JK TYRE & INDUSTRIES LTD.

VIKRANT TYRE PLANT, MYSURU. KARNATAKA

WELCOME

TO

NATIONAL AWARD FOR EXCELLENCE IN ENERGY MANAGEMENT 2023

Presenters

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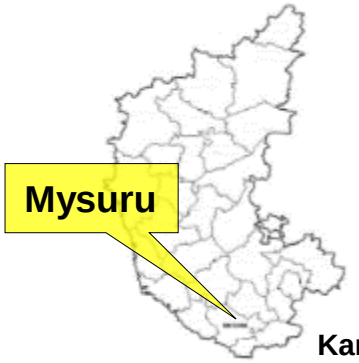
1.PLANT / UNIT INTRODUCTION

JK ORGANIZATION

Late Lala
Juggilal Singhania

Late Lala
Kamlapat Singhania

VIKRANT TYRE PLANT, MYSURU



3 Plants in Mysuru	Current Capacity (MT/Day)
Bias Plant	185
Radial Plant	195
OTR Plant	26
TOTAL	406 (~8,500 tyres/ day) 3000 Employees

TYRE BUSINESS : JK TYRE & INDUSTRIES

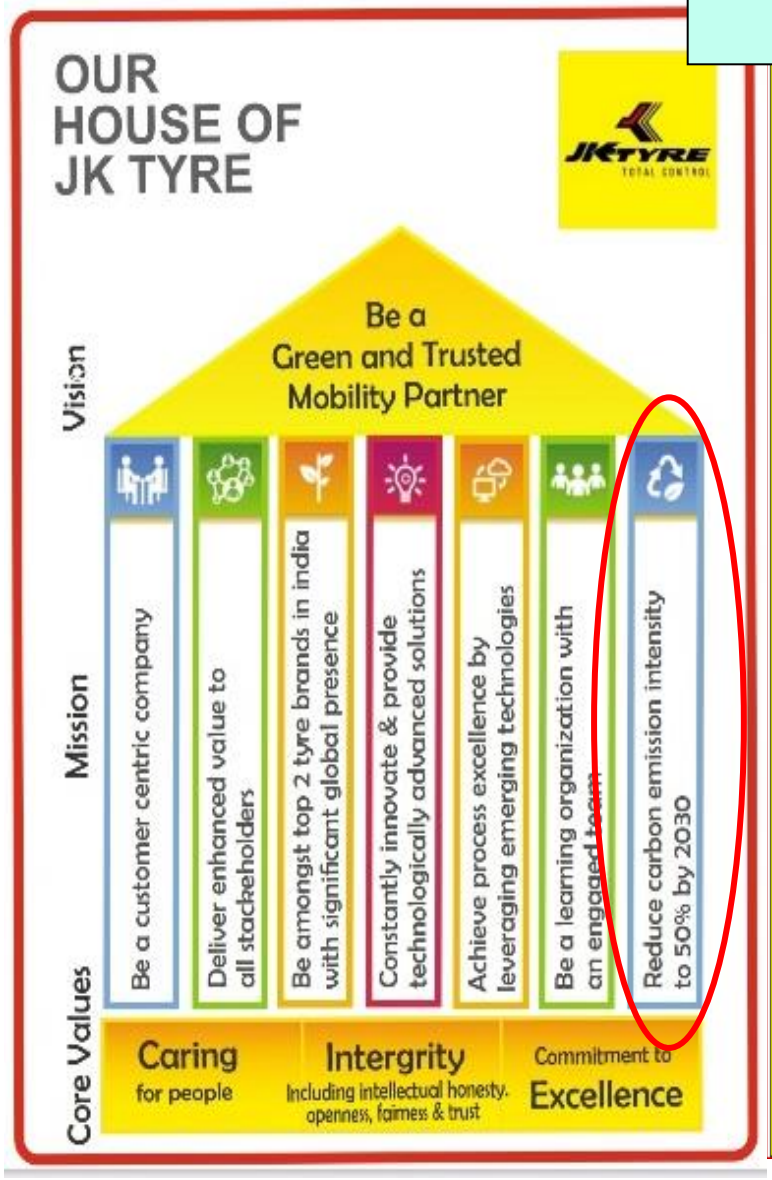
- JK Tyre & Industries Ltd is a part of prestigious JK Organization
- Pioneered Radial Tyre revolution in India
- Technical – Self-reliant.
- Capacity – Initial capacity : 55 Tons/ Day (at Kankroli in 1977)
  Current capacity : > 2,000 Tons/ Day
  Annual Turnover : > Rs. 10,300 Crores
- 12 Plants – Mysuru (Karnataka) - 3 Plants:
  Kankroli (Rajasthan) - 1 Plant,
  Banmore (MP) - 1 Plant
  Chennai - 1 Plant
  Laksar (Uttarakhand) - 3 Plants
  Mexico (Tornel) - 3 Plants

VTP : SYSTEM CERTIFICATIONS (since early 1990s)

VTP - SYSTEM CERTIFICATIONS (since early 1990s)

Si No	Certification	Plant 1 Bias	Plant 2 Radial	Plant 3 OTR
1	ISO 9001:2015 / IATF 16949: 2016 QMS (Quality Mgmt) (1994)	✓	✓	✓
2	ISO 14001: 2015 EMS (Environment Mgmt.) (1999)	✓	✓	✓
3	ISO 45001:2018 (Occupational Health & Safety) (2019)	✓	✓	✓
4	ISO 50001:2018 EnMS (Energy Mgmt.) (2013)	✓	✓	✓
5	SA 8000 : 2014 (Social Accountability) (2016)	✓	✓	✓
6	ISO 27001:2013 (Information Security Mgmt.) (2016)	✓	✓	✓
7	ISO/IEC 17025:2005 - NABL Accreditation (for Laboratory) (2016)	✓	✓	NA
8	IMEA – Gold Award 2010 (Participated in 2006 & 2007 and won Silver award)			
9	TPM Certification (Excellence) JIPM, Japan (2010)			
10	CII Sohrabji Godrej Green Business Centre – GreenCo PLANTINUM Award (2018)			
11	TPM Certification (Consistency) JIPM, Japan (2015)			

ENERGY POLICY



SUSTAINABILITY POLICY

JK Tyre & Industries Ltd commits itself to minimising its impact on o environment through

- Providing a safe and pleasant workplace free from Hazard & Risk;
- Create environmentally sustainable culture, where responsibility is assigned and understood;
- Being an Socially & environmentally responsible neighbour in our community;
- Conserving natural resources by adopting reduce, reusing and recycle concept;
- Reduce Energy consumption by ensuring the responsible use of energy throughout the organisation;
- Increase the share of Renewable energy throughout the organisation
- Participating in efforts to improve environmental protection and understanding
- Taking steps to improve environmental performance continually;
- Conducting rigorous audits, evaluations, and self-assessments of the implementation of this policy;
- Working with suppliers who promote best environmental & sustainable practices
- Enhancing awareness among our employees, volunteers, and users – educating and motivating them to act in an environmentally responsible manner.

Authorised and Approved by
Arun K. Bajoria
Director & President (International Operations)

JK TYRE & INDUSTRIES LTD.

ENERGY POLICY

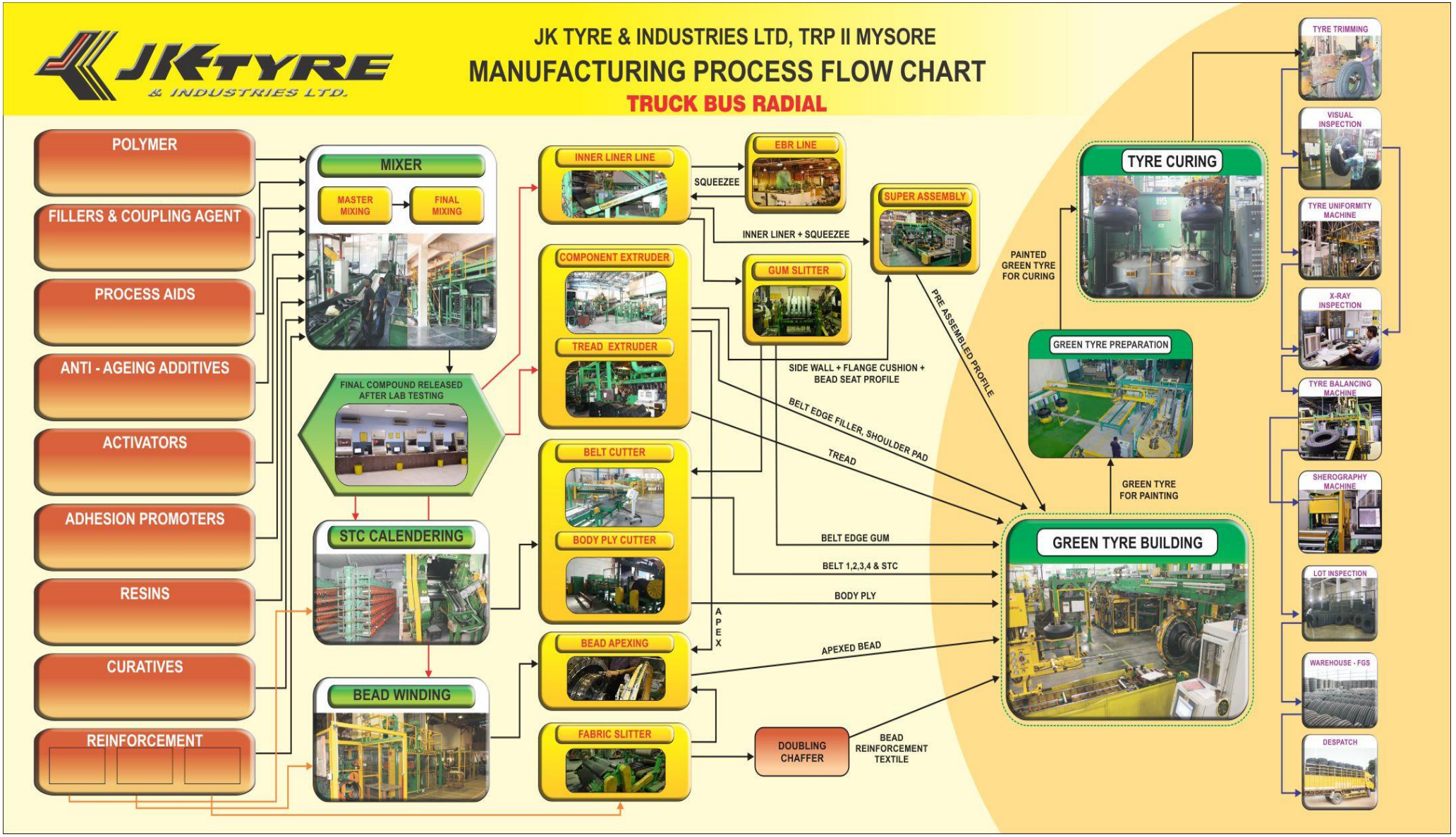
t JK Tyre are committed to design, manufacture and distribute our products & services in an energy efficient manner to meet our mission statement of becoming a green company. We will continually improve our energy performance for sustainable growth by:

- Complying with all applicable legal and other requirements related to our energy use, consumption and efficiency.
- Taking measure in Energy Management System by being proactive, innovative and cost effective including procurement of energy efficient product & services.
- Enhancing effectiveness of energy management system by ensuring the availability of information and necessary resources to achieve the objectives and targets.
- Integrating energy policy into our business planning, decision making and performance review at appropriate level.

