JK TYRE & INDUSTRIES LTD.

VIKRANT TYRE PLANT, MYSURU. KARNATAKA

WELCOME

TO

NATIONAL AWARD FOR EXCELLENCE IN ENERGY MANAGEMENT 2022

Presenters

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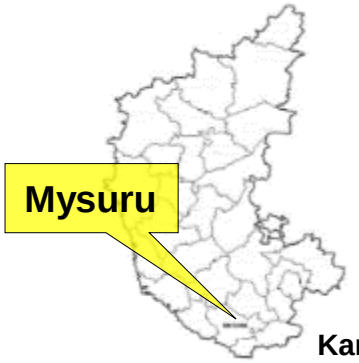
1.PLANT / UNIT INTRODUCTION

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 our 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

We at 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:

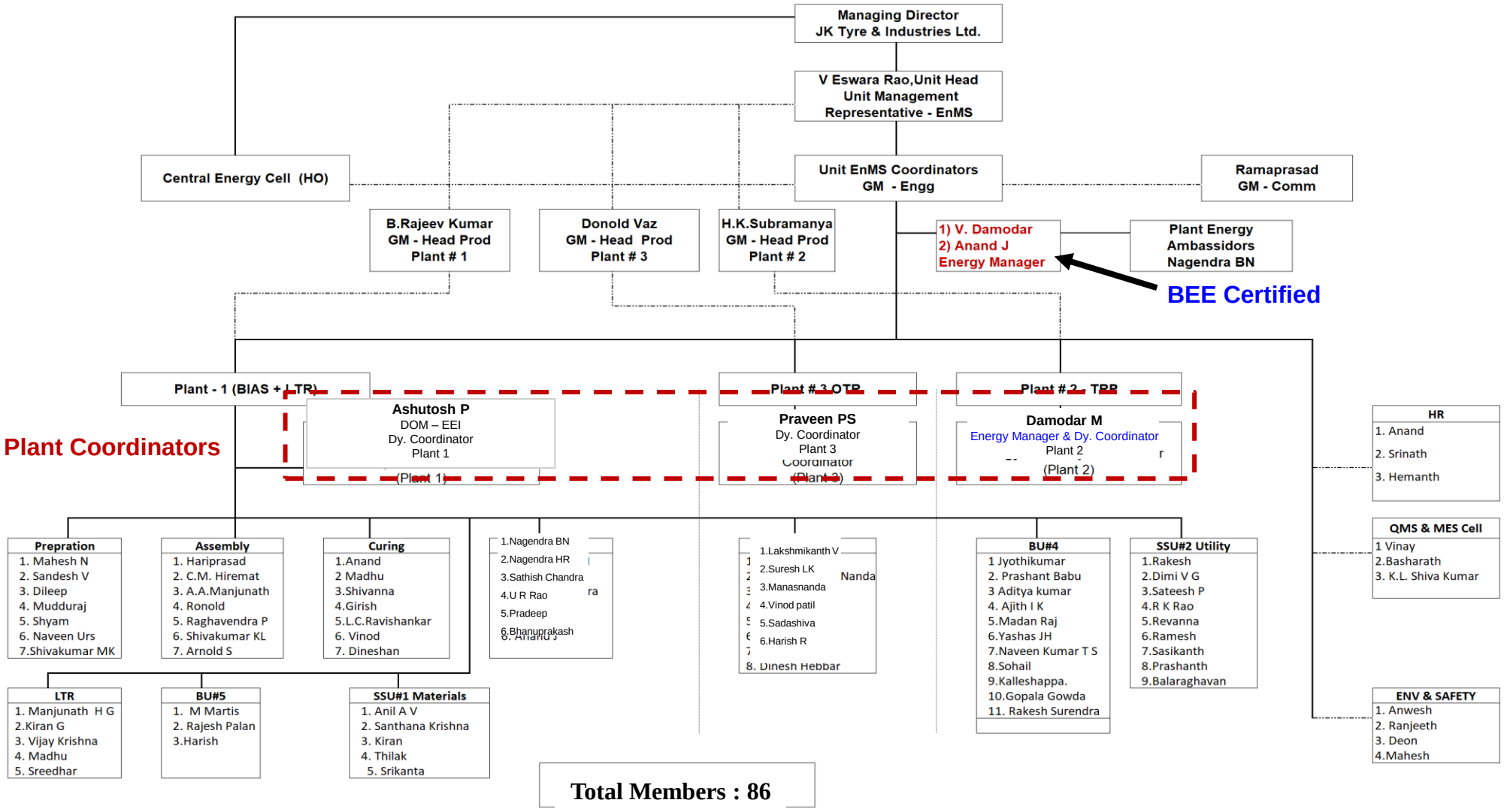
- Complying with all applicable legal and other requirements related to our energy use, consumption and efficiency.
- Taking measure in Energy Management System by being proactive, innovative and cost effective including procurement of energy efficient product & services.
- Enhancing effectiveness of 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.

ENERGY MANAGEMENT TEAM

PLANT ENERGY MANAGEMENT CELL - VTP As on 01.08.2022

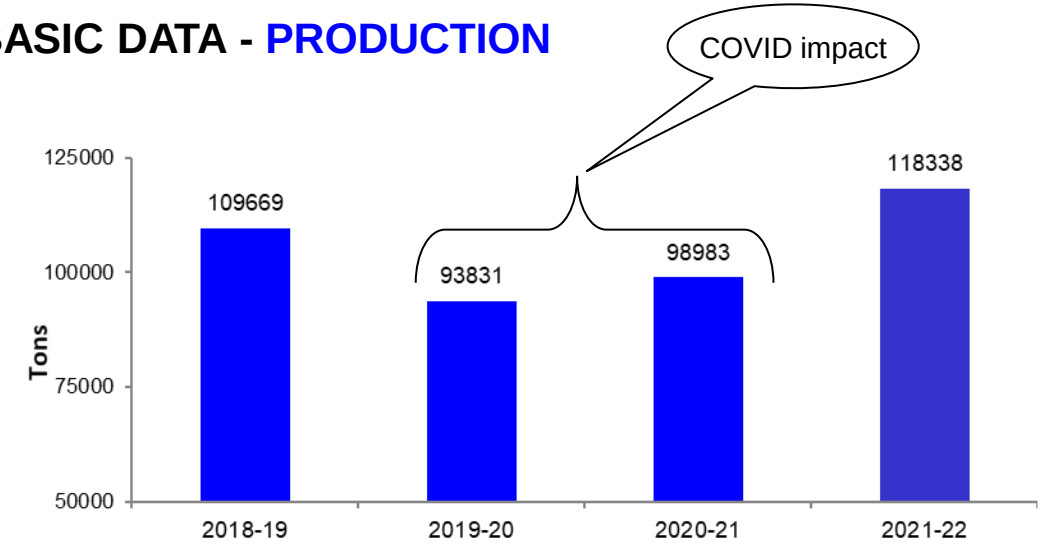


Total Members : 86

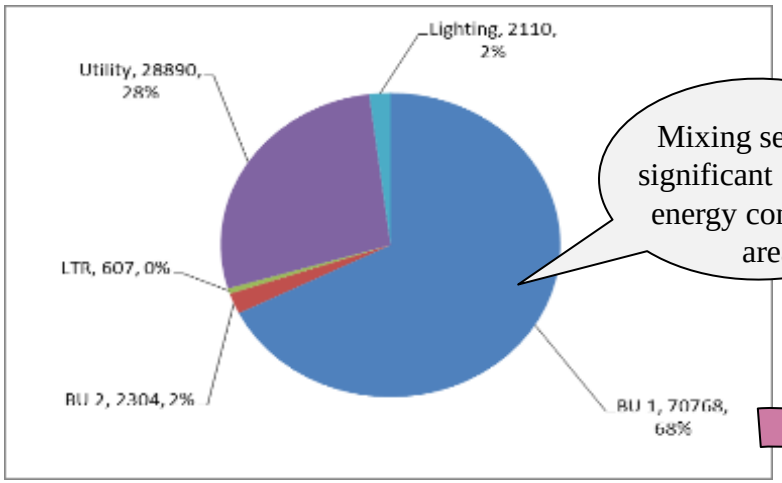
Nagendra B N	S.K. Shetty	VP Works
EnMS Coordinator	Unit EnMS Coordinator	EnMS - UNIT MR
Prepared by	Verified by	Approved By

