

**Maihar Cement**

Unit No.2

**Maihar**

**Unit-Profile**

**2003-2004**

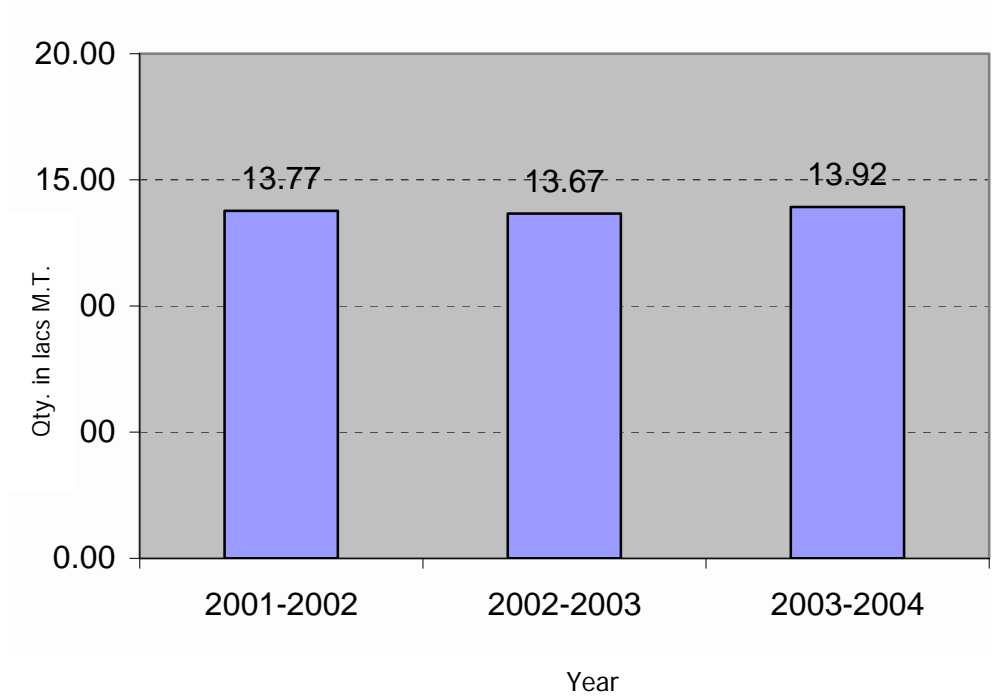
# PROFILE

Maihar Cement Unit No.2 is most modern dry process state of the art cement Plant. It is in operation since March 1996 with a capacity of 1.35 million tones per annum cement. It is highly automotive PLC operated centralized control plant.

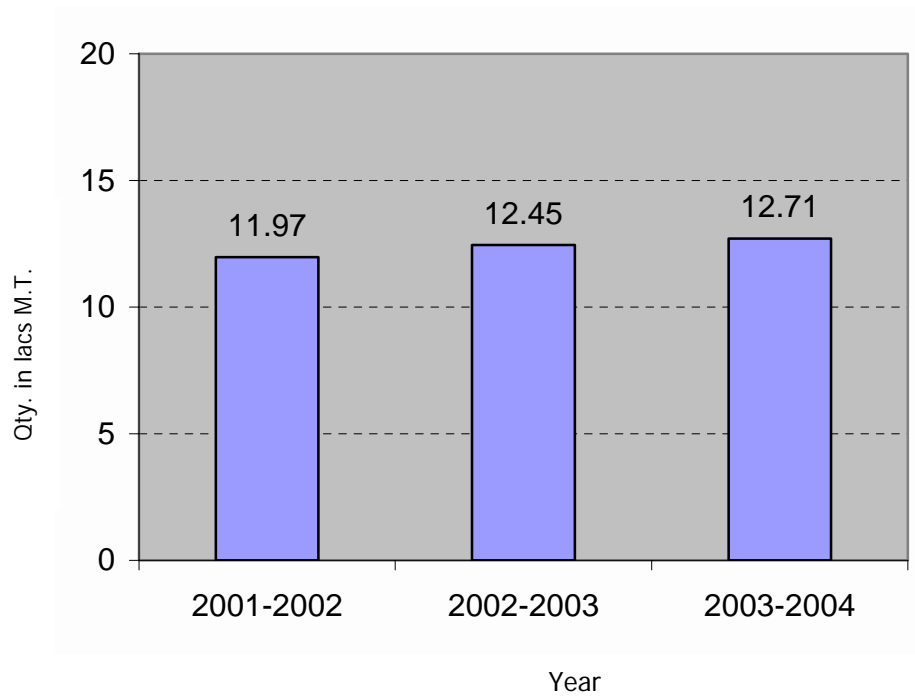


The plant produces two types of cements namely Ordinary Portland Cement (OPC), and Portland Pozzolana Cement (PPC). The Company has produced 13.92 lakh tones of cement during the year 2003-04. Also 1.85 lakhs tones Clinker in the plant was sold to outside parties.

