

GHARDA CHEMICALS LIMITED Dombivli (East), Thane (Maharashtra)

Unit Profile

Gharda Chemicals Ltd. (GCL) was founded in 1964 in Mumbai. From very small beginnings the company has grown to its present stature of major manufacturing of Agrochemical in India, with other major diversification. The company has plants at Dombivli, Lote Parshuram in Maharashtra and at Panoli, Ankleshwar in Gujarat.

The Gharda Chemicals Ltd., Dombivli unit is on the outskirts of Mumbai, set up in 1971, is the biggest chemical unit in the MIDC complex in Dombivli. It has a total floor area of 7 acres for manufacturing, storage, R&D centre, and administrative and other offices. It is an ISO 9001:2000 certified company

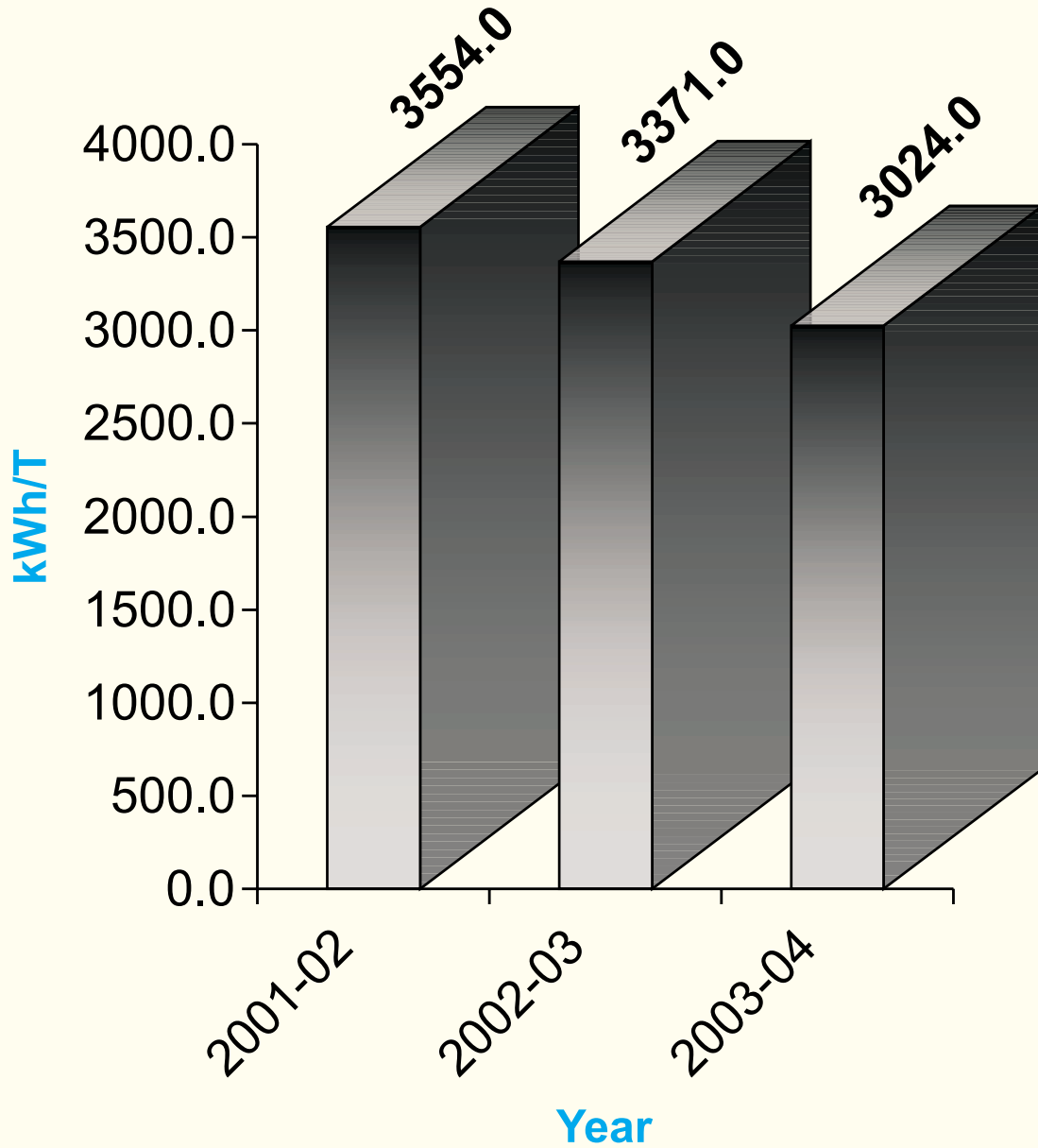
The production was 4757, 4755 and 6230 MT with capacity utilization of 127.5%, 127.55% & 166.9% during the year, 2001-02, 2002-03, and 2003-04, respectively. The unit's sales turnover was Rs. 143.96, 123.81 and 172.27 crore in the year 2001-02, 2002-03 & 2003-04 respectively.