3.SPECIFIC ENERGY CONSUMPTION

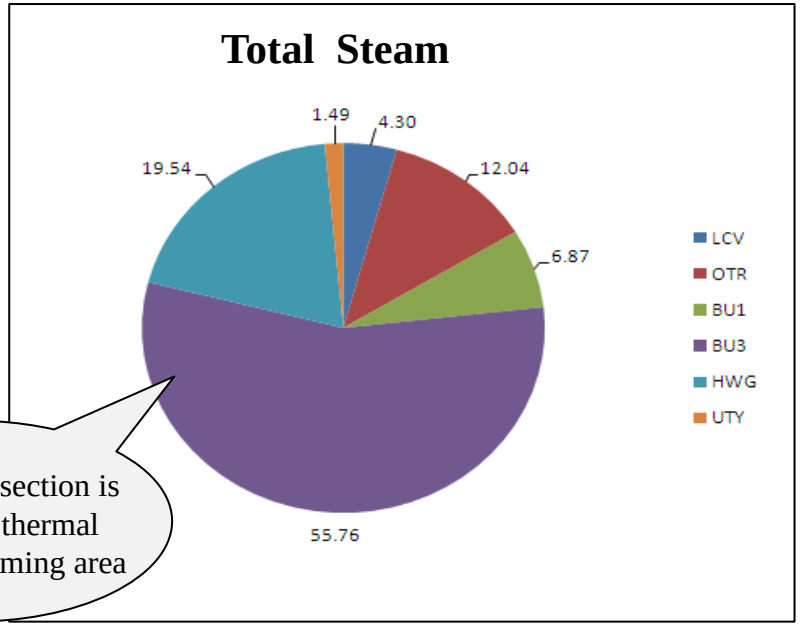
BASIC DATA - PRODUCTION



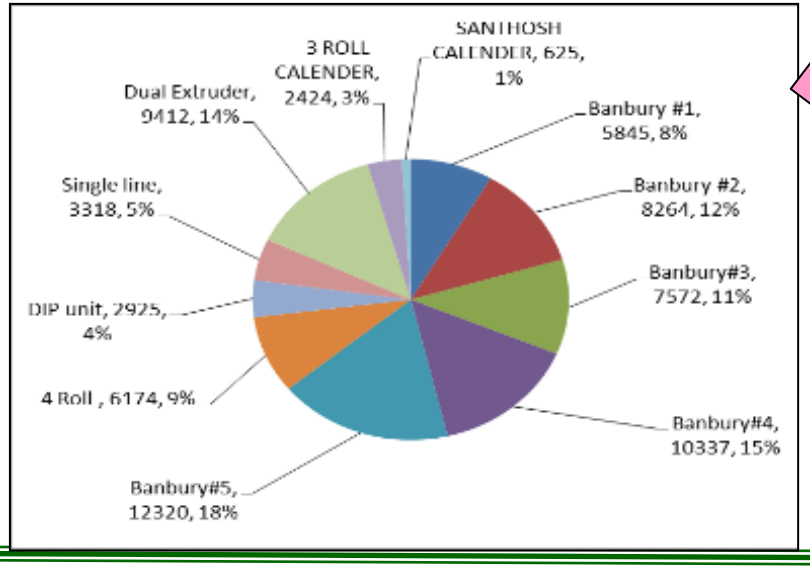
Total Power



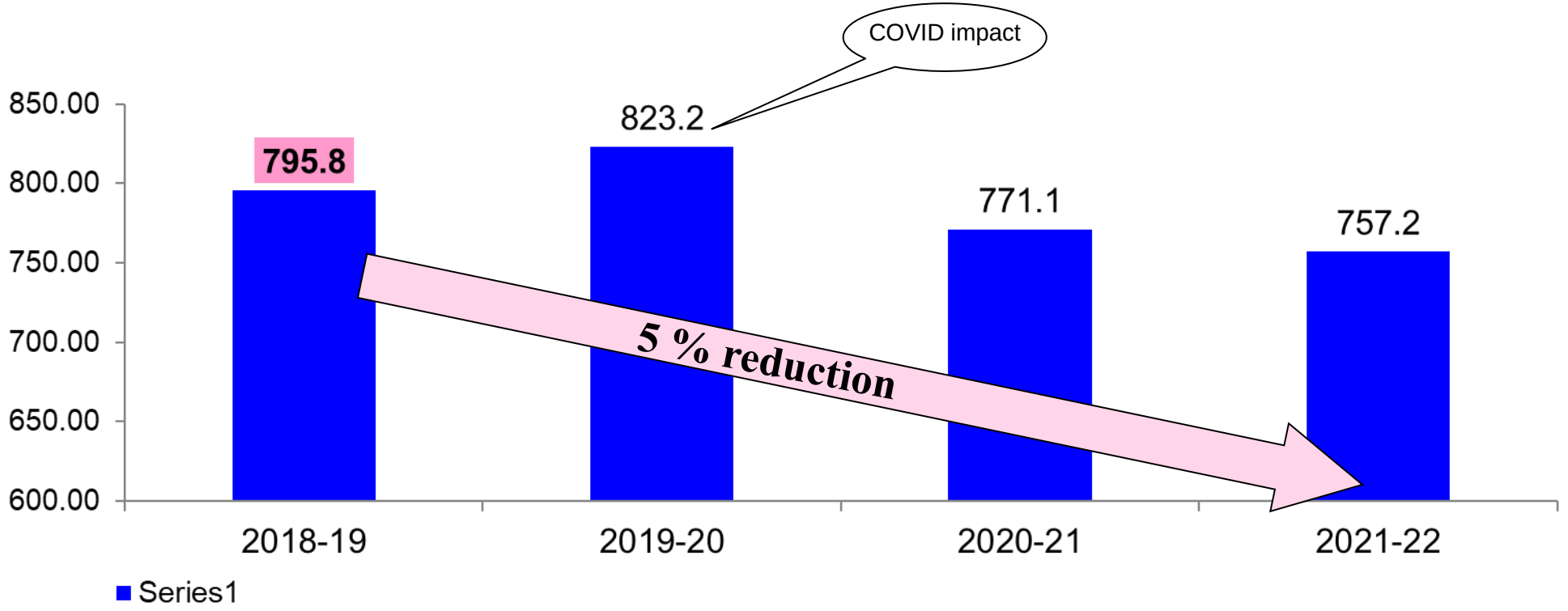
Total Steam



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



ENERGY CONSUMPTION - POWER (kWh/TON)

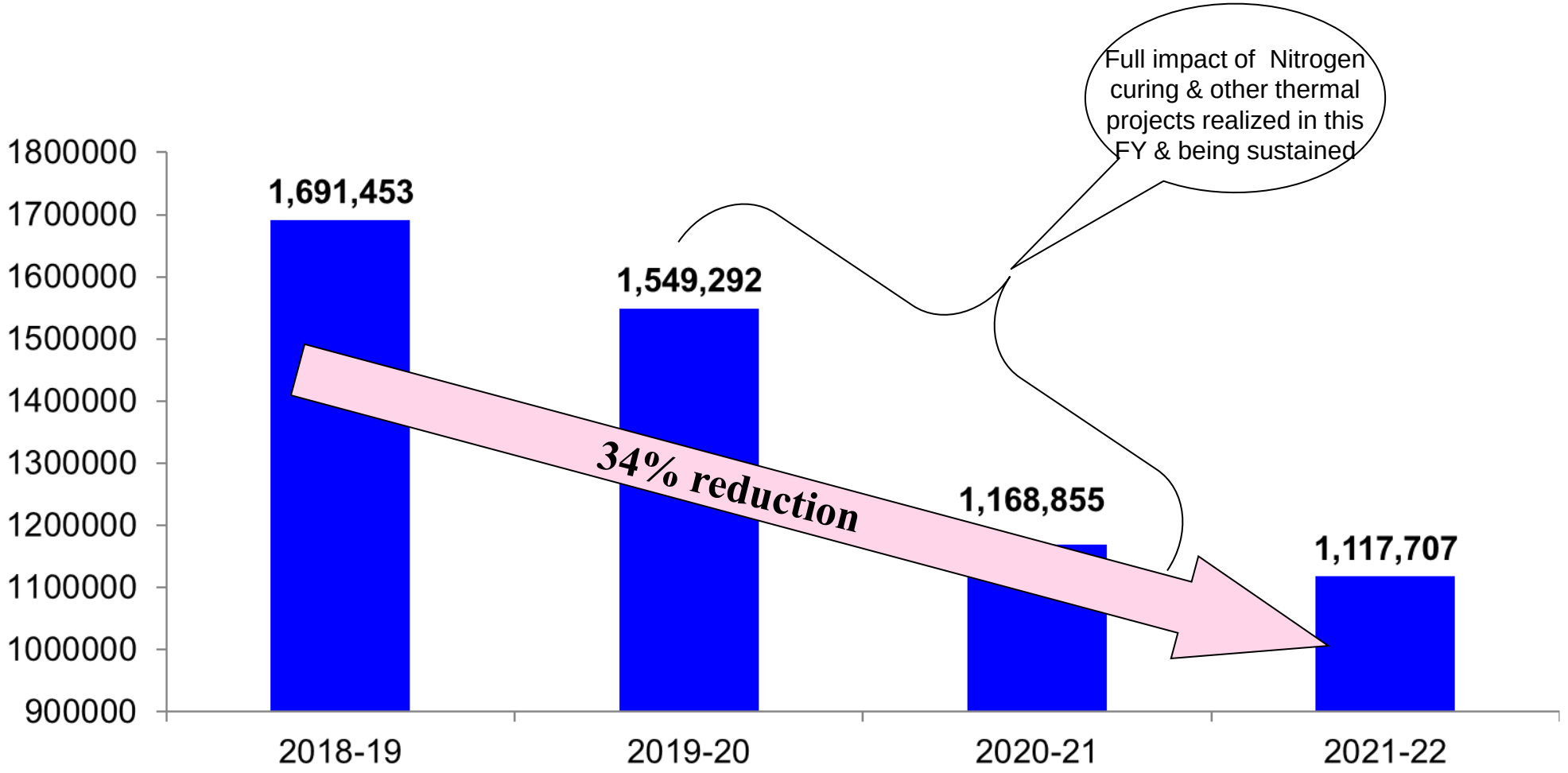


	SPC CALC : 0.800	SPC CALC : 0.800	SPC CALC : 0.800	SPC CALC : 0.800	SPC CALC : 0.800	SPC CALC : 0.800
	BASELINE	BASELINE	BASELINE	BASELINE	BASELINE	BASELINE
	FOR 140 MT	FOR 150 MT	FOR 160 MT	FOR 170 MT	FOR 180 MT	FOR 190 MT
	140.00	150.00	160.00	170.00	180.00	190.00
MAXIMUM ACHIEVABLE POWER W.R.T GIVEN 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

