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The Dynamics of Importing Coal: Lessons for India

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Introduction

The Indian industrial sector has slowed down and reviving it is an immense challenge, given problems in the availability of power. Many states across the country have been facing daily power cuts of upto six hours; the situation is only worsening despite measures being taken by the government such as sprucing up coal supplies. There was power generation loss of some 5.3 billion units in the period of April to October, 2011, due to coal supply shortage. The country's largest miner, Coal India limited (CIL), revised its production target in 2011 to 440 metric tonnes (MT) from the previous 452 MT. This clearly shows that CIL will not be able to meet its production target in the coming year, either. Most of the companies are looking to source coal from other countries either through fuel supply agreements or buying coal assets in coal-rich countries. Even the Coal Ministry of India has indicated that the importation of coal is being considered as an option for power production.

Sourcing Coal from Coal-Rich Nations: Challenges and Strategies

Most of the countries in which Indian companies have shown interest have issues and problems similar to those in India, including that of inadequacy of infrastructure for transport and export. The cost of developing support infrastructure has to be borne by the miner. The investment requirement for this is huge and it would be an unfair burden on individual companies. Other challenges which need to be taken into account before acquiring overseas coal properties include: political stability; tax regime; and law and regulatory framework. A project could quickly turn non-viable for a company with the slightest changes in these factors. Such was seen in 2011 when Indonesia changed its mining laws, resulting in that country's coal becoming upto four times costlier. Many other countries are considering amendments in their mining laws. Caution is therefore required if India is to secure overseas deals.

However, simply importing coal to fill the shortages will obviously not be sustainable, and would fail to serve a long-term purpose. Given that India's poor-quality coal, coal shortages and increasing demand for

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power, are providing the impetus for more imports from coal-rich countries, there is a need to study the respective coal industries of other countries with reference to India's own needs.

Australia

Australian coal is generally of good quality. Most of the production of coal comes from Queensland (Bowen basin), New South Wales (NSW) (Hunter Valley), brown coal from Southern Australia, and some production units are also in Western Australia. Australia has coal reserves of about 39.2 billion tonnes (bt), producing 436.5 mt in 2009-2010. Almost 50 percent of the coal extracted is exported to different countries, mainly Japan, Brazil, Korea, Taiwan, China, India, and European Union. Since 2010, however, India's share has been increasing rapidly. Queensland plays an active role in exports; the region produced 206.5 mt in 2009-10 from 54 coal mines (41 Opencast & 13 UG) and exported 186.9 mt in the same year, followed by New South Wales region which produced 145.5 mt in 2009-10 from 63 Mines (30 Opencast & 33 UG) and exported 109.9 mt. Some exports can be expected from Western Australia in the near future.

Points of concern:

- Coal mining operations are very costly in Australia and are a major contributor to increased coal price volatility.
- The NSW coal industry is largely limited to the port of New Castle and Wollongong because of mountain ranges that separate the inland Hunter Valley coal fields from the coast.
- The vast distance to Indian coastal ports is not very attractive as the voyage time is long and shipping cost, thus high (\$ 102.5 - \$ 120 per Ton Thermal & \$ 200 - \$ 235 per Ton Coking coal) from Eastern Australia ports.
- Ample opportunities lie in Western Australia but the major roadblock in this region is getting access to the railway infrastructure which is managed by private companies. Domestic companies sometimes resist new miners gaining access to their railway networks.
- Another important aspect is that Australian exports are affected by weather-related problems, especially between December and May, that limit rail speed and port loading.
- The legal and regulatory framework in Australia it is not very complex. However, one major issue that clouds the mining sector is the new mining tax which the federal government wants to impose through the Carbon Tax and Mineral Resource Rent Tax (MRRT). Although the federal government declared its intent to impose the tax in the country from 2012, it is not yet clear when it would be implemented as the Australian indigenous industry is strongly opposing both the taxes.

Recommendations:

- Queensland has better topology than New South Wales (NSW) and it has multiple locations for deep sea coal ports such as Gladstone, Abbot Point, Hay Point, and Brisbane.
- Shipping coal to the west coast of India can be reduced by procuring supply from Western Australia but the infrastructure constraints limit feasibility of this option. Lanco Infratech which had acquired Griffin Coal in Western Australia may open up the exporting option in the future.
- There are two new coal resource locations for development—Surat Basin in Queensland and Galilee Basin in New South Wales; these are open for companies to explore but it must be kept in mind that railway infrastructure is not yet in place in these basins.

- Finally, it must be emphasized that India does not have any choice as far as coking coal is concerned which is not the case with thermal coal of which there are abundant reserves. Australian coking coal imports are inevitable for India.

