

**Supreme**<sup>®</sup>



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People who know plastics best

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**CII**  
**23<sup>rd</sup> National Award for**  
**Excellence In Energy**  
**Management-Plastic Sector**

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**The Supreme Industries Limited**  
**Jalgaon Unit- Maharashtra**

**Presenting Team Member**

**Name – Ravikiran Kombde**

**Designation – General Manager**

**Name – Prakash Chavan**

**Designation – Sr. Manager**

**Date:- 22 to 25 August 2022**

# 1. Company Profile

- Founded on 17<sup>th</sup> Feb-1942
- Handling Volume of polymer processed 4,00,000 MT
- 25 plants, 3 plants are under constructions.
- 70 Cr Capex on Roof Top Solar
- **Debt Free** company having cash surplus of 533 Cr at end of Jun-22.
- **Financial Details:-**
  - a) Market Capitalization 25,955 Cr
  - b) Group Turnover-7,840 Cr



**Group MD- Mr. MP Taparia**

## Message from MD

- **Responsible Corporate Business with Sustainable Development.**

## Business Verticals

### Plastic Piping Division



### Consumer Products



### Packaging Products

- Specialty Films
- Protective Packaging Products
- Cross Laminated Film Products



### Industrial Products

- Industrial Components
- Material Handling Division
- Composite LPG Cylinders



## Our Presence

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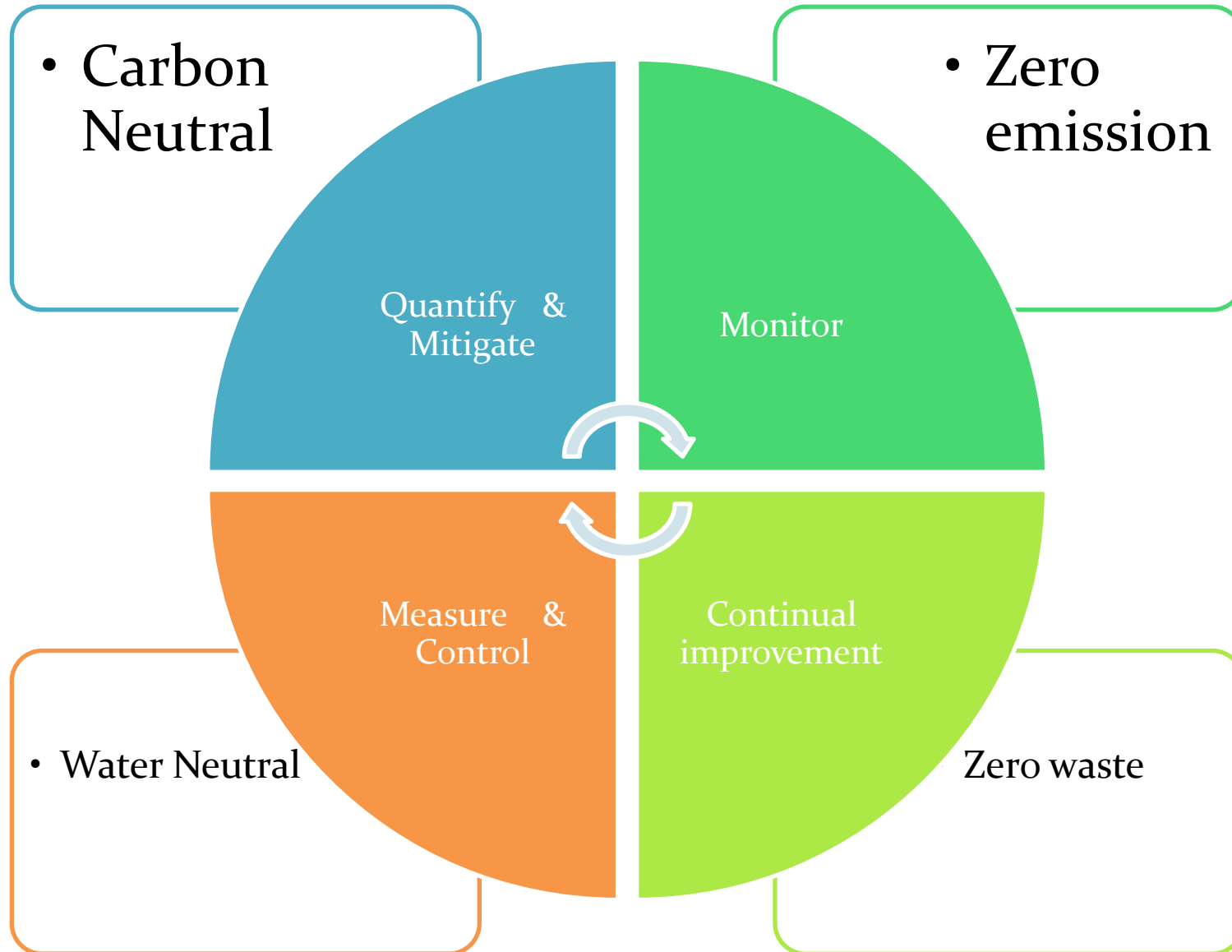
## **Vision**

- **Energy Efficiency Improvement**
- **Reduction in GHG Emission 60,000 TCo<sub>2</sub> by**  
**Renewable energy**
- **Carbon Neutral**
- **Zero Waste**
- **Extended Producer Responsibility (EPR)**
- **Sustaining Water Withdrawal Sources**
- **Zero Liquid Discharge-Stop the drain**
- **Rain water Harvesting System-Catch the rain**

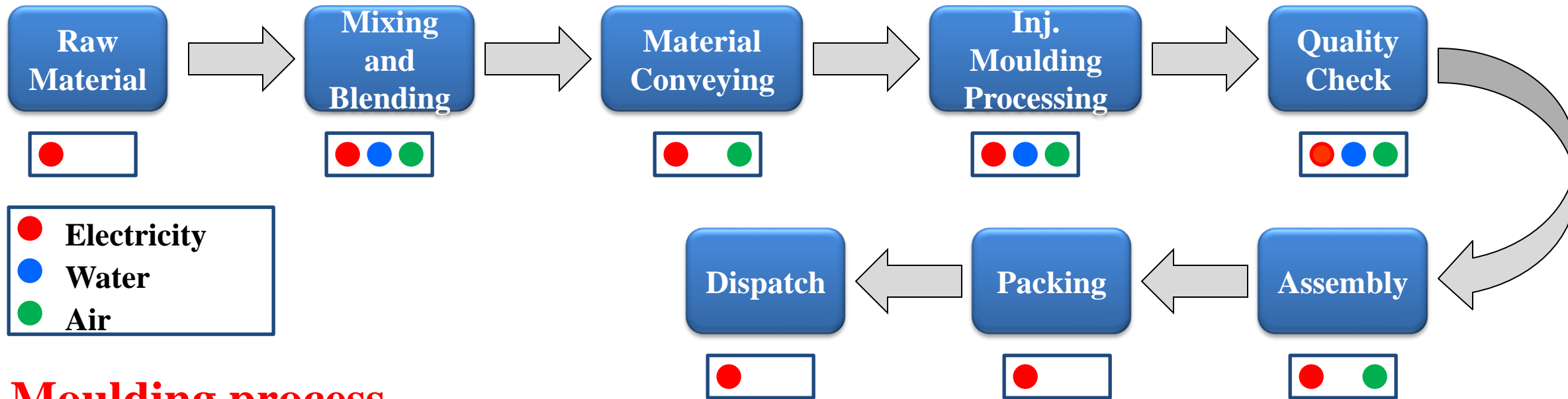
## **Mission**

- **EnMS ISO 50001:2018 PAN India Location by**  
**year 2027-28**
- **EnMS 50001 certification of Energy**  
**Intensive Unit by 2023-24.**
- **Increase renewable energy mix by 12% to**  
**25% by year 2024.**
- **Reduce Energy Intensity 10% by 2024-25**
- **Carbon Neutral Chennai/Hosur- by 2024**
- **Resources Conservations**

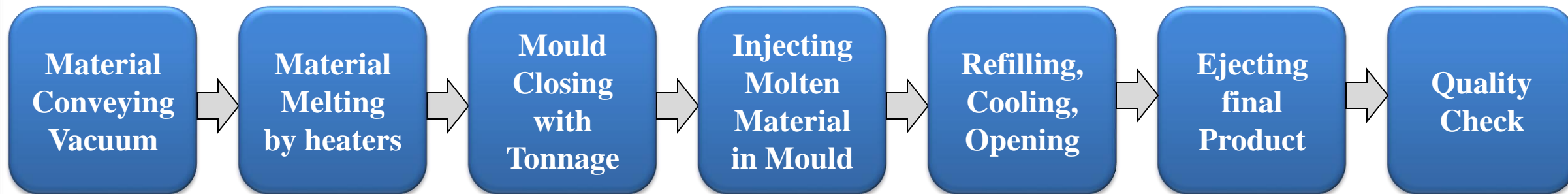
# TSIL GOALS



## 2. Manufacturing process (Injection Moulding)



### Moulding process



# Product Manufactured At Jalgaon Unit

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PVC Fittings Mainly  
Used For Building &  
Agriculture



CPVC Fittings Mainly  
Used For Hot Water  
System



Drainage Fittings Mainly Used For  
City/Building Drainage system



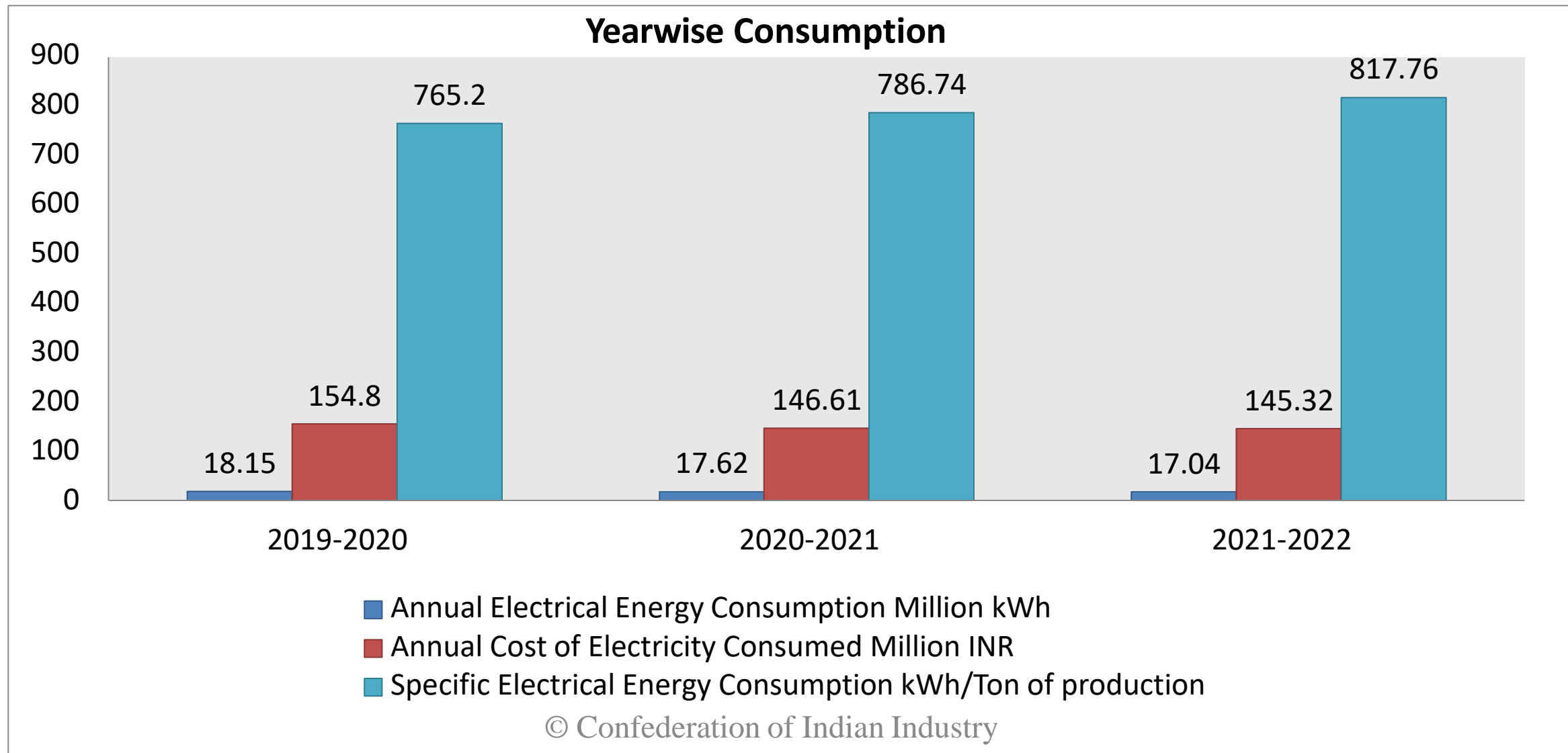
PPR Fittings Mainly Used  
For Air & Chemical

### 3. Sp. Energy Consumption in last 3 years (FY 19-20 to FY 21-22)

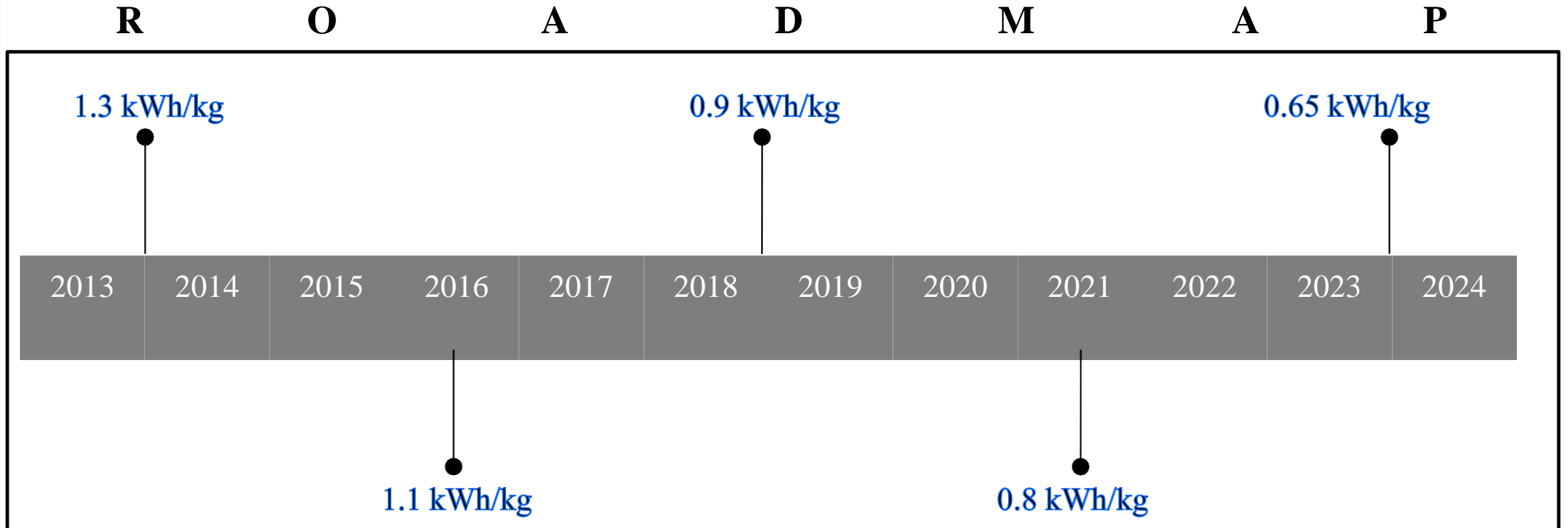
Parameters	Unit of Measurements	2019-2020	2020-2021	2021-2022
Annual Electrical Energy Consumption	Million kWh	18.15	17.62	17.04
Annual Cost of Electricity Consumed	Million INR	154.80	146.61	145.32
Annual Thermal Energy Consumption	Million kcal	0	0	0
Annual Cost of Thermal Energy Consumed	Million INR	0	0	0
Specific Electrical Energy Consumption	kWh/Ton of production	765.20	786.74	817.76
Specific Thermal Energy Consumption	kWh/Ton of production	0	0	0



### 3. Sp. Energy Consumption in last 3 years (FY 19-20 to FY 21-22)



# Journey of Energy Improvement



❖ The Journey from 1.3 kWh/kg to 0.8 kWh/kg the next target for year 2024 is 0.65 kWh/kg.

## The Team

“Why are we the ones to solve the problem we identified?”

Brain storming to create solutions → Selection of Team → Making resources available to the team → Implementation → Result

### Maintenance

#### Mr.Abhay C. Chaudhari

- Mr.B.B.Patil (Maint.)
- Mr.V.R.Patil (T/Room)
- Mr.V.L.PATIL(Prod.)

### Utility

#### Mr.Rajesh G. Koushik

- Mr.N.B.Patil (Maint.)
- Mr.S.J.Patil (T/Room)
- Mr.N.B.Patil(Prod.)

### Tool Room

#### Mr.Suresh A. Patil

- Mr.P.R.Patil (Maint.)
- Mr.D.B.Patil (T/Room)
- Mr.S.C.Patil (Prod.)

### Production

#### Mr.P. R. Chaudhari

- Mr.N.D.Patil (Maint.)
- Mr.R.J.Savkare (T/Room)
- Mr.G.J.Sonawane (Prod.)

# Identification of Project

- **Replacing old technology fixed hydraulic pump machines with Servo machine in phase wise.**
- **Productivity improvement by Increasing mould cavity.**
- **Optimize the Water distribution system for efficient mould cooling.**
- **Replaced reciprocation compressor with VDS Screw compressor.**
- **Purchasing of the Energy efficient equipment is Corporate policy**
- **Process Improvement-**
  - 1) **Cycle time improvement**
  - 2) **Pre-purging reduction**
  - 3) **Mould modification**

# Year wise Investment & Improvement Projects

Sr. No.	Particular	Unit	2019-2020	2020-2021	2021-2022
1	Up-gradation of Mould to higher Cavity	Rs.(million)	48.42	249.7	87.05
2	Replacement of old conventional machine with New servo machine	Rs.(million)	90.32	0	93.13
3	Modified air distribution system	Rs.(million)	4.66	0	0
4	Modification of water distribution system	Rs.(million)	1.93	0	0
5	Replacement of Reciprocating Compressor with Screw compressor VDS	Rs.(million)	0	0	0.81

## Process Improvement

Sr. No.	Particular	Unit	2019-2020	2020-2021	2021-2022
1)	Cycle time improvement	Nos.	323	125	289
2)	Pre-purging reduction	Nos.	154	89	97
3)	Mould modification	Nos.	115	92	111

# Implemented Projects

Replacement of old conventional machine with New servo machine



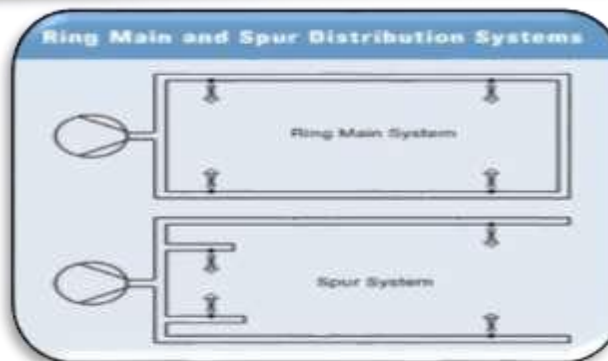
Clean Power-Harmonics and P.F systems



Modification of Pump House



Up-gradation of Mould to higher Cavity



Re-arrangement of Air line

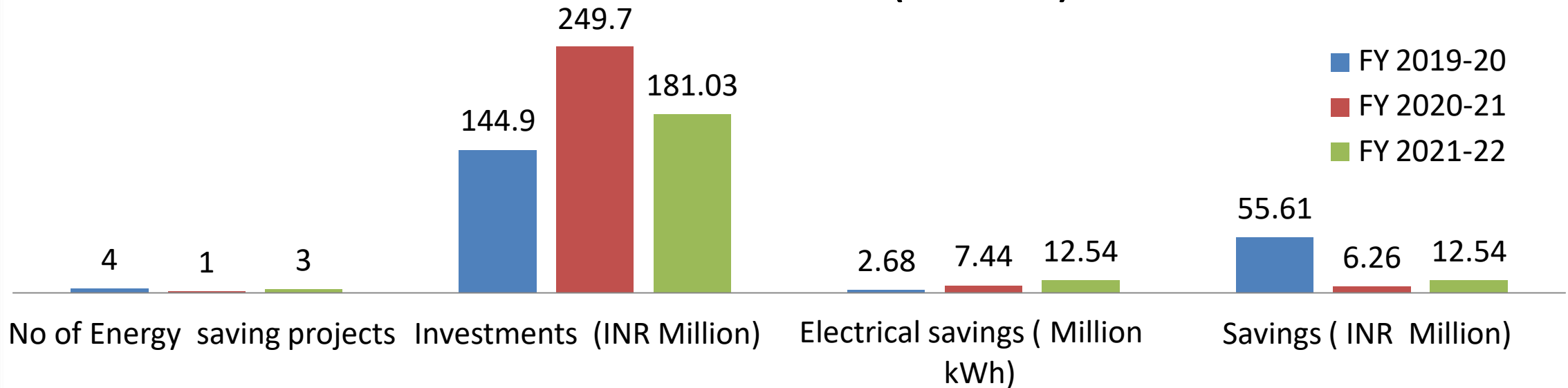


Water chiller and Compressor with VFD

## 5. Energy Saving projects implemented in last three years

Year	No of Energy saving projects	Investments (INR Million)	Electrical savings ( Million kWh)	Thermal savings ( Million Kcal/ MTOE)	Savings ( INR Million)	Impact on SEC
FY 2019-20	4	144.9	2.68		55.61	
FY 2020-21	1	249.7	7.44		6.26	
FY 2021-22	3	181.03	12.54		12.54	

**Year wise Investment (in million)**



# 6. Innovative Projects implemented



8 Cavity upgrade 16 cavity



6 Cavity upgrade 24 cavity



1 Cavity upgrade 8 cavity



6 Cavity upgrade 16 cavity

Manual ball valve testing with modified auto leak testing machine prod. increase by 20000/day



Auto material conveying system



Next Innovative trial successful  
• Hot runner mold (runner less)  
• 16 Cavity threaded nut





## 7a. Utilisation of Renewable Energy sources

### Unit Re- Details:-

Year	Technology (electrical)	Type of Energy	Onsite/Offsite	Installed Capacity (MW)	Generation (million kWh)	% of overall electrical energy
2019-20		Solar			0.386	2.13
2020-21		Solar			0.348	1.98
2021-22		Solar			0.325	1.91

### Group Re- Details:-

Years	On Site Solar Installed Capacity in Mwp	Solar Units (In Lakh)	Wind Units (In Lakh)	% of overall Electrical Energy	Group Capex On Solar
2019-20	6.12	78.79	169.82	9.18%	20.93 Cr
2020-21	8.60	86.72	166.42	10.04%	Under Opex
2021-22	17.08	102.85	227.28	12.37%	14.82 Cr
2022-23 (Under WIP Phase)					33.98 Cr
<b>Total</b>		<b>268.46</b>	<b>563.52</b>		<b>69.73 Cr</b>

## 7b. Addition of 1.05 MW Solar plant (21-22)

Parameters	2019-2020	2020-2021	2021-2022
Name of Project Implemented			Solar Project
Capacity Addition (MW)			1.05
Investment Made(million)			35.4
Power Generation(kWh)			1.44
Group total capacity(MW)			17.09
Unit total capacity(MW)			1.44
Next year plan (MW)			1.5



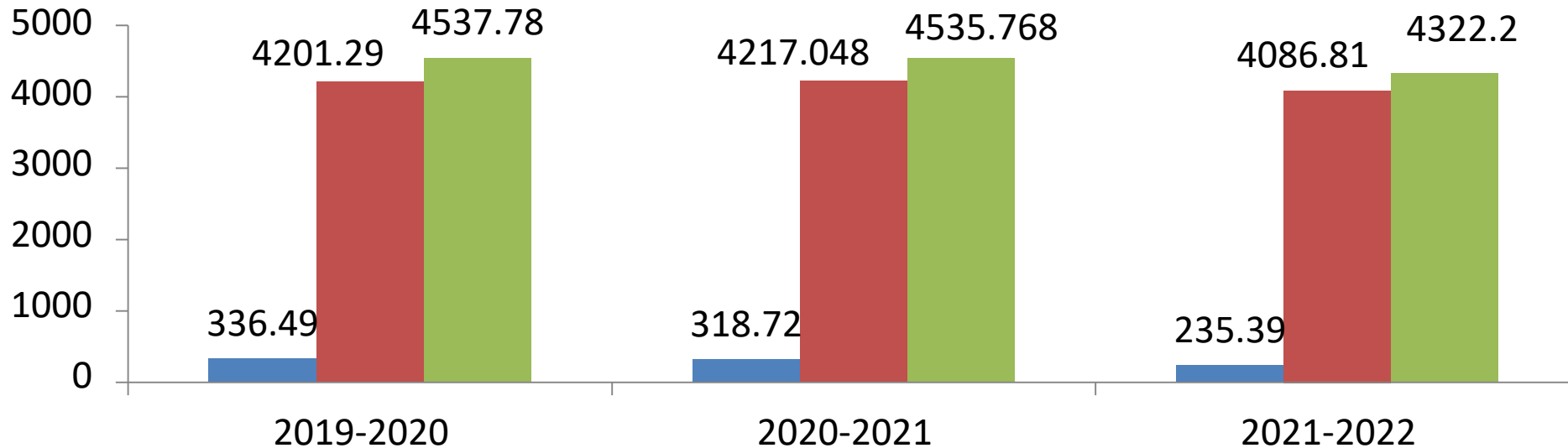
## 8. Waste utilisation and management

Sr. No	Year (FY 19-20 to FY 21-22)	Type of waste generated	Quantity of waste generated (MT/year)	Disposal method
1	2019-20	Wooden Scrap	159.34	Sale to Authorized Vendor
2	2019-20	Corrugated PVC bags	51.52	Sale to Authorized Vendor
3	2019-20	MS Scrap	49.89	Sale to Authorized Vendor
4	2019-20	Paper waste	75.74	Sale to Authorized Vendor
5	2019-20	Plastic Scrap	4201.29	Recycle and reused
	<b>Total Scrap</b>	<b>4537.78</b>	<b>Total Recycle scrap</b>	<b>4201.29</b>
1	2020-21	Wooden Scrap	115.25	Sale to Authorized Vendor
2	2020-21	Corrugated PVC bags	48.85	Sale to Authorized Vendor
3	2020-21	MS Scrap	17.3	Sale to Authorized Vendor
4	2020-21	Paper waste	137.32	Sale to Authorized Vendor
5	2020-21	Plastic Scrