

CII National Award for Excellence in Energy Management 2024

11 Sep 2024

Sripathi Paper and Boards Private Limited, Sivakasi

Presented by

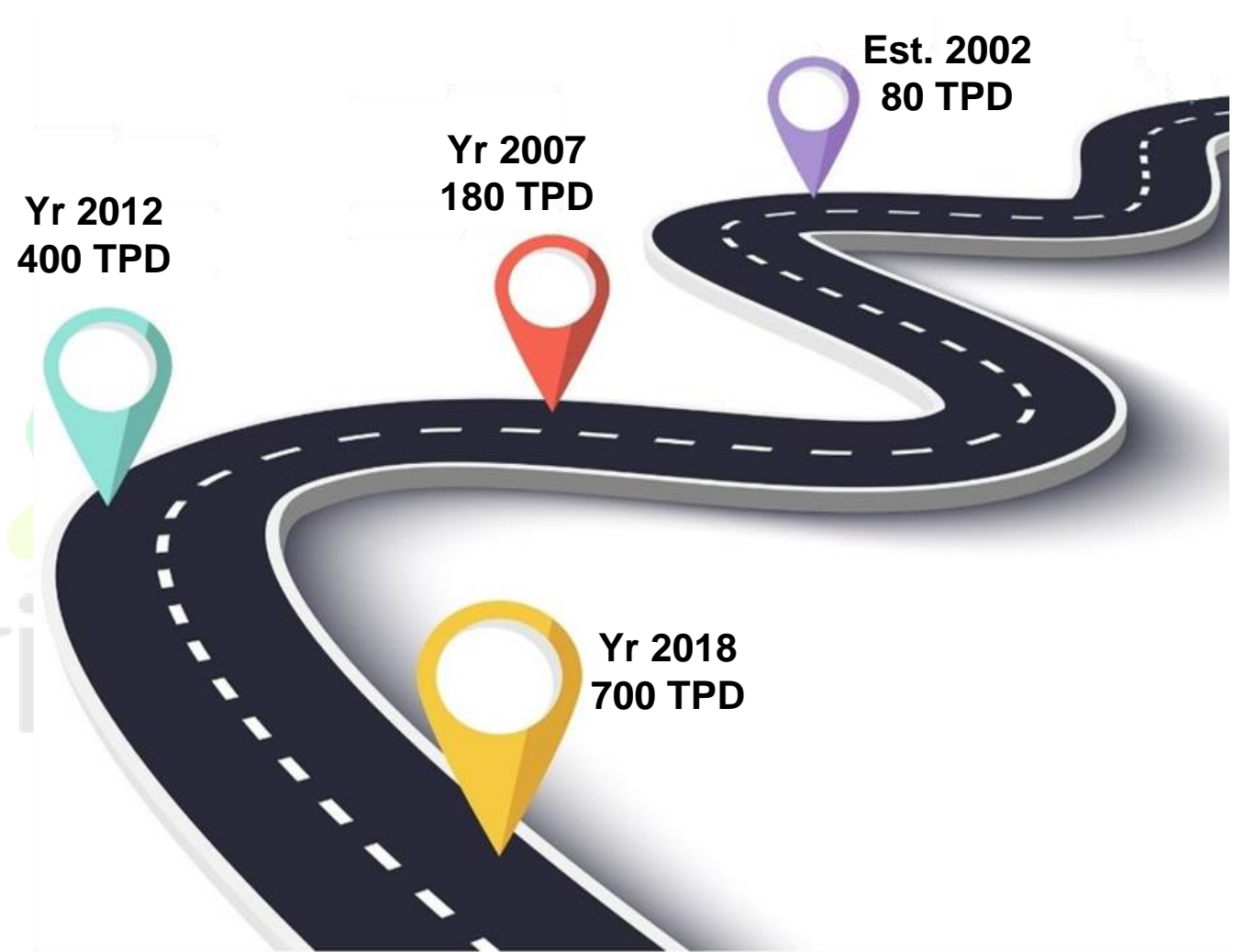
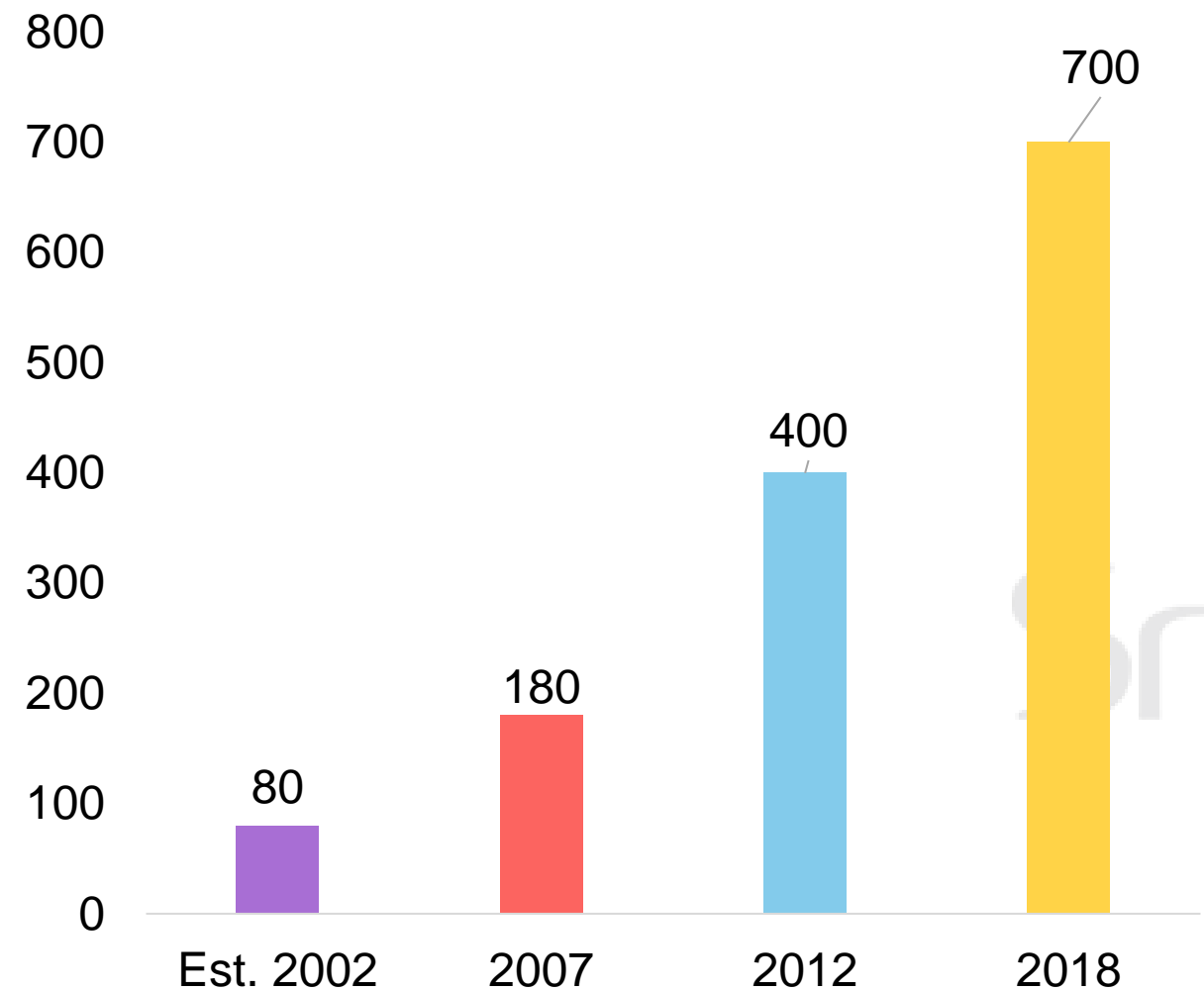
P Vignesh Kannan – Head Projects
B Maniraj – DGM Production
C Soundara Rajan – Energy Manager



Sripathi's Business Development's



Production Capacity (TPD)

