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Down To Earth

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FORTNIGHTLY ON POLITICS OF DEVELOPMENT, ENVIRONMENT AND HEALTH

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MARKED FOR COAL

Do we need to mine more coal by trampling on our biodiversity-rich forests and displacing indigenous people?



DHARAVI
Unspoken truths of its
COVID-19 model

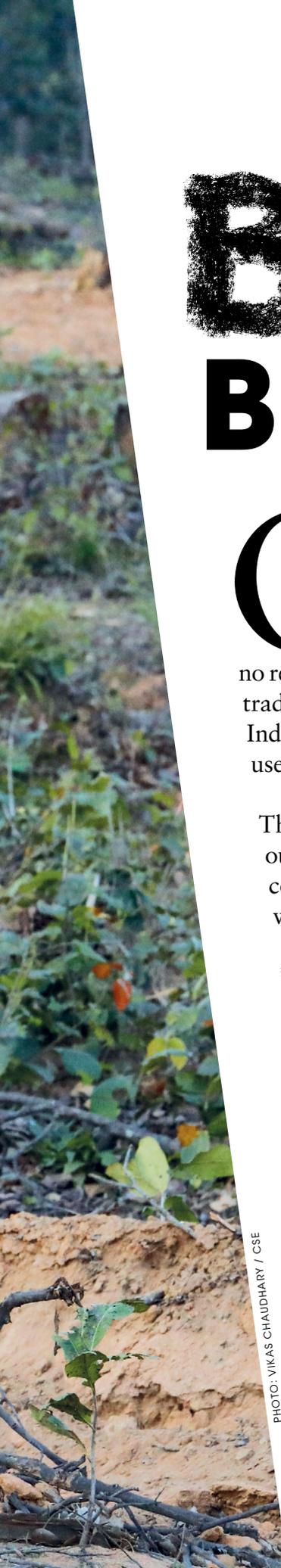
P14

SCIENCE
Debate over black holes

P58

Adil Sai Armo, 70, looks at the forestland in Chabarwa village in Chhattisgarh's Surguja district that once belonged to his community, but has been taken away for coal mining





BLACK BUSINESS

On June 18, Prime Minister Narendra Modi, speaking at an event to auction 41 coal blocks for commercial mining, said that India needs to use its domestic coal for energy needs. The event marked the move to open up the sector to private players—100 per cent Foreign Direct Investment (FDI) and no restrictions on the end-use of coal. Till now, miners were not allowed to trade coal in the market. Coal was mined either by the public sector Coal India Limited or by other companies given mining rights for their captive use through allotment or by auction.

Energy security tops the government agenda in post-COVID-19 times. The prime minister stressed that this auction “would bring the coal sector out of many years of lockdown”. India, he said, “has the fourth largest coal reserves in the world, and is the second largest producer. So why can we not become the largest producer in the world?”

To make coal “green”, the government has announced to invest ₹20,000 crore in four projects to convert 100 million tonnes of coal into gas by 2030. The problem is coal reserves are found ensconced in the deepest and densest of forests, where very poor people, mostly tribals, live. This means when the country begins mining new areas for more coal, the casualty will be the pristine forests and the dwellers within.

The question is why does India need to dig more for coal? Are the country’s current coal mines insufficient? Or, does it need to replace domestic coal with imported coal? What is that internal logic that drives this policy?

**ISHAN KUKRETI, KUNDAN PANDEY, SOUNDARAM
RAMANATHAN & SUGANDHA ARORA explore**

IT IS not difficult to fathom what prompted the dilution. In 2010, the Ministry of Coal (MoC) and the Ministry of Environment and Forests (MoEF), now renamed Ministry of Environment, Forest and Climate Change (MoEFCC), conducted a landmark study and classified India's coal reserves as "Go" and "No-Go" areas. The study said that mining must be restricted in No-Go areas to save the forests. These were biodiversity-rich dense forest areas and therefore, must remain untouched by mining. The ministries demarcated 47 per cent—or 222—of the coal areas under study as No-Go areas. But between 2010 and 2014, in the tenure of the United Progressive Alliance (UPA) government, this was scaled down to 16 per cent of the original, or just 35 blocks.

The chop-chop continued even after the current National Democratic Alliance (NDA) came to power. Since 2015, more of what was considered inviolate has been opened up. In June this year, 41 coal blocks were put up for auction (see 'Coal is where forests are', p35). Of these, 12 were identified as No-Go areas in the 2010 study.

But why raze No-Go areas if Go areas are enough for the country's needs? After all, in the past decade the government has auctioned or allotted 91 coal mines to private players and public sector undertakings (PSUs); 30 of them are in areas demarcated as Go. Have all these mines become operational?

ARE AUCTIONED MINES OPERATING?

A large chunk of the 41 mines announced for auctioning in June this year were first allotted by the then UPA government to different PSUs and private players, and then cancelled by the Supreme Court. On August 25 and September 24, 2014, the apex court declared 204 captive coal mines "illegal" (*more on this later*). The NDA government, then, introduced the Coal Mines (Special Provisions) Act, 2015 and took on the task of auctioning and allotting these mines.

TURN TO P36 ►►

Despite past failures, in June 2020, the government put up 41 more mines for auction. Already, the government had auctioned 112 mines between 2015 and 2019

GO, GOING, GONE

How the number of coal blocks marked No-Go were reduced

2010

The Ministry of Environment and Forest (MoEF) and Ministry of Coal (MoC) study and categorises **222 coal blocks as No-Go areas**

2011

The number of No-Go blocks **reduced to 153**

2012

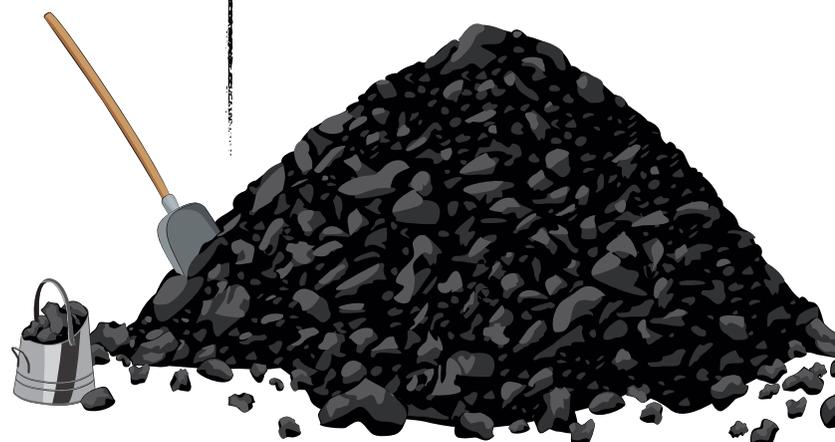
MoEF forms a committee to formulate parameters to identify pristine forest areas where any non-forestry activity would lead to irreversible damage. **The six parameters are: hydrological value, landscape integrity, wildlife value, biological richness, forest type and forest cover**

