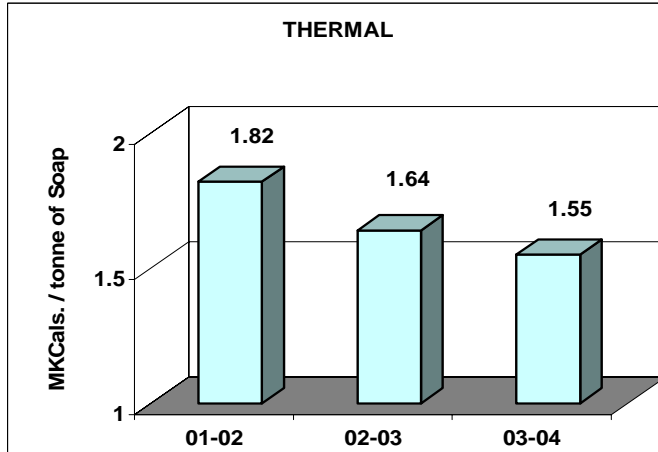
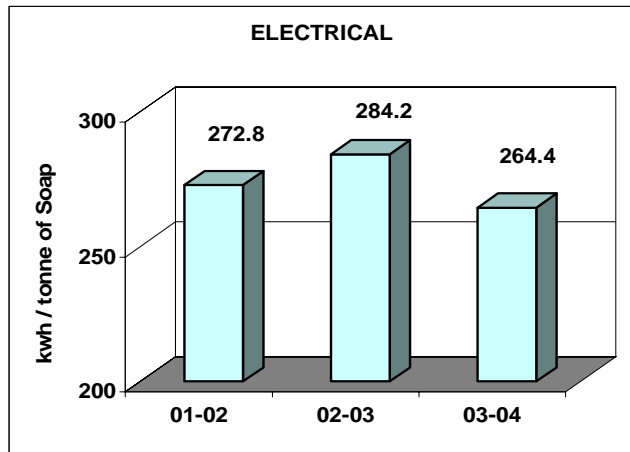


ENERGY CONSUMPTION

During study on Electrical & Thermal Energy, the consumption of energy per tonne of Soap was found in decreasing order except in electrical energy for the year 2002-2003 due to change in process requirements.

DESCRIPTION	UNIT	2001-2002	2002-2003	2003-2004
Annual Soap production	Tonne	36902.0	34378.0	34879.0
Total electrical energy consumption/annum	Lakhs KWH	100.7	97.7	92.2
Specific energy consumption - Electrical	KWH/tonne of Soap	272.8	284.3	264.4
Total Thermal (fuel) consumption/annum	MKCals	67011.0	56266.0	54086.0
Specific energy consumption - Thermal (Fuel)	Mkcals/tonne of Soap	1.82	1.64	1.55
Total Manufacturing Cost	Lakhs Rs.	12515	13222	14972
Energy Cost as %age of total manufacturing cost	%	8.51	8.13	7.11

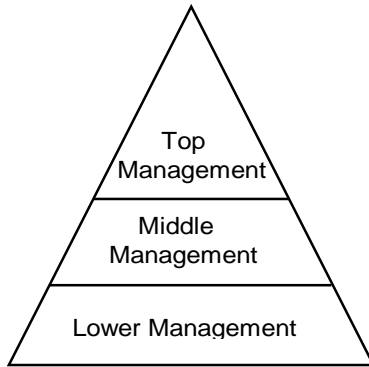
YEAR	ELECTRICITY		THERMAL (FUEL)	
	Consumption (KWH/ tonne of Soap)	% reduction over 2001 - 2002	Consumption (MKCals./ tonne of Soap)	% reduction over 2001 - 2002
2001-2002	272.8	-	1.82	-
2002-2003	284.3	-4.22	1.64	9.89
2003-2004	264.4	3.08	1.55	14.84



Reduction in Specific Energy Consumption Over 2001 - 2002

ENERGY CONSERVATION COMMITMENT, POLICY & SET UP

GCPL is committed to Total Energy Management and prevention of energy waste, because of this commitment. Energy Conservation features have been incorporated in the plants & machinery and there have been continuous effort to reduce the energy consumption right from beginning of our process to the end. GCPL Energy Management Policy reflects its commitment towards continual improvement & its plan to achieve the set targets.



