

Coal Washery –

Manufacturing Plant Detailed Project Report, Profile, Business plan, Industry Trends, Market research, survey, Manufacturing Process, Machinery, Raw Materials, Feasibility study, Investment opportunities, Cost and Revenue

Introduction

Coal is the key contributor to the Indian energy portfolio. It contributes to nearly half of commercial primary energy demand and one-third of total energy demand of the country. Although, India is one of the leading producers and consumer of coal, Indian coal has high ash content and embedded impurities, which needs washing and blending of coal for improving the quality of Run-of-Mine (ROM) coal. The steel sector needs coking coal with ash content of less than eighteen percent.

Washing helps in reducing ash content by seven to eight percent. Quality and environmental concerns are causing a shift towards higher utilization of washed and blended coal. Presently nearly fifty-two commercial washeries with installed capacity of about 131 MTPA are operating in the country.

In India, only about twenty percent of the coal produced is washed, as against the global average of over fifty percent.

Coking coal preparation has long been in operation in India; however the trend of washing of non coking coal is also being seen. About twenty-three percent of the installed capacity is for coking coal and the rest is for non-coking coal. Further, as per the directives of MoEF, the power stations located at more than 1000 km away from coal mines and those located in sensitive areas are required to use coal containing not more than thirty-four percent of ash on annual average basis.

Ever increasing demand of coal in sectors such as power & other metal manufacturing industries, urbanization, increasing oil prices, increase in extracting capacity and technological advancements are some of the major drivers for the global coal washery industry. Additional cost associated with coal washery, composition of raw feeds and absence of incentives schemes to the miner are some of the factors restraining growth of this industry.

Almost half of the world's energy demand over the past decades was fulfilled by coal. In fact coal has been the world's fastest energy source driven by Asian demand and regional abundance of fuel. Coal washery is an establishment where coal is alienated from slate and different impurities through various mechanical processes which utilize water and take gain of the difference in the specific gravity and its impurities of coal. The more impurities or waste material is removed from the coal the greater is the market value and lower ash content.

Earlier coking coal was only washed as it was used in steel manufacturing with an ash content of 17-18 % but new environment regulations has put restriction on high ash content coal in power and other industries which necessitates the priority of washing non coking coal also.

Washing is carried out to reduce the ash content, and to lower the level of sulphur and unwanted minerals present in coal. Washed coal has higher calorific value than unwashed coal hence usage of washed coal helps in improving efficiency of steel, cement and power plants.

Out of total of 104 coal-based thermal power plants, only thirty percent of power plants are using washed coal. Development of coal washeries is not keeping pace with the demand of coal.

In the initial stage crushing is done to reduce the size of extracted coal and making it suitable for washing. Size reduction technique involves various processes such as intact, shearing, compression, splitting and attrition. After crushing screening process is done for the separation of heterogeneous particle.

Different types of screens are used such as scalping screen, raw coal sizing screen, pre-wet screen, heavy media recovery screen, desliming screen and dewatering screen. Next process for cleaning of coal is through Jigs.

The method is operated on the basis of difference in specific gravity. Jigs offer cost effective technology with clean coal yield of 70-85%. Froth Floatation is the most widely used technique for cleaning coal. It utilizes the difference in the surface characteristics of coal and reuses it to clean ultra fine coal.

The mixture of coal and water is conditioned with chemical reagents so that air bubbles will stick on the coal and floats on the top, while the reused particles sink. This cleaning technique is generally expensive and complex and is majorly for metallurgical coal. In launder process raw coal is fed into the high end of a trough with a stream of water. As the mixture of water and coal flows down, particles with the maximum settling speed settle down into the lower strata of the stream. The dirt free coal particles settle into the upper strata before separation.

Some of the key players in the coal washery market are Phil Group Coal Washeries, Larsen and Tubro Limited, China Metallurgical Engineering & Project Corporation, CLI Corporation and Adhunik Group among others. The preliminary study on coal washery market in India suggests that investment in coal washeries will increase exponentially in the coming years and host huge opportunities for private players.

**Niir Project Consultancy Services (NPCS)
can provide Detailed Project Report on
Coal Washing Unit**

See more

<http://goo.gl/7fYxxB>

<http://goo.gl/GhzoI4>

<http://goo.gl/m4PcjU>

Our Detailed Project Report Contains

➤ Introduction

- Project Introduction
- Project Objective and Strategy
- Concise History of the Product
- Properties
- BIS (Bureau of Indian Standards) Provision & Specification
- Uses & Applications

➤ **Market Study and Assessment**

- **Current Indian Market Scenario**
- **Present Market Demand and Supply**
- **Estimated Future Market Demand and Forecast**
- **Statistics of Import & Export**
- **Names & Addresses of Existing Units (Present Players)**
- **Market Opportunity**