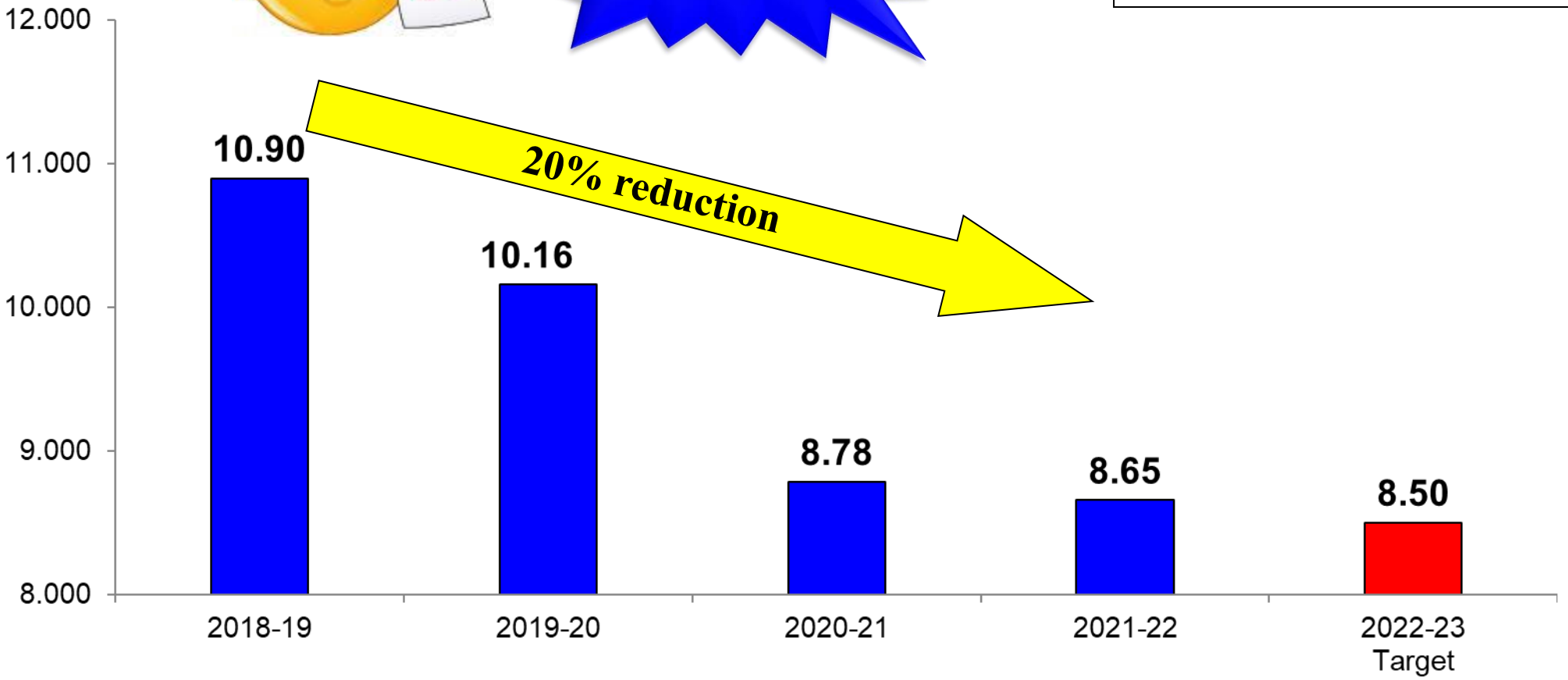
ENERGY CONSUMPTION – THERMAL (KCAL/TON)



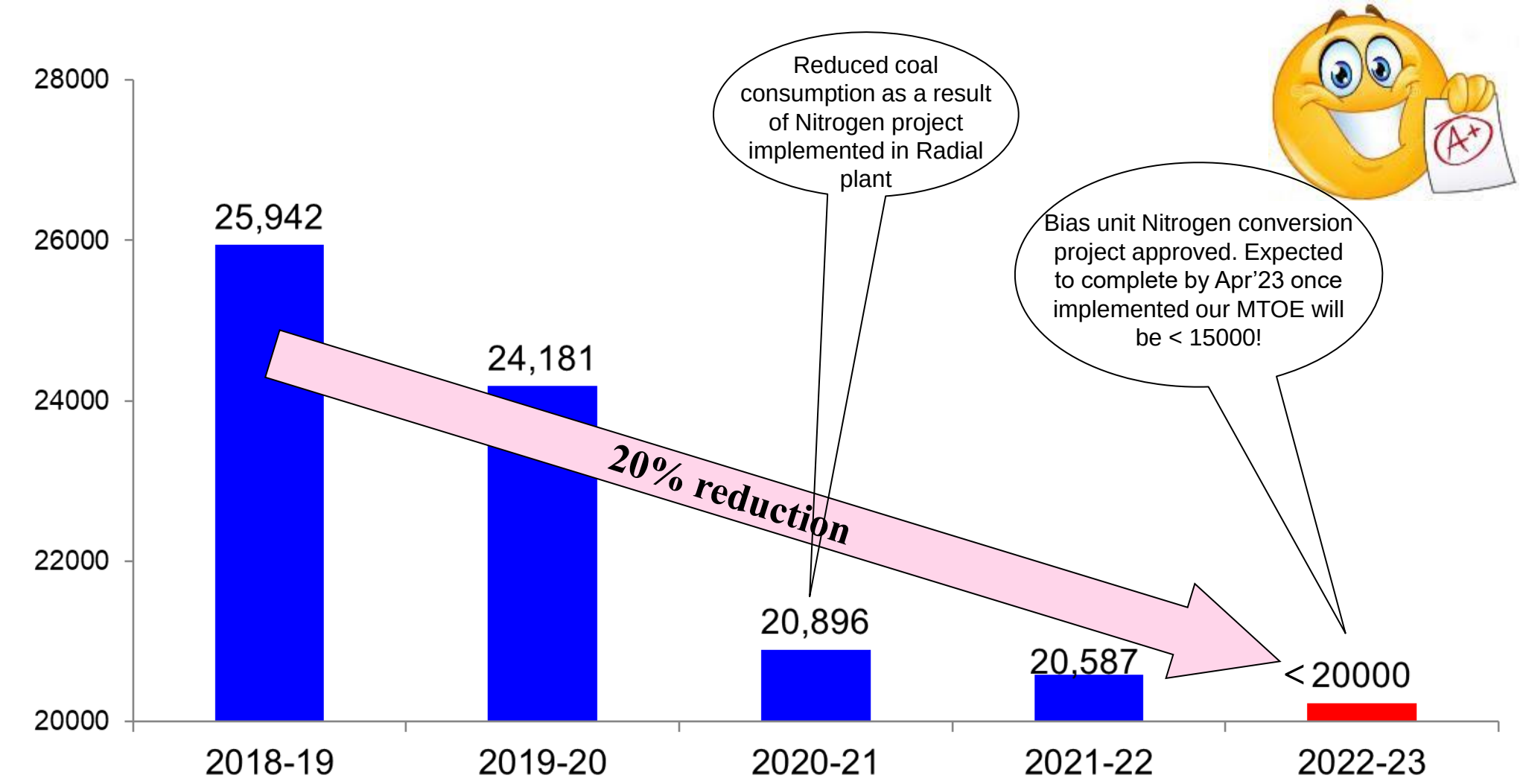
OVERALL ENERGY CONSUMPTION (GJ/TON)

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

Total reduction 20% since FY18

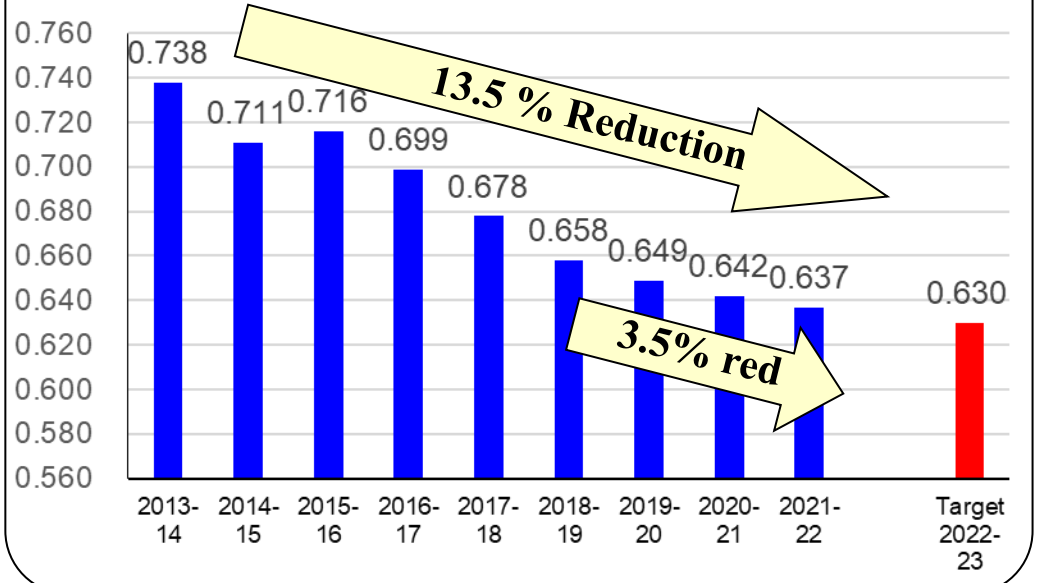


THERMAL ENERGY CONSUMPTION (MTOE / TON)



SPECIFIC ENERGY CONSUMPTION - POWER (kWh/Kg)

