ITC Limited

Paperboards & Specialty Papers Division

Unit : Bhadrachalam

Core Competencies

Unit - Bhadrachalam

- 8.0 Lakh TPA Paper and Paper Board Production Capacity
- 1.2 Lakh TPA Bleached Chemi Thermo Mechanical Pulp (BCTMP) Pulp Capacity
- 100% Self Sufficiency in Power through in-house Co-Generation Power Plant
- **Green Covered area so far 9.53 (FY 21-22) Lakh acres** through Social and Farm Forestry.
- **48.1% of total energy in 2021-22 is from RENEWABLE**
- **Carbon Positive for 17 Consecutive years**
- **Water Positive for 20 years in a row**
- **Solid Waste Recycling Positive for the last 15 years**
- **Green Co Platinum Plus Certified by CII-GBC**
- TPM Methodology for manufacturing excellence
- Adopting I 4.0, IOT Based predictive models for energy & process optimization

Process at Unit Bhadrachalam

High Speed Chippers

Super Batch Digesters
SP. Steam Cons < by 30%

Ozone Bleaching *India's First*

BCTMP *India's First*

Wood + Bamboo → Chipping → Cooking & Bleaching → Paper Making → Paper Finishing → Paper to Market

State of Art Paper / Board machines & Rewinders

High Speed Sheeters

Automatic Storage & Retrieval Facility Warehouse

Energy Consumption Overview

SOURCES

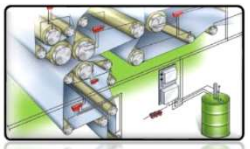
6 Turbo-Generators
3 Condensing, 3 Back Pressure
Design Capacity – 114.5 MW
Operating Load (Avg.) – 87.68 MW
100% Co-gen Self Sufficiency

Wind Power
Design Capacity – 46 MW
Share the generated power with other ITC Units

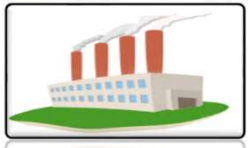
Grid Power
Usage corresponding to minimum obligation (MD-15MVA)

2 Diesel Generators
Design Capacity - 2 MW
Standby

SINKS



Paper Machines & SFT
40.09 MW



Utilities & Others
16.62 MW

Pulp Mill
15.55 MW

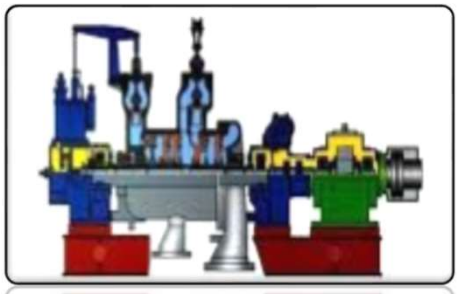
BCTMP
12.83 MW

Soda Recovery Plant
9.39 MW

FY 21-22

Energy Consumption Overview

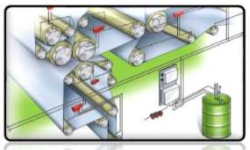
SOURCES



6 Turbo-Generators
3 AFBC Boilers
1 CFBC Boiler
3 Soda Recovery Boilers

All 6 are back pressure (LP)
3 are also extraction (MP)
LP Avg. Demand – 361 TPH
MP Avg. Demand – 80 TPH

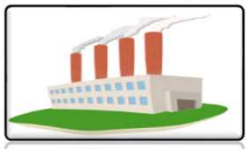
SINKS



Paper Machines
175 TPH

Soda Recovery Plant
149 TPH

Pulp Mill & PSM
63 TPH



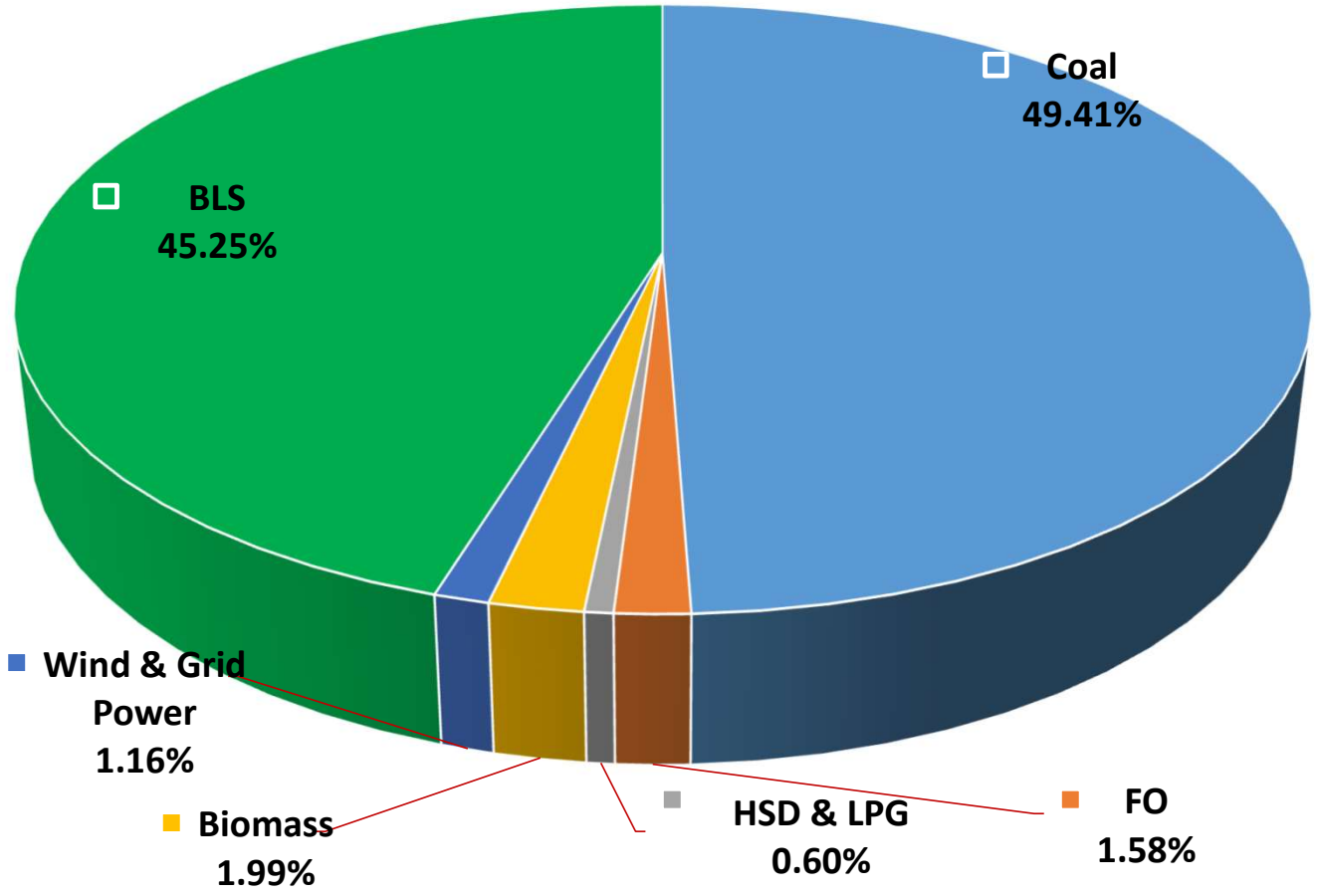
Utilities & Others
48 TPH

BCTMP
3.0 TPH

FY 21-22

ITC PSPD (BCM)