2014

Government asks Forest Survey of India to undertake a study to analyse **793 coal blocks and classify them as "inviolable" and "not-inviolable"**. FSI creates a GIS-based Decision Support System which uses parameters laid down by the MoEF committee. **FSI submits its report in August, reducing the number of "inviolable" coal blocks to just 35**

2015

In an MoEFCC and MoC meeting, the parameters for identifying areas "inviolable" are further diluted and blocks like **Paturia, Pindrakshi, Kente Extension and Parsa East in Hasdeo-Arand coalfield; Talaipalli in Mand-Raigarh coalfield; and Amelia North in Singrauli coalfield** are taken out of the "inviolable" category



19,614 ha
forestland to go

1.02 million
trees to be axed

10,151 families
to be displaced

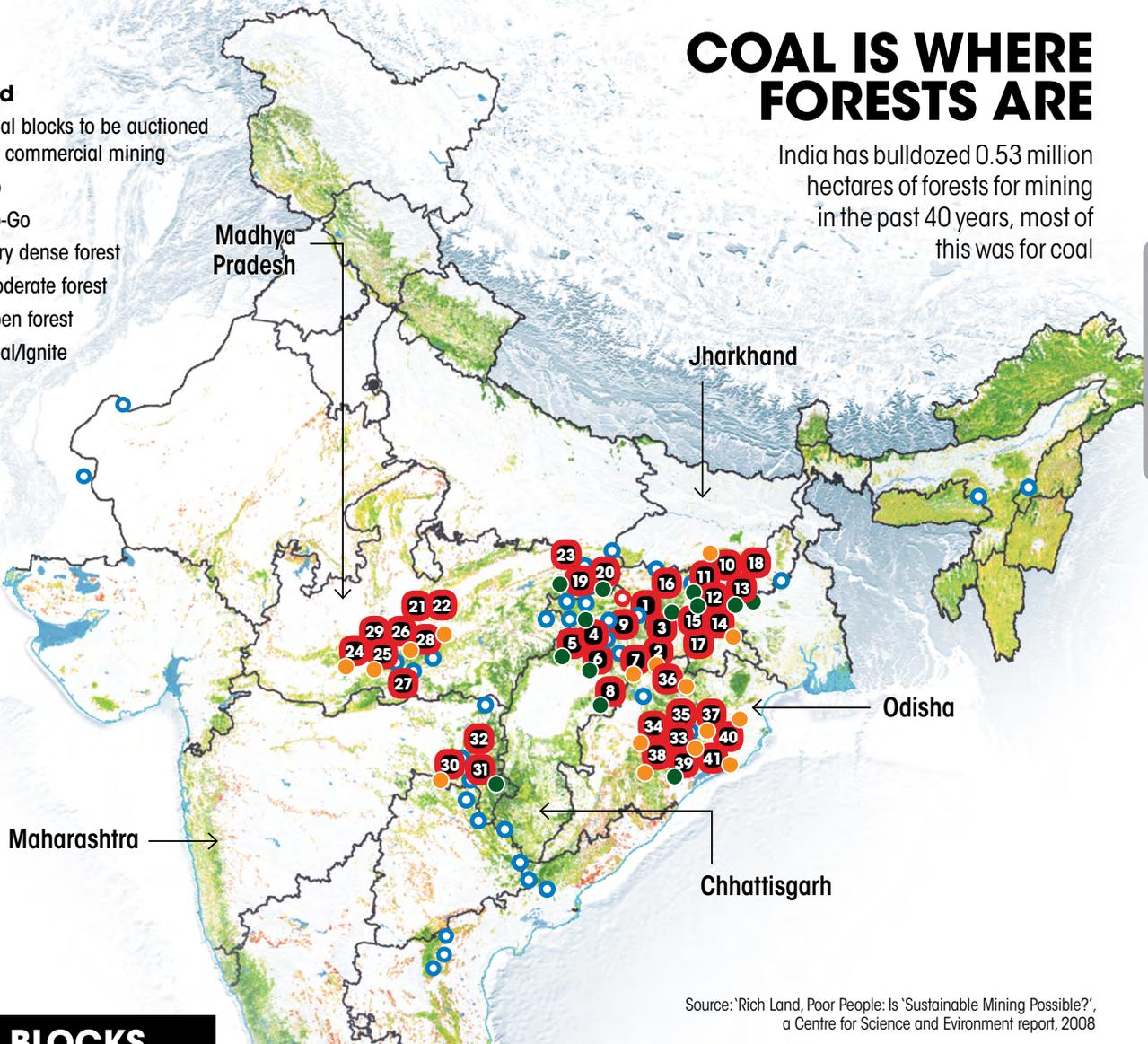
Due to coal projects that received forest clearance between 2015 and 2019

COAL IS WHERE FORESTS ARE

India has bulldozed 0.53 million hectares of forests for mining in the past 40 years, most of this was for coal

Legend

- Coal blocks to be auctioned for commercial mining
- Go
- No-Go
- Very dense forest
- Moderate forest
- Open forest
- Coal/Ignite



GRAPHICS: SANJIT / CSE

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Source: 'Rich Land, Poor People: Is 'Sustainable Mining Possible?', a Centre for Science and Environment report, 2008

41 BLOCKS PUT UP FOR AUCTION IN JUNE 2020

Chhattisgarh

1. Fatehpur East
2. Gare Palma-IV/1
3. Gare Palma-IV/7
4. Madanpur (North)
5. Morga-II
6. Morga South
7. Sayang Block
8. Shankarpur Bhatgaon-II Extn
9. Sondhia

Jharkhand

10. Brahmadiha
11. Chakla
12. CHITARPUR
13. Choritand Tiliaya
14. Gondulpara
15. North Dhadu
16. Rajhara North
17. Seregarha
18. Urma Paharitola

Madhya Pradesh

19. Bandha
20. Dhirauli
21. Gotitoria east

22. Gotitoria west

23. Marki Barka
24. Marwatola Sector VI & VII combined block
25. Sahapur East
26. Sahapur West
27. Thesgora-b/Rudrapuri
28. Urtan
29. Urtan Borth