Indonesia

The Indonesian coal industry is quite young compared to that of the US, Australia, UK, South Africa, China, or India. Indonesia started its commercial coal production from mines only after 1988. Today the mining sector contributes 11 per cent of the country's GDP and coal is one of the major contributors. Most of the coal reserves are found in Sumatra (54%) followed by Kalimantan (44%) and the remaining reserves are found in the regions of Sulawesi, Papua, Java, and Maluku. Production from Kalimantan is mostly exported because of its geographic location near the emerging Asian market, whereas from Sumatra, the coal is diverted to the domestic market.

Points of concern:

- Indonesia's position as a major steam coal exporter in the future is crucially dependent on the size and quality of coal resources and reserves it possesses. According to official estimates, Indonesia has reserves of about 20.2 billion tonnes, though the accuracy of this figure is subject to controversy.
- A clear and transparent legal and regulatory framework is a major requirement for any country's industrial growth. However, the Indonesian legal framework is not very conducive for the industrial environment. Besides, the Government of Indonesia has frequently changed the country's mining laws, giving rise to unpredictability in the sector.
- The recent announcement about the imposition of a 25-percent export tax on coal—with a further increase to 50 percent by 2013—will be a setback for the coal industry in Indonesia. The date for implementation is yet to be announced and the future is uncertain for the exporters.
- Another major hurdle is the Domestic Market Obligation (DMO) where every miner has to set aside a certain percentage of the coal production for domestic requirement. The Indonesian government has assured that the percentage would not increase beyond 35 percent, but it would be decided annually following consultations with local industries.

Recommendations:

- Indonesia's reliability as a supplier to India is not guaranteed. The Government of India can play a vital role by securing coal supply agreements through bilateral channels which would be a more satisfying arrangement.
- There is no doubt that Indonesia is a good option to import coal from, given its proximity to Indian ports and thus the short voyage time compared to Australia. India, however, must look for other low-cost exporting countries to ensure its long-term supply of coal.

South Africa

South Africa has substantial coal reserves but as in the case of Indonesia, the exact figures are not known as no serious geological study has been conducted in this regard. Going by the South African Mineral

Industry report, the country has economically recoverable coal reserves of 55.3 bt (2001/2). South Africa has 19 coal fields but most of the reserves are found in the Central basin regions comprising Highveld, Witbank, Ermelo, and Waterberg in the Limpopo region. Most of the reserves are of bituminous and anthracite quality. Low-grade coal is generally used by the South African indigenous industry whereas for export, coal requires washing so that ash content does not exceed 15 percent. Demand for low-grade coal is increasing in India.

Points of concern:

- South Africa is highly dependent on coal yet does not have any explicit coal policy in place. Coal is its third largest commodity export earner.
- How South Africa promotes its black economic empowerment programme is also important. As per the policy in place, indigenous people who have been historically disadvantaged in South Africa must have representation of upto 40 percent in the management by the fifth year and 26 per cent stake by the 10th year. This is not as alarming as the policy in Indonesia where companies have to divest 51 percent of shares to local miners in the 10th Year after the 5th Year of commercial production.
- Most of the reserves are found in the Central region which is already overly exploited. Given the uncertainty about reserve estimates, the region will probably stop holding exploration potential for new miners.
- Other regions which are well endowed with coal reserves such as Vereeniging, South Rand, Utrecht and Klip River, are good options for exploration as they are very close to Richards Bay Coal Terminal and transportation of coal will not be problematic. But investors must check how much entitlement they would get for export as this is based on the size of the company shareholdings in Richards Bay Coal Terminal.
- Waterberg is another good option but the major hurdle here is poor transport infrastructure for moving coal. The region is some 1,050 km from the coast and despite its importance, it still does not have a dedicated rail link to the only export terminal, Richards Bay. The possibility of a rail link in the future is not very promising, either. Transnet, the State-owned monopolistic railway company, does not find it commercially viable.

Recommendations:

- Despite the odds, Indian miners must look to South Africa as an option for acquiring coal properties, provided the latter does not follow in the footsteps of Indonesia.
- South Africa has a lot of potential for expanding its exports as well as foreign investments in the coal sector. This will, however, depend highly on whether it develops an integrated energy policy that will lay down a conducive regulatory framework combined with purposeful investment strategies for investors.
- Exploring regions near Richards Bay is most feasible as the infrastructure is in place but the presence of big companies must be taken into account as they already have a foothold in the coal mining sector and secured export entitlement.
- Options of the other regions must be kept on hold until the South African government seeks coordination between the investment plans of coal miners and Transnet, which is expected to pave the way for increasing rail capacity to the ports.

