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# Coal block auctions: A win or a winner's curse?

## Indian Chamber of Commerce





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## 1. Foreword

India's growing consumer base, coupled with the expected increase in industrial and infrastructure investment, will drive its power and steel consumption. In the power sector, while there has been a steady increase in the gas-based and renewable energy capacities, the bedrock of the planned capacity addition will continue to be coal. The government has also championed the increase in steel producing capacity from 110 million metric tonne per annum (MTPA) to 300 MTPA. High-grade metallurgical coal will be required for this purpose. To achieve these challenging and vital goals, it is essential that coal resources are available to industry and that it is extracted in a way that is economical, transparent and beneficial to all stakeholders including the state and central governments and the local population.

To bring in transparency in allocation of the national mineral wealth, the Government of India (GoI) introduced a transparent and effective e-auction framework in February 2015. This successful endeavour is progressing and the process is in the third round of auctions. As the auctions progress, we will suggest that the coal blocks having large reserves (greater than 100 MTPA and with annual production more

than 3 MTPA) should be brought in for auction to sustain the raw material requirement of large integrated steel plants (ISPs). Putting more number of coal blocks in the upcoming auctions shall in a way only benefit end users. At the same time, a large number of coal fields earmarked for captive mining are notified under the Coal Bearing Areas (Acquisition and Development) Act, or CBA. This may also be denotified to speed up groundwork.

There also exist issues of boundary overlap for captive blocks. Hence, before auctioning blocks for captive mining, boundaries should be fixed in the ground with geo-reference coordinates.

The government has proposed challenging the targets of Coal India Limited (CIL) and the company has taken up the challenge in earnest. Through increased operational efficiencies and continued expansion of its mines, we believe that this vital part of India's coal chain can achieve its targets.

After the coal block cancellation by the Supreme Court in August 2014, coal procurement through e-auction has increased both for steel and power companies. And due to the unavailability of coal from any other

source, the cost of buying coal has also increased drastically, which in turn is leading to the blocking of substantial funds with coal companies in the form of advances. In this situation, it is prudent to evolve and devise alternative methodologies such as allowing utilisation of bank guarantees or letters of credit.

In this context, the Indian Chamber of Commerce (ICC), to further strengthen its support among industry representatives and policymakers, presents the '7th India Coal Summit' on 23 September 2015 at Hotel Hyatt Regency, New Delhi. PricewaterhouseCoopers Private Limited is the knowledge partner in this initiative. I trust the conference will be able to generate new ideas and thoughts among various stakeholders to discuss, share and evolve suitable strategies and development models.



## 2. Leaders' views: Industry in flux

While coal is the main source of commercial energy in India, the coal industry entered 2015 after years of stagnation in growth. Past allocations had been marred with controversies and mostly seen to be discretionary and arbitrary; the Supreme Court judgment resulted in the deallocation of 204 coal blocks.

While there has been a long-standing demand for reforms in the mining industry, recent changes in legislation, mainly the Coal Mines Special Provisions Act and the Mines and Minerals (Development and Regulation) Amendment Act (MMDR), are only the beginning. The two legislations are aimed at transparent allocation of resources, with clarity on transfer and optimal utilisation.

While the changes are welcome, the need has always been for an overhaul of the sector to streamline approvals and development processes, which are still a major irritant in the development of resource sector.

It is evident from the fact that after over 2-3 decades, CIL was able to open new mines while even Schedule II coal blocks, auctioned in the beginning of the year, are yet to be operationalised fully. The key issue that winning bidders are facing is delay in the grant of all clearances and approvals that were expected to be granted as soon as the blocks were taken over by them.

Because of fuel security and comparatively lower developmental risks, Schedule II coal blocks saw aggressive bidding with expectations of immediate operationalisation. But delays in approval and lack of clarity on statutory dues—such as lease stamp duty and registration, regulatory matters relating to capping fixed charges and ongoing disputes on claim amounts—have posed serious challenges to the winners.

Further, falling global coal prices and easy availability of coal in the domestic market due to a significant increase in CIL's production have sown doubt over the decision to go aggressive on coal auctions

Already, these factors are evident from the winning prices in the third round of auction, which are comparatively lower than previous rounds, indicating a more cautious approach and strategy adopted by bidders for keeping a check on the raw material cost.

While the coal auctions have seen aggressive bids, the challenge now lies in how to control the mining cost and ensure maximum recovery of resources.

Certainly, a lot will depend on how efficiently and quickly these blocks can be developed to justify the nature of winning bid prices and level of investment required for developing these blocks. Adequate support will definitely be required from the government. However, there will be

numerous challenges—such as selection of an appropriate mining contractor, keeping checks on processes and the entire mining value chain, having a stringent data measurement system, and an adequate risk analysis in place as part of project preparedness—though the answers to these challenges will depend on how systematic and organised an approach is taken for development, and subsequently, the operations of these mines.

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# 3. Recent reforms in the Indian mining sector

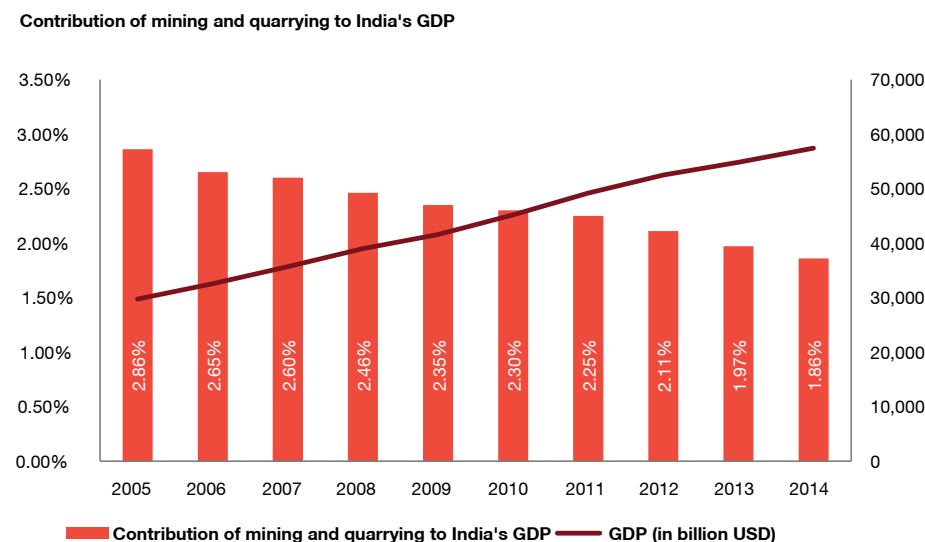
## 3.1. The mining sector: Contributing to the nation's growth

The mining sector plays an integral role in the growth of the economy. It ensures fuel availability for power generation, and raw material for steel and other significant industries, apart from contributing a significant amount of taxes and royalties to the nation. The rapid pace of growth that the industry enjoyed for over a decade was arrested in 2008–09 with the advent of global recession. The world economic growth decelerated quickly, adversely affecting both developed and emerging economies.

