

IMPORTANCE OF COAL SECTOR IN INDIAN ECONOMY: WITH SPECIAL REFERENCE TO COAL INDIA LIMITED

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“As our country is expanding industrially and economically so are its energy needs. In India coal is the answer to escalating demand. The country’s planners however are alternatively exploring to shift from being a largely fossil driven energy economy to one i.e. powered by clean and renewable form specially solar but till such time other form of energy begin to contribute significantly, coal is and shall remain the most dominant fuel in providing energy security to the country. CIL spearheads the country’s coal production and produce over 84% of the country’s entire coal output. “The Prime Minister Narendra Modi’s outlook to make India flourish through the promising “Make in India” Program needs energy to work and needs efficiency to prosper ;putting manufacturing at the heart of India’s growth model means a large rise in the energy needed to fuel India’s development .

India is the third biggest economy in the world in terms of GDP measured at purchasing power parity (PPP), according to a World Bank report. India is also projected to become the third largest economy (Nominal GDP) in the world by 2043.

Economic development includes the process and policies adopted by a nation with a view to improve the economic, political, and the social well being of its people. It refers to the policies introduced by the government policy makers and communities of people to bring about a sustained increase in the standard of living and promote economic welfare of the people through efforts to reduce poverty, unemployment and inequalities in income

distribution. Development of human capital, infrastructure, health, literacy are some of the areas in which well defined policies are introduced to improve economic and social condition of the citizens.

The economic development of any country largely depends upon its industrial progress and, the industrial development largely depends upon its possessing a sufficiently large stock of valuable mineral products.

Where Coal is needed?

‘Coal is majorly consumed for electricity generation in India (about 64%), followed by steel (8%) and cement (5%) sectors. coal is also consumed by various other industries such as paper, textile, fertilisers, railways, defence and other small and medium enterprises (SMEs). Although the consumption of each of these sectors individually is comparatively smaller than the core sectors, its share of coal consumption increased to about 23% in FY 15 from a mere 14% in FY 06. It has been assumed that other sectors’ coal requirement will grow at a CAGR of 7.5%, in line with the economic growth. Thus, coal requirement for other sectors will be 271 MT.’

India’s industrial economy is gathering momentum on the back of improved output of eight core sector industries – Coal, Crude oil, Refining, Steel, Cement,

Natural gas, Fertilisers and Electricity. Coal Industry bags the important position among all the industries as it provides energy to steel, cement, fertilizers and electricity industries. Mining in India is a major economic activity which contributes significantly to the economy of India. The GDP contribution of the mining industry varies from 2.2% to 2.5% only but going by the GDP of the total industrial sector it contributes around 10% to 11%. Coal with a proven reserve of 860 billion tonnes is mined the most in the world. At the same time, the demand curve for this sector is always on the rising side.

As a prospering economy, India faces energy security as a growing challenge and the coal production is expected to grow to meet the requirements. The coal industry in India will be dominated by one important metric: Get production to reach 1.5 billion tons by 2020. The Indian coal market is set to witness great boost in near future because of the rising government initiatives.

The Company Coal India Limited (CIL) at a glance

Coal India Limited (CIL) as an organized state owned coal mining corporate came into being in November 1975 with the government taking over private coal mines. With a modest production of 79 Million Tonnes (Mt) at the year of its inception CIL today is the single largest coal producer in the world. Operating through 82 mining areas CIL is an apex body with 7 wholly owned coal producing subsidiaries and 1 mine planning and consultancy company spread over 8 provincial states of India. CIL also fully owns a mining company in Mozambique christened as 'Coal India Africana Limitada'. CIL also manages 200 other establishments like workshops, hospitals etc. Further, it also owns 26 technical & management training institutes and 102 Vocational Training Institutes Centres. Indian Institute of Coal Management (IICM) as a state-of-the-art Management Training 'Centre of Excellence' - the largest Corporate Training Institute in India - operates under CIL and conducts multi-disciplinary

management development programmes. Almost 80 percent of India's coal is produced by [Coal India](#), the biggest coal producing company in the world.

