

ATUL LIMITED
(A Unit of Lalbhai Group at Atul-Valsad-Gujarat)

[1] UNIT PROFILE:-

Atul Limited, the dream of the great visionary Late Shri Kasturbhai Lalbhai, has resulted into a leading Indian chemical manufacturer engaged in the business of over 500 products including Agrochemicals, Bulk chemicals & bulk drug intermediates, Cresols & cresol derivatives, Dyes & intermediates, Epoxy resins & epoxy hardeners, Formaldehyde, Speciality chemicals and Wood adhesives after 57 years of successful operations. Atul Ltd. has its head quarter located 200 km north of Mumbai, has a unique blend of industry and environment, spread over 1300 acres. Atul maintained a green cover across more than 70% of the area, planting more than 50,000 trees annually across six years. As a result, more than 240 acres of completely barren land was converted into dense forest across a decade. All this has made it a breeding ground for many migratory birds—a living testimony of the effectiveness of the environmental practices of the company.

Company has manufacturing facilities at Atul and Ankleshwar in Gujarat and Tarapur in Maharashtra. It has subsidiary companies in China, Germany, UK and US and has a growing presence in Africa, Europe, North and South America. Atul has crossed Rs. 1000 Crore turnover in 2007-2008 which is a great success till now.



[2] ENERGY CONSUMPTION:-

Electricity, Coal and Furnace Oil are the major energy inputs for Atul. The total electrical energy consumed is 1808 lac KWh (inclusive of both purchased and self-generated) and 520424 million kCal thermal energy during 2007-08.

[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 an 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 give 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. This team monitors the implementation of such proposals by respective units.

(c) Awareness among the employees :-

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

[4] ENERGY CONSERVATION ACHIEVEMENT:-

During the period 2007-2008, the unit implemented 27 major energy saving ideas generated through periodic brain storming sessions by internal team members and external agencies. Annual savings of Rs.277.99 lakhs was achieved with an investment of Rs.165.18 lakhs with payback period of approx. 8 months only. It has resulted in percentage reduction of 26.9 % in specific power consumption and 21.31 % in Specific thermal energy consumption during last 3 years shown below.

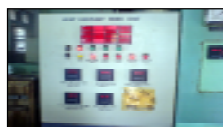
YEAR	PRODUCT	KWH/TON	%REDUCTION OVER 2005-06	MKCAL / TON	%REDUCTION OVER 2005-06
2005-06	Chemicals	1539.42	-	4.11	-
2006-07	Chemicals	1430.05	7.10	4.094	0.39
2007-08	Chemicals	1123.93	26.99	3.234	21.31

Major projects implemented for Energy Conservation during 2007-08

1 Heat recovery by preheating boiler feed DM water across acid circuit of 60 TPD SAP.

Heat released in Sulphuric acid(98%) and Oleum(25%) at Sulphuric acid plant was recovered by installing semi welded PHE installed in circuit instead of earlier spiro-cooler in which heat was wasted in atm. This heat is now used to preheat DM water before entering Deaerator of Boiler

Inv. :Rs. 57.2Lakhs



2 Preheating air by steam in spray dryer at shed D of West site.

Installation of additional steam heated preheating coil in series with existing burner circuit. at D04/50 and D04/45 spray dryers and thus to reduce consumption of kerosene.

Investment :Rs.12 Lakhs

Saving :Rs.72 Lakhs




3 Replacement of 2 nos DM water pumps by Energy Efficient ones


Very old pumps of DM water transfer (02 Nos.) having total power consumption of 5.8 KW were replaced with new energy efficient pumps (02 Nos.) having total power consumption of 1.9 KW resulting in power saving of 3.9 KW


Investment :Rs.1.54 Lakhs

Saving :Rs.2.24 Lakhs



4	Flash steam recovery in Epoxy plant At Polymer plant, earlier no system of flash steam/cond. recovery available. New flash steam recovery system installed for condensate generated from, (i) 13 bar pressure steam -159 kg/hr steam(2.5 bar pressure) (ii) 7 bar pressure steam -26 kg/hr steam(2.5 bar pressure) Investment :Rs. 9.25 Lakhs Saving :Rs. 8.07 Lakhs	
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5	Installation of Venturi type cooling towers Installed new ventury type cooling towers (03 Nos.) for new requirement instead of conventional induced draft cooling tower. Ventury type cooling tower does not require fan for inducing air for cooling the water, but instead specially designed ventury nozzles introduce air in the cooling tower by water jet only. This has resulted in saving of motor power for 3 fans. (15 HP motor) Investment :Rs. Nil Saving :Rs. 4.65 Lakhs	
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6	Replacement of conventional chilling system with high efficient screw chiller(York make) for chilled water system at PP site Old conventional chilling system replaced with new high efficient screw chiller(York Make)which reduced specific power consumption and saving of about 0.25 KWH/TR. Chiller capacity is 400 TR Investment :Rs. 35 Lakhs Saving :Rs. 18.48 Lakhs	
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Details showing major energy conservation measures taken during 2007-2008

Project description	Achievement of energy savings per year basis					Total savings in (Rs. Lakhs)	Investment incurred on the project (Rs. Lakhs)
	Electricity (Lakhs kWh)	Fuels*					
		Coal (tonnes)	F.Oil (KL)	Gas (lakhs m ³)	Total (fuel) in Mkal)		
Reduction in heat losses from the piping & surfaces of brine unit in phosgene plant.	1.9					6.65	4.30
Restructuring cooling tower pumping system at 24 D Plant so that additional load of vent & MI cooling can be taken up without additional CT	1.55					5.46	-
Recovery of condensate from Dryer no 2 of 24 D plant		115			402	2.5	0.10
Interconnecting Comp air of DCP distillation with 2,4D plant and stopping air compressor at distillation unit.	2.2			7.7	0.20	7.7	0.20