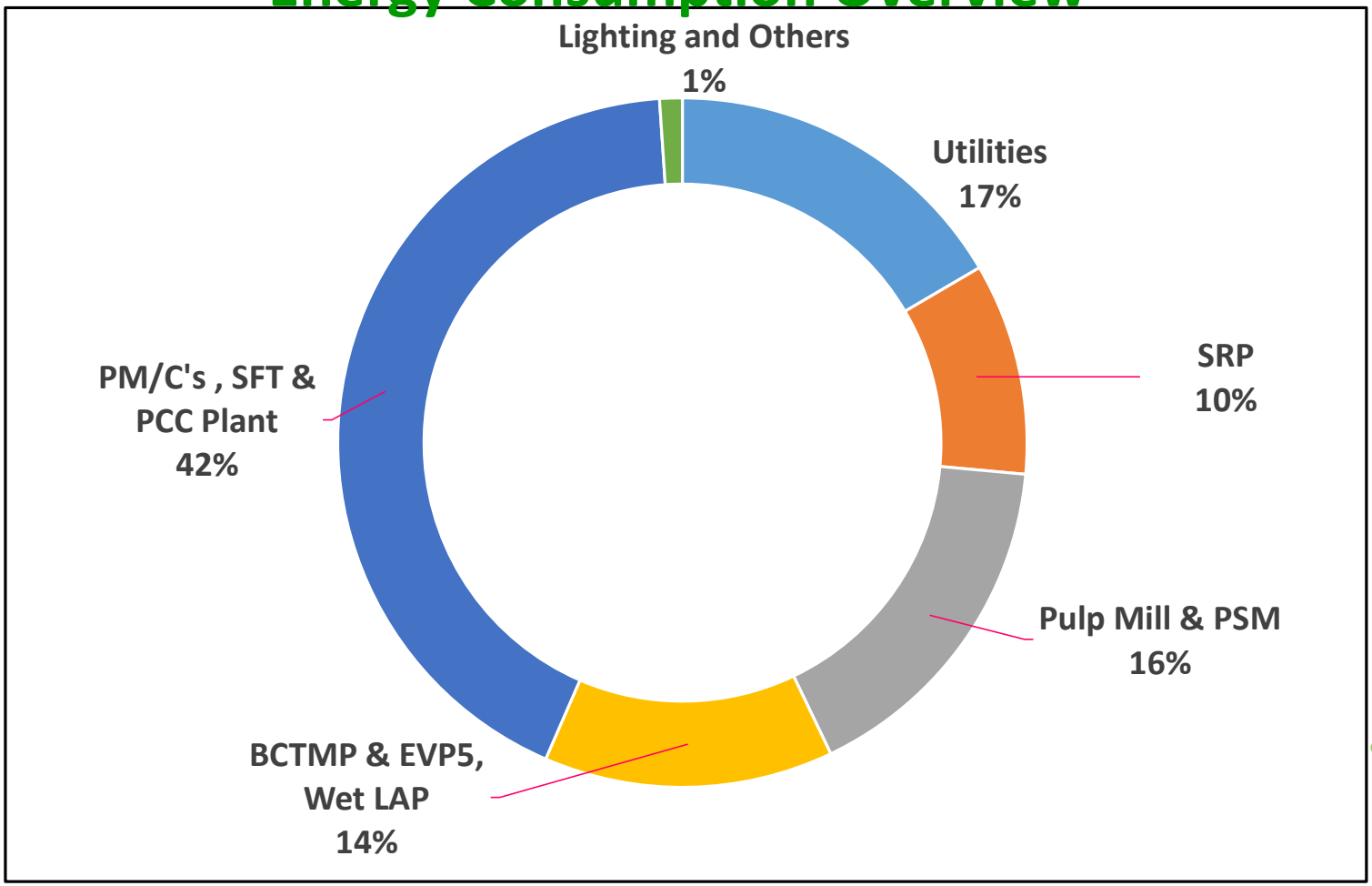
Energy Consumption Overview



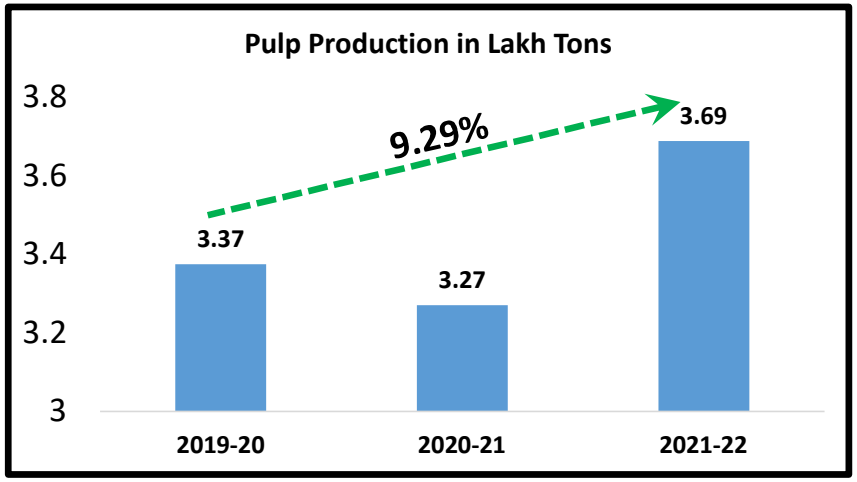
Primary Energy Distribution % FY 2021-22 (Mkcal)

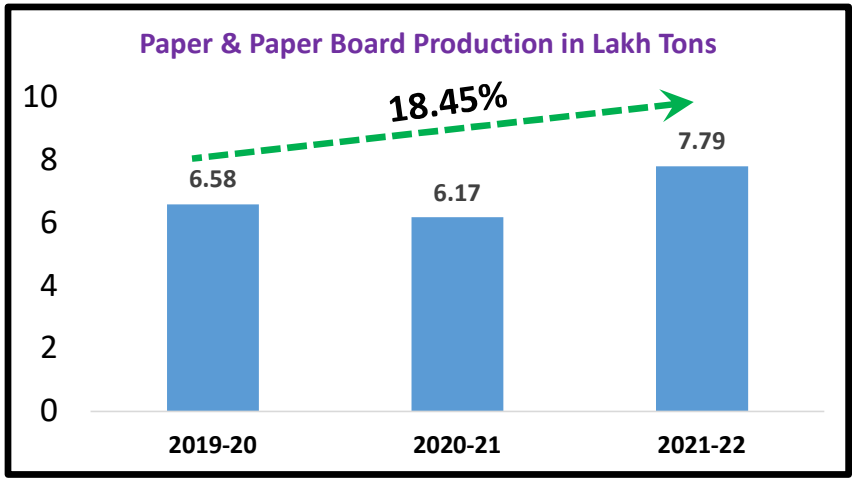
ITC PSPD (BCM)

Energy Consumption Overview



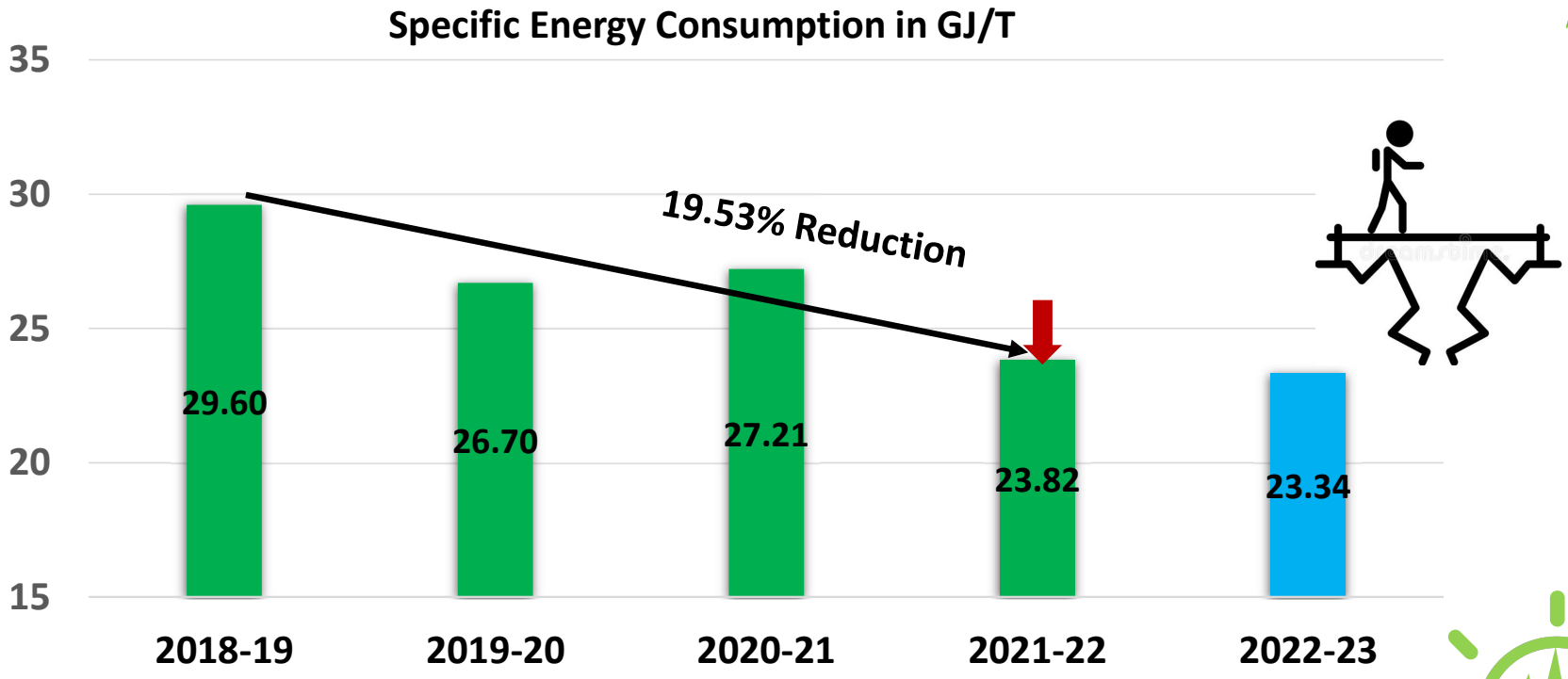
Production & Energy Consumption FY 2019-22





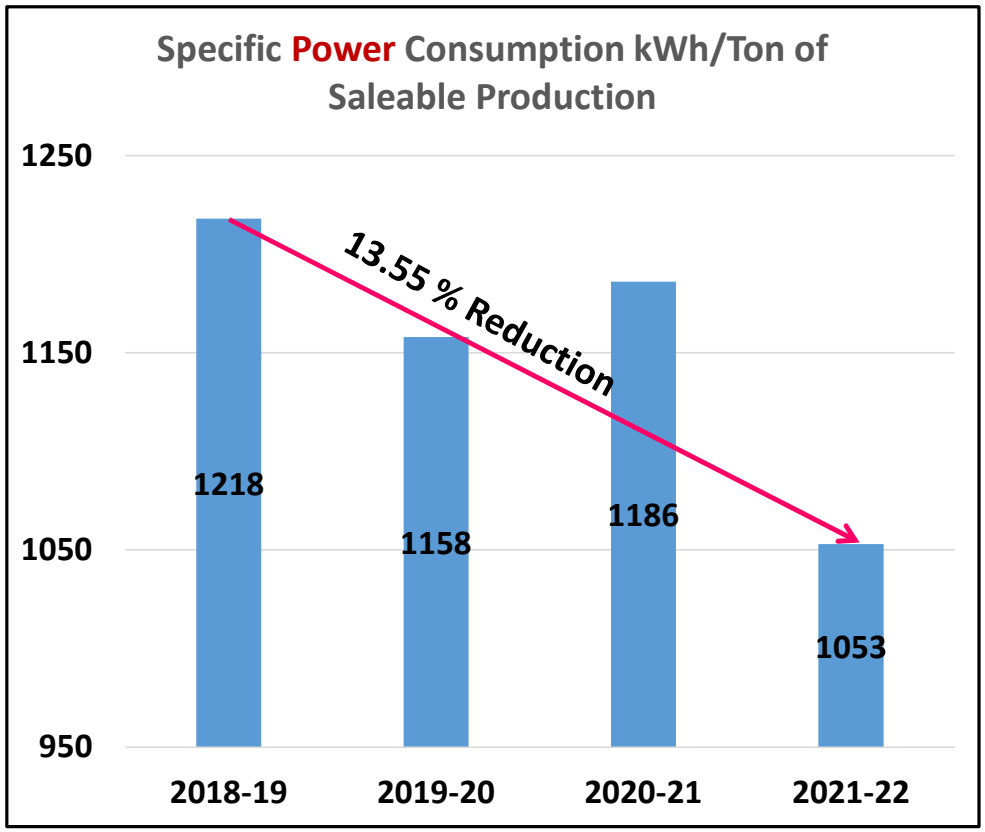
Description	UoM	Year		
		FY 19-20	FY 20-21	FY 21-22
Direct Energy	GJ	17677819	16898702	18662101
Electrical Energy	million kWh	761.23	731.0056	820.12
Thermal Energy	million kcal	4611398	4384426	4909334