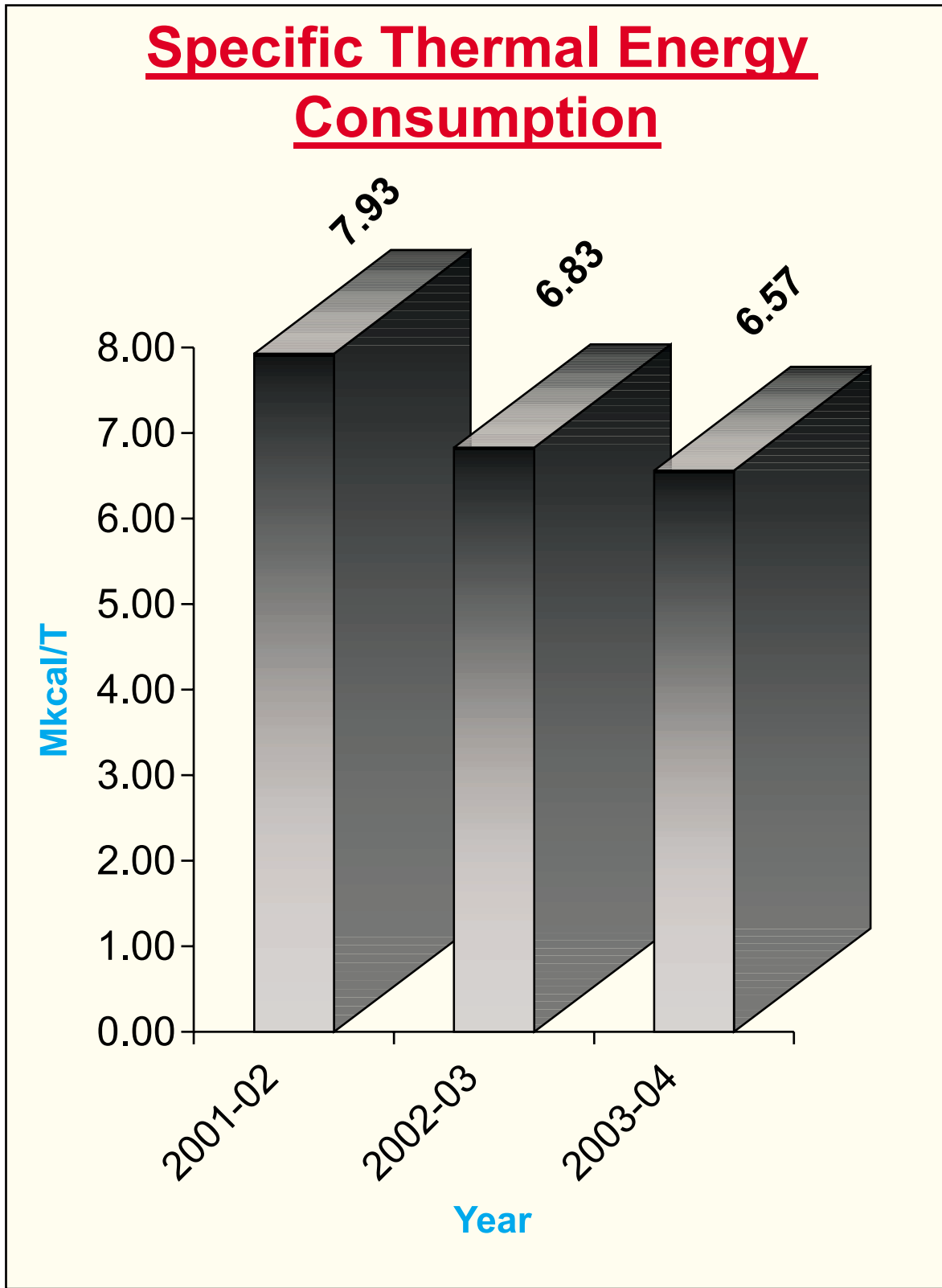
Energy Consumption

Various energy saving measures are undertaken as a routine assignment, there is steady decline of specific energy consumption. The trends of specific consumption since last three years are shown below:

DESCRIPTION	UNIT	2001-02	2002-03	2003-04
Electrical Energy	KWh/T	3554.0	3371.0	3024.0
Thermal Energy	M Kcal/T	7.93	6.83	6.57
Total Manufacturing Cost	Lakh	11126.0	9157.0	12486.0
Total Energy Bill	Lakh	1092.0	1021.0	1151.0
Energy cost as % of Total cost of production	%	9.82 %	11.14 %	9.21 %

Specific Electrical Energy Consumption