The Indian mining industry was also affected by this global phenomenon. The Economic Survey of India (2014) highlights that the growth of the mining sector declined from an average of 7.1% during the financial years 2007-10 to an average of 1.6% during the subsequent four years 2010-14. This decline is mainly attributed to legal, regulatory and environmental issues among other factors. In spite of the recent downside, many mining majors continue to be placed well above India when it comes to the mining industry's percentage contribution to the GDP.

While the mining industry's contribution to India's GDP has declined to 1.86% (2014) from 2.86% (2005), it owns a significant chunk of the GDP pie in countries such as Australia (8.5%), South Africa (8.3%), Russia (11%) and Indonesia (12%).

To address some of these concerns, such as fulfilling the nation's increasing demand for raw material and bringing transparency in the allocation of mineral resources, the mining industry in India



is undergoing a series of reforms across various components, such as coal mining laws, land acquisition and non-coal minerals laws. To attract foreign investment, 100% FDI is permitted in the mining sector. The National Mineral Policy, 2008, provides guidance for promoting research and development in the mineral sector directed towards the development of new technologies that can convert existing mineral resources into viable economic resources and improve the regulatory environment. In the last few months, we have seen significant changes in the laws governing the mining sector, paving way for auction as a mechanism of awarding resources, transfer of licences, optimal utilisation, and of bringing further clarity on several matters including exploration. Many of these changes are now being followed with detailed rules and guidelines being published.

## 3.2. The Coal Mines (Special Provisions) Act, 2015

The Supreme Court in September 2014 cancelled the allotment of 204 coal mines after declaring the allocation “arbitrary” and “illegal”. Subsequently, the government promulgated the Coal Mines (Special Provisions) Ordinance, 2014 (subsequently an Act), to provide for allocation of coal mines and vesting of the rights and title to and interest in the land and mine infrastructure, together with mining leases, in successful bidders and allottees through the auction process. The revenue generated through auctioning of coal blocks will benefit the state governments and will, in turn, be utilised for the betterment of project-affected people (PAP), development of infrastructure and exploration of mining areas.

### 3.2.1. Background

The Constitution allocates the subject of mineral development and regulation to state governments (entry number 23, State List II of Seventh Schedule) subject to the law of Parliament (entry number 54, Union List I of Seventh Schedule). The role of the union government is limited by the boundaries set by such a law, which in this case is the MMDR Act, 1957, including its amendments, with the MMDR Amendment Act, 2015, being the most recent. As mandated by the MMDR Act, 1957, the union government has framed rules for regulating the grant of all minerals other than atomic and minor minerals. The state governments have framed the rules for minor minerals. The Ministry of Mines, GoI, administers the MMDR Act, 1957, in India.

The Ministry of Coal (MoC), GoI, administers the Coking Coal Mines (Nationalisation) Act, 1973, the Coal Mines (Nationalisation) Act, 1973, Auction by Competitive Bidding of Coal Mines Rules, 2012, and the Coal Mines (Special Provisions) Bill, 2014, for the development of coal resources in the country.

### 3.2.2. Introduction of auction of coal blocks

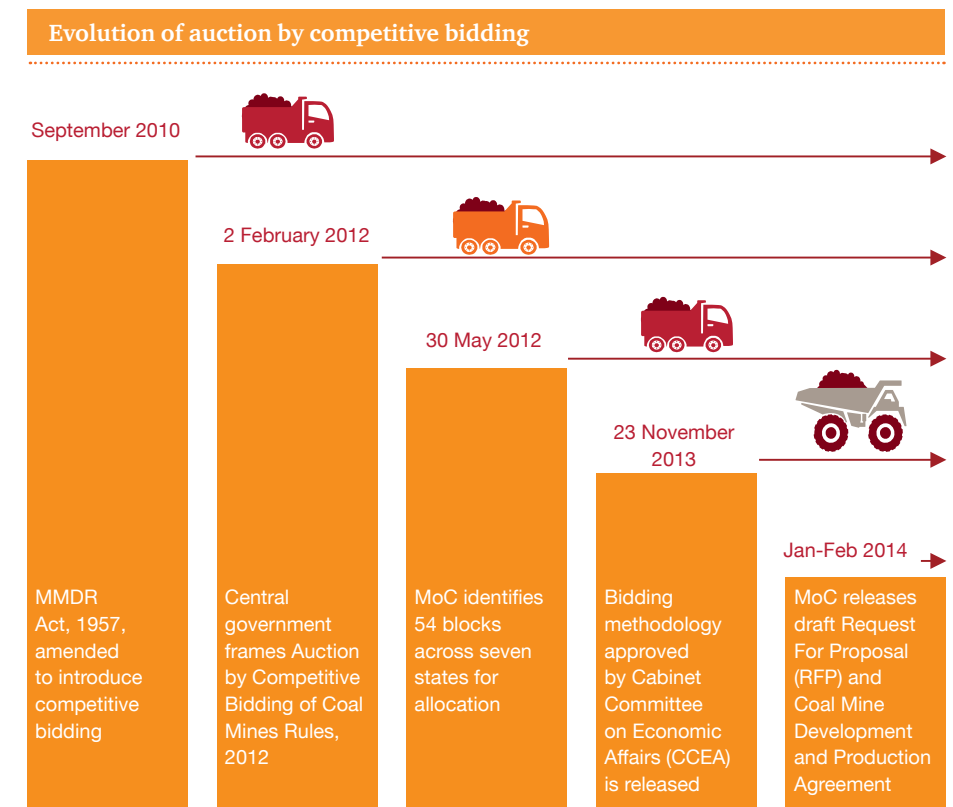
In September 2010, the MMDR Act, 1957, was amended to introduce competitive bidding. After this, the central government framed the Auction by Competitive Bidding of Coal Mines Rules, 2012.