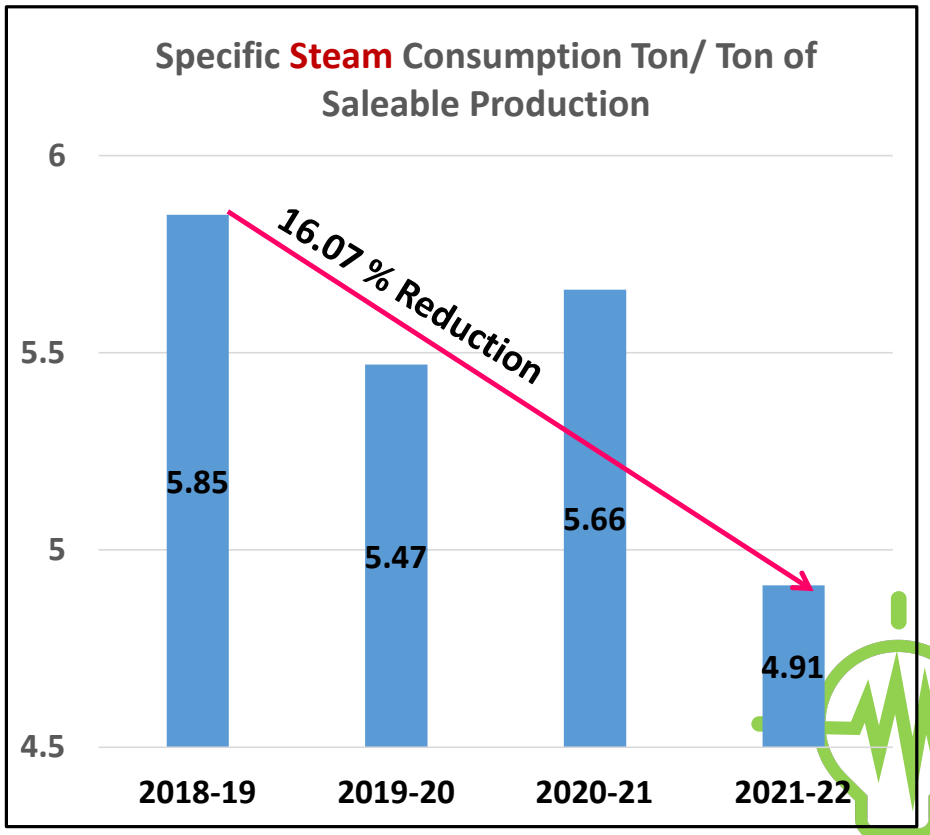
Specific Energy Consumption Reduction FY 2019-22



Reduction in Specific Energy Consumption Achieved by 19.53. % in Last 3 Years

Specific Power and Steam Consumption Reduction FY 2019-22



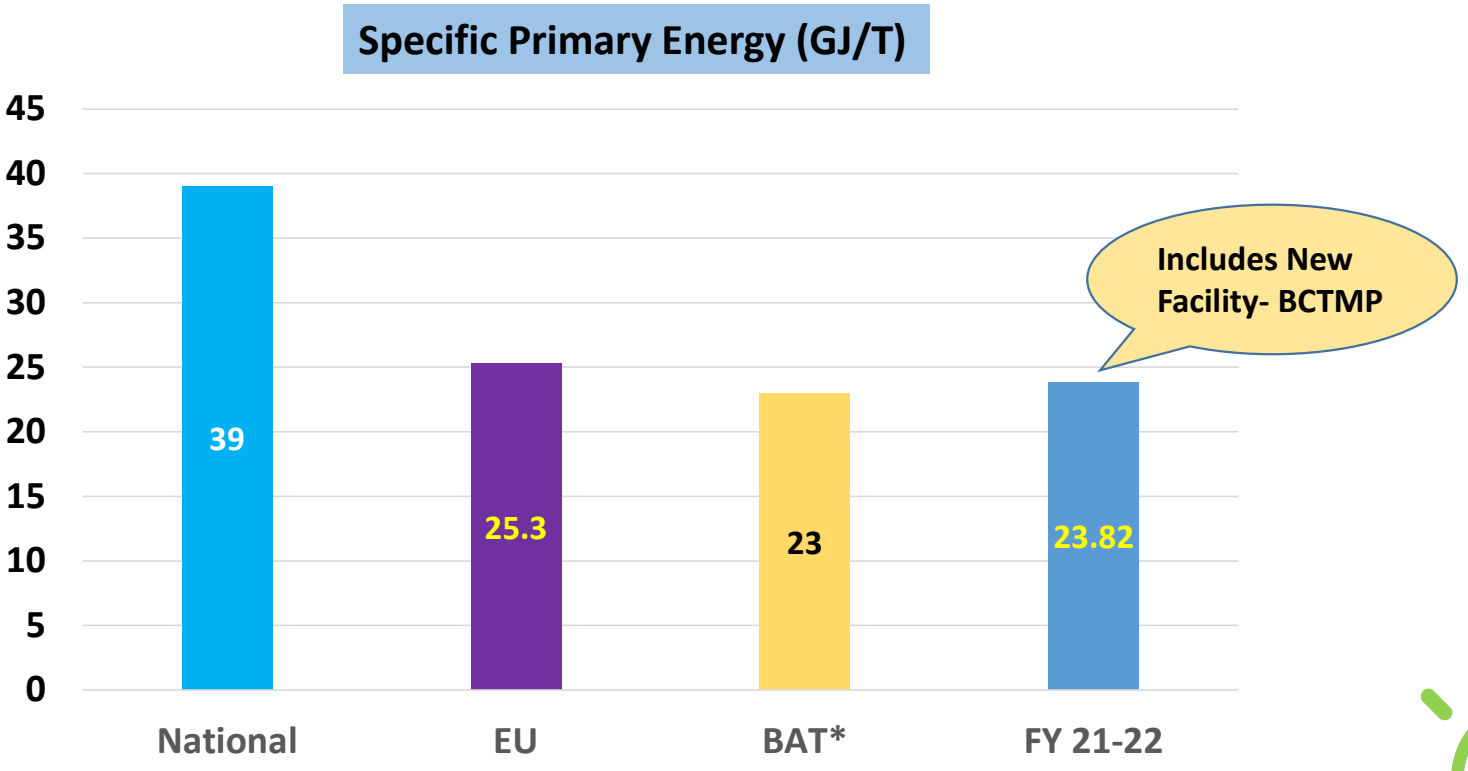


13.55% Reduction in Last 3 Years

16.07% Reduction in Last 3 Years

ITC PSPD (BCM)

Benchmarking with World Class Performance



Benchmark Reference:
Centre for Science & Environment study published in 2010 for Pulp & Paper sector

***Best Achievable Technology (Without BCTMP)**

Global & National Benchmarking

BENCHMARKING – GLOBAL & NATIONAL

Industry Group	Particulars	Units	Global Avg.	India Avg.	ITC BCM
Wood Based Mills	Specific Electrical Energy Consumption	kWh/tonne of paper	1000-1100	1400-1500	1053
	Specific Steam Consumption	Tonne of steam/ tonne of paper	7.0-9.0	12.0-13.0	4.91

Reference: CPPRI 2018

Energy Conservation Plan 2022-23

S.No	Description	UOM	Saving Potential	Summary
1	Energy Efficient Centrifugal Chiller-3 for Pulp Mill	kW/Hr	420	1802
2	Energy Efficient Pumps for TG-7 Cooling Tower	kW/Hr	250	
3	Energy Efficient LED Lighting - Phase 3	kW/Hr	241	
4	Energy Reduction by Upgration of Centac-1	kW/Hr	196	
5	BTG Morphology Sensors for Pulp Mill, BCTMP & PM's	kW/Hr	150	
6	Energy Efficient IE3 Motors Mill Wide (160 No's)	kW/Hr	275	
7	Energy Reduction by Iruvendi New Water Line	kW/Hr	100	
8	Energy Efficient Refiners for PM6	kW/Hr	90	
9	Energy Efficient Discharge Pump for Street - D	kW/Hr	30	
10	Intelligent with VFD controlled Liquid Ring Vacuum Pun	kW/Hr	50	
1	Heat Recovery Wheel for PM6 Hood Exhaust Air	TPH	0.3	2.3
2	Steam Traps Performance Improvement	TPH	2	

Energy Conservation Projects Implemented FY 2019-22

ENCON Projects with "ZERO" Investment (2019-22)

Year	No. of Zero Investment Projects	Annual Energy Saved (Million kWh)	Annual Thermal Energy Saved (T Steam)	Savings (Rs. Million)
2019-20	9	2.34	-	9.21
2020-21	14	7.96	35973	68.77
2021-22	22	3.84	22440	44.67
Total	**45**	**14**	**58413**	**122.65**

Total 45 Projects with ZERO Investments implemented in las 3 years resulted saving of Rs. 122.65 Millions

ZERO investment projects are coming from shop floor / TPM where Every employee irrespective of level contributing in Energy & Resource Conservation.