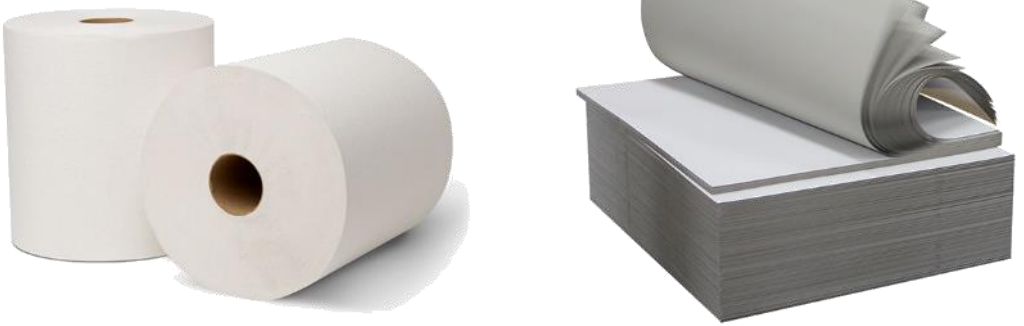




Products & Customers



Duplex Boards



Kraft Paper



Writing & Printing





Our's Responsibility and Achievements



9001:2015



14001:2015



Products made from 100 %
Recycled Paper



Increased biomass Utilisation in
boilers from 28% to 47%



45001



Increasing Renewable Energy
Source from 14% to 25%




We are responsible to Circular
Economy and Sustainability



Our Energy Policy and Commitments




- Monitoring energy consumption on a daily basis and discuss the variations in daily review meetings.
- Monthly review meeting is conducted with entire team to compare the deviations from previous month achievements.
- Conducting periodic energy audits with Empanelled Accredited Firms.
- Fixing the yearly target for energy reduction and implementing the energy conservation measures to achieve the target.
- Conduct training, awareness and motivating of employees to reduce energy consumption.



Sripathi
PAPER AND BOARDS PRIVATE LIMITED
pack of ideas


Integrated Management
Systems Certified Company
(ISO 9001, ISO 14001
and OHSAS 18001)




Energy Policy

Sripathi Paper and Boards Private Limited is committed for continuous reduction of Energy.

1. Review of Energy Committee once in a month to discuss on energy projects progress and opportunity for Energy reduction.
2. Machine wise Energy KPI target is fixed and being reviewed in monthly meetings.
3. Quarterly Energy Campaign on energy reduction.
4. Measuring the Energy Reduction / Savings measures on regular intervals for sustenance of benefits.
5. Identifying the projects for energy and water conservation measures.
6. We have a third eye to verify the measures for implementation.
7. Periodic Training & awareness programmes to all employees about energy conservation importance and getting energy conservation ideas from employees.



N Murali
Head Operations



Regd. Office :
Old No. 1695/31, New No: 994,
2nd Floor, Ramaras Regency,
Coimbatore - 641045,
Tamilnadu, INDIA,
T : +91 - 422 - 4021400-404
E : corporate@sripathi.net

Factory : I

- Sukkinaripatti,
Sivakasi - 626 130,
Tamilnadu, INDIA,
T : +91 90470 25586, 90470 37586
E : sales@sripathi.net

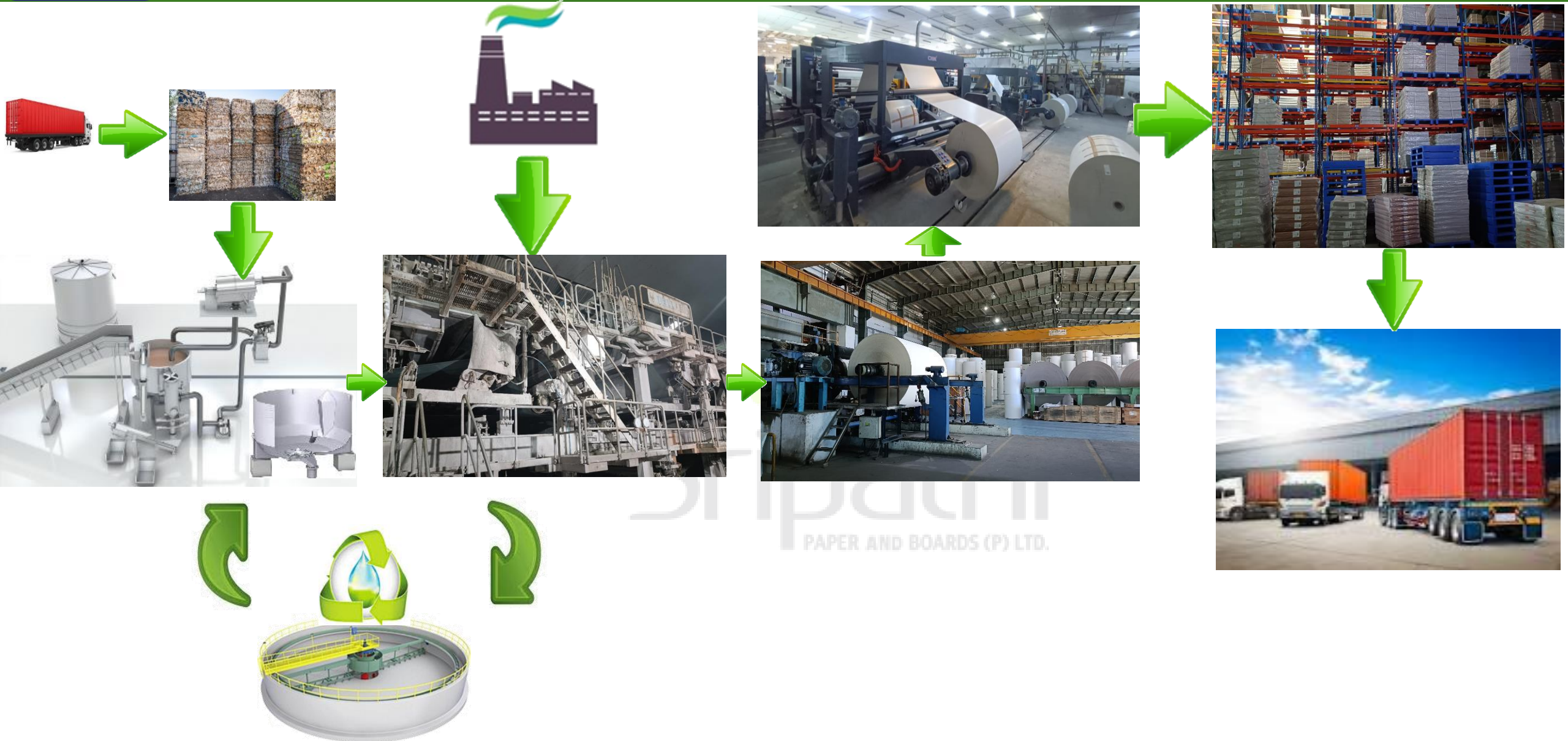
Factory : II

- Rajan Nagar, Puthuvadevalli Village,
Sathyanangalam - 636 401,
Tamilnadu, INDIA,
T : +91 98435 18444, 98435 68444
E : corporate@sripathi.net

