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ENERGY AND ENVIRONMENT PROGRAMME

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NIAS Policy Brief

Sustainability of Coal Mining in India – Challenges and Way Forward

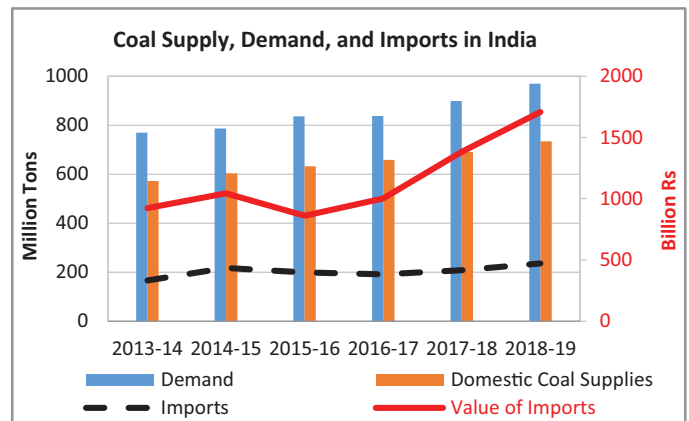
The question

Given the continuing prominence of coal in India's power sector for the next couple of decades, what must be done to ensure that the coal sector incorporates sustainability (social aspects, economic dependencies, and ecological sensitivities) into the mining process right from the planning stage?

The issue

Coal forms the bulwark of India's power sector since it continues to fuel approximately three-fourths of the country's electricity generation in the Fiscal Year 2018-19 (FY 19). India's proven coal reserves are sufficient to meet the country's needs for several decades, even if India can double its current coal production rate of 730 million tons per year. In addition to electricity generation, coal is also a vital input for other core industries like steel and cement, which play a critical role in the country's development. Therefore, the predominance of coal-fired power generation in India will continue for several years to provide energy security and drive economic growth. However, India imported 235 million tons of coal at the cost of more than Rs.1.7 Trillion during FY 19 despite being the World's second-largest coal producer.

While mining operations have positive economic impacts on the local area in terms of infrastructure development and provision of employment and business opportunities, adverse effects of coal mining on the ecology of the local area are



also well known. The changes in the ecosystem of the region are particularly significant in the case of opencast coal mines, which account for approximately 94 percent of the coal produced in India.

Consequent to the adoption of mine closure guidelines by the Ministry of Coal (MOC) in 2009, MOC has approved Mine Closure Plans for 583 coal/lignite mines till March 31, 2019. Of these 583 coal and lignite mines, 237 are opencast coal/lignite mines in operation today. Mine closure plans also form a vital part of the Environmental Impact Assessment (EIA) and Forest Diversion Proposals submitted by the mine owners to the Ministry of Environment, Forest and Climate Change (MOEF&CC) for various clearances.

All mining operations entail a temporary diversion of land for mining and allied activities, after which the mine owner must rehabilitate the mined-out land for beneficial use of the local communities. As per the Mine Closure Guidelines issued by MOC in 2013, *“final mine closure activities will start towards the end of the mine life and continue even after the coal reserves are exhausted to create a self-sustained ecosystem.”* The owner of an opencast coal mine in India must deposit Rs.600,000 per hectare of the total project area on an annual basis (to be escalated using the wholesale price index from August 2009 onwards) into an escrow account which is managed by the Coal Controller. These funds are intended to provide some security to cover the cost of mine closure in case the mine owner fails to complete the approved closure activities.

The findings

The total amount (including accumulated interest) deposited in the 557 Escrow accounts operated by the Coal Controller is only Rs.7552 Crores as on March 31, 2019. After every five years, the Coal Controller reimburses the money spent by the mine owner on progressive mine closure activities from the escrow account, subject to a maximum of 80% of the total deposited amount in the specific escrow account. When a mine owner defaults on his obligations towards final mine closure for any reason, the Government will not be able to utilize the owner’s equipment and personnel. Instead, the Coal Controller would have to hire all resources needed to complete the mine closure successfully. Therefore, in advanced surface coal mining countries like the USA, the bond amount (or BG) deposited by the mine owner is returned in phases only after the mined-out area *“is backfilled and graded to approved final topography and drainage established.”*

Since the identification of mine closure activities and the associated cost estimates in India are only indicative, the mine owner must calculate his escrow account at a flat rate irrespective of the actual cost of mine closure. The practice of releasing up to 80 percent of the Escrow amount after every five years based on progress in these indicative activities may not ensure the availability of adequate funds for final mine closure. In case the funds in a specific Escrow account are inadequate to cover the cost of final mine closure, the owner is bound to provide additional funds to bridge the deficit at least five years before the final mine closure.

