of different sectors. Instead, authorities like Ministry of Coal or Coal India Limited are simply passing the responsibility from one to another. This is particularly disconcerting considering the fact that in India coal mining, production, distribution and sale is a heavily regulated state activity that is not open to market forces.

The data from the NITI Aayog dashboard gives an account of cumulative coal usage by different sectors (including 'others') over the period of 13 years (Refer Table 1); however it is not clear whether this data includes coal that is traded through spot e-auction, forward auctions and special forward auctions as reported under the monthly summary for cabinet submitted by the Ministry of Coal. The e-auction of coal happens for power and non-power sector (MoC, 2022). So there is a possibility that this 'others' sector might represent that amount of coal which goes for such e-auctions. However, this is not clear based on the data that is available in the public domain and hence cannot be verified.

The office of the Coal Controller Organization publishes a coal directory every year which has a lot of useful information and data regarding the coal sector. Unfortunately, even this detailed report does not provide any explanation for the 'others' category.

Coal is a very important fuel source for the country which impacts the environmental and socio-economic aspects of the regions where it is found. It is also a heavily regulated sector with strict laws that prohibit its direct sale in an open market. Given this background, it is unacceptable to report a large portion (10% or more) of its production and distribution to an unspecified category of users namely, 'others', without giving any information regarding the nature and/or purpose for which coal is consumed by this category.

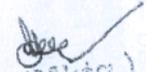
CONCLUSION

In India, coal as fuel is used by numerous industries besides power plants, cements and steel sector. Though some of the sector's usage is documented, a good share of about roughly 11% (842.844 million tonnes of cumulative amount over a period of 13 years from 2007-2020) continues to be reported under an unspecified sector, termed as 'others'. There is absolutely no data to understand which industries or consumer categories come under this sector. This shows a highly casual and lackadaisical approach of the regulatory bodies. In spite of the increased transparency in the coal sector reporting, publishing data in this manner raises questions regarding its utility and of accountability of the concerned agencies. This is also problematic from the point of view of India's climate commitment at national and international level. Even if India adopts the best pollution control devices for its power plants and ensures the formulation and implementation of air quality standards for all of its identified industries, emissions from the 'others' sector may continue and could even escape monitoring. Hence, the issue needs immediate attention. The Ministry of Coal and the Coal Controller's Organisation should take note of this important lacuna in the sector reporting and immediately publish details regarding what constitutes as 'others' and provide a detail break-up of consumer category wise allocation, supply and consumption within this segment.

ANNEXURE I: RESPONSE FROM SINGARENI COLLERIES COMPANY LIMITED

SCCL SECTOR WISE SUPPLIES SINCE 2006-07 TO 2020-21(Qty in LT)

SECTOR/YEAR	2020-21	2019-20	2018-19	2017-18	2016-17	2015-16	2014-15	2013-14	2012-13	2011-12	2010-11	2009-10	2008-09	2007-08	2006-07
POWER PLANTS	408.96	529.23	553.84	534.73	514.97	474.87	392.06	342.69	381.63	368.40	327.38	338.35	299.78	298.49	269.63
CAPITIVE POWER PLANTS	23.52	29.84	37.02	28.78	17.99	20.10	23.97	25.43	31.49	26.88	33.08	23.55	23.71	20.44	15.09
CEMENT PLANTS	20.02	21.50	29.35	25.29	22.41	31.47	46.41	49.35	54.79	51.26	66.60	66.37	53.59	54.07	51.47
SPONGE IRON UNITS	0.63	0.82	2.00	2.00	1.18	0.98	3.42	3.93	5.40	10.74	15.61	13.80	12.13	6.91	7.42
OTHER INDUSTRIES	32.00	43.29	54.46	55.44	51.38	58.05	60.76	57.52	59.48	56.62	57.79	50.59	54.89	38.02	32.04
TOTAL NON POWER	76.17	95.45	122.83	111.51	92.96	110.60	134.56	136.23	151.16	145.50	173.08	154.31	144.32	119.44	106.02
GRAND TOTAL	485.13	624.68	676.67	646.24	607.93	585.47	526.61	478.92	532.79	513.90	500.46	492.66	444.10	417.93	375.65


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Endnote:

i IED data on coal usage contains five broad coal types, which are raw coal, washed coal, middlings, total coal, and lignite coal. Among these five broad heads, raw coal constitutes 85 percent of the total coal consumed in 13 years



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