

A COMPARATIVE ANALYSIS OF LIQUIDITY AND PROFITABILITY OF WIND ENERGY PRODUCTION COMPANIES OF INDIA

Submitted by:

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Introduction:-

Wind energy is a source of renewable power which comes from air current flowing across the earth's surface. Wind turbines harvest this kinetic energy and convert it into usable power which can provide electricity for home, farm, school or business applications on small (residential), medium (community), or large (utility) scales. Wind energy is one of the fastest growing sources of new electricity generation in the world today. These growth trends can be linked to the multi-dimensional benefits associated with wind energy.

- **Green Power:** The electricity produced from wind power is said to be "clean" because its generation produces no pollution or greenhouse gases. As both health and environmental concerns are on the rise, clean energy sources are a growing demand.
- **Sustainable:** Wind is a renewable energy resource; it is inexhaustible and requires no "fuel" besides the wind that blows across the earth. This infinite energy supply is a security that many users view as a stable investment in our energy economy as well as in our children's' future.
- **Affordable:** Wind power is a cost-competitive source of electricity, largely due to technological advancements, as well as economies of scale as more of these machines are manufactured and put online around the world.
- **Economic Development:** As well as being affordable, wind power is a locally-produced source of electricity that enables communities to keep energy dollars in their economy. Job creation (manufacturing, service, construction, and operation) and tax base increase are other economic development benefits for communities utilizing wind energy.

Wind energy in India:-

Development of wind power in India began in December 1952, when Maneklal Sankalchand Thacker, a distinguished power engineer, initiated a project with the Indian Council of Scientific and Industrial Research (CSIR) to explore the possibilities of harnessing wind power in the country. The CSIR established a Wind Power Sub-Committee under P. Nilakantan, which was assigned the task of investigating the available resources that could be practically utilized, along with researching the economic possibilities of wind energy. With assistance from the Indian Meteorological Department, the Sub-Committee extensively reviewed available data on surface winds in India and their velocity duration, and began detailed surveys of promising sites for harnessing the optimum amount of wind energy; it also successfully developed and tested large wood-and-bamboo windmills.

In September 1954, a Symposium on Solar Energy and Wind Power organised by the CSIR and UNESCO was held in New Delhi; among the attendees was E. W. Golding, a British power engineer and authority on wind energy generation. Convinced of the potential of wind power in India, he recommended continued and extensive wind velocity surveys in different regions of India, the full-time assignment of staff to experimental wind power studies, the establishment of a dedicated research laboratory and development of small to medium-sized wind-powered electrical generators. Golding's recommendations were adopted by the CSIR in 1957. By this time, regions of Saurashtra and around Coimbatore had been identified as promising sites for generating electricity from wind power, and the Wind Power Sub-Committee had begun to erect 20 wind velocity survey stations across India, in addition to testing its indigenously designed windmills and obtaining a 6 kw. Allgaier wind turbine, which was presented to India by the West German government; experiments at Porbandar with the latter had commenced by 1961. The Indian government also considered a proposal to erect over 20,000 small to medium-sized wind-powered electrical generators in rural districts, to be used for powering water pumps and supplying electricity for remotely situated structures such as lighthouses.

In 1960, the CSIR established a Wind Power Division as part of the new National Aeronautical Laboratory (NAL) in Bangalore, which was founded that year. From the 1960s into the 1980s, the NAL and other groups continued to carry out wind velocity surveys and develop improved estimates of India's wind energy capacity. Large-scale development of wind power began in 1986 with the first wind farms being set up in coastal areas of Maharashtra (Ratnagiri), Gujarat (Okha) and Tamil Nadu (Tirunelveli) with 55 kW Vestas wind turbines. These demonstration projects were supported by the Ministry of New and Renewable Energy (MNRE).

The potential for wind farms in the country was first assessed in 2011 to be more than 2,000 GW by Prof. Jami Hossain of TERI University, New Delhi.^[11] This was subsequently re-validated by Lawrence Berkley National Laboratory, US (LBNL) in an independent study in 2012. As a result, the MNRE set up a committee to reassess the potential^[12] and through the National Institute of Wind Energy (NIWE, previously C-WET) has announced a revised estimation of the potential wind resource in India from 49,130 MW to 302,000 MW assessed at 100 m hub height.^[13] Wind turbines are now being set up at even 120 m hub height and the wind resource at higher hub heights of around 120 m or more that are prevailing is possibly even more.

In 2015, the MNRE set the target for Wind Power generation capacity by the year 2022 at 60,000 MW.

Review of Literature:-

The most important pioneering books were written by PODDAR in 1962 and 1966 respectively, in which an attempt has been made to enumerate all the historical facts regarding various aspects of the industry. Some institutions like C.M.A. association of Trade and Industry, Tariff Commission, Commerce Research Bureau, Economics Times, National Productivity Council etc. have made attempts to study the general problems in historical perspectives.