In February 2014, the first round of auction was conducted for three coal blocks for cement, steel and sponge iron. This round did not receive the kind of enthusiasm that was expected from the industry. As a result, two bids were received for one coal block, whereas the remaining two coal blocks did not receive any bids. The major reason for low partition can be attributed to:

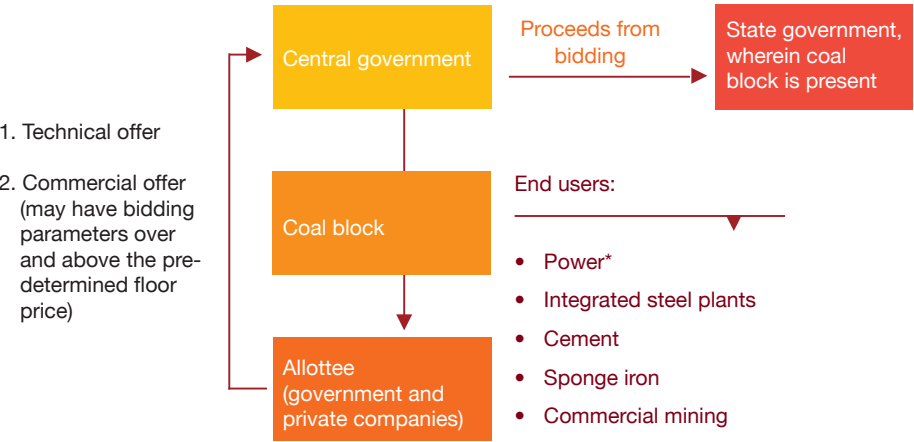
- High floor price and low extractable reserves
- EUPs located far from coal blocks, resulting in high transportation costs (need to understand end-use economics)

- Technical limitation: Use of high-ash coal to replace imported coal affects production capacity and efficiency
- Risks in land acquisition (ownership, transfer and boundary)
- Change in law (no claims allowed)
- The agreement allowed a five-year period for securing all clearances, with MoC giving comfort only for environmental and forest clearances
- Most importantly, the blocks were virgin blocks and no work had been done

The model adopted for the auctioning process is shown subsequently.



Coal Blocks’ Auctioning Process



\*Coal blocks for power sector may get discount on reserve price.

3.2.4. Key highlights of the Coal Mines (Special Provisions) Act, 2015

Some of the key features of the Coal Mines (Special Provisions) Act, 2015:

204 blocks	<ul style="list-style-type: none"><li>Schedule I: All blocks</li><li>Schedule II: 42 blocks which are operating or ready to operate</li><li>Schedule III: 32 blocks which have made progress towards development; may be amended if need be</li></ul>
Allocation	<ul style="list-style-type: none"><li>Auction for defined end use</li><li>Centre can allocate to government firm without auction</li><li>Prior allocatee can participate only after payment of the penalty imposed by Supreme Court</li><li>Government to notify floor/ceiling/reserve price</li></ul>
Use of coal	<ul style="list-style-type: none"><li>Can utilise coal in any of its plants for defined end use</li><li>Can utilise coal in another party’s end-use plant with prior approval of government</li></ul>
Transfer of rights	<ul style="list-style-type: none"><li>Government to issue vesting order, which will transfer all titles, mining lease, statutory licences and permits, mining plan, etc. to successful bidder (however, name change process is required)</li><li>All obligations of payments, penalty, royalty, etc. remain with prior allottee</li></ul>
Payment for land and fixed assets of prior allottee	<ul style="list-style-type: none"><li>Land at registered value plus 12% simple interest since purchase</li><li>Fixed assets on written-down value</li><li>Proceeds will be utilised for payment to secured creditors and prior allottee</li></ul>
Option to acquire movable assets and contracts	<ul style="list-style-type: none"><li>Successful bidder may choose to acquire movable assets and contracts of prior allottee</li></ul>

3.2.3. The Supreme Court judgment on coal block allocation

It was on 25 August 2014 that the Supreme Court declared the allocation of coal blocks as illegal and arbitrary (except for coal blocks awarded on tariff-based bidding). Later, on 24 September 2014, it cancelled the allocation of 204 coal blocks. Following this, the government issued the Coal Mines (Special Provisions) Ordinance, 2014. The Coal Mines (Special Provisions) Bill, 2014, and its subsequent rules were passed in December 2014, and the Coal Mines (Special Provisions) Act, 2015, was included in the Indian mining legislative framework.

3.2.5. How it is different for stakeholders: A bird’s eye view

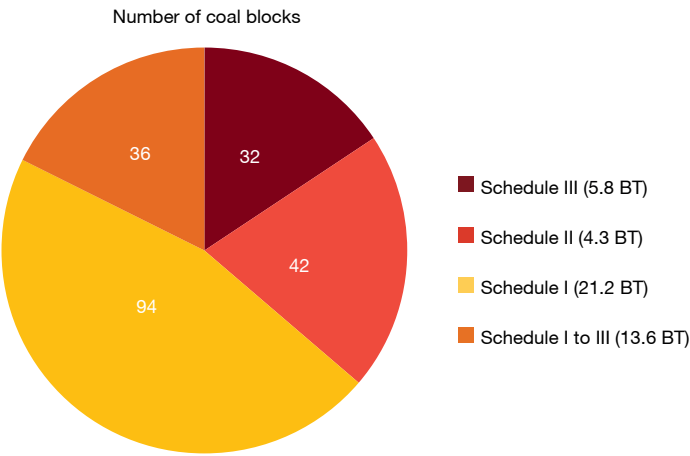
The major difference between the previous allocation process and the recent reforms revolves around fuelling the mining industry’s growth, facilitating more investments, bringing in transparency, and creating benefits for consumers. The direct impact for various stakeholders is summarised in the table.

3.3. Major developments so far

The central government notified de-allocated mines in three schedules:

- Schedule I: contains all 204 coal blocks
- Schedule II: contains 42 of the 204 coal blocks that are operating or ready to operate
- Schedule III: contains 32 of the 204 blocks that have made progress towards development; later, 36 more blocks were added

The first round of auctions was focused on Schedule II and Schedule III coal blocks, which were initially 74 with total geological reserves of around 10.1 BT. The addition of 36 blocks to Schedule III meant that a total of 110 coal blocks with total geological reserves of 23.8 BT were available for auction by the government initially.



	Previous coal block allocation process	Auction route
For governments	<ul style="list-style-type: none"><li>Fixed returns in the form of royalties and other levies</li></ul>	<ul style="list-style-type: none"><li>Higher returns to state government in the form of additional premiums quoted</li></ul>
For power sector	<ul style="list-style-type: none"><li>Pass-through of mining cost in fuel charges</li></ul>	<ul style="list-style-type: none"><li>Aggressive reverse bids in forward auctions which may result in reduction of 4-5 paise per kWh for every 100 INR reduction in coal cost</li></ul>
For block owners (all sectors)	<ul style="list-style-type: none"><li>Allocation based on their need and suitability; preference can be indicated but final choice not with owner</li></ul>	<ul style="list-style-type: none"><li>Choice of coal block</li></ul>





### 3.3.1. Schedule II and Schedule III coal blocks

So far, in the three rounds of coal auction conducted by the government, a total 18 coal blocks belonging to Schedule II have been auctioned (five to the power sector while 13 to non-regulated sectors). Apart from these, another 17 coal blocks have been allotted to government companies for the power sector. Of the total 18 blocks auctioned, five were won by steel users, three by the cement sector, while five by captive power users (aluminium industry). Another five were awarded to the power sector.