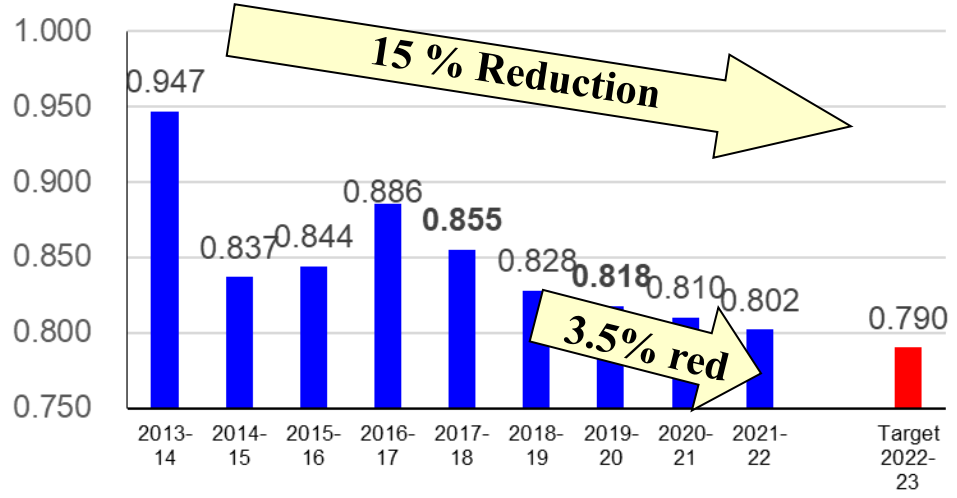
PLANT # 1



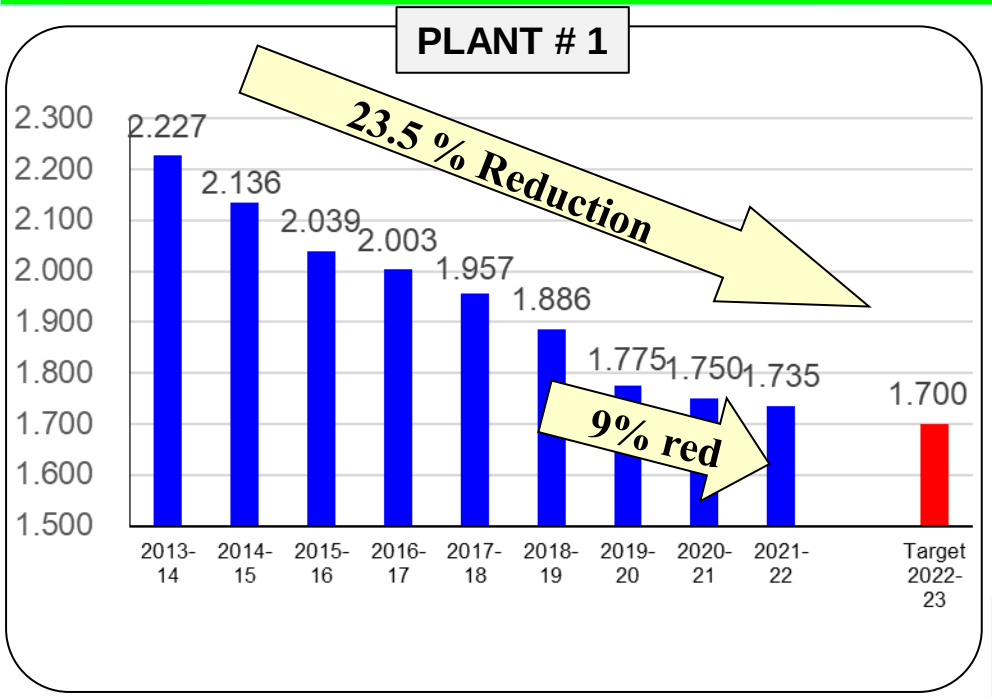
Good

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

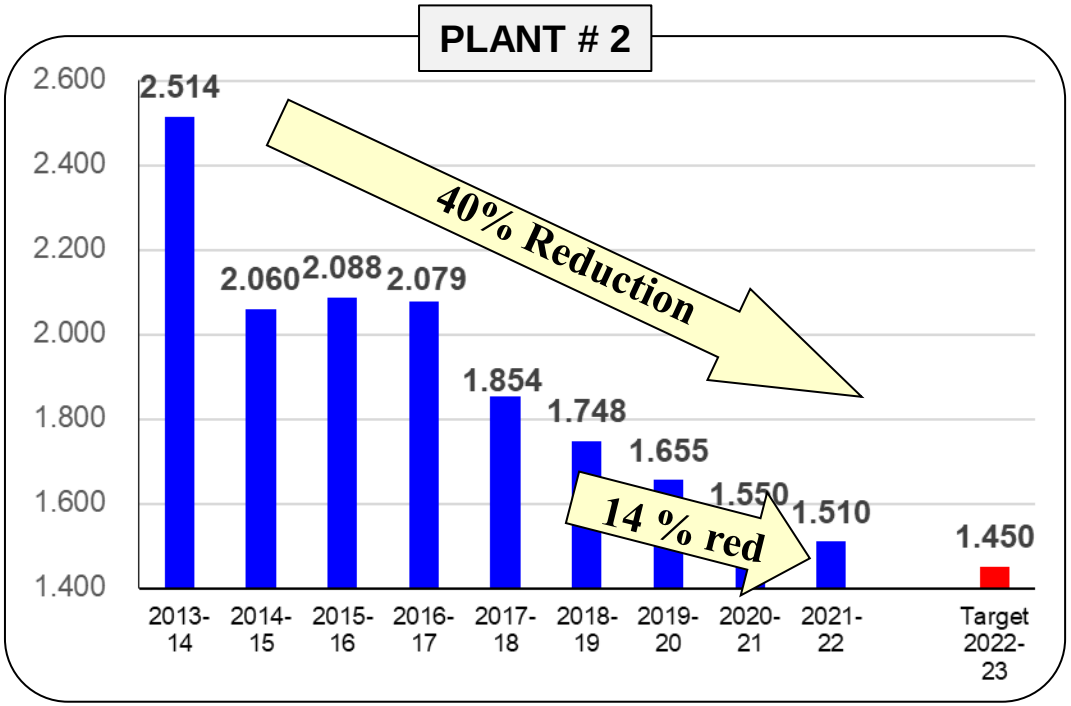
PLANT # 2



SPECIFIC ENERGY CONSUMPTION - STEAM(Kg/Kg)



Good

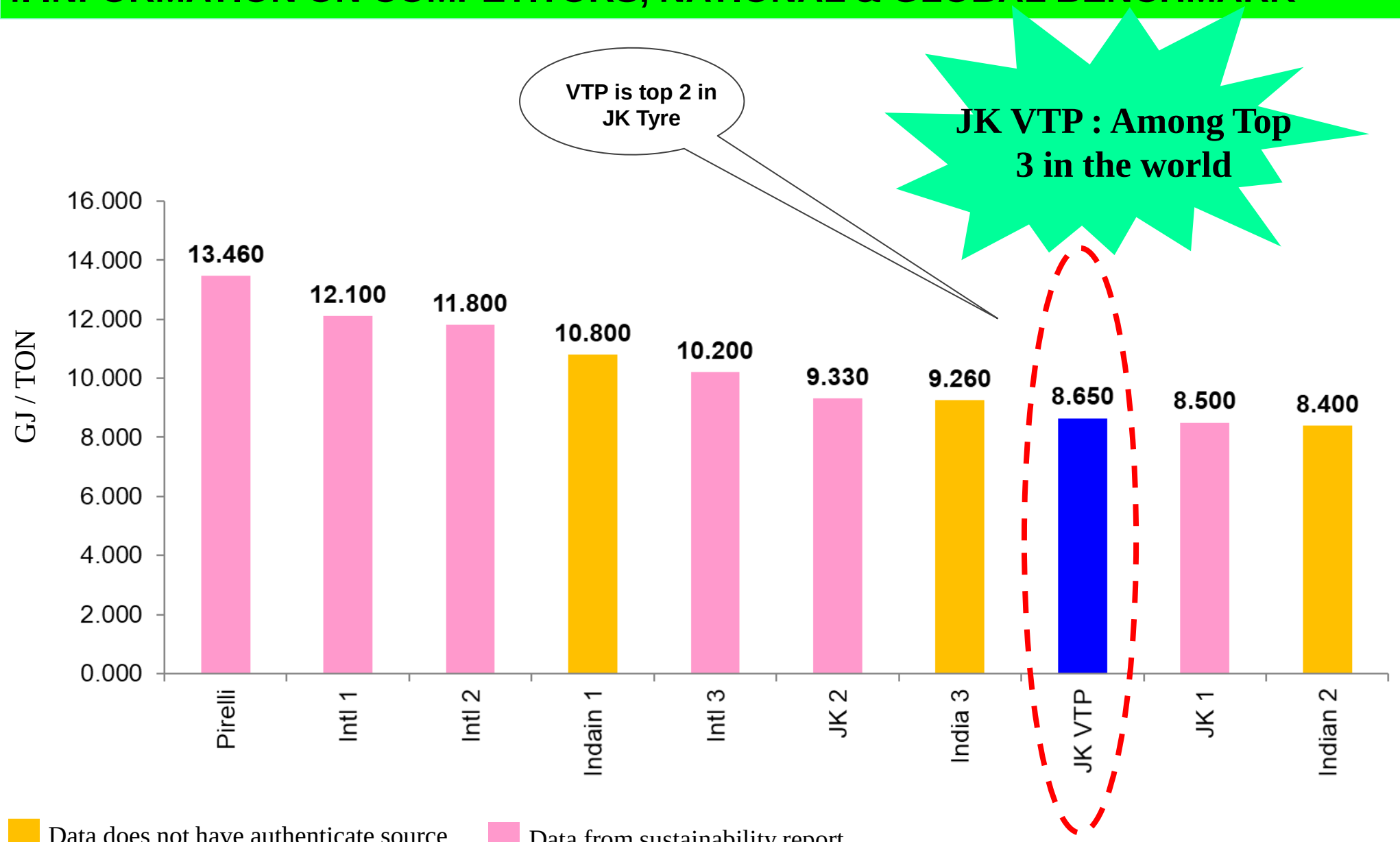


ENERGY REVIEW

Top Management 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

4. INFORMATION ON COMPETITORS, NATIONAL & GLOBAL BENCHMARK



5.ENERGY SAVING PROJECTS IMPLEMENTED : 2019-20

Project Sr. No	Brief Description of project	Amount Approved` in lacs	Savings For 2019-20 (Lacs Rs)		Energy Savings	
			Planned Yearly	Achieved 2019-20	Qty	UOM
1	Replacement of conventional 250 MH watt light fittings with 80 watt LED fittings for 100% LED conversion at RMS Area -36 no's	2.9	0.5	0.48	9701	KW
2	Replacement of conventional 125W well glass & 250W MH fitting with 40W & 80 LED for 100% LED conversion at Banbury Area - 110 no's	6.8	5.8	5.81	71950	KW
3	Replacement of conventional 250W MH fitting with 80 LED for 100% LED conversion at Hot Calendar Area - 65 no's	5.3	1.7	1.68	24328	KW
4	Replacement of conventional 250W,36W fitting with LED for 100% LED conversion at Curing, Tyre testing, FGS, Engg. Maint. Dept are - 135 no's	9	2.6	2.54	31343	KW
5	Replacement of conventional 250W,36W.125W fitting with LED for 100% LED conversion at Utility area - 181 nos	9.8	6.5	6.46	97313	KW
6	Replacement of conventional 250W,36W.fitting with LED for 100% LED conversion at offices, toilet -204 no's	1.6	2.3	2.28	37313	KW
7	Installation of digital relay type moisture traps at compressors and air receivers. Phase 1 will cover all upsteam equipments including compressors, driers and primary air receivers. Power saving of 300 kwh/day and improved dryness of compressed air for utilitzation	2.0	1.5	4.80	17910	KW
8	Downsizing of Thermax boiler at RTP to improve turndown ratio and eliminate vent loss of average 25TPD	65	70	3.36	15441	KW

