

Atul Ltd, Atul , Gurarat

[1] UNIT PROFILE :-

Atul Limited, the dream of the great visionary Late Shri Kasturbhai Lalbhai, has resulted into a leading manufacturer of over 500 products including Agrochemical, Bulk chemicals & bulk drug intermediates, Cresols & cresol derivatives, Dyes & dye intermediates, Epoxy resins & epoxy hardeners, Formaldehyde, Speciality chemicals and Wood adhesives after 53 years of successful operations. Atul Ltd., located 200km north of Mumbai, has a unique blend of industry and environment, spread over 1300 acres. The campus has more than 1 lac well-planted trees, which has made it a breeding growth for many migratory birds.

[2] ENERGY CONSUMPTION :-

Electricity, Coal and Furnace Oil are the major energy inputs for Atul. The total electrical energy consumed is 1580 lac kWh (inclusive of both purchased and self generated) and 423222 million kCal thermal energy during 2003-04 .

[3] ENERGY CONSERVATION COMMITMENT, POLICY AND SET-UP :-

Atul Limited has six strategic business units:-

- 3.1 Agrochemicals
- 3.2 Aromatics
- 3.3 Bulk Chemicals & Intermediates
- 3.4 Colors
- 3.5 Pharmaceuticals
- 3.6 Polymers

With Technology Unit at corporate level. Each business unit has energy conservation team headed by Vice President (Technology). The team members are from various disciplines.

The Energy Conservation activities are basically divided into three parts and given prime importance since 1990.

(a) Energy Audit :-

The team conducts the Energy Audit of each plant once a year and identifies the areas of improvement.

(b) Implementation of Energy Conservation Measures :-

The team prepares feasibility reports of various proposals identified during the plant Energy Audits. The team monitors the implementation of such proposals by respective units.

(c) Awareness among the employees :-

The team organises seminars, lectures, video shows, competitions, display stickers, banners, posters, etc. and distribute booklets to all employees to bring awareness among the employees and their family members.

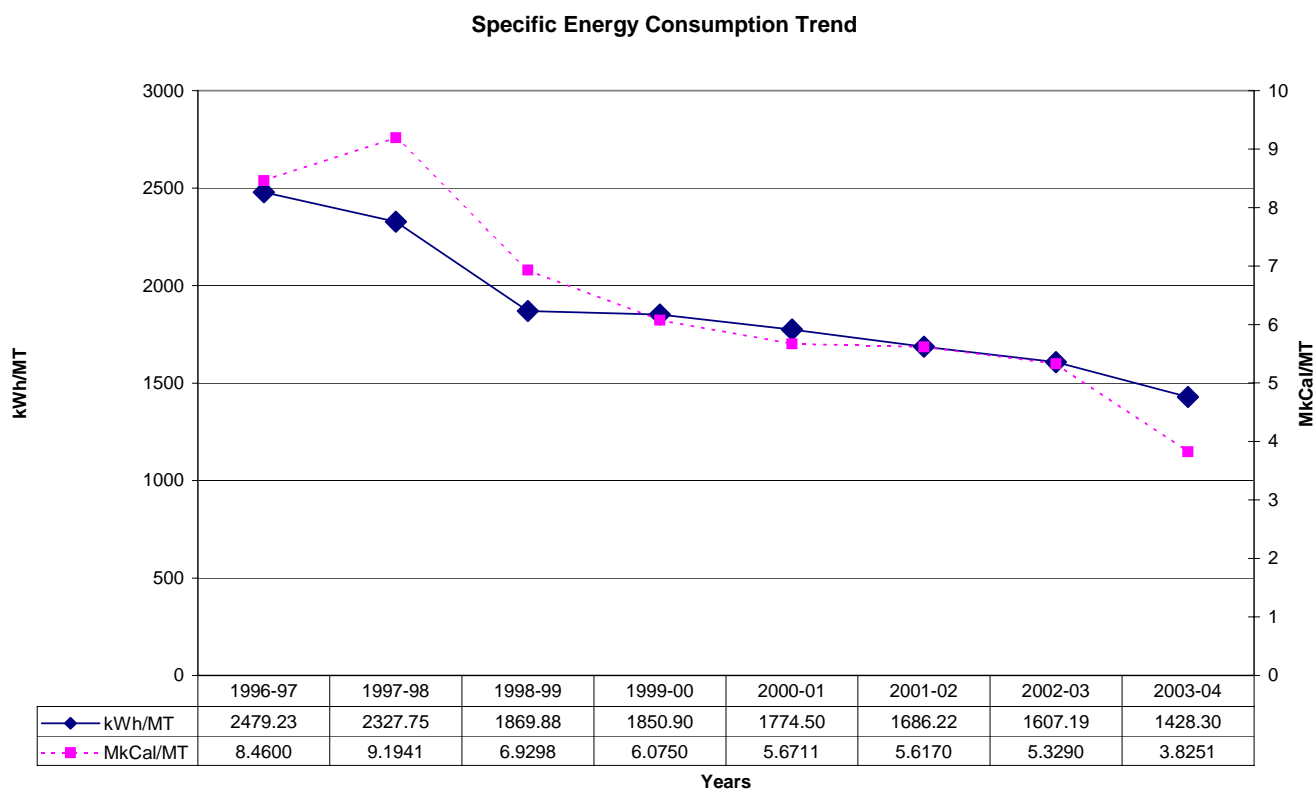
[4] **ENERGY CONSERVATION ACHIEVEMENTS :-**

Various energy conservation schemes have been implemented major of which are highlighted herebelow :