Maharashtra

30. Bander (removed from auction list on June 30, 2020)
31. Marki-Mangli-II
32. Takli-Jena-Bellora (North) &

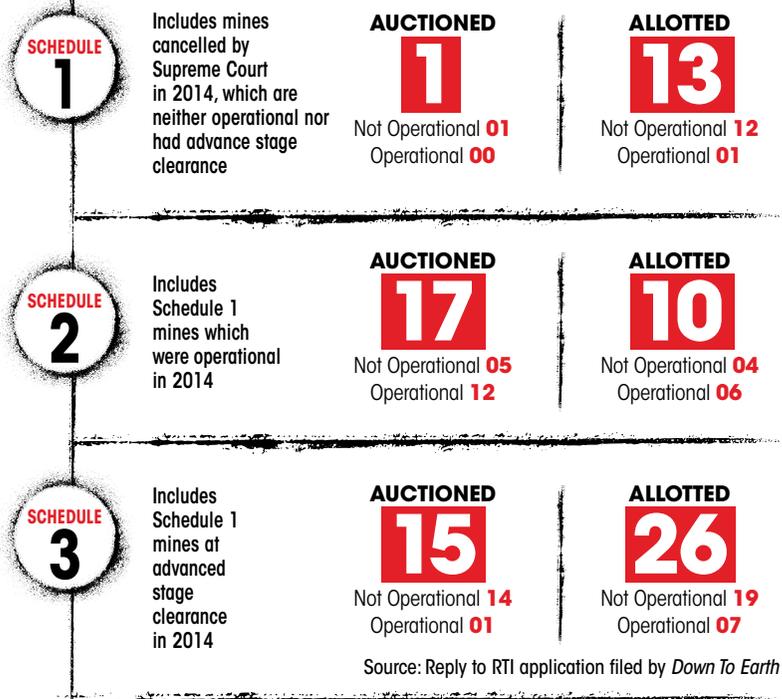
Takli-Jena-Bellora (South)

Odisha

33. Brahmanbil-Kardabahal combined
34. Chhendipada
35. Chhendipada-II
36. Kuraloi A North
37. Machhakata
38. Mahanadi
39. Phuljhari (East & West)
40. Radhikapur (East)
41. Radhikapur (West)

UNUSED DEPOSITS

Since 2015, government has allotted/auctioned mines under three Schedules of Coal Mines Act, most are not operating



As many as 33 mines were auctioned to private players and 49 were allotted to PSUs, reveals MOC in its reply to a Right To Information (RTI) application filed by *Down To Earth* (DTE). However, the ministry says, only 13 private and 14 public sector mines are operating currently (see 'Unused deposits'). This means 55, or around 67 per cent, of the mines auctioned are not operational due to reasons as varied as the absence of statutory forest clearance to high cost and management issues.

Since 2015, the government has auctioned another nine mines whose status of operations is not in public domain. The only information available is from the minutes of a meeting held in 2015 by the Forest Advisory Committee (FAC)—the rather “faceless” body that assesses and recommends forest clearances. Though it gives no detail on mining lease, mining plans and if the mines are operational, it

shows that since 2015, a total of 49 coal mining projects have been given either Stage I (24 mines) or Stage II (25 mines) clearance for diversion of forests (see 'Blocks cleared for mining', p40 and 41). Of these 49 projects, nine are in the original No-Go areas. Under Stage I, clearance is granted but the user agency or the private company has to pay the Net Present Value and meet conditions under the settlement of rights of local communities. Under Stage II, the final permission for diversion of forestland is granted and the user agency or company has to do compensatory afforestation within a year.

The 49 coal projects cleared will cause diversion—the innocuous sounding word for forest destruction—of 19,614 hectares (ha) forestland, felling of 1.02 million trees and eviction of 10,151 families as per government's own records.

FORESTS ALWAYS THE COLLATERAL FOR COAL

It is tragic that coal and other minerals are found where the richest and densest forests exist (see 'Who is the coal meant for?' p50). Modern cartography shows forests are where India's major rivers originate and wild animals roam. These are also the lands where tribal communities live (Schedule V areas, as defined in the Constitution). The resource curse is that these lands are devastated because of mining and the people who live there are among the poorest.

Over the past 40 years, since the enforcement of the Forest (Conservation) Act (FCA), 1980, which requires clearance by the Centre on all forests diverted for non-forest purposes, India has dug up 0.53 million ha forestland for mining. A bulk of this is for coal. This data, from the government's [egreenwatch](#) portal, shows over a third of the forests diverted were for coal and other minerals.

Between 2007 and 2011—the 11th Five-Year Plan period with UPA government at the Centre—some 0.2 million ha forestland was diverted. Of this, coal took 26,000 ha.

Much of this diversion was for the mines that were first allotted by the UPA government, then cancelled by the Supreme Court in 2014, and now auctioned by the NDA government. The country has already paid a huge price for its minerals in terms of forest wealth. The question now is: why should more forests go under the hammer and chisel?

The problem is partly because the government cannot do much about its own Coal India Limited, which holds most of the coal reserves. According to estimates by Delhi-based non-profit Centre for Science and Environment (CSE), this PSU produces more than 80 per cent of India's domestic coal and controls over 200,000 ha mine lease areas—mainly erstwhile forests. Coal India's estimated reserves are 64 billion tonnes. It produced 700 million tonnes last year. Experts say this is below capacity. So a full-fledged open invitation to private miners comes as the only option!

This is nothing but salami tactics. The

land already diverted and destroyed is not optimised first and more forestland is added to the hit-kitty. Much of these forests is of the prized and denser variety, with rich biodiversity. That's why it was protected. Now even this will go.

CUT TO PRESENT: 12 MINES IN NO-GO UP FOR AUCTION

The 41 mines announced for auctioning in June, 2020 include 12 categorised as No-Go in 2010. In Chhattisgarh, for instance, two of the four blocks in Mand-Raigarh coalfield and all three blocks in the Hasdeo-Arand coalfield were No-Go. In Jharkhand, three of the five blocks in the North Karanpur coalfield were marked No-Go. In Madhya Pradesh, two of the three blocks in the Singrauli coalfield were categorised as No-Go. One block each in Talcher coalfield of Odisha and Wardha Valley in Maharashtra also belong to this category. In fact, the government has been eyeing these coal blocks for a long time.

Prime Minister Narendra Modi addresses people through video-conferencing at the launch of the auction process of coal blocks for commercial mining

▼



Salami tactics in Hasdeo-Arand: This is a highly biodiverse and ecologically fragile forest in Korba, Surguja and Surajpur districts of Chhattisgarh. Thousands of sal, mahua and tendu trees abound this largest contiguous stretch of forest of the country. It is spread over 170,000 ha and is a watershed of the Hasdeo-Bango reservoir and the Hasdeo river, a tributary of the Mahanadi. It is also part of an elephant corridor that stretches up to Gumla district in Jharkhand. An area completely off limits is now steadily opening up for coal mining.

Between 1993 and 2011—the period when allotments began and when a case was filed in the Supreme Court against mining—MOC gave away 17 of the 20 coal blocks in the region for mining. MOC had allotted 218 coal mines to PSUs and private players for captive use in cement, sponge iron and other industries soon after the Coal Mines (Nationalisation) Act, 1973 was amended in 1993. When the Supreme

Since 2015, 33 mines have been auctioned to private players and 46 to PSUs. But only 13 private and 14 PSUs are currently operating their mines. This means 55, or around 67 per cent of the mines auctioned, are not operational

Court, in its 2014 judgement, cancelled 204 leases, 15 of the 17 leases granted in Hasdeo were also cancelled. The 2010 Go-No-Go list prepared by MOEF and MOC while the apex court was still hearing the case, had declared all the 20 coal blocks in Hasdeo-Arand No-Go.

The list was revised in 2011. The number of No-Go blocks was reduced to 153. But Hasdeo-Arand was not included as Go area. Saved for now, but not for ever.

