

JK Lakshmi Cement Ltd.

Unit profile

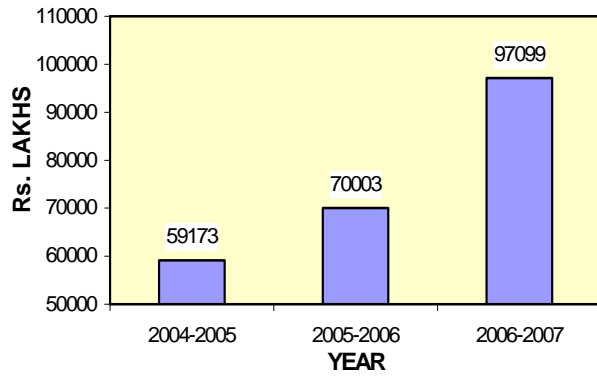


M/s. JK Lakshmi Cement Ltd. is a member of well-known J.K. Organization, which is one of largest privately, owned industry groups in India. The plant is having annual installed capacity of 24.00 lakhs tones along with 27 MW installed capacity D.G. powerhouse. M/s JK Lakshmi Cement Ltd. markets its product in Rajasthan, Gujarat, Maharastra, Northern region of India including Punjab, Haryana, Delhi and J&K. M/s JK Lakshmi Cement Ltd. contributes 28.50 % of total cement production in Rajasthan and 28.66 % of total cement production in Gujarat.

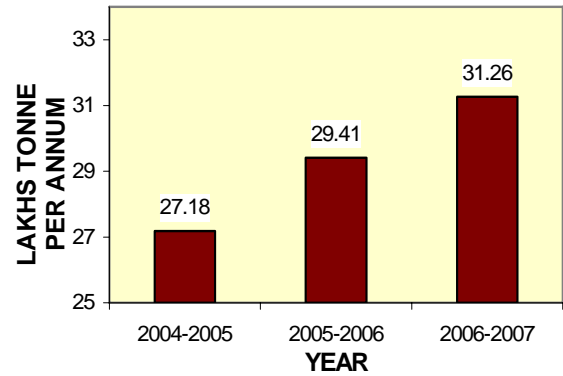
Energy Consumption

Description	Unit	2004-05	2005-06	2006-07
Installed capacity	LTPA	24.00	24.00	34.00
Actual production	LTPA	27.18	29.41	31.26
% utilization	%	113.24	122.54	91.94
Coal consumption	Tonnes	259715	247193	271769
Total cost of coal	Rs Lakhs	9017.45	8177.37	10871.41
Electricity consumption	Lakh kwh	2272.28	2363.46	2592.92
Total electricity cost	Rs.Lakhs	9243.35	10469.13	11636.52
Energy consumption in terms of % of mfg. Cost (variable cost)	%	71.49 %	61.79 %	58.36 %
Specific electrical energy consumption (excluding crusher)	Kwh/Ton of cement	83.72	82.09	82.91
Specific thermal energy consumption	Kcal/kg clinker	746	733	768
Coal consumption	Kg/ton of cement	93	84	84

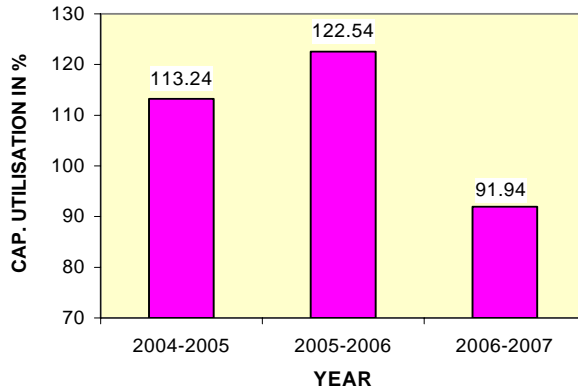
ANNUAL SALES TURNOVER



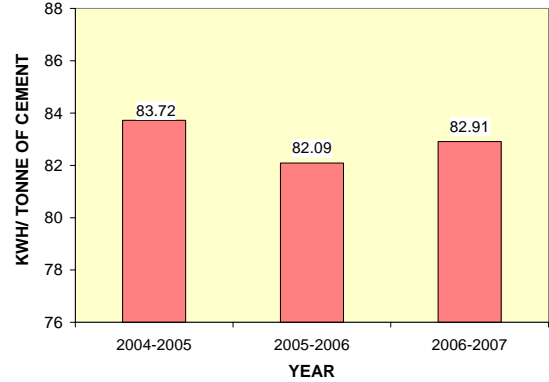
ANNUAL CEMENT PROD. (INCL. CLINKER SALES)