Similarly, 15 coal blocks under Schedule III have been auctioned so far, with four to power sector while 11 to non-regulated sector. Of the 11 coal blocks to non-regulated sector, five were won by the steel, three by the cement sector and three were won by captive power users.

### 3.3.2. Bids received and the perceived strategies

The aggressive prices quoted for Schedule II coal blocks show that many factors were considered other than just the intrinsic value. These factors, such as savings in development risks, views on alternate fuel cost, fuel security, and realisation of production/returns, were reflected in the higher premiums/bid price quoted by the bidders. Another key factor for consideration was the value of capital invested in the end-use plant and value of the fuel itself for varied end-use industries, and the potential loss due to lack of fuel. Thus, a higher premium for raw material security was justified.

*Strategies adopted during the initial rounds of auction may not be seen in future rounds. If we compare prices quoted in many of the bids, they were well beyond the comparative costs of import or replacement fuel. This may be justified for existing projects as they have the added advantages of fuel security and recovery of capital investments.*

*However, new projects may not attract investors with such aggressive price quotes and lower returns from the proposed mining project as well as related end-use plant.*



## 4. Need and effects: Industrial and economic perspectives

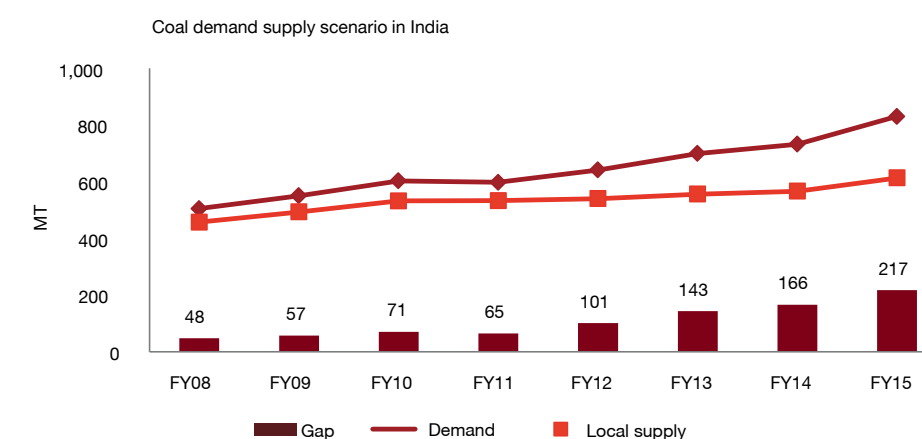
### 4.1. Recent reforms set to change coal market dynamics in the country

Recent reforms have the potential to redefine coal procurement strategies of various Indian companies that use coal as raw material. Each of the available coal sourcing options has its own pros and cons for various end users. However, options for long-term fuel security are limited and differ for various industries. Certainly, as a strategic decision, players have to consider their respective industries, location-based factors and acceptable profit margins.

Concerns were always raised on the existing production capacities vis-à-vis capabilities, with significant growth in demand year-on-year. Numerous discussions have taken place about securing fuel on a long term, while the gap between supply and demand continued to widen over the years; it stood at 217 MT in FY '15, against 48 MT in FY '08.

While coal import has always been an option to bridge this gap, it was never seen as long-term and sustainable, considering the external uncontrollable factors such as price volatility, changing regulatory scenarios in major exporting countries, fluctuating logistics cost, depleting high-grade reserves and currency exchange loss. However, given the recent expansions, new projects from CIL and auction of blocks, the increase in coal import is expected to be arrested.

While the recent auctions are targeted to bridge the gap on a sustainable basis, MoC has proposed that the 500 MT target from non-CIL sources is difficult to achieve if only mining for end use is considered, which gives way to the need for commercial mining and also the hope to auction coal blocks for commercial mining in the current fiscal. The blocks earmarked for commercial mining will



Source: Annual reports of the Ministry of Coal

require a development phase of at least 3-5 years. These shall prove to be an attractive investment opportunity for global mining players as well as domestic miners, thus assisting in bridging the widening demand-supply gap.

Apart from these routes for supplying coal to the market, e-auction of coal has also been an option. However, the quantities put up for e-auction are limited to 10% of the production of CIL and SCCL, and combined with a premium of around 40-60% over notified prices. E-auction of coal can thus be considered as a buffer source in case the company plans to ramp up its operational capacity. For long-term fuel security, alternative options such as linkages, commercial mining and coal block auctions had to be considered.

### 4.2. Implications for industries

#### 4.2.1. Cement, sponge iron and CPPs

In the non-regulated sector, cement, sponge iron and aluminium are the most energy-intensive industries. The estimated unmet requirement of different industries in the current scenario has been illustrated below as per PwC's analysis. The requirement mentioned against upcoming

cement plants includes the capacity of plants announced by cement players on their official websites.



Industries	Total coal requirement (MTPA)	Total supply (MTPA)	Estimated unmet coal requirement (MTPA)
Cement (existing)	50	13.75	35.82
Cement (upcoming)*	58.03 (26.1 by 2018)	---	
Sponge iron	49.25	4.25	45
Aluminium	20.76	2.6	18.16
Others	14.76	7.86	6.9

Source: PwC analysis

\*Assumption: Players that have initiated processes for statutory clearances have been considered for operation by 2018.

With cement and aluminium winning most of the blocks that were earlier allotted to players in the steel industry, fuel scarcity can become a predominant concern for steel producers, combined with falling price of steel and squeezing margins. India is the world’s largest producer of coal-based sponge iron, which does not deploy the most efficient technology, but was successful so far on

account of the availability of cheaper domestic coal. If players in the steel industry opt for coal sourcing through spot market, imports or linkages, their fuel procurement costs are bound to increase significantly, in turn affecting the viability of this sector. Although alternate energy options are available to secure their fuel supplies such as wind, hydro, solar and biogas, there is always the need to secure

supply arrangement at an arm’s length owing to technical limitations on the capacity that can be installed in CPPs.