ENERGY SAVING PROJECTS IMPLEMENTED : 2020-21

Project Sr. No	Brief Description of project	Amount invested in Rs Lacs	Savings For 2020-21 (Lacs Rs)		Energy Savings	
			Planned Yearly	Achieved 2020-21	Qty	UOM
1	To install VFD for IJT Boiler Feed water pump	3.6	4.2	4.35	64925.4	kWh
2	Energy Efficient motors IE-3	35	21	20.89	311791.0	kWh
3	Power saving by Installation of VFD on Mixer Mills.	12	6	6.22	92835.8	kWh
4	Replace existing 250 watt HPMV Lights to LED 80 Watt	4	1.1	1	14925.4	kWh
5	Replace existing 40 watt Tube light to 18 watt LED		3.7	4.1	61194.0	kWh
7	Replace existing 40 watt Light to LED 20 Watt coal yard conveyor conventional Light to LE	0.8	0.2	0.5	7462.7	kWh
8	Replace Existing Flame proof fitting 160 watt ML TO LED 45 Watt	1	1.5	1.25	18656.7	kWh
9	Energy saver for AC	1.5	1.1	0.75	11194.0	kWh
10	Elimination of Shaping main header by providing branch header tapping to Dome steam header line with additional control valve	5	8.54	8.36	124776.1	kWh
11	Installation of VFD for Cooling Blower Motor in Curing area and running it at Reduced speed wrt temperature	4	2.3	1.92	28656.7	kWh

ENERGY SAVING PROJECTS IMPLEMENTED : 2021-22

Project Sr. No	Brief Description of project	Amount Approved` in lacs	Savings For 2021-22 (Lacs Rs)		Energy Savings	
			Planned Yearly	Achieved 2021-22	Qty	UOM / Annum
1	Recovery of boiler CBD heat to increase boiler feed temperature	8.0	21	15	150	Ton of coal
2	Rerouting /modification of process cooling water return header lines at Cooling tower	6.0	1.50	1.36	17,500	kWh
3	Rerouting /Sizing Compressed air lines and headers isolation valves to eliminate independent sections during partial or low load operations	8.0	0.45	0.37	5000	kWh
4	Energy Efficient pumps for process cooling tower	0	1.50	1.25	17000	kWh
5	Steam Flow Meter for main Distribution header	6.0	6.89	6.87	300	Ton of steam
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	8.62	11.50	11.70	150000	kWh
7	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-3, 1250KVA transformer	8.62	11.50	11.70	150000	kWh
8	Installation of VFD for SAV area AHU	1.5	1.0	0.93	12000	kWh

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 Equipment modification

Kaizen Title: Conversion of curing press from Dome to Platen type

Problem or present status

The Dome type presses were identified as source of energy loss in our internal energy audit & identified as opportunity area. The Dome press has higher loss because every cycle the steam is getting filled & drained resulting in thermal loss. Each cycle we were losing around 20 kgs / cycle / dome press . Totally we have 18 dome presses contributing steam loss of 10 tons of steam per day

IMPACT ON PPROBLEM

- **Specific power consumption is high**
- **High coal consumption**

IDEA

- In house **Conversion of Dome press to Platen type press**

Investment & Savings

- Investment / press : 10 Lakhs
- Total investment : 220 Laks (22 press)
- Savings in Steam / press : 12 Ton / day
- Total savings for 355 days : 4260 Tons
- **Net savings in Rs : Rs 97,98,000 (@Rs2300)**
- **ROI : 2.3 years**

Standardization :

- SOP,FMEA & design documents

ROOT CAUSE IDENTIFICATION

Why # 1	Steam loss in Dome press
Why # 2	Steam filled in dome is getting wasted at the end of the cycle
Why # 3	Design problem

Dome type Press

Apr'21

Platen type Press

- 1st press completed by Jun'21
- All 22 press completed by Mar'22

Kaizen Title: Conversion of conventional belt driven fan to EC fan

Problem or present status

During our energy audit (siemens) identified AHU fans has opportunity in energy conservation & proposed new design fans. The belt driven fans by design are energy inefficient. To improve our energy efficiency as we researched & found EC fans are more efficient. Hence as a pilot project we installed one EC fan in tyre building m/c AHU & trial done for one month. The energy efficiency found to be 53% compare to belt type. We have totally we have 20 AUHs

IMPACT ON PPROBLEM

- Specific power consumption of tyre building area is high
- Higher breakdowns
- Higher maintenance cost – belt, pulley wheels etc..

IDEA

- In house **Conversion of Dome press to Platen type press**

Investment & Savings

- Investment / AHU : 5.5 Lakhs
- Total investment : 110 Laks (20 AUH)
- Savings in power/ AUH : 192 kWh / day / AHU
- Total savings for 355 days : 68160 kWh/AHU
- **Net savings in Rs : Rs 5,31,648 (@Rs7.8)**
- **ROI : 1.1 years**

Standardization :

- SOP,FMEA & design documents
- Horizontal deployment for 19 AHU – Mar'23

ROOT CAUSE IDENTIFICATION

Why # 1	High power consumption in AHU unit
Why # 2	Belt driven fan
Why # 3	Design problem

Energy inefficient

Jan'22

Energy efficient – New technology

Mar'22
4 unit completed till date

Kaizen Title: **REDUCTION IN SPECIFIC POWER OF BANBURY MIXER**

Problem or present status

Banbury is the bottleneck area to feed 3200 TPD and also high conversion cost wrt Power consumption. FY'2020, the Avg. batches / shift is 175 which is low against the tyre industry bench mark of same Banbury is 185 batches/shift.

BEFORE SPECFIC POWER CONSUMPTION

YEAR	FEO	BATCHES /SHIFT/M	BANBURY EFF	BANBURY SPC
2018-19	10.65	164	84	0.352
2019-20	10.86	178	87	0.35
2020-21	11.28	188	91	0.332

IMPACT ON PPROBLEM

- **Specific power consumption high**
- **Overall plant energy being Banbury as bottleneck machine**
- **Production & demand supply impact**

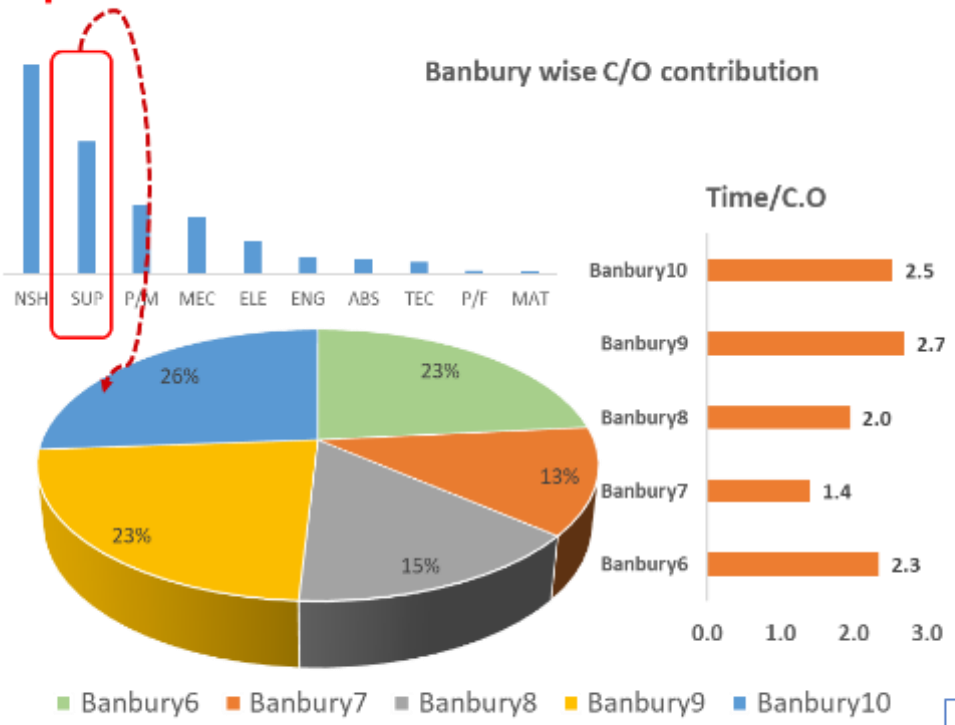
ROOT CAUSE IDENTIFICATION

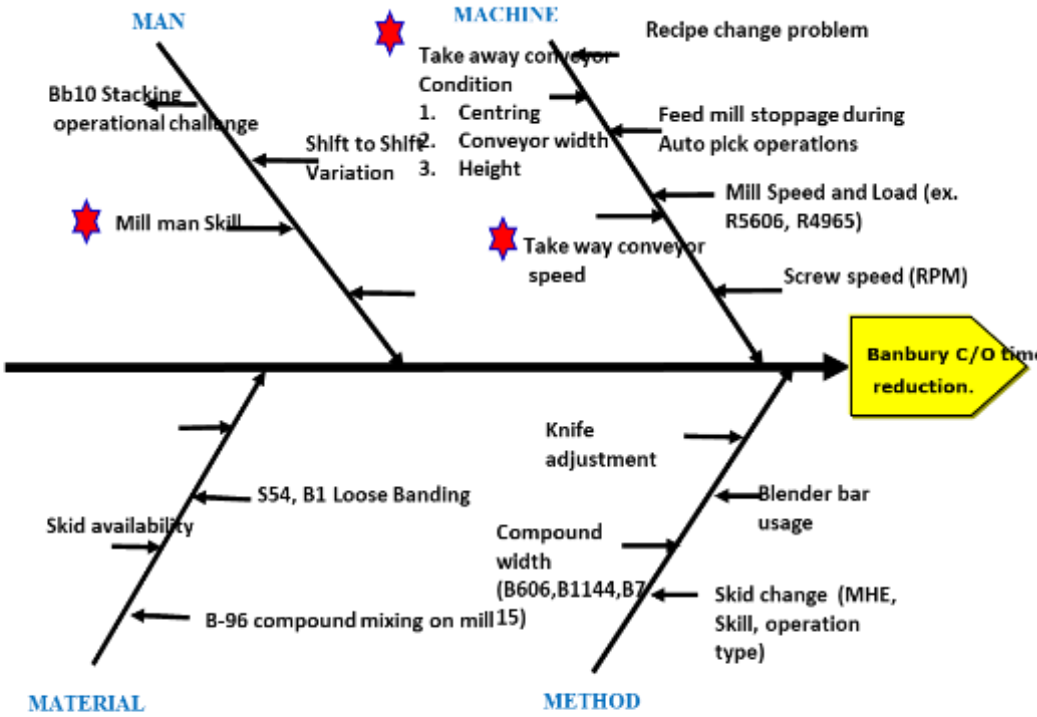
Why # 1	High Power consumption
Why # 2	Low productivity
Why # 3	Machine available time is less
Why # 4	High C/O time, Charging Conveyor low speed, No master material available in first floor.
Why # 5	High changeover Time – Mill Man skill low Charging conveyor low speed – Chemical spillage from chemical Bags Master material availability I first floor – No direct transportation from GF to First floor.