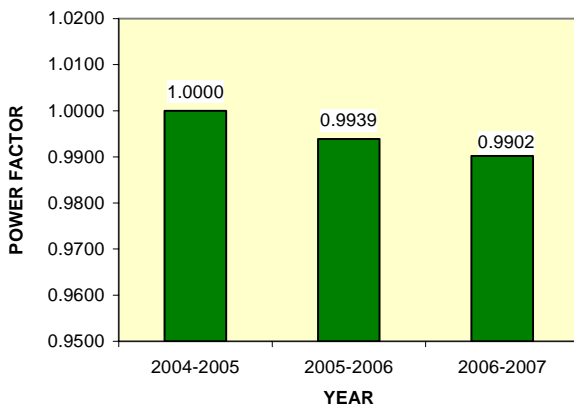
% CAPACITY UTILISATION



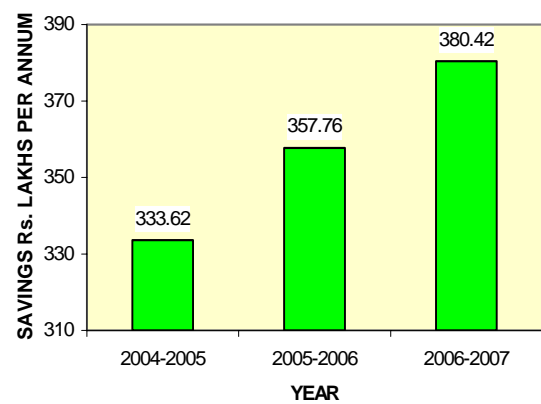
SP. ELECT. ENERGY CONSUMPTION

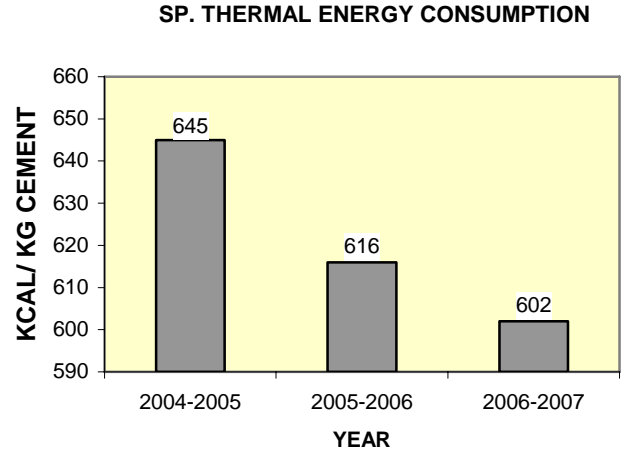
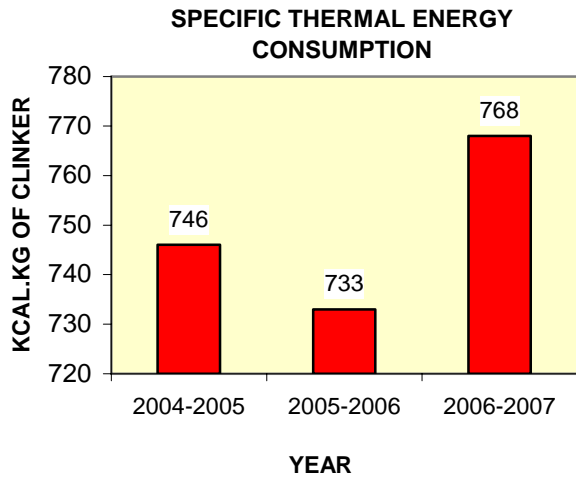


AVR. POWER FACTOR

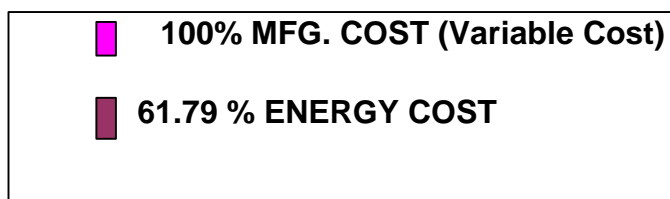
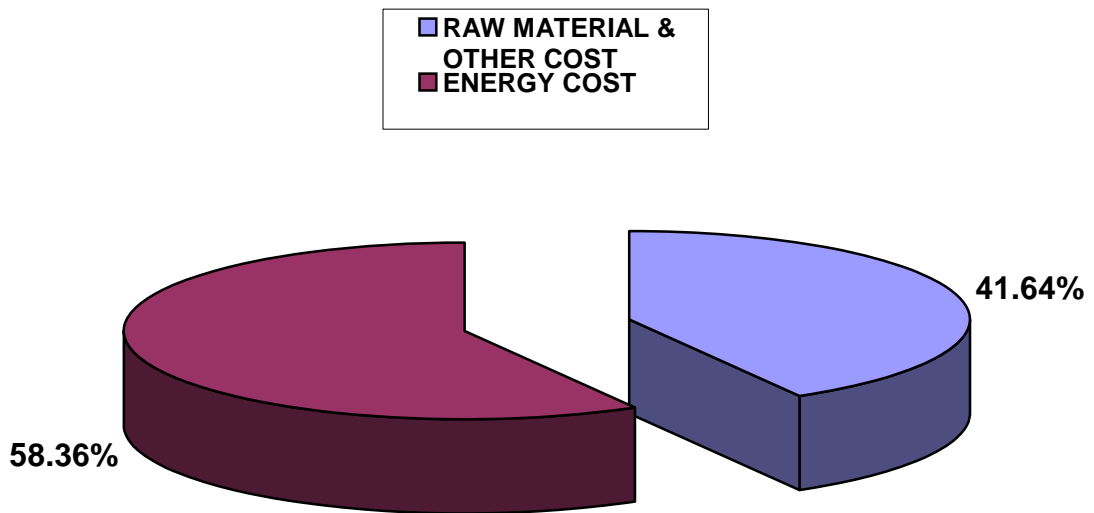


SAVINGS ON POWER FACTOR





ENERGY COST AS % OF MFG. COST FOR THE YEAR 2005 - 2006



Year	Electrical Energy Consumption		Thermal Energy Consumption	
	Kwh/ton of Cement (excl. crusher)	% Reduction over 2004-2005	Kcal/Kg of Clinker	% Reduction over 2004-2005
2004-2005	83.72	-	746	-
2005-2006	82.09	1.95 %	733	1.74 %
2006-2007	82.91	0.97 %	768	(-) 2.95 %

Energy Conservation Commitment, Policy and Organizational Setup

The management of M/s.Lakshmi cement is committed to total energy management and prevention of energy wastage by:-

- Close monitoring, control and analyze the equipment and process performance for specific energy consumption.
- Explore the possibility of cheaper alternative fuel and waste products.
- Create awareness for energy conservation.
- Conduct training programs for energy consumption.
- Conduct energy audit to identify opportunities for improvement of overall energy efficiency of the plant.

The management considers energy efficiency of equipment on the basis of cost benefit analysis while purchasing the new equipments.

Energy Management cell headed by energy manager is functioning for regular monitoring and control of wastage of energy.

Company involves different cement process experts/consultants/energy audit-agencies to identify & suggest scope of improvement in energy efficiency.

Actively participate in cement sector task force meeting, organized by B.E.E. and exchange the views regarding energy consumption norms.

The company is going to set-up 36MW thermal power plant to reduce energy cost.

The energy management committee chaired by the chief Executive works meets every Monday to review the weekly energy performance, action plan and ENCON activities.

A copy of Energy Management policy (in English & Hindi) is attached herewith.

MAJOR ENERGY CONSERVATION PROJECTS **IMPLEMENTED DURING THE YEAR 2006-2007**

Reduction In Power Consumption Of Bag House Fan In Kiln – 2 & 3 By Variuos Modifications (A Low Cost Technological Innovation)

Synopsis:

Over the last decade the cement industry has been on the throes of a severe recession rendering a number of plants unviable under the burden of large cumulative debts & loans. In order to sustain its operation in the market it was essential for us to cut down cost and at the same time increase in the capacity. Going for a new green-field plant being an expensive proposition, the only alternative left was to sweat out the assets by brown fielding in the existing plant and to utilize the available equipments to their full potential, adding equipments only wherever required for balancing the capacity. Thus optimum utilization of existing manpower resources and machinery, infrastructure and colony etc. has helped cut down the project cost considerably and minimize the capex.

The enlargement of Kiln 2 & 3 VRM bag house inlet duct, outlet duct, outlet elbow and poppet damper cross-section area, Replacement of fiberglass bags with PTFE fiberglass “laminated” bags, Enlargement of Kiln –2 & 3 VRM Bag House bypass duct and Modification of logic control of reverse air bag house fan of Kiln –2 leads to reduction in pressure drop across bag house as well as reduction in the electrical power consumption, which helps the company to beat the inflation in the current market scenario by considerable reduction in power.

Previous Status:

The plant was initially designed for 2800 TPD. Numbers of in house modification with practically no-capex and small capex were carried out to enhance the capacity to 4200 TPD. With VRM running, we were able to run kiln at 290 TPH (Kiln feed). But when VRM was stopped and there was no water spray in down comer duct we had to reduce kiln feed to 270 TPH (Kiln feed), because of higher reverse air bag house differential pressure as well as high pressure drop across by pass duct. In order to run kiln at constant feed we decided to go for PTFE bags and the enlargement of by pass duct.

Energy Saving Project:

The replacement of old fiberglass bags by new PTFE bags has enabled us to get consistent clinker production even when VRM is not running. In addition to this the project also helped us to get reduced electrical energy consumption and reduction in fugitive dust emission.

Benefits of the Project:

Now we are able to get consistent clinker production from both the kilns even if VRM is stopped. Besides this, it has helped us in reducing electrical energy consumption and fugitive dust emission etc. A comparison of parameters before and after modification is given below

PARAMETER BEFORE IMPLEMENTATION AFTER IMPLEMENTATION

Kiln feed. When VRM is stopped	270 TPH	290 TPH
Pressure drop across BH.	205 mmWG	110 mmWG
Pressure drop across By pass duct*	100 mmWG	50 mmWG
BH fan power	850 KW	660 KW

* Pressure drop across by pass duct of both kilns is taken during mill-stopped condition.

Benefits of this project:

1. Consistent clinker production.
2. Lower BH fan power consumption.
3. Reduction in fugitive dust emission.

Cost benefit analysis: (For one kiln)

Annual savings (Electrical energy)	:	Rs. 7.46 Millions.
Annual saving due to increase in Clinker production	:	Rs. 16.77 Millions.
Total saving	:	Rs. 24.23 Millions
Investment	:	Rs. 24.716 Millions.
Simple payback	:	12 Months.



(BEFORE MODIFICATION)



(AFTER MODIFICATION)

ENERGY CONSERVATION PLANS AND TARGETS

S. No.	Energy Conservation Measures (Planned)	Anticipated Savings (Rs. Lakhs)	Approx. Investment (Rs. Lakhs)	Project Commencement & Completion year
1	Installation & Commissioning of 36 MW capacity Thermal Power Plant.	3145.00	15200.00	Jun-07
2	Installation & Commissioning of Cement Mill No.-6	2500.00	3000.00	Dec-07
3	Up-gradation of Kiln-2 and Kiln-3 to increase production of clinker	1029.00	1200.00	Dec-07
4	Up-gradation of Old Kiln (Unit-1) for production and energy efficiency improvement	}	20100.00	Oct-08
5	Installation of one more cement mill to increase grinding capacity.	}	2500.00	Oct-08
6	Installation & commissioning of one cement mill with cement silo and packer machine at split location.	}	5000.00	Oct-08
7	Installation of fly ash drier for cement mills	150.00	700.00	Dec-08
8	Replacement of fossil fuel by biomass in pyro-processing.	75.00	330.00	Mar-08

Environment and Safety

The unit has made sincere efforts since 1982 in the field of plantation. More than 1.5 lakhs plants are planted & the process is still going on.

M/s JK Lakshmi Cement Ltd. has a very strong feeling to keep close monitoring over the efficiency of pollution prevention measures. The Environment Management Cell (EMC) ensures the full efficiency utilization of pollution control measures with the help of online emission monitoring.

The plant has installed bag house & ESP at its major production units. Bag house fitted with homopolymer, PTFE laminated fiber glass & polyester bags at various sections like Cement mill, Reverse air bag house & Coal mill.

These are zero discharge effluent from industry. Only domestic waste water (sewage) is being treated at sewage treatment plant (STP).

As a recognition of contribution for better environment management, M/s. JK Lakshmi Cement Ltd. was received "Golden Peacock Environment Management Award" for the year 2003-2004 and Green Rating Award "3 LEAVES" (3rd in India and 1st in the state of Rajasthan in Green rating of Indian Cement Industries) of Centre for Science and Environment (CSE), an NGO, based at New Delhi in December, 2005.

As a part of culture it is Lakshmi Cements endeavor to maintain all the safety norms. All the employees are very much conscious about safety measures. As a recognition in safety measures, M/s JK Lakshmi Cement Ltd. was received "Greentech Safety Award" for the year 2003-2004.