In creating the Go and No-Go list, while MOEF prioritised forest conservation, MOC's concern was coal production. The list was contentious, and not acceptable to MOC. In 2012, another committee was set up under MOEF to formulate the parameters for identifying "inviolable" forest areas. The committee identified six parameters for this. Dehradun-based Forest Survey of India (FSI) was roped in to identify inviolable areas using the parameters set by the committee. By 2014, the No-Go blocks were reduced to a mere 35 from the 222 identified just four years back.

This time, Hasdeo-Arand was hit. FSI whittled down its inviolable status. Of the total 20 blocks, only eight in Hasdeo were categorised as No-Go, or inviolable. In 2018, Parsa East and Parsa blocks were allotted to Rajasthan Rajya Vidyut Utpadan Nigam Limited. Paturia and Kente Extension blocks went to Chhattisgarh State Power Generation Company Limited in 2015. The PSUs have now worked out an arrangement, called Mine Developer and Operator (see 'Entry, even if backdoor', p43), which gives Gujarat-based M/s Adani Limited powers to work on these mines.

Destruction of the pristine forests did not stop at this. The June 2020 list of blocks for auction includes Morga South, one of the last remaining blocks of Hasdeo-Arand. It has 97 per cent forest cover and was never allotted or auctioned before. The rich forests of Hasdeo-Arand are fast dwindling even as the neighbouring Mand-Raigarh coalfield has as many as 48 Go

RESPONSE TO RTI FILED BY DOWN TO EARTH

F. NO . 505/1/2018-NA
Government Of India
Ministry Of Coal
O/o Nominated Authority

R.No 120, 'F' Wing, Shastri Bhawan,
New Delhi, Dated-14.7.2020

To,
Shri Ishan
New Delhi-110065

Subject: Reply to RTI Application MCOAL/R/E/20/00152 dated 07/07/2020

I am to refer your RTI application MCOAL/R/E/20/00152 dated 07/07/2020 regarding coal mines auctioned and allotted and their operational status.. Point wise reply to your sought after information is given below:

1-4. Please see the enclosure (Annexure-1)

5. Jitendra Kumar, CPIO, O/o Nominated Authority, Ministry of Coal

In case you are not satisfied with the reply, you may appeal to first Appellate Authority whose detail is being given below:
Shri Ajitesh Kumar, Deputy Secretary to Government of India, R.N.120,F Wing, Shastri Bhawan, New Delhi -110001

Jitendra Kumar 14.7.20
(Jitendra Kumar)
CPIO

O/o Nominated Authority,
PhNo :- 011-23384108

Forest clearance is all about saying 'Yes'

Down To Earth has accessed minutes of a meeting held between the environment and coal ministries on November 17, 2015. It shows how coal ministry officials were "deputed" in the Forest Survey of India to reassess inviolate forest areas and then dilute parameters for their assessment. The minutes say:

■ Of the 216 partly inviolate blocks affected by hydrological layer, 58 are already under mining; forest clearance was approved for these. Mining in these blocks need to be continued by taking them out of inviolate status. Boundary modification is feasible in 113 coal blocks so they can come out of inviolate category after re-drawn boundaries. In case of 45 coal blocks boundary modification is not feasible.

■ 73 coal blocks fall under inviolate category, of which: 12 are already under mining and forest clearance was accorded to these, so they should be kept out of inviolate category; 49 are affected by Decision Rule-I (29 blocks due to very dense forest only); 6 are affected by Decision Rule-II; 6, allotted earlier by the Ministry of Coal after reconciling

the position from the Ministry of Environment, Forest and Climate Change, now fall under inviolate category which need to be taken out of inviolate list. These blocks are: Paturia in Hasdeo-Arand; Pindrakshi in Hasdeo-Arand; Kente Extension in Hasdeo-Arand; Parsa East in Hasdeo-Arand; Talaipalli in Mand-Raigarh; and Amelia North in Singrauli.

■ Out of 29 coal blocks affected due to very dense forest, over 1 sq km boundary modification in 19 blocks is feasible so that they can be out of inviolate category.

■ While analysing data at Forest Survey of India, it was observed that even fraction of area of very dense forest of contiguous patch falling in the block make the entire block inviolate under Decision Rule-I. Fifteen blocks are affected due to

this parameter, which is to be kept outside the inviolate category.

■ While computing the weighted forest cover, area of open forest x 0.25 + area of moderately dense forest x 0.55 + area of very dense forest x 0.85 have already been taken into account in Decision Rule-II. So, considering the parameter of very dense forest under Decision Rule-I leads to duplicity of parameter. Hence, very dense forest should not be considered in Decision Rule-II.

NOTE: Decision Rule-I includes areas that have very dense forests, protected forests and river catchments, making them inviolate. Decision Rule-II includes areas that are not inviolate as per Decision Rule-I, but have a substantial forest cover, biodiversity and wildlife presence.

blocks, many of which are yet to become operational, even if allotted.

All blocks in Sohagpur up for sale:

This coalfield in Shahdol district of Madhya Pradesh has 110 blocks; 22 of them are in the No-Go areas as per the 2010 list. When the No-Go list was renamed "inviolable list" in 2015, this number was reduced to just one. Marwatola block was retained as inviolate because it is on the corridor for tiger movement between Bandhavgarh and Achanakmar tiger reserves, as identified by the Wildlife Institute of India, Dehradun, in 2014. But the government has now decided to breach even the last

remaining inviolate block in Sohagpur coalfield, and has included Marwatola in the June 2020 auction list.

Allotted mines in Wardha Valley not operating:

Maharashtra had three blocks from two coalfields—Wardha Valley and Bander—up for auction in the 2020 list. Marki Mangli-II coal block in Wardha Valley was earlier identified as No-Go. Interestingly, of the 82 blocks allotted/auctioned between 2015 and 2019, there were 10 blocks from Wardha Valley, all from Go areas. Of these, eight are not operational. Marki Mangli-III, adjoining the block up for auction this time, is not yet operational. Bander was removed from

the auction list on July 21, 2020 after the chief minister objected to the area being in the wildlife corridor and asked the ministry for the removal.

In Chhattisgarh, state environment minister Mohammad Akbar said the five blocks slated to be auctioned were ecologically fragile. "In view of the number of elephants in Chhattisgarh and the occurrence of human-elephant conflicts, it has been agreed that 1,995 sq km adjacent to Hasdeo-Aranya will be named Lemru Elephant Reserve," Akbar said in a press statement. Responding to this, Union Coal Minister Pralhad Joshi said in July-end the five blocks will be replaced by three other blocks. However, there has been no official notification in this regard. Jharkhand, too, has opposed the auctions and moved Supreme Court seeking a postponement due to the COVID-19 pandemic. But the government has not removed these from the list.