Colombia

Most of the coal deposits in Colombia are found in the north region in the basins of Cesar & Guajira, holding 6.56 bt and 4.54 bt economic recoverable reserves, respectively. It also has 2 bt metallurgical coal reserves mainly in the regions of Boyaca and Cundinamarca. Mining work is mostly undertaken by private giants that have their own ports and rail facilities and thus able to maintain presence in multiple countries. These companies include: Glencore; Drummond; and Cerrejon, a joint venture of BHP Billiton, Anglo American, and Xstrata.

Point of concern:

- Infrastructure poses a major problem in the country as it requires huge investments in rail, road and expansion of ports.

Recommendations:

- Colombia is an almost perfect destination for investing in coal properties as coal plays a small part in electricity generation in the country. A huge 92% of all coal produced is meant for export.
- Colombia has been recently gaining a reputation among many organizations as being one of the friendliest business destinations in the world. It is ranked third by the World Bank.
- The country's coal reserves are not so much as huge as that they hold good potential for the next 30 to 35 years as far as exports are concerned. Geological studies are ongoing in various coal basins to access new reserves.
- If a company finds other minerals during exploration other than that covered by its mining license, it can apply for the exploration of those minerals as well. This serves as an important incentive for potential investors.
- Under Colombian law, foreign individuals and corporations which act as mining concessionaires have the same rights as local individuals and corporations. Colombian governmental regulatory bodies are expressly prohibited from imposing on these foreign entities any additional or different requirements.
- For Colombia, the bottomline is this: "Enter early and reap the benefits afterwards."

Mozambique

Situated on the south-west of Africa, Mozambique is geographically well-placed and is in a better position to export coal to the growing Asian market. The growing coal demand in Asia has placed one of the world's poorest countries at the centre of international investor attention, the kind of which has never been seen before. According to the Mozambique Ministry of Mineral Resources, the country's estimated coal reserves currently stand at 16 bt, with thermal coal at 25-30 percent and metallurgical coal at 75-70 percent. Tete province, which is only partly explored, is believed to be home to one of the world's largest untapped coal reserves. Niassa is another province that remains untapped, and experts believe it has even bigger reserves than Tete.

Points of concern:

- Like South Africa, Mozambique's exact coal reserves are not known accurately as exploration is still ongoing in different provinces. It is believed, though, that the country has substantial reserves; it is a claim made by the coal industry itself.
- Mozambique also ranks very low in terms of business environment, placing 139th out of 183 countries according to the World Bank.
- The country is proposing to place a levy on the transfer of mining licenses from one company to another.
- The Government is under continuous pressure to review its existing deals and thus there is uncertainty over what shape its policies for future projects will take.
- Quite surprisingly, the major challenge facing coal mining companies in Mozambique is not about the access to capital for financing mining activities, but rather the infrastructure to transport coal to the ports.

SWOT Analysis for Coal Rich Nations

Countries	Australia	Indonesia	South Africa	Colombia	Mozambique
Reserves	39. 2 bt (2009-10) economic recoverable reserves.	18.7 bt (2007 study done by New Energy Development Organization & Government of Indonesia) economic recoverable reserves. Accuracy of the figure is subject to controversy.	55. 3 bt (2001-02) economic recoverable reserves. Exact current figures are not known as no serious geological study conducted in this regard.	13.1 bt economic recoverable reserves. Exact figures are not known as exploration is still going on in different coal provinces.	16 bt (2009-10 study by Mozambique Ministry of Mineral Resources) economic recoverable reserves.
Coal Regions	Queensland (overly exploited), New South Wales (overly exploited), Surat Basin & Galilee Basin (open for exploration)	Sumatra (overly exploited), Kalimantan (overly exploited), Papua, Java, Maluku & Sulawesi (partly exploited).	Highveld (overly exploited), Witbank, Ermelo, Waterberg, Vereeniging South Rand, Utrecht and Klip River. All regions are open for exploration.	Cesar, Guagira, Boyaca and Cundinamarca. All regions are open for exploration.	Tete and Niassa. All regions are open for exploration.
Cost of Mining	Very costly	Moderate.	Moderate.	Moderate.	Moderate.
Coal Quality	Very good.	Mainly sub-bituminous and lignite but its low sulphur and ash content make it desirable for power generation.	Mostly bituminous and anthracite. Low grade coal is used by the indigenous industry. For export, coal requires washing.	Coal is high in quality with low sulphur and ash content making it desirable for power generation. Most of the coal that is produced is meant for export purpose.	Coal is high in quality.
Infrastructure	Existing but needs upgradation.	Existing but needs upgradation.	Require heavy investment for infrastructure upgradation.	Require heavy investment for infrastructure upgradation	Require heavy investment for infrastructure upgradation
Tax Regime	Not very complex. But new Carbon tax and Mineral Resource Rent tax is clouding the mining sector. Though it is not implemented yet but possibility of introducing the same cannot be ruled out. If implemented, it will further increase the cost of mining.	Not very promising as Government of Indonesia is frequently changing their mining laws. Apart from the above, coal contract policy favours domestic companies.	Does not have any explicit coal policy in place. But the situation is not alarming like Indonesia.	Conducive for the miners. Apart from the above, foreign corporations which act as mining concessions have the same rights as Colombian corporation.	Conducive but they are ranked (139) very low in business environment by the World Bank. Apart from the above, Mozambique does not have any local ownership or equity requirement for the miners.
Political Stability	Stable	Stable	Stable	Stable	Stable
Proximity to Indian Ports	Not very attractive. It takes 18 days to-Indian west coast and 14 days to Indian east coast.	Attractive. It takes 12 days to-Indian west coast and 9 days to Indian east coast.	Good. It takes 12 days to-Indian west coast and 14 days to Indian east coast.	Not very attractive as voyage distance will be long.	Good. It takes 10 days to-Indian west coast and 12 +1/2 days to Indian east coast.

