

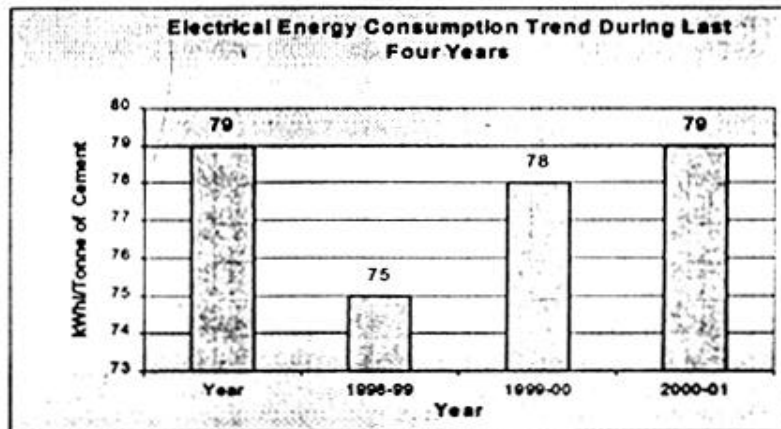
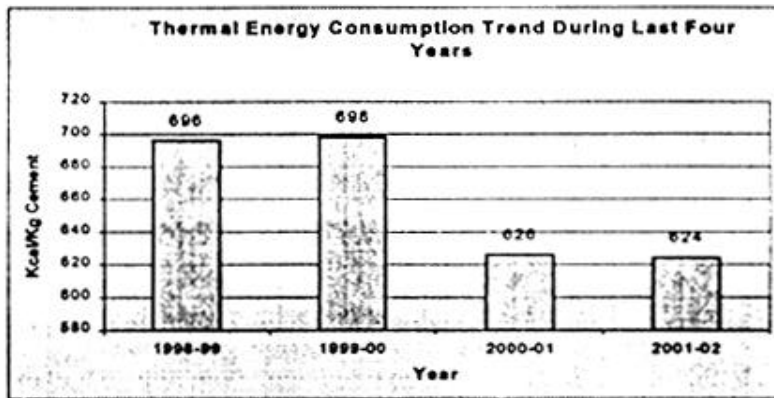
Shree Cement Limited,Beawar

Unit Profile

Shree Cement Ltd. is the largest plant at a single location in Rajasthan, with 2.6 Million-Ton Per Annum cement production capacity. The company is managed by the professionals strongly conscious for energy, environment, natural resource management and profitability. The dedicated efforts of the management & its team have resulted in placing the name of Shree as the Best Energy conserving industry on the world map. It has over 100% capacity utilisation. The company has been constantly receiving awards in recognition from National and International bodies. Shree manufacture 33, 43 & 53 grade Ordinary Portland Cement & Portland Pozzolana Cement. The company has launched Shree Ultra Ash Free Cement & Shree Ultra Red Oxide cement brands. Shree is most dominant player in Northern India. Shree has posted a turnover and cash profit of Rs. 397.32 Crores and Rs. 49.84 Crores respectively in the 9 months period of 2001-02. It is expected to touch turnover of Rs.600 Crore for the year 2002-2003. Shree Cement provides the facility for health, education etc. to the masses in the near by area as our Corporate Social Responsibility. The company has a separate Energy Conservation Cell, Environment Cell and on the top of it Government Recognized R&D Center. The ultimate aim of all these is to get best economic benefits by producing quality cement and being energy and environment efficient organization.

Energy Consumption

The company has always given top priority for minimization of energy consumption in the plant by making consistent efforts towards modernization of plant/machinery and optimization of process parameters in various sections of the plant. To fulfill the commitment towards environment policy we have taken lead to utilize by products of other industries to preserve natural resources one such attempt is use petroleum coke. Due to the use of Pet Coke a by-product of petroleum industry, the fuel consumption has come down from 12.34 % to 9.47% of clinker, but the power consumption per ton of Cement produced has been increased to 79.00 units in 2001-2002 from 78.00 units in 2000-2001. The fuel cost is 13% & the power cost is 26.18% of total production cost of cement. Ultimately the use of pet coke has resulted in reduction in cost of production of cement in 2001-2002 compared to previous year. The trend of electrical and thermal energy consumption can be seen from the histogram given above.



Energy Conservation, Commitment, Policy and Setup

Energy conservation receives top priority at SCL. In view of increasing green house gas emission, fast depletion of natural resources of energy and galloping prices of energy the commitment of the company towards energy saving programme is pretty high. Consistent R&D efforts are made to identify the potential of energy conservation and implementing remedial measures for reducing energy consumption in the plant. Our future targets for energy consumption are to bring down the thermal energy consumption from 694 to 650 Kcal /Kg Clinker & electrical energy consumption from 79 to 65 kWh/Tonne of cement. Full-fledged Energy Conservation Cell has been created in the plant by identifying Asst. General Manager (Production) as its head. Various measures have been taken for energy conservation during the year 2001-2002.

A clear cut energy policy has also been formulated by the company in order to give more inputs on energy conservation. The statement of the policy is written on hard boards and displayed at various locations of the company. Not only in the plant, Shree Cement also extended helping hands to other industries by sharing knowledge base through FICCI.

SU SHREE CEMENT LTD.

