



CII National Award 2008
“Excellence In Water Management”
16 & 17 Dec 2008

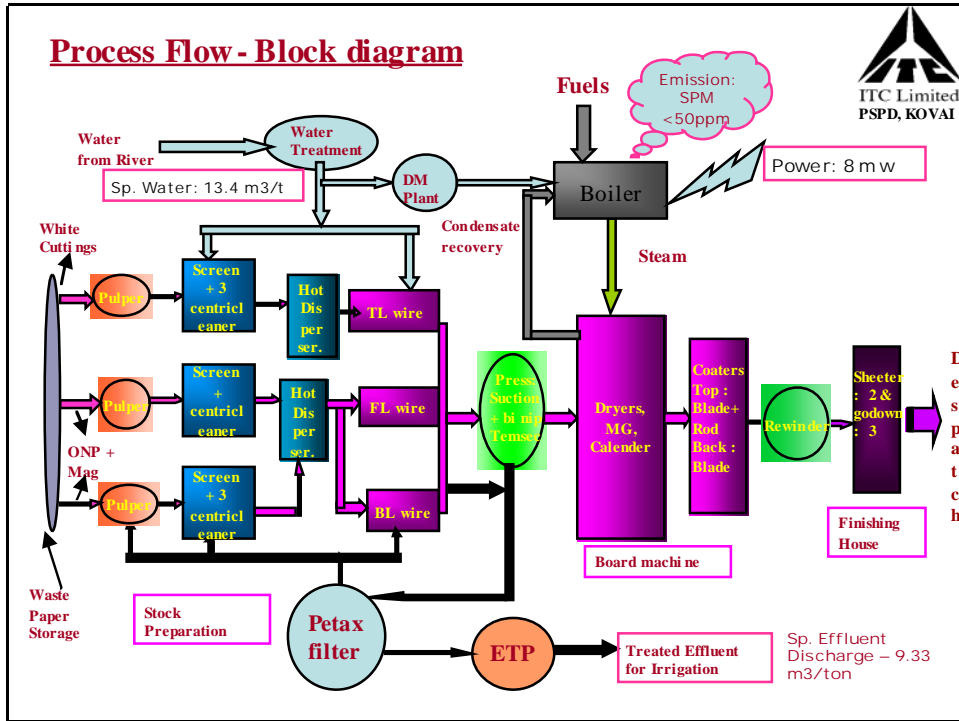
ITC Limited, PSPD, Unit - Kovai



Company Profile:

ITC Limited , PSPD Unit:Kovai

- ITC Ltd is a multi business Corporate with Environmental Philosophy of Trusteeship related to social & environmental resources, aligned to the pursuit of economic objectives.
- PSPD is the Paperboard & Specialty Papers Division, 1500 crore business having 4 manufacturing Units
- Unit: Kovai is One of the units, located 42 km north of Coimbatore, Tamil Nadu.
 - Acquired from BIPCO in March 2004
 - Production capacity of 90000 t/ year (from 55,000 t / year)
 - Manufacture Duplex Board from 100 % recycled fiber
 - ISO 9001, ISO 14001 & OSHAS 18001 certified



Certifications & Awards: Unit - Kovai

Certifications:

- ISO 9001 : 2000
- ISO 14001 : 2004
- OSHAS 18001 : 1999
- British Safety Council Award 2007 : ★★★★★ Rating
- British Safety Council Award 2008 : ★★★★★ Rating

Awards:

- “Excellent Water Efficient Unit” – CII National award for Excellence in Water Management 2007



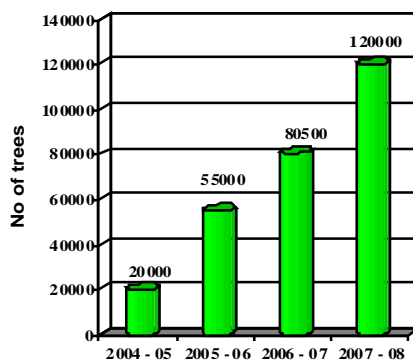
Preservation of Environment:

- **Priority for Conservation of Resources**
- **Water & Energy Conservation**
 - Recycling & reducing usage : Invested Rs 3.0 cr in new technologies.
 - Invested Rs 55 cr in Energy conservation.
 - Evaluation & improvements through regular audits
- **Recycling of solid waste:**
 - 100% fly ash from boiler, ETP sludge, Deinking sludge & Plastics from waste paper are recycled
- **Facilities & Processes are environment friendly:**
 - Online stack monitoring – SPM, SO_x, NO_x and continuous AAQS to improve environmental standards
- **CDM Project:**
 - Predominantly using waste biomass in boiler as fuel, 96,000 tons of CO₂ reduction per annum



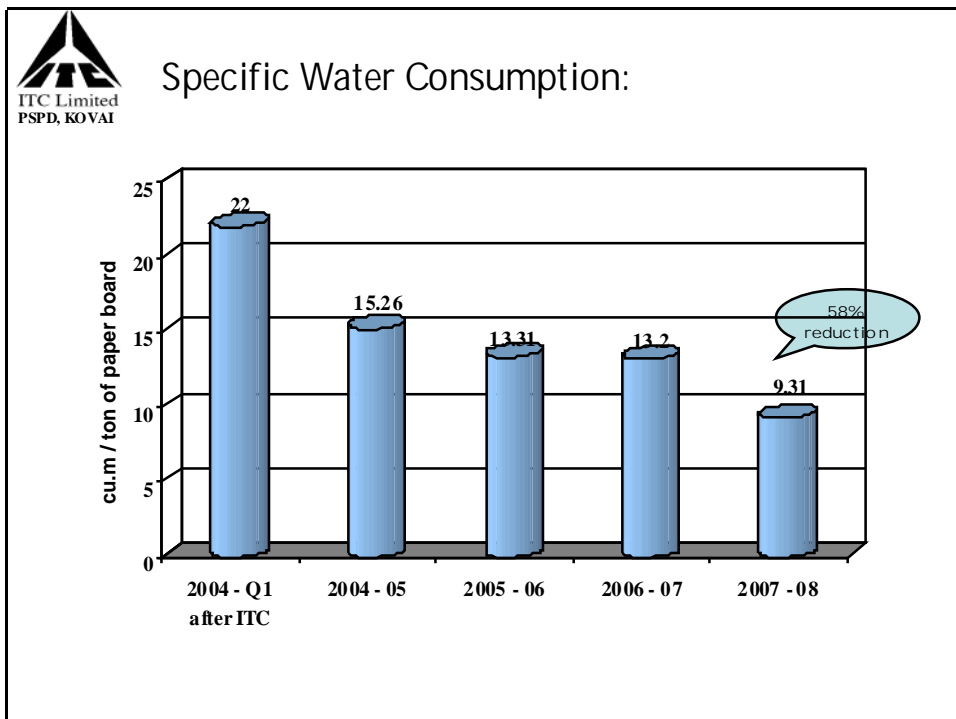
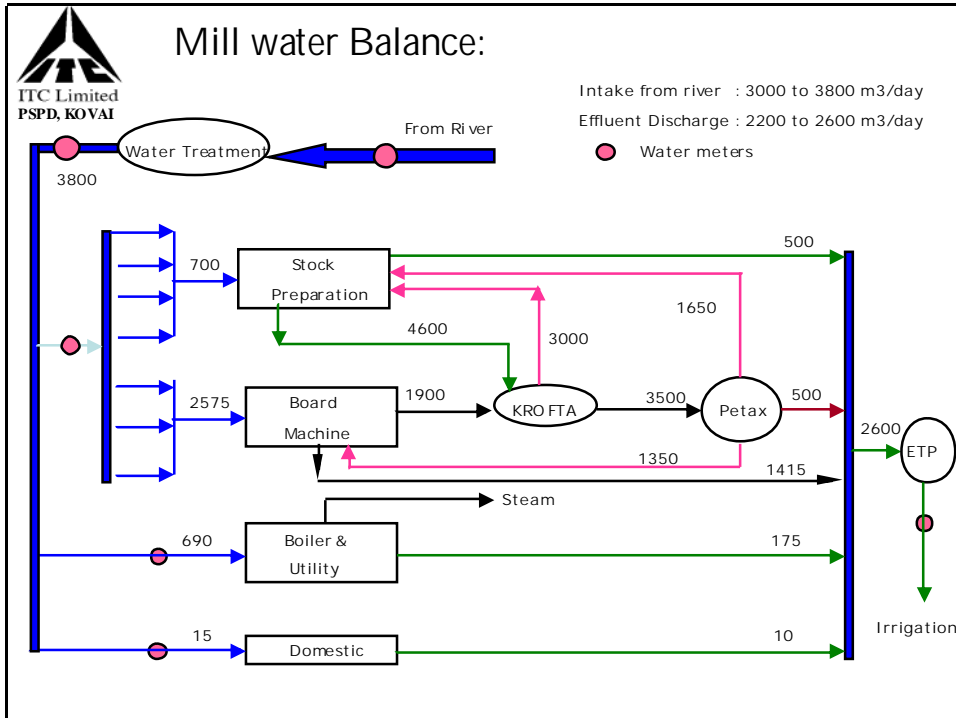
Preservation of Environment by Using Treated Effluent:

Tree Population



Green Belt Development:

- 245 acre under cultivation using treated effluent.
- 1,20,000 trees of various species
- Long term tie up with Tamilnadu Agricultural University to monitor and study the impact of treated effluent on soil & ground water.





Water Conservation Projects:

Under Waste Water Reuse:

S No	Projects	Investment in Lakhs	Implemented year	Water savings (m ³ /year)
1	Krim a sealing water outlet reused in process	0.8	Sep 2006	13,200
2	Using boiler blow down for cooling tower make up	0.7	Jan 2007	11,550
3	Petax Filter accept used for filter backwash instead of fresh water	0.5	Jan 2007	33,000
4	Top liner silo 2 excess back water used for pulping	1.4	Feb 2007	29,700



Water Conservation Projects:

Under Waste Water Reuse:

S No	Projects	Investment in Lakhs	Implemented year	Water savings (m ³ /year)
5	Sealing water recirculation for vacuum pumps	6.2	Mar 2007	1,15,500
6	Reuse of foam tank overflow to filler pulper	1.0	May 2007	33,000
7	Top liner tray water diverted to top liner silo	0.15	Mar 2008	11,880



Water Conservation Projects

Under Waste Water Recycle:

S No	Project	Investment in lakhs	Implemented Year	Water Savings m3/year
1	Petax filter installed for recycling of process water	200	April 2005	9,90,000
2	Recycling deinking waste water in the top liner	1.0	Dec 2006	90,750
3	Krofta Clarified water used in Broke Thickener	0.5	Oct 2007	47,520
4.	Stock Preparation reject thickening for recycling of back water	12	Dec 2007	79,200



Water Conservation Projects

Under Water Reduction:

S No	Project	Investment in lakhs	Implemented Year	Water savings m3/year
1	Top LP Shower worn out nozzle change	2.0	March 2006	24,750
2	Felt lubrication nozzle changed to wide angle	2.0	Sep 2006	33,000
3	Using Petax water in filler liner dandy shower	0.5	Feb 2007	66,000
4	Reduction of Pump and agitator sealing water	1.0	April 2007	1,58,400
5	Optimization of booster pump	Nil	June 2007	63,360
6	Reduction of Raw water header pressure	4.0	Aug 2007	33,000



Water Conservation Projects

Under Water Reduction: contd

S No	Project	Investment in lakhs	Implemented Year	Water savings m ³ /year
7	Level control for white back, back water chest	0.28	Jan 2008	33,000
8	Level Control for Top liner back water chest	0.38	Jan 2008	15,840
9	Optimization of back liner wire edge cleaning shower	0.15	Jan 2008	15,840
10	Optimization of 4 number of Press part LP shower	Nil	Jan 2008	79,200
11	Temperature control loop for vacuum seal pit make up fresh water	1.75	Feb 2008	95,040