Idea to eliminate root cause: **Operator skill improve, Chemical bag sealing and Vertical conveyor for direct transportation from Ground floor to first floor.**

Counter-measure: **provided Chemical sealing machine, Vertical conveyor**

Improvement-1: C/O reduction





- Avg. changeover time for RTP banbury range is from 2.15 to 2.31 min.
- Banbury – 7, is the best machine in terms of Time / C.O, which is 1.4 min.
- Banbury – 9, Overall C/O and time /c.o is high, which is 2.7 min/C.O

- Banbury#10 and Banbury#8 have significant improvement almost 28% and 25% respectively.
- Operator Training and conveyor speed optimization helped to improve the C/O time

Banbury	Before	Current	% Improvement
BB6	2.3	2	13%
BB7	1.4	1.4	0%
Bb8	2.0	1.5	25%
BB9	2.7	2.2	19%
BB10	2.5	1.8	28%

Improvement: BB10 Vertical Conveyor

Description:

Currently Banbury 10 Master batches are transferring to First froor through List and there is a chance of Mix-up of master and final batches due to Ground floor storage constraints. Additional manpower, lift breakdown and MHE issue leading to Production loss too on Banbury-10 or Banbury8 for final mix.

Benefits:

- Production improvement
- No compound Mix-up (master and final)
- High Safety (ergonomics reduction)

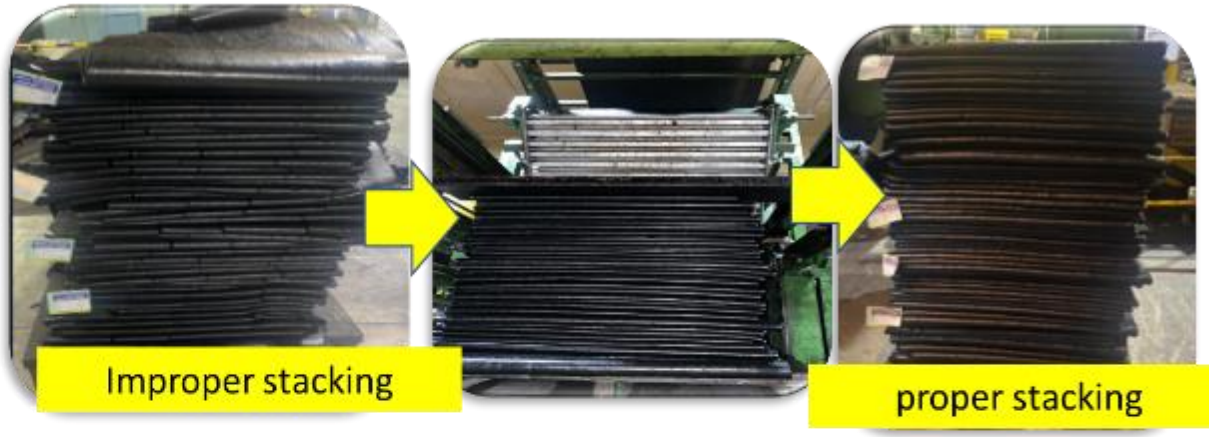
Deliverables:

- Additional Manpower removal to shift compound
- 5S condition improvement.

Scope:

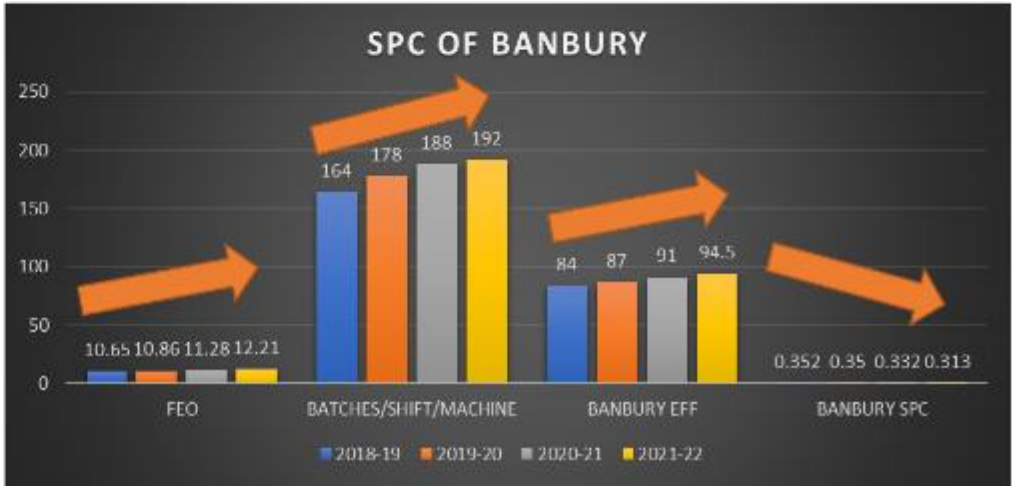
Banbury 10 is the major master and final compound mixer, so the scope is only for BB10. Banbury#8 is having Manual vertical conveyor for if any emergency mix of master compounds.

Improvement: 100% Wig-wag conveyor



Nearly 25 Tyres /Day equivalent output i.e. 21 batches of Banbury Batches

Gain/day to reduce the SPC from 0.352 to 0.313 @ 12% reduction



Elimination of Shaping Steam Line in Curing

Problem/Present Status:

- Specific Steam Consumption not meeting the Target of 1.55 kg/kg.
- Dome line & shaping line separate
- Water consumption more, 145KL/month
- Consuming more Power, 1800KW/month
- Excess Steam of 135MT/month

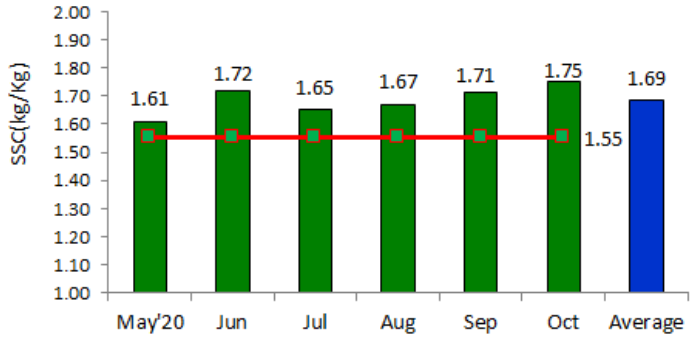
Root Cause Identification:

Why # 1	Shaping Header line loss
Why # 2	Consumption of Shaping Steam is Less than Condensate being generated for the entire Header
Why # 3	The shaping steam is used only at the beginning of the cure cycle for few minutes and then Dome steam enter. Till completion of cure cycle the steam in shaping line is idle
Why # 4	Two separate steam line provided for Dome & shaping steam in the Existing Design of Curing Trench

Implemented Area: Tyre Curing

Before Improvement:

Specific steam consumption more than target



Impact of the Problem

Steam Consumption more in Shaping Line

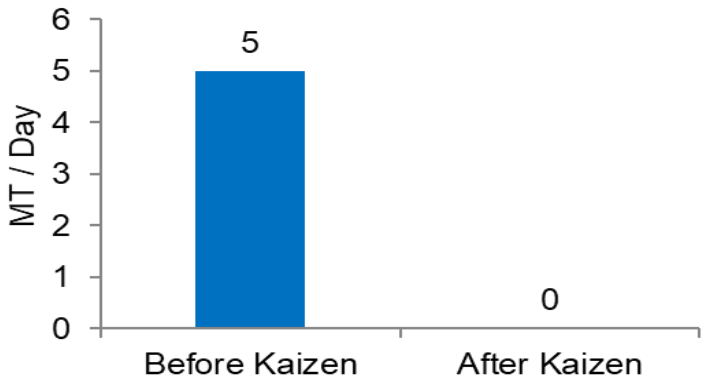
- Specific Steam Consumption not meeting the Target of 1.55 kg/kg
- Excess Steam of 8 Ton / day

Root cause: No Mechanism to stop the Line Loss.

