

# Exploring options for the Indian coal sector

*Background paper for the round-table discussion*

*Organized by Prayas (Energy Group) in association with Centre for Policy Research*

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## 1. Background

Coal is a critical element of India's energy basket, supplying over half the primary commercial energy of the country. It is likely to play an important role in the Indian energy sector for the near to medium term, in spite of increasing concerns about climate change. Coal is also important to India from energy security and energy access perspectives, as official data suggests that India has plentiful reserves of coal and domestic coal is likely to be the cheapest reliable source for electricity generation at least for the near future. Therefore, a healthy, well-managed and responsible coal sector is critical to India's energy and economic future.

However, the coal sector has faced a hard time recently. Power plants have reported severe shortages in their coal stocks, coal imports have been rising, the Supreme Court recently cancelled allocation of all captive blocks issued since 1993, the Government of India subsequently issued an ordinance to begin auctioning of the cancelled blocks and there is a possibility of introducing commercial coal mining in the future. Ambiguity in the coal linkage policy led to different policy interpretations resulting in a lot of litigation regarding power tariffs. The Competition Commission of India (CCI) has held Coal India Limited (CIL) guilty of abuse of its dominant position in a series of judgements. Given this background, the Indian coal sector is poised to undergo some significant changes in the near future.

What should the contours of these changes be? What are the various factors that should be considered by any proposed change? How will the different options address or impact the various factors? What should be the process by which changes to the sector are introduced, and how can one ensure that these changes would be robust? The roundtable discussion to be held on December 1, 2014 in Delhi will discuss and debate such questions among interested stakeholders. The intention is to look beyond the immediate need to bid out the blocks whose allocation was cancelled by the Supreme Court, and to consider ways and means of progressing towards a healthy coal sector in future.

This note provides a background to the roundtable and raises some questions for consideration by the expert speakers and participants at the roundtable. It is expected that the deliberations at the roundtable will help to develop, if not a complete consensus on the way forward, at least a better understanding about the trade-offs between different possible ways forward for the coal sector.

## 2. Context

In 2013-14, India produced 566 million tons (MT) of coal, which was 39 MT short of the target for the year (Ministry of Coal, 2014). Of this, 462 MT was produced by CIL whose production shortfall for the year was 19.5 MT. Captive coal blocks – whose allocation was recently cancelled by the Supreme Court – were supposed to produce 50 MT in 2013-14, but produced only about 39 MT, indicating that the

captive block allocation policy has not delivered the expected results. India imported 167 MT of coal in 2013-14 worth about Rs. 92,300 crores, up from 59 MT and about Rs. 41,300 crores in 2009-10, which represents an annual increase of 23% and 17% in quantity and value of coal imports respectively<sup>1</sup>.

Increasing coal imports have not only affected the country's trade deficit and energy security, but also resulted in an increase in power generation costs. In turn, this has led to some contractual disputes about who will bear the increased the cost of power generation, due to ambiguities in policies such as the New Coal Distribution Policy. This uncertainty about fuel supplies and power generation cost has also resulted in a significant amount of stranded power generation capacity.

Many coal mine developers – both private and public – blame undue delays and bureaucratic hurdles in terms of obtaining various clearances as a major reason for production shortfall. Simultaneously, there are also many grass-root protests against coal mining as the local population perceives current coal mining practices as making lives worse for them. This suggests that any bureaucratic delays in terms of getting permissions do not necessarily translate into good socio-environmental practices on the ground.

A few points regarding workforce related issues are also worth noting. CIL's permanent workforce has been decreasing over the last few years. Between 2012-13 and 2013-14, its permanent staff decreased by about 11,300 (3%). While this is accompanied by some improvement in productivity from 5.32 tons per person-shift in 2012-13 to 5.62 tons per person-shift in 2013-14, it also represents an increasing share of contract workers, as the number of such workers in CIL has gone up by about 4,500 in the same period (CIL, 2013, p. 36; CIL, 2014, p. 33; CIL, 2014a, p. 18). In addition to this, it should be noted that nearly half (45%) of CIL employees are between 50-60 years old, which does not seem appropriate and could leave CIL with a large vacuum to fill if it is not addressed expeditiously.