ABSENCE OF DATA WORKS WELL TO CLEAR PROJECTS

By 2015, MOC and MOEFCC seem to have completed the salami operation. Minutes of a meeting they held to examine the feasibility of excluding very dense forests from mining reveal how they worked to reverse decisions to protect forests. Coal ministry officers were "deputed" to work directly with FSI and decisions were taken to remove coal blocks from inviolate category (see 'Forest clearance is all about saying Yes', p39). The government had also more or less junked the concept of Go and No-Go. Now, it goes strictly by the procedures laid down under FCA.

This Act states diversion of forest for non-forest purposes must be scrutinised and cleared by FAC on a case-to-case basis. To improve decision-making, forest area to be diverted is divided in 1 km x 1 km grid and fed into FSI's GIS-based Decision Support System (DSS) software. "The forest area to be diverted is analysed using DSS. The software has inbuilt layers which take care of parameters like forest cover,

Blocks cleared for mining

Since 2015, as many as 49 coal blocks have got forest clearance. Nine of these are in No-Go areas

✓ Approved ✓ Approved/Stage I

2015	COMPANY	COAL BLOCK	AREA (in hectares)	
	SCCL	Kothagudem, Telangana	124.96	✓
	ECL	Raniganj, West Bengal	78	✓
	NLC	Bikaner, Rajasthan	52	✓
	SECL	Shahdol, Madhya Pradesh	167	✓ GO
	OIPL (prospecting)	Sundergarh, Odisha	2	✓ NO GO
	WCL	Chandrapur, Maharashtra	121	✓
	SCCL	Khammam, Telangana	776	✓
	MCL	Sundargarh, Odisha	88	✓ GO
	NCL	Singrauli, Madhya Pradesh	424	✓ NO GO

2016

SECL	Balrampur, Chhattisgarh	75	✓	NO GO
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2017

MCL	Angul, Odisha	240	✓	GO
MCL	Jharsuguda, Odisha	25	✓	
SECL	Surajpur, Chhattisgarh	208	✓	
SECL	Korba, Chhattisgarh	112	✓	
SECL	Shahdol, Madhya Pradesh	77	✓	GO
WCL	Chhindwara, Madhya Pradesh	54	✓	GO
WCL	Chhindwara, Madhya Pradesh	386	✓	
SECL	Balrampur and Surajpur, Chhattisgarh	126	✓	

2018

RVUNL	Korba, Chhattisgarh	1,898	✓	NO GO
NCL	Singrauli, Madhya Pradesh	468	✓	
WCL	Chandrapur, Maharashtra	37	✓	GO
WCL	Chandrapur, Maharashtra	193	✓	GO
CCL	Bokaro, Jharkhand	226	✓	
ECL	Deoghar, Jharkhand	124	✓	

2018	COMPANY	COAL BLOCK	AREA (in hectares)	
	WCL	Chandrapur, Maharashtra	46 ✓	
	WCL	Betul, Madhya Pradesh	201 ✓	
	SECL	Korba, Chhattisgarh	403 ✓	
	NLC	Jharsuguda, Odisha	1,038 ✓	NO GO
	SCCL	Khammam, Telangana	285 ✓	
	WBPDCCL	Birbhum, West Bengal	101 ✓	
	Tata Steel Ltd	Hazaribagh, Jharkhand	250 ✓	GO
	WCL	Betul, Madhya Pradesh	108 ✓	
	SCCL	Mancherial, Telangana	104 ✓	
	SCCL	Vikarabad, Telangana	4,902 ✓	
	THDC Limited	Singrauli, Madhya Pradesh	1,283 ✓	NO GO
	NCL	Singrauli, Madhya Pradesh	874 ✓	NO GO
	NCL	Singrauli, Madhya Pradesh	1,195 ✓	GO
	SCCL	Mancherial, Telangana	178 ✓	

2019

	RVUNL	Korba, Chhattisgarh	842 ✓	NO GO
	SECL	Surguja, Chhattisgarh	93 ✓	NO GO
	Hindalco	Hazaribagh, Jharkhand	158 ✓	GO
	NTPC	Hazaribagh, Jharkhand	243 ✓	GO
	MCL	Jharsuguda, Odisha	230 ✓	
	DVC	Latehar, Jharkhand	162 ✓	
	WCL	Betul, Madhya Pradesh	101 ✓	
	NECL	Tinsukia, Assam	98 ✓	
	CCL	Hazaribagh, Jharkhand	34 ✓	
	NCL	Singrauli, Madhya Pradesh	467 ✓	

2020

	NALCO	Angul, Odisha	137 ✓	GO
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SCCL: Singareni Collieries Company Limited
 ECL: Eastern Coalfields Limited
 NLC: Neyveli Lignite Corporation
 SECL: South Eastern Coalfields Limited
 OIPL: Orissa Integrated Power Limited
 WCL: Western Coalfields Limited
 MCL: Mahanadi Coalfields Limited
 NCL: Northern Coalfields Limited
 RVUNL: Rajasthan Rajya Vidyut Utpadan Nigam Limited
 CCL: Central Coalfields Limited
 WBPDCCL: West Bengal Power Development Corporation Limited
 NTPC: National Thermal Power Corporation Limited
 DVC: Damodar Valley Corporation
 NECL: North Eastern Coalfields Limited
 NALCO: National Aluminium

✓ Approved ✓ Approved/Stage I

Source: Forest Advisory Committee minutes of meeting from 2015 to 2020

biodiversity richness and landscape integrity. Once the forest area in the form of a polygon is fed into the software, whether it is inviolate or not is shown by the software,” says Subhash Ashutosh, director general of FSI.

DSS automatically considers an area inviolate if it falls within a protected area (national park or wildlife sanctuary); has very dense forest within a km; has a patch of forest type whose geographical area in the entire country is less than 50 sq km; is in direct catchment of water sources for local community or hydropower project; and is located 250 m from the banks of a perennial river, wetland of more than 10 ha. This criteria is called Decision Rule-I.

If the area is not inviolate based on these criteria, the software assigns it a score based on six parameters: forest cover, forest type, biological richness, wildlife value, landscape integrity and hydrological value. The score is higher for areas with rich biodiversity. For example, for wildlife value, areas which are not protected but have breeding or habitation sites for rare or endangered species, are assigned a score of 95. But areas that are not protected and have occasional wildlife presence are assigned a score of 25. If more than 50 per cent of the grids have a score of more than 70, the area is considered inviolate, otherwise not. This is Decision Rule-II.

It is another matter that this perfect grid-score rarely happens. This computer-perfect system needs spatial and disaggregated data on biodiversity; tree-density and type as well as other values of forests. Currently, we do not have this.

The main data available—which is often missing—is the boundaries of the protected area or the crown density as seen from the satellite. This is why every time there is a proposal to divert forests, the forest guard is asked to physically count the trees and their girth. So, a perfect system is made completely imperfect due to lack of data. But it works well for all purposes as this computational



system allows for decisions to be taken to clear the project.

Take the case of DSS result of the Kalaparnat Iron and Manganese mine in Keonjhar, Odisha. Records of the December 23, 2016 meeting show that details for hydrology or categories of forests—very dense, last remnant and protected—were not provided. So the mine was cleared. This, despite the site inspection report by the conservator of forests specifying that the area, besides being a virgin sal forest, has leopards, bears, elephants, barking deer, hyena and porcupine.