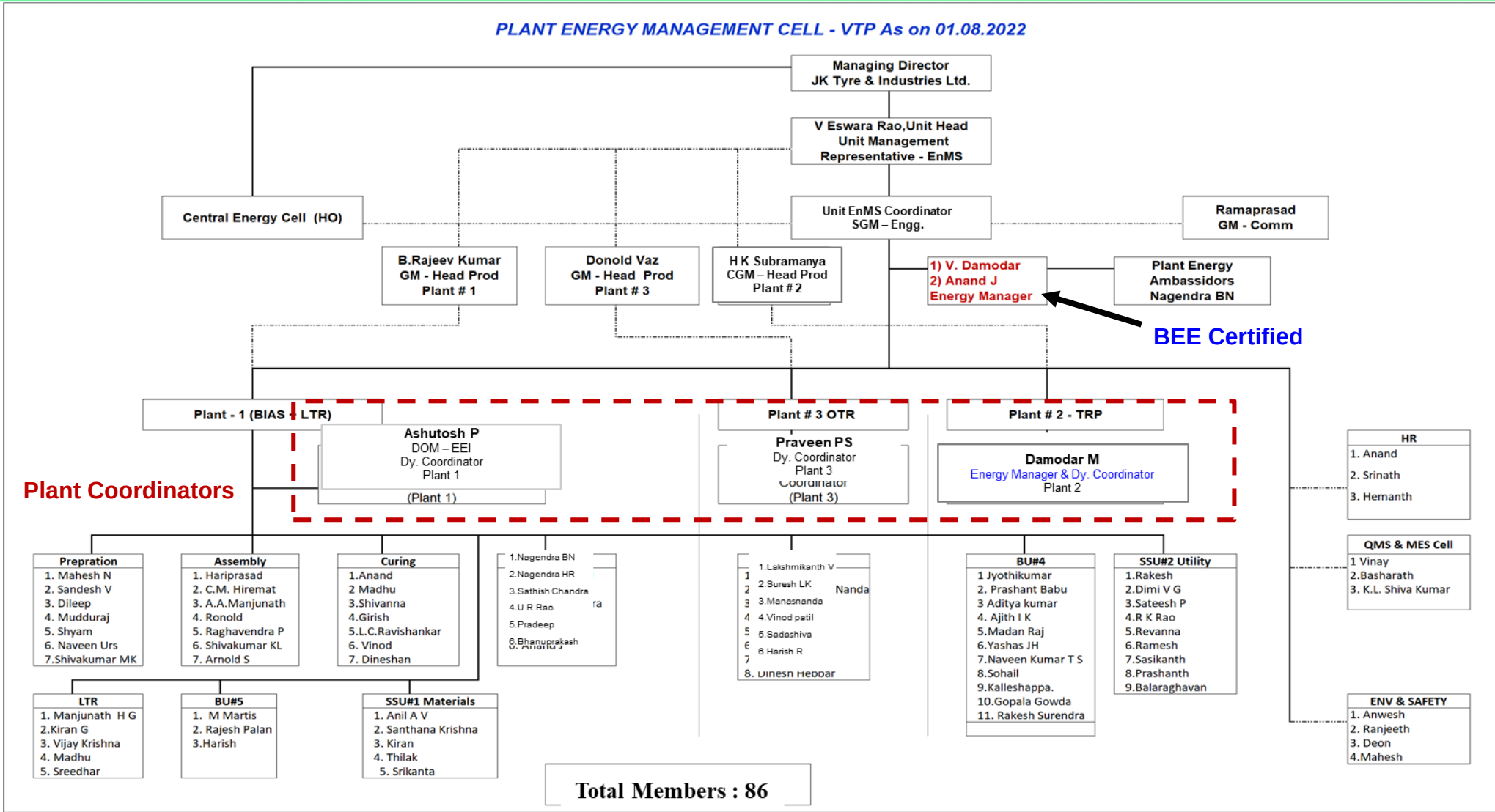
We commit to communicate this policy to all our employees, persons working for and on our behalf and also will make it available to all interested parties on request.

JK TYRE & INDUSTRIES LTD.

2.MANUFACTIRUNG PROCESS

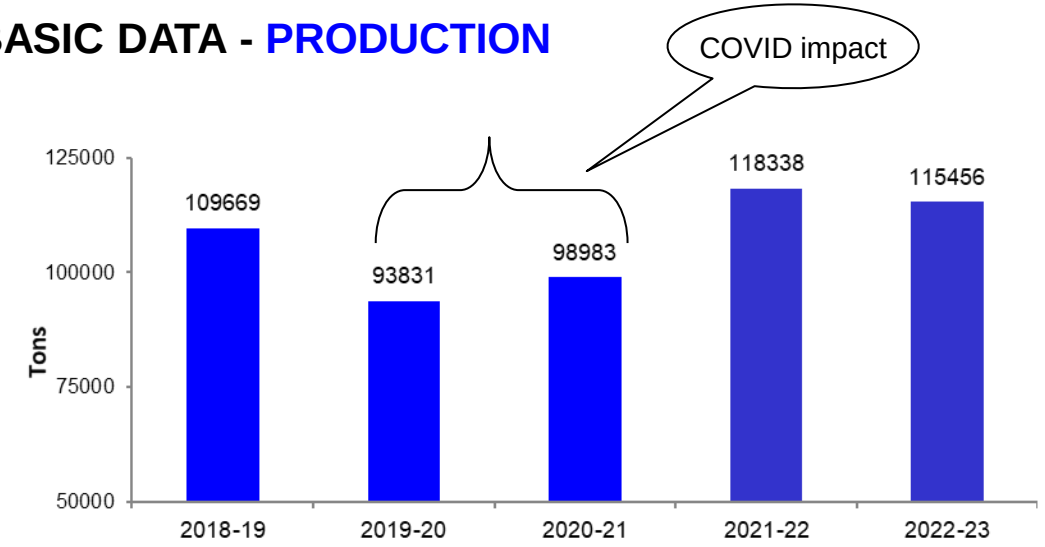


ENERGY MANAGEMENT TEAM

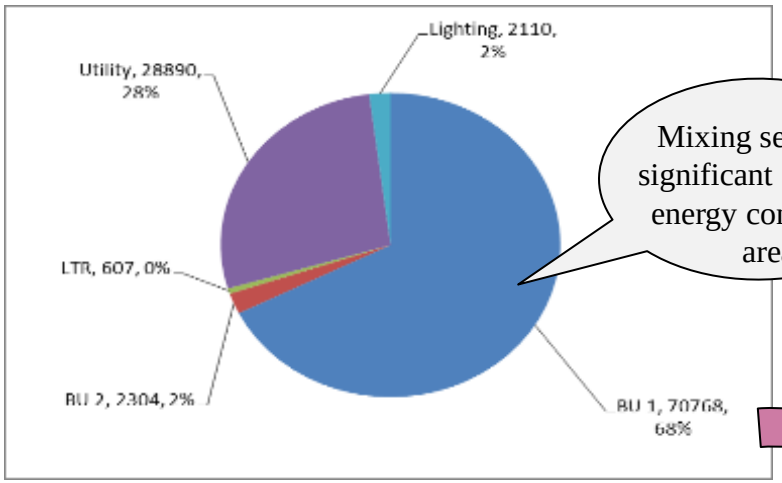


3. SPECIFIC ENERGY CONSUMPTION

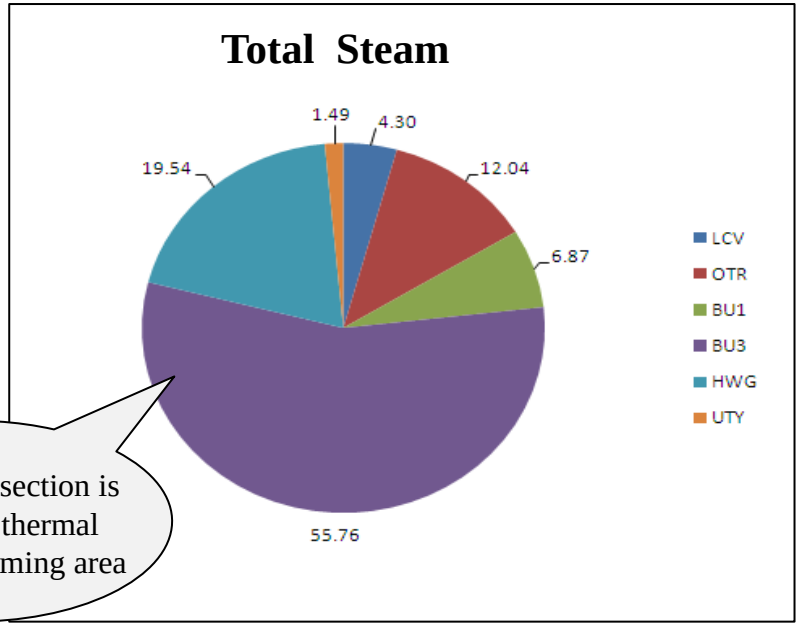
BASIC DATA - PRODUCTION



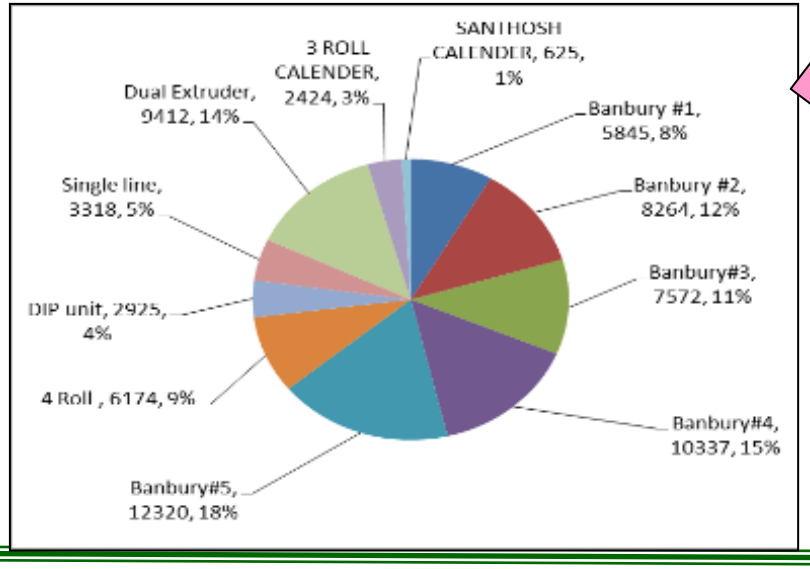
Total Power



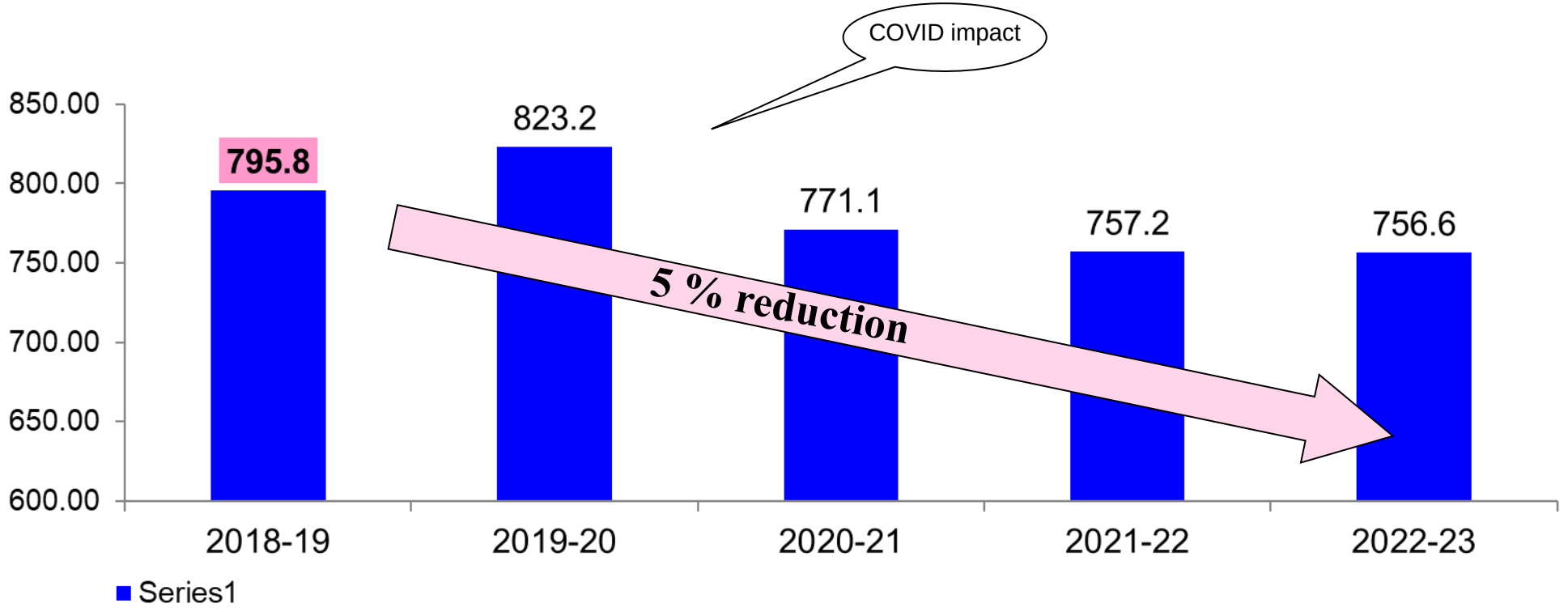
Total Steam



BU#1 (business Unit) is significant power consuming area



ENERGY CONSUMPTION - POWER (kWh/TON)