Top Management comprises of GM & Managers. It encourages the involvement and commitment of the middle management. It all also gives all the support and encouragement to various Encon activities / projects.

Middle Management forms the lower management includes all section heads of the shop floors and helps in smooth implementation of these projects.

Lower Management identify the problems, look for continuous improvement, conduct brain storming sessions , arrive at remedial measures and implement the same by involving all employees. The performance is monitored continuously, reviewed periodically & reported to the top management.

ENERGY MANAGEMENT POLICY

We are committed to manufacture and deliver our products of superior quality at optimum consumption of energy through

- *Optimum utilization of energy by continuous measuring and controlling the energy index.*
- *Carry out periodic energy audits and implement identified improvement projects.*
- *Benchmark continuously our performance against the achieved energy level and also best in the industry (group companies).*
- *Promote energy awareness among all the employees in the organization.*

ENERGY CONSERVATION ACHIEVEMENTS

During the period 2003-2004, GCPL has implemented 15 high cost proposals & around 35 low cost proposals through initiatives, workmen suggestions, TPM methodology resulting into saving of Rs. 65.8 Lakhs with an investment of Rs. 50.1 Lakhs. This has resulted in a reduction of 5.75% in specific electrical consumption & 6.39% in specific thermal energy consumption.

The major projects implemented during 2003-2004 are as

1. Replacement of brine chilling units with higher capacity unit having screw compressor.

Investment	: Rs. 15 Lakhs
Power Consumption :-	
Before Installation	: 3.9 Lakhs kwh / annum
After installation	: 2.7 Lakhs kwh / annum
Saving in energy	: 1.2 Lakhs kwh / annum
Saving in cost	: Rs. 7.0 Lakhs / annum

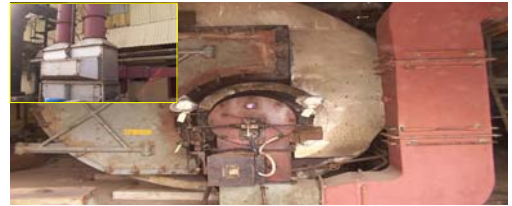


Reduction in load from 99 KW to 48 KW

2. Provided the Air Pre-heater in the Low Pressure Boilers

Combustion Air Temp. :-

Investment : Rs. 11 Lakhs
Before Installation : 40⁰ C avg.
After Installation : 70⁰ C avg.
Saving in cost : Rs. 7.0 Lakhs / annum



Increased avg. air temp. by 30⁰ C

3. Replaced energy inefficient water feed pump with energy efficient pump in Low Pressure Boilers.

Investment : Rs. 0.85 Lakh
Saving in energy : 36000 kwh / annum
Saving in cost : Rs. 7.0 Lakhs / annum

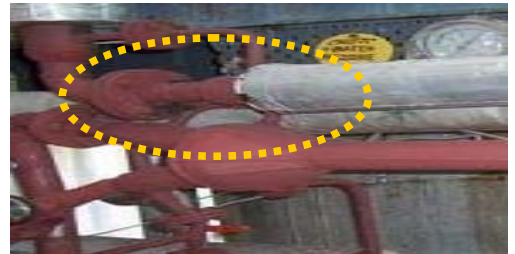


Reduction in load from 18.5 KW to 15 KW

4. Replacement of agitator & circulation pump motor with static mixer in Saponification Plant

Power Consumption :-

Investment : Rs. 1.0 Lakh
Before Installation : 1.46 Lakhs kwh / annum
After installation : Zero
Saving in energy : 1.46 kwhs / annum
Saving in cost : Rs. 7.3 Lakhs / annum



Bypassing of 48.5 KW electric motor load

5. Installation of inverters on the Roll Mills & Soap Feed Pumps

Investment : Rs. 10 Lakhs
Saving in energy : 1.2 Lakhs kwh / annum
Saving in cost : Rs. 6.0 Lakhs / annum



Saving in power & better speed regulation

ENERGY CONSERVATION PLANS & TARGETS

Future plans of energy conservation in GCPL include the following.