GST No: 33AAGC57439C1ZG CIN No: U21012Z2302PTC010851
www.sripathi.net

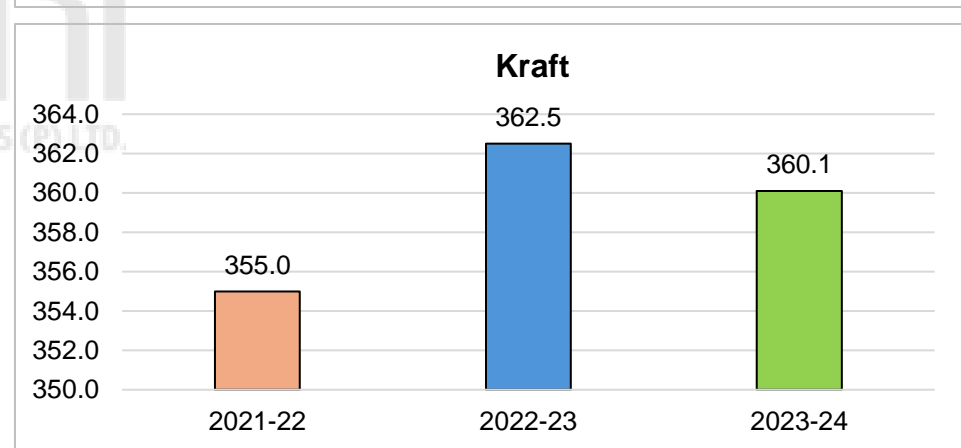
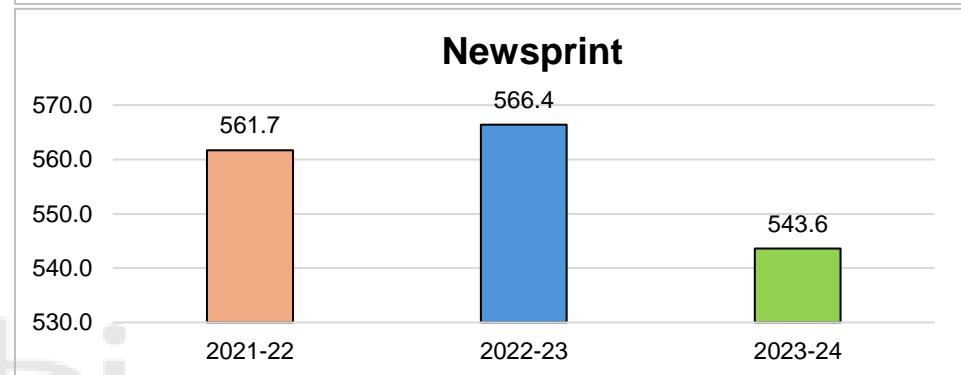
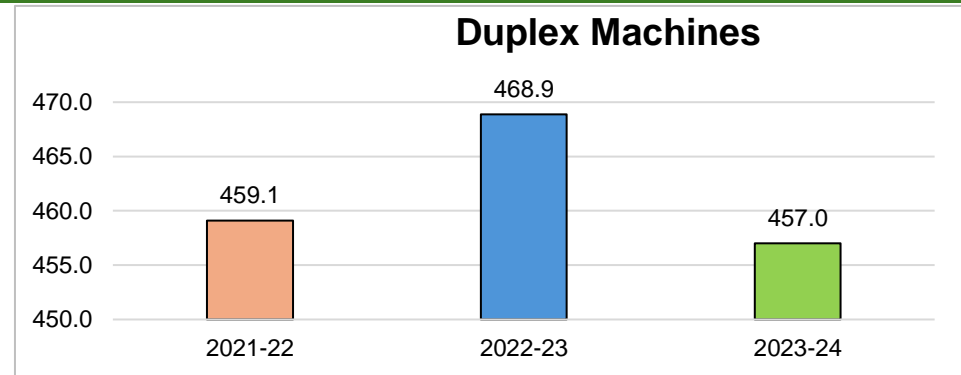
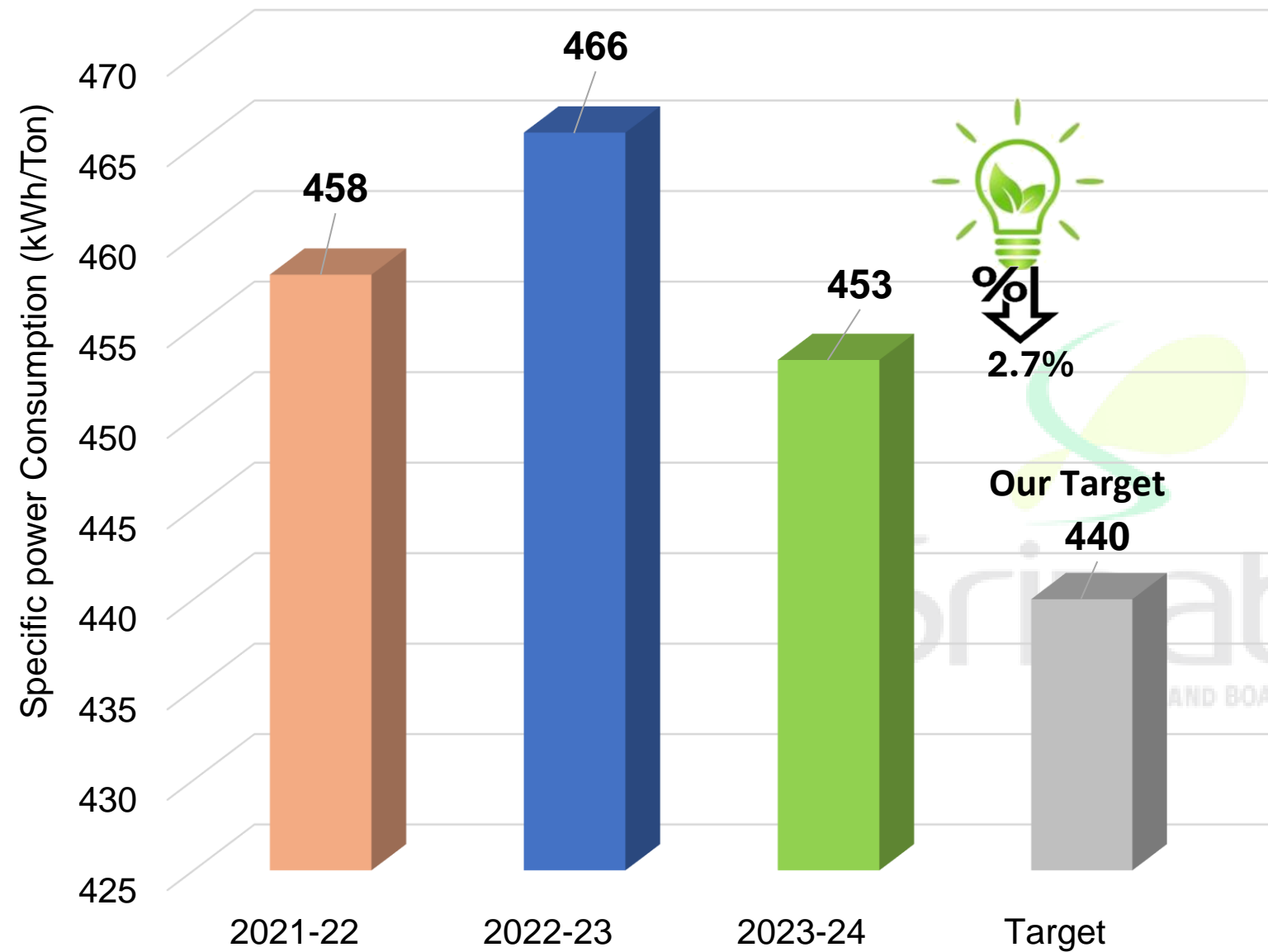