KAURA AND SUBRAMANIAM published an article on the financial performance of 10 units relating to the period from 1972 to 1979 which mainly observed liquidity, profitability, financial structure and overall performance. For this study they used conventional ratio analysis and merit rating approach. They found that the financial strength of the units have declined over the years.

RAO AND CHANDAR... have made attempt to assess the financial efficiency of cement companies for the period from 1970 – 71 to 1977 – 78 which covers 70% of entire industry. They found out that the profitability of selected companies had decreased continuous from 1970 - 71 to 1974 – 75 owing to causes such as inflationary pressure in the country , continuous fall in capacity utilization due to drastic power cuts and storage of coal, oil and wagon. The profitability increased in 1975 – 76 because of appreciable increase in the sales.

V.K. GOEL AND N.K. NAIR have studied on productivity trends of the industry for the period from 1954 to 1976. This study includes various aspects like origin and growth of the industry, extent of under utilisation of capacity and its causes, efficiency of major inputs like labours, capital, and raw materials. It also considers financial Performance, pricing and future directions in which the industry may grow.

CHAKRAVARTY AND REDDY had written an article on the financial performance of the industry for period from 1967 to 1971 by making comparison in 1973. They used ratio analysis as major tool for financial performance and had studied 22 ratios of profitability, proprietary, liquidity and turnover groups.

NPC RESEARCH DIVISION (April June 1991) published an article in “Productivity Quarterly Magazine” in which an attempt was made to analyze the productivity and performance ratio of the industry with a view to identifying the measure problem- areas and the prospects of solving them. The study covers 26 companies, comprising of large size plants, medium size plants and mini plants. On profitability front, of the 26 companies examined, at least 11 have shown losses.

DR. D.K. MITTAL published a book in 1994, touching on the various aspects of the cement industry like growth of the industry, regional upgradation and modernisation, energy efficiency, price and technological controls and financial performance. The study covers more than 45 cement companies. The study pertains to the period from 1984-85 to 1991-92. on the profit performance front, the study revealed that the industry’s profit had fallen despite sales growth, though at a slowerpace.

RAMA SHAKAR SINGH published a book in 1992. This edited book covers various issues pattern, development, regional imbalances, sickness, environmental impact, policy and regulation, and case study article of “cement industry.” This article covers topic, development of the industry before independence after independence, state-60 wise distribution of production, pattern of consumption, pricing of cement, distribution, Government participation in production, India’s role in global cement exports, and policy matter.

DR. B. L. MAHESHWARI published a book in 2001, marketing strategies in cement industries in India. Like factor cement industry in India & world, marketing organizations & structure, product standardization & grading, packing & brand, price, distribution & transportation, promotion. The study pertains to the period to overall cement industry marketing area up to 2001.

Statement of the Problem:-

- While undertaking the survey it has come to know that financial statement analysis is always made objectively. Generally, external analysts use information as per their requirements.
- Management would be interested in the operational efficiency and profitability. Position of the management profitability vis-à-vis liquidity also balances in the portfolio. But if the management likes profitability, Liquidity is less and the Liquidity is like the profitability is less.
- The various stock holders of business enterprises like management, investors, bankers, financial institutions, creditors, employees, government, economist, prospective investors etc, look at sound financial position of the business enterprise.

Objectives of the Study:-

- To examine the liquidity position and analysis of liquidity.
- To analyze the profitability.
- To analyze liquidity vis-a-vis profitability.
- To make suggestions regarding profitability and liquidity for financial soundness.

Hypothesis of the Study:-

- There is no significant difference in liquidity trends of wind energy production companies of India.
- There is no significant difference in profitability trends of wind energy production companies of India.

Research Methodology:-

Sources of data:-

The main source of data used for the study will be secondary data, drawn from the annual profit and loss account and balance sheet figures as found in annual reports of the selected units. The other data sources and opinions expressed in commercial journals, magazines, newspapers, accounting literature, various journals of renewable energy. The government of India. The ministry of new and renewable energy's annual review etc. have been also used in this study.

Sample Design:-

For the purpose of the study the following five major players in the wind energy will be selected,

- Suzlon Energy Ltd.
- Vestas India
- Enercon India Pvt. Ltd.
- Wind world India Ltd.
- Inox Wind Ltd.
- Gamesa Wind Turbines Pvt Ltd.
- GE wind Energy Ltd.
- Regen powertech Pvt. Ltd.
- Orient green power Ltd.
- Indowind energy Ltd.

Data Analysis:-

- Ratio Analysis
- Common-Size statements
- Trend Analysis
- Comparative statements Analysis
- ANOVA Test
- Analysis of Time Series
- Diagrammatic and Graphic Analysis

Limitations of the Study :-

- This study based on secondary data taken from published annual reports and accounts of selected companies and as such its finding depends entirely on such data.
- There are different methods to measure the profitability and liquidity of an industry in this connection views of experts differ from one- another.

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