- Installing of Third Natural Gas Engine based Cogeneration Set.
- Installing VFD for control of ID fan of 45 TPH FBC boiler in place of Suction Damper control.
- Installing VFD on DM Water transfer pump to Deaerator from DM water storage at west site boiler house.
- Installing VFD on Twin lobe air blower of Sulphuric Acid plant at West Site.
- Installing VFD for six vessels of DDI plant.
- Use of energy efficient agitator in place of conventional agitators.
- Replacing V Belts by Flat belts on Air Compressor.
- Replacing conventional Cooling tower fan by energy efficient fans.
- Trimming of impeller of spray pumps of caustic cooling tower
- Increasing filtration rate of 2,4D Sodium VBF .
- Separating Process air system from Instrument air system
- Installing Magnetic Fuel Saver
- Shifting of VAR system.
- Recovery of steam condensate from Azo Plant.
- Replacing Chilled water with cooling water in main condenser of Distillation unit.
- Recovery of steam condensate at Shed F
- Flash steam recovery from HP condensate of Spray dryer in Shed B
- Recovery of steam condensate at Shed A
- Optimising spray dryer inlet temperatures for drying of various colours.
- Adding RM in solid form instead of slurry resulting in increased concentrated product.
- Eliminating operation of local circulation pump for circulating chilled water through chilling plant evaporator.
- Optimising pump capacities of various pumps at Sulphuric Acid plant at East site.
- Installation of thermostatic control on Cooling Tower fans.
- Speed reduction using VFD on various pumps of caustic plant.

- Trimming of impeller of Cooling water supply pump.
- Replacing chilled water supply pump.
- Replacement of Boiler feed Pump by Energy Efficient Pump

Twenty seven measures were implemented during the year resulting in annual saving of Rs 356.32 lacs against an investment of Rs 354.38 lacs. The specific electrical energy consumption has come down from 1774.5 kWh/MT in 2000-01, 1686.22 kWh/MT in 2001-02, 1607.19 kWh/MT in 2002-03 to 1428.3 kWh/MT in 2003-04 whereas specific thermal energy has reduced from 5.6711 x 10⁶ in 2000-01, 5.617 x 10⁶ in 2001-02, 5.329 x 10⁶ in 2002-03 to 3.8258 x 10⁶ in 2003-04.



In recognition of the commitment of the management towards Energy Conservation:

- ❑ Atul Limited received The Jawaharlal Nehru Memorial Award for Energy Conservation & Pollution Control in the year 1992-93 from International Greenland Society.
- ❑ Erstwhile Atic Industries Limited now a part of Colors Division of Atul Limited were awarded the National Energy Conservation Award second prize in Chemical Sector for two consecutive years 1994 and 1995.
- ❑ Atul Limited was awarded the National Energy Conservation Award second prize in Chemical Sector for the year 1996.
- ❑ Atul Limited was awarded by Federation of Gujarat Industries for Excellence in Energy Conservation for the year 1997.
- ❑ Atul Limited was awarded the National Energy Conservation Award Certificate of Merit in Chemical Sector for the year 1998.

- ❑ Atul Limited was awarded ICMA Award for Excellence in Energy Conservation and Management for the year 1998.
- ❑ Atul Limited was awarded the National Energy Conservation Award second prize in Chemical Sector for the year 2000.
- ❑ Atul Limited was awarded the National Energy Conservation Award Certificate of Merit in Chemical Sector for the year 2001.

[5] **ENERGY CONSERVATION PLANS AND TARGETS :-**

To improve the energy performance further and to conserve energy, the following projects are under process :-

- 5.1 Installation of steaming economiser with steam drum in place of Atmospheric cooling duct
- 5.2 Installation of Lighting transformers (10 Nos) at various locations
- 5.3 Replacing steam distillation for ONT distillation by vacuum distillation
- 5.4 Heat Recovery by preheating Boiler feed DM Water across FAT/DT Circuit of 180 TPD Sulphuric Acid Plant at East Site.
- 5.5 Heat Recovery by preheating Boiler feed DM Water across APT-(IPAT/FAT/DT) Circuit of 60 TPD Sulphuric Acid Plant at West Site.
- 5.6 Installing continuous paddle dryer in place of batch type rotary vacuum dryer at EPI plant
- 5.7 Automating centralised utility plant at west site
- 5.8 Flash steam recovery and condensate recovery from further areas.
- 5.9 Further replacement of conventional agitators by Energy Efficient agitators.

[6] **ENVIRONMENT AND SAFETY :-**

Atul limited believes that "We have not inherited this earth from our forefathers but we have borrowed it from our children." Atul Limited has been having primary treatment facility for liquid effluent for over a decade and has provided for secondary (Biological) and tertiary treatment using state of art 'Degremont' technology able to handle 20,000 M³/day. Erstwhile Atic Industries have installed an Effluent Treatment Plant with technology from Pielkenrood Water Treatment, Netherland of 10,000 M³/day capacity. The total investment in the ETP is around Rs. 30 crores. The treated effluents meets the specified standards and are transported in pipelines to be discharged in zones demarcated for this purpose. Numerous scrubbing systems and Electrostatic precipitators are an integral part of all manufacturing activities. Analysis of vent gases and ambient air is done routinely. Organic chemical waste is incinerated. Extensive tree plantation has been an ongoing activity in the complex. To-day the complex has more than 3,00,000 trees. Atul

Atul has received various awards for Safety and Award from Federation of Gujarat Industry for Excellence in Environment Protection in 1994.