The Coal Mines (Special Provisions) Act, 2015, permits the Government of India (GOI) to auction coal mines to the private sector for captive and commercial purposes. GOI has auctioned 24 coal blocks to private companies till March 2019 and will be auctioning coal blocks for commercial mining by both Indian and foreign companies. GOI-controlled public sector companies which produce more than 93 percent of the coal mined in India today may not have any difficulty in meeting their financial obligations related to final mine closure. However, there is a risk that some coal mines operated by private companies or by State Government

entities who outsource their coal mines to private entities may be closed without having the necessary funds to complete mine closure activities as per the approved Mining Plans. As per Section 20A of the Mines and Minerals (Development and Regulation) Act of 2015, GOI is empowered to issue policy directives for *“promoting restoration and reclamation activities to make optimal use of mined-out land for the benefit of the local communities.”* While the decision to open up coal mining is historic, India needs more effective and efficient regulatory governance to streamline approvals while ensuring the adoption of advanced technologies for mining, environment protection, and reclamation. In November 2014, a High-Level Committee (HLC) set up by the MOEF&CC has explained why the *“primary focus of environmental and forest governance in the country needs to be re-aligned through a series of structural and process-oriented changes.”* A dynamic equilibrium between environment conservation and development for inter-generation equity is the need of hour.

The interventions

The ability to successfully rehabilitate mined-out areas has now become so fundamental to the coal industry’s social license to operate. The HLC has also recommended the creation of a National Environment Management Authority (NEMA) including inter alia, a special cell with appropriate expertise to deal with coal mining. Coal is a central subject (under the Entry 54 Union List 1), and GOI itself controls more than 94 percent of the coal produced in India through public sector undertakings. Therefore, GOI must set up an independent, multi-disciplinary Unified Authority on the pattern of the Director-General of Mines Safety (DGMS), which is an expert body with varied scientific and technological expertise required to regulate all matters related to health and safety in the mineral industry. Such an empowered organization must have inhouse professional expertise in the ecological, environmental, geological, mine planning, hydrological, hydrogeological, biodiversity-related, and social aspects of coal mine closure to consider all these facets in an integrated manner before granting the key statutory approvals for coal mines.

GOI must create this independent and multi-disciplinary “Unified Authority” with appropriate capacity and resources under the aegis of the MOEF&CC and empower this Authority to grant all forest/environment clearances for coal mines and also monitor their compliance throughout their operating lives right up to final closure. Once this Authority is set up and functioning smoothly, the role of the MOC in approving Mining Plans for coal mines and the powers of the MOEF&CC to issue Environment/Forest/Wildlife Clearances must be handed over to this Authority. Further, the single window responsibility to grant the Consents currently issued by the State Pollution Control Boards must also be taken over by the proposed Authority. Besides, the role of the Coal Controller in granting the Mine Opening/Closing Permissions, in managing the Escrow Agreements, and in monitoring the implementation of the approved Progressive/Final Mine

Closure Plans must be transferred to this Authority. While this Authority must be empowered to enforce compliance of these clearances by all coal mines in India, it need not be involved in the allotment/grant of coal blocks/mining leases or in regulating the coal market. Any appeal against an order/decision made by this Authority will lie only with the National Green Tribunal.

To achieve the above goals, Parliament must enact a “Sustainable Coal Mining Code” to consolidate all statutory provisions governing environment/forest matters related to coal mines, while preserving the Mines Act which regulates health and safety in all mines. This Code must empower the “Unified Authority” to ensure efficient and effective environmental governance of coal mines in the manner explained above. The Office of Surface Mining Reclamation and Enforcement (OSMRE) in the USA may also be a role model for the proposed Unified Authority. Since its creation through the Federal Surface Coal Mine Reclamation Act in 1977, OSMRE has also ensured that mine owners in the USA operate their opencast coal mines in a manner that protects the local communities and the environment during mining, and then rehabilitate the mined-out land for beneficial use post-mining. OSMRE also ensures these positive outcomes by laying down standards, by transferring its own scientific/technical expertise to the mine owners, and by conducting monthly inspections of all active mining/reclamation areas to ensure compliance. To ensure the financial autonomy of the proposed Unified Authority, GOI must transfer one (1) percent of the cess levied (@ Rs.400/t) on all coal mined or imported in India.

The enactment of the proposed Code and the creation of a Unified Authority will take time. In the meantime, MOC must revise the current mine closure guidelines to lay down procedures to estimate the projected costs of mine closure using an approved scientific methodology on a mine-specific basis, and mandate annual contributions in mine-specific escrow accounts to cover 100 percent of these projected costs. MOC must also review the practice of returning up to 80 percent of the money in the escrow accounts to the mine owner after every five years, even before the final mine closure costs available. The Coal Controller must organize a drive to geo-reference the boundaries of all mining leases as well as the forests and streams in and around these mining leases to enable the use of modern surveillance tools like drones, remote sensing, and GIS for monitoring statutory compliance in the coal mining sector in an efficient, effective, and transparent manner.

The proposed Unified Authority for coal mining can ensure effective compliance with all statutes related to mining, environment, and forest in coal mines by using the aforesaid modern surveillance tools in conjunction with quarterly inspections of each opencast coal mine. This Authority will also facilitate job creation and contribute to a reduction in coal imports by ensuring “ease of doing business” without compromising on forest and environment compliances. Ultimately, this will contribute to the realization of India’s Sustainable Development Goals and facilitate both energy security and sustainability for India during the ongoing energy transition.



**National Institute of Advanced Studies
Indian Institute of Science Campus Bengaluru 560012**

Tel : +91 80 22185000

Fax : +91 80 22185028

Email : director@nias.res.in ; publications@nias.res.in

Website : www.nias.res.in

Facebook : [https:// www.facebook.com/NIASbangalore/](https://www.facebook.com/NIASbangalore/)

Twitter : https://twitter.com/NIAS_India



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