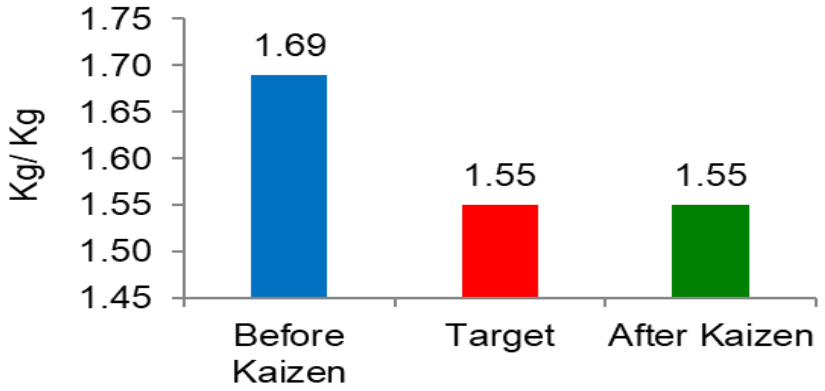
Idea to eliminate root cause: To Eliminate Shaping Steam Line Because Of Low Steam Consumption Leading To Excess Line Losses

Counter-measure: Provided Common Line Of Dome And Shaping Steam

Steam loss in Shaping line



Specific Steam Consumption



Benefits Achieved

- Steam Consumption reduced by *9 %* (avg 1.69 kg/ kg to 1.55 kg / kg)
- Steam loss in shaping line eliminated - 5 ton / day to 0
- Steam saving up to *1560 MT/ Annum*
- Cost savings of *Rs. 22.95 lacs / annum (Cost of coal)*
- *Maintenance cost for shaping steam line Rs 15,000 /annum saved*
- *CO2 emission reduced by 815 MT / annum (@ 2.5 ton /ton)*

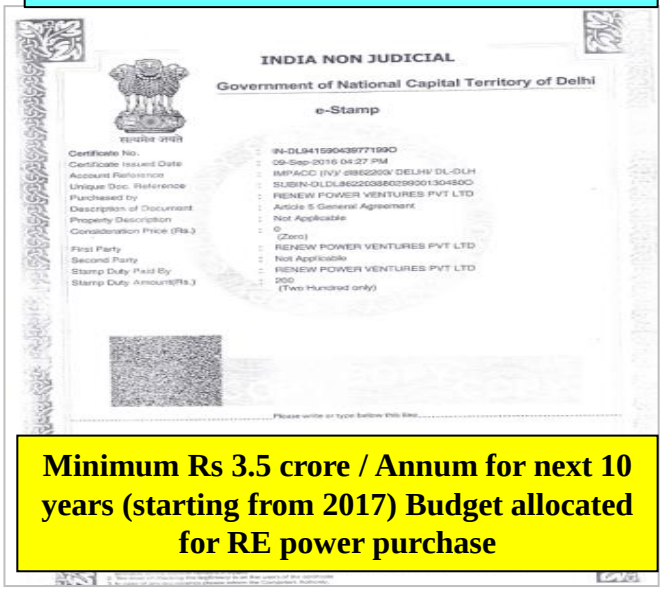
Investment:
- **Rs. 10,000/Press**
- **Rs.10,000 X 14 Presses = Rs.1,40,000**

Savings:
- **5MT Steam /Day = *1530MT/Annum***
- **1530MT X 1500Rs/MT = *Rs.22,95,000***
- **ROI = 22 Days**

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	78.17	88.24
Unit purchased from CESCOM	Million KWh	3.81	4.30
Units generated from Roof Top Solar	Million KWh	0.58	0.66
Units generated from recovery Turbine	Million KWh	0.17	0.20
Total Power	Million KWh	**89.6**	**100**

REC Power Purchase Agreement (wind energy)

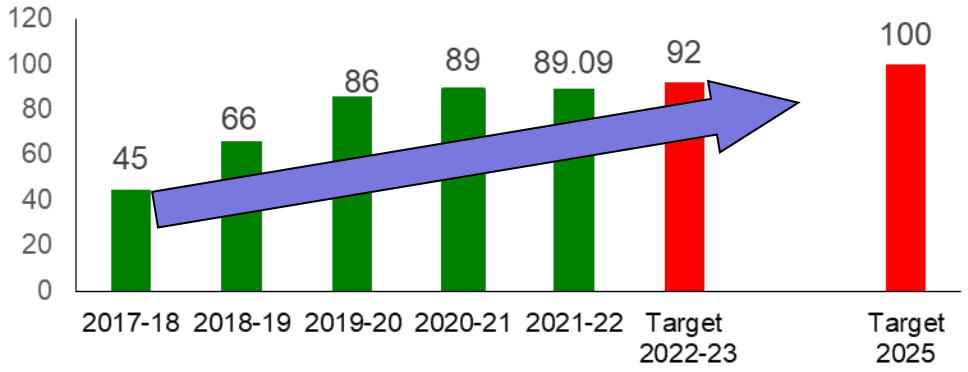

INDIA NON JUDICIAL

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

89% of total power consumed is from Green Source in FY21-22



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

8. UTILISATION OF WASTE MATERIAL AS FUEL

1) Use of Dry Leaves

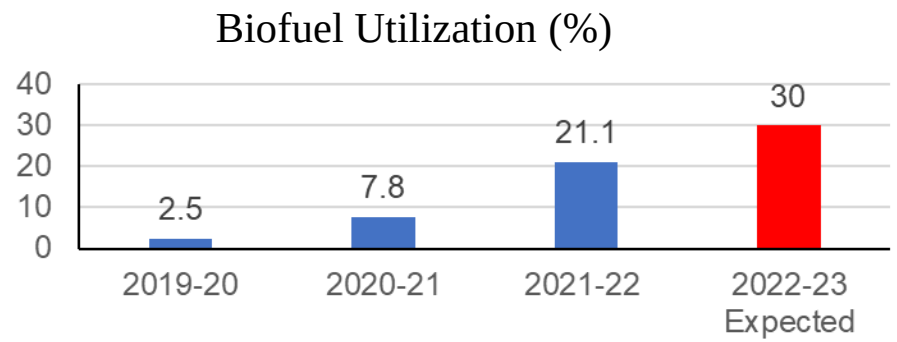
- We do not generate industrial waste which can be used as fuel.
- Other waste such as Wood packing scrap material, trimmed branches, Dry leaves is sent for briquetting & re used in boiler as fuel.
- CO_2 foot print reduced by around 53 Ton / annum (by offsetting coal)

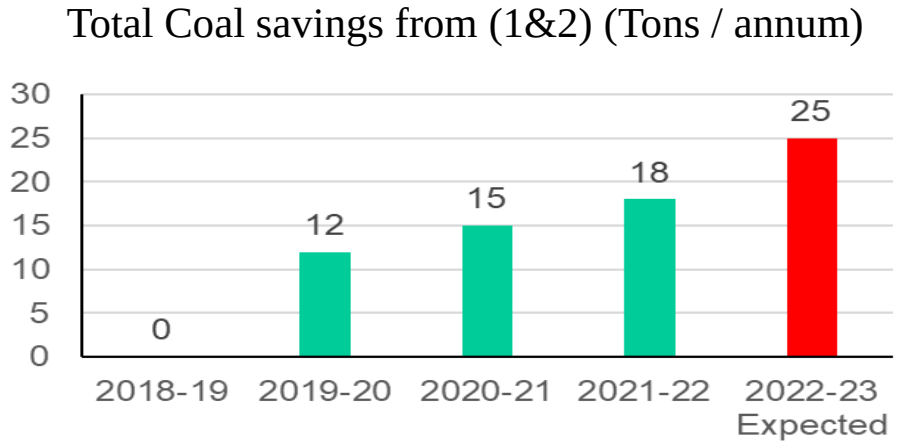
2) Re Use of Coal Dust

- 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

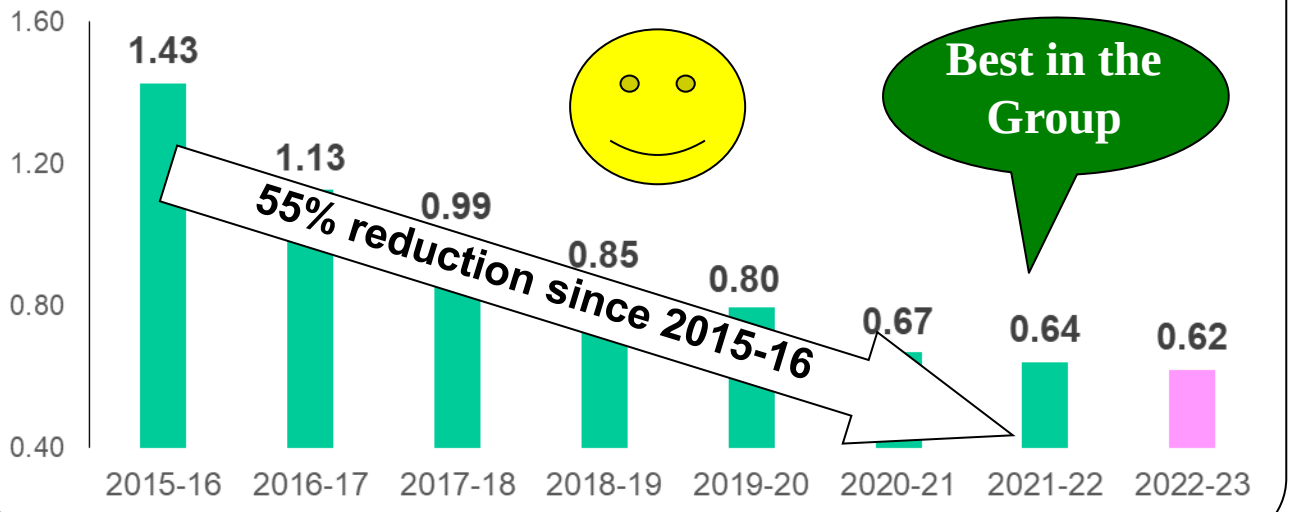
Biofuel utilization increased from 2.5% to 21.1%
(daily 500 kgs pallets making using coal dust)
Cost Savings of Rs. 14 lakhs /annuum