Energy Conservation Projects Implemented FY 2019-22

ENCON Projects with Investment (2019-22)

Year	No of Projects	Annual Electrical savings achieved		Annual thermal Savings			Total Annual savings		Investment made	Coal Savings In Ton	GHG Emission Reduction-tCo2e
		Unit Million kWh	Rs Million	Tons of FO	Unit Million Kcal	Rs Million	Unit Million kWh	Rs Million	Rs Millions		
2019-20	5	4.99	23.56	-	-	-	4.99	23.56	30.32	3273.75	8079.00
2020-21	6	8.70	38.21	-	-	-	8.70	38.21	44.08	6863.27	11021.00
2021-22	6	4.87	25.66	435.60	9456.97	263.96	4.87	289.62	44.08	1922.49	8433.00
Total	**17**	**18.56**	**87.43**	**436**	**9456.97**	**263.96**	**18.56**	**351.39**	**118.48**	**12059.51**	**27533.00**

Total 17 Encon Projects with investments implemented in past 3 years resulted saving of Rs. 351.39 Millions

Total 62 Encon Projects with & with out investments implemented in past 3 years resulted saving of Rs. 473 Millions

Innovative Project: Biomass Productivity/Efficiency Improvement through HISTORIAN

Innovation Table

Type of Innovation	Process Model
Parameter	Energy Efficiency
Environmental Focus	Reduction in Coal Consumption
Intangible Benefits	Move towards monitoring & gold batch parameters through HISTORIAN
Unique Factor	No investment
Uniqueness	Horizontal Deployment
Technology Readiness Level	8
Replicability of the Project	Yes
Project Timeline	Apr 2021 – Sep 2021
Cost Benefits of Project	**INR 124 lakhs Per annum**

Developed monitoring systems, centerline dash boards by using HISTORIAN SOFTWARE. Arrived base line parameters and derived Golden Batch Parameters through data analysis beyond OEM. Resulted coal savings of 4620 MT/Annum.

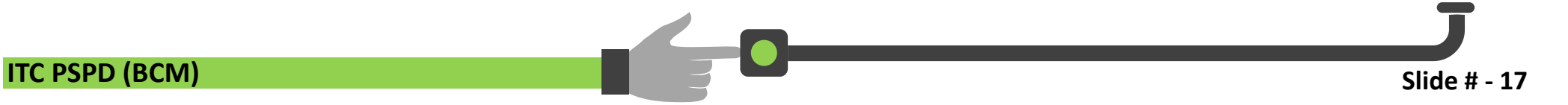
Innovative Project: Biomass Productivity/Efficiency Improvement through HISTORIAN

Problem Statement:

1. Increase the Biomass consumption in Green Boiler by increasing wood bark.
2. Increasing Shredder Production without any additional investment and man power.
3. To establish usage external shredded wood bark /Pellets to increase biomass consumption.

Trigger Points:

1. Volatility in coal availability & hike in coal prices.
2. High specific fuel/power consumption.
3. Lack of operational controls.
4. Moving with the world (Historian)



Innovative Project: Biomass Productivity/Efficiency Improvement through HISTORIAN

Centerline Dashboard for Data Monitoring - HISTORIAN

Innovative Project: Biomass Productivity/Efficiency Improvement through HISTORIAN

Golden batch parameters has arrived at different load blocks and adherence is being tracked.

Green Boiler - Golden Batch Dashboard — Loading: greater than 90% — Boiler Running Status

Parameter	Actual	Deviation	Adherence	Shift Min	Shift Max	Shift Avg
Main steam flow	84.17	81.00 – 120.00	30	55.99	95.47	77.20
Boiler Main steam pressure	62.90	7[50] – 22.50	82	59.58	65.51	62.74
Flue gas O2	3.86	3.00 – 5.00	9	3.29	10.51	6.74
ESP inlet temp	168.37	160.00 – 170.00	99	161.61	170.44	166.43
Avg bed temperature	833.89	820.00 – 850.00	0	763.48	860.13	822.30
FD air flow	130.06	132.00 – 137.00	2	128.98	137.02	130.62
Overfeeding coal feeding rate	0	0 – 10.00	0	0	25.00	0.61
Underfeeding coal feeding rate	6.03	8.00 – 18.00	0	0.00	18.00	10.90
Biaomass belt weigher	11.56	8.00 – 15.00	90	-0.16	16.14	10.78
Secondary air pressure	154.00	100.00 – 200.00	100	145.32	163.72	152.35
Tertiary air pressure	147.27	1[00.00] – 200.00	100	126.05	148.57	137.03
Bio mass air pressure	89.46	0 – 100.00	100	76.37	93.16	84.00
Primary Super heater skin metal temp1	401.38	0 – 450.00	100	368.11	436.31	402.23
Primary Super heater skin metal temp2	408.50	0 – 450.00	100	396.37	425.98	411.78
PSH outlet temp	416.79	0 – 470.00	100	398.56	471.51	441.49
Sec Super heater skin metal temp 1	457.53	0 – 535.00	100	421.07	470.79	451.36
Sec Super heater skin metal temp 2	489.33	0 – 535.00	100	456.92	513.81	493.00
Sec Super heater skin metal temp3	474.73	0 – 535.00	100	450.71	496.63	474.80
Sec Super heater skin metal temp 4	439.43	0 – 535.00	100	411.98	453.55	435.88

Innovative Project: Biomass Productivity/Efficiency Improvement through HISTORIAN

Benefits & Observations:

- Improvement in Avg. Boiler Main Steam temperature from 463 to 473 Deg Cel.
- Boiler Flue Gas Avg. O2 Increased by 0.6%.
- Boiler Indirect Efficiency Reduced by 0.4% due to increase Dry flue gas loss and biomass moisture.

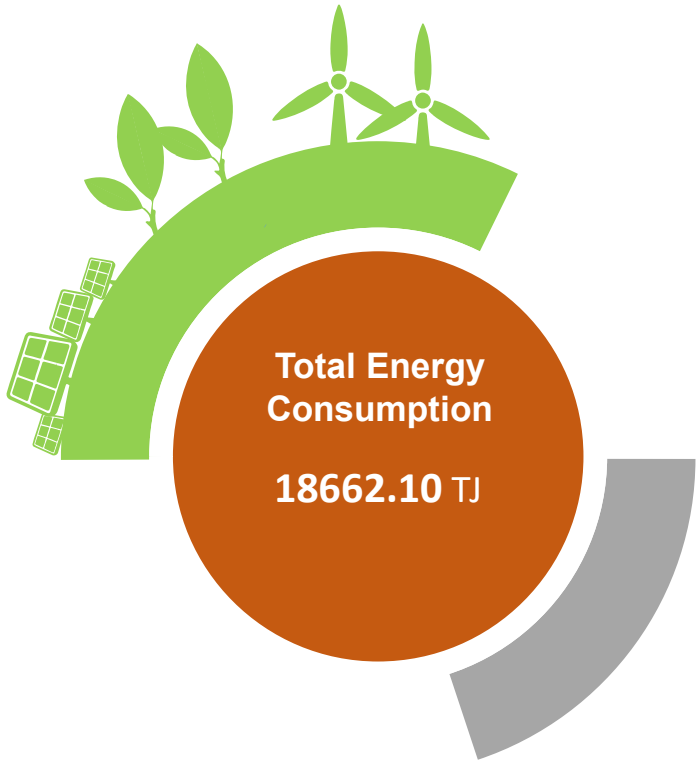
Achieved Savings:

Baseline Biomass Feeding	TPD	133
Achieved Biomass Feeding	TPD	156
Improvement	TPD	23
Coal Saved	TPD	14
Biomass Cost	Rs/MT	1500
Coal Cost	Rs/MT	4200
Total Savings	**Rs. Lacs/Annum**	**124.7**

Rs. 124 Lacs

Coal Savings per Annum is 4620 MT.

Utilisation of Renewable Energy Sources



48.1%

Renewable sources

Black Liquor (45.25%)
Biomass & Biogas (1.99%)
Wind & Solar (0.87%)

51.9%

Fossil sources

Indian Coal (49.41%)
Furnace Oil (1.58 %)
HSD & LPG (0.6%)

FY 2021-22

Utilisation of Renewable Energy Sources

On-Site Renewable Energy Generation

- **Solar PV – Lakshmipuram**
  - 80 kWp Rooftop Solar PV plant
- **FY 2021-22**
  - **Energy Generation 73177 kWh**
  - **66.35 tCO2eq of GHG Emissions avoided**
- **Solar Light Pipes**
  - Annual Energy savings – 1.35 lac kWh
  - **GHG Emissions – 124 tCo2eq**

Utilisation of Renewable Energy Sources

Off-Site Renewable Energy Generation

- **Energy Wind Energy**
  - 46 MW wind farm in Andhra Pradesh
  - Average Energy Generation – 11 X 10^7 kWh
  - Substitutes electrical energy generated from coal.

