



#### **Grasim Industries Limited**

VFY – Fashion Yarn Business Unit – Century Rayon



**Energy Conservation at Century Rayon** 



#### **About... Century Rayon**





Located at Shahad about 60 Kms from Mumbai.

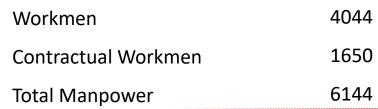
**Spread over 121 acres including Colony** 



Year
Ince
Pot S
Tyre









Production Capacity		
Pot Spun Yarn	48	TPD
Continuous Spun Yarn	12	TPD
Tyre Yarn & Cord	16	TPD
Caustic Soda	70	TPD
Carbon Di-Sulphide	54	TPD
Sulphuric Acid	200	TPD
Power Generation	18	MW
Water Treatment Plant	30000	M3/Day
Effluent Treatment Plant	16000	M3/Day

#### **Progress of Century Rayon**





1954

#### **Establishment of Century Rayon**

(A division of Century Textiles & Industries Ltd)

1956

to

2016

• 1956 - Startup of 5 TPD PSY plant. Followed by Expansions.

• 1960 to 1970 - Tyrecord, Sulphuric Acid, Carbon di-Sulphide & Caustic soda Plants commissioned and capacity expansion.

1998-2016 - Startup of CSY Plant with 12 CSY machines in collaboration with SNAICO & expansions up to 50 Machines.

2018

Century Rayon commenced operations under Grasim from 01<sup>st</sup> February 2018. **Agreement** for the 'Right to Manage & Operate' VFY business of Century Textiles & Industries Limited (CTIL) for a period of 15 years.

2020

Integration of Century Rayon & Indian Rayon under one umbrella of "One VFY – Fashion Yarn Business"

- Grasim's production of VFY capacity increased from 21,300 to 46,300 TPA. (IR & CR).
- Adoption of best practices across ABG Business & synergy of operations between IR & CR.

Acc1	edita	tions	82	Certifications	

Certifications/Accreditation	Status	
STeP	Certified	Sustainable Textile Production – Environmental friendly & socially responsible production
Oeko Tex	Certified	International Association for Research & Testing (Human- ecological safety of textile products)
FSC - COC	Certified	Forest Stewardship Council - Chain of Custody
NABL	Certified	Standard for Testing & Calibration Laboratories
ISO 9001: 2015	Certified	Quality Management System
ISO 14001: 2015	Certified	Environmental Management System
ISO 45001:2018	Certified	Occupational Health & Safety System
ISO 50001: 2018	Certified	Energy Management System
ISO/IEC 27001: 2013	Certified	Information Security Management system
ISO/IEC 20000 - 1:2011	Certified	IT Service Management System
ZDHC - Contributor	Certified	Zero discharge of Hazardous Chemicals
CANOPY STYLE	Yellow Shirt	Green Shirt Certification
RCS	Sustainability By Recycled Raw Material	
SA-8000:2014	Certified	Social Accountability

















#### Management & Monitoring Of Energy **Conservation Programmes**







#### **GRASIM INDUSTRIES LIMITED**

(UNIT: CENTURY RAYON) SHAHAD - 421103



#### ENERGY AND CARBON POLICY

We, Grasim Industries Limited, Unit- Century Rayon, Shahad recognize that energy consumption and carbon emissions are the important issues currently affecting the planet. We understand the risk of dependence solely on fossil fuels and the potential consequences associated carbon emissions related to our operations. We are committed to demonstrate excellence in Energy and Carbon Management Performance on continual basis.

To achieve this, we shall endeavor to:

Date: 02.08.2022

- Maintain positive legal Compliance to energy and carbon regulations and other requirements;
- Raise awareness to encourage efficient use of energy resources, with a focus on reducing energy intensity and carbon footprint of operations and products;
- Increase the use of renewable energy wherever possible;
- Promote research and development for cleaner and efficient technologies to support adoption of latest low carbon solutions;
- · Evaluate technically and financially feasible and cost-effective options to reduce potential carbon emissions during the construction and operation of new projects;
- · Continuous up-gradation of process with energy efficient and Eco-friendly technology to optimize the energy cost;
- Continually improve energy and carbon management within and across the supply and value chains by adopting internationally accepted and economically viable Management Systems and best practices;
- Engage internally and externally with the stake holders and wider communities to understand and collaborate on actions promoting reduced energy intensity and low carbon approaches to benefit both the company and associated communities;
- Actively communicate and disclose our approach and achievements to stakeholders and regularly seek feedback through stakeholder forums:
- · Provide necessary resources and information to achieve objective and targets and Support the purchase of energy efficient products, services and design for energy performance improvement;
- Monitor, measure and report energy usage and carbon emissions in compliance with internationally recognized protocols; and
- Ensure this policy is communicated at all levels within organization and is available to relevant interested parties on request.

This policy shall be reviewed periodically for its suitability and updated as necessary.

-Sd-Unit Head



Management System as per

ISO 50001: 2018

The Certification Body TUV NORD CERT Great hesety confirms as a result of the malif. assessment and certification decision according to ISO/IEC 17021.1 2015, that the organization

GRASIM INDUSTRIES LIMITED - UNIT CENTURY RAYON

PLANT: Murbad Road, Shahad, Dist, Thane - 421 103, Maharashtra, India

operates a management system in accordance with the requirements of 190 50001; 2018 and will be assessed for conformity within the 3 year term of validity of the certificate.

Manufacture of Viscose Filament Yarn, High Tenacity Tyre Yarn, Rayon Tyrecord Fabric & Industrial Chemicals.

