



Unit Profile

BILT-Unit Ballarpur is the largest unit of **Ballarpur Industries Limited**. It is an integrated Pulp and Paper Mill with an installed capacity of 114,500 MT of Paper p.a. having **latest art of finishing, packaging, storage & loading facilities**. The annual sales turnover of the Unit was Rs. 590 Crores in the year 2004-05. The Capacity utilisation in the year 2003-04 was 107%.

Bilt is ISO-9001: 2000 Certified unit. TQM was geared up in the year 2003 for continuous improvement thro' innovative ideas and involvement of everyone. **Bilt** aims to be a World Class Organization with a clear headway in terms of **Reduction in Energy Consumptions, Consistent Quality & Low cost**, the operating capacity has been brought up to 1,24,000 MT p.a.

2 MG & 4 MF Paper Machines i.e. total 6 Paper Machines are producing more than 338 TPD Finished Paper. Unit Ballarpur is having the widest range of high quality writing and printing papers for a wide range of prestigious end users. The brand names of our company are **Bilt Copy Power**, Maplitho NSD premium SF & HB, Sunlit Bond, Sun Shine Super Printing, Cream Wove, MICR/ Cheque Paper, Colored Printing, T.D, AR, AF Poster and ESKP.

Unit received **1st Prize of State level Award** for “**Excellence in Energy Conservation and Management**” for two consecutive years in 2003 and 2004 by Maharashtra Energy Development Agency (MEDA).

ENERGY CONSUMPTION

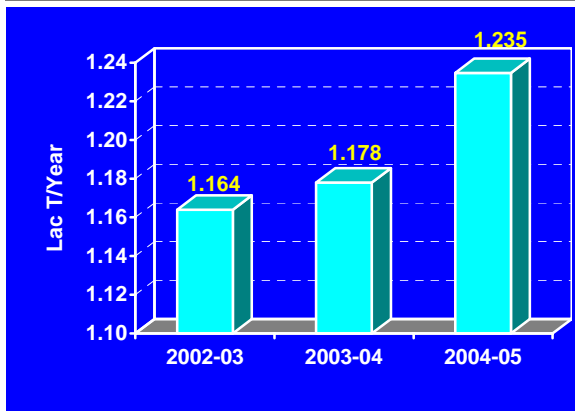
There is a continuous decline in Specific energy consumption due to regular improvement & implementation of energy conservation ideas in the unit.

Description	Unit	2002-2003	2003-2004	2004-2005
Annual Production	MT	116409	117789	123466
Total Electrical Energy Consumption / annum	Lakhs kWh	2213.254	2198.127	2238.659
Specific Energy Consumption - Electrical	kWh / MT	1087	1073	1055
Total Thermal (fuel) Consumption / annum	MKCals	886976	884688	916697
Specific Energy Consumption - Thermal (fuel)	MKCals / MT	7.619	7.511	7.425
Total Paper Manufacturing Cost	Rs Lacs/MT	21312	21868	21610
Total Energy cost	Rs Lacs/MT	3302	3298	3619
Energy Cost as % of Manufacturing cost	%	15.49	15.08	16.75 **

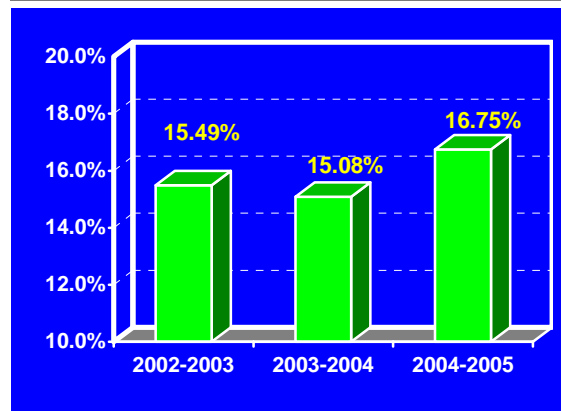
** Impact of increased coal price

Production and Energy Cost Trend

Paper Production in Continuous increasing trend
(Lac Tonnes/ Year)