A list of new allottees in the non-regulated sector for Schedule II and Schedule III bids:

Schedule II bids for coal blocks earmarked for auction in the non-regulated sector

Sr. no.	Coal block	Location	Peak-rated capacity (MTPA)	Award price (INR/tonne)	New allottee
1	Gare Palma IV/1	Chhattisgarh	6	1,585	BALCO
2	Gare Palma IV/4	Chhattisgarh	1	3,001	Hindalco
3	Gare Palma IV/5	Chhattisgarh	1	3,502	Hindalco
4	Gare Palma IV/7	Chhattisgarh	1.2	2,619	Monnet Ispat
5	Marki Mangli III	Maharashtra	0.21	918	BS Ispat
6	Chotia	Chhattisgarh	1	3,025	BALCO
7	Kathautia	Jharkhand	0.8	2,860	Hindalco
8	Belgaon	Maharashtra	0.27	1,785	Sunflag ISCL
9	Sial Ghoghri	Madhya Pradesh	0.3	1,402	Reliance Cement
10	Bicharpur	Madhya Pradesh	0.75	3,003	UltraTech Cement
11	Mandla North	Madhya Pradesh	1.5	2,505	Jaiprakash Associates Ltd
12	Ardhagram	West Bengal	0.4	2,302	OCL Iron and Steel Ltd
13	Marki Mangli I	Maharashtra	o.3	715	Topworth Urja and Metals Ltd

Schedule III bids for coal blocks earmarked for auction in the non-regulated sector

Sr. no.	Coal block	Location	Peak-rated capacity (MTPA)	Award price (INR/tonne)	New allottee
1	Moitra	Jharkhand	1	1,512	JSW Steel Ltd
2	Brinda Sasai	Jharkhand	0.68	1,804	Usha Martin Ltd
3	Meral	Jharkhand	0.44	727	Trimula Industries Limited
4	Nerad Malegaon	Maharashtra	0.36	660	Indrajit Power Pvt Ltd
5	Dumri	Jharkhand	1.00	2,127	Hindalco Industries Ltd
6	Mandla South	Madhya Pradesh	0.30	1,852	Jaypee Cement Corporation Ltd
7	Gare Palma IV/8	Chhattisgarh	1.20	2,291	Ambuja Cements Ltd
8	Lohari	Jharkhand	0.20	2,438	Araanya Mines Pvt Ltd
9	Bhaskarpara	Chhattisgarh	1.00	755	Crest Steel and Power Pvt Ltd
10	Majra	Maharashtra	0.48	1,230	Jaypee Cement Corporation Ltd

#### 4.2.2. Power

Coal blocks earmarked for the power sector were put on reverse auction, where the winning bidder was the one who quoted the lowest transfer price of coal. In negative bidding, power producers seeking to win captive coal blocks forgo their right to pass on mining costs to consumers and instead agree to pay the government an additional premium.

Provision provides for replacement of coal price in the existent PPA, by the winning quote (bid price), targeting reduction fuel cost and thus lowering the final power tariff.

The bidders agree to mine at a much lower ROM cost, which has a notable implication in that we were operating at much higher margins thus far. In this changing

scenario, the government’s moves have been successful in redefining coal pricing and lowering tariffs. An illustration of the effect of reduction in energy charges due to the auction mechanism is shown below.

Computation of energy charge for tariff determination

	Unit of measurement	Linkage	Auction
GCV (a)	kcal/kg	3,500	3,500
SHR assumed (b)	kcal/kWh	2,250	2,250
ROM cost	INR/tonne	610 (CIL price: G13)	100
Royalty @14%	INR/tonne	85	85
CEC and SED	INR/tonne	210	210
Other taxes and costs	INR/tonne	100	100
Total coal cost for energy charge (c)	INR/tonne	1,005	495
Energy charge {(b)/(a)}*(c)/1000	INR/kWh	0.65	0.32

Source: PwC analysis

However, a notable point here is that the total capacity of coal put on auction for the power sector can fulfil only 5–6% of the total thermal generation capacity of the country, while the effect of reduced tariffs due to coal block auction will be localised in nature. A list of winning bids under

Schedule II and III blocks, earmarked for auction in the regulated sector, has been provided below.

Schedule II bids for the blocks earmarked for auction in the regulated sector

Sr. no.	Coal block	Location	Peak-rated capacity (MTPA)	Award price (INR/tonne)	New allottee
1	Sarisatolli	West Bengal	3.5	460	CESC
2	Talabira-I	Odisha	3	474	GMR Chhattisgarh
3	Tokisud North	Jharkhand	2.32	1110	Essar Power
4	Trans Damodar	West Bengal	1	940	Durgapur Projects
5	Amelia (North)	Madhya Pradesh	2.8	712	Jayprakash PVL

Schedule III bids for the blocks earmarked for auction in the regulated sector

Sr. no.	Coal block	Location	Peak-rated capacity (MTPA)	Award price (INR/tonne)	New allottee
1	Jitpur	Jharkhand	2.50	302	Adani Power Ltd
2	Mandakini	Odisha	7.50	650	Mandakini Exploration and Mining Ltd
3	Ganeshpur	Jharkhand	4.00	704	GMR Chhattisgarh Energy Ltd
4	Utkal-C	Odisha	3.37	770	Monnet Power Company Ltd

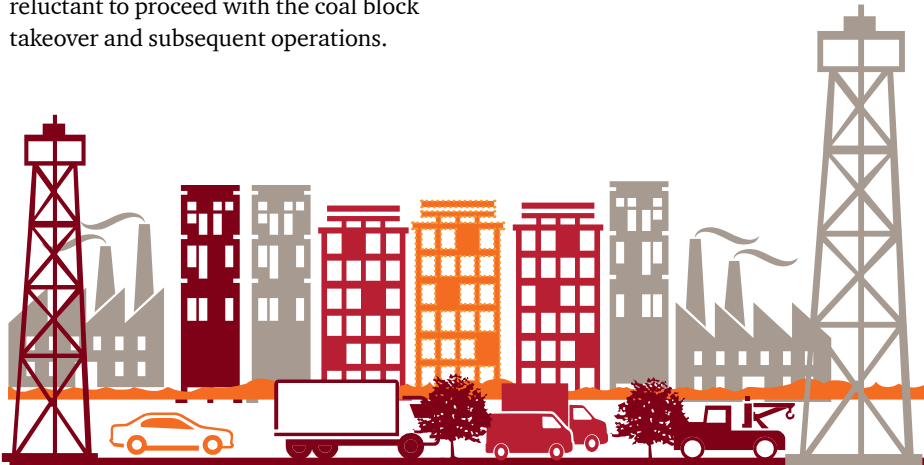
In order to address fuel/coal payments, certain modifications were made in the existing method of tariff determination, thus impacting computation of energy charges. The changes in the provisions for determination of energy charges are presented below.