Sr. No.	Energy Conservation Measures (Planned)	Annual savings			Approx. Invest-ment (Rs. Lakhs)	Project commenc-ement & complet-ion year
		Energy Unit	Energy Value	Rs. Lakhs		
01	Replacement of filament type indicating lamps with LED type	Lakhs KWH	0.07	0.35	0.4	2004
02	Replacement of energy inefficient tube lights with energy efficient tube lights	Lakhs KWH	0.16	0.80	0.9	2004
03	Replacement of water chilling units with energy efficient screw compressor unit	Lakhs KWH	1.43	7.00	12.5	2004
04	Removal of intermediate conveyors after modification in Roll Mills foundation to ensure material flow through gravity	Lakhs KWH	0.27	1.30	0.6	2004
05	Replacement of flap / swing type NRV with energy efficient ball type NRV in cooling towers	Lakhs KWH	0.61	3.00	1.5	2004
06	Provision of variable frequency drive in air compressors & TP-25 blower	Lakhs KWH	1.63	8.00	7.0	2004
07	Replacement of indirect cooling tower with smaller cooling tower in tempered water circuit in FADP-2	Lakhs KWH	1.02	5.00	5.0	2005
Total (Electrical)			5.19	25.45	27.9	
08	Provision of ON-Line O2 analyzer for controlling excess air in the boilers	MKCals.	1108.16	12.50	12.0	2004
09	Installation of automatic blow down system to avoid manual blow down in the Boilers	MKCals.	354.61	4.00	4.5	2004
10	Installation of air pre-heater in TP-25 Thermic Fluid Heater	MKCals.	487.59	5.50	5.0	2005
11	Provision of thermo compressor to recover flash steam & use it for process heating	MKCals.	709.22	8.00	3.0	2005
12	Replacement of existing steam vacuum system with energy efficient Mazda Vacuum System in FADP-1	MKCals.	443.26	5.00	5.0	2005
13	Use of Gas instead of liquid fuels in Boilers & D.G. Sets	MKCals.	17730.50	200.00	80.0	2005
14	Use of thermic fluid in place of steam in Heat Exchangers	MKCals.	4255.32	48.00	48.0	2006
Total (Thermal)			MKCals	25088.7	283.0	157.5
Total (Electrical + Thermal)				308.5	185.4	

ENVIRONMENT AND SAFETY

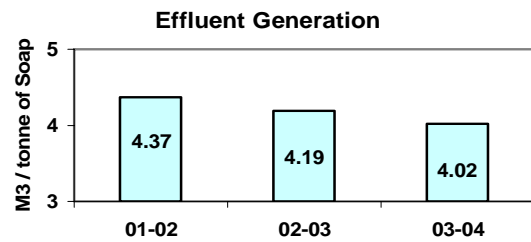
As per the environment policy, GCPL is committed to continual upgradation of technology, prevention of pollution, conservation & optimal utilization of natural resources by adopting Reduce, Reuse & Recycle methods, training for environment awareness of employees & suppliers, safe operation of plants & machinery, complying with all the applicable environment legislations & regulations to preserve its environment and ensure safety of its employees and further strive to go beyond legal requirements.

GCPL is certified & awarded for the following.

- First soap unit to get ISO 14001 certification.
- Awarded the " YOGYATA PARMAN PATRA", NSCI Safety Award 2001.

WATER

- Having effluent treatment plant of 600 M3 / day.
- Using treated water for irrigation purposes.
- Ensuring zero discharge of effluent outside the factory.
- Daily effluent plant performance monitoring.
- Rain water harvesting is being studied.
- Decreasing effluent generation level in last three years.



AIR

- Cross ventilation provided for better fresh air circulation at Shop Floors.
- Pneumatic arrangement provided for talc handling to maintain the dust free atmosphere on shop floor.
- Flue gas analyzer in boiler to reduce excess air & conserve energy.
- Regular monitoring of stack & ambient air.

Following programs & activities are introduced on Environment & safety

- Celebration of Safety day on 4th March & Environment Day on 5th June.
- Participative management through employee involvement in departmental safety committees, Projects related with safety in QC/SGA/TF. Competitions, Celebrations, HCT training, regular fire drill & mock drill drill exercises.
- Regular monitoring of noise level & tracking on near-miss incidents.
- Merit award & Wage agreement - linkage with safety
- Training to contractors & contract workmen
- Work place visit of employees families.