### **3. Options being discussed**

In view of the flux in the coal sector, various options are being discussed about the way forward for the coal sector. Broadly the options being discussed are as follows:

1. **Restructuring CIL:** The Government of India had engaged a consultant to suggest ways of restructuring or reforming CIL to help it to accelerate domestic coal production. While this report is not (yet) in the public domain, media articles<sup>2</sup> suggest that the report proposed various options for restructuring CIL. The first option to convert CIL's seven subsidiaries into independent companies was said to be under active consideration of the Ministry of Coal. The other two options suggested were restructuring and reforming of CIL and its subsidiaries retaining its current form; and phased and gradual change in the structure to create viable, independent smaller entities with CIL as holding company during the transition.

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<sup>1</sup> Data sourced on 30<sup>th</sup> October 2014 from the Export-Import data bank of the Ministry of Commerce available at <http://commerce.nic.in/eidb/ecomq.asp>.

<sup>2</sup> See, for example, <http://www.hindustantimes.com/business-news/govt-may-accept-deloitte-report-split-coal-india-into-smaller-companies/article1-1277609.aspx>

2. **Introducing commercial mining:** Perhaps the most commonly expressed view in the media to improve production and productivity in the sector is that the sector, which was nationalized in 1973, should be denationalized and the private sector should be permitted to enter the sector for commercial mining. It is expected that the investments and efficiencies that come with this will help to address the shortages and efficiency problems. In particular, it is expected that such a regime would be the best way to attract international best practices and technology to the country's coal mining. It appears that this has been the experience in countries like Indonesia where coal production has gone up rapidly after opening up the sector to private participation, though questions have been raised about the social and environmental sustainability of such an approach (Lucarelli, 2010; Tambang, 2010). It should be noted that the recently passed ordinance contains an enabling provision to permit such commercial mining in the future.
3. **Other options:** A few other potential options may also be possibilities for consideration though these have not been discussed much in the media. One variation could be to essentially retain the current structure but use the tariff based bidding route for the power sector, which consumes about 80% of the coal produced in India. In this approach, coal for other sectors would have to be supplied either through linkages (as currently practiced) and/or auctioning of captive blocks. A second approach could be to retain the current structure but improve overall governance and management practices to ensure better productivity and accountability of CIL and captive block owners, better allocation and management of coal reserves, and better socio-environmental practices. This option could also consider some of the options suggested in the consultants' report on restructuring CIL. A third option could be along the lines suggested by the Committee on Allocation of Natural Resources to increase the number of coal suppliers and create a national coal transaction platform for approved end-users to enable price discovery (Government of India, 2011, pp. 19-23). The reports of the Expert Committee on roadmap for coal sector reforms had also suggested some possible options for consideration (Ministry of Coal, 2005; Ministry of Coal, 2007).

For each of these options, finer details would have to be worked out carefully as it is these details that will determine how well the challenges of the coal sector and other related issues are addressed.

#### **4. Issues for consideration**

Any future structure and roadmap for the Indian coal sector, whether it is one of the options listed in Section 3 or a different option, will have to deal with a set of challenges and issues being faced by the sector. This section discusses these issues, against which the proposed solutions should be judged.

1. **Shortage of domestic coal:** This is the most discussed problem faced by the Indian coal sector and perhaps the primary driver for many of the changes being proposed. It is not elaborated further as it has been discussed earlier and has also received widespread attention.
2. **Resource allocation:** Allocation of natural resources belonging to the nation is a contentious issue, as has been borne out in numerous examples such as spectrum allocation, gas pricing and captive coal block allocation. There have also been weaknesses in allocating CIL-produced coal through

linkages to consumers (Prayas (Energy Group), 2014). Therefore, any future option for the coal sector has to ensure that the coal allocation methodology meets the following criteria:

- a. **Fairness:** Since there will almost surely be more than one seeker for each coal block, the process of allocating these blocks has to be transparent, fair and clear to all, with mechanisms to ensure that there is genuine competition that can help realize the best value from the resource. Similarly, there is also need for fairness in allocating the extracted coal among its many competing users and uses.
  - b. **Resource value:** Given the sovereign ownership of coal as a resource, any contractual arrangement needs to ensure that the resource is used to maximise public interest, and a significant portion of the value of the resource accrues to the nation. This requires careful design of the resource allocation mechanism and concession agreements (if any).
  - c. **Contract design and administration:** Contractual arrangements in other sectors that have been opened for private sector participation have led to complex legal suits, arbitrations and so on. The coal sector should learn from such experiences and mining contracts, other contracts and concession agreements should be designed to be clear and unambiguous. Moreover, the agency administering the contracts should have sufficient authority and expertise to enforce and administer these contracts.
3. **Pricing:** Pricing of coal is closely related to the coal allocation and concession (in case of private sector participation) processes. However, the issue requires special attention given the realities of the Indian situation. About 33% of households in India are un-served with electricity (Census of India, 2011), and large numbers of households receive erratic and poor quality supply. Reliable and affordable electricity supply is also critical to most industries and service sector enterprises. More than half the country's power generation capacity is currently coal-fired and the situation is unlikely to change in the near future. Fuel cost is a significant part of the final delivered cost of electricity. Given these considerations, it is clear that the price of coal has significant social, economic and welfare implications. The issue would only get more complicated as the share of underground coal in India's coal production increases, as extracting underground coal is significantly costlier than extracting it from open-cast mines.
4. **Transparency and accountability:** One common complaint of coal consumers today is regarding accountability of the coal supplier regarding the quantity and quality of coal supplied. Any future regime must ensure that this problem is addressed and coal suppliers are held accountable to coal supply contracts. Additionally, mechanisms to ensure the accountability of other intermediate agencies such as coal washers and transporters (predominantly Indian Railways) also need to be part of the solution.