Certificate Registration No. 44 764 18391873 Audit Report No. 2.5-1198/1994

Valid from 29.67.2021 Valid (#11) 28.07 2024 Initial certification 29.07.2018



Certification Body at TOV NORD CERT GWISH

Mumbui, 29.06.2021

TOV NORD CERT GribN Largemarcksfrasse 20 45141 Essen

www.fuey-pord-cert.com

811 Raheja Plaza - 1. L.B.S. Marg. Ghatkoper (W). Mumbel - 400 086, India areas for conditional





#### **Viscose Filament Yarn – Process Flow Chart**



**PACKAGING** 





#### **VFY Product Portfolio**







Viscose Filament Yarn – Fashion Yarn is referred to in **Deniers** (D), defined by the fineness of a yarn. VFY industry is an interplay of Deniers. Finer the denier higher the premium can be expected.

- 1. Superfine
- Below 75D upto 20 D

2. Fine

- Above 75D upto 150D
- 3. Coarse
- Above 150D upto 1200D

#### **Manufacturing Technologies**

#### O Pot Spun yarn (PSY)

40 Denier to 600 Denier

- > Zero Shrinkage
- Wider Applications
- Variety: Bright, Dull & Coloured yarns
- Speciality products : Air texturized, Double twisted yarn, Lycra covered

### Continuous Spun yarn (CSY)

20 Denier to 180 Denier

- ➤ Higher Shrinkage (about 4%)
- > Higher Tenacity
- Variety: Low Glue, High Glue & Super High Glue



1650 Denier & 2200 Denier

- ➤ Higher Tenacity Rayon Tyre yarn
- > Tyre cord & Tyre cord Fabric

# New Technologies/Innovation Employed for Energy Savings







Acid Absorption Crystallizers at PSY Plant 2009-10



Centrifugal Chiller 2012



Mist Condenser (2012-13)



Acid Absorption Crystallizers at T/C Plant 2013-14



Installation of LP Turbine Aug.2015



Mist Cooling Tower 2015-16



New Udehdehnora Gen.-4 Electrolyser for Caustic Plant 2018-19



Mist Combo System for AAC 2017-18



Jet Type Fan less Induced Draft Cooling Tower Jan2017

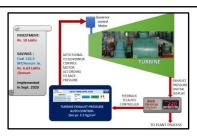


Advance Tube Cleaning System 2022

#### **USE OF RENEWABLE ENERGY**



Screw Air compressor With permanent Magnet Motor 2019



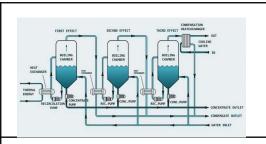
Turbine Back pressure Auto Control 2020-21



SOLAR PV Power Plant 42 Kw at Main Sub Station.2021



BLDC Celling Fan 2021

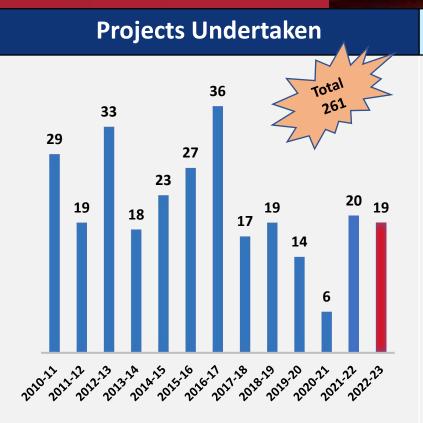


Multi Stage Flash Evaporation System 2022

# Absolute Energy Savings, Energy Saving Projects And Investment for last 12 Years













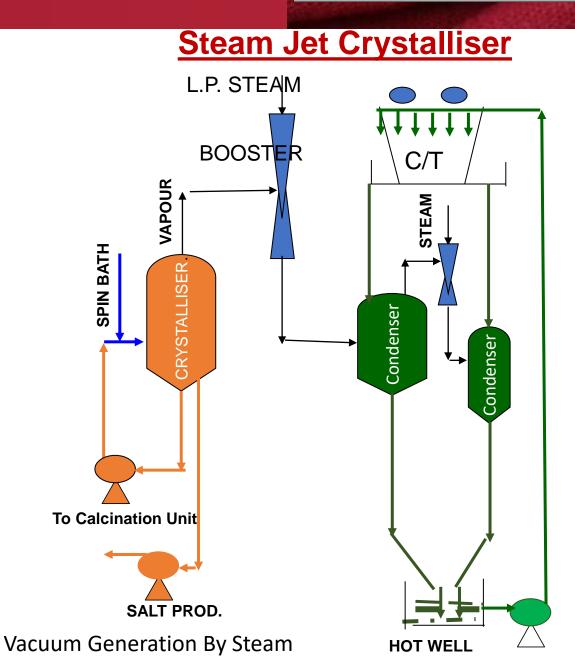


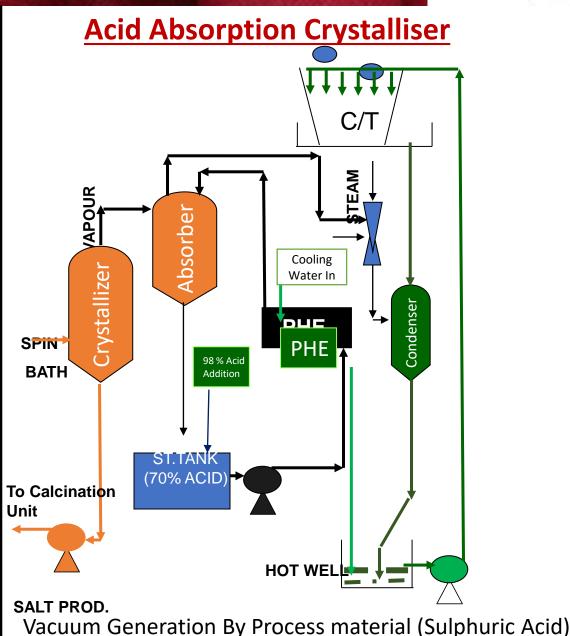


#### **Acid Absorption Crystallizer (2010)**









## **Acid Absorption Crystallizer (2010)**





1	Steam consumption by Crystallizer system	85 TPD
2	Steam consumption by Acid Absorption Crystallizer system	30 TPD
3	Net Steam Savings per day	55 TPD

Investment	Rs. 450 Lacs
Actual Saving per year	
1.Steam - 55 TPD	Rs. 115.50 Lacs
2. Power – 600 kWh/Day	
Pay Back Period	4 Years



#### **Mist cooling Tower**





In Rayon Engine room, we are having 6 nos. of cooling towers, which are required to cool the condenser water coming from Chillers. Out of these, cooling tower No. 1 & 2 are cross flow type & Cooling tower No.3,4,5 & 6 are counter flow type. Approach of these Cooling tower are in range between 4°C to 5°C.