There are other ways, too, to circumvent the process, all within the law. On September 20, 2018, FAC, while deciding on the diversion of 283.570 ha forestland for mining in Amelia Coal Block by M/s THDC (earlier Tehri Hydro Development Corporation), in Singrauli district of

Western Coalfields Ltd has acquired forest clearance to mine about 200 hectares of pristine forests in Chandrapur district of Maharashtra

Madhya Pradesh decided to “tweak”, but all so gently, the result of the DSS software.

The DSS analysis showed that around 51 per cent of the coal block was on inviolate forestland. This should have made the entire area inviolate, and so the mine should have been rejected. However, FAC decided to “solve” the problem by recommending that eight grids with a score of more than 70 be removed from the proposal. This turned the area from inviolate to violate.

The list goes on. But the fact is that forest clearance is no longer a hurdle for miners. The system has been designed to be flexible so as to accommodate the country’s economic imperatives. It works; it grants permission. The question, then, is why the mines already sliced away in this salami operation, are not being utilised. Why more mines? Why more forests?

Entry, even if backdoor

Private companies are already “in” the coal mining business

WHEN THE Supreme Court cancelled 204 coal blocks already allotted to different parties, one key reason it cited was the entry of private players through unlawful means. In its order, the three-judge bench, comprising Justices R M Lodha, Madan B Lokur and Kurian Joseph, said that state public sector undertakings were allowed to form joint ventures on the 51:49 shareholding formula with

The business of Mine Developer and Operator is set to grow, says a KPMG report
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private companies. However, in the joint venture agreements mining operations have been given to private companies. “This modus operandi has virtually defeated the legislative policy in the CMN Act {Coal Mines (Nationalisation) Act, 1973} and winning and mining of coal mines has resultantly gone in the hands of private companies for commercial use.”

But six years later, has the backdoor entry of private players stopped? After



the controversy, the government set the terms for giving mines to companies, the end-users of coal, through the Coal Mines (Special Provision) Act, 2015. As per the law, these private players, which require captive production of fuel, would secure the mine through the auction route while the government may allot coal mines to public sector companies.

Since then, the government has done a lot to make “black gold” attractive. In 2019, it allowed coal miners to sell 25 per cent of their production in the open market. This has now been increased to 100 per cent. The government has extended the period to get clearances and start production. It has clearly paved the way for diversion of forests. Yet, private players have not found coal mines worth their while to bid for. If they did and won the auction, they did not start mining. The coal ministry data shows this.

So now, more is being done to “open up” this sector. As per the 2020 auction, there is no restriction on who can bid to mine and who they can sell coal to. Even the price is not mandated. The government is hopeful that coal mining will pick up pace this time.

But the fact is that the private sector has its hands deep inside coal. State governments gave 75 per cent of the coal blocks to PSUs through the allotment route. The rest have gone to Central PSUs like NALCO and SAIL. The state PSUs—Rajasthan Rajya Vidyut Utpadan Nigam Limited, Chhattisgarh State Power Generation Company Limited, Punjab State Power Corporation Limited, and West Bengal Power Development Corporation Limited—have little or no expertise in mining. With this emerged the entity called Mine Developer and Operator, or MDO. An MDO is a shadow for a PSU with zero mining skills and undertakes all mining work on its behalf. Gujarat-based Adani Enterprises Limited declares on its website that it is “India’s first private company that pioneered the business of MDO.”

Mine Developer and Operators secure clearance, ensure mine access and physical possession of land, implement rehabilitation and resettlement, handle equipment, maintain and produce coal. These companies have accessed mines in several eco-sensitive areas without going through the auction process

HOW MDO OPERATES

MDO is not just a mining contractor but takes full responsibility of the mine. It secures clearances, ensures mine access and physical possession of land, implements rehabilitation and resettlement, handles equipment, maintains the mines and produces coal. It can engage in everything that a mine owner can. It invests in mine development and then supplies coal to power companies at a pre-determined price. The power company, which originally had the mine’s lease, now pays for its own coal mined by MDO.

This business is set to flourish, says consultancy firm KPMG in its 2019 report “Contractors in the Coal Mining Market”. It estimates the current MDO market to be 150 million tonnes per annum, which is expected to grow to 250 million tonnes per annum soon. This translates to ₹15,000 to ₹20,000 crore in the market, the report says.

Several private players have taken the MDO route to enter this business. The prominent MDOs are Adani Mining (a branch of Adani Enterprises), Aditya Birla Group’s Essel Mining (EMIL) and Gurugram headquartered Sainik Mining (SMASL), which says it works for CIL. Interestingly, EMIL admits on its website that the company is not allowed merchant mining in India due to policy restrictions and MDO is the only available route to enter the sector.

“There is no mention of MDOs in the Coal Mines (Special Provision) Act, 2015. Also, there is little transparency about the terms and conditions through which these private companies get control of coal mines given to PSUs,” says Alok Shukla of Chhattisgarh Bachao Andolan (CBA). The non-profit has filed at least 34 applications under the Right To Information Act to procure details of agreement between PSUs and mining companies. Chhattisgarh Rajya Vidyut Nigam Limited (CRVNL) even went to court when CBA sought information on the agreement between CRVNL and Gare Pelma III Collieries Ltd, a subsidiary of



Adani Enterprises Ltd.

But the exact scale of operation of MDOs in coal mining is barely known. Reply to an RTI application filed by CBA in 2019 says there are 15 such agreements. After the RTI response, two more blocks were given to Adani Enterprises, claims Priyanshu Gupta, an IIM-Kolkata researcher who has been studying property rights and resource governance in Chhattisgarh for more than six years. The KPMG report says MDOs were given 17 blocks but there is no official confirmation. It's a black business, and we are not only talking about coal.

Down To Earth found that all MDOs mentioned in the KPMG report have accessed mines in several ecologically sensitive areas. EMIL, which claims to be the country's largest MDO, currently operates two projects—Bhubaneswari coal mine and Rajmahal coal mine—through its subsidiaries Bhubaneswari Coal Mining Limited (BCML) in Odisha and Rajmahal Coal Mining Limited (RCML) in Jharkhand. Rajmahal coal mines of Eastern Coalfields Ltd is located in Godda

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On October 2, 2014, more than 700 residents of Gare village in Chhattisgarh collected coal from an open mine and held a protest march to assert community rights over natural resources and resist land acquisition by mining giants

district of Jharkhand. The company claims to have bagged Madanpur South coal block also which was allocated to the Andhra Pradesh Mining Development Corporation in September 2016 for commercial mining. Madanpur South is in Hasdeo-Arand No-Go/inviolable area.

Adani Mining has six coal blocks through MDO route, replies to CBA's RTI applications have revealed. But the company claims on its website that it has nine such projects. Mining has started only in two. The list of coal mines where Adani Enterprises has entered through MDO route include Parsa East, Kanta Basan and Parsa, all in biodiversity-rich Hasdeo-Arand area in Chhattisgarh. It also controls Talabira-II and Talabira-III in Odisha, which fall in ecologically sensitive zones.

All other MDOs work similarly—they dig coal from mines allotted to PSUs and sell it back to them. But the point is: when private players are already thriving in the mining business, why push them further?

Coal is king, but for how long?

Use of coal in industry is already constrained due to several factors, from energy surplus to pollution

COAL IS still India's leading source of power and will remain so for a long time to come. The question is: does the country need even more coal, and if yes, why?

The Centre has announced it would mine coal even to export. On June 18, Prime Minister Narendra Modi rallied the industry asking why India, with the world's second largest coal reserves, should not become the world's biggest coal exporter. But when the world is working hard to move away from coal, indicted as the biggest cause for greenhouse gas emissions, India's decision seems rather unrealistic. The US, which has already found shale gas, has massive coal reserves that it would

like to dump on the world. Also, India's coal is considered low quality, with high ash content and low calorific value.

Currently, over 70 per cent of the coal used in India goes into generating power by thermal and captive power plants. Utility-based coal power plants consumed 608 million tonnes of coal in 2018, of which 62 million tonnes, or 10 per cent, was imported. Captive power used another 92 million tonnes. So, of the total consumption of 968 million tonnes in 2018-19, power generation consumed 697 million tonnes. Cement, steel and the sponge iron segment are the next big coal consumers (see 'Coal share', p48).

Coal-based power accounts for 77 per cent of the country's electricity generation.

Fly ash from Obra power plant in Chopan block of Sonebhadra district in Uttar Pradesh flows into the Renu river
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But it is quite clear that despite coal's tremendous use in the energy sector, changes are afoot. First, solar and wind energy are competing aggressively with coal. In the past few years, the country has witnessed situations when coal power has been asked to ramp down, even shut down, due to surplus power boosted by renewable energy. Second, India is a power surplus country. The Central Electricity Authority (CEA) admits that power plants are stressed because they are forced to work under-capacity. It is also well understood that power plants that work below capacity end up polluting more. Third, coal plants have to now shift to cleaner technology which will add to cost and shut down because of non-compliance. Power plants have to adhere to the stringent emission standards set in 2015. But many of them are expected to be non-compliant even with the deadline of meeting the standards extended to 2022. With the Supreme Court monitoring the implementation, power plants are under pressure.

As a result, while new thermal power plants are certainly coming up, their growth rate has drastically slowed—against the 15,000-20,000 MW that was being added each year till 2017, India is now barely building 5,000-6,000 MW of new thermal power plants annually. And the plants already cleared have not been commissioned yet for different reasons.

The Centre has declared it will phase out older thermal plants—some 10,000 MW has already been shut down or will close soon. These plants are extremely inefficient in the use of coal to generate power. Clearly, power sector's demand for coal in the future will not grow by leaps and bounds.

DOMESTIC V IMPORTED

Why should India use its scarce foreign exchange to import coal when it has huge reserves at home, it is argued. Over the past 10 years, from 2008 to 2018, coal imports have jumped five times. Today, as much as a quarter of the coal used is

WHAT IS COAL GASIFICATION?

Gasification is a process in which coal is blown with oxygen and steam at elevated temperature to produce syngas. This gas primarily comprises carbon monoxide (CO), hydrogen (H₂) and natural gas (CH₄).

The gas is used in industries like fertiliser plants, for urea manufacturing, in methanol plants and in the power sector. To produce urea, natural gas is consumed as a feedstock in fertiliser plants in its steam reforming process to produce ammonia as an intermediate product, which further reacts with carbon dioxide.

The fertiliser industry is currently the biggest consumer of natural gas in India, using 42 to 44 million metric standard cubic metre per day, which is about 30 per cent of the total daily natural gas consumption in the country. The country's domestic supply can meet only 19 to 24 million metric standard cubic metre per day. The rest is imported as re-gasified liquefied natural gas. The fertiliser industry has to compete with power production and other industrial sectors for the allocation of gas, shows 'Grain by grain', a 2019 report by Delhi-based non-profit Centre for Science and Environment. Therefore, in order to reduce dependence of the fertiliser sector on gas imports, the government is encouraging coal gasification in the sector.

Through the current auction, the government is providing incentives to bidders that will use at least 10 per cent of its annual coal production in producing gas from coal which can displace the use of costly imported gas.

However, experts say coal gasification is not a clean process and is highly carbon intensive. It produces more CO₂ than a normal coal-based plant and is also a water-intensive process. The technology has also not been very successful on ground so far.

imported, and it has gone up in the past two years. In 2019, of the 900 million tonnes of coal consumed, 250 million tonnes was imported. Indonesia and South Africa remain the biggest exporters of coal to India with the US inching up. In 2018-19, some 15 million tonnes, or 6 per cent of India's imports, were from the US. Australia supplies the more advanced and better quality metallurgical coal used in the steel industry.

Import of coal is under the Open General Licence (OGL), which means private parties can buy it directly from coal miners in, say, Indonesia and have it shipped to ports and then to their units, just like the Amazon home delivery service. This, against the government-controlled Coal India Limited with its rules to sell only for certain uses, makes for easy work.

Import of coal can certainly be substituted. It would need taking coal import out of OGL, putting it in the restricted category, and making the domestic market "open" for sale. But here's

Growth rate of new thermal plants has drastically slowed—against 15,000-20,000MW being added each year till 2017, India is barely building 5,000-6,000 MW of new thermal plants annually. This means coal use is expected to increase in industrial sectors, but not as much for generating electricity

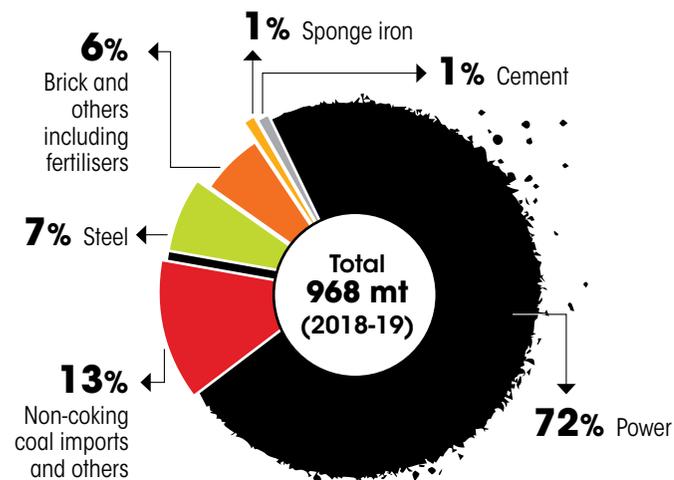
the rider: growing use of coal, imported or domestic, in small, medium and large boilers and furnaces spread across the country, will impact people's health and environment.

