

December 2014

Costly Coal

Shareholder risk in Coal India

Investors will soon be offered further equity (an FPO of 10%) in the Indian government majority-owned Coal India Limited (CIL).

This FPO will likely position investing in Coal India as an “opportunity” in a robust emerging market, based on widely held assumptions regarding India’s continued reliance on thermal coal for power generation; and it having among the largest, lowest priced coal resources in the world.

However, new financial analysis – based on information obtained by Greenpeace via the Right to Information Act – undermines these assumptions. The findings raise important questions for asset owners, asset managers and advisors interested in the upcoming offering.

This briefing outlines the key findings from a recent analysis of Coal India’s financial prospects. We suggest questions to consider in assessing the risks and opportunities of investing in Coal India.

India’s reliance on domestic coal to deliver electricity is based on two fundamental assumptions: that Indian coal is plentiful and cheap. While this might have been true in the past, Greenpeace’s analysis suggests that it is no longer the case.

According to the company’s own analysis

– when measured in terms of extractable reserves (taking into account cost of recovery, feasibility studies and geological information) – approximately only a fifth of Coal India’s total coal resource is considered extractable. Other analyses suggest that even this is likely to be an exaggeration.^{1,2} Given that Coal India mines over 80% of the coal produced in the country, India’s potential domestic coal supply is actually much more limited than assumed.

Despite receiving the necessary environmental permits for much higher production levels^{3,4}, production has grown at little over 3% p.a. for the last five years and is lagging behind the official target of ~8%.⁵

By using the Right to Information Act, Greenpeace accessed the official cost of production for over 400 of Coal India’s mines for the years 2007-08 to 2012-13. Analysis of this data and the financial reports of Coal India subsidiaries show that Coal India’s average cost of production has been rising rapidly. Despite increasing volumes, which should lead to economies of scale, production cost per volume has increased substantially.

Economic Risks

Coal India’s average cost of production for thermal coal across all subsidiaries has increased 60% since 2008.^{6,7} Cost of production for the analysed subsidiaries⁸ over the six year period from April 2007 to March 2013 grew at a Compound Annual Growth Rate (CAGR) of ~10%. If Coal India were to continue on this cost trajectory, the company would be forced to nearly double the price of its coal by 2020 to keep current margins intact.^{9,10}

These projected increases do not allow for an increasing share of underground production, which may be required in order to maintain production growth.¹¹ Cost of production from underground mines is on average four to six times more expensive than surface mining.¹² Increasing the share of underground mining from 10% to 20% could increase average costs by nearly a third.¹³ However, as the cheapest, most easily extractable deposits are now at advanced stages of exploitation, Coal India will have to exploit deeper, more difficult and expensive seams.¹⁴