Our Process of Flow



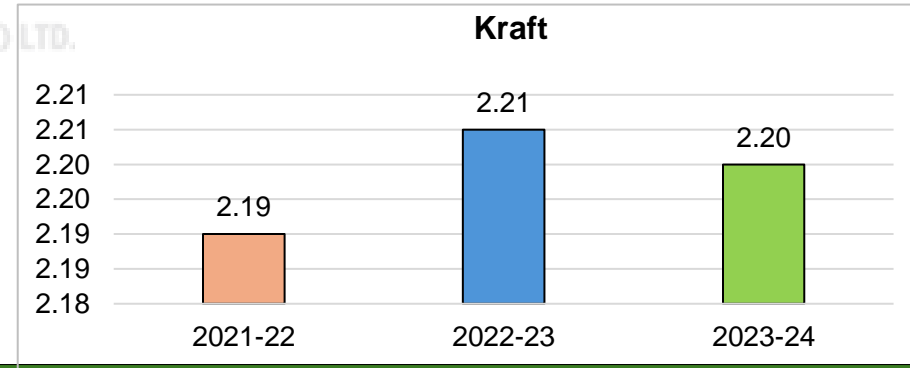
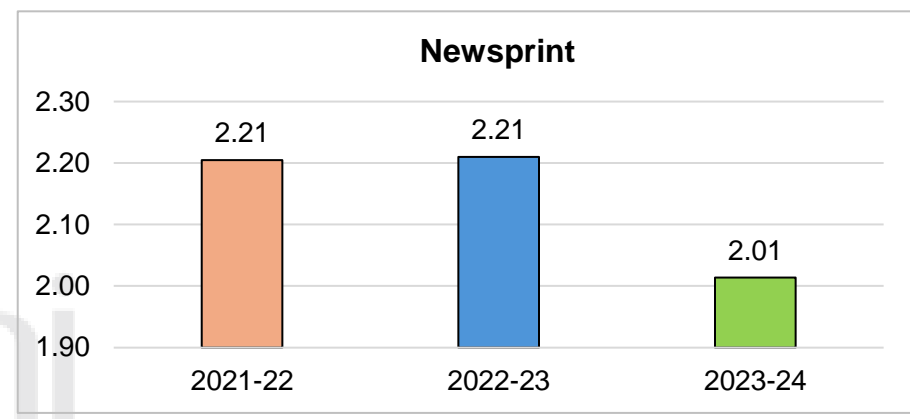
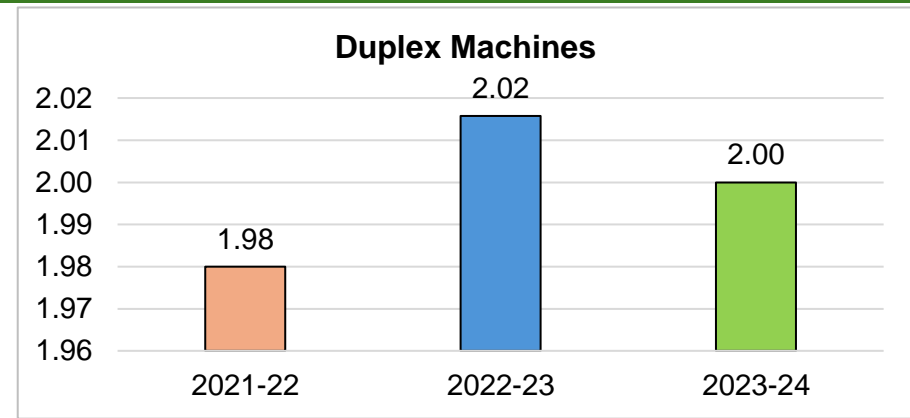
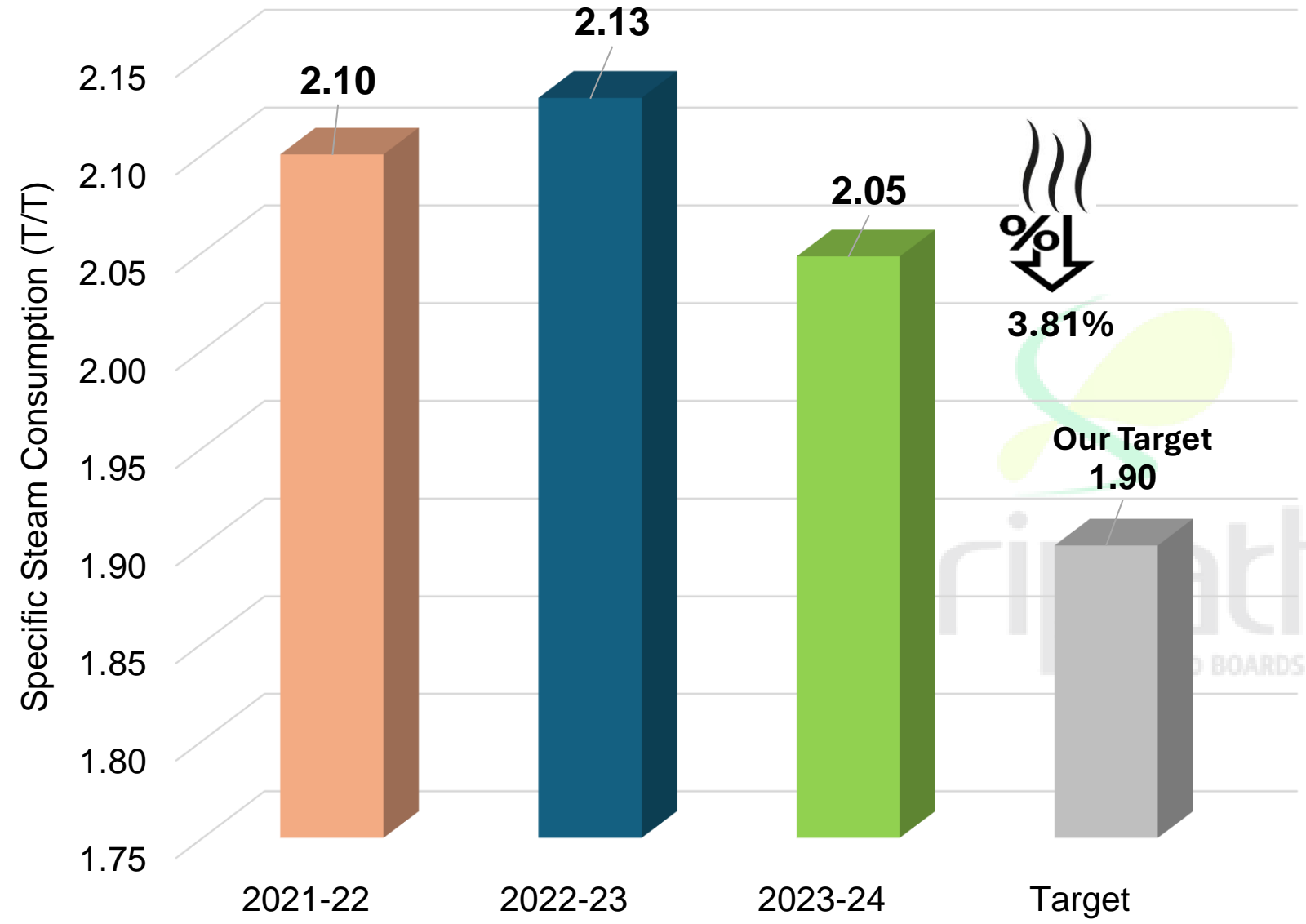


Specific Power Consumption (kWh/Ton)