Old Cooling tower Power Consumption -168 KW



Mist cooling tower which is having approach 2°C. Another advantage in it is that it does not have any moving part, no fill, no wooden structure, hence no maintenance.

Mist Cooling tower Condenser Pump Power Consumption -147 KW Saving in Cooling Tower Power -168-147=21 KW Reduction in Chiller Specific Power Consumption =0.04Kw Total Chiller Power Saving = 0.04\*650 = 26 Kw Total power Saving =21+26=47 KW

Parameter	Unit	Qty.		
Investment	nvestment Rs. Lakhs			
Electrical Saving	KWh/Annum	394000		
Financial saving	Rs. Lakhs /Annum	29.55		
Pay Back	Years	2.75		
Installation		Nov. 2016		



#### **INSTALLATION OF LP TURBINE (Oct. 2015)**

**Total Investment (Rs. lakhs)** 

Actual Saving (Lakh Kwh/year)



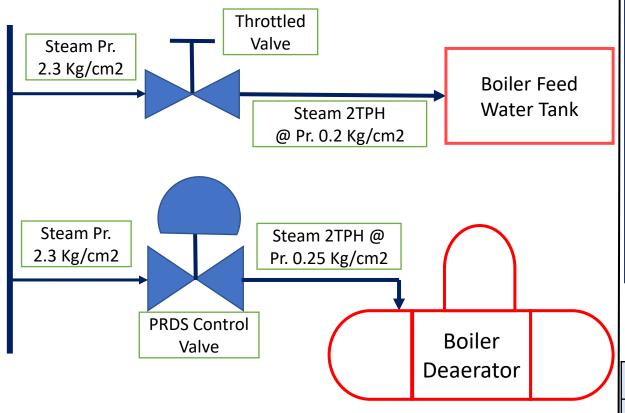


33.37

14

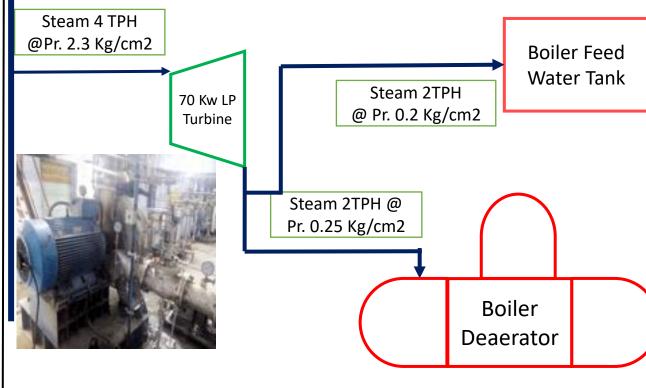
#### **BEFORE**

- 2 TPH Steam Throttling from 2.3 to 0.2 Kg/cm<sup>2</sup> for Boiler Feed water heating from 35°C to 80°C in Feed water Tank by Valve Throttling
- 2 TPH Steam pressure reduction from 2.3 to 0.25 Kg/cm<sup>2</sup> for Boiler feed water heating from 80°C to 105 °C in Deaerator through PRDs



#### **AFTER**

Installation of 70 kW LP Turbine reducing 4TPH Steam pressure from 2.3 to 0.25 Kg/cm<sup>2</sup> & supplying to Feed water Tank & Dearator tank. Simultaneously producing avg. 60 kw power.



Realisation (Rs. lakhs) @ Rs. 7.5/ Kwh

Pay Back period (months)

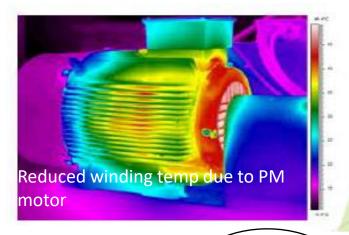
38

4.45

# Installation Of IPM Motor Operated Screw Air Compressor (Aug. 2019)







Acoustic
Enclosure to
reduce noise
to 65 Db

			(
Sr. No.	Screw Air Compressor Model	Capacity in CFM	Installation Year
1	TSC- 30PMV	125	Aug. 2019
2	TSC- 30PMV	125	July 2021
3	TSC- 50PMV	240	Nov.2022
4	TSC- 50PMV	243	Oct. 2019
5	TSC- 50PMV	230	Sept. 2022
6	IF-150PMT	800	Nov.2022
7	TSC- 50PMV	250	Dec. 2019
8	TSC- 40PMV	120	Feb. 2020



One Shaft Structure without Transmission Loss

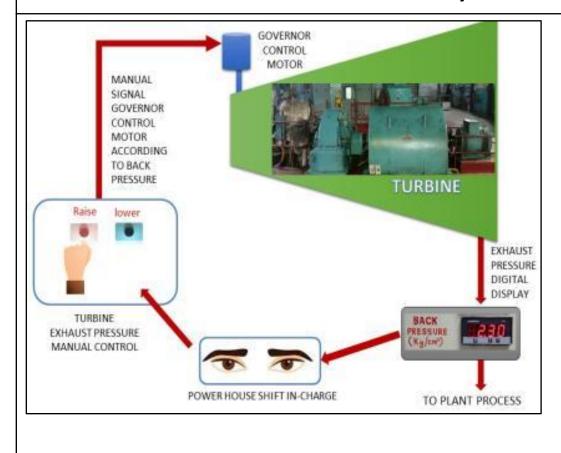
Investment	Rs 6.5 Lakhs	
Saving	36000 kWh/Annum	
Saving	Rs 2.0 Lacs/Annum	