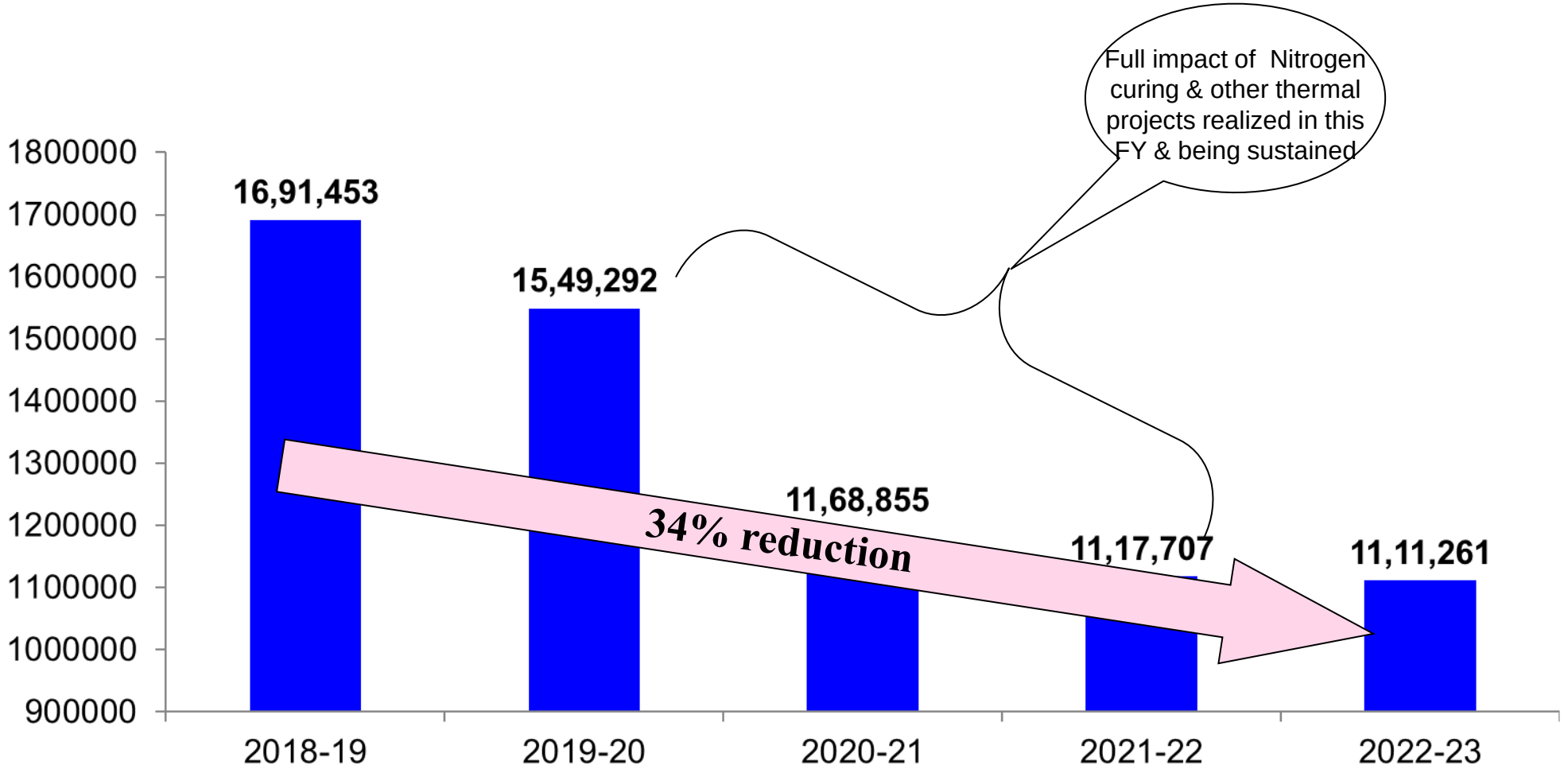


	SPC CALC : 0.800	SPC CALC : 0.800	SPC CALC : 0.800	SPC CALC : 0.800	SPC CALC : 0.800	SPC CALC : 0.800
	BASELINE	BASELINE	BASELINE	BASELINE	BASELINE	BASELINE
	FOR 140 MT	FOR 150 MT	FOR 160 MT	FOR 170 MT	FOR 180 MT	FOR 190 MT
	140.00	150.00	160.00	170.00	180.00	190.00
MAXIMUM ACHIEVABLE POWER W.R.T GIVEN PRODUCTION	127125	131683	136241	140800	145358	149916
MAXIMUM ACHIEVABLE SPC W.R.T GIVEN PRODUCTION	0.908	0.878	0.852	0.828	0.808	0.789
% Impact on SPC	13.105	10.121	7.337	4.733	2.292	0

We have reduced the Energy consumption by

5 % from past 4 years

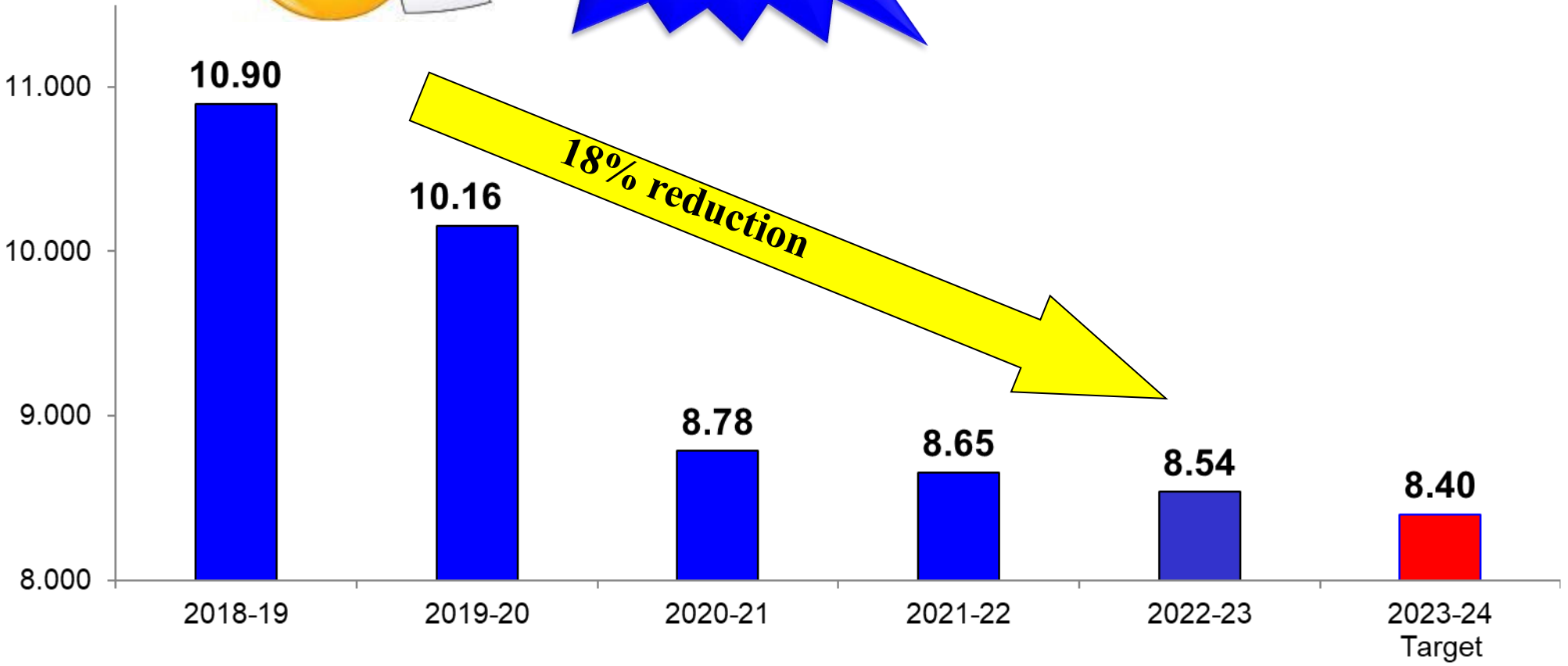
ENERGY CONSUMPTION – THERMAL (KCAL/TON)



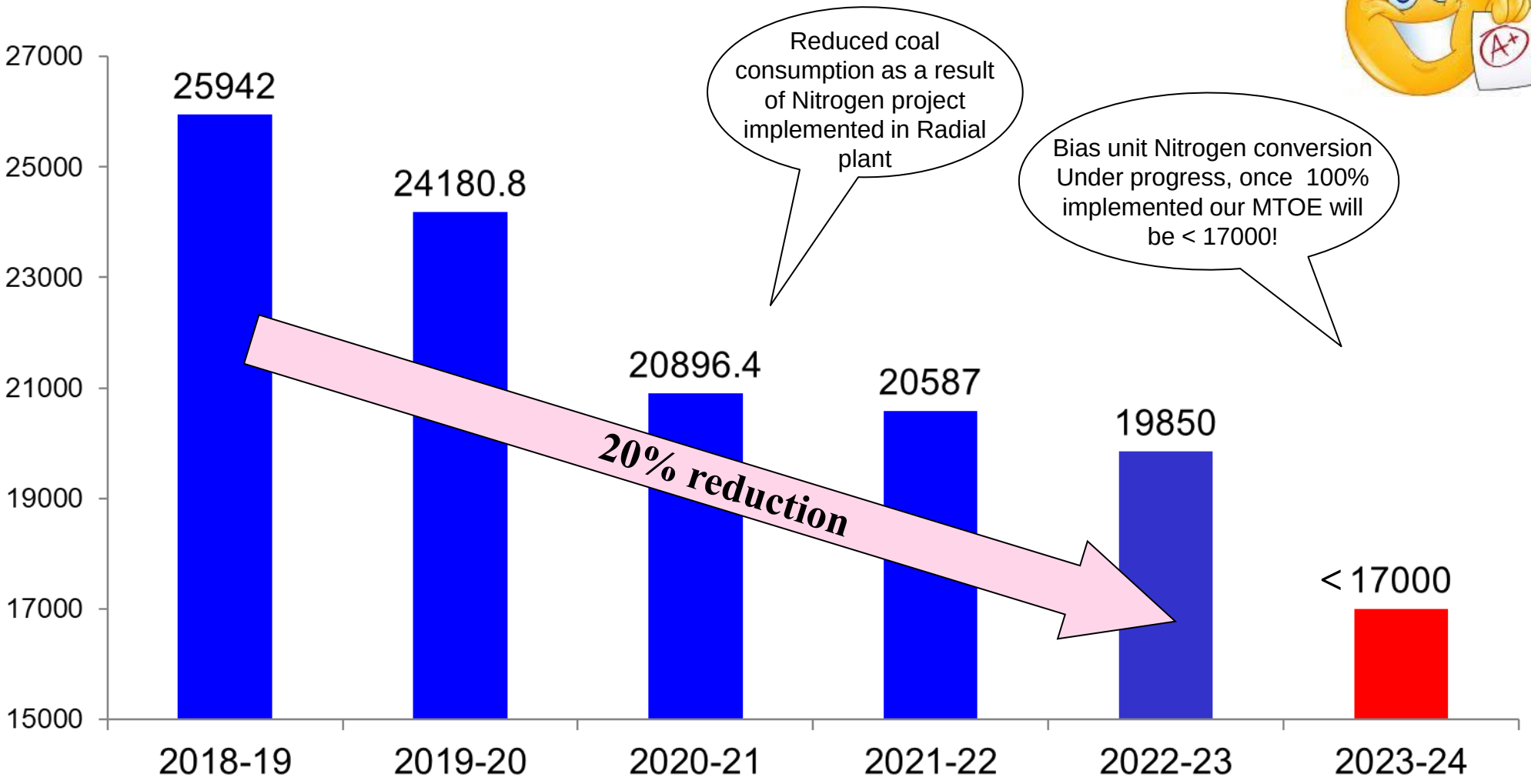
OVERALL ENERGY CONSUMPTION (GJ/TON)

Total reduction 18% since FY18

VTP is one of the oldest plant in the group, despite limitations - older equipment's & production cuts we were able to achieve the energy targets & compete with new generation plants

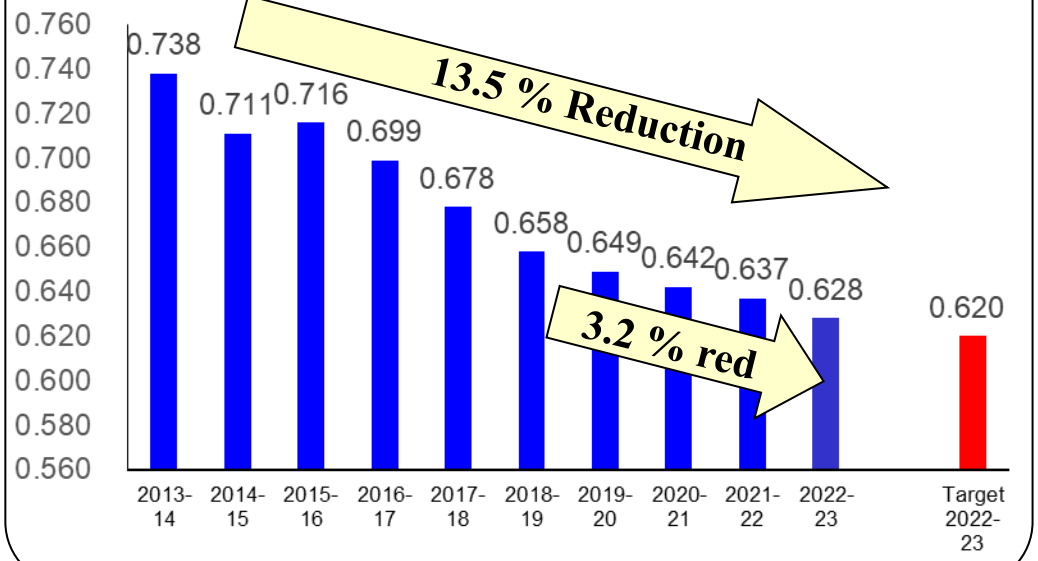


THERMAL ENERGY CONSUMPTION (MTOE / TON)