The new regime also needs to ensure complete transparency regarding the quantity and quality of coal produced and supplied to various consumers to assure citizens that the resource is being produced and used in accordance with existing provisions. This is particularly true if private participation through concession agreements is envisaged, as it is very likely that important

elements such as Government revenue and cost of coal consumed will depend on parameters such as quantity and quality of coal production, and cost of production.

5. **Regulation:** Governance of the coal sector, including, in particular, the regulation of the marketplace is currently a serious challenge. The previous Government had hurriedly passed an ordinance to set up a Coal Regulatory Authority with no real powers. There have been media reports that the current Government may introduce a bill in Parliament to set up an independent regulator for the coal sector which would be responsible for many issues including coal pricing. This is an interesting approach but its effectiveness at genuinely promoting public interest will depend on the finer details about the empowerment, accountability and capacity of the regulator. The need for such a regulator is crucial in the coal sector for many reasons:
- The sector concerns an important and finite natural resource
  - The sector is currently dominated by a large public sector monopoly
  - Introduction of competition in the sector will require some agency to impose the rules of the game and ensure a level playing field
  - Exploration, extraction and use of coal have many externalities that need careful oversight and monitoring.

It goes without saying that such a regulatory institution needs careful design and should have sufficient capacity and powers, particularly given that existing mechanisms and institutions such as the linkage committees and the Coal Controllers' Organization have not been very effective in governing the sector.

6. **Socio-environmental management:** One aspect of this issue, namely bureaucratic delays in getting permissions and clearances, gets discussed extensively. Project developers claim that getting the various environmental and forest clearances, mining leases and acquiring land is an extremely slow process, which increases their costs and also delays commencement of production exacerbating the coal shortage problem.

However, lesser attention is given to socio-environmental issues such as environmental compliance, resettlement and rehabilitation (R&R), and mine closure after awarding of clearances. Though coal mining itself may not produce much of pollutants such as SO<sub>x</sub> and NO<sub>x</sub>, particulate matter pollution from coal mining and transport can contribute significantly to poor air quality and resultant health impacts in and around mining areas. Coal mining is also known to affect ground water levels. The lack of environmental compliance by many of CIL's coal mines was highlighted in an audit report of CIL's Corporate Social Responsibility published by the Comptroller and Auditor General (CAG) in 2010<sup>3</sup> (CAG, 2010).

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<sup>3</sup> Among other things, the report observed that more than 200 operating mines did not have requisite environmental clearance, more than half the mines inspected did not stack the overburden safely or restore topsoil, and over 12,000 ha of land had not been backfilled or reclaimed.

Coal mining is quite land intensive, more so since India predominantly produces coal from open-cast mines. This requires citizens present at such locations to be displaced and rehabilitated. Though there is no robust nation-wide data available regarding this, anecdotal evidence suggests that, unfortunately, this process is fraught with problems. This tends to alienate local citizens who then tend to view coal mining and related activities unfavourably, leading to ground level opposition to coal mining. The fact that the Coal Bearing Areas (Acquisition and Development) Act of 1957 (CBAA) gives sweeping powers to the State regarding acquiring land where coal may exist<sup>4</sup>, and that this Act is exempt from the recently passed Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act of 2013 (LARRA) do not help to improve trust between citizens and the State.

Further, the presence of coal mines almost inevitably attracts coal consuming industries such as power plants, cement plants, and iron and steel plants, which have their own socio-environmental impacts. As citizens near mining locations face the cumulative impacts of all these industries due to coal mining and allied activities<sup>5</sup>, any future regime for the coal sector should factor in such possibilities and create regulations and mechanisms accordingly.