***CEMENT PRODUCTION***



***CLINKER PRODUCTION***

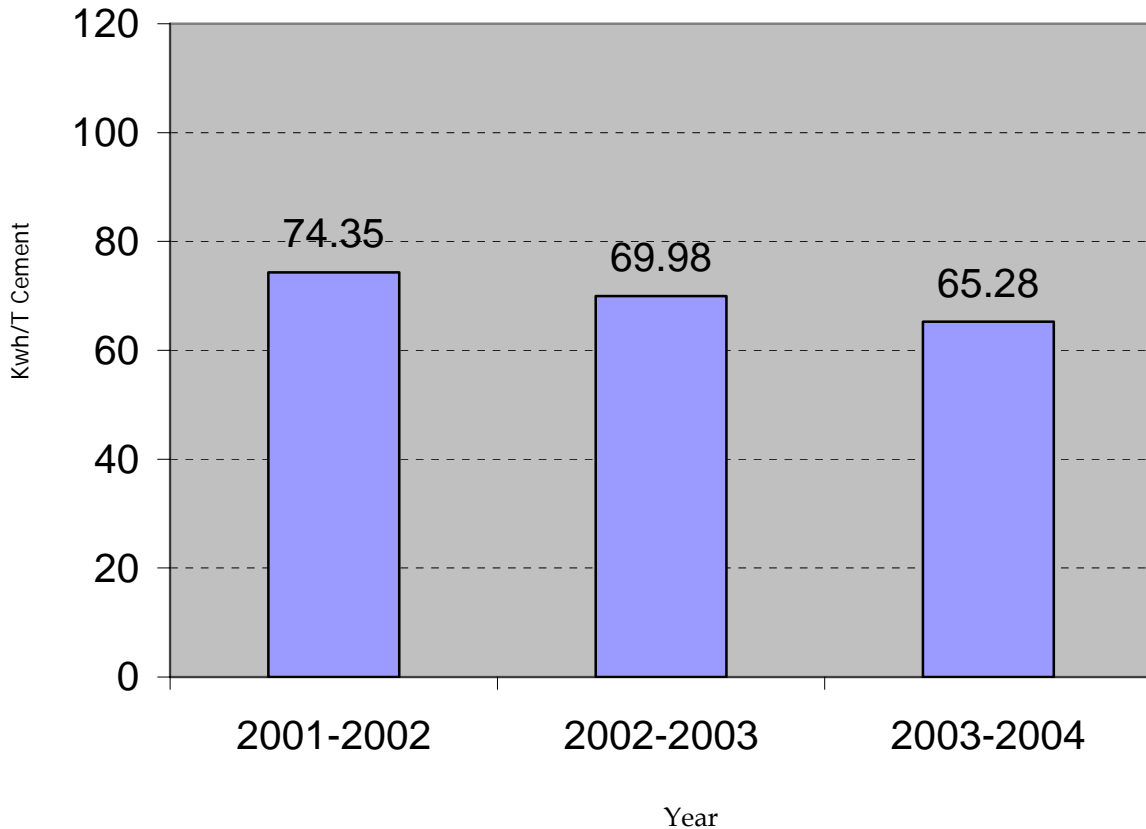


## ***ENERGY CONSUMPTION***

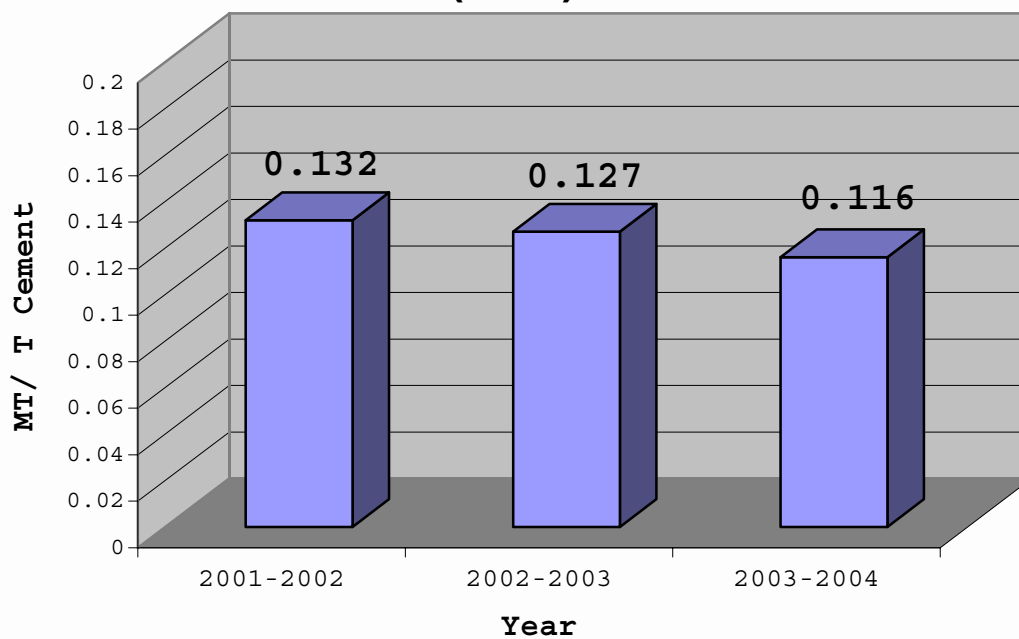
Maihar Cement Unit No.2 is a highly energy conscious Plant. Putting continuous and consistent efforts through multipronged approach towards energy conservation programme, Maihar Cement Unit No.2 has become one of the lowest energy consuming cement plants in the world.

The total electrical energy consumption of the plant for the year 2003-04 is 1053 lacs Kwh, this includes 406 lacs Kwh of purchased electricity from MPEB Grid and 647 lacs Kwh from its captive power plant. The plant has consumed 2.00 lacs tonne of coal during the year 2003-04 for production of cement clinker. The specific electrical and thermal energy consumption during the year 2003-04 in the plant were 65.28 Kwh/T cement and 528 Kcal/Kg of cement.

### ***SPECIFIC ELECTRICAL ENERGY CONSUMPTION***



### Specific Thermal Energy Consumption (Coal)



*Last three years specific energy consumption figures are shown below:*

DESCRIPTION	UNIT	2001-2002	2002-2003	2003-2004
Electrical Energy	Kwh/T	74.35	69.98	65.28
Thermal Energy (Coal)	MT/T	0.132	0.127	0.116
Total Manufacturing Cost	Rs. in Lacs	28086	27815	29031
Total Energy Expenses (Elect. + Thermal)	Rs. in Lacs	7511	7544	7972
Energy as % of Total cost of Production	%	26.74%	27.12%	27.46%