Section of the Electricity Act	Earlier mode of fuel pass through	Coal payments under the Coal Mines (Special Provisions) Act, 2015, and the rules framed under it
Under section 62 of the Electricity Act, 2003	Cost of fuel is determined by the commission under section 62 of the Electricity Act, 2013, as per normative parameters and ability of the distribution utilities for procuring power.	<ul style="list-style-type: none"> <li>ROM+ financing charges in the energy charges will be replaced by the actual quote of the bidder and a fixed reserve price of 100 INR/tonne.</li> </ul> <p><b>Note: Additional premium, if any, shall not be reckoned for the purpose of the determination of electricity.</b></p> <ul style="list-style-type: none"> <li>Royalty and taxes and duties will be paid as per the previous framework.</li> </ul>
Under section 63 of the Electricity Act, 2003	<ul style="list-style-type: none"> <li>Cost of fuel: Lower of actual fuel cost of procurement and 101% of relevant CIL prices</li> <li>Transportation charges: Lower of actual cost of transportation and 110% of Indian Railways transportation cost for similar distance</li> <li>Washing: Lower of average cost of washing incurred by CIL for similar washing and actual cost paid by the supplier</li> <li>Royalty: On CIL prices of comparable coal quality</li> <li>Taxes and duties: As per state and central taxes prevalent; full pass through for generator</li> </ul>	<ul style="list-style-type: none"> <li>Cost of fuel: As per actual quote by the winning bidder for ROM; fixed reserve price of 100 INR/tonne</li> </ul> <p><b>Note: Additional premium, if any, shall not be reckoned for the purpose of the determination of electricity.</b></p> <ul style="list-style-type: none"> <li>Transportation and washing charges: An appropriate commission shall use appropriate benchmarks in terms of transportation costs for the relevant mode(s) of transportation and CIL's costs for washing and crushing charges, etc., to prevent undue gain to the successful bidder.</li> <li>Royalty: As per CIL prices of comparable coal quality</li> <li>Taxes and duties: As per state and central taxes prevalent; full pass-through for generator</li> <li>Ensuring that tariffs over the lifetime of the PPA do not rise above the current mode of pass through</li> </ul>

Further, in order to capture the amount of fixed charge that can be passed through in the power tariff, GoI proposed to cap the fixed charge, which will inhibit the companies from recovering their entire costs. GoI recently published the new standard bidding documents which prescribe that the fixed cost will be capped based on the inputs from the state regulators. This might have some effect on the firms, especially those which bid aggressively. Very recently, Monnet Ispat proposed to surrender its Utkal C coal block owing to the proposed cap on fixed

charge in the judiciary. On account of the uncertainty of coal cost recovery, firms are reluctant to proceed with the coal block takeover and subsequent operations.



Non-recoverable premium paid: Schedule II

Schedule II mine	Premium paid	Non-recoverable premium	ROM + finance charges*	Total non-recoverable expenses	Total non-recoverable expenses (per unit**)
	INR/tonne	INR/tonne	INR/tonne	INR/tonne	INR/kWh
Talabira I	478	378	463	841	0.50
Sarisatolli	470	370	467	837	0.50
Trans Damodar	940	840	624	1,464	0.88
Amelia North	712	612	1,061	1,673	1.00
Tokisud North	1110	1,010	587	1,597	0.96

Non-recoverable premium paid: Schedule III

Schedule III mine	Premium paid	Non-recoverable premium	ROM + finance charges*	Total non-recoverable expenses	Total non-recoverable expenses (per unit**)
	INR/tonne	INR/tonne	INR/tonne	INR/tonne	INR/kWh
Utkal C	770	670	562	1,232	0.74
Ganeshpur	704	604	490	1,094	0.66
Mandakini***	650	550	600	1,150	0.69
Jitpur	302	202	884	1,086	0.65

Source: PwC analysis

\*Charges for FY 2016–17/first year of operation

\*\* Assuming 600 g per unit of electricity

\*\*\* Assuming 600 INR/tonne – ROM + financing for Mandakini

Going forward, it is expected that bidding will be less aggressive than that in the case of Schedule II and III mines, with a focus on maintaining an economically viable project profile with healthy margins.

#### 4.3. Benefits to stakeholders

The ministry has redefined the framework for allocation of coal blocks with the objective of ensuring transparent allotment and meeting the fuel

requirement of various industries. The initiative has also led to the redirection of cash inflows from the proceeds of auctions towards state governments. The resources that will flow to the coal-producing states such as Jharkhand, Odisha, Chhattisgarh, West Bengal, Madhya Pradesh and Maharashtra will be many times higher than what the states, several of which have a large proportion below the poverty

line, spend currently. The cash nature of inflows from auctions for the government is tabulated below:

Power sector	Non-regulated sector
Upfront amount (10% of intrinsic value)	Upfront amount (10% of intrinsic value)
If the quote is above (i.e. no premium), 100 INR/tonne of coal extracted has to be paid (to be escalated yearly).	Winning bid quote per tonne of coal extracted (to be escalated yearly)
Royalty and taxes as applicable	Royalty and taxes as applicable



As per the Ministry of Power's statement, from the coal blocks auctioned and allotted thus far, electricity consumers in the nation are likely to benefit by about 69,311 crore INR, owing to the reduction in power tariffs based on negative bidding for coal blocks. In the case of coal for the regulated sector, estimates from the ministry suggest that Madhya Pradesh will get 39,900 crore INR; Chhattisgarh, 26,425 crore INR; Jharkhand, 14,498 crore INR; West Bengal, 13,210 crore INR; Maharashtra, 1,819 crore INR; and Odisha, 607 crore INR.

*Direct consumer benefits: For each fall of 100 INR in the bid amount, the power tariff is expected to fall by 4–6 paise.*

In the unregulated sector, steel, cement and aluminium makers that have won blocks will have a greater control on profitability, given that coal accounts for a third to over half of their production cost (in different sectors).

#### 4.4. Challenges: Was bidding aggressive?

In the power sector, all the block auctions till date have gone into forward bidding, i.e. the cost of coal will not be passed through to customers, while owners have committed an additional premium to the government, which is likely to reduce tariff. Similarly, non-regulated sectors won the blocks on stretched prices which are escalable. With the inputs negatively priced or priced at a high cost, the sustainability of their pricing strategy, though achievable, is now a challenge. The tariffs can be largely sustainable over the mine life, but they will be a burden on

companies' balance sheets and the players might seek to divest them over time. The aggressive bidding for coal blocks can be attributed to coal quality and supply security being sought by the companies that otherwise could have rendered their heavy investment in power plants loss making. However, negative prices for inputs for a period of, say, 25 years, may not be a realistic solution, since this will lead to significant cost and cost recovery pressures. Combined with the proposed capping of fixed charges by GoI, cost recovery will be a challenge for the new allocatees. As such, efficient mining, cost control and maximum recovery are key for success.



## 5. Way forward: Key points and gearing up

With the freshly allocated blocks added to a company's portfolio, the challenge is to sustain the basics—production, cost and safety measures. Project preparedness from day one will be critical, and adopting best industrial processes and technologies will be key for success. As the new era begins, one might acquire some lessons from some of the global mining players as well. The focus has shifted not only to improving production but also to cost-cutting measures, manpower selectivity, best equipment maintenance practices, process checks and controls, etc. These measures have helped some of the major global players survive the challenging mining environment. Some of the key areas of focus that a new allocatee will need to appreciate and adhere to are summarised below.

