Vikram Cement
(Unit of Grasim Industries Ltd.)
Vikramnagar; P.O. Khor; Distt.Neemuch (MP)

UNIT PROFILE

Commissioned in 1985 Vikram Cement is one of the modern Cement Plants of Grasim Industries Ltd., of Aditya Birla Group. The capacity was enhanced to 0.75 Million Tonnes Per Annum from 0.5 Million Tonnes Per Annum in 1989. Vikram Cement Line-1 is equipped with the latest modern KHD Dry Process, Double Stream 5 stage preheater with separate precalciner for Kiln Pyro Processing, Vertical Raw Mill and Coal Mill of Loesche make and close circuit 2 chamber Cement Mill for grinding. Complete process control and instrumentation is computerized. 115% capacity utilisation was achieved in year 2004-2005. Line-I again upgraded from 5 Stage to 6 Stage Preheater by M/s KHD and production increased from 0.75 Million Ton to 0.90 Million Ton in March 2002.

Energy conservation has been the main thrust area and significantly proven, modern and innovative, major equipments have been installed.

Energy conservation schemes and ideas that have been already implemented many are in pipeline/in the implementation stage.

PLANT VIEW - VIKRAM CEMENT LINE-1 IS FIRST FROM LEFT

With many feathers like TPM Excellence Award, ISO:14001 & ISO:9001 certification etc. in it's cap, it is one of the most energy efficient plant of its type in the view of world standards. A list of important accreditation won by the unit is given below:

- TPM Excellence Award -1995 and TPM Consistency Award - 2001 (JIPM, Japan)
- British Safety Council Award - 1996, 1997, 1999 & 2000
- OHSAS 18001- Occupational Health & Safety Assessment Series - DNV, Netherlands – 2001
- Greentech Environment Excellence Award 2001
- National Award for Quality Excellence in Indian Cement Industry - 2001-02
- SA 8000 – DNV – 2003
- Fuller Energy Award M.P. Chamber of CMA – 2000 & 2003
- MP State Environment Award - 2003
- Manufacturing Excellence & Competitive Advantage Award - 2002
- 7^{th} FL Smidth Energy Award (DG Set) - 2003-04

ENERGY CONSUMPTION

Total energy input for manufacture of cement as percentage of manufacturing cost is about 57% of total cost. The cost of coal, diesel & furnace oil and electricity (purchased and self generated) are constantly rising.

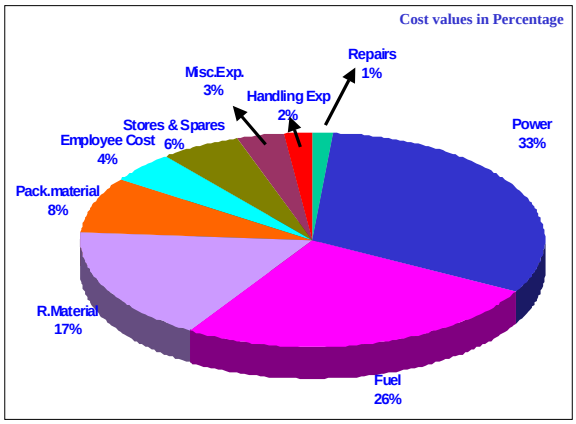
Electrical energy has been brought down from 88.21 kWh/ton Cement in 2003-2004 to 87.14 kWh/ton Cement in 2004-2005.

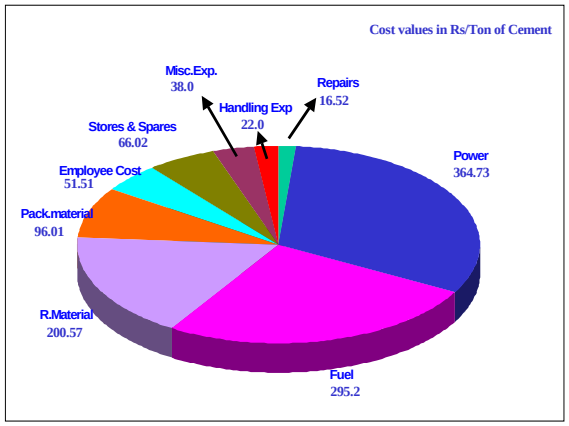
Specific thermal energy consumption from 708 KCal/Kg clinker in 2002-2003 to 695 KCal/Kg clinker in 2004-2005.

Cement and clinker production vis a vis the cost of electrical energy and fuel for the last 3 years have been as given below:

	2002-2003	2003-2004	2004-2005
Cement production (Lac Ton)	9.48	9.32	10.31
Elect. energy cost (Rs. in lac)	3527.20	3558.29	4096.28
Clinker production (Lac Ton)	9.03	8.10	9.76
Thermal energy cost (Rs.in lac)	2066.61	2143.18	3099.37

COMPONENTS OF ACTUAL COST OF PRODUCTION FOR THE YEAR 2004-05



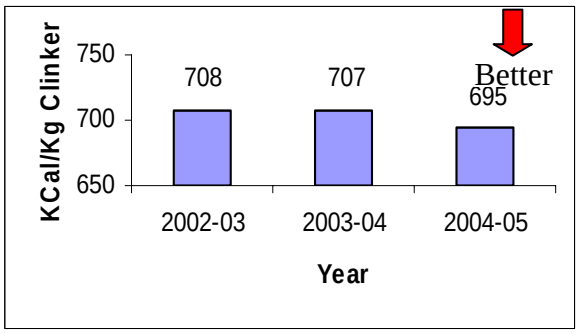


ENERGY CONSERVATION - ACHIEVEMENTS

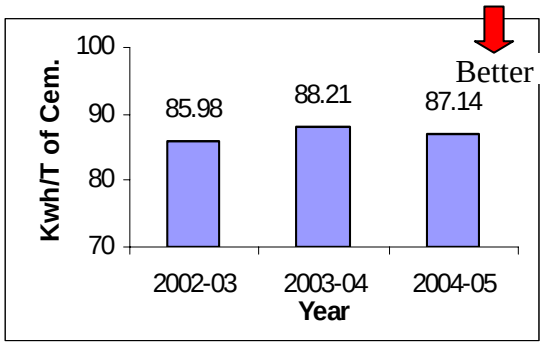
Energy conservation has been one of the main agenda of Vikram Cement since the commissioning of the plant.

The reducing trend of the specific thermal energy consumption shown below is indicator of achievements.

Specific energy, specific power consumption	2002-2003	2003-2004	2004-2005
Specific power in Kwh/Ton cement	85.98	88.21	87.14
Specific energy in KCal/Kg clinker	708	707	695



THERMAL



ELECTRICAL

REDUCTION OF ENERGY CONSUMPTION

Petcoke is being used in increasing percentage as fuel by Vikram Cement. Due to poor grindability and finer grinding requirements, specific electrical energy consumption has increased, but the total cost has considerably come down.

The following major energy conservation schemes have been implemented during 2004-2005.

01. Water spray in Preheater top cyclone Kiln String
02. Water spray system in Cooler
03. Removal of ventury in Coal Mill duct
04. Installation of high efficiency dedusting fan at weigh bin.
05. Capacitors for HT motors
06. Cement Mill optimization package

In addition to the above measures, plant upgradation and optimization has been done and many smaller energy conservation schemes have been implemented, under Kaizen, as a part of WCM implementation.

Regular heat balance studies and false air leakage monitoring help in maintaining the gain.

The thermal energy conservation schemes implemented since 2002-03 to 2004-2005 have resulted in saving of 13 Kcal/kg clinker.

Energy Conservation Plans and Target

Various energy conservation schemes under implementation/active consideration at Vikram Cement are given below:

- On-line cross belt analyser for raw material
- On-line free lime analyser for reduction in cement grinding power
- Enhance production of blended cement
- Installation of Captive Thermal Power Plant for reduction of specific electrical energy consumption by frequency & voltage optimisation and cost of energy generation.
- Expert system for Coal Mill
- OMEGA plates for cooler
- Coal Mill classifier upgradation
- Installation of low pressure cyclones at Preheater Stage-III, IV, V & VI
- Pre-grinder for Cement Mill
- SPRS for Coal Mill Fans

The target for the unit for 2005 – 2006 for specific thermal energy is 700 KCal/Kg Clinker and that for specific electrical energy consumption 86.18 Kwh/Tonne cement.