For example, while a “single-window” system may indeed help to speed up bureaucratic clearance processes, can it also be structured with clear and unambiguous evaluation criteria so as to improve accountability for post-clearance compliance and monitoring of mining activities? Can local citizens be involved in compliance monitoring through appropriately designed monitoring mechanisms, as they are the most affected by these activities? Can all information regarding the social and environmental impacts of projects and their monitoring and compliance be published on an easily accessible digital portal?

7. **Labour safety and rights:** One of the motivations behind the Coal Mines (Nationalization) Act of 1973 (CMNA) was to prevent the exploitative labour practices that were then prevalent in coal mining. One needs to ensure that any reform to the sector to improve production and efficiency is not at the cost of labour interests and safety.

As mentioned earlier, CIL’s formal workforce has been decreasing over the years and the number of contracted employees has been increasing. Such a development could potentially impact worker rights significantly. For example, the CAG audit of 2010 pointed out that only about 8% of CIL’s contracted employees were subject to regular mandatory medical check-ups (CAG, 2010). On the worker safety front too, the current situation is not encouraging. Total fatalities at CIL have gone up from 52 to 60 between 2011 and 2013<sup>6</sup>. Fatality rates have also gone up from 0.12 per MT of coal mined to 0.13 during the same period (CIL, 2014, p. 39).

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<sup>4</sup> For example, under CBAA, the provisions for taking over land for mining do not have many safeguards such as Environmental and Social Impact Assessments, public hearings etc.

<sup>5</sup> See <http://www.outlookindia.com/article/Accursed-County/292455> for a report on the cumulative impacts of coal mining and associated industries.

<sup>6</sup> It should be noted that serious injuries have reduced during this period.

This suggests inadequate attention to labour rights and safety, and any future regime for the coal sector should address this effectively to ensure that the labour force becomes a willing partner to improving the productivity and production of coal in India. It should ensure that while the labour productivity of Indian coal production improves, the coal sector can continue to be not only a significant job provider but a job provider with a good safety record. Once again, mandating publication of all relevant information in an easily accessible digital form by all mining companies may be a useful step forward.

8. **Law and order issues:** One important challenge faced by the coal sector relates to law and order issues such as illegal mining and coal diversion. Even the Parliamentary Standing Committee on Coal and Steel has expressed its concern and frustration at the inability of the Central and State governments to tackle this issue (Standing Committee on Coal and Steel, Fifteenth Lok Sabha, 2012). It is generally understood that there are well entrenched vested interests involved in various steps of the coal value chain. Reforming the coal sector without considering this practical aspect – of the ability to implement and enforce laws and policies on the ground – would not be effective. It should also be noted that not addressing this issue would prove to be a hindrance to attract international best practices and technology to the Indian coal mining sector.
9. **Legal implications:** Coal mining in India is governed by a variety of laws and the recently passed ordinance. These include the CBAA, the CMNA and the Mines and Minerals (Development and Regulation) Act of 1957 (MMDRA). In addition, acts such as the Environment Protection Act, the Forest Rights Act, Companies Act, Trade Unions Act and various other acts governing corporate and labour policies are also applicable.

The recently passed ordinance amends Section 11A of the MMDRA to enable the Central Government to *select* any company (including international companies) for granting a prospecting license or mining lease, but Section 5 of the MMDRA (which has not been amended) prohibits State Governments from *granting* such licenses and leases to anyone other than Indian nationals and companies. This is one example of a potential legal complication to be addressed to bring consistency among the various laws governing the sector.

As stated earlier, the dissonance between the CBAA and LARRA effectively discriminates against citizens who happen to live in areas that are coal-bearing. Reforming the coal sector should be seen as an opportunity to address this discrepancy and ensure that all Indian citizens are treated fairly and equally, and entitled to similar compensation and R&R.

There are also some grey areas in the recently passed ordinance. For example, the ordinance permits companies, which either have a coal linkage or have applied for one, to also bid for a captive block, though it is not clear why they should be allowed to do so.

This suggests that any comprehensive overhaul of the coal sector – which is perhaps desirable – needs to carefully consider the legal ramifications and amend all the relevant acts and policies, so as

to have a coherent set of laws governing the sector. Otherwise, the sector is likely to be tangled up in many law suits for years to come.

10. **CIL:** All indications suggest that, in any future roadmap for the coal sector, CIL will continue to be an important player in the Indian coal sector. Therefore, the concerns regarding CIL which are listed below also need to be considered while reforming the sector.