SPECIFIC ENERGY CONSUMPTION - POWER (kWh/Kg)

PLANT # 1



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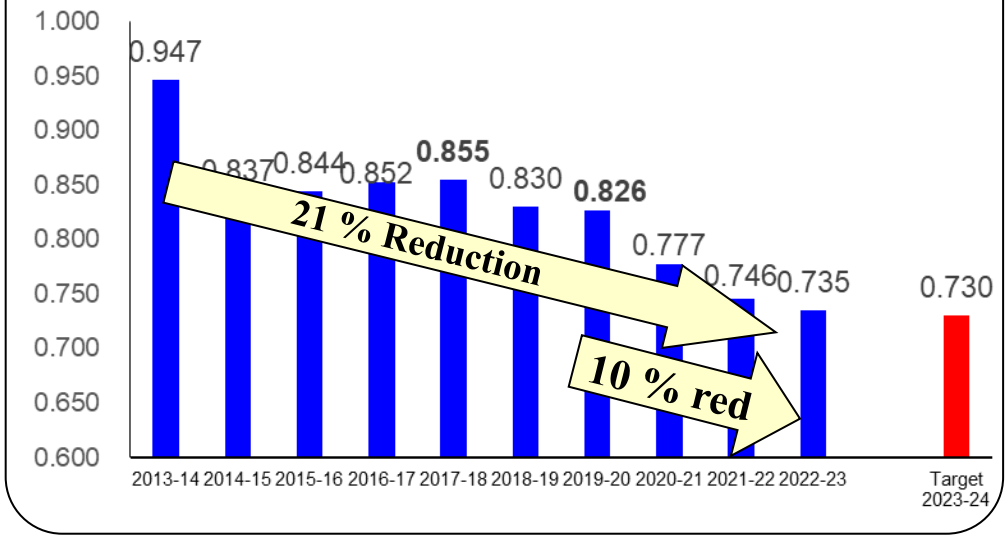
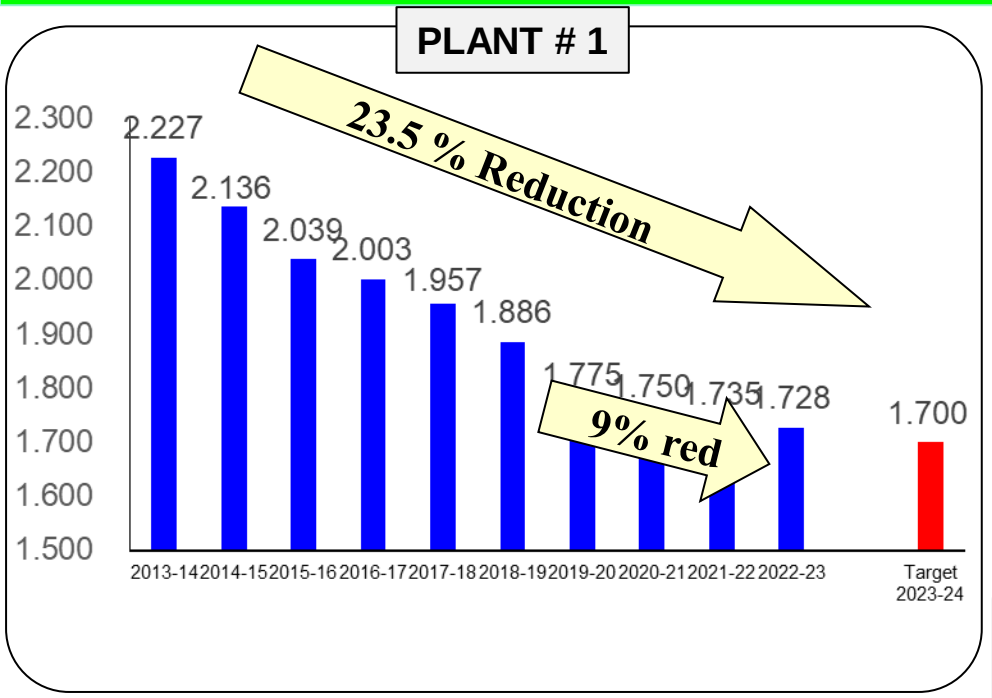
PLANT # 2



Achieved energy targets despite low production & other challenges. This is the clear impact / result of implementing the energy conservation projects

SPECIFIC ENERGY CONSUMPTION - STEAM(Kg/Kg)



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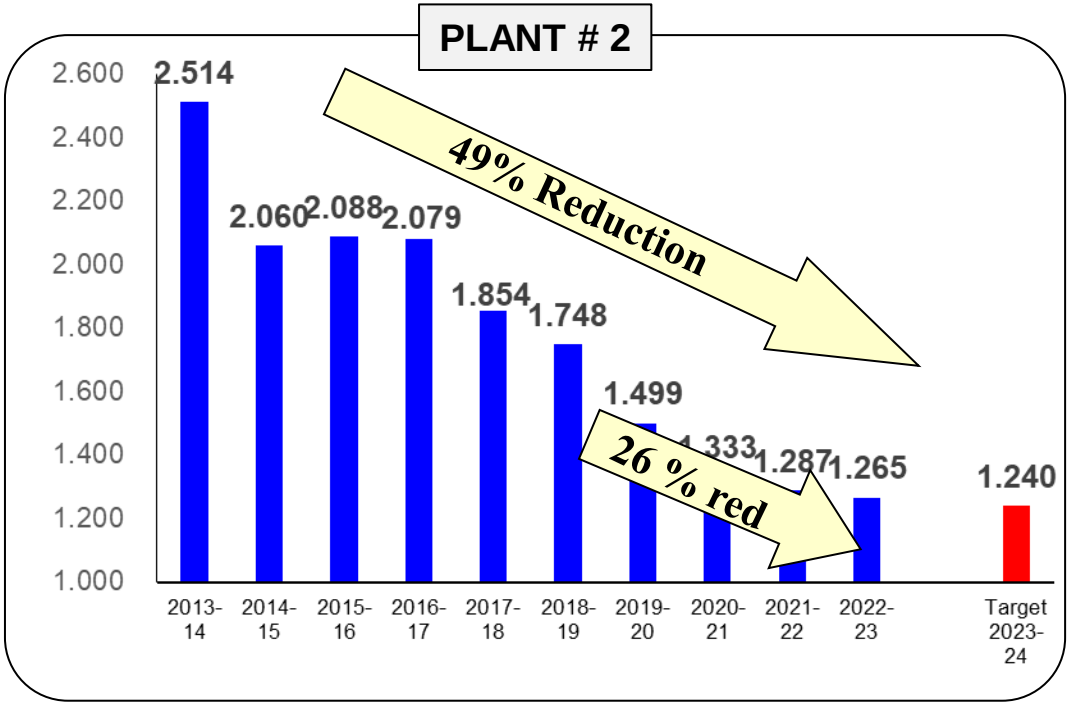
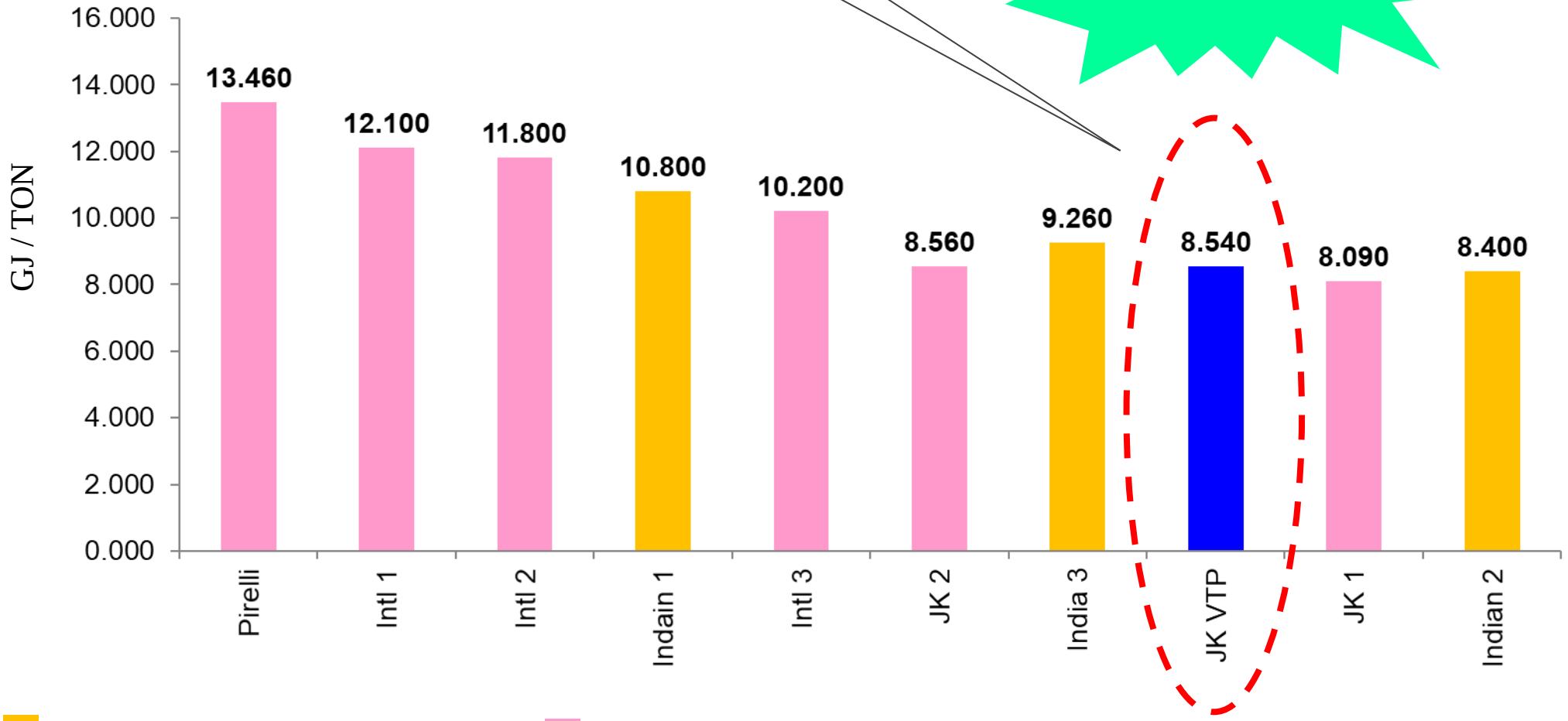


4. INFORMATION ON COMPETITORS, NATIONAL & GLOBAL BENCHMARK

VTP is top 2 in JK Tyre

JK VTP : Among Top 3 in the world



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Data from sustainability report

ENERGY SAVING PROJECTS IMPLEMENTED : 2020-21

Project Sr no	Brief Description of project	Approved Amount in Lacs	Saving per year (Rs. In Lacs)		Energy Saving Planned	
			Planned Yearly	Achieved	Qty	UOM
1	Increasing Boiler feed water temperature from 95 to 110 by using CBD.	10	23	26	248	MT
3	Installation of VFD in Krupp Extruder Booking Water Blow off Blower	12	11	8.9	11867	kwh
4	Installation of VFD for Hydraulic & Condensate recovery pump -2 Nos	5	6	7.45	99467	kwh
5	Shifting 110 KW carbon handling compressor to Utility area to stop 132 KW	10	3	3.7	49733	kwh
7	Use of ETP tretaed water to process cooling tower make up	5	6	6.9	70000	kwh
8	Energy Efficient pumps for process cooling tower	1.5	2	2.48	33067	Kwh
9	HPS purging steam recovery to boiler	31.2	30	31.2	2740	MT
10	Skoda dome type press platen conversion	42.9	40	43	3905	MT
11	Installation of VFD for HWS Pump to reduce Dead Load	5	3	3.2	49700	Kwh
12	Rerouting /modification of process cooling water return header lines at Cooiling tower	13.8	1	1.38	213000	kwh