- **FY 2021-22**
  - **Wind Power Utilized at BCM - 453,29,334 kWh**
  - Coal savings – 50258 tons
  - GHG Emissions –41248 tCo2 eq

Utilisation of Renewable Energy Sources

Approved Budget Allocation for Current & Ensuring Years and Monitoring Mechanism

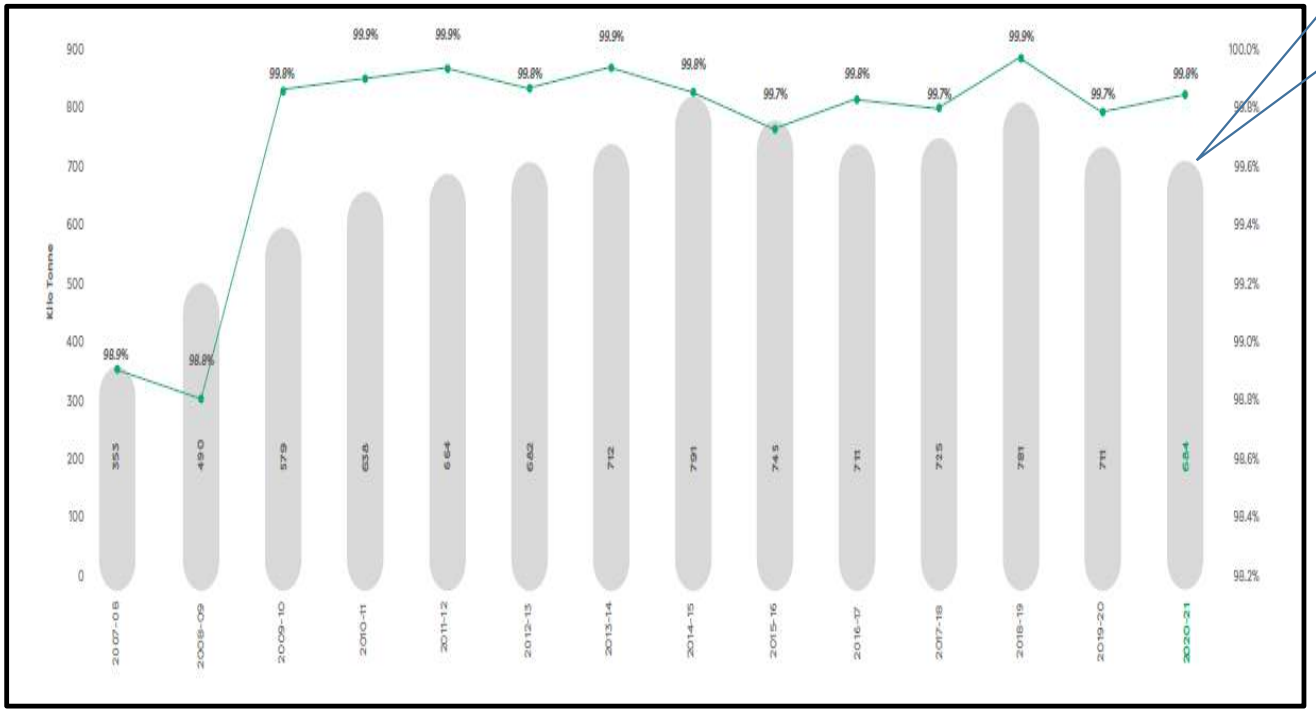
Projects	Investment	Status
High Pressure Recovery Boiler	**1500 Cr**	Commissioned in June'22 and under Stabilization
Energy Efficiency Projects	**3.5 Cr**	Under Implementation.
Rooftop Solar Project	**25 Cr**	Proposal Under Evaluation Regulatory Challenges

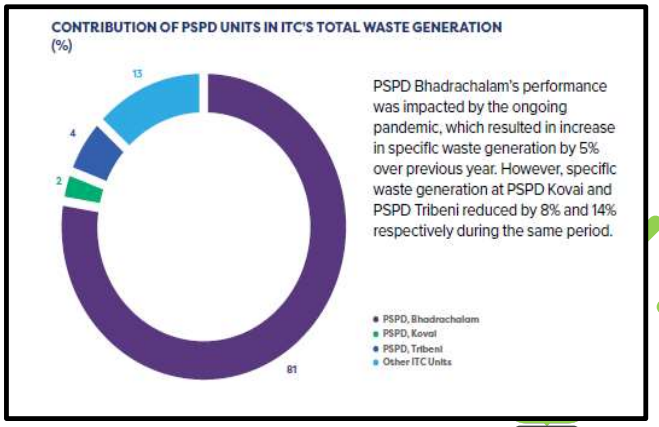
Waste Utilisation and Management

- **100% Solid waste utilization/ recycling in Bhadrachalam unit.**
- **Chipper dust & bark** used in Green Boiler for steam generation (Also contributing in renewable energy generation)
- 100 % **Fly ash** utilization in cement industries.
- **Lime sludge recycled with Lime Kiln**.
- Andritz Press **sludge** is utilized by external agency for card Board manufacturing & Egg tray manufacturing
- **Effluent Treated discharge for irrigation / plantations**.

Waste Utilisation and Management

FY 2020-21 is 99.9%





ITC PSPD (BCM)

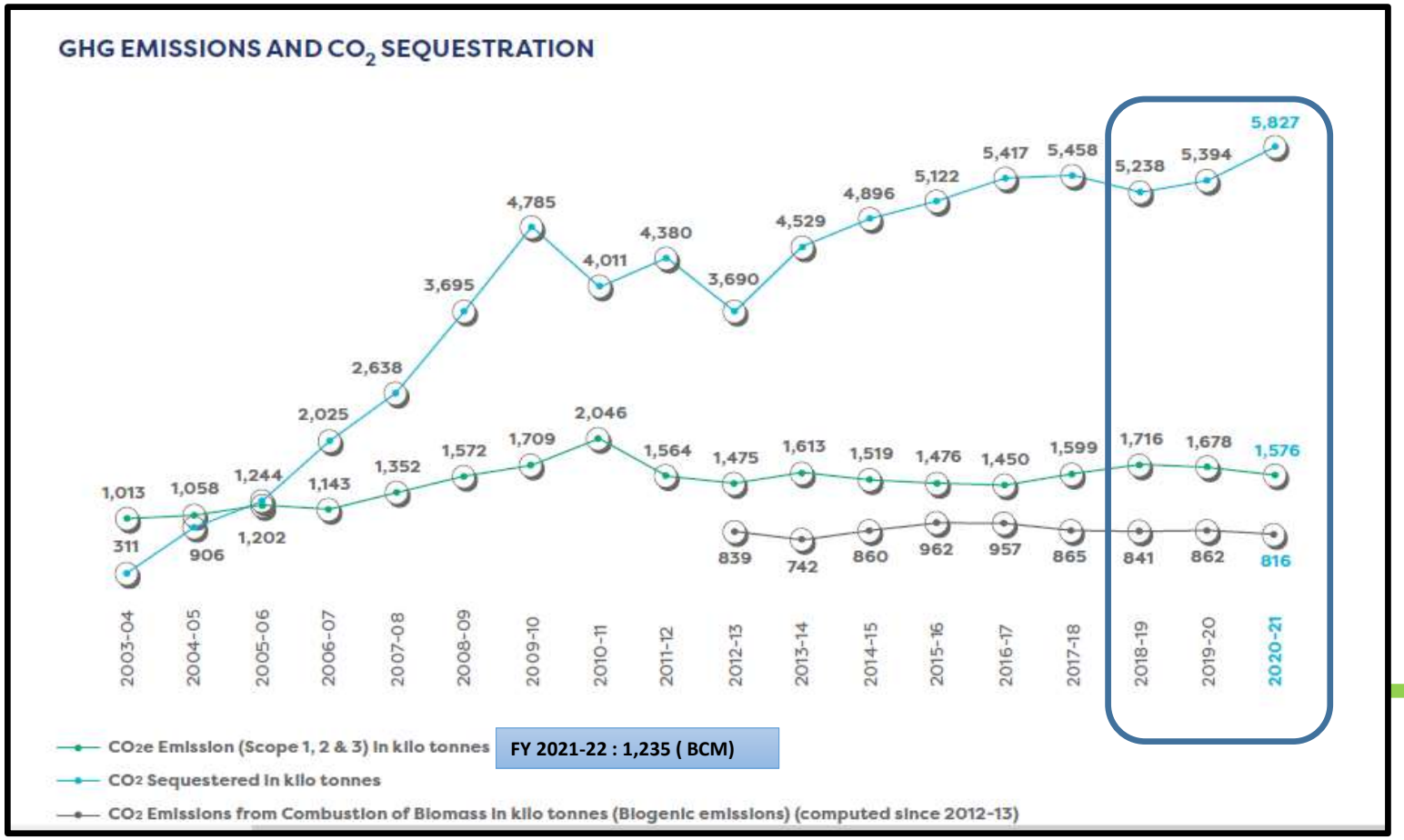
Source : ITC Sustainability Report 2021

Waste Utilisation and Management

Utilization of Waste in FY 2018-21

Type of Fuel	Year	Qty in MT	GCV of fuel (kCal/kg)	Heat Value (million kcal/year)	Waste as percentage of total fuel
Chip dust & Biomass	2019-20	29416.13	3235.25	95168.53	2.717%
Bio Gas equivalent to LPG	2019-20	0.65	11892.01	7.70	0.000%
Chip dust & Biomass	2020-21	40009.654	3105.85	124263.98	2.932%
Bio Gas equivalent to LPG	2020-21	2.53	11892.011	30.13	0.001%
Chip dust & Biomass	2021-22	52293.94	3105.85	124263.98	3.59%
Bio Gas equivalent to LPG	2021-22	2.85	11892.011	32.16	0.001%