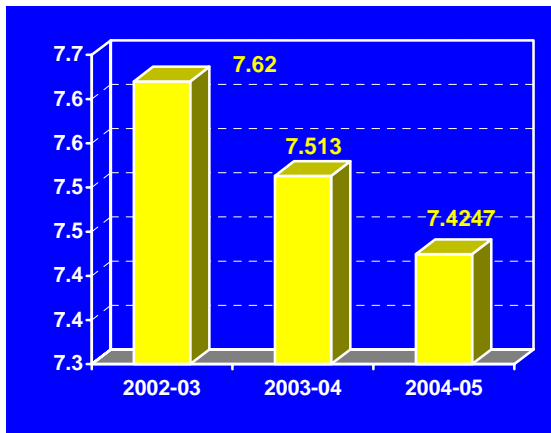


Reduction In Energy Cost:
% of total Manufacturing Cost

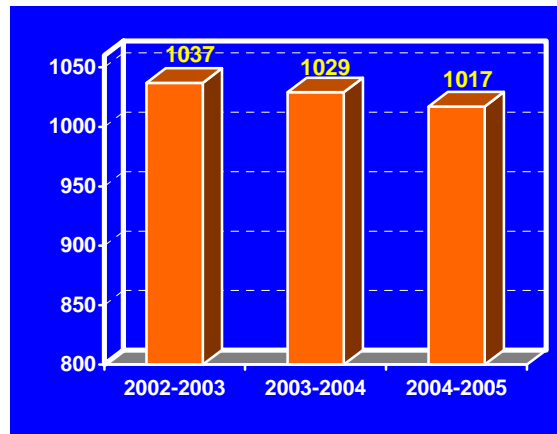


Specific Energy Consumptions Trend

Sp. Thermal Energy Consumption (M kcal/
MT of Paper)



Sp. Electrical Energy Consumption (kwh/
MT of Paper)





Energy Conservation Commitment, Policy & Set up

Unit: Ballarpur is committed for continuously reducing the energy consumptions through Encon ideas. Bilt consistently continues to strive for excellence and gives utmost importance to Energy Conservation as well as Environment Conservation. For last many years, the company has independent Energy Conservation Cell, headed by a full time Energy Manager and constitutes Process and Engineering faculties. The Company has three tires 'Energy Set-up' reporting system and Cross Functional Teams headed by respective Sectional Heads inclusive of Process, mechanical & electrical maintenance.

Each sub-team comprises of Cross Functional Areas i.e. Process and Engg and regularly meets with Energy Cell to identify, review and communicate the Energy Conservation Opportunities to the core team of the unit for introducing specific conservation measures into site. The core team reviews the same and the decisions are taken for the implementation of Energy Conservation related projects in Short/ Medium/ Long Term basis. Modifications and retrofitting of Energy Efficient Equipments are implemented after getting approval from the Management. These implemented measures are re-examined for their effectiveness periodically and communicated to HO level once unit approves its viability.

In this way, we promote a culture of innovation and creativity for achieving new dimensions of Energy Conservation by aligning our commitment at all levels. The Energy Conservation Cell prepares Energy consumption Report on weekly, monthly & yearly basis which are reviewed at all levels of Management. Weekly/ Monthly/ Annual targets of Energy Conservation are set on the basis of best achievements and form a part of performance targets which percolates to the shift supervisory level.

The Energy Audit, at an appropriate interval of time, is carried out by internal as well as external Agencies which helps in further identifying Energy Savings Potential in various sections.

Our unit has Energy Management Policy, which is appended herewith in annexure III.

Unit Received State Level Award for two consecutive years for **“Excellence in Energy Conservation and Management”** by Maharashtra Energy Development Authority Pune.



Major Projects Implemented During The Year 2004-05

Project No. 1

Direct Pumping of Pulp from Un-Bleach HD Tower to Primary fractionator and shutting down one Pump

There was separate pump running for supplying the Pulp to primary fractionator. The delivery line of Un-Bleach HD tower pump has been modified to supply the pulp to Primary fractionator, which resulted in shutting down one Pump of 75 kw.

Power saved = 289800 kwh /yr

Money Saved = Rs. 6.29 lacs / yr

Investment = Rs. 0.20 Lacs



Project No. 2

Enhancing the capacity of single Vacuum Pump in place of two pumps for couch on Paper Machine No.2

Two pumps were running at paper machine No.2 for couch to meet the required vacuum. The speed of one vacuum pump is increased by changing the pulley which resulted slight increase in power of one pump and shutting down completely one pump of 110 kw.

Power saved = 352800 kwh /yr

Money Saved = Rs. 7.66 lacs / yr

Investment = Rs. 0.30 Lacs



Project No. 3

Shutting down one Propeller of PM-3 Under Pulper.

Paper machine No.3 Under machine pulper is having two nos. of propellers. By improving the process paper breaks have been reduced mchine which resulted in shutting down one propeller of under machine pulper.