CIL having fulfilled the financial and other prerequisites was granted the **Maharatna** recognition in April 2011. It is a privileged status conferred by Government of India to select state owned enterprises in order to empower them to expand their operations and emerge as global giants. So far, the select club has only seven members out of 290 Central Public Sector Enterprises in the country (as on 31/03/2014, source-DPE).

Corporate Structure and Subsidiary Companies

Coal India is a holding company with seven wholly owned coal producing subsidiary companies and one mine planning & consultancy company. It encompasses the whole gamut of identification of coal reserves, detailed exploration followed by design and implementation and optimizing operations for coal extraction in its mines. The producing companies are:

- Eastern Coalfields Limited (ECL), Sanctoria, West Bengal
- Bharat Coking Coal Limited (BCCL), Dhanbad, Jharkhand
- Central Coalfields Limited (CCL), Ranchi, Jharkhand
- South Eastern Coalfields Limited (SECL), Bilaspur, Chattisgarh
- Western Coalfields Limited (WCL), Nagpur, Maharashtra
- Northern Coalfields Limited (NCL), Singrauli, Madhya Pradesh
- Mahanadi Coalfields Limited (MCL), Sambalpur, Orissa
- Coal India Africana Limitada, Mozambique

- The consultancy company is Central Mine Planning and Design Institute Limited (CMPDIL), Ranchi, Jharkhand.

North Eastern Coalfields (NEC) a small coal producing unit operating in Margherita, Assam is under direct operational control of CIL.

Data and Method

Secondary data from various sources have been used for conducting the study. Published data from various authentic sources have been compiled specially from the journals and websites of Government of India, Ministry of Coal. Other sources include books, magazines, online portals and

newspaper articles on coal. To make an analysis, figures from the official website of Coal India Limited have been utilised specially during the period from 2009 to 2014. Recent figures of 2015 -16 have also been used wherever available. To make a critical evaluation of the material the study is based on Analytical research methodology.

Coal Production in India by State

The all India coal production stood at 639.234 MT for the year 2015-16 out of which 87.32% was contributed by the five major coal producing states. The table below ranks them in order starting from the highest contributor in production of coal.

| Rank | State | Coal Production (2015-16) [MT] |
|------|--------------------------|--------------------------------|
| 1 | Odisha | 138.461 |
| 2 | Chhattisgarh | 130.605 |
| 3 | Jharkhand | 121.067 |
| 4 | Madhya Pradesh | 107.714 |
| 5 | Andhra Pradesh/Telangana | 60.380 |

Production and Growth

The table below reveals the overall production of coal in India for the various years along with the

growth Percentage for the successive years. The production witnessed a significant increase of approximately 7% for the years 2009-10 & 2014-15.

TABLE- 1

| Year | Production of Raw coal (in MT) | Growth (in %) |
|-------|--------------------------------|---------------|
| 09-10 | 532.042 | 7.97 |
| 10-11 | 532.694 | 0.12 |
| 11-12 | 539.950 | 1.36 |
| 12-13 | 556.402 | 3.05 |

| | | |
|-------|---------|------|
| 13-14 | 565.765 | 1.68 |
| 14-15 | 609.179 | 7.67 |
| 15-16 | 639.234 | 4.93 |

Note: For calculating the growth percentage for the year 2009-10 , the production for the year 2008-09 is taken as 492.757Mt(actual production for 2008-09)

TABLE- 2

| Year | CIL Production of Raw coal (in MT) | Growth (in %) |
|-------|------------------------------------|---------------|
| 09-10 | 431.26 | 6.8 |
| 10-11 | 432.32 | .013 |
| 11-12 | 435.84 | 1.04 |
| 12-13 | 452.21 | 3.7 |
| 13-14 | 462.42 | 2.25 |
| 14-15 | 494.24 | 6.8 |
| 15-16 | 538.75 | 9.0 |