#### **AUTOMATION OF TURBINE BACKPRESSURE CONTR**

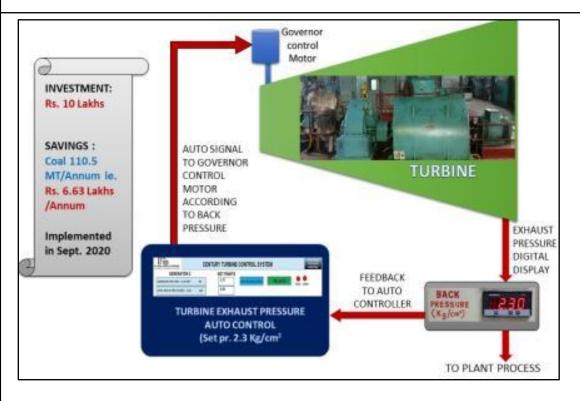




#### **Turbine Back Pressure Manual control system**



#### **Turbine Back Pressure Auto Control System**



#### Advantages. :-

- 1. Better process Control (Back pressure can be set in range of 0.01 kg/CM2
- 2. Increased Power Generation due to low Back pressure.
- 3. Reduction in coal consumption.

## REPLACEMENT OF OLD 4MVA TRASFORMER WITH ENERGY EFFICIENT NEW TRANSFORMER





#### Need of Hrs.

- 55 YEARS OLD
- . HEAVY OIL SPILLAGE
- . HISTORY OF FAILURE
- HUGH COST IMPACT IN PGS SYSTEM OF FAILURE

Change Z%
From
8.84% to
12.5%

Low
Loss
Design

Impact

Reduce fault current through Transformer Improve
Voltage level
by 7 %
(65.2 % to 75.2%)
in PGS System

Avoid load shedding In PGS System Reduce Trans. losses from 40 KW/hr to 32 KW/Hrs

#### **INVESTMENT:**

Rs. 48 Lakhs

SAVING:

1) Electrical 70080 KWH/Ann

2) Financial Rs.

4.9 Lakhs. /Annum.

Implemented in May2020

#### Advantage:-

- 1. Reduction In Voltage Fluctuation.
- 2. Reduction in Critical Equipment Tripping during grid Fluctuations.
- 3.Improved Energy Efficiency.

#### Old

#### New





# Installation of New Auto Tube Cleaning System in Centrifugal Chiller no.4





Before Modification (Brush Type Cleaning System in Condenser & Evaporator)



After Modification (Ball Cleaning System in Condenser & Evaporator)



Parameter	Unit	Qty.
Reduction in Condenser Approach	Deg. Cent.	3
Investment	Rs. Lakhs	18
Electrical Saving	KWh/Annum	195336
Financial saving	Rs. Lakhs/Annum	11.52
Pay Back	Years	1.6

#### New Technologies/Innovation Employed for Energy Savings





#### INSTALLATION OF MSFE AT RAYON PLANT

#### **Single stage evaporators**

Single stage & Double Stage Effect evaporators, where the steam is used for direct heating in one ,Two effect only. And the feed flow in a linear way passes

#### **Multistage evaporators**

The basic fundamental of the multi staging is utilization of the vapours generated in preceding effect heat exchanger or Calandria under negative pressure (vacuum) condition and lowering the boiling point of the feed in the subsequent stages. More the number of effects, lesser is the steam consumption. This helps economize the utility consumption

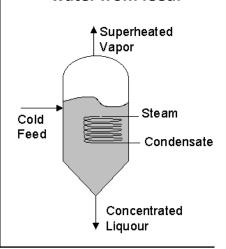
**Investment** 

Rs.9.35 Cr.

11 Stage MSFE at Rayon Plant commissioned in May 2021. Evaporator, Heat Exchangers condensers, pumps, tanks, cooling Tower are the main parts of MSFE. Approximately 70 tons/Day of LP steam is saved by installation of one MSFE. With investment of Ps. 9.35 Crores.

#### **Before Project**

01 kg steam will Evaporate 1.2 &1.6 kg of water from feed.



Single Stage Evaporators



#### **After Project**

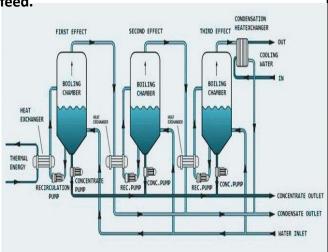
**Multistage Evaporators** 



Steam
Saving 70
TPD

Saving Coal 4335 & CO2 Emission 9538 MT/Annum

01 kg steam will Evaporate 3.5 kg of water from feed.



#### Management & Monitoring of Energy **Conservation Programmes**

Quarterly Review



ADITYA BIRLA

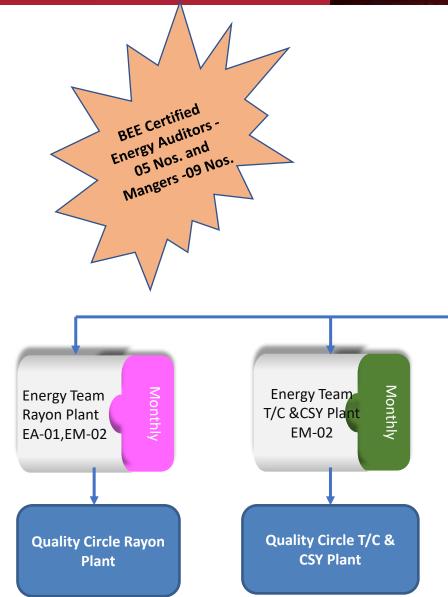
GRASIM

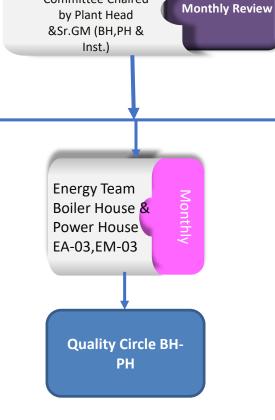
150 5001:2018

Certified Internal

Auditor 19 Nos.