### 5.1. Qualified/suitable mining contractor selection

Coal block allocation through auction will certainly lead to an increase in the cost of coal, given the premium committed to be paid, combined with firm award conditions which require timely development of coal assets to meet the fuel requirement. Thus, the strategies considered for bidding will be successful only if the blocks are developed in a timely and most efficient manner.

While owners have a choice to operate a block on their own or through outsourcing, given their limited experience in coal mining, most owners rely on the MDO model to develop their coal blocks.

As the concept of mining through MDO, though evolving, is relatively new in India, very few steps have been taken for selecting the most suitable mining contractor, with an optimised/customised scope of work depending on the risk-sharing capabilities of the parties involved.

In this model, ownership of the mine resides with the entity to which it is allocated, and the owner of the mine contracts mine development to a third-party contractor. The contracted MDO tends to the assigned activities associated with mine development (such as mine design and planning, coal handling, plant design and construction, mine infrastructure design and construction, overburden removal, coal mining, processing, delivery, ongoing mine operation and maintenance throughout the entire life of the mine), and delivers the stipulated quantum of coal of desired quality against the fee agreed upon in the MDO contract.

*Contract mining capitalises on coal mining contractor's skills, capabilities and capital for investment, and provides control over mining operations that can be tailored according to needs. It involves the flexibility to change mining contractors (or the business model) over time. The success of this model was essential as many end-user companies engaged in power generation or steel and cement manufacturing had no prior experience in coal mining.*

Hence, the selection of a suitably qualified MDO assumes further importance. The most efficient model is one which allows appropriate risk sharing and hence reduces the cost of mining. Selection based on quality, wherein proper assessment of past performance in terms of technical and financial aspects, needs to be emphasised, apart from the allocation of clear and doable roles (scope of work) to the selected MDO.



## 5.2. Project development: Planning and monitoring

In general, mining companies need to have a strong framework in place for project development planning and monitoring. As discussed earlier, how efficiently and quickly the coal blocks can be put into the operations stage will be key for the success of new allocatees. A structured and phased approach to project development will ensure rigorous evaluation of the key milestones to be achieved during the development period and will minimise ‘cost blow-outs’.

Some of the important elements for phased project planning are:

- Establish a formal approach for project evaluation that can provide a strong structure and consistency throughout the development period.
- Identify and assess key project risks and conduct risk assessment at frequent intervals.
- Communicate the strategic objective of each stage to all individuals involved.
- Implement a day-to-day/weekly/fortnightly/monthly/milestone-based measurement and monitoring system.
- Assign clear accountability to key people/stakeholders involved.

To ensure more effective planning and project evaluation, many Australian coal-planning companies have introduced phased development, which is commonly described as a ‘stage-gate’ process. This is a step-by-step approach that enables companies to move their projects through the development pipeline and achieve a standardised way of evaluating achievements at each stage of various milestones.

## 5.3. Focus on processes and technology

The Indian mining sector needs a major boost and reform in terms of technology and processes across the mining value chain. As a new allocatee, one needs to really ensure that various checkpoints are introduced in the system to help improve

the existing processes and further ensure that these checkpoints are regularly tested while considering the volatilities involved in mining operations. Adopting and improving the processes and technology will function as another critical parameter in keeping operations in control and ensuring the best safety standards.

Recently, Anglo American included a haul truck rolling-resistance solution, energy absorbing bumper and monitoring system to improve its existing safety standards and productivity. BHP Billiton designed a risk area map using acoustic and optical telemetry to protect personnel and machinery.

Further, Rio Tinto could reduce its capital expenditure by 9.4 billion USD and operating cost by 4.8 billion USD in 2014 through strategic maintenance planning to reduce reliance on contractors, a more robust vendor selection process and sourcing of goods and services from emerging markets.

## 5.4. Cost control measures

Increasingly, the mining industry involves large cash flows while showing a huge scope for cost control. Emphasis on cost control measures must be laid at various stages, e.g. at the project and planning stages, and also on timelines for clearance and approval of some of the critical aspects. Failure to meet these timelines and non-achievement of budgeted schedules can cause a huge impact on project inception, which in turn will follow into the operational stages, affecting cash flows.

Similarly, the major areas that take up a large share of working capital and revenue from cash flows in the operation stages are mainly:

- Labour cost
- Fuel and electricity cost
- Equipment maintenance cost
- Logistics and transportation cost
- Health, safety and environment
- Blasting and explosives cost
- Corporate social responsibility

Efforts are needed to keep these cost elements in control. It will be useful to examine the global shift in focus from achieving higher production as a means of reducing cost to achieving higher productivity at the lowest cost while improving safety standards. In 2014, BHP Billiton managed to reduce its capital expenditure by 28% and operating cost by 29% through a reduction in overhead and maintenance costs.

*It is necessary to adopt best practices and perform a timely review of the various value chains from the development stage through operational stages. This will play a crucial role in maintaining the viability of projects.*

## 5.5. Stringent and accurate data monitoring system: Development of MIS/ allocation of KPIs

We are living in the age of information. Information is a vital resource in any decision-making process. Survival in the 21st century depends on the ability of businesses to manage information and the way they interact with and react to changes. Information technology, as in other fields, can play a significant role in enhancing the productivity of the mining industry. The constantly increasing portfolio of computer applications in the mining industry includes analysing and mapping exploration data, mine planning and reserve estimation, controlling processes, maintaining equipment, managing human resources, supplies, inventories, all types of financial information and development of an MIS.

To achieve production targets and profitability, the mining industry needs to adopt an appropriately stringent and accurate data monitoring system. The global mining industry has already adopted real-time data capturing tools that assist in taking immediate corrective measures during operations. Analysis of data and information flow at these levels improves productivity and system efficiency. Among the mining majors, Rio Tinto’s ‘Mine of the Future’ technology includes a facility that monitors real-time operations.

*Smooth flow of information at various skill levels, whether at the top management or at operator levels, in an appropriate manner, is a key aspect. It can be controlled by adopting data monitoring systems that assist in decision-making at the top levels, followed by adequate implementation at the ground level.*

## 5.6. Getting the right people: Key experts/skilled manpower

The contribution of mining, which is currently 1.86% of GDP, is likely to reach 5% in the near future. However, a lack of skilled workers is set to impact the industry, creating a demand-supply gap of over 2,200 people by 2025.<sup>1</sup>

Based on the estimated demand and current supply from various educational institutes which cater to the management level, a demand-supply gap of about 1,500 and 2,200 is expected during 2009–2017 and 2009–2025 respectively.<sup>2</sup>

The study clearly points out a lack of mineral-specific professionals like mine lawyers, mineral economists and mineral financial analysts in the industry. Along with this, there is a shortage of skilled manpower like heavy earth-moving machinery (HEMM) operators, shot firers, blasters and surveyors, who are needed to develop a healthy mine.