➤ **Raw Material**

- **List of Raw Materials**
- **Properties of Raw Materials**
- **Prescribed Quality of Raw Materials**
- **List of Suppliers and Manufacturers**

➤ **Personnel (Manpower) Requirements**

- **Requirement of Staff & Labor (Skilled and Unskilled) Managerial, Technical, Office Staff and Marketing Personnel**

➤ **Plant and Machinery**

- **List of Plant & Machinery**
- **Miscellaneous Items**
- **Appliances & Equipments**
- **Laboratory Equipments & Accessories**
- **Electrification**
- **Electric Load & Water**
- **Maintenance Cost**
- **Sources of Plant & Machinery (Suppliers and Manufacturers)**

➤ **Manufacturing Process and Formulations**

- **Detailed Process of Manufacture with Formulation**
- **Packaging Required**
- **Process Flow Sheet Diagram**

➤ Infrastructure and Utilities

- Project Location
- Requirement of Land Area
- Rates of the Land
- Built Up Area
- Construction Schedule
- Plant Layout and Requirement of Utilities

Along with project financials, as under:

Project at a Glance

- Assumptions for Profitability workings
- Plant Economics
- Production Schedule
- Land & Building

Factory Land & Building

Site Development Expenses

- **Plant & Machinery**

Indigenous Machineries

Other Machineries (Miscellaneous, Instruments, Laboratory Equipments and Accessories etc.)

- **Other Fixed Assets**

Furniture & Fixtures

Pre-operative and Preliminary Expenses

Technical Knowhow

Provision of Contingencies

- **Working Capital Requirement Per Month**

Raw Material

Packing Material

Lab & ETP Chemical Cost

Consumable Store

- **Overheads Required Per Month and Per Annum**
Utilities & Overheads (Power, Water and Fuel
Expenses etc.)

Royalty and Other Charges

Selling and Distribution Expenses

- **Salary and Wages**
- **Turnover per Annum**
- **Share Capital**

Equity Capital

Preference Share Capital

- **Annexure 1 :: Cost of Project and Means of Finance**
- **Annexure 2 :: Profitability and Net Cash Accruals**
 - **Revenue/Income/Realisation**
 - **Expenses/Cost of Products/Services/Items**
 - **Gross Profit**
 - **Financial Charges**
 - **Total Cost of Sales**
 - **Net Profit After Taxes**
 - **Net Cash Accruals**

- **Annexure 3 :: Assessment of Working Capital requirements**

- **Current Assets**
- **Gross Working Capital**
- **Current Liabilities**
- **Net Working Capital**
- **Working Note for Calculation of Work-in-process**

- **Annexure 4 :: Sources and Disposition of Funds**

- **Annexure 5 :: Projected Balance Sheets**

- ROI (Average of Fixed Assets)
- RONW (Average of Share Capital)
- ROI (Average of Total Assets)

- **Annexure 6 :: Profitability Ratios**

- D.S.C.R
- Earnings Per Share (EPS)
- Debt Equity Ratio

- **Annexure 7 :: Break-Even Analysis**

- **Variable Cost & Expenses**
- **Semi-Variable/Semi-Fixed Expenses**
- **Profit Volume Ratio (PVR)**
- **Fixed Expenses / Cost**
- **B.E.P**

- **Annexure 8 to 11 :: Sensitivity Analysis-Price/Volume**

- **Resultant N.P.B.T**
- **Resultant D.S.C.R**
- **Resultant PV Ratio**
- **Resultant DER**
- **Resultant ROI**
- **Resultant BEP**

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 - **Preference Share Capital**
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Niir PROJECT CONSULTANCY SERVICES

An ISO 9001:2008 Company

Who are we?

- ▶ One of the leading reliable names in industrial world for providing the most comprehensive technical consulting services
- ▶ We adopt a systematic approach to provide the strong fundamental support needed for the effective delivery of services to our Clients' in India & abroad

What do we offer?

- ▶ Project Identification
- ▶ Detailed Project Reports/Pre-feasibility Reports
- ▶ Market Research Reports
- ▶ Technology Books and Directory
- ▶ Databases on CD-ROM
- ▶ Laboratory Testing Services
- ▶ Turnkey Project Consultancy/Solutions
- ▶ Entrepreneur India (An Industrial Monthly Journal)

How are we different ?

- ▶ We have two decades long experience in project consultancy and market research field
- ▶ We empower our customers with the prerequisite know-how to take sound business decisions
- ▶ We help catalyze business growth by providing distinctive and profound market analysis
- ▶ We serve a wide array of customers , from individual entrepreneurs to Corporations and Foreign Investors
- ▶ We use authentic & reliable sources to ensure business precision

Our Approach

Requirement collection



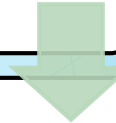
Thorough analysis of the project



Economic feasibility study of the Project



Market potential survey/research



Report Compilation

Who do we serve?