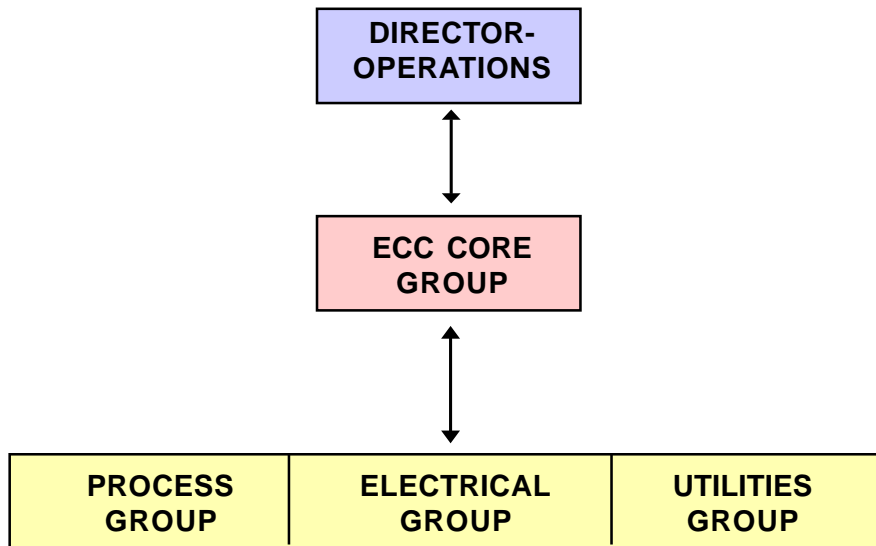




Energy Conservation Commitment, Policy and Set up

Energy conservation activities are always given utmost importance similar to any other development and improvement activities by all functional group. The potential areas are identified through in-house innovation, brainstorming, studies and literature survey. The feasibility study, trial, execution and monitoring of the activities and assessment of the benefits achieved are performed under the umbrella of structured cell called “Energy Conservation Cell (ECC)” on continual basis.