Adequate training measures need to be adopted and time and money need to be invested to develop next generation miners. These measures will certainly help a fresh allocatee in both tangible and intangible ways.

The recent coal block auction is certain to increase demand for statutory and skilled personnel in the Indian mining industry.

## 5.7. Keeping the checklist ready: Post-allocation due diligence

After a coal block has been allotted, a number of approvals and permissions are required before the commencement of

mining operations. Failing to get timely approval or to keep a check on timelines can result in a cost overrun. In the case of a captive project, this can have severe consequences as the end-use plant will be affected.

All clearances will require a detailed step-by-step approach for assessing and understanding the repercussions. Each mine will have its own requirements in terms of clearances and approvals to be obtained. Preparing a detailed checklist, in line with the transfer orders and regulatory provisions and regular follow-up on the same, is critical for any project.

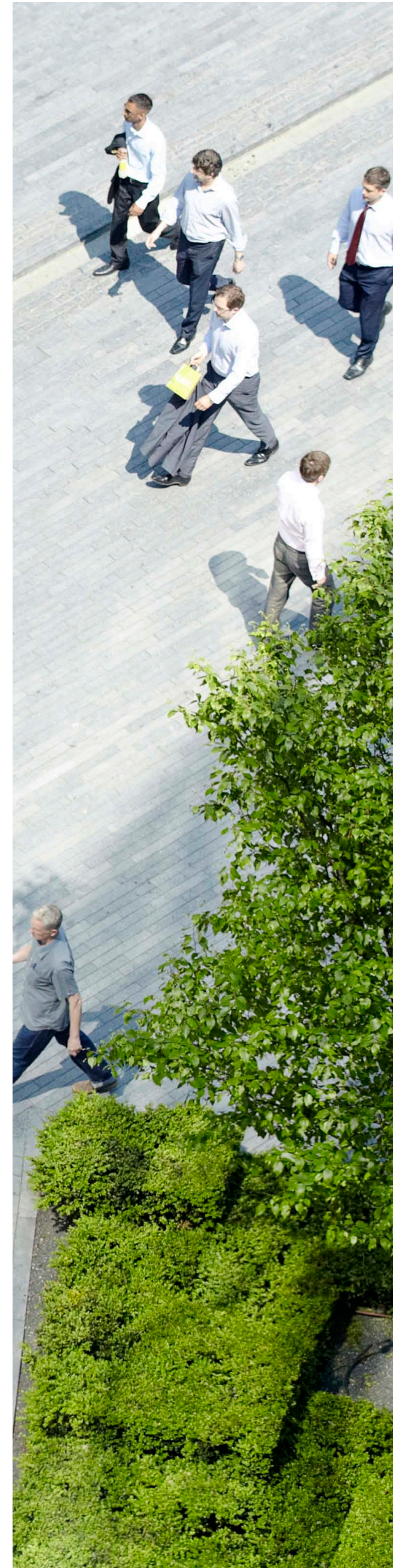
## 5.8. Risk analysis and mitigating measures

Key risks which can derail a whole project need to be clearly brought out. They should be classified into various heads depending on their potential impact on a project. The risks associated with a project may include one or more of the following:

- Business risk
- Technology risk
- Commodity price risk
- Implementation/timing/drop-dead risk
- Regulatory risk
- Environmental risk
- Resource risk
- Currency risk
- Contractual risk

The identification of these project development and operational risks is crucial at the project inception stage. As a fresh allocatee, one needs to be adequately aware of these risks in order to make appropriate preparations.

1. Source: Confederation of Indian Industry, as per a study on the mapping of human resources and skills for the mining industry in India  
2. Source: Confederation of Indian Industry





### ICC profile

Founded in 1925, ICC—the leading and only national chamber of commerce operating from Kolkata—is one of the most proactive and forward-looking chambers in the country today. Its membership spans some of the most prominent industrial groups in India. ICC is the founder-member of FICCI, the apex body of business and industry in India. Its forte is its ability to anticipate the needs of the future, respond to challenges and prepare stakeholders in the economy to benefit from these changes and opportunities. Set up by a group of pioneering industrialists led by Mr G D Birla, ICC was closely associated with the Indian Freedom Movement, as the first organised voice of the indigenous Indian industry. Several of the distinguished industry leaders in India, such as Mr B M Birla, Sir Ardeshir Dalal, Sir Badridas Goenka, Mr S P Jain, Lala Karam Chand Thapar, Mr Russi Mody, Mr Ashok Jain and Mr Sanjiv Goenka, have led ICC as its president. Currently, Mr Shiv Siddhant Kaul is the chamber’s president.

ICC is the only chamber from India to win the first prize in the World Chambers Competition in Quebec, Canada.

ICC’s North-East Initiative has gained new momentum and dynamism over the last few years, and the chamber has been hugely successful in spreading awareness about the great economic potential of the North-East at national and international levels. Trade and investment shows about the North-East in countries like Singapore, Thailand and Vietnam have created new vistas of economic cooperation between the North-East of India and South-East Asia. ICC has a special focus on India’s trade and commerce relations with South and South-East Asian nations, in sync with India’s ‘Look East’ policy. It has played a key role in building synergies between India and her Asian neighbours such as Singapore, Indonesia, Bangladesh and Bhutan through trade and business delegation exchanges and large investment summits.

ICC also has a very strong focus on economic research and policy issues. It regularly undertakes macroeconomic surveys/studies, prepares state investment climate reports and sector reports, and provides necessary policy inputs and budget recommendations to governments at the state and central levels.

Over the last few years, ICC—headquartered in Kolkata—has truly emerged as a national chamber of repute, with full-fledged offices in New Delhi, Guwahati, Patna, Ranchi and Bhubaneswar functioning efficiently and building meaningful synergies between industry and the government by addressing strategic issues of national significance.



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## 6. List of abbreviations

- BT: Billion tonne
- CEC: Clean energy cess
- CPP: Captive power plants
- EUP: End-use plants
- FDI: Foreign direct investment
- FICCI: Federation of Indian Chambers of Commerce and Industry
- GCV: Gross calorific value
- KPI: Key performance indicators
- MDO: Mine developer-cum-operator
- MIS: Management information system
- MT: Million tonne
- MTPA: Million tonne per annum
- PPA: Power purchase agreement
- ROM: Run of mine
- SCCL: Singareni Collieries Company Limited
- SED: Stowing excise duty
- SHR: Station heat rate

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