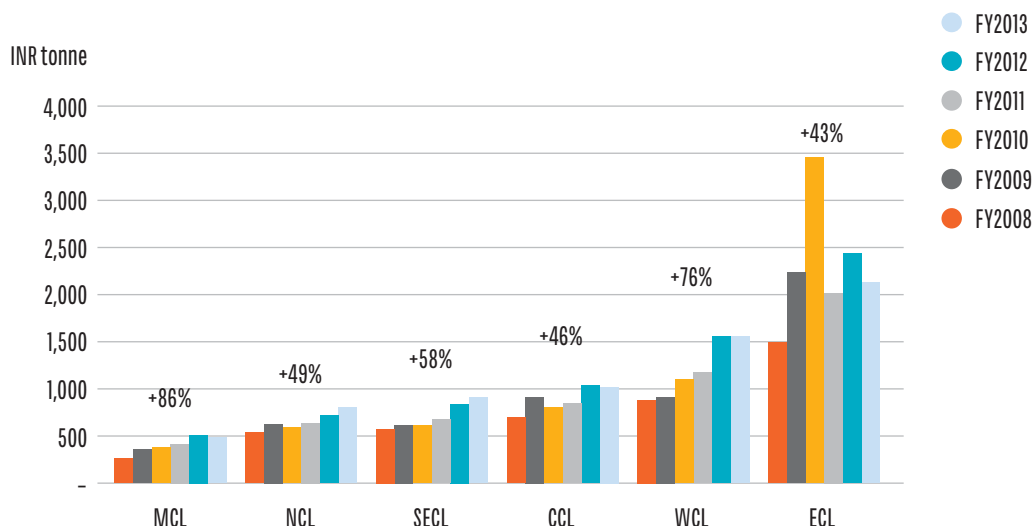
Despite increases in volume, which

should drive economies of scale, production cost per tonne has increased substantially. Average production cost per tonne of coal for Coal India (all subsidiaries) has increased to INR 1048 in 2013, up nearly 60% from INR 663 in Financial Year (FY) 2008. Figures for 2014 show a further increase to INR 1088 per tonne.¹⁵ If the rate of cost increase remains steady, Coal India’s cost of production for thermal coal will double by the year 2020, to approximately INR 1900 per tonne, up from INR 950 in 2013.¹⁶

Currently depreciation is a low share of costs, but this may change as the government is urging Coal India to scale up production rapidly. This will require substantial additional investments. Assuming investments of at least INR 400 billion over the next five years, and depreciation rates similar to the past, this would significantly increase costs from annual depreciation.

Coal India’s contractual costs show an upward trajectory as the company looks to outsource more operations to contractors. Coal India’s contractual

Production cost per tonne grew by 56% on average for the six analysed subsidiaries during the last six years



Source: Right to Information requests from Coal India subsidiaries

expenses for FY2014 stood at INR 7812 million,¹⁷ a nearly 300% increase from INR 2633 million in FY2008.¹⁸ Those findings are echoed by recent analysis from Barron's which finds that "Coal India is caught in a pincer move between slower than expected revenue growth and stronger than expected cost growth. A hefty increase in wage and contractor expenses crimped the miner's operating margin for the quarter, which shrank to 10% from 15% a year ago."¹⁹

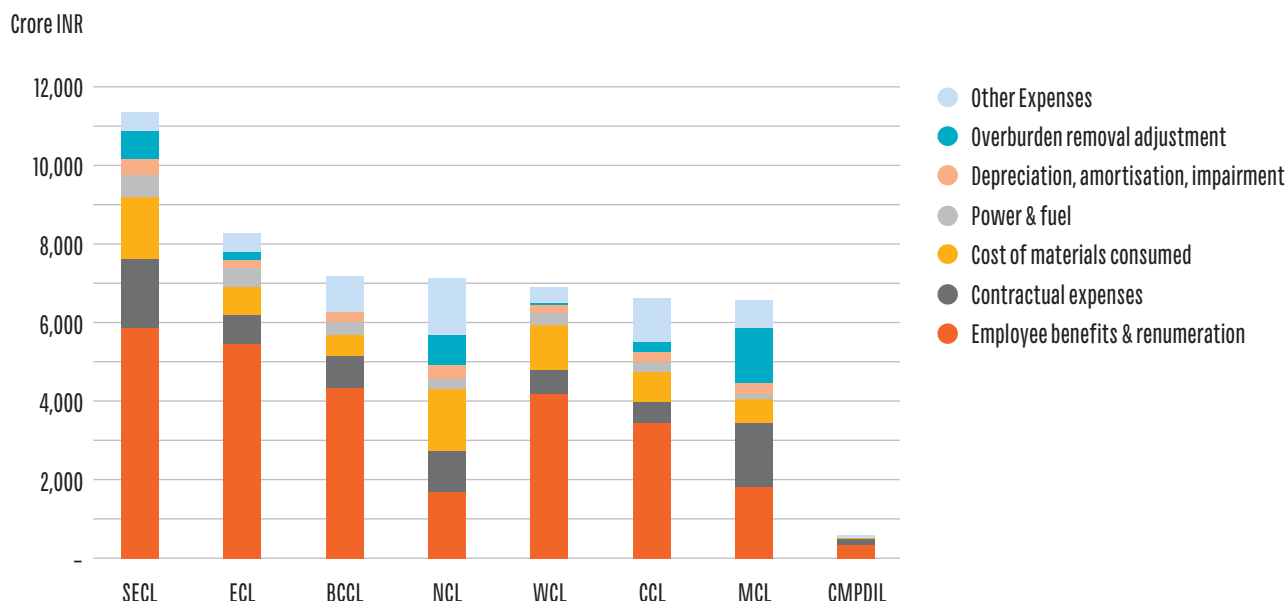
Finally, there are other factors that have not been individually enumerated that could lead Coal India's costs to rise. These include logistic bottlenecks in the transport of coal²⁰ as well as problems with mine fires²¹ and flooding.²²