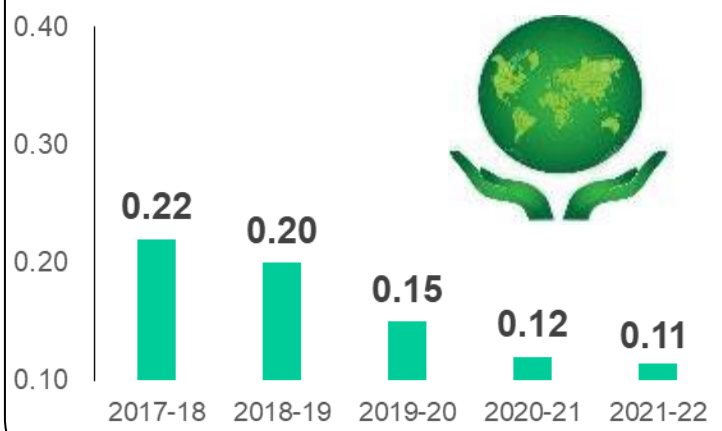


9. GHG INVENTORISATION (ISO14064-1:2019)

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



SCOPE 3 Emissions



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

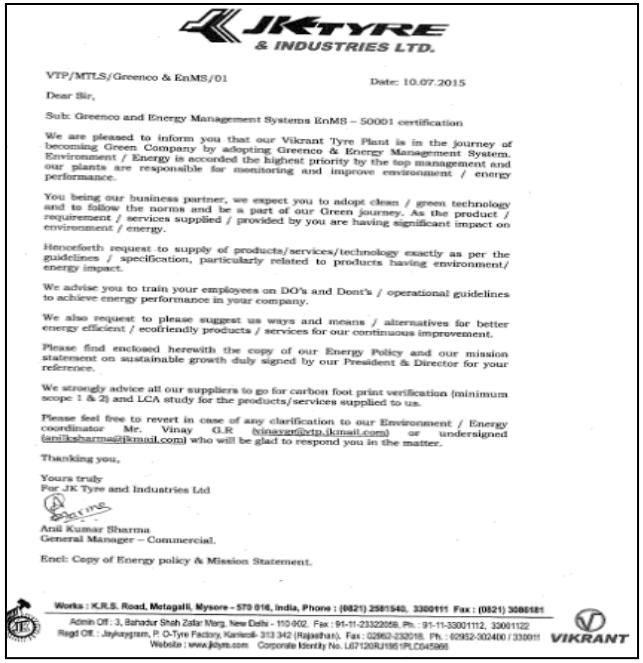
GHG Emission Data | 2021-22	UoM	KTP	BTP	CTP	VTP
Direct Emission	tCO2e	29426.84	22039.92	38777.05	65745.02
Indirect Emission - Imported Energy	tCO2e	30685.23	25134.88	28525.97	8088.89
Indirect Emission - Transportation	tCO2e	6516.40	5591.11	12374.42	13548.41
Total Emission	tCO2e	66628.47	52765.91	79677.44	87382.32
Production	MT	66591.32	38566.04	95237.76	118338.51
Emission Intensity	tCO2e/MT	1.0006	1.3682	0.8366	0.7384

Verification report & Opinion statement

VTP is Benchmark in JK Tyre

10. 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.jkbarmer@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.jktyre.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

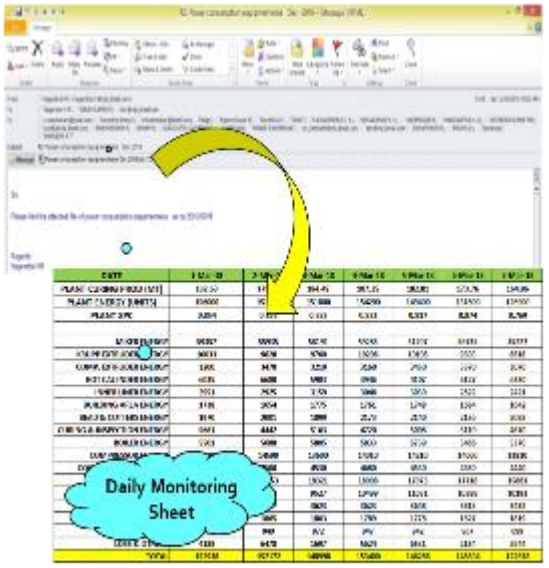
Eg. :- Carbon Black - Earlier supplied from Kolkata to VTP & Chennai supplied carbon black to KTP now the supplies reorganized so that Chennai supplies to VTP & CTP and Kolkata supplies to KTP, LTP & BTP. This resulted is overall savings in emission from supply chain

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

11.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

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*

Problem/Present Status:

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

Before Improvement:

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

After Improvement:

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

Implemented Area:
Banbury

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

Result/Benefit:

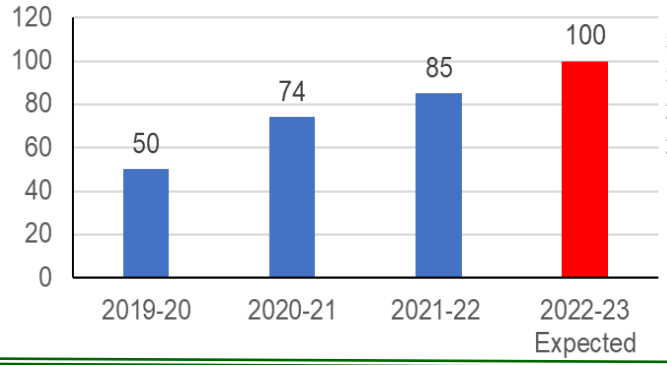
(a) Qualitative
- Maintenance Fitter fatigue reduced
- Team morale improved

(b) Quantitative
- Reduction in power consumption by 5325 Kwh
- Reduction in CO2 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

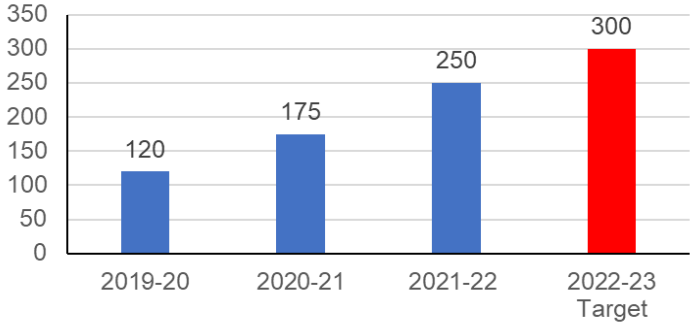
Standardization:
Machine Drawing updated

How many places this Kaizen can be deployed horizontally
–
-na-

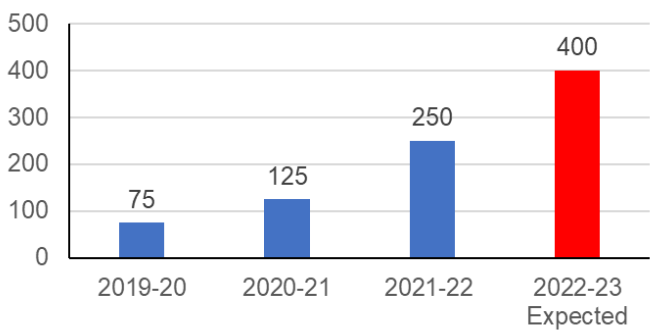
Energy Kaizens (Nos)



Training on energy conservation (Hrs)



Energy related suggestions (Nos)



12. IMPLEMENTATION OF ISO 50001

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

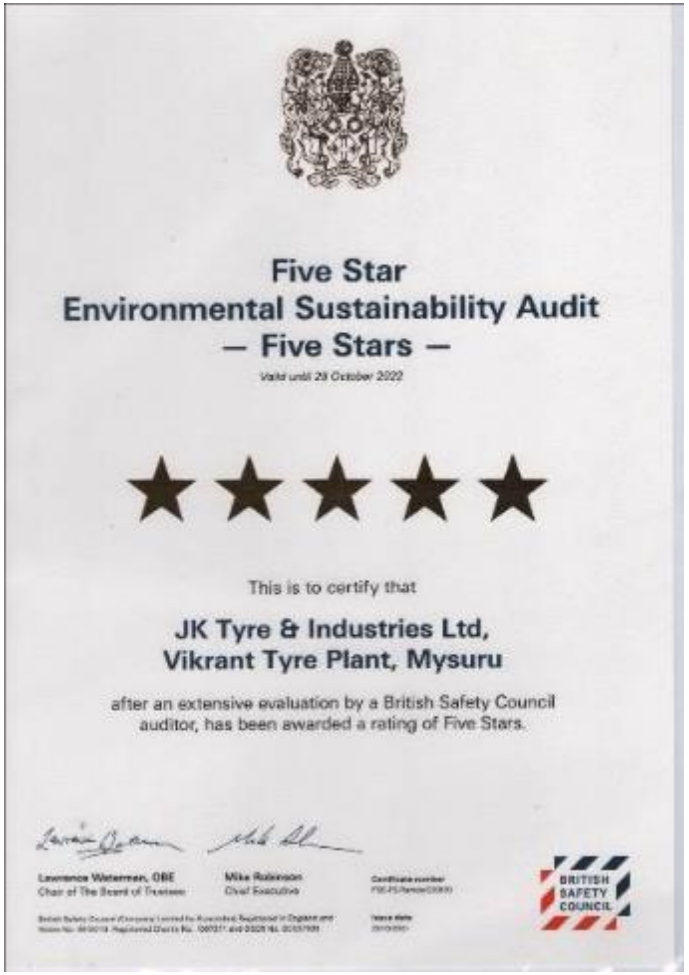
Page: 1 of 2

...making excellence a habit.

CEM AWARD OF EXCELLENCE IN ENERGY MANAGEMENT 2020 by CEM Canada

AWARDS, ACKNOWLEDGEMENT 2021-22

BSC GOH 5star rating



INDIAN ACHIEVERS AWARD

CII 3R Awards 2021

AWARDS, ACKNOWLEDGEMENT 2021-22

Quality Sustainability Gold award Winner Organized by ISQ

Excellence in Sustainability, 9th Annual Manufacturing Today Conference & Awards 2021

4th CII-National Kaizen Circle Competition 2021

AWARDS, ACKNOWLEDGEMENT 2020-21

FAME EXCELLENCE AWARD 2021 towards livelihood creation & 3R's- Platinum and Excellence in Environment protection -diamond

20TH ANNUAL GREENTECH ENVIRONMENT AWARD WINNER 2020

CII National Award for Excellence in Energy Management 2020

NATIONAL ENERGY CONSERVATION AWARD from BEE

GREENCO PLATINUM PLUS by 2023-24

Thank You