Innovative Project 1 – Thickening of Stock preparation tertiary screen rejects

- **Past Scenario:**

Vibrating screen and Side Hill screen were used to thicken the tertiary screen rejects, the output consistency of sludge was 2 to 4 % and the filtrate collected was used in the system

- **Present Scenario:**

- Vibrating screen and Side hill screen were replaced by two hydrascreen.
- Hydrascreen consist of screw conveyor enclosed by a screen, which helped to avoid jamming prevailing in old system
- The consistency of the rejects increased from 2% to 20% which increased the filtrate quantity by 10 cu.m/hr

- **Project Summary:**

- Fresh water savings per annum – 79,200 m³
- Investment cost – 12 lacs
- Payback Period – 26 months



Innovative Project 2 – Temperature control loop for vacuum seal pit make up water

- **Past Scenario:**

Temperature of sealing water is critical for vacuum pump efficiency, the temperature was controlled manually using valve

- **Present Scenario:**

- A new temperature control loop provided for control
- Temperature set point given and the flow of water varied automatically to maintain the temperature
- This has increased reliability in temperature control and reduction in fresh water make up

- **Project Summary:**

- Fresh water savings per annum – 95,040 m³
- Investment cost – 1.75 lacs
- Payback Period – 4 months



Innovative Project 3 – Krofta clarified water for broke thickener shower

- **Past Scenario:**

Fresh water was used in broke thickener shower with the nozzle size of 2 mm for cleaning the thickener mesh

- **Present Scenario:**

- Krofta clarified water with 150 ppm of TSS is chosen as replacement of fresh water
- Since the nozzle size is 2 mm and the maximum particle size in the Krofta clarified water is less than 75 micron, the jamming tendency is too less
- This helped us to stop fresh water completely and resulted in savings of 6 cu.m/hr

- **Project Summary:**

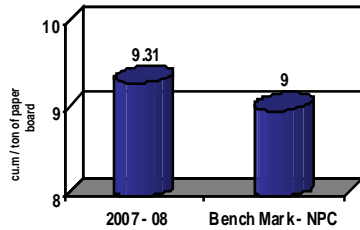
- Fresh water savings per annum – 47,520 m³
- Investment cost – 0.5 lacs
- Payback Period – 2 months



Bench Mark – Specific water consumption

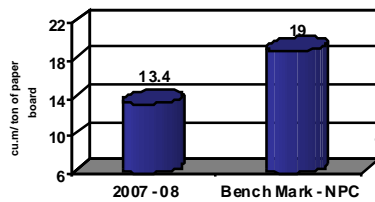
Without Deinking & CPP

Road Map towards International Bench Mark:



- Reuse of Process Effluent by localized treatment
 - Treat effluent from Stock preparation separately without sending to ETP, necessary facilities are planned and to be installed in 2008 - 09

With Deinking & CPP

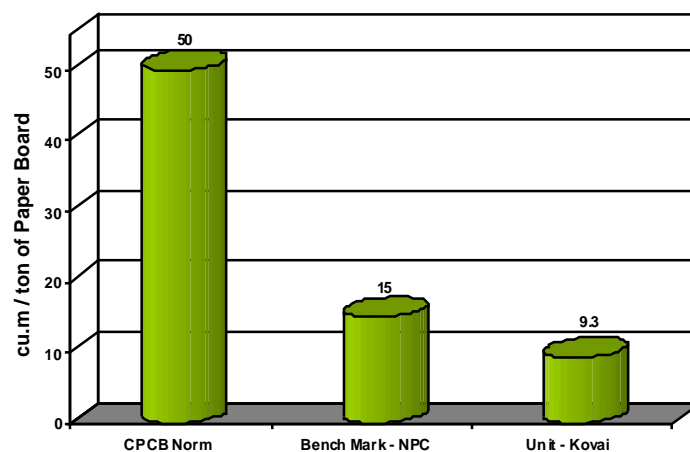


- Reuse of treated effluent in the process
 - Investment in secondary treatment plant is planned in 2009 -10
- Implementation of rain water harvesting inside the plant 2009 - 10