ENERGY SAVING PROJECTS IMPLEMENTED : 2021-22

Project Sr no	Brief Description of project	Approved Amount in Lacs	Saving per year (Rs. In Lacs)		Energy Saving Planned	
			Planned Yearly	Achieved	Qty	UOM
1	Nitrogen conversion in place Hot Water in bias curing (savings in coal & power)	242	170	189	1750000	KWH
					7000	MT
2	For Ice blasting HP air main inlet line and SAV areaHP air mian line 50NB air regulator to be fix to control more air prerssure loss and to avoide inflation error during ice blasting	1.5	3	4	48500	KWH
3	Engg_VFD for the 110 kw hydrulic pump	5.5	6	6.18	77256	KWH
4	Installation of Individual energy meters to Auxiliary equipment's in Mixers & utility section for micro level monitoring of power consumption on daily basis & necessary optimization for energy savings	45	25	30	40427	kwh
5	Improvement of overall Plant Power factor from 0.97 to 0.99 and reduce the distribution Loss by installation of2X 500KVAr APFC panel for PCC-1, 2500KVA transformer	24	15	15.8	74460	KWH
6	Improvement of overall Plant Power factor from 0.96 to 0.98 and reduce the distribution Loss by installation of 500KVAr APFC panel for PCC-2, 1250KVA transformer	8.6	15	14.5	193333	Kwh
7	SAV & Curing area AHU retrofit with EC fans	65	35	33	440000	Kwh
8	Recovery of boiler CBD heat to increase boiler feed temperature	8	10	9.76	177.5	MT

ENERGY SAVING PROJECTS IMPLEMENTED : 2022-23

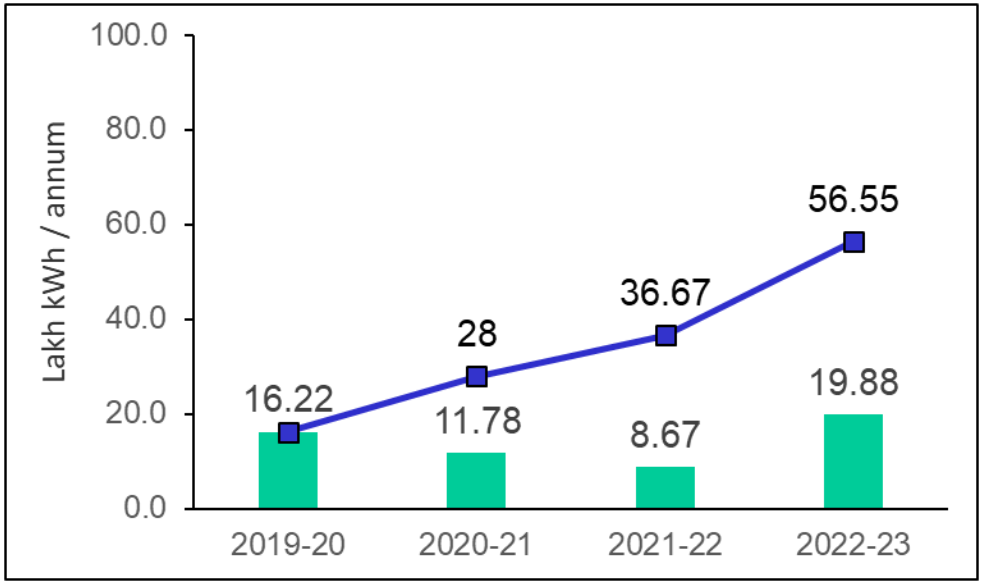
Project Sr no	Brief Description of project	Approved Amount in Lacs	Saving per year (Rs. In Lacs)		Energy Saving Planned	
			Planned Yearly	Achieved	Qty	UOM
	Nitrogen conversion in place Hot Water in bias curing (savings in coal & power)		170		1750000	KWH
1		242		189	7000	MT
2	For Ice blasting HP air main inlet line and SAV areaHP air mian line 50NB air regulator to be fix to control more air prerssure loss and to avoide inflation error during ice blasting	1.5	3	4	48500	KWH
3	Engg_VFD for the 110 kw hydrulic pump	5.5	6	6.18	77256	KWH
4	Air consumption reduction in Mixer-6 Dust collector & carbon Day bin purging system through introduction of flow meter & PLC control	5	3	3.07	38484	KWH
5	Improvement of overall Plant Power factor from 0.97 to 0.99 and reduce the distribution Loss by installation of2X 500KVAr APFC panel for PCC-1, 2500KVA transformer	24	15	15.8	74460	KWH

5.ENERGY SAVING PROJECTS IMPLEMENTED : 2023-24

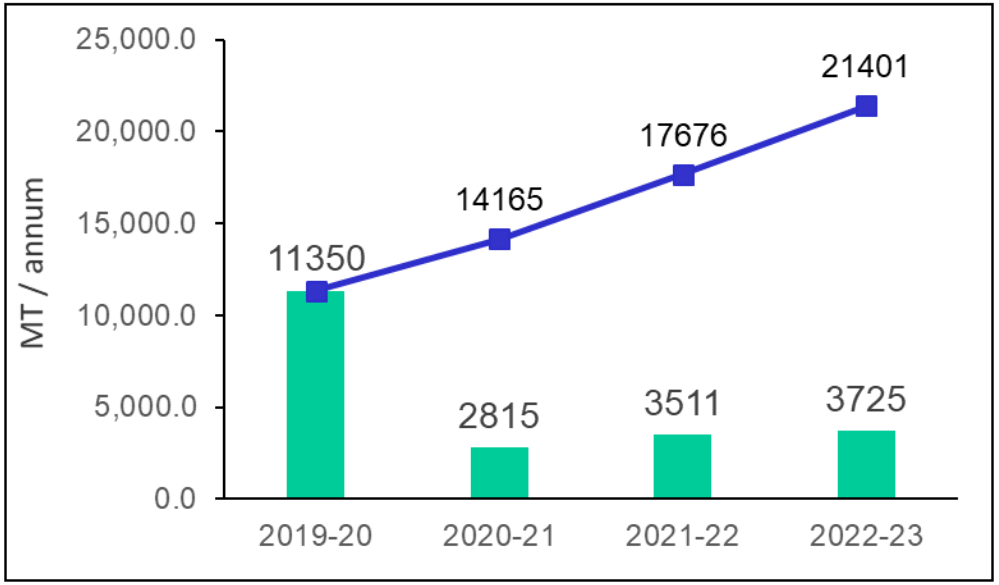
Project Sr no	Brief Description of project	Approved Amount in Lacs	Saving per year (Rs. In Lacs)		Energy Saving Planned	
			Planned Yearly	Achieved	Qty	UOM
1	Usage of ETP water for Boiler / Process - RO plant connected UV plant	20.0	15.0			
2	Modification And Erection of boiler to suite Bio mass	1100.0	331.0		35.0	Mkcal
3	SAV AHU 3 and Fisher cutter fan to be replaced with energy efficient fan	14.00	7.36		0.74	Mkwh
4	Replacing Preparation area blower fans to Energy Efficient fans	7.00	3.91		0.50	Mkwh
5	Platen press top insulation and steam line insulation	3.50	15.40		55.00	Mkcal
6	Replacing 300 TR VAM to350 TR VFD operated Electrical chiller	90.00	61.77		85.00	Mkcal
7	Installing VFD for 160KW LP air compressor	14.00	7.26		1.40	Mkwh
8	Installation of 37 kw pump in Hydrualic tank to reduce the pumping power	7.00	10.08		0.70	Mkwh
9	Instalation of 37 KW VFD in VAM cooling tower pump to reduce the pumping ppower	5.00	3.15		0.50	Mkwh
10	37kw VFD for curing Air washer system	5.00	3.63		0.50	Mkwh
11	Banbury Hot Well Pump Optimization with VFD & Piping Modification	6.50	6.65		0.65	Mkwh
12	Air consumption reduction in Mixer-6 Dust collector & carbon Day bin purging system through introduction of flow meter & PLC control	5	3	3.07	38484	KWH

OVERALL IMPACT OF ENERGY SAVING PROJECTS

Power (Lakh kWh)



Thermal (Coal in MT)



Savings Summary

Year	No of Energy Projects	Amount Invested	electrical saving Kcal	Thermal Saving	Total Savings	Pack back
		Millions	Mkw	Mkcal	INR millions	months
FY 2020-21	12	13.8	1.178	31319	13.6	13
FY 2021-22	8	15.7	0.867894	942	12.6	15
FY 2022-23	5	27.8	1.9887	25200	21.8	16

General procedure for financial resources allocation for projects

- Identification of Significant energy use
- Monitoring of EnPI for identified significant use
- Benchmark / target for identified significant energy use
- Energy gap analysis & energy loss mapping
- Identification of energy projects / kaizens to bridge gap
- Prepare Energy Management program with savings & Payback information
- Submission of energy projects to HO for budget approval (> Rs 2 Lacs investment)
- Review of projects, approval and allocation of resources by Management
- Implementation of projects at site
- Post Implementation savings audit and reviews
- Monthly energy project status review by Unit Head & HO

6.INNOVATIVE PROJECT IMPLEMENTED

1. Energy savings through Machine modification

Kaizen Title: Thermax boiler Coal Feeder Modification

Problem or present status

Due to Hot water replaced to Nitrogen , The boiler load was reduced and during running of Thermax Boiler it was observed that due to low load on boiler, steam was vented to maintain the bed temperature . This had impacted on Nosie issue and wastage of Coal . Also DM water consumption and its related chemical consumption was on higher side .This was Increasing the Specific steam consumption as well as Specific water consumption .

IDEA :Detail study of Boiler was conducted by different boiler vendor visited and recommended to down size the boiler by reducing in pressure part . The cost of which was around 1.5 crore with lot of govt approvals .By doing a detail study of Coal and Combustion air we planned to maintain the bed temperature to the lowest level . For this we planned to increase the coal Sprocket Teeth and reduce the coal feeding to the minimum requirement

IMPACT ON PPROBLEM

- Specific Water consumption is high
- Specific Steam consumption is High

IDEA

- Reduction in Gear Ratio to reduce Coal feeding

Investment & Savings

- Total investment : 10000 rs
- Savings in Steam @ 35 day /yr : 2100 tons
- Savings in water @ 35 day/y r : 2163 KL
- Net savings in Rs : Rs 46lacs
- ROI : 1 day

Standardization :

- SOP,FMEA & design documents

ROOT CAUSE IDENTIFICATION

Why # 1	Steam load requirement lower side
Why # 2	Bed Temperature not under control
Why # 3	Coal feeding RPM no Tolerance
Why # 4	Feeder Sprocket Size More

Sprocket with 41 teeth

Sprocket with 52 teeth /22% reduction

6.INNOVATIVE PROJECT IMPLEMENTED

2. Energy savings through Process modification

Kaizen Title: Addition of New Dome steam line in curing

Problem or present status

During each round of GT Loading , HPS steam is passed to attain the internal temperature. During loading of 80 presses there was Steam pressure drop observed , which resulted in Steam temperature drop. This dropp was effecting the quality and even had impact on cure cycle timing and Tyres production target was meeting .To over come the Pressure drop extra cure was given resulting in more of steam consumption and Power consumption .

Detail steam line drawing with flow rate , pressure and temperature was taken . The cure cycle timing was studied with different construction . Since this been a batch process the load variation was on higher side and consistence in HPS pressure was not getting . Then a detail velocity mapping was done where it wad found that the Dome line steam consumption was affecting the HPS drop .So the Dome and HPS steam line was redesigned to maintain the standard velocity .

IMPACT ON PPROBLEM

- Specific power consumption is high
- Specific Steam consumption is High

IDEA

- Addition of New steam line for DOME to reduce pressure Drop during GT loading in HPS stage

Investment & Savings

- Total investment : 23 Lakhs
- Savings in Steam /Year : 604tons
- Savings in Power /Year : 11428 kw
- Net savings in Rs : Rs 1276000
- ROI : 1.8 years

Standardization :

- SOP,FMEA & design documents

ROOT CAUSE IDENTIFICATION

Why # 1	Pressure drop during loading
Why # 2	Steam velocity variation
Why # 3	Common Steam line circuit in Curing

Common Steam line

New Dedicated Dome Steam Line

PROBLEM SELECTION AREA : MIXING

Major problems in Mixing area (as per past performance data of 2021-22) listed and ranking done with respect to PQCDSME to prioritize the problem. The problem having -highest score is taken up for as 1st priority to be addressed in 2022-23 by the team.