Declining profits and rising costs will force sale prices upwards. Within five years, this is likely to make electricity from new build coal power stations uncompetitive with solar photovoltaic and wind, raising questions about the long-term viability of Coal India.

Questions for Investors

- What is Coal India's anticipated cost rise trajectory for the next three years?
- How robust are Coal India's projections for costs and profits if more production has to be shifted to underground mines?
- Based on Coal India's likely trajectory of production costs, what increase in price would be required to maintain current margins?
- In order to protect shareholder value, how will Coal India manage the tension between maintaining margins (if cost increase is internalised) or price competitiveness with utilities (if cost increase is passed on to utilities)?

Employee Costs 50%, Contractual 13%, Materials 13%, Power & Fuel 4% On Average Among Total Expenses



Source: CIL subsidiary annual reports 2013/14

Political Risks

The domestic Indian political imperative of cheap electricity provision has reduced the amount of coal that Coal India can sell at market prices. As a consequence of such government policies, Coal India only sells a fraction of its output through auctions to customers that don't have long-term purchase contracts. However, these sales, which account for about 10% of its production, contributed 40% to earnings before interest, tax, depreciation and amortisation in the year to March 31, 2013.²³ So far the rate of increases in fixed contracted prices has not kept pace with increase in production costs, leading to lower margins than might otherwise have been possible.²⁴

Given the increasing costs faced by the company, profits will be impaired if Coal India cannot sell more coal at market prices. Yet Bloomberg reports that the government has asked Coal India to cut further the quantity auctioned and instead to increase coal supplies to power plants, at almost half the price of open sales.²⁵ Analysts have pointed to these political decisions as one of the reasons why this November Coal India had to report its lowest quarterly profits since its listing in 2010.^{26,27}

Questions for Investors

- How will Coal India assure investors it can protect its profit margins when faced with political pressure to maintain fixed price advance contracts, at the same time as rising production costs?



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Regulatory Risks

Coal India is facing increasing compensation and rehabilitation costs due to the new land acquisition act that came into force on January 1, 2014. According to Bloomberg this has already led to “[m]ore than 1 trillion rupees (\$16.4 billion) of projects [being] stalled as a result, including 600 billion rupees of roads, 20 new coal mines by state-run Coal India, and steel mills for ArcelorMittal and Jindal Steel & Power Ltd.”²⁸

Questions for Investors

- What costs does Coal India anticipate incurring as a result of these new regulatory requirements?
- In the context of rising operational costs, what ongoing impact will compliance with the regulatory requirements have on the company’s costs and margins?
- If Coal India seeks to move even more production to open pit mines, how will it cope with issues of land availability in light of new regulatory changes?



Coal India is caught in a pincer move between slower than expected revenue growth and stronger than expected cost growth.

Conclusion

The global outlook for coal is gloomy – and India is not likely to be the “one bright spot” much longer. Analysts from Citi state, “[Coal] demand is in structural decline as environmental pressures rise and costs of alternative energy sources decline.”²⁹ Other investment banks, such as Goldman Sachs³⁰, share Citi’s pessimism about the global future of coal.³¹

Coal faces unprecedented economic and social challenges in most large markets today evidenced by regulatory and market shifts in the US, EU and China.

India’s commitment to increased reliance on coal for power generation is clearly a global outlier and – even if coal fired power generation in India challenges the global trend – cost, regulatory and political risks faced by the mining industry in India are significant. The assumption that mining will flourish, and that the additional flotation of Coal India stock will result in growing shareholder value, needs to be challenged and assessed by potential investors given the questions raised by its rising costs in the face of global oversupply and competition.