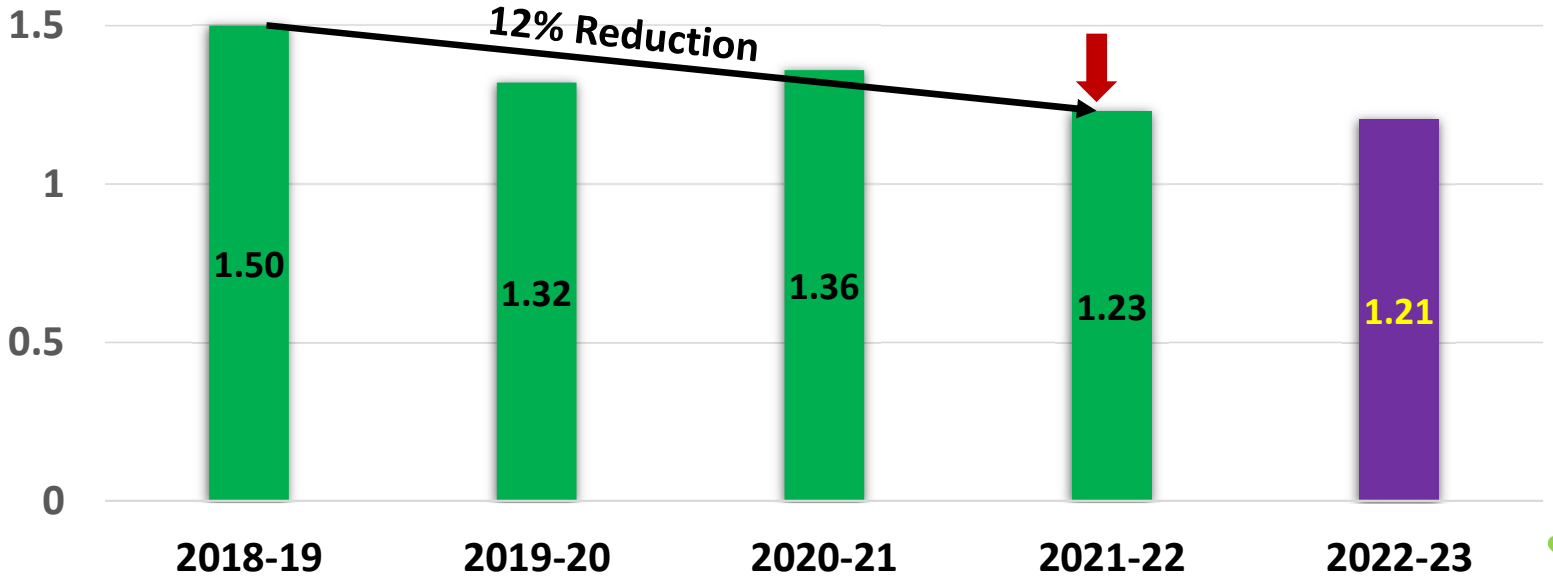
GHG Inventorisation



ITC PSPD (BCM)

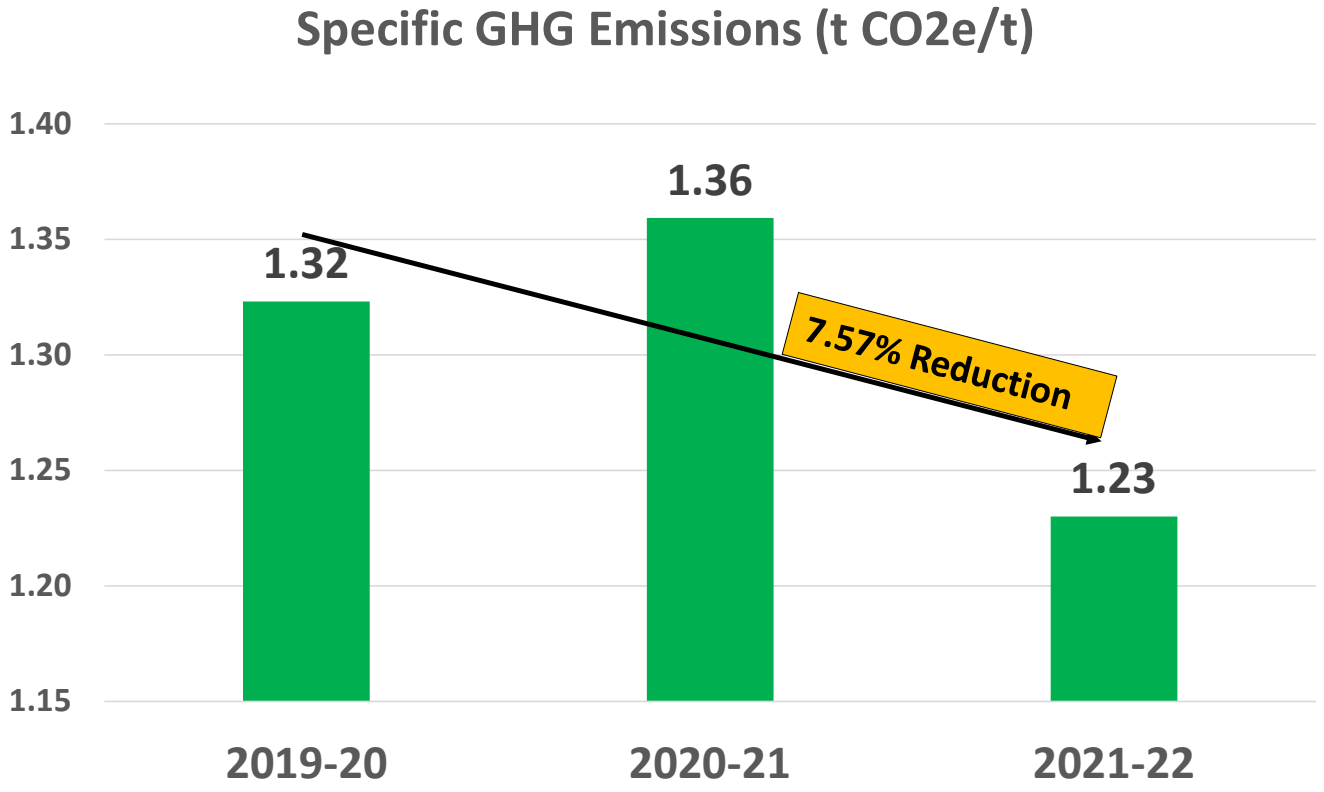
Source : ITC Sustainability Report 2021

GHG Inventorisation



12% Reduction in Sp. GHG Emissions in Last 3 Years

GHG Inventorisation



7.57% Reduction in Sp. GHG Emissions in Last 3 Years

GHG Inventorisation

Long Term Goals

Proposals	Responsibility	Targets
Increase in Renewable energy share by installation of Energy efficient recovery boiler with higher BL Solids firing (2700TPD).	Head(Proj.) & Head(Pulp& recovery)	Long Term Mar,2023
Reduce coal consumption by 1.30LTPA by installation of Energy efficient recovery boiler .	Head(Proj.)	Long Term Mar,2023
Reduction in imports by in-house BCTMP production enhancement from the exiting production 1.0 LTPA to 1.20 LTPA.	Head(Proj.) & Head(Pulp& recovery)	Long Term Mar,2023
Reduction in imports(Bleached HW Pulp) by in- house HW pulp production enhancement from 3.5LTPA to 4.0 LTPA	Head(Proj.) & Head(Pulp& recovery)	Long Term Mar,2023
Explore possibility of ETP Sludge utilization in the boilers to reduce disposal to agencies for reduction in CO2 emissions	Head(Utilities)& Head(Mtrls)	Long Term Mar,2023

Green Supply Chain Management

Green Purchasing Policy:

March 1, 2019

GREEN POLICY

We at Unit Bhadrachalam of the Paperboards and Specialty Papers Division of ITC engaged in the development and manufacture of Pulp, paper, paperboard and specialty papers, are committed to monitor, continuously innovate and improve our score against set targets on the various parameters listed below while building capabilities in our employees and vendors in order to achieve international benchmarks in an environmentally sustainable manner.

Energy Efficiency

Water Conservation

Renewable Energy

GHG Emission Reduction

Material Conservation, Recycling & Recyclables

Waste Management

Green Supply Chain

Life cycle Aspects and Product Stewardship

Occupational Health & Safety

PAPERBOARDS AND SPECIALTY PAPERS DIVISION

B MAKARAND
UNIT HEAD

S.No	
1	Procure maximum from Vendors/Service Providers who have robust Management Systems like ISO 9000& 14000 or equivalent
2	Procure energy efficient equipment.
3	Source maximum from the nearest market.
4	Motivate Vendors to conserve natural resources, minimize waste generation, emissions by adopting energy efficient processes
5	Ensure Suppliers & Service Providers to comply with applicable legal requirements w.r.t. EHS

Green Supply Chain Management

Green Chain Management Plan - External

S.No	Strategy	Action Plan	2022 - 2023
1	Awareness creation and Training.	To create awareness and train all the critical vendors on green practices	Bring in more Vendors in to the purview of Awareness Creation.
1(a)	For Chemical Vendors	Create awareness to reduce emissions, toxicity, water conservation and increased usage of environmental friendly chemicals	Sets targets for additional 40% of the critical vendors and provide necessary inputs to achieve targets. Monitor closely by regular audits
1(b)	For Packing Vendors	Create awareness to reduce wastage, improve recycling, conserve power and water	Reduction of energy 1%, waste and water by 1% from a baseline year of 2020-21
1(c)	For Engineering Local Service Providers(Vendors)	Make 5 local vendors to reduce wastage, packing material, and get certifications.	Make all the 5 local vendors reach the goals set and define new targets for next 3 years.
2	Efficiency Improvement	To improve productivity and quality, to reduce defects and rework	Encourage 10% of critical suppliers to go for process improvement through SOPs and by following best industrial practises
3	Environmental Certifications	To encourage vendors to move towards Environmental Certifications	To motivate 7 more vendors to go for Environmental Certifications