Note: For calculating the growth percentage for the year 2009-10 , the production for the year 2008-09 is taken as 403.73Mt(actual production for 2008-09)

Working Notes:

To calculate the growth rate for the above Table No.1 & 2, the following formula has been employed

$$\text{GR (in \%)} = \frac{\text{Production in Current Year} - \text{Production in previous Year}}{\text{Production in previous Year}} * 100$$

For the first time, CIL crossed the threshold of half-a-billion tonne marks in production in 2015-16. Against a coal production growth of 6.8% achieved in 2014-15, CIL achieved the growth of 9% in coal production in 2015-16. CIL's dynamic production momentum is evident from the fact that it leaped from 400 Mt. mark in 2008-09 to 538.75 Mt. mark in 2015-16 and set ambitious target to reach nearly 600 Mt. mark in 2016-17. Due to such massive growth in production of CIL, it has become possible that not a single Utility

was in critical or supercritical condition for want of coal and at the same time there was decline in import of coal in 2015-16. Two of the subsidiary companies of CIL viz. South Eastern Coalfields Limited and Mahanadi Coalfields Limited are in the elite club of 100 MTs coal producing companies.

Revenue Generator

CIL is one of the largest profit making and tax & dividend paying enterprises. It is one of the highest contributors to the government ex-chequer in the country both federal and state governments. CIL paid a corporate tax of Rs.7012.35 Crores to GOI in FY2016. Coal India and its subsidiaries have also paid/adjusted Rs.29084.11 Crores towards royalty, Cess, VAT and other levies. During the financial year 2015-16 Coal India as a whole earned pre-tax profit of Rs.21589.09 Crores and profit after tax of Rs.14274.33 crores. Coal India had paid an interim dividend of Rs.27.40 per share. The total out go from the company was Rs.17306.84 crores of which government of India holding 79.649% of company's share received Rs.13784.86 Crores.

Role of Coal in Generating Employment opportunities in the economy

Coal is majorly consumed for electricity generation in India (about 64%), followed by steel (8%) and cement (5%) sectors. Coal is also consumed by various other industries such as paper, textile, fertilisers, railways, defence and other small and medium enterprises (SMEs). The demand Since coal is consumed by so many other industries, its presence helps in creating employment opportunities in all its dependent industries. The process of industrialisation which is initiated by the thrust provided by the coal helps in boosting the economy and bringing it on the path of progress. The coal industry can be treated as a primary source of creating employment probabilities in the economy whose positive waves soon spreads in the other sectors of the economy. Coal India Limited alone generates employment opportunities for lakhs of people. Though the total workforce has witnessed a downtrend in the last few years, it has been more than three lakhs over these years. (Annexure 1). The Khan's Employment Multiplier in economics also supports this fact that the boost in employment in

the primary sector leads to overall increase in the employment for an economy through multiplier effect.

Kahn's employment multiplier is shown by the letter K, ΔN_1 is the primary increase in employment and ΔN_2 the total increase in employment, then employment multiplier (K) will be:

$$K = \Delta N_2 / \Delta N_1$$

Or

$$K \Delta N_1 = \Delta N_2.$$

In our case we can treat coal as primary sector and all the allied and the complimentary industries as secondary sectors. To further expand the field of impact we can include the consumption goods industries too along with the investment goods industries as all those new people who will get employment through this mechanism will generate their own new demand in consumption goods industries as the income earned by them will be spend on items of consumption goods thereby creating further employment opportunities in the sector.

The above discussed cycle which leads to opening of new avenues for employment generation results in overall economic prosperity leading to a better quality of life for all.