ENERGY CONSERVATION TEAM STRUCTURE



Energy Conservation Achievements

DESCRIPTION	UNIT	2001-02	2002-03	2003-04
Energy Saving Activities Carried Out	Nos.	42.0	35.0	20.0
Savings	Lakhs	198.2	162.6	133.7
Investment	Lakhs	14.0	34.5	90.3
Saving in energy cost	%	18.2%	15.2%	10.3%

1. The major energy savings schemes implemented during 2003-2004 are given below:

- i. Commissioning of 300TR Chilled water unit with screw compressor instead of conventional centrifugal compressors.
- ii. Commissioning of 800 CFM screw compressor for process air in place of reciprocating compressor (5 nos.).
- iii. Process improvement (High vacuum-low temperature fractionation) in ONC-PNC fractionation system to reduce steam consumption at Reboiler.
- iv. Process improvement (Decantation of top TEA layer before distillation) in Wet TEA distillation to reduce steam consumption.
- v. Process improvement in TBN distillation to reduce steam consumption.
- vi. Installation of ON-OFF valves on chilled water line of condenser to stop flow during idle hours.
- vii. Use of cooling water as condensing medium for DMA-Ammonia condenser in place of chilled water.
- viii. Installation of In-line centrifugal pump in place conventional centrifugal pump.
- ix. Ceramic coating inside pump casing to reduce power consumption.
- x. New fanless cooling tower (Capacity: 500 IGPM) in place of conventional induced draft cooling tower.
- xi. Installation of Compact Fluorescent Lamp
- xii. Addition of capacitor banks for improvement of power factor.
- xiii. Generation of flash steam from high-pressure hot condensate, generated flash steam will be used as heating media in Lithium bromide absorption chilled water unit.

Energy Conservation Plans and Targets

GHARDA CHEMICALS LTD., DOMBIVLI unit is committed to improve energy performance on continual basis by finding out new schemes/projects in the areas such as steam, power & fuel etc. This unit is working on following major proposals as a part of future plans for energy conservation.

- i. Lithium bromide (LiBr) absorption refrigeration system to generate chilled water with help of waste steam (Flash steam). Capacity: 100 TR
- ii. Use of solar energy for street lighting, preheating, boiler feed water & Bathroom water heating.
- iii. Heat recovery unit for preheat furnace oil with boiler blow down hot water.
- iv. Corrugated heat exchangers to be used in place of conventional shell & tube heat exchangers (2.0 to 3.0 times high heat transfer coefficient in corrugated heat exchanger).
- v. Conventional worm type gearboxes to be replaced by planetary gear boxes (gear efficiency increase from 70% to 96%).
- vi. Biogas generation from Canteen waste food.
- vii. Bottom guide removal to reduce power losses from reactors having RPM less than 100.

- viii. Installation of ON-OFF valves on Chilled water & brine lines in order to stop flow during non-working hours.
- ix. Installation of more number of fanless cooling towers (Two numbers already installed).
- x. Installation of Pressure switches to avoid dry running of pumps (which cause failure of mechanical seal).
- xi. Waste heat recovery form Incinerator to generate low-pressure steam for Lithium bromide absorption refrigeration unit i.e., for chilled water generation.
- xii. Heat recovery from high temperature distillation unit (ONC-PNC fractionation section) to generate medium pressure steam for process heating.
- xiii. Usage of energy efficient rotating equipment (I.e pumps, motors, Blowers etc).
- xiv. Timer installation on Exhaust Blowers & fans to avoid idle running.

Environment and Safety

The unit is committed to improve its environment & safety of its employees.

a) Effluent Treatment Plant:

The unit has full-fledged effluent treatment plant consisting of primary, secondary and tertiary treatment. The final treated effluent always passes all the specifications laid down by Maharashtra Pollution Control Board (MPCB).

All solid/semi solid waste generated is incinerated in our incinerator. The waste heat recovery (to generate pressurized boiler feed water at 125°C) from the incinerator flue gases is under consideration.

b) Air Monitoring:

- i. The unit has provided gas sensors at different locations in factory to monitor the level of gases like SO₂, HCl, HCN, H₂S and NH₃.

c) ISO 14001/ISO 18000:

Process of ISO 14001 & ISO 18001-certification is under implementation stage. Target for obtaining ISO 14001 & ISO 18000 certificate is in 2005.