## ***ENERGY CONSERVATION COMMITMENT, POLICY AND SET UP***

Energy conservation receives top priority at Maihar Cement Unit No.2. In view of increasing green house gas emission, fast depleting natural resources of energy and galloping prices of energy, the commitment of the management towards energy saving programme is pretty high. Consistent R & D efforts are invested to identify the potential of energy conservation and implementing remedial measures for reducing energy consumption in the plant.

An energy conservation/productivity cell has been constituted to look after the energy conservation activities. This cell is headed by Executive President (Plant) and coordinated by Addl. General Manager (Elect.) Daily and weekly meetings are conducted with different department heads. Apart from this, various quality circles and energy conservation sub-committees operate at different centers of the plant to monitor energy consumption at different parts of the plant. Further, frequent brainstorming sessions are conducted with all the employees of the plant inviting suggestions or improvement wherever possible.

Based on the energy data obtained from various sections of the plant a report on energy performance of the unit is prepared on daily and monthly as well as yearly basis. The reports thus prepared are reviewed at various level of management as given below:

- Daily review in production meeting where weak areas are identified and attended to with a view to improving energy performance and implementing remedial measures quickly.

- Fortnightly and monthly review by Executive President (Plant) at apex level meetings.
- Yearly review for setting up energy targets for the next consecutive year.
- Review by Energy Conservation Cell on regular basis and revising the targets of energy consumption as and when required.