[Coal] demand is in structural decline as environmental pressures rise and costs of alternative energy sources decline.

Questions for Investors

- What is Coal India’s anticipated cost rise trajectory for the next three years?
- How robust are Coal India’s projections for costs and profits if more production has to be shifted to underground mines?
- Based on Coal India’s likely trajectory of production costs, what increase in price would be required to maintain current margins?
- If Coal India seeks to move even more production to open pit mines, how will it cope with issues of land availability in light of new regulatory changes?
- In order to protect shareholder value, how will Coal India manage the tension between maintaining margins (if cost increase is internalised) or price competitiveness with utilities (if cost increase is passed on to utilities)?
- How will Coal India assure investors it can protect its profit margins when faced with political pressure to maintain fixed price advance contracts at the same time as rising production costs?
- What costs does Coal India anticipate incurring as a result of new regulatory requirements?
- In the context of rising operational costs, what on-going impact will compliance with the regulatory requirements have on the company’s costs and margins?

Method

Using the Right to Information Act, Greenpeace India requested data from Coal India's major coal producing subsidiaries on mine-level cost of production from the financial years 2007-08 to 2012-13. Per Coal India's Right to Information responses to Greenpeace, the subsidiary companies include depreciation, wages and salaries of senior staff and office expenses in its calculations of cost of production. However, cess and other statutory levies are not included. The clean energy cess is currently INR 100 per tonne.

In most cases, Coal India shared expenditure per mine and output per mine. In some cases, the company only shared expenditure per mine; output per mine was available through earlier research work done by Greenpeace. The expenditure and output figures were then used to derive approximate cost per tonne. In some cases, Coal India shared ready cost per tonne figures at the mine level. Information was cross-checked with annual reports and other industry/analyst reports wherever possible to ensure accuracy. In case of variations, figures from official Coal India documents were used.

In all, 421 mines across six subsidiaries were looked at.³² The six subsidiaries analysed account for 93% of Coal India's total coal production in 2013-14. The subsidiaries are Mahanadi Coalfields Ltd (MCL), Central Coalfields Ltd (CCL), Western Coalfields Ltd (WCL), Eastern Coalfields Ltd (ECL), Northern Coalfields Ltd (NCL) and South Eastern Coalfields Ltd (SECL). Inconsistencies in data sets were rectified where possible. In the case of 25 mines (6% of the 421 mines analysed - 18 from ECL and seven from CCL) there were gaps or inconsistencies in the data that could not be explained. These mines were excluded from the analysis.

The mine level figures were then used to calculate average cost per tonne at

the subsidiary level. Once average cost per tonne annually for the FY2008 to FY2013 period was calculated, the Compound Annual Growth Rate (CAGR) of cost of production at the subsidiary level was determined (at nominal rates).

This resulted in CAGRs between 7% and 13% CAGR at subsidiaries:

Subsidiary	MCL	SECL	CCL	WCL	ECL	NCL
CAGR (FY2008-13)	13%	9.5%	8%	12%	7%	8%

At the Coal India level, average cost of production for each subsidiary in each year was used to calculate Coal India's overall average cost of production in each of the years being analysed, after accounting for each subsidiary's contribution to Coal India's total production. This was then used to calculate the CAGR of Coal India's cost of production over the FY2008 to FY2013 period, which stands at 9.7%.

This CAGR was then used to forecast average cost of production till 2030. Assuming Coal India wishes to maintain current profit margins, we hypothesise that Coal India will need to raise its average realisation per tonne of thermal coal to approximately INR 3000 (roughly double current rates) by 2020.

India's long term Wholesale Price Index inflation tracks at about 5%. This analysis assumes that Coal India's cost of production will continue to grow at a CAGR of around 10%, more than WPI inflation, for the foreseeable future for the following reasons, *inter alia*: ambitious production targets that will require significant capex increases; Coal India has announced a targeted capex of around INR 400bn over the next five years; deteriorating ratios of overburden removal to production.

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Endnotes

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