Key Problems	S	Q	P	C	En	E	Total (S+Q+P+C+E+En)
Batch off mill problem				1	1	1	8
Dump Mill breakdown					1	1	7
BOPT break down					1	1	11
TCU problem					2	1	10
Bale cutter problem					1	2	8
Main motor problem			2	1		1	8
Compound supply issue	**1**	**3**	**5**	**3**	**3**	**3**	**18**
Mill surface temperature high	2	1	1	2	1	1	8
Loss due to change overs	1	1	3	1	1	2	9
Absenteeism	2	1	1	1	1	1	7

Issues related to compound supply issue got highest raking, hence team selected to work in this problem

ROOT CAUSE ANALYSIS:

- **WHY 1** • Production loss at Preparatory
- **WHY 2** • Delay in Compound supply from Banbury Mixing
- **WHY 3** • Current Banbury Mixers unable to fulfill new Production requirement
- **WHY 4** • Banbury Mixers designed for Curing production 160MT/day
- **Why 5** • Prevailing condition

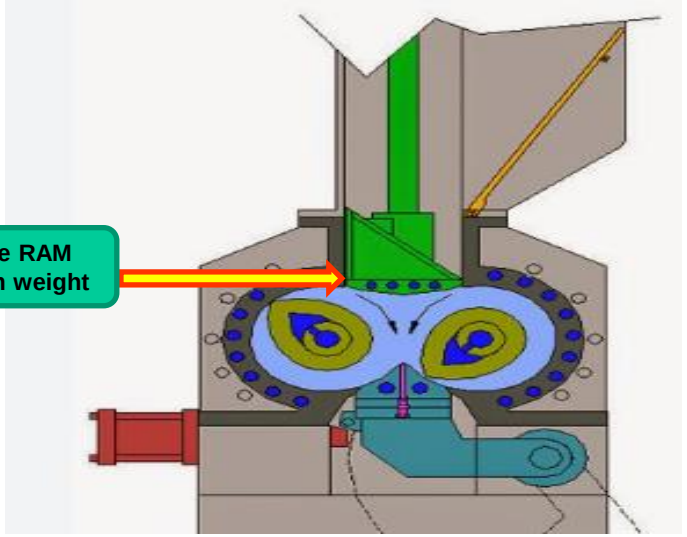
ROOT CAUSE

Banbury Mixers designed to produce 136MTs/day as Preparatory requirement is 157MT/day

KAIZEN IDEA

To enhance Banbury production to meet internal customer demand

RNAL PARTS



Case Study / Improvement Projects

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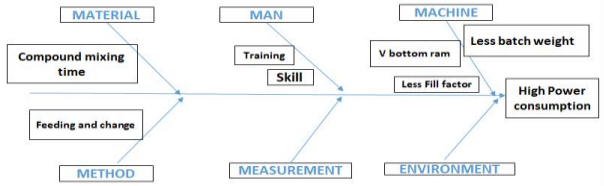
Define Problem (P)

Location:	VTP-2	Function :	BU#4 PRODU	Sub function / Process	BANBURY
Project start date:	APRIL-2022	End Date:	NOV-2022	Category:	PRODU,COST,ENERGY

Problem Definition: Project No : 09/VTP2/2022

rget , because of less batch weight power consumption is high. Ram float in banbury 9 is V-bottom type ram float taking more sp

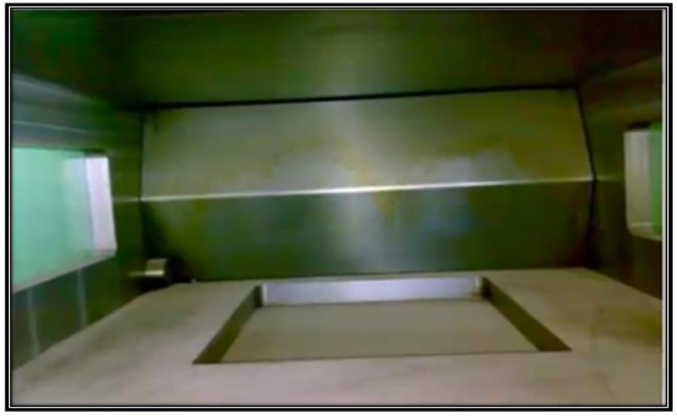
Analysis:



#	Potential Causes	Action taken	Responsibility	Target Date	Completed on
1	Mixing Cycle time high	Mixing time stabilized	Sohail / Manish	05-08-2022	15-08-2022
2	Feeding & change over time	Feeding & change over time reduction	Prashanth babu	20-06-2022	03-07-2022
3	Chance for increase in batch weight	Ram float weight change from v type to keel type	KCD	01-11-2022	10-11-2022

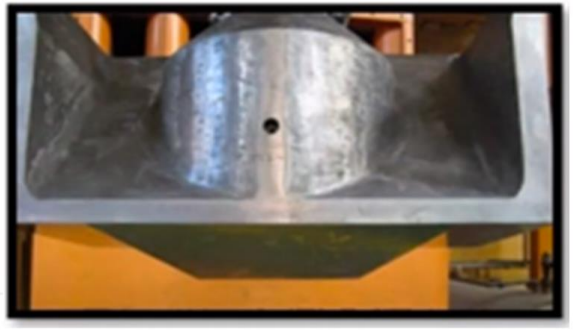
Before Design

Wedge Bottom float weight bottom



CONCEPTUALISATION AND NEW SYSTEM

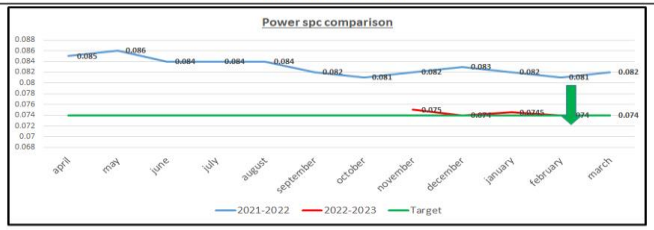
Keel type Ram float front view

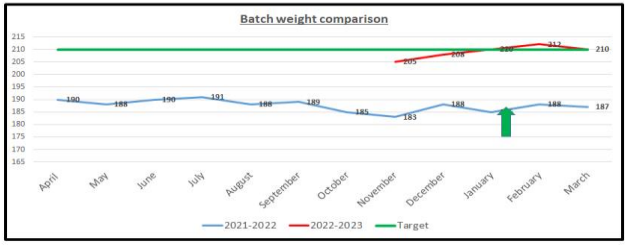


Keel type Ram float weight bottom

Result Check (C)

Power and Batch trend





Standardization (A)

Sl No	Description	Doc Affected (Y/N)	Existing Rev	Modified Rev	Doc Enclosed (Y/N)	Remark
1	Change management	Y			Y	
2	Training	Y			Y	
3						

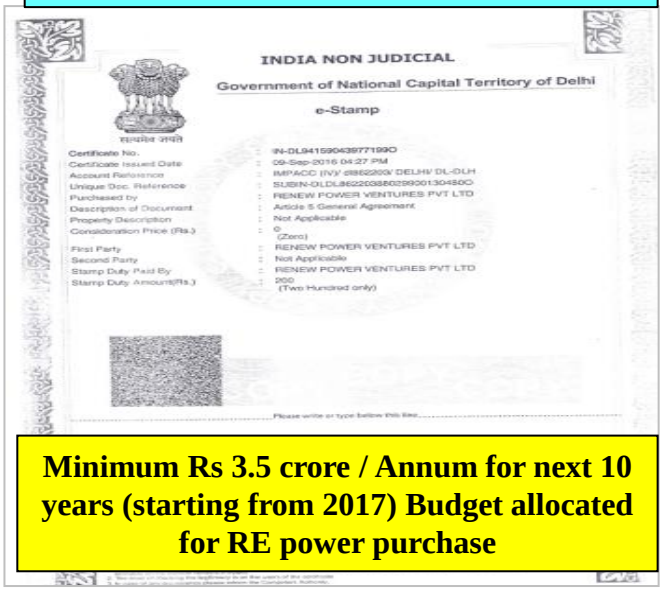
Team	Conclusion and Horizontal Deployment :
Leader : Shoali Member: Kalleshappa Naveen Prashanth babu Surendra Damodar -EM	Conclusion : BB9 ram float changed from V type to keel type bottom . Improvement in batch weight from 195 kgs to 210 kgs . Specific power reduced from 0.083 to 0.0745. The Impact on power was 1170813 kw which amounts to 13.66 lac for 5 Months

Prepared By (Leader/Team)	Deptt. Head	Function Head

7. UTILIZATION OF RENEWABLE ENERGY SOURCES

Type	Units	Annual Consumption	% of total power
Unit purchased from IEX	Million KWh	6.86	6.23
Unit purchased from Renew Energy	Million KWh	79.25	88.24
Unit purchased from CESCOM	Million KWh	3.81	4.30
Units generated from Roof Top Solar	Million KWh	0.65	0.66
Units generated from recovery Turbine	Million KWh	0.75	0.20
Total Power	Million KWh	**92.0**	**100**

REC Power Purchase Agreement (wind energy)

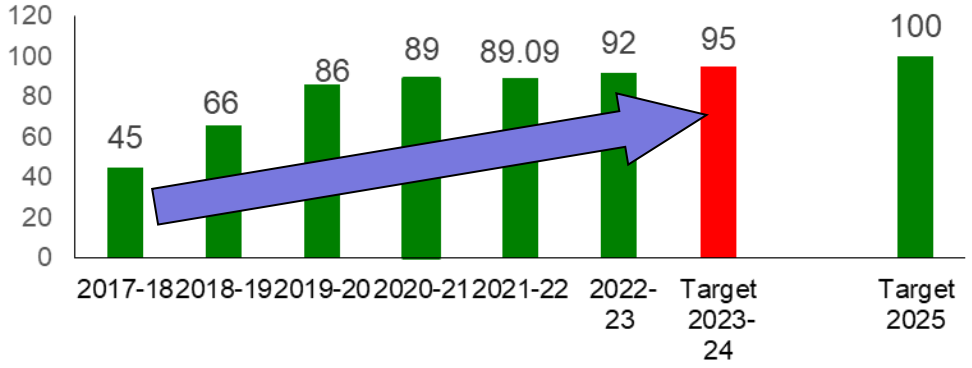

INDIA NON JUDICIAL

Government of National Capital Territory of Delhi

e-Stamp

Minimum Rs 3.5 crore / Annum for next 10 years (starting from 2017) Budget allocated for RE power purchase

90% of total power consumed is from Green Source in FY22-23



FUTURE PLAN : Achieve > 95% by 2023

Carbon Sink

Sr.	Location	No of Trees	No of Shrubs	Net Estimated Carbon Sink of JKTIL due to tree plantation (tCO2) from beginning to March 2022
1	Kankroli Tyre Plant	84,570	338,584	12510.80
2	Banmore Tyre Plant	133,586	37,434	11006.37
3	Chennai Tyre Plant	15,287	6,999	2363.87
4	Vikrant Tyre Plant	83,058	117,865	15848.43
5	Cavendish Industries Ltd.	11,259	248,752	2510.71
	Total	327,760	749,634	44240.18

7a. UTILISATION OF WASTE MATERIAL AS FUEL

1) Use of Dry Leaves

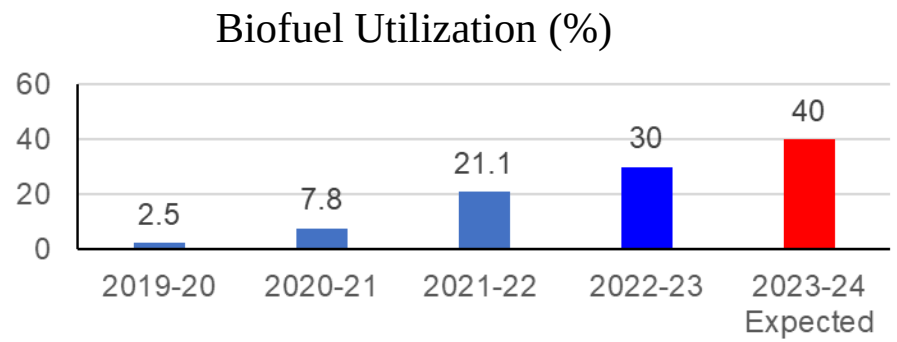
- We do not generate industrial waste which can be used as fuel.
- Other waste such as Wood packing scrap material, trimmed branches, Dry leaves is sent for briquetting & re used in boiler as fuel.
- CO_2 foot print reduced by around 53 Ton / annum (by offsetting coal)

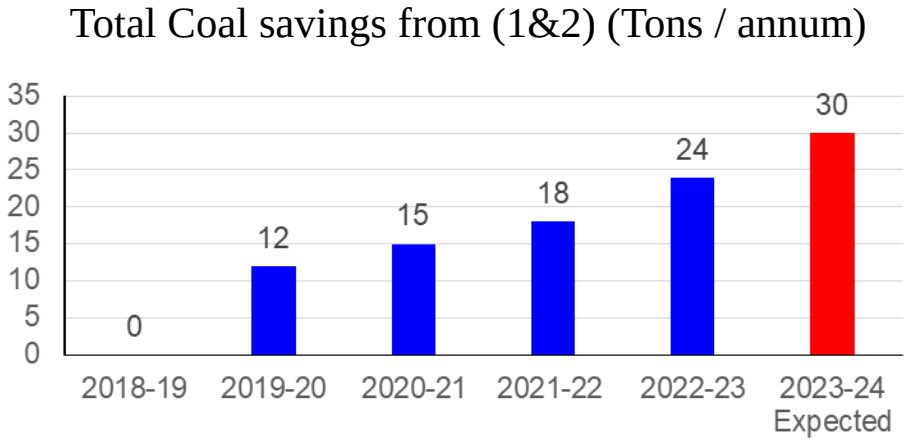
2) Re Use of Coal Dust

- Coal dust generation during coal crushing process/floor sweeping , dust being wasted through fly loss
- Pallet making machine installed to convert the coal dust into pallet form and re-used at boiler