- ▶ Public-sector Companies
- ▶ Corporates
- ▶ Government Undertakings
- ▶ Individual Entrepreneurs
- ▶ NRI's
- ▶ Foreign Investors
- ▶ Non-profit Organizations, NBFC's
- ▶ Educational Institutions
- ▶ Embassies & Consulates
- ▶ Consultancies
- ▶ Industry / trade associations

Sectors We Cover

- ▶ Ayurvedic And Herbal Medicines, Herbal Cosmetics
- ▶ Alcoholic And Non Alcoholic Beverages, Drinks
- ▶ Adhesives, Industrial Adhesive, Sealants, Glues, Gum & Resin
- ▶ Activated Carbon & Activated Charcoal
- ▶ Aluminium And Aluminium Extrusion Profiles & Sections,
- ▶ Bio-fertilizers And Biotechnology
- ▶ Breakfast Snacks And Cereal Food
- ▶ Bicycle Tyres & Tubes, Bicycle Parts, Bicycle Assembling

Sectors We Cover *Cont...*

- ▶ Bamboo And Cane Based Projects
- ▶ Building Materials And Construction Projects
- ▶ Biodegradable & Bioplastic Based Projects
- ▶ Chemicals (Organic And Inorganic)
- ▶ Confectionery, Bakery/Baking And Other Food
- ▶ Cereal Processing
- ▶ Coconut And Coconut Based Products
- ▶ Cold Storage For Fruits & Vegetables
- ▶ Coal & Coal Byproduct

Sectors We Cover *Cont...*

- ▶ Copper & Copper Based Projects
- ▶ Dairy/Milk Processing
- ▶ Disinfectants, Pesticides, Insecticides, Mosquito Repellents,
- ▶ Electrical, Electronic And Computer based Projects
- ▶ Essential Oils, Oils & Fats And Allied
- ▶ Engineering Goods
- ▶ Fibre Glass & Float Glass
- ▶ Fast Moving Consumer Goods
- ▶ Food, Bakery, Agro Processing

Sectors We Cover *Cont...*

- ▶ Fruits & Vegetables Processing
- ▶ Ferro Alloys Based Projects
- ▶ Fertilizers & Biofertilizers
- ▶ Ginger & Ginger Based Projects
- ▶ Herbs And Medicinal Cultivation And Jatropha (Biofuel)
- ▶ Hotel & Hospitality Projects
- ▶ Hospital Based Projects
- ▶ Herbal Based Projects
- ▶ Inks, Stationery And Export Industries

Sectors We Cover *Cont...*

- ▶ Infrastructure Projects
- ▶ Jute & Jute Based Products
- ▶ Leather And Leather Based Projects
- ▶ Leisure & Entertainment Based Projects
- ▶ Livestock Farming Of Birds & Animals
- ▶ Minerals And Minerals
- ▶ Maize Processing(Wet Milling) & Maize Based Projects
- ▶ Medical Plastics, Disposables Plastic Syringe, Blood Bags
- ▶ Organic Farming, Neem Products Etc.

Sectors We Cover *Cont...*

- ▶ Paints, Pigments, Varnish & Lacquer
- ▶ Paper And Paper Board, Paper Recycling Projects
- ▶ Printing Inks
- ▶ Packaging Based Projects
- ▶ Perfumes, Cosmetics And Flavours
- ▶ Power Generation Based Projects & Renewable Energy Based Projects
- ▶ Pharmaceuticals And Drugs
- ▶ Plantations, Farming And Cultivations
- ▶ Plastic Film, Plastic Waste And Plastic Compounds
- ▶ Plastic, PVC, PET, HDPE, LDPE Etc.

Sectors We Cover *Cont...*

- ▶ Potato And Potato Based Projects
- ▶ Printing And Packaging
- ▶ Real Estate, Leisure And Hospitality
- ▶ Rubber And Rubber Products
- ▶ Soaps And Detergents
- ▶ Stationary Products
- ▶ Spices And Snacks Food
- ▶ Steel & Steel Products
- ▶ Textile Auxiliary And Chemicals

Sectors We Cover *Cont...*

- ▶ Township & Residential Complex
- ▶ Textiles And Readymade Garments
- ▶ Waste Management & Recycling
- ▶ Wood & Wood Products
- ▶ Water Industry(Packaged Drinking Water & Mineral Water)
- ▶ Wire & Cable

Niir Project Consultancy Services

106-E, Kamla Nagar, New Delhi-110007, India.

Email: npcs.ei@gmail.com , info@entrepreneurindia.co

Tel: +91-11-23843955, 23845654, 23845886

Mobile: +91-9811043595

Fax: +91-11-23841561

Website :

www.niir.org

www.entrepreneurindia.co

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