Green Supply Chain Management

Projects Implemented

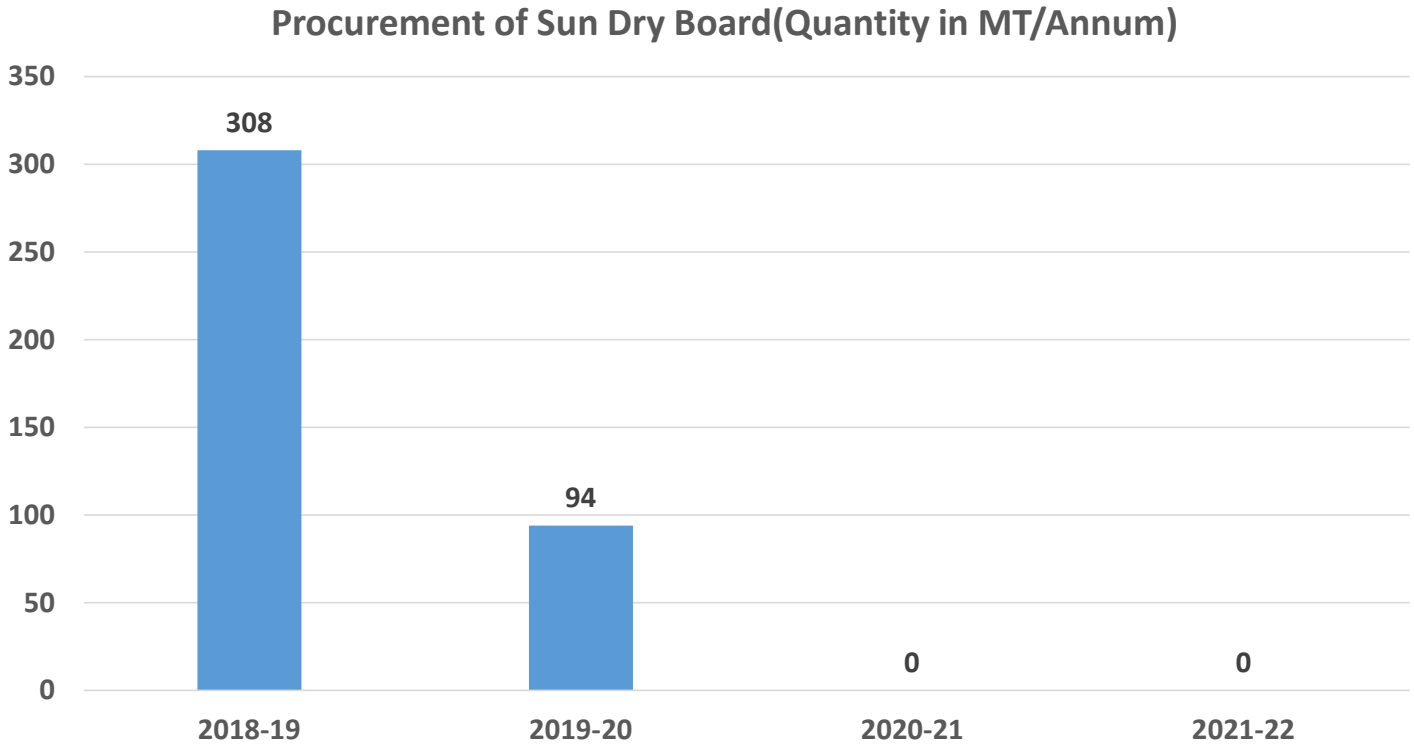
Imported Material Procurement:

- **Reduction in import of BCTMP.**
- Transfer of Hardwood Pulp to Tribeni Mill thereby reducing procurement of Imported HW Pulp for TribeniUnit
- Stopped Import of Stretch film and Kraft Wrapper and sourcing being done from domestic market.
- Usage of Imported Sizing agent(Hiphase) replaced by Domestic Source.

Logistics Reduction :

- **Procurement of Coal from nearby Mines.**
- Procurement of Chemicals from Vijayanagaram and Kurnool instead of Harihar and Bombay.
- 100% procurement of Stretch film from domestic market instead of part import from Sweden.
- Imported core plugs substitute is implemented. (Ahmadabad instead of Sweden)

Green Supply Chain Management



Procurement of Sundry boards completely eliminated due to use of usage of recycled side discs in place of sundry board.

Team Work, Employee Involvement & Monitoring

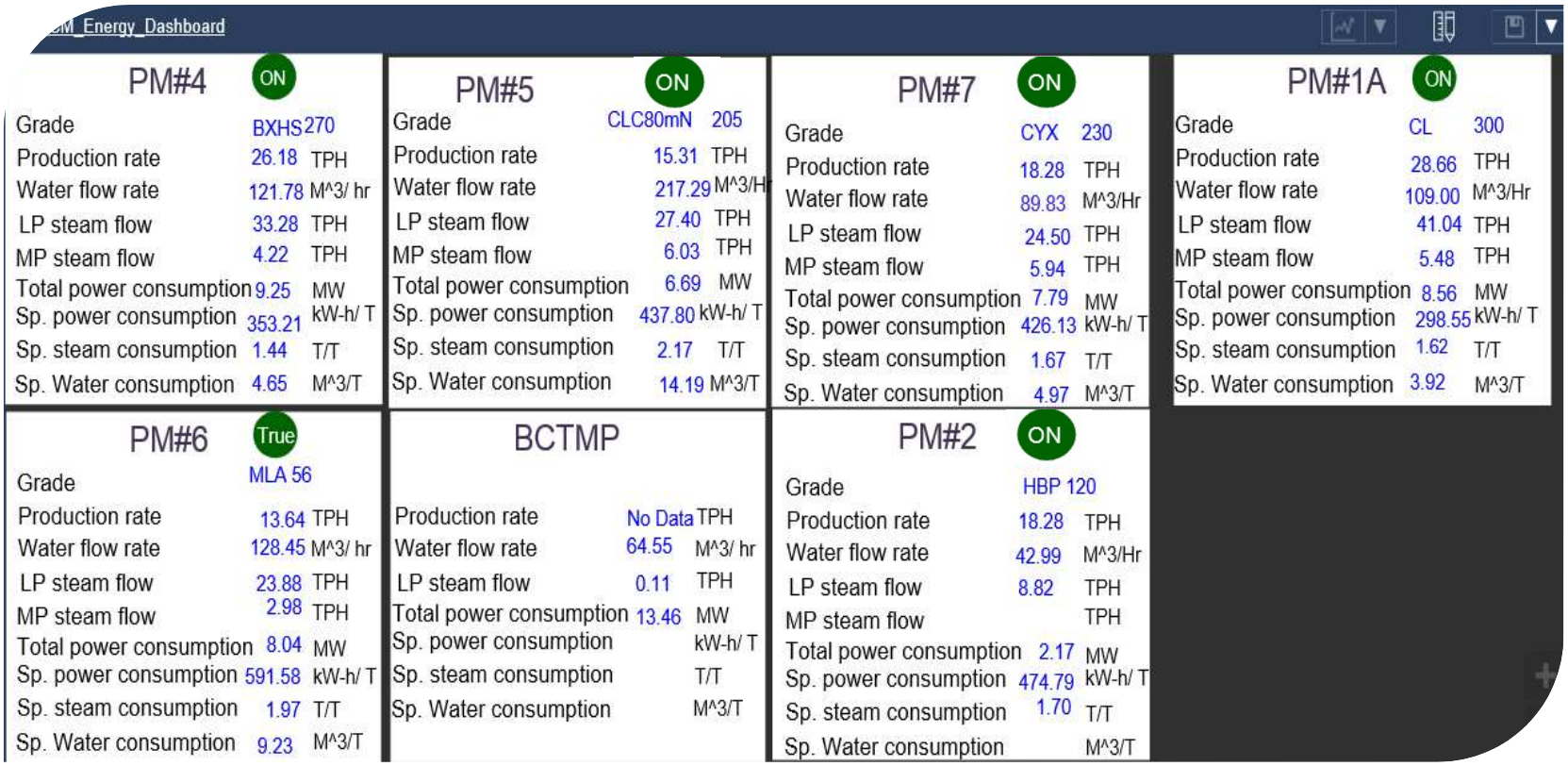
Energy consumption is monitored by Energy Meters installed at end users & viewed in the DCS for effective monitoring & control.

Leveraging technology & latest energy consumption monitoring systems in place

- DCS – Process & energy control for all facilities.
- SCADA – Electrical energy Monitoring and Load Management
- xMII - Auto generated email reporting for major plant parameters
- SAP – Daily Business Reporting
- PI Vision – Historian - Real time monitoring software
- Monthly-mill performance review reports.
- Energy cell monthly report on energy consumption & conservation.