It is generally felt that productivity levels at CIL are well below international standards. For example, CIL produces less than 6000 tons / person / year, while the corresponding figure is between 10,000 and 20,000 for countries such as China, US and Australia. Even for open-cast mines, CIL produces about 11.5 tons / person-shift while it is about 70 tons / person-shift in the US. Given that, in the future, India would have to increasingly exploit its underground resources, CIL's underground mine productivity of about 0.8 tons / person-shift is also of concern (Prayas (Energy Group), 2013).

CCI has repeatedly censured CIL for indulging in non-competitive practices (CCI, 2013; CCI, 2014)<sup>7</sup>. This is also partly evidenced by frequent contractual disputes between coal consumers such as power producers and CIL subsidiaries regarding the quality and quantity of coal supplied to them. Clearly, there is room for improvement in CIL's accountability and corporate governance.

11. **Domestic coal reserves:** Lastly, it must be pointed out that though official estimates of coal reserves in India are abundant, there is some scepticism about the real extractable reserves in India (Chand, 2008). As per official estimates, India's geological resources of coal are 302 billion tons (BT) out of which about 126 BT are "proved" reserves. However, this figure only gives geological coal availability rather than the economic viability of its extraction as India has not uniformly adopted globally accepted methods for reserve classification such as United Nations Framework Classification (UNFC) which also estimate economically extractable reserves. Extractable reserves can be much lower than "proved" reserves as demonstrated by the fact that though CIL's proved reserves were around 53 BT in 2010, extractable reserves as of 2013 were only 20 BT<sup>8</sup>. Therefore, there is reason for some scepticism regarding India's coal reserve estimates. This lack of clarity about coal reserves makes the task of planning, policy making and decision making regarding investments in the coal sector significantly challenging. Many experts consulted during the preparation of this background paper felt that publicly funded detailed exploration of the country's coal reserves to estimate economically extractable reserves is very important. This will not only ensure that there is greater clarity about the extractable resource available but also eliminate the uncertainty and risk for mining companies.

The above discussion shows that there are a variety of issues to be considered while deciding the future structure and course of the coal sector. These issues include the most discussed aspects such as

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<sup>7</sup> Also see <http://www.argusmedia.com/News/Article?id=938885> for a media report regarding a recent judgement.

<sup>8</sup> Indian proved resource data from <http://www.cmpdi.co.in/coalinventory.php>, CIL 2010 proved resource data from <https://www.coalindia.in/en-us/performance/physical.aspx> and CIL economically extractable resource data from [http://www.cmpdi.co.in/unfc\\_code.php](http://www.cmpdi.co.in/unfc_code.php), all accessed 16<sup>th</sup> November 2014.

efficiency and productivity, but also include other socio-environmental and governance issues. All of them need to be borne in mind while reforming the coal sector and formulating new legislation and / or policies. Institutions and processes to effectively implement laws and policies are equally important and need adequate attention, as the Indian experience suggests that institutional capacity to implement policies and programs is often a great challenge. Lessons learnt from reforms of other sectors such as power and oil and gas should be applied while charting a roadmap for the coal sector.

Given the complexity of the issues and the variety of stakeholders involved, and the importance of a national resource such as coal, we think it is imperative that any process to reform the coal sector should be completely transparent and highly participative, so that a consensus based on the multiple viewpoints can guide the future course of the sector.

## 5. Conclusions

Recent developments in India's coal sector suggest that it is likely to undergo some significant changes in the near future. Given the importance of this sector to the country's energy security and energy access, any changes to the sector must be carefully deliberated before finalizing the course of action. The current 'crisis' should be seen as an opportunity to comprehensively relook at all the challenges faced by the coal sector and reform it to ensure a genuinely vibrant and responsible coal sector that can enhance national energy security.

This background paper highlights a host of issues that must be considered while undertaking such a comprehensive review and reform of the coal sector. Some of these issues are well-known and discussed while some others may not find as much space in public discourse. However, any suggested future option for the sector would have to be analysed against its ability to address all these issues.

To conclude, we believe that the ownership of coal mining companies (public or private) is not the only issue at stake. Instead, we believe that the focus should also be on the institutions, governance practices, technology, management, human resource practices and socio-environmental practices in coal mining to not only increase coal production and productivity but also improve workforce satisfaction and better lives for all citizens concerned. This should be the goal of the proposed legal, policy and institutional regime for the coal sector.

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