Besides, the steel sector needs high quality coking coal, which is scarce in India. The thermal power sector has certain plants designed to operate with coal of a certain grade. Currently some 18,030 MW power plant capacity, which require about 40 million tonnes of coal, cannot do without imported coal. This means limiting imports may get tough on these big users. This, once again, leads to the question: is it worth opening up India's best forest reserves for new coal?

The answer, say government experts, lies in proper assessment of coal usage in the country, which is expected to skyrocket as the economy grows and usage of electricity (currently on a per capita basis this is abysmally low) increases, as it must. NITI Aayog forecasts that India's total coal consumption in 2042 will be 1.78 billion tonnes annually, as against 900 million tonnes today. Interestingly, these projections, do not expect coal-based thermal power plants to consume much more—it will be other sectors, from steel to brick-making that will need much more coal to burn. Government also says it needs more coal, because it will gassify it—turn it into gas, which then can be burnt as fuel. But this route, however, cleaner than burning it in the black form, comes at a huge cost (see 'What is coal gasification', p47).

COAL SHARE

Which sector uses how much



Sources: Annual reports of Ministry of Coal, 2020 and Central Electricity Authority, 2019

ENERGY MIX FOR FUTURE

CEA, in its draft report on optimal generation capacity mix for 2029-2030, puts out an interesting prospect for the future. In 2030, it says, the non-fossil fuel power installed capacity, including hydropower, is expected to be 65 per cent, up from 36 per cent in 2018. Further, on a maximum solar energy day, that is, when the sun is shining and the plant is working at full capacity,



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Large tracts of forests have been razed for mining near Angul district in Odisha

coal-based power generation may need to be curtailed up to 17 per cent, the report says. This curtailment would come at a higher cost: as plants work below capacity, emissions increase.

The situation is already visible. Power plants are working below capacity, but the country has enough energy to meet its energy demand. The supply gap—between power generation and demand—is only 0.8 per cent. Huge capacity creation has led to under-utilisation of coal-based power plants, which, in turn, is adding to their financial stress. CEA data shows that the plant load factor of coal plants was reduced to roughly 61 per cent in 2017-18, from the 79 per cent a decade ago (2007-08).

In this scenario it is, therefore, expected that it will not be the power sector that will drive new growth in coal usage. Rather, industry, from steel to brick-making, instead of basing its fuel requirement on the power sector, will use coal as a fuel in millions of furnaces and boilers. This is not only highly inefficient use of power, but also creates polluting sources where millions of chimneys spew emissions.

To combat deadly and toxic air pollution there are only two big options: reinvent mobility, and change and clean the fuel we use to fire our economy. So

It is expected that it will not be the power sector that will drive new growth in coal usage. Rather, industry, from steel to brick-making, will use coal as fuel in its furnaces and boilers. This is highly inefficient use of power and creates polluting sources where millions of chimneys spew emissions

combustion and dirty fuel like coal remains the biggest contributor to local air pollution. The answer is to first clean the emissions of the coal-based power plants, which are limited in number and so easier to monitor. This is why implementation of the 2015 standards becomes so critical. But as CSE reveals in its 2020 report named “[Coal-based power norms: Where do we stand today?](#)”, 70 per cent of the installed power plant capacity will not meet the 2022 emission deadline. Cleaning power plants also includes shifting to cleaner fuels like natural gas and renewable. But this is still easier.

The use of dirty fuel like coal in the industrial sector is much harder to monitor and control. CSE’s “[Report on assessment of industrial air pollution in Delhi-NCR](#)”, which also came out in 2020, clearly shows how much of the deadly problem is contributed by the usage of coal. The answer here is to shift industrial fuel usage to cleaner fuels or to electricity from centralised power plants, which are clean, or as clean as they can be.

In this strategy, it would seem, India is condemned to remain locked with a dirty fuel, which is toxic for people’s health and a death-knell for our forests. Let us hope this does not happen. [DTE](#) [@down2earthindia](#)

WHO IS THE COAL MEANT FOR?

Subsequent governments have tried every trick in the book to dig out the black gold

'Mining continues in Surguja despite gross violations'

BY SUDIEP SHRIVASTAVA



Parsa East Kete Basan (PEKB) coal block, located in the dense forests of Chhattisgarh's Surguja district, is not only the catchment of the Hasdeo river but is also a major elephant corridor. So on March 24, 2014, the National Green Tribunal (NGT) quashed the forest clearance granted to PEKB and the adjacent Tara coal block in

2011, and asked for a detailed study of the coal blocks and a fresh decision on it.

Challenging the NGT judgement, Rajasthan Rajya Vidyut Utpadan Nigam Limited (RVUNL), which owns PEKB, went to the Supreme Court. On April 28, 2014, the apex court allowed RVUNL to continue mining in PEKB, but did not stay the NGT order which asked for a study and fresh decision. At the Forest Advisory Committee (FAC) meeting held on April 29 and 30, 2014, the committee said it could not order a study since the matter was sub judice. However, FAC took a complete U-turn on January 25, 2018, when the project proponent asked for mining expansion—from 10 million tonnes to 15 million tonnes per annum. This time, it said the case pending in Supreme Court was no hindrance, and concluded that the matter was *fait accompli* because mining was already happening in PEKB. FAC did not consider that till January 2018, only 25 per cent of the forestland was razed.

In fact, FAC had accepted in its January, 2018 meeting that the Wildlife Management Plan was not being implemented. fac also observed that compensatory afforestation had not been implemented there. Also, any change in the production capacity of pekb would also alter its mining plan. These are enough violations to stop mining.

(The author is a Chhattisgarh-based lawyer who fought the case against forest and environment clearances given to PEKB)

'Latest auction violates Constitution, SC judgements'

BY GLADSON DUNGUNG



Exploitation of mineral resources started in the country in 1925 with the Tata Iron and Steel Company Ltd undertaking the first iron ore mining project in Saranda forest of Jharkhand under the development tag. Post-Independence, such extractions accelerated with a new tag—economic growth. The recent announcement to auction 41 coal blocks for commercial mining was made under yet another tag—"Atmanirbhar Bharat", or self-reliant India.

The government hopes the new projects would increase its production capacity and create jobs. But while the job promise is minuscule, the projects will definitely harm the environment, deprive local communities of their rights, and alienate them from their land and sources of living.

Since most coal blocks fall in areas where the Adivasis live, their fear of losing land, traditional habitation and livelihood resource has multiplied. The fear is severe because the government initiated the auctioning without the consent of governors of the Schedule V states, Tribal Advisory Councils and gram sabhas, which is in gross violation of the provisions of Schedule V of the Indian Constitution, the Provisions of the Panchayats (Extension to the Scheduled Areas) Act, 1996, the Forest Rights Act, 2006 and the Supreme Court's Samata Judgement and Niyamgiri Judgement, which legitimise the role of gram sabhas in managing the natural resources in a village. Worse, by allowing felling of forests, the projects will undermine the national forest policy striving to bring a third of the country under forest and tree cover. Accelerating coal production would surely increase India's contribution to the greenhouse gas emissions, and thereby to the climate crisis.

(The author is a Ranchi-based human rights activist)