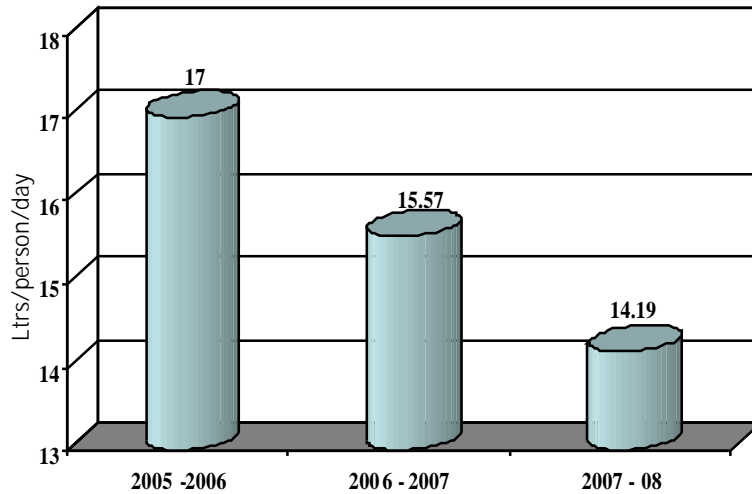
Specific Waste Water Discharge:

With Deinking & CPP





Per capita Domestic water consumption:



Review : Sustenance & Improvements

- Consumption at all consuming points are captured in DCS
 - Hourly report is generated for more than 30 points
 - Automatic alarms during variations
- Daily area wise fresh water consumptions are monitored
- Water consumptions reviewed, variances analyzed & corrective actions planned in
 - Daily AET's meetings
 - Weekly Production Pillar meeting
 - Monthly Performance review by Unit Steering Board.
 - Designated Water Manager facilitates the reviews.
- Implementation status of suggestions from PACT members (workmen) are reviewed in monthly performance reviews.



Real time MIS report from DCS:

ITC PSPD KOVAI

Report Duration : **SHIFT WATER REPORT**

Operator :

SHIFT 1

Sr. No.	Description	Engg Units	Max Value	Time	Min Value	Time	Avg Value	6am - 7am	7am - 8am	8am - 9am
20	Fresh water flow	m3/hr	283.50	11:23	65.47	6:51	97.19	82.66	135.69	109.37
21	Raw water pressure	bar	4.40	12:15	1.71	7:47	3.80	3.33	2.71	3.66
22	K.rofta feed flow rate	m3/hr	5999.15	7:27	5605.15	11:37	5768.15	5868.73	5910.60	5805.96
23	K.rofta feed line valve opening	%	100.00	6:01	100.00	6:01	100.00	100	100	100
24	Main cooling tower level	%	87.02	6:10	74.35	8:09	78.32	85.16	79.43	75.42
25	P.etax running time in A shift	mins	436.00	14:00	0.00	6:01	217.07	29.50	86.65	130.50
26	P.etax running time in B shift	mins	357.00	6:01	357.00	6:01	357.00	357	357	357
27	P.etax running time in C shift	mins	443.00	6:01	443.00	6:01	443.00	443	443	443
28	fresh water totalizer for A shift	m3	779.70	14:00	1.22	6:01	408.70	43.06	144.60	276.77



Water Conservation in Local community

- Awareness program in local society
 - Involving local community in World Environment & farmer's Day celebrations.
 - Distribution of saplings.
- Drinking water supply to local villages (2500 people)
- Rain water harvesting facilities
 - Check dams : 7 nos
 - De-silting of ponds : 19 nos
 - Beneficiaries
 - Recharged Open wells : 160 nos
 - Recharged Bore wells : 99 nos



ITC Limited
PSPD, KOVAI

THANK YOU