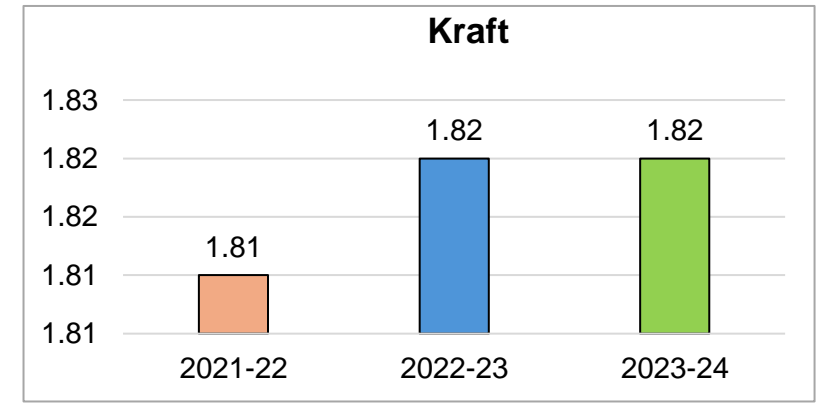
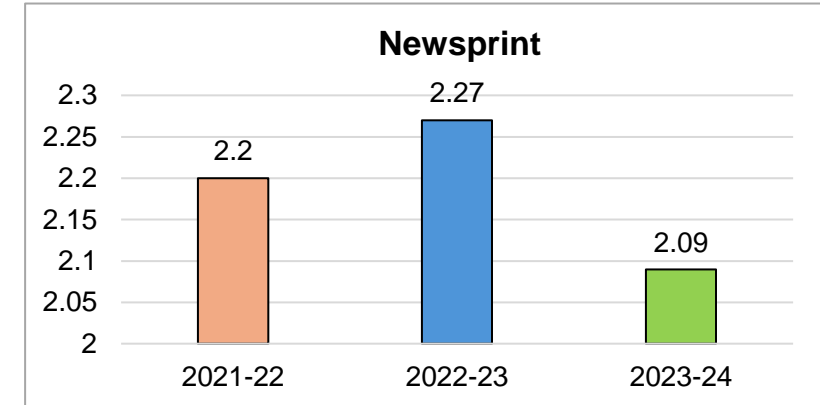
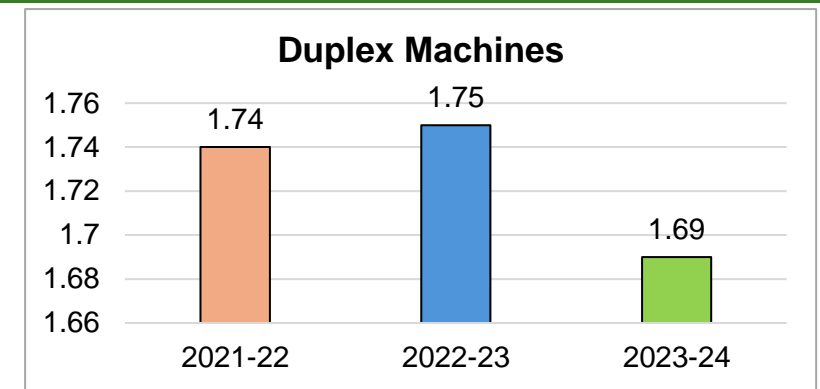
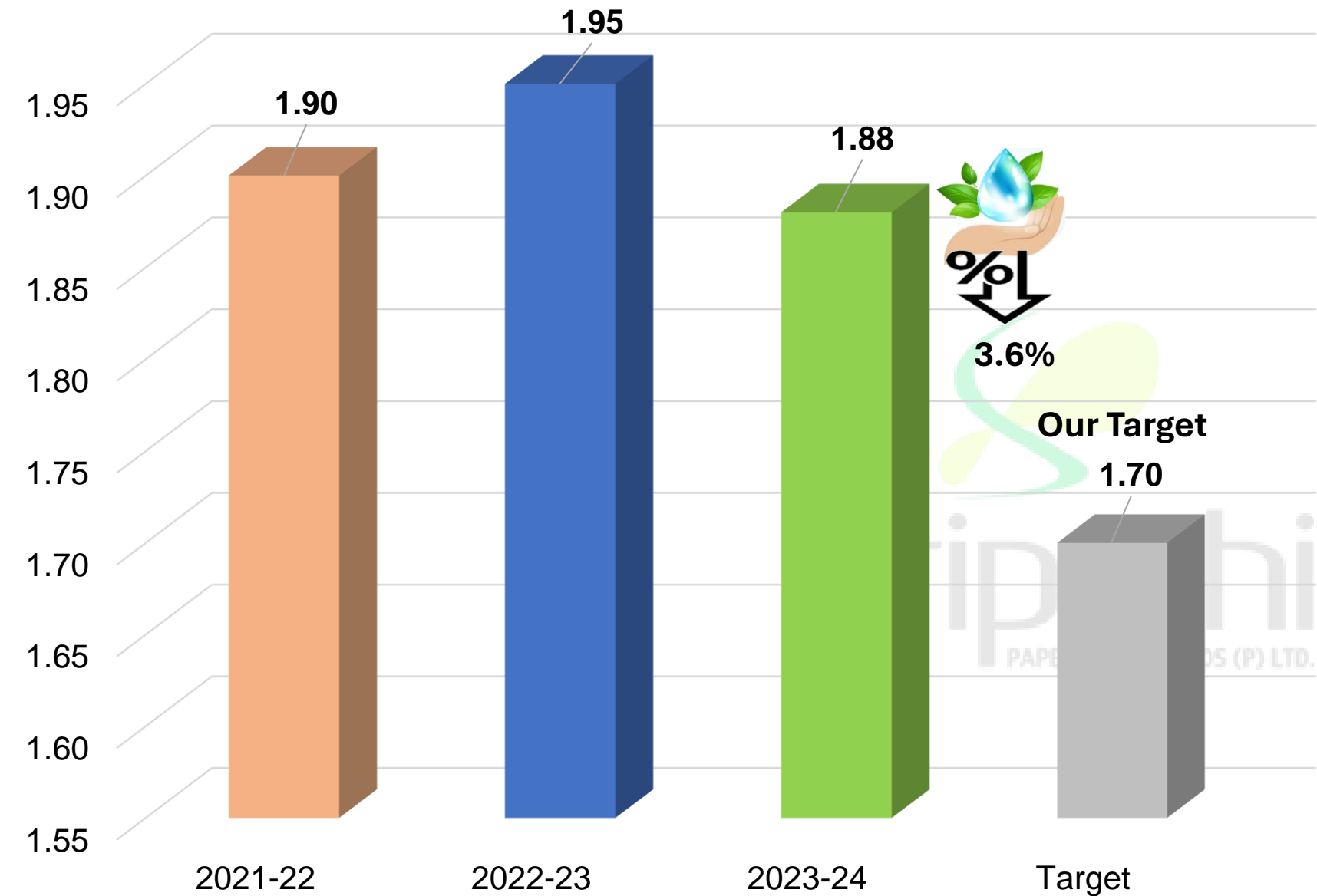


Specific Steam Consumption (T/Ton)



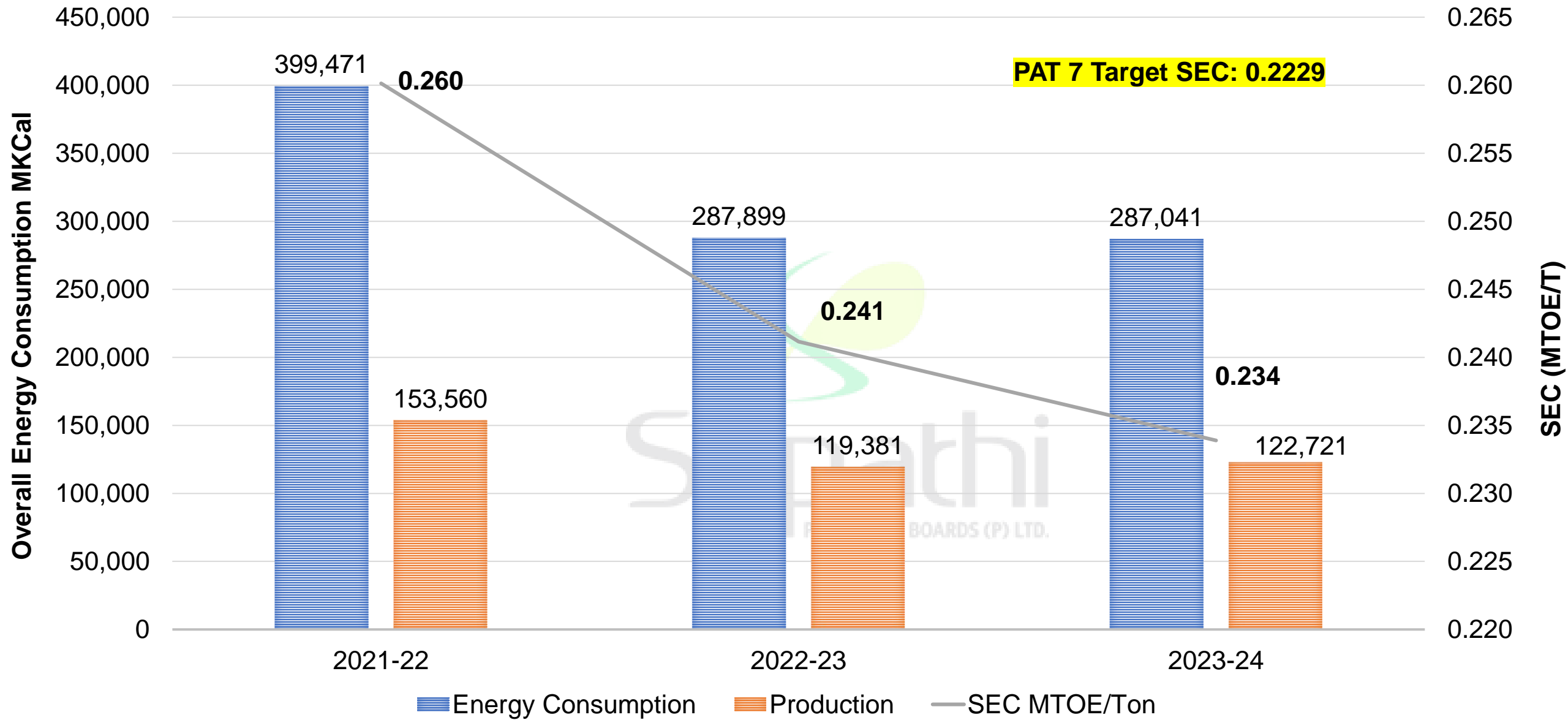


Specific Water Consumption (kL/Ton)