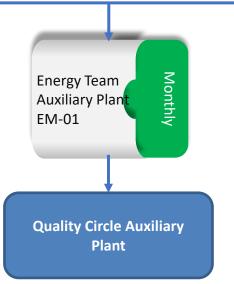


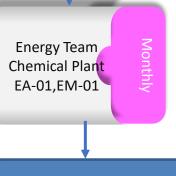


Review By

CEO

**APEX Energy** Committee Chaired





**Quality Circle Chemical** 

**Plant** 

#### Management & Monitoring Of Energy Conservation Programmes





- Implementation of 50001:2018 (MRM)
- Achievement of Targets
- Reduction in GHG Emissions
- Reduction in SEC

ACT PLAN

DO

- **Energy Policy**
- Mission Targets
- Sustainability Targets
- GHG Emissions and Carbon footprint reduction targets
   EnMS 50001:2018 Objective and Target
   Energy Audits recommendations

**CHECK** 

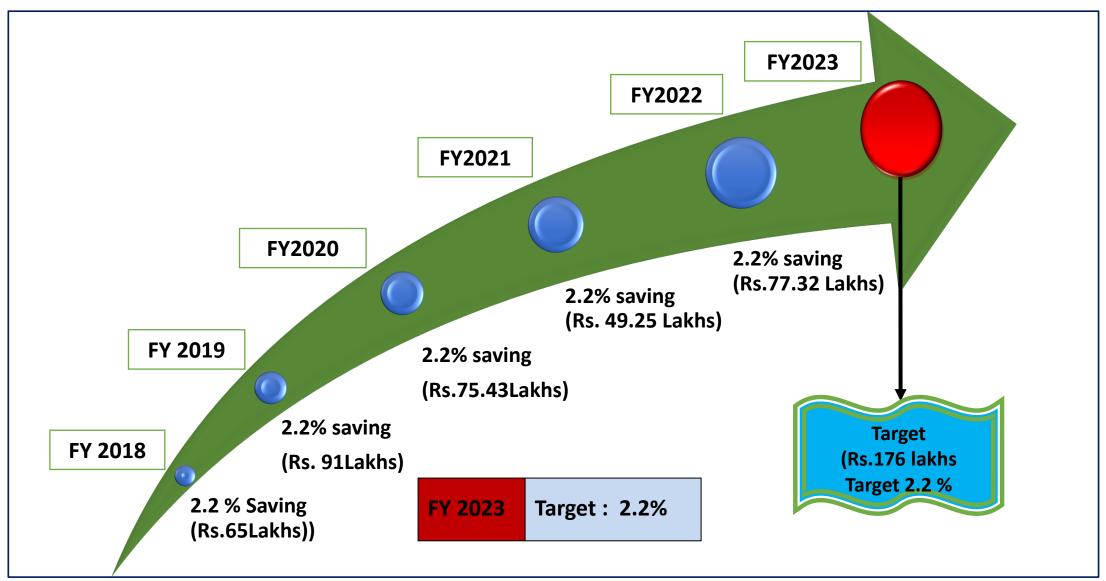
- Internal Audits
- External Audits
- Monthly Business revive Committee Meeting (BRC)

Implementations of EC Schemes
Implementations of 50001:2018
Implementations of Suggestions & QIO
Training & Awareness

# Energy Conservation Target Setting And Monitoring of The Same/ Benchmarking Of Energy Consumption Norms







#### Management and Monitoring of Energy Conservation Programmes



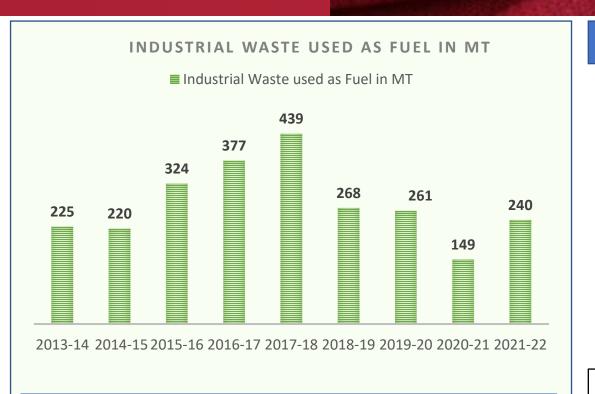


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li			ENTITY *	APPROVAL	CAMPAIGN	REPORTING PERIOD	QUESTIONNAIRE	% DON
	<b>③</b>	•••	<u>VFY (Fashion Yarn) Business – Kalyan Unit</u>	~	BRC data - October 2022	FY23 October	ENERGY-Electrical Energy Balance	100%
	<b>③</b>	•••	<u>VFY (Fashion Yarn) Business – Kalyan Unit</u>	<b>~</b>	BRC data - October 2022	FY23 October	EN15-GHG Inventory-BRC- Scope 1	1009
	<b>③</b>		<u>VFY (Fashion Yarn) Business – Kalyan Unit</u>	<b>~</b>	BRC data - October 2022	FY23 October	EN16-GHG Inventory-BRC- Scope-2	1009
	<b>③</b>		<u>VFY (Fashion Yarn) Business – Kalyan Unit</u>	<b>~</b>	BRC data - October 2022	FY23 October	GHG-BRC-Total Computed GHG Inventory	1009
	<b>③</b>		<u>VFY (Fashion Yarn) Business – Kalyan Unit</u>	~	BRC data - October 2022	FY23 October	EN5-BRC - ENERGY, WATER, WASTE Intensities	1009
	<b>③</b>		<u>VFY (Fashion Yarn) Business – Kalyan Unit</u>	<b>~</b>	BRC data - October 2022	FY23 October	EN3-ENERGY-BRC-Non Renewable-Plant Level	1009
	<b>③</b>		<u>VFY (Fashion Yarn) Business – Kalyan Unit</u>	<b>~</b>	BRC data - October 2022	FY23 October	EN3-ENERGY-BRC-Renewable- Plant Level	1009
	<b>③</b>	•••	<u>VFY (Fashion Yarn) Business –</u> <u>Kalyan Unit</u>	<b>~</b>	BRC data - October 2022	FY23 October	ENERGY-BRC-Total Energy Consumption- Plant Level	1009

#### Renewable Energy Usage (% of Total Kwh)







Currently about **0.20** % of our total coal energy requirement is being met through fuel from waste



42 KW Solar PV Power Plant Project Implemented In March 2022 With Investment of Rs. 18 lakhs. With Generation of 61200 Kwh Per Annum.

	Renewable Power Schemes for 2022-23									
Sr. No.	Number of Energy Conservation Scheme	Saving /Annum KWH	Gross Annual Saving (Rs.Lakhs)		Estimated GHG Reduction MT/Annum	Gross Payback Period (Years)	Status			
1	Installation of Roof Top 50 KW Solar PV Power Plant at Vishram Bhawna.	62700	10.1	40	51.41	3.9	Under negotiation. Project Completion Target March 2023			

# Installation of Roof Top Solar PV Power Plant (42 KW)

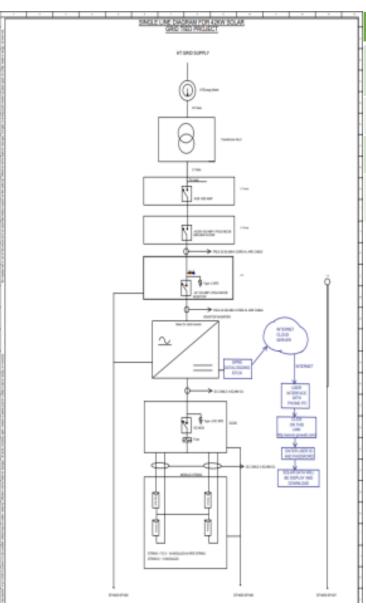






IP65 Inverter with Communication port for online monitoring and daily report





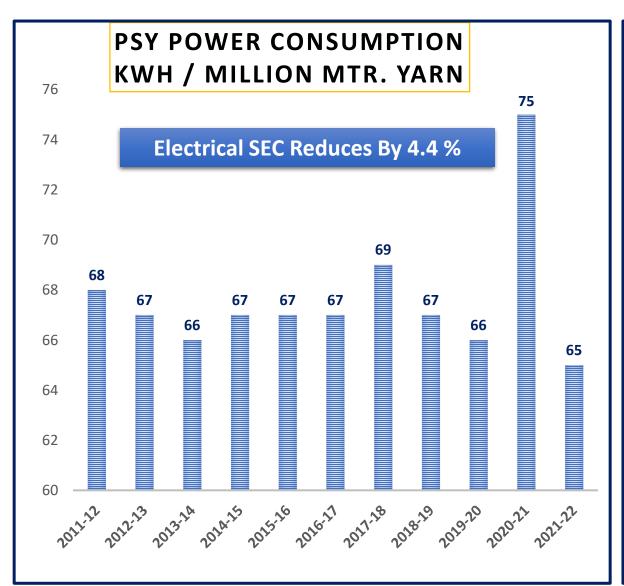
<u>Tech. Description</u>				
MSS roof top area utilized for Solar Pv plant:	294 Sq. Mtr.			
Capacity of Solar Pv plant:	42 KWp			
Avg. Generation per day :	180 KWH / Day			
Estimated Generation per year :	180*340 Days = 61200 KWH / year			

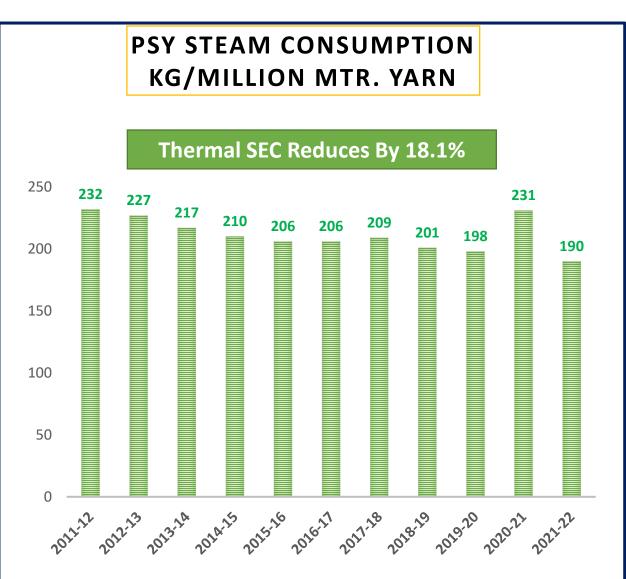


#### Reduction In Specific Energy Consumption





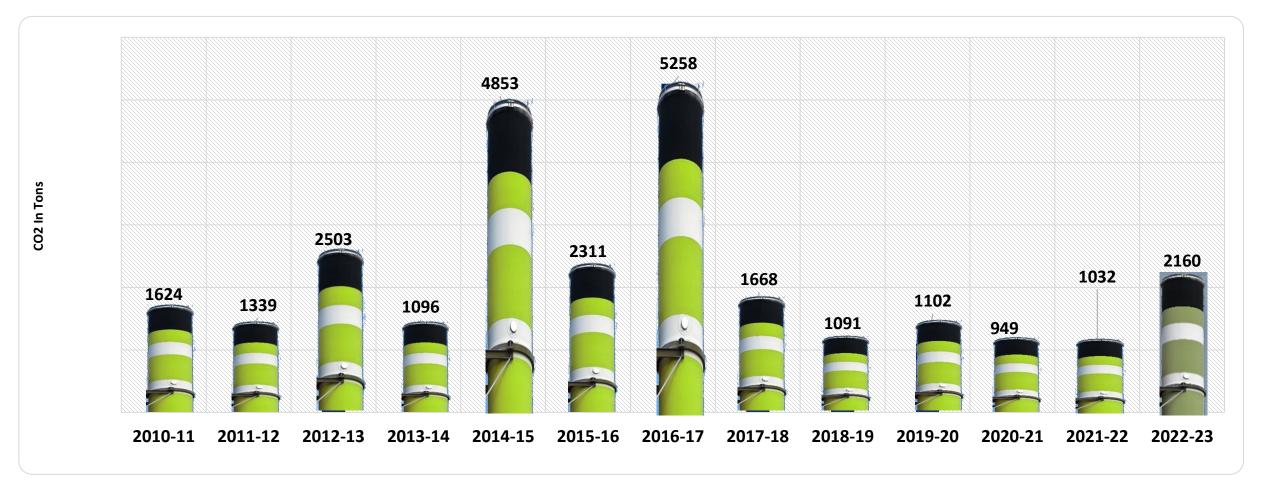




# Reduction in GHG Emission/Carbon Footprint







Year	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (Proposed)
CO <sub>2</sub> Emission Reduction In Tones through Encon Projects	1624	1339	2503	1096	4853	2311	5258	1668	1091	1102	949	1032	2160

# **Energy Conservation Schemes Under Implementation in Year 2022-23**





#### Summary of Energy Conservation Schemes Under Implementation in Year 2022-23

Sr. No.	Number of Energy Conservation Scheme	Annual Electrical Saving (kWh)	Total Annual Savings (Rs.Lacs.)	Investment (Rs. Lacs )	Pay Back Gross in Years	TOE Saving	Reduction in GHG Emission MT/Annum
1	06 Nos. Completed	572784	34.93	89.1	2.6	49.19	469
2	14 Nos. Under progress	2067920	138.68	405.42	2.92	168.4	1603
	Total	2640704	173.61	494.52	2.8	217.59	2072







#### **External Audit**





Name of the Agency	Month/Year	Area
Eco Energy Solutions- Ahmadabad	Dec. 2021	Mandatory Energy Audit
Eco Energy Solutions- Ahmadabad	2018	Mandatory Energy Audit
Eco Energy Solutions- Ahmadabad	June 2019	PAT monitoring And verification Audit
Fichtner Consulting Engineers (India)Pvt. Ltd.	April 2019	Cogen Power Plant Audit
ABG Group Corporate Energy Cell	September 2018	Total Plant
TUV India Pvt. Ltd.	August 2018	Mandatory Energy Audit
Apogee Process controls Consulting	March 2017	Total Plant Instruments Audit
Venus Energy Audit System	April 2016	AFBC Boiler Performance Study
TUV India Pvt. Ltd	March 2015	Complete Plant

	Special Energy Audit by Sector Experts Under Execution in 2022					
Sr. No.	Utility	Auditing Firm	Status			
1	Water Audit	TUV India Pvt. Ltd.	Field Study completed			
2	Thermal Energy Audit	Forbes Marshall Pvt. Ltd.	Field Study completed			
3	Electrical Energy Audit	SAS Power Tech Pvt. Ltd. Pune	Field Study Under progress.			

#### **Energy Conservation Future Plans**





# PROPOSAL FOR SUPPLY OF STEAM ON BOOT BASIS



Exploring opportunity to Install Bio mass Boiler with capacity 60 TPH

- 1) Replacement of 74322 MT of Coal with Bio Mass Fuel.
- 2) Expected 1,28,000 MT of Co2 Emission Reduction per Annum.
- 3) Reduction in Almost 40% of Total CO2 EMISSION

Kind Attn.: -Rajdeep Hegde Site Location: -

Shahad, Kalyan, Dist. Thane, MH

Submission Date: - 02-11-2022

Proposal No. GIL/02112022/BT/10

RUU

PROPOSAL SUBMITTED TO: -

**GRASIM INDUSTRIES LIMITED** 

ADD.: SHAHAD TQ. KALYAN, DIST THANE MAHARASHTRA

# Awareness Creation In The Employees & Their Involvement In Energy Conservation & Training Programs







18th Dec.

#### CENTURY RAYON

Celebrates









Concluding Ceremony

A Drigo Doctor

13th Dec 2021 to 18th Dec 2021

~

13th to 17th Dec 2021

**RED TAG IDENTIFICATION** 

DAY	DATE	Program	CARTOON COMPETITION	On A4 size paper in big and clean letters	
1	13 <sup>th</sup> Dec.	<ul><li>❖ Opening Ceremony</li><li>❖ Onstage Quiz for Staff</li></ul>	POSTER COMPETITION	700 X 500 mm sheet (sheets can be collected from department coordinators.)	
2	14 <sup>th</sup> Dec	<ul> <li>Non –Technical On Line Quiz for Staff</li> <li>Training on Energy Conservation Topic for workmen.</li> </ul>	SLOGAN COMPETITION	On A4 size paper in big and clean letters in English, Hindi & Marathi	
2 14 Dec	11 200	<ul> <li>❖ EnMS ISO 50001:2018 Awareness training By Eco Energy Solution for staff.</li> </ul>	POEM COMPETITION	On A4 size paper in big and clean letters in English, Hindi & Marathi	
3	15 <sup>th</sup> Dec.	<ul> <li>Training on Energy Conservation Topic for workmen.</li> <li>Training on Energy Conservation Topic for Staff.</li> </ul>	CROSS WORD	English crossword for staff and Hindi cross word for workmen	
			ONLINE QUIZ FOR STAFF	Dt. 14.12.2021 at 11.00 to 11:20 Hrs. & Dt.	
4	16 <sup>th</sup> Dec.	❖ Quiz for workmen	TECHNICAL & NON-	16.12.2021 at 11:00 to 11:20 His. & Dt.	
4   16	16 Dec.	❖ Technical On Line Quiz for Staff	TECHNICAL	10.12.2021 at 13.30 to 13.30 respectively.	
_	17th Dog	A Engage Conservation Procentation Compatition	QUIZ COMPETITION FOR	Dt. 16.12.2021 at 14.00 hrs. in Rayon TQM Hall	
5	17" Dec.	Energy Conservation Presentation Competition	WORKMEN	Dt. 10.12.2021 at 14.00 m3. m Nayon TQM nam	

# Awareness Creation In The Employees & Their Involvement In Energy Conservation & Training Programs







Inauguration With Lighting of lamp



EC Awareness Training to Workmen



On Stage Quiz Competition



EC Awareness Training to Staff

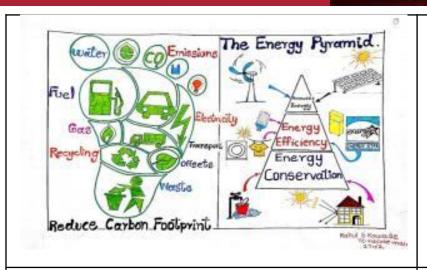
Competition	<b>Employees</b>	participation i	in various	
		Competition		

Competition					
Sr. No.	Competition	Total			
1	Red Tag Participation	504			
2	Slogan Hindi	423			
3	Slogan Marathi	161			
4	Slogan English	585			
5	Poster	81			
6	Cartoon	72			
7	Crossword Hindi	1598			
8	Crossword English	202			
9	Poem Hindi	56			
10	Poem Marathi	36			
11	Poem English	37			
12	Online quiz Competition for Staff (Technical)	97			
13	Online quiz Competition for Staff (Non- Technical)	32			
14	Quiz Competition for workmen	657			
15	Presentation competition	14			
16	Energy saving Scheme	9			
17	Training on Resource Conservation on GVC	62			
	Total	4626			

# Awareness Creation In The Employees & Their Involvement In Energy Conservation & Training Programs











**Poster Competition 1st Prize** 

**Cartoon Competition 1<sup>St</sup> Prize** 

**Slogan Competition 1<sup>St</sup> Prize** 







**Prize Distribution** 

**Prize Distribution** 

Maximum Participation Trophy Won by Rayon Plant

#### **GLIMPSES OF ENERGY CONSERVATION WEEK CELEBRATION - 2019**







Drawing &
poster
Competition
at Century Rayon
High School
Shahad

Drawing & poster
Competition
at B.K. Birla Public
School Kalyan



# Awards & Recognitions

#### **AWARDS FROM RBNQC & NAMC**



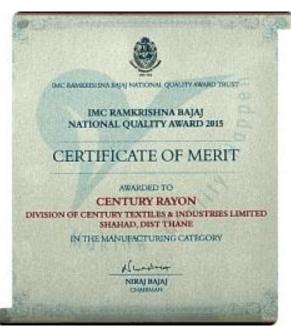


#### **IMC RBNQC AWARD 2016**









Prestigious IMC RBNQC
CERTIFICATE OF MERIT 2016
in the Manufacturing Category

#### NAMC 2018 - 19 RECOGNITION AWARD



Rayon (PSY) Plant has earned the "Gold Medal" for participation in the National Awards for Manufacturing Competitiveness (NAMC) 2018-19

Flagship program organized by International Research Institute For Manufacturing.

#### **Recognition & Awards in Energy Conservation**





Year	A	Agency		
2018-19	Certificate of Merit	State level Award for Excellence in Energy conservation		
2017-18	Second Prize in 13 <sup>™</sup>	and Management( Textile Sector)	Maharashtra Energy Development Agency (MEDA)	
2016-17	Second Prize in 12 <sup>TH</sup>		Development Agency (WIEDA)	
2017	Energy Efficient Unit -2017	CII		
2016	Energy Efficient Unit -2016	CII		
2015-16	Award for Appreciation of the achievement in Ene	MEDA		
2015	Award for Excellent Energy efficient Unit	CII		
2013	ICC Award for Excellence in Energy conservation &	ICC		
2013	9th State Level Award in "Excellence in Energy Con	MEDA		
2012	8th State Level Award in "Excellence in Energy Con	MEDA		
2010	7th State Level Award in "Excellence in Energy Con	MEDA		
2005,2006	National Award for "Energy Efficient Unit" in Energy	CII		
2004	State Level Award in "Excellence in Energy Conserv	MEDA		
2004	National Award for "Energy Efficient Unit" in Energy	CII		
2000	National Award for Excellence in Energy Conservat	CII		
1999 & 2000	National Energy Conservation Award, Certificate o	f Merit in Textile Sector	Ministry of Power, Govt. of	
1998	National Energy Conservation Awards- 2 <sup>nd</sup> Prize in	Textile Sector	New Delhi.	

#### **Green Manufacturing Award**





IRMA: The International Research Institute for Manufacturing, Mumbai is a professional body involved in supporting the manufacturing Industry in various parts of the world through Research, Consulting and Training services and organizing National Award Flagship program every year.

Century Rayon has been selected for "Gold Award" by India Green Manufacturing Challenge (IGMC) 2019 – for Excellence in Sustainability

Onsite assessment conducted on  $21^{\rm st}$  &  $22^{\rm nd}$  Nov 2019