Based on the recommendations made by the Energy Conservation Cell and review by various level committees the decisions are taken for implementation of energy conservation programme in short, medium and long term basis. Modification and retrofitting of energy efficient equipment in different areas are implemented by respective heads of departments with advice of top level executives.

Diagnostic studies are conducted in the plant by energy conservation cell from time to time and suitable recommendations are made for achieving energy saving objectives.

The energy audit at an appropriate interval of time by outside agency is a regular feature of Maihar Cement Unit No.2, which helps in identifying energy saving potentials at different sections of the plant. In view of creating increased awareness about energy saving among the employees at various levels, an energy policy has been formulated and displayed at the various location of the plant and buildings.

Maihar Cement Unit No.2 has won **“National Energy Conservation Award 2001”, first amongst Cement sector** awarded by Govt. of India, Ministry of Power and also won National Award for **the Best improvement in Electrical Energy performance in the Indian Cement Industry for the year 2000-2001** from National Council for Cement & Building Materials.

Maihar Cement Unit No.2 has bagged first prize for **Lowest Electrical energy (kwh) consumption per ton of Clinker produced as well as for cement** in the 5<sup>th</sup>, 6<sup>th</sup> & 7<sup>th</sup> State level F.L. Smidth Energy Awards (earlier known as Fuller Energy Award) consecutively for the years 2001-02, 2002-03 & 2003-04 respectively being sponsored by Chhatisgarh and MP Cement Industries.

***ENERGY CONSERVATION ACHIEVEMENTS***

The untiring efforts put by plant officials and management encouragement in energy conservation programme has resulted in a steady decline of specific electrical and thermal energy consumption. Specific electricity and heat consumption of the plant is 65.28 Kwh/T of cement and 528 Kcal/Kg of cement in the year 2003-04 which is lower by 6.72% and 7.69% respectively compared to 2002-2003. In the year 2003-04, we have been able to achieve our energy targets and reduce the cost of energy through process optimization at various energy consumption centers.

In order to achieve the above reduction in energy consumption, the plant started putting up untiring efforts from 1996-97 onwards. Internal bench marks were set up energy saving potential identified and proper plans formulated for modernisation of plant for achieving lower energy consumption.

In addition to above, plant officials have put in untiring efforts towards optimisation of various process and operating parameters in the different sections of the plant, plugging leakage points in mill and kiln circuits, maintaining the health of machines in proper order by advance preventive, predictive and proactive maintenance technique.

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Capacity utilization during the year has been achieved 103% against the industry's average of 81% for the year 2003-2004.

### ***ENVIRONMENT AND SAFETY***

#### Environmental/Ecology-Special Efforts:

Steps taken for environment protection and abatement of pollution:

Maihar Cement Unit No.2 has laid great emphasis on maintaining of ecological balance since its inception in order to develop the area environmentally safe and aesthetically beautiful. We have taken following steps to maintain clean and healthy environment in the factory, Mines and Colonies.



***AIR POLLUTIONS:***

In Cement Industry, the main pollution is dust emission and we have provided Dust Collectors and ESPs at our Raw Mill, Coal Mill, Clinker Cooler and Cement Mill etc. We have vacuum cleaners and Road Sweeper Machine for cleaning. The emission from all the stacks is well below norms set up by MPPCB, Bhopal. Sprinklers have been provided over the Belt and alongwith the road inside the plant to minimize the fugitive emission generated due to movement of vehicles.

***WATER POLLUTION:***

Domestic effluents are being collected in various septic tanks through network Pipe Line and passes to oxidation stabilization ponds for further treatment. The water so accumulated in the ponds is treated to meet the requirements of ISI 2490 and the treated effluent is used for horticulture purposes and water is not allowed to go outside the factory. This has resulted in facilitating development of a green belt in and around our factory/colony areas.

***ECOLOGY BALANCE / TREE PLANTATION:***

Trees and forest effectively check Air Pollution. Keeping these objectives in mind, we have done heavy plantation at the plant area since its inception. As the whole plant is on rocky terrain where rocks are fully exposed except for small bushes in Patches and tree cover is negligible. Though we have planted about 9.00 Lacs trees.

Afforestation scheme on either side of Maihar – Dhanwahi Road along the side of Factory has been undertaken. With these measures a beautiful balance has been achieved between the need of ecology and industrial development. Out of the factory area of 51.023 hectares, 25.62 hectares have been covered with the Green belt.