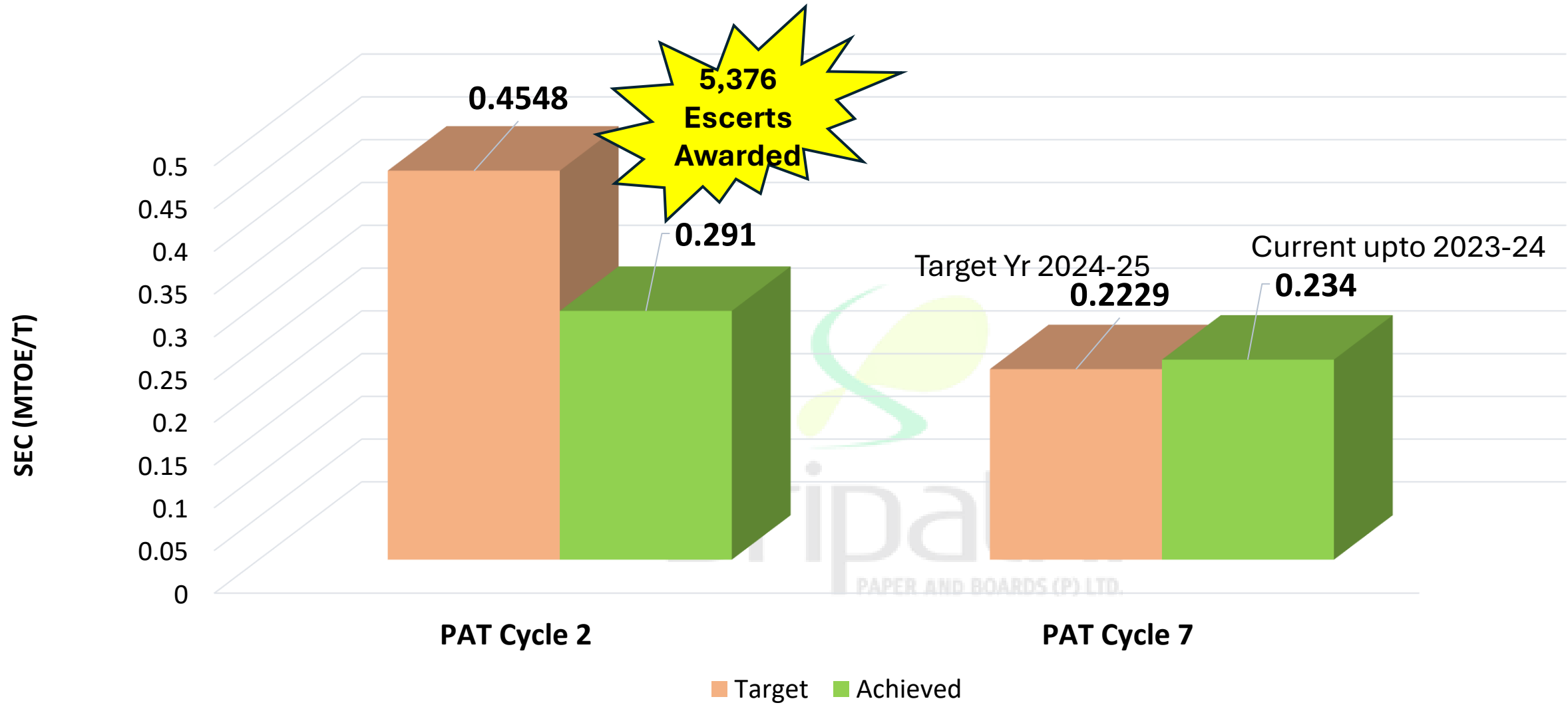


Specific Energy Consumption (PAT)





PAT Cycle Targets



➤ In PAT Cycle 2 we have crossed the Target SEC and awarded 5,376 Escerts.



Energy Conservation Measures Implemented in 2021-22-23



Description of ECMs Implemented on Year 2021-22	Energy Savings MkCal	Annual Cost Savings Rs. Lakhs	Carbon Reduction tCo2e
Modified PP APH design in FD circuit and air ingress	266	26.3	133
Revamping of existing air compressor	170	16.8	85
Installing VFD for CEP pump to optimize the re-circulation flow	105	10.4	53
Operating optimal capacity of Air compressor in PM1 & PM3	121	11.9	60
Energy Efficient Fan for Medium Vacuum	67	6.6	34
Replacing pending conventional lights with LED lighting	15	1.5	8
Arresting steam leaks by replacing appropriate steam gaskets, steam traps	434	8.1	217
Total	1,178	82	589



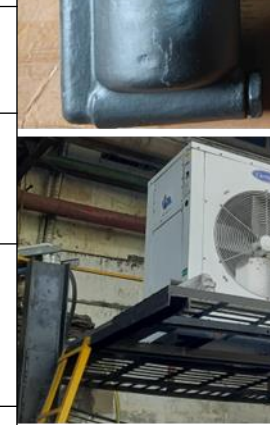
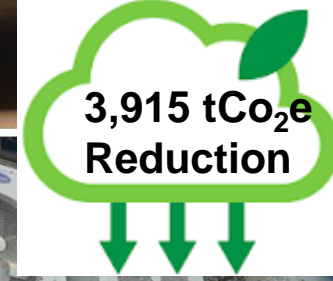
Description of ECMs Implemented on Year 2022-23	Energy Savings MkCal	Annual Cost Savings Rs. Lakhs	Carbon Reduction tCo2e
Recovering Power boiler CBD condensate and utilized in process boiler	3311	61.5	1,656
Replacing Conventional ACs with energy efficient Inverter ACs	29	2.9	14
Replacing conventional lights with LED lighting at mill locations	41	4.1	21
Total	3,381	68	1,691



Energy Conservation Measures Implemented in 2023-24



List of Energy Conservation Measures	Energy Savings MkCal	Annual Cost Savings	Carbon Reduction tCo _{2e}
Improved condensate recovery by installing efficient CT to condense excess flash steam from the process	1,138	23	569
Replacing defective float traps with efficient inverted bucket traps	4,018	83	2,009
Modification of pulping circuit and RM combination	789	71	395
Replacing conventional ACs with VRF & Inverter ACs	59	5	30
Replacing defective steam line insulations and Insulating bare steam lines	1,551	32	775
Arresting compressed air at various process locations and equipment's by replacing necessary fittings	33	3	17
Arresting steam leaks by replacing appropriate steam gaskets, steam traps and defective steam equipment's	242	5	121
	7,829	182	3,915

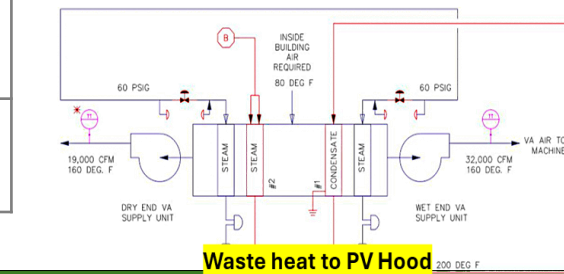
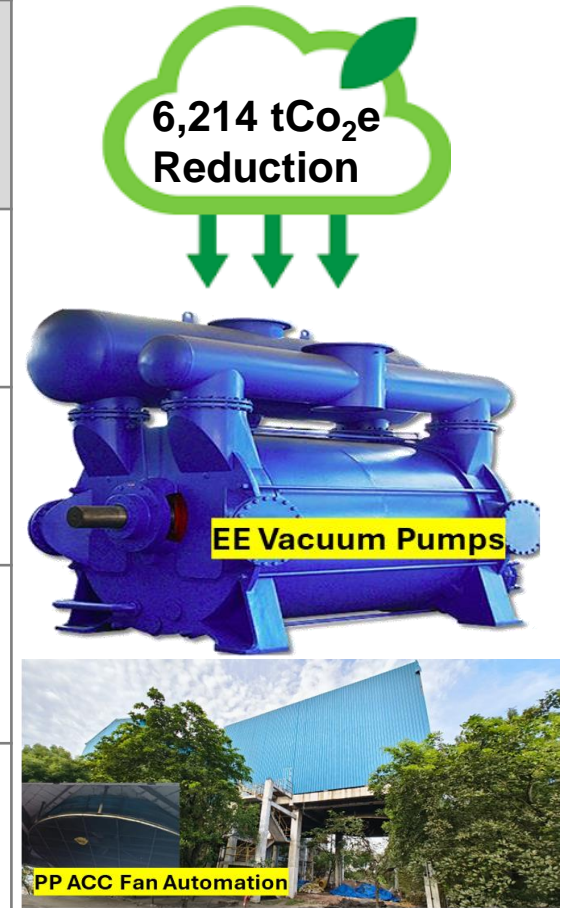




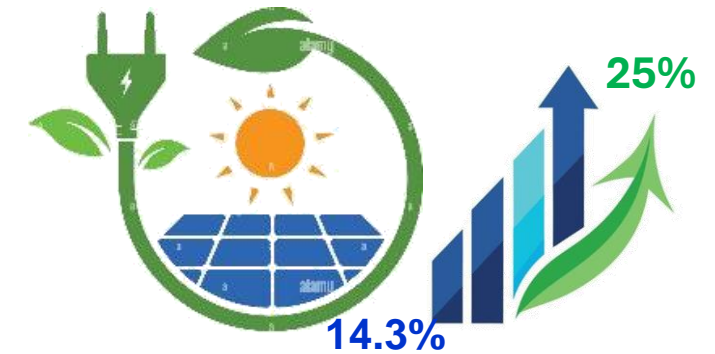
Energy Conservation Measures Under Implementation in 2024-25



List of Energy Conservation Measures	Energy Savings MkCal	Annual Cost Savings	Carbon Reduction tCO ₂ e
Replacing Existing vacuum pumps with Energy Efficient vacuum pumps for PM1 & PM3 machine	4,406	80	2,203
Recovering flash steam from process to pre-heat PV hood air to reduce live steam consumption	3,574	69.9	1,787
Energy Saving by working VFD of PP Air cooled condenser on vacuum feedback	155	12.6	77
Recovering CBD condensate to pre heat FD Air indirectly by proving heating coils	2,629	33.8	1,314
Repair, replace and renovation of thermal insulation	1,666	30	833
Total	12,428	193	6,214



Year	Solar	Installed Capacity	Capacity Addition	Total Generation (kWh)	% Share w.r.t overall energy consumption
2021 - 22	Solar	5 MWp	-	19,50,465	3%
	Wind	1.1 MW	-	14,96,508	2%
2022 - 23	Solar	5 MWp	-	79,36,256	13%
	Wind	1.1 MW	-	10,37,172	2%
2023 - 24	Solar	5 MWp	-	80,18,418	13%
	Wind	1.1 MW	-	6,53,049	1.3%

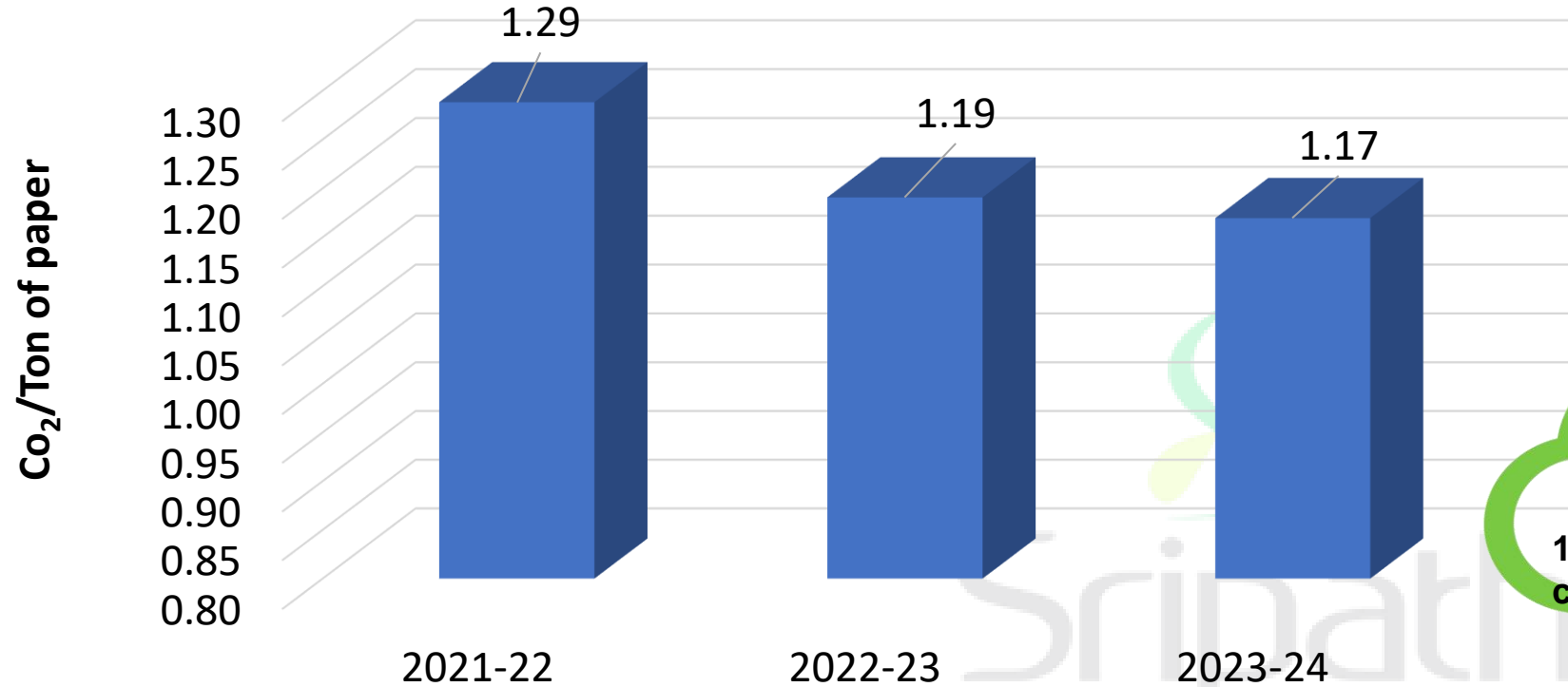


Under progress to add solar energy in 2024-25 from 14.3% to 25%



1.3% from overall Share

Co₂/Ton of paper



By implementing 2 Sheeters reduces OSS Sheeting



Increased local raw material



Scope 1	Scope 2	Scope 3
Increased biomass from 28% to 47%	Increased in renewable energy	<ul style="list-style-type: none"> - Installed sheeters inhouse and reduces OSS vehicle operations - Increased local RM purchase instead of overseas



HDPE Bags & Bins



Recycled



Steel wires



Recycled



NRSW

Used as a Fuel in Kilns



ETP Sludges

Calander making



Type of waste	Disposal method
HDPE Bags & Bins	Sent to poly granule making
Bale Steel wires	Sent to scrap steel for recycling
NRSW from RM	Sent to cement mills for kiln fuel
ETP Sludge	Sent local vendors for calendar making

Trail was under progress: 20% of sludge is utilised as a fuel in boilers



EMS Monitoring System



SRIPATHI PAPER AND BOARDS (P) LIMITED
PM-2 SIVAKASI
ENERGY MONITORING SYSTEM

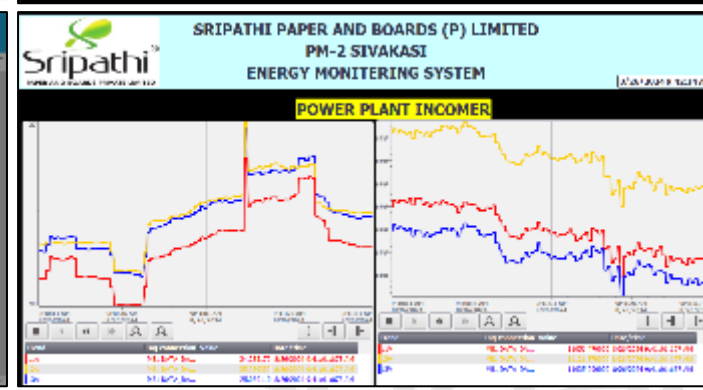
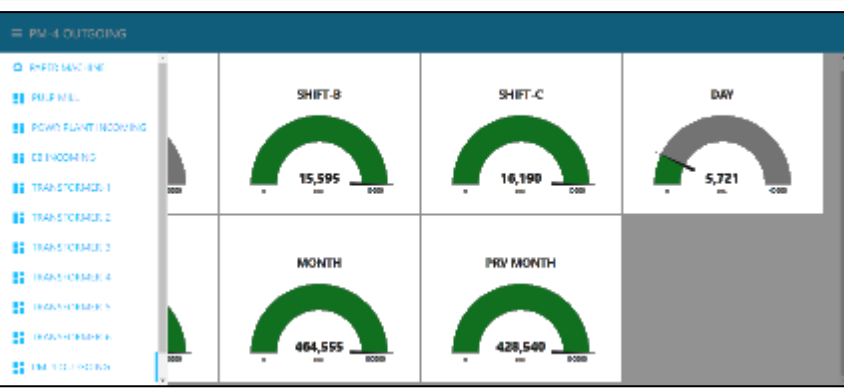
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ELECTRICAL STEAM WATER

PRODUCTION SEC

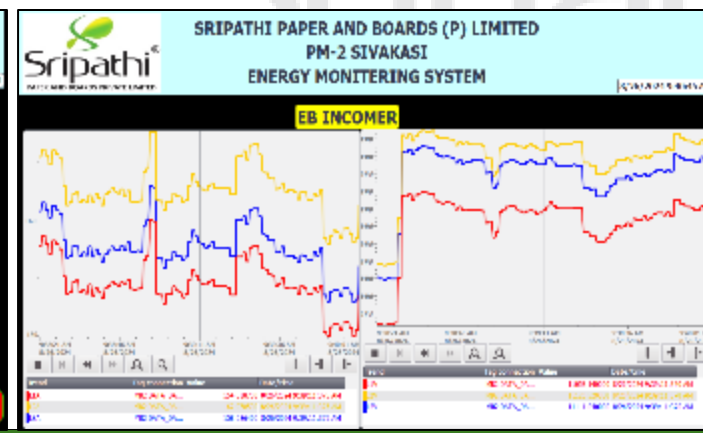
SRIPATHI PAPER AND BOARDS (P) LIMITED
PM-2 SIVAKASI
ENERGY MONITORING SYSTEM

NAME	UNIT	VALUE	FP	YIELD	EBY	EB/TON	EB/TON	EB/TON	EB/TON	EB/TON	EB/TON	EB/TON
LT-2010-1	11.38 MW	22.8%	100%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LT-2010-2	11.38 MW	100%	100%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TR-2010-1	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-2	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-3	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-4	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-5	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-6	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-7	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-8	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-9	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-10	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-11	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-12	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-13	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-14	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-15	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-16	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-17	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-18	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-19	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-20	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-21	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-22	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-23	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-24	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-25	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-26	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-27	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-28	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-29	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-30	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
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TR-2010-38	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-39	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-40	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-41	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-42	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-43	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-44	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-45	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-46	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-47	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-48	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-49	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TR-2010-50	22.76 MW	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%



SRIPATHI PAPER AND BOARDS (P) LIMITED
PM-2 SIVAKASI
ENERGY MONITORING SYSTEM

	SHIFT-A	SHIFT-B	SHIFT-C	DAY	PREVIOUS DAY	PREVIOUS WEEK	PREVIOUS MONTH
RE-GENERATING	357 kWh	21204 kWh	26364 kWh	307 kWh	66934 kWh	1700766 kWh	1444759 kWh
RE-PRODUCED	8756 kWh	24773 kWh	24870 kWh	8756 kWh	76746 kWh	827827 kWh	808782 kWh
TR-2010-1	441 kWh	6981 kWh	4879 kWh	441 kWh	70045 kWh	407866 kWh	317961 kWh
TR-2010-2	134 kWh	2247 kWh	1875 kWh	134 kWh	7066 kWh	170057 kWh	175065 kWh
TR-2010-3	351 kWh	11018 kWh	9704 kWh	351 kWh	31855 kWh	621724 kWh	375668 kWh
TR-2010-4	1276 kWh	10940 kWh	4887 kWh	1276 kWh	20849 kWh	654173 kWh	501972 kWh
TR-2010-5	152 kWh	2942 kWh	2194 kWh	152 kWh	7359 kWh	118014 kWh	0 kWh
TR-2010-6	218 kWh	5566 kWh	8326 kWh	218 kWh	14115 kWh	240476 kWh	222065 kWh
TR-2010-7	5067 kWh	13945 kWh	16140 kWh	5067 kWh	47919 kWh	944216 kWh	628410 kWh
TR-2010-8	0 kWh	0 kWh	0 kWh	0 kWh	0 kWh	0 kWh	0 kWh

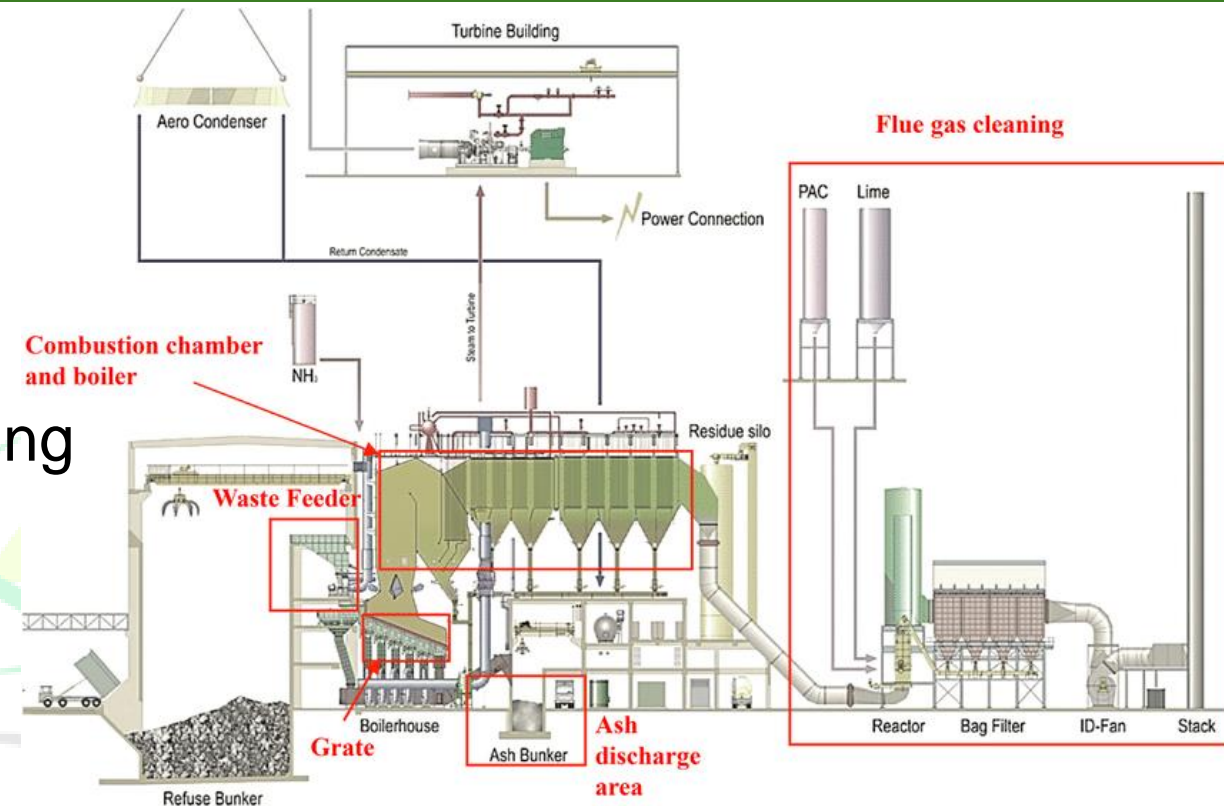


- We have installed and commissioned the Energy Monitoring System with our in-house team to track SEC.
- Shift wise, Day wise energy consumption is monitored w.r.t production and identify if any SEC variations will traced and actions are taken.
- Consumption trend analysis were being done for SEC deviations.

Our transformation to achieve Net Zero Target by 2030

Initiatives Taken to Achieve Net Zero Commitment:

- Reduction of Fossil fuel by modifying existing boiler as overbed conversion to improve biomass as fuel.
- Increasing Green Power through grid and Installing rooftop Solar PV





❖ In Sivakasi, Sukkirvarpatti Village for drinking, We have installed RO plant for 750 families with issued RO Smart Card system to each family in this village to get the RO water for their daily needs.

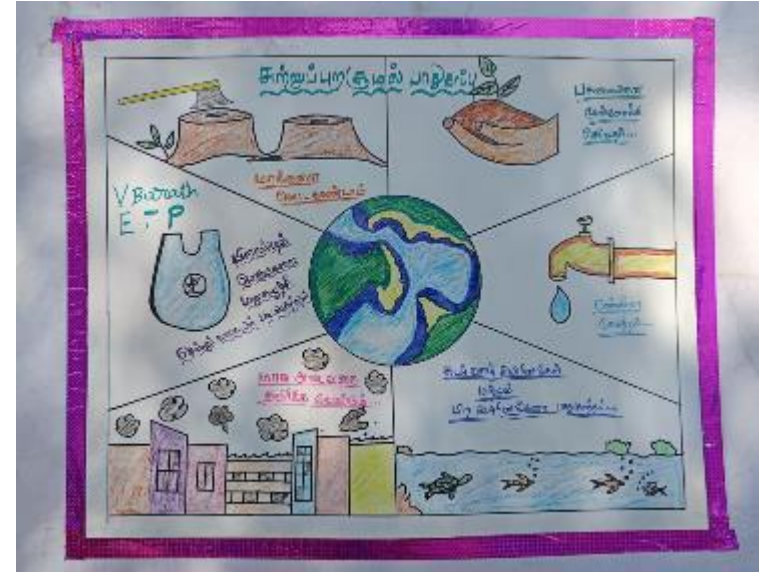


World Environment Day





Training, Awareness and Motivation to our Employees





Sripathi Paper and Boards Private Limited, Sivakasi

P Vignesh Kannan – Head Projects – gmpower@sripathi.net

B Maniraj – DGM Production – dgmproduction@sripathi.net

C Soundara Rajan – Energy Manager – energymanager@sripathi.net