Recommendations:

- Mozambique has no existing legal framework that requires mining ventures to show local ownership or equity. This is a good sign for foreign companies in their bid to acquire coal properties.
- The government has given assurance that the new mining law, currently under discussion, would be conducive to investors and there would be no impact on the existing tax system for mining coal and hydrocarbons.
- Since India is already importing coal from South Africa, it should not find it too difficult to overcome problems as Mozambique's coal scenario is similar to that of South Africa.
- Indian companies like Jindal Steel & Power Ltd. and TATA are in the process of acquiring coal properties while Coal Videsh Africa has already acquired two blocks in the northwestern region of Tete province.
- A special-purpose vehicle has been formed by five Indian state-owned companies—namely: Steel Authority of India Ltd.; Rashtriya Ispat Nigam Ltd.; National Thermal Power Corporation; Coal India Ltd.; and National Mineral Development Corporation—to acquire rights for coal mining.
- According to discussions with industry officials, the shipping costs that India incurs for transporting coal from Mozambique are lower compared to that from Australia. Voyage time will be significantly reduced if port infrastructure were to be upgraded.
- The Mozambique opportunity is no doubt attractive and a highly viable option for India and its power producers.

Potential Attractiveness of Coal Rich Nations for Acquiring Coal Assets

Countries	Australia	Indonesia	South Africa	Colombia	Mozambique
Reserves	5	6	5	4	4
Coal Regions	5	6	5	4	4
Cost of Mining	6	4	4	4	4
Coal Quality	3	4	4	4	4
Infrastructure	4	4	5	5	5
Tax Regime	5	7	5	3	5
Political Stability	4	4	4	5	5
Proximity to Indian Ports	6	4	5	7	4.5
Total	38	39	37	36	35.5
Aggregate Ranking	4.22	4.33	4.11	4	3.94
Remarks	Good for acquiring Coking coal mines not for thermal coal.	Not looking very promising for the future because of frequently changing mining laws.	Good option. Here companies must see how they will tackle the presence of big companies who already have got good foothold in the coal mining sector and are securing export entitlements.	Very good. As coal plays a small part in electricity generation in the country and most of the coal produced is meant for export purpose.	Best. Because of lower shipping cost and Indian companies have already got a good foothold in the country.

Note: Greater the rank, less preferable is the destination (1= Best; 10 = Worst)

Rankings are based on the objective personal assessment of the author from secondary information

Conclusion

The growth of the Indian economy has led to a robust rise in demand for power. The government, in turn, has promised to unleash a 'revolution' in the energy sector; it vowed to produce thousands of megawatts of power by increasing private participation in the coal sector and allowing other Public Sector Units to get into the business. Although there have been many voices in various conferences in New Delhi pushing for

a gradual move to other energy alternatives, reality suggests otherwise. A bulk of the planned capacity additions for the near future is still coal-based. On a day-to-day basis when coal supply is interrupted by bureaucratic regulations or social unrest—as was the case in July 2012—the nation goes literally dark. Other sources fail to fill the gap. Given that India has created a system of electricity generation and distribution that is based on the economics of poorly paid miners inefficiently digging out coal in open cast mines, it is unlikely that it will adopt radical alternatives unless it invests substantial sums. India's continued use of coal is justified on the basis of the surrounding socio-political economy. Importing coal will certainly be of help. However, given that Indian domestic coal is sold at government controlled prices, the import option will pump up the power costs and both companies and consumers will have to pay more. Rising costs of imported coal, along with high power tariff, are forcing many companies to surrender their supply contracts. Despite the problems, overseas acquisition need not become the answer to problems in developing Indian domestic coal blocks. Domestic issues must be addressed on a war footing while imports serve as a temporary solution in the interim.

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