- Produces around 84% of India's overall coal production
- In India where approximately 55% of primary commercial energy is coal dependent, CIL alone meets to the tune of 40% of primary commercial energy requirement
- Commands nearly 74% of the Indian coal market
- Feeds 98 out of 101 coal based thermal power plants in India
- Accounts for 76% of total thermal power generating capacity of the Utility sector

- Supplies coal at prices discounted to international prices
- Insulates Indian coal consumers against price volatility
- Makes the end user industry globally competitive

Another aim of boosting coal production quickly is to lower the country's reliance on expensive coal imports. India imports about 15 percent of its coal demand, much of which comes from Indonesia. The government claims that by 2017, it won't have to import coal, except to feed power plants located on the coast.

Import and Export of Coal

Table 3

| Year | Import(in Mt) | Export(in Mt) |
|-------|---------------|---------------|
| 09-10 | 73.3 | 2.37 |
| 10-11 | 68.9 | 1.87 |
| 11-12 | 102.9 | 2.01 |
| 12-13 | 137.6 | 2.43 |
| 13-14 | 166.85 | 2.18 |
| 14-15 | 212.09 | 1.23 |

Provisional Coal Statistics 2014-15, Gol, Ministry of Coal.

Environment Concern

Coal India has been playing a proactive role in environment protection so as to ensure that its mining operations are carried out in environmentally compatible manner. Committed to minimize the adverse impact of coal mining on environment through well structured Environment Management Plans and sustainable development activities. Pollution control measures are taken concurrently with mining operations for maintaining acceptable levels of major physical attributes of environment namely air, water, hydrogeology, noise, land & nearby population

Eco-friendly mode of transport in order to reduce the dust pollution due to road transportation are being adopted. Massive tree plantation in and around mining area, controlled blasting, use of

modern techniques reduce air and noise pollution. The level of pollutants is being monitored on routine basis as per the statutory guidelines to ascertain the efficacy of the pollution control measures being taken in the projects. Additional remedial measures are taken, if required, to keep the pollutant level within the limits prescribed by regulatory bodies. As a part of 'Clean & Green' programme, massive plantation has been taken up by CIL on reclaimed back filled areas & external Over Burden (OB) dump areas, plantation in & around mines, road sides, township / residential areas, available vacant spaces and implementation of conservation plan for protection of flora & fauna are carried out . The subsidiaries of CIL have planted around 92.35 million of trees covering an area over 36896.26 ha till March 2016 which includes 1.68 million over 719 Ha.in 2015-16 To make environmental mitigation measures more transparent, CIL introduced state-of-the-art Satellite Surveillance to monitor land

reclamation and restoration for all opencast projects CIL has started integration of Environment Management System (ISO:14001) with Quality Management System (ISO:9001).

Conclusion

In an environment of energy problem in a country like India, the Coal Industry occupies a special position among various resources. The coal industry in India contributes a lot to the present commercial and economic success. Industries such as steel and carbo chemicals largely depend on coal industry. Growth of coal sector in India has been noteworthy making India a global player in coal mining and the third largest producer amongst the coal producing countries in the world. **Coal** India has pursued one objective- energising India by satisfying the needs of the coal consuming sectors. The mission of CIL is to produce and market the planned quantity of coal and coal products efficiently and economically in an eco-friendly manner with due regard to safety, conservation and quality.

The broad functions of CIL include laying down policies, systems and procedures, formulating long term and short term plans, assisting the subsidiaries in achieving their objectives (production, environmental impact, mitigation, cost control, profitability, welfare measures etc.) and monitoring the functions of the subsidiaries. Coal mining is a labour intensive industry and thus gives great stress on the welfare of its employees.

CIL with vast coal resource base, strong track record of financial performance, strong capabilities for exploring mine planning, research and development, consistent track record of growth, skilled and diversified workforce with experience will lead the Indian economy towards the roadmap of success. Coal India Limited (CIL) has been conferred the 'Fastest Growing Award' in the India Today PSU Awards event held in Delhi on 14 December 2015.

Thus, CIL proved itself to be one of the core industries in the development of the Indian economy by working on its motto of "Empowering India", "Enabling Life" and "Nurturing Nature".

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