3) Use of Biomass

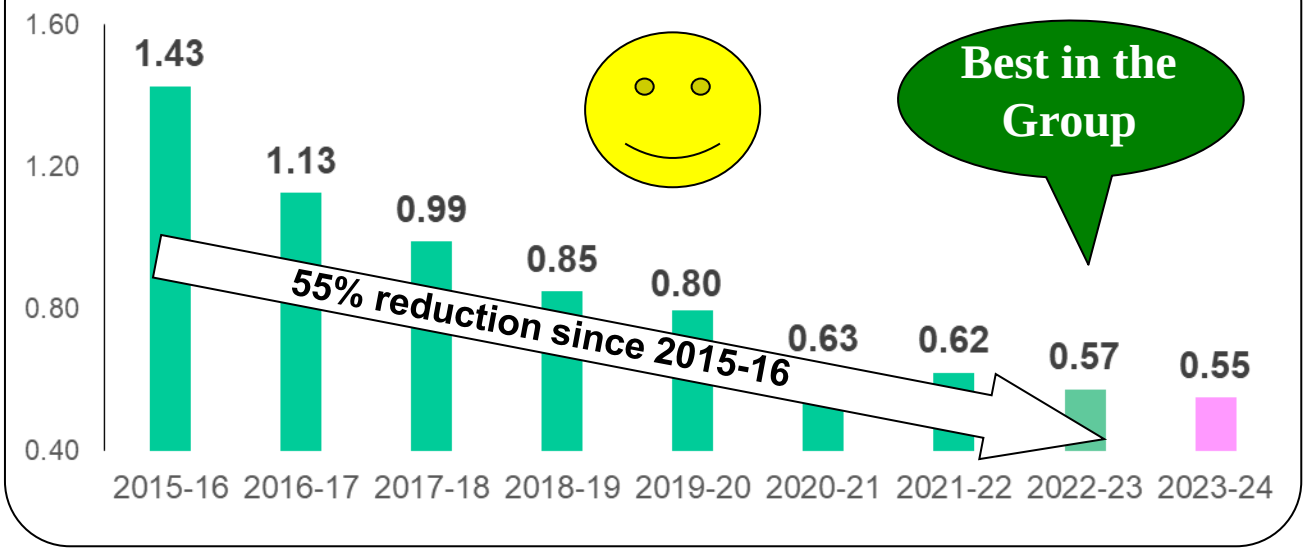
Biofuel utilization increased from 2.5% to 28%
(daily 500 kgs pallets making using coal dust)
Cost Savings of Rs. 14 lakhs /annuum



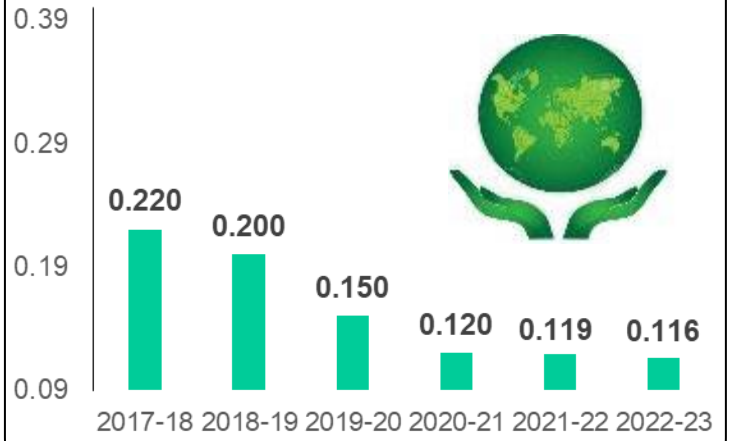


8. GHG INVENTORISATION (ISO14064-1:2019)

GHG EMISSIONS (CO2e Ton/Ton) – SCOPE 1 & 2



SCOPE 3 Emissions



TOTAL GHG EMISSIONS (CO2e Ton/Ton) – SCOPE 1,2 &3

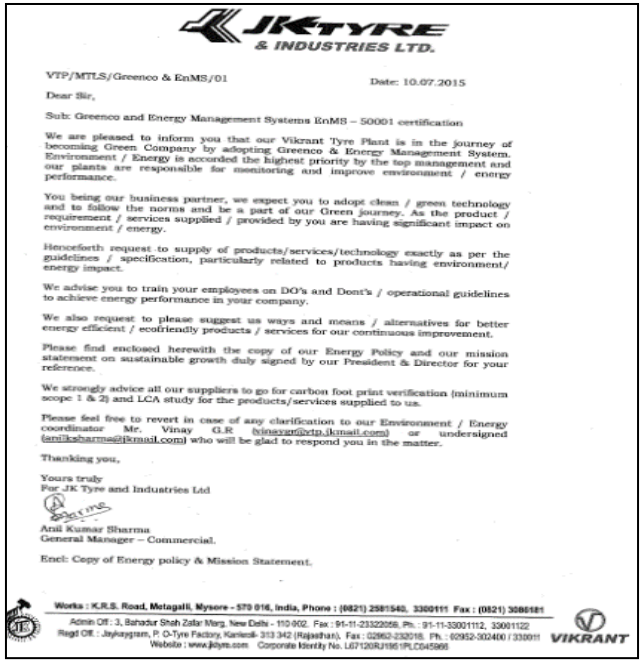
	JK Tyre Including Cavedish	JKTIL (Excluding Cavendish)	KTP	CTP	VTP	BTP	Cavendish
Emission	Emission Intensity (tCO2e/MT)	Emission Intensity (tCO2e/MT)	Emission Intensity (tCO2e/MT)	Emission Intensity (tCO2e/MT)	Emission Intensity (tCO2e/MT)	Emission Intensity (tCO2e/MT)	Emission Intensity (tCO2e/MT)
2022-23	**1.1257**	**0.9171**	**1.0038**	**0.7159**	**0.6867**	**1.1424**	**1.5523**

Verification report & Opinion statement

VTP is Benchmark in JK Tyre

09. GREEN SUPPLY CHAIN

Green purchase guidelines



JK TYRE & INDUSTRIES LTD.

VTP/MTLS/Greenco & EnMS/01 Date: 10.07.2015

Dear Sir,

Sub: Greenco and Energy Management Systems EnMS – 50001 certification

We are pleased to inform you that our Vikrant Tyre Plant is in the journey of becoming Green Company by adopting Greenco & Energy Management System. Environment / Energy is accorded the highest priority by the top management and our plants are responsible for monitoring and improve environment / energy performance.

You being our business partner, we expect you to adopt clean / green technology and to follow the norms and be a part of our Green journey. As the product / requirement / services supplied / provided by you are having significant impact on environment / energy.

Henceforth request to supply of products/services/technology exactly as per the guidelines / specification, particularly related to products having environment/ energy impact.

We advise you to train your employees on DO's and Dont's / operational guidelines to achieve energy performance in your company.

We also request to please suggest us ways and means / alternatives for better energy efficient / ecofriendly products / services for our continuous improvement.

Please find enclosed herewith the copy of our Energy Policy and our mission statement on sustainable growth duly signed by our President & Director for your reference.

We strongly advice all our suppliers to go for carbon foot print verification (minimum scope 1 & 2) and LCA study for the products/services supplied to us.

Please feel free to revert in case of any clarification to our Environment / Energy coordinator Mr. Vinay G.R (vinaygr@vtp.jkmail.com) or undersigned (anil.jkcharma@gmail.com) who will be glad to respond you in the matter.

Thanking you,

Yours truly
For JK Tyre and Industries Ltd

Anil Kumar Sharma
General Manager – Commercial.

Encl: Copy of Energy policy & Mission Statement.

Works : K.R.S. Road, Metagalli, Mysore - 570 016, India, Phone : (0821) 2581540, 3300111 Fax : (0821) 3086181
Admin Off : 3, Bahadur Shah Zafar Marg, New Delhi - 110 002. Fax : 91-11-23323059, Ph. : 91-11-33001112, 33001122
Regd Off : Jaykaygram, P. O-Tyre Factory, Kankroli- 313 342 (Rajasthan), Fax : 02952-232018, Ph. : 02952-302400 / 330011
Website : www.jkityre.com Corporate Identity No. L67120RJ1951PLC045966

VIKRANT

Green Procurement Guide lines - VTP

Raw Material	Non hazardous, eco friendly, Bio degradable, REECH compliance chemicals
Appliances – AC, Fridges	Minimum 3 star
Motors	Min IE 4
Paints	Low VOC Paints
Taps	Push Type
Tube light & Bulbs	LED
House Keeping cleaning agents	Eco friendly cleaning agents

100% Compliance

All material code in SAP updated with Energy performance requirement.

- Taking measures in Energy management system by being proactive , innovative and cost effective including procurement of energy efficient products & services.
- As a Green Responsible company, we have re-sourced / re-organized / re-structured our suppliers close to our manufacturing plants. Suppliers in South cater to south plant & North to North plants

Eg. :- Carbon Black - Earlier supplied from Kolkata to VTP & Chennai supplied carbon black to KTP now the supplies reorganized so that Chennai supplies to VTP & CTP and Kolkata supplies to KTP, LTP & BTP. This resulted is overall savings in emission from supply chain

- **INVOLVING SUPPLIERS IN CII GREENCO JOURNEY** - We are encouraging our suppliers to go for GreenCo certification

10. EMS SYSTEM AND OTHER REQUIREMENTS

Existing monitoring system

ENERGY REVIEW

Daily shop floor review

Plant # 1&3 : At 11:30hrs – By Unit Head & Plant Head

Plant # 2 : At 10:00 hrs - By Unit Head & Plant Head

Monthly review

Energy Performance review -by 1st week of Every Month (Unit Head)

Energy review – 1st Week of every month by Mfg. Director

Business Review Meeting (BRM) – 2nd Week of every month - President

❖ Annual Performance Review – EnMS Management Review Meeting

❖ Annual Performance Review meeting at HO

❖Benchmarking of Targets w.r.t industry standards – Annually

❖Review of targets is done based on high impact projects

Top Management Review

ISO 50001:2018 CERTIFICATE

bsi.

By Royal Charter

Certificate of Registration

ENERGY MANAGEMENT SYSTEM - ISO 50001:2018

This is to certify that:

JK Tyre & Industries Ltd.
Vikrant Tyre Plant
KRS Road
Metagalli
Mysore 570 016
Karnataka
India

Holds Certificate No: ENMS 595612

and operates an Energy Management System which complies with the requirements of ISO 50001:2018 for the following scope:

The Manufacture of Automotive Bias, Radial & Off the Road Tyres, use of Electricity from State Electricity Board and from other Renewable sources including IEX (Indian Energy Exchange), Generation of DG Power (as standby), Generation of Solar Power, Generation of power through Recovery Turbine, Generation of Steam through Coal Fired Boilers, Generation of Compressed Air, Generation of Chilled Water for Process use.

For and on behalf of BSI:

Chris Cheung, Head of Compliance & Risk - Asia Pacific

Original Registration Date: 2013-04-29
Latest Revision Date: 2019-05-05

Effective Date: 2019-03-22
Expiry Date: 2022-03-21

Page: 1 of 2

...making excellence a habit.