Power saved = 332640 kwh /yr

Money Saved = Rs. 7.22 lacs / yr

Investment = Nil



Project No. 4

Installation of Variable Frequency Drive in 2 Nos. Shrink Bundling Machine

In shrink bundling machines paper reams are move on a conveyor and pass through heating zone having electric heaters. By providing VFD in conveyors part of heaters have been shut down resulting in saving of power. Earlier, running load was 80 kwh where after shutting the heater load is 73.5 kwh.

Power saved = 54600 kwh /yr

Money Saved = Rs. 1.18 lacs / yr

Investment = Rs.0.60 lacs



Project No. 5
Modification of grit re-firing system in coal boiler No.7 and 8

Screw conveyors were handling the grit from grit interceptor hopper for disposal. The outlet of grit interceptor hopper is modified for re-burning of grit into the boiler and resulted in removal of the screw conveyors which resulted in power saving.

Power saved = 29700 kwh

Money Saved = Rs. 0.64 lacs / yr

Investment = Rs.0.25 lacs



Project No. 6
Modification of ash handling belt No. 3,4, and 5 by providing single belt conveyor as by pass arrangement.

Earlier three belts were running for ash handling in coal boiler No. 7 & 8. One single belt conveyor is provided by modifying the system which has resulted in shutting down two conveyors..

Power saved = 59400 kwh /yr

Money Saved = Rs. 1.29 lacs / yr

Investment = Rs.1.50 lacs



Project No. 7
Shutting down one De-super heater pump by direct feeding thr'o Boiler feed pump.

The de-super heater has been shut down by direct feeding from boiler feed pump.

Power saved = 29700 kwh /yr

Money Saved = Rs. 0.64 lacs / yr

Investment = Rs.0.25 lacs



Project No. 8
Repositioning of PM-5 vacuum pump silencer.

PM-5 one vacuum pump was on a height of 5 ft due to which vacuum pump was pumping water against head and resulting in more power consumption. By keeping the silencer at ground floor, load of pump reduced by 8 amps.

Power saved = 40320 kwh /yr

Money Saved = Rs. 0.87 lacs / yr

Investment = Rs. 0.10 lacs



Project No. 9**Installation of 2000 KVAR capacitors for maintaining the power factor**

2000 KVAR capacitors have been installed for maintaining the power factor to 0.9.



Money Saved = Rs. 10 lacs

Investment = Rs. 10 lacs

Other ideas implemented are:

- ✓ **Shutting down both fans of CSCP cooling tower in winter season for about three months (20 days a month)**
- ✓ **Reduction in water pumping power by reducing water consumption in the mills.**
- ✓ **Reduction in radiation and other steam losses by proper insulation and prompt attention on leakages in the plant.**
- ✓ **Reduction in water consumption**
- ✓ **Paper machine No.3 deckle utilization increased from 334 to 338 cm.**
- ✓ **Replacing Halogen lamp fittings with energy efficient sodium vapor lamps in 16 locations.**
- ✓ **Use of Activiser 'G' with coal in coal boiler No. 4 & 6.**

Energy Conservation Plans and Targets:

Energy Conservation Measures (Planned)	Anticipated savings		Approx. investment (Rs.lakhs)	Project Commencement & Completion year
	in			
	Energy Value Million k Cal	Rs. Lakhs		
Modification of Steam condensate system on PM-6 to utilise flash steam	4407	18.00	19.00	2005-06
Installation of 2000 KVAR Capacitors	529	16.00	9.00	2005-06
PLC system for sequential running of aerators	446	7.00	0.60	2005-06
Optimising Pulper Operations to save power	2225	36.00	2.00	2005-06
Installation of VFD for Pulp Mill Washers	780	23.00	30.00	2005-06
Use of Activiser "G" on Coal Boilers	19000	64.80	36.69	2005-06
Replacement of inefficient motors	66	2.00	2.00	2005-06
Installation of new Compressed air drying unit.	289	8.00	15.00	2005-06
Reduction of fresh water consumption	10 M ³ / MT	32.00	100.00	2005-06

Installation of Air preheater on Coal Boiler 4 & 6.	2900	14.00	13.00	2006-07
Installation of on-line energy monitoring system for PM- 1, 3 & 6	----	* 0	7.50	2005-06
Installation of Lime mud re-burning system	----	** 0	1750.00	2007-08
Installation of New high capacity Paper Machine	11686	54.36		2007-08

*** Installed for better monitoring and control**

**** To be implemented for Cleaner environment and minimizing solid waste.**

Besides above, other initiatives and activities will be carried out to identify and implement more ENCON ideas in the plant.