ENERGY POLICY

- **To reduce to the maximum extent possible the consumption of energy without impairing productivity which should help in:**
 - **Increase in the profitability of the company**
 - **Conservation of Energy**
 - **Reduction in Environmental pollution at energy producing areas**
- **Since Energy is the blood of Industry, it is the responsibility of all of us to utilize energy effectively and efficiently**

ENERGY SAVED IS ENERGY PRODUCED

Energy Conservation Achievement

Higher productivity, low energy consumption and over all improved performance could be obtained by the inspiration of the management by which the SCL team has taken following important measures towards energy conservation during the year 2001-2002.

- Replacement of cooler fans no.422 FN2&FN3 with high efficiency fans
- Capacity enhancement & utilisation of CM-2 roller press for capacity increase & energy saving in CM-1.
- Installation of higher capacity booster smoke gas fan in unit-1
- Modification of SG fan to Raw mill/ESP dust
- Installation of higher efficiency rotary air locks
- Modification of multi channel burner for efficient combustion of petcoke
- Power saving by installation of sealing plates in coal mill & raw mill.
- Optimization of plant operation
- Minimizing idle running of equipment
- Increasing use of cost effective power from captive plant.
- Use of petroleum coke for clinkerisation in line I & II
- Reducing leakage of compressed air
- Installation of stacking arrangement for gypsum
- Replacement Cement Mill-II booster fan impeller by high efficiency impeller



Fig : Transfer System of crushed clinker from CM-2 roller press to CM-1

Awards

In recognition of its efficiency and energy conservation efforts, it has won National Energy Conservation Awards from Government of India, Ministry of Power continuously for last five years. SCL's status as the most energy efficient in Cement Industry is well recognized. The Ministry of Commerce & Industry, Government of India and National Council for Cement and Building Materials (NCBM) have given National Awards in recognition of its "Best Electrical Energy Performance" and "Best Thermal Energy Performance" for year 2001-02. Whitehopeleman has benchmarked Shree Cement as Best Performing Cement Industry all over the world under cement factory performance review 2001.

Energy Conservation plans and targets

The key of the success in cement business is maximisation of clinker production of good quality with minimum input of energy (electrical, thermal and human). With quest for excellence the company is marching ahead to achieve lower energy consumption in the plant. The future plans for achieving lower energy consumption are:

- Multichannel burner in place of Uniflow burner in Unit-1
- Increase in height of pyroclone by installation of pyrotop
- To install a third cyclone in parallel to twin cyclones in Unit-II for reduction in pressure drop which can result in saving in power
- Installation of gas cooling system in the down comers of preheater of Unit-II.
- Installation of SPRS in Kiln & Raw mill ESP fan motor of Unit-II.

Benchmarking practices will continue by monitoring parameters such as

Raw mill performance, Kiln feed variability, Kiln availability, Kiln output Kiln fuel consumption, Kiln fuel cost, Kiln mean time between stops, Refractory consumption, Cooler Performance, Output per man, Power consumption, Cement mill performance, Maintenance costs, Value of engineering stocks

Environment and Safety

We at SCL believe that environment protection is the urgent need of the hour and industrialisation can be best enjoyed if pure air, clean water and all around greenery is maintained Shree Cement protects the environment through its 6R approach, covering initiatives that –

- Reduce Energy
- Raise Production
- Release less CO₂/SPM
- Replace traditional fuel
- Record & Research
- Restore the Nature

A reduction in energy consumption is the first step towards a responsible environment management process.

A high capacity utilisation indicates an efficient sweating of existing assets. The higher this number, the stronger the efficiency and a better use of the earth's resources

Shree Cement's immediate vicinity is clean because the company releases negligible waste – stack and fugitive emissions – into it. Over the years, the company has invested Rs. 34.29 crores in sophisticated pollution control assets (electrostatic precipitators and bag filters) to minimise the emission of waste. The company collects waste and neutralises it before its

harmless release into the environment. To control emissions on an ongoing basis, the company trains employees on the prudent management of machines, waste material and waste heat recovery.

Year	Average SPM (mg/Nm ³) State Pollution Control Board Norms (150mg/Nm³)	
	Unit-1	Unit-2
99-00	141.47	116.61
00-01	112.73	55.48
01-02	87.97	59.69

Intelligent substitution without a quality compromise is Shree attribute. In 2001-02, the company shifted from the use of imported coal as its principal feedstock to petcoke and saved Rs 25.55 crores in the process. Besides the company replaced the use of HSD with LDO for the eon-house generation of power and saved Rs.2.09 Crores.

Shree Cement is one of the few cement companies in India with a full – fledged Research and Development department equipped with qualified and experienced scientists.

Shree restores to nature what it takes from it.

At Shree Cement, we believe that no environment management programme can succeed if it is not accompanied by a strong culture of documentation. Shree has prescribed method for carrying out every manufacturing process. This takes experiments out of the system. Besides, the company's measurement practices help deviations to be identified and corrected as soon as they transpire. The result is a safe, consistent and predictable operational process. This is reflected in the company's strong safety record.

The Company has established Environmental Management System & in the final stage of getting ISO 14001 certification. The company's operations are managed with high safety level systems. This includes equipment shutdown procedure, use of personal protective equipments like safety helmets, safety shoes, safety belts, ear plugs, nose mask, hand gloves, aprons, asbestos suits, safety awareness, emergency response plan, mock drills, training on use of fire fighting equipment etc.

Mr. S.S Jain
Sr. Vice President
Shree Cement Limited
IIPEC Programme on
22nd September 2002 at
M/s Shree Cement, Beawar