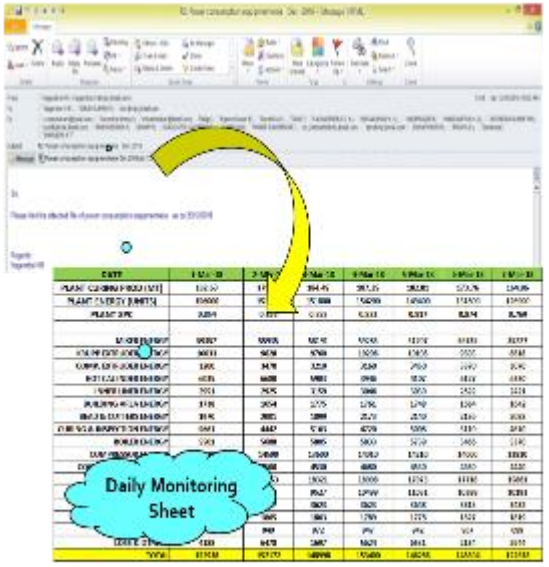
11. NET ZERO COMMITMENT

- Phasing out coal fired boiler by modifying and upgrading existing Boiler,
- Utilization of 100% Biomass and CNG gas
- 100% renewable energy by 2030
- Reduction in Co2 emission to 50% by 2030
- Clean technology adaptation like Nitrogen curing in all plants
- Carbon sequentialization by planting one million trees by 2030
- Increase use of Renewable material in Tyre

TEAM WORK, EMPLOYEE INVOLVEMENT & MONITORING

REVIEW MEETINGS - Daily shop floor review-Chaired by unit head & plant heads, Monthly review, Annual Performance Review, Energy review –chaired by Mfg. Director, Business review(BRM) - Chaired by President Benchmarking of Targets w.r.t industry standards, Review of targets is done based on high impact projects

DAILY MONITORING SYSTEM



Action plan for day to deviation implemented & effectiveness reviewed in next day meeting

STRATEGIES FOR EMPLOYEE AWARENESS & INVOLVEMENT

Most Energy Efficient Plant

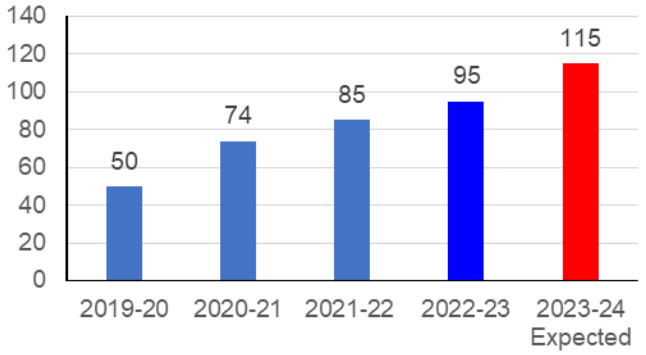
Apex Group	Core Team	Front line	Working group
○ Formulate Policy ○ Give Direction • Review Energy consumption • Review status of Energy projects • Provide resource	○ Set target to Reduce Energy consumption • Implement Energy projects ○ Benchmarking ○ Energy Audits ○ Provide resource ○ Support & guide plant team ○ Compliance to legal & other requirements ○ Train plant team	○ Control / avoid Energy loss • Process control ○ Monitoring & measurement of relevant EnPI ○ Train Working group – Spread awareness	○ Participate in improvement activities • Energy Kaizen ○ Control / avoid Energy loss by adhering to Work Instruction & SOP's

Avoid Loss , Improved Awareness

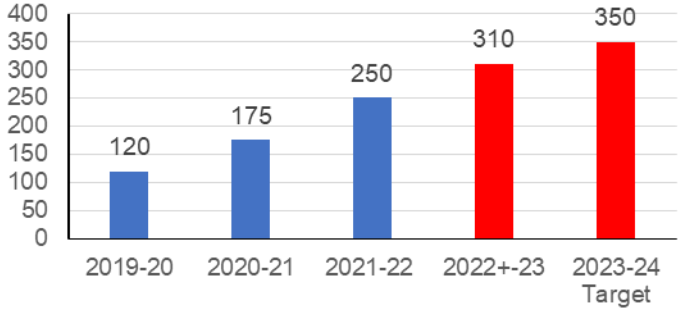
- On the job training is also being imparted to employees in regard to conservation of energy.
- Employees have been identified for undergoing training in department where significant energy use .
- Energy conservation tips are being displayed in the prominent places like utility, production hall etc
- Employee suggestions on conservation of energy. Suggestions are evaluated & implemented
- Employees in CFTs have made many Kaizens to conserve energy.

TEAM WORK, EMPLOYEE INVOLVEMENT & MONITORING

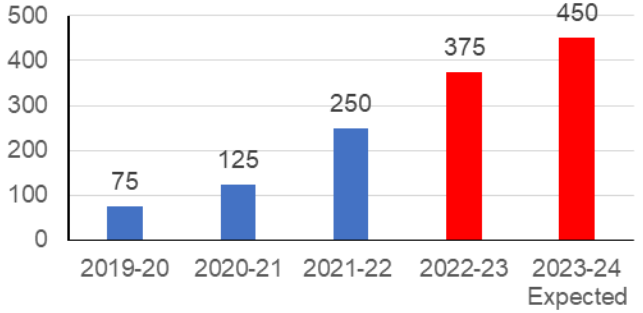
Energy Kaizens (Nos)



Training on energy conservation (Hrs)



Energy related suggestions (Nos)



KAIZEN SHEET

Company	MM/YY	Sl.No
JKTIL		

Productivity	Quality	Cost	Delivery	Safety	Morale	Energy	Environ-ment

Kaizen Title: *Reduce Breakdown in CSSR Tyre Building Machine*

Implemented Area: Banbury

Problem/Present Status:

Power contactor & Inching regulator problem in CSSR Tyre Building – M/c

Before Improvement:

Implemented by:
Mr. Hiremath
Mr. Sandeep
Mr. Mahesh

Result/Benefit:

(a) Qualitative
- Maintenance Fitter fatigue reduced
- Team morale improved

Real Root Cause Identification:

Inching Regulator & Power contactor problem
↓
Regulator & Power contactor failed
↓
↓
No other provision to reduce the main motor speed
↓
Initial Design :No Drive to reduce the speed

Improvement:

(b) Quantitative
- Reduction in power consumption by 5325 Kwh
- Reduction in CO_2 emission by 2.8 Ton / Annum Oil leakages eliminated from avg 2 ltrs / month to Zero
- Productivity improved by Average 960min / month
- Annual savings of ` 41,000 / annum

Standardization:
Machine Drawing updated

Root cause: *Frequent Failure of Regulator & contactor due to – Contactor logic system*

Idea to eliminate root cause: Provide variable frequency drive

Counter-measure: Introduce variable frequency drive instead of controlling the movement by contactor logic

How many places this Kaizen can be deployed horizontally –

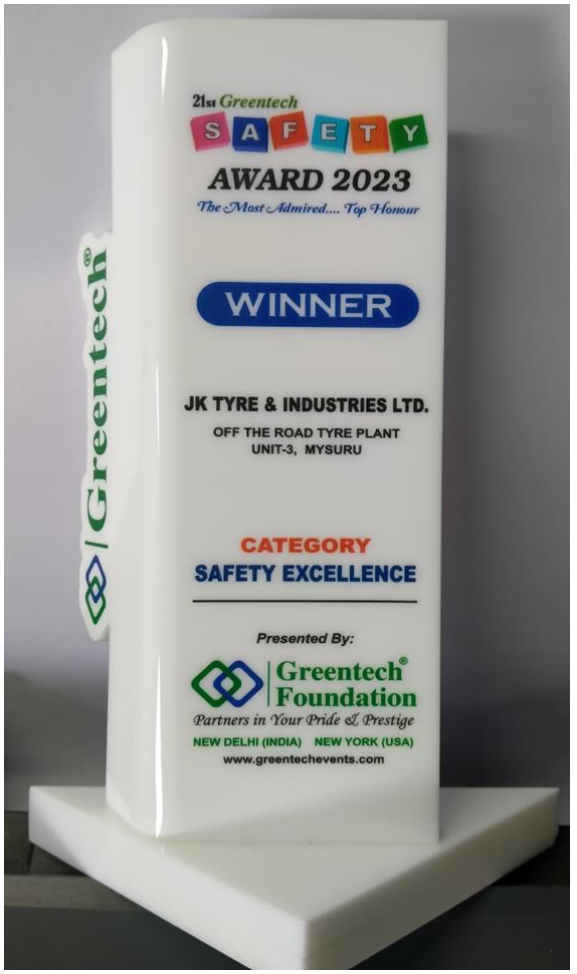
-na-

AWARDS, ACKNOWLEDGEMENT

CEM AWARD OF EXCELLENCE IN ENERGY MANAGEMENT by CEM Canada

State Export Excellence Award from Govt. Of Karnataka

GREENTECH AWARD- WINNER



Single Use Plastic Free certified

CII-ITC Centre of Excellence for Sustainable Development

Confederation of Indian Industry

SUP free

Certificate

Single-use Plastic Free

JK Tyre & Industries Ltd,
Vikrant Tyre Plant, Mysuru

This is to certify that JK Tyre & Industries Limited at the location mentioned above, is Single-use Plastics free as verified by the Confederation of Indian Industry, under the provisions of the **Plastics-use Protocol: Verification and Certification.**
This Certificate is valid from 11 July 2023 to 12 July 2024.

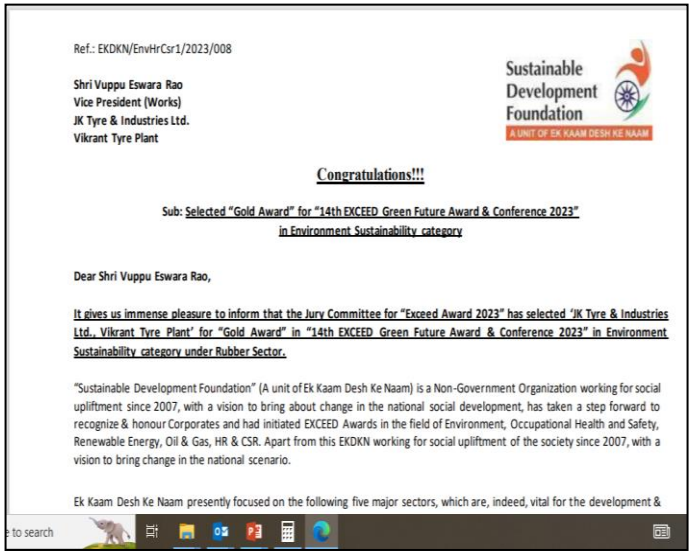
Ms Seema Arora
Deputy Director General
Confederation of Indian Industry (CII)
Centre of Excellence for Sustainable Development (CESD)

Certificate Date: 14 July 2023 **Certificate No.: CII/PuP/2023/017**

CII National Award for Excellence in Energy Management 2022

AWARDS, ACKNOWLEDGEMENT

EKDAM - Exceed Environment Gold Award



Ref.: EKDKN/EnvHrCsr1/2023/008

Shri Vuppu Eswara Rao
Vice President (Works)
JK Tyre & Industries Ltd.
Vikrant Tyre Plant

Sustainable Development Foundation
A UNIT OF EK KAAM DESH KE NAAM

Congratulations!!!

Sub: Selected "Gold Award" for "14th EXCEED Green Future Award & Conference 2023" in Environment Sustainability category

Dear Shri Vuppu Eswara Rao,

It gives us immense pleasure to inform that the Jury Committee for "Exceed Award 2023" has selected 'JK Tyre & Industries Ltd., Vikrant Tyre Plant' for "Gold Award" in "14th EXCEED Green Future Award & Conference 2023" in Environment Sustainability category under Rubber Sector.

"Sustainable Development Foundation" (A unit of Ek Kaam Desh Ke Naam) is a Non-Government Organization working for social upliftment since 2007, with a vision to bring about change in the national social development, has taken a step forward to recognize & honour Corporates and had initiated EXCEED Awards in the field of Environment, Occupational Health and Safety, Renewable Energy, Oil & Gas, HR & CSR. Apart from this EKDKN working for social upliftment of the society since 2007, with a vision to bring change in the national scenario.

Ek Kaam Desh Ke Naam presently focused on the following five major sectors, which are, indeed, vital for the development &

BSC GOH 5star rating

Five Star
Environmental Sustainability Audit
— Five Stars —

Valid until 28 October 2022

This is to certify that

JK Tyre & Industries Ltd,
Vikrant Tyre Plant, Mysuru

after an extensive evaluation by a British Safety Council auditor, has been awarded a rating of Five Stars.

Lawrence Waterman, OBE
Chair of The Board of Trustees

Mike Robinson
Chief Executive

BRITISH SAFETY COUNCIL

INDIAN ACHIEVERS AWARD

INDIAN ACHIEVERS' AWARD
2021-22

presented to

JK Tyre & Industries Ltd.
Vikrant Tyre Plant, Mysuru

In Recognition of Outstanding Professional Achievement & Contribution in Nation Building

Harish Chandra
President

S. Ravi Shankar
Hon. Secretary

INDIAN ACHIEVERS' FORUM
Promoting Achievements which Inspire Businesses & Communities
iafindia.com

Quality Sustainability Gold award Winner Organized

ISQ
Quality for Prosperity

CERTIFICATE - GOLD

Awarded to

S.K.Shetty , JK Tyres & Industries

Project: Conversion Of Hot Water Curing System To N2 Curing

In recognition of being winner in the national level of

Quality Sustainability Award 2021

On 1st October 2021 organised by Indian Society for Quality

QUALITY SUSTAINABILITY AWARD

Indian Society for Quality

JANAK MEHTA
President – ISQ

VIJAY KALRA
Chair – Quality Earth Forum

CII 3R Awards

3R AWARDS

CII
Confederation of Indian Industry

Certificate of Appreciation

This certificate is awarded to

JK Tyre & Industries Ltd, Vikrant Tyre Plant

for their efforts towards managing own waste in India and participation in the CII 3R Awards 2021 under manufacturing sub-category

Dr. Anil Kakodkar
Chairman, Grand Jury, CII 3R Awards 2021
Chairman, Rajiv Gandhi Science & Technology Commission

P Palaniappan
Chairman
CII Task Force on Waste to Worth

AWARDS, ACKNOWLEDGEMENT

Won Special Jury Award in ISQ TOPS convention 2023

GREENTECH ENVIRONMENT AWARD WINNER 2022

FAME EXCELLENCE AWARD towards livelihood creation & 3R's-Platinum and Excellence in Environment protection -diamond

NATIONAL ENERGY CONSERVATION AWARD from BEE

GREENCO PLATINUM PLUS by 2024-25

Thank You