Team Work, Employee Involvement & Monitoring

Continuous Energy Monitoring by using IOT



Team Work, Employee Involvement & Monitoring

UNIT STREEING BOARD

TPM Secretariat

Consultants

8 Pillars (# in each SBU)…

1. Jishu Hozen (2)
2. Kobetsu Kaizen (1)
3. Planned Maintenance (3)
4. Quality Maintenance (2)
5. Early Management (1)
6. Education & Training (1)
7. Office Improvement (1)
8. EHS (2)

SBU 1

SBU 2

Services & Others

DMTs : 3
Pulp Mill
Recovery
Utility

DMTs : 7
PM 1A
PM 23
PM 4
PM 5
PM 6
PM 7
NSFT

DMTs : 3
TS - QISD
TS - C Lab
Workshops

Manufacturing Areas (13 DMTs & 62 JHs)

DMTs : 11
Raw Materials
Materials
HR & Admin
IS, Civil, Security & Fire
Plantation
Finance
Engg. Offices
Marketing
Paper Godown

Service Areas (11 DMTs & 24 JHs)

24
TOTAL DMTs
(Daily Management Team)

86
TOTAL JH TEAMS

Team Work, Employee Involvement & Monitoring

Encon Reward & Recognition Scheme FY 21-22

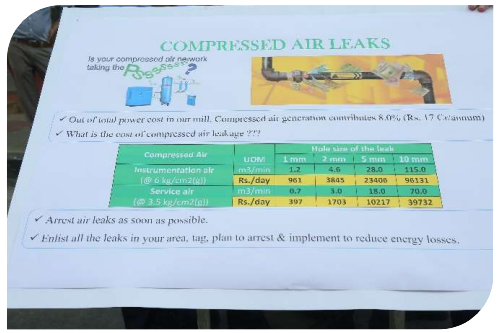
S.No	Award	Target Group	Parameter	Min. Target Reduction	Criteria
1	BCM Energy & Water Efficient Leader	DMT	All		Criteria 2, 3 & 4
2	Excellent Power Efficient DMT	DMT	Power	3%	CAPEX/FIP/Kaizen
3	Excellent Steam Efficient DMT	DMT	Steam	2 TPH	CAPEX/FIP/Kaizen
4	Excellent Water Efficient DMT	DMT	Water	200 M^3 /day	CAPEX/FIP/Kaizen
5	Power Efficient DMT	DMT	Power	2%	CAPEX/FIP/Kaizen
6	Steam Efficient DMT	DMT	Steam	1 TPH	CAPEX/FIP/Kaizen
7	Water Efficient DMT	DMT	Water	100 M^3 /day	CAPEX/FIP/Kaizen
8	Excellent Power Efficient JH	JH	Power	50 kw	FIP / Kaizens only
9	Excellent Steam Efficient JH	JH	Steam	6 TPD	FIP / Kaizens only
10	Excellent Water Efficient JH	JH	Water	50 M^3 /day	FIP / Kaizens only
11	Best Power saving Manager/Employee	Individual	Power	10 kw	Kaizens only
12	Best Steam saving Manager/Employee	Individual	Steam	2 TPD	Kaizens only
13	Best Water saving Manager /Employee	Individual	Water	10 M^3 /day	Kaizens only

Team Work, Employee Involvement & Monitoring

Encon Reward & Recognition Scheme FY 21-22

Description	UOM	Savings	Break up	Savings	Unit Rate (Rs./Unit)	Total Annual Savings in Rs. Lakhs	Saving in terms of Coal in MT
Power	kW	1850.0	Condensing Power	1850.0	4.5	659.3	14652.0
Steam	TPH	5.8	Steam Savings	9.1	939.1	430.8	11327.3
Water	M3/day	1356.0	Water Savings	1356.0	3	13.4	-
Total						**1103.5**	**25979.3**

Awareness on Energy Conservation and Environment



ENCON Cell along with BE Cell launched the **Energy Campaign** at factory gate inaugurated by Unit Head on 19th March 22.

Displays regarding energy costs, energy spent, losses due to leakages, wrong practices which lead to energy loss etc. were displayed for improving awareness among workforce.

Awareness on Energy Conservation and Environment

- Energy and Water Conservation Campaign in housing colony and BPL School
- Pamphlets were distributed about tips on Power and Water Conservation

- Environment day has been celebrated on every year on **"05th June"** and Theme of this year is **"Only ONE Earth"**
- Conducted Internal Quiz competitions among the Employees and Slogan , Drawing completions in schools and Prizes are distributed to felicitated on Environment day

Implementation of ISO 50001:2011 (EnMS)

Continual improvement of energy performance by complying with the requirements of ISO 50001:2011 Energy Management System (EnMS) standards. **(The PDCA approach)**

- Formulation of Energy Policy
- Initial Energy Review, Baseline establishment
- Identification of EnPIs
- Identification of objectives, targets & management programs
- Operational Controls, Documentation
- Internal auditor Training
- Internal audit
- Audit findings closing
- Management Review
- Certification Audit Stage-1
- Certification Audit Stage-2

MANAGEMENT SYSTEM CERTIFICATE

Certificate No: 213844-2017-AE-IND-RvA | Initial certification date: 09 February 2017 | Valid: 09 February 2017 - 09 February 2020

This is to certify that the management system of

ITC Limited
(PaperBoards & Specialty Papers Division)
Bhadrachalam Unit: Sarapaka - 570 128, Bhadradri Kothagudem District, Telangana, India

has been found to conform to the Energy Management System standard:
ISO 50001:2011

This certificate is valid for the following scope:
Development and Manufacture of Pulp, Paper, Paperboard and Specialty Paper.

Place and date: **Barendrecht, 10 February 2017**

MGMT. SYS. RvA C 024

For the issuing office: **DNV GL – Business Assurance Zwolseweg 1, 2994 LB, Barendrecht, Netherlands**

D.P. Kuck
Management Representative

Lack of fulfilment of conditions as set out in the Certification Assessment may render this Certificate invalid.

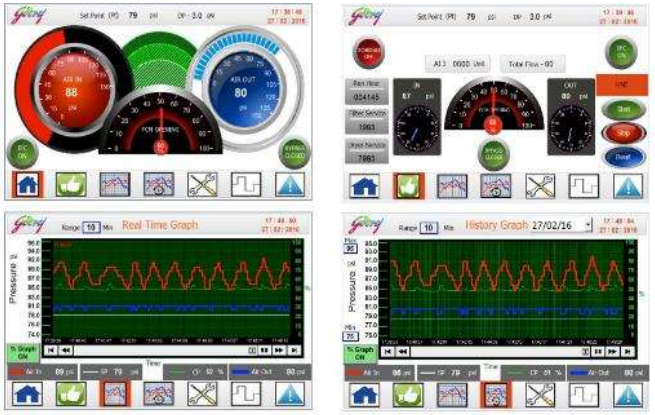
ISO 50001:2018 Upgradation In Progress Target is Oct'22

Initiatives Implemented from CII Energy Awards

Godrej IFC – Demand Side Management System

Projected Energy Savings:

1. Power savings from Instrument Air Network - 97.5 kW/Hr. (13 IFC Units)
2. Power savings from Service Air Network - 24.2 kW/Hr (2 IFC Units)
3. Power savings from CFBC Air Network – 14.2 kW/Hr (1 IFC Unit)



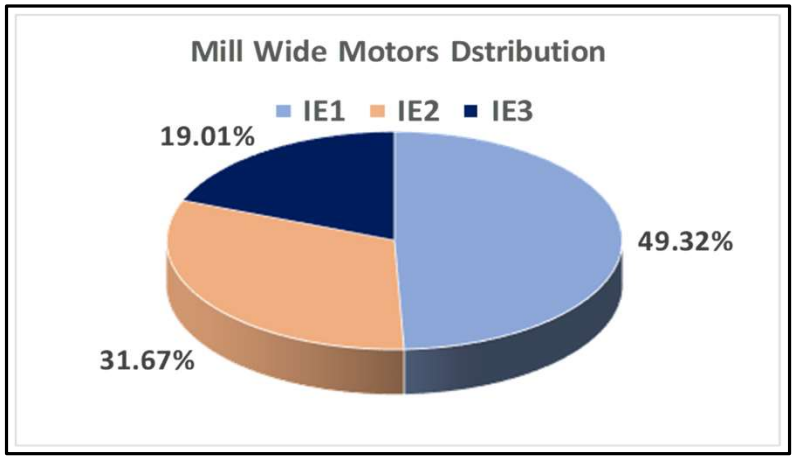
- **Total Power Savings Projected is 136 kW/hr. (1173600 kWh/Annum)**
- **Annualized Monetary Savings are Rs. 53.16 Lacs.**
- **Overall Investment is Rs. 138.1 Lacs.**
- **Simple Payback Period is 2.60 Years.**

➢ **All 16 No's had commissioned across the mill.**

Initiatives Implemented from CII Energy Awards

IE3 motors in place of IE1 & IE2 as a initiative of EESL

Motor Rating	Qty	Savings in kW
22	2	1
30	4	4
37	4	7
45	4	9
55	20	60
75	16	84
Total	50	165



- All 50 No's Motors installation and commissioning completed.
- Achieved/Validated Power Saving is 165 kW/Hr.
- More savings achieved in 55 and 75 kW rating motors.
- Order has been given to 160 motors in Phase- 2

IPMA Energy Conservation Award

From: "IPMA" <sg@ipmaindia.org>
To: "'Phani Marella'" <Phani.Marella@itc.in>, <mohanty.sidhartha@itc.in>
Cc: <sanjay.singh@itc.in>, <vadiraj.kulkarni@itc.in>
Date: 29-12-2021 10:53
Subject: IPMA Awards 2019-20

Received from external e-mail address (non ITC domain). Exercise caution while clicking any attachments or links!!!

Dear Mr. Phani Kumar Marella,

IPMA Awards 2019-20

Even though IPMA had invited applications for IPMA Awards for 2019-20 last year, we were unable to hold a meeting of the IPMA Awards Jury and the Annual Session & Awards Function last year due to the Covid Pandemic. IPMA Committee, earlier this month, took a decision to also postpone this year's Annual Session & Awards Function to next year.

Recently, we were able to organise a meeting of the IPMA Awards Jury to select the winners for the year 2019-20.

It gives us great pleasure to inform you that as per the IPMA Awards Jury's recommendation, the winner of the **IPMA Energy Conservation Award 2019-20** is M/s **ITC Ltd (PSPD), Bhadrachalam**.

Please accept our heartiest congratulations on the Award.

The Awards Function will be organised in conjunction with the IPMA Annual Session next year. We will keep you informed.

With regards & Season's Greetings,

Rohit Pandit
Secretary General

GreenCo Certification

ITC PSPD, Unit: Bhadrachalam becomes the 1st Pulp & Paper Plant in India to achieve Greenco Platinum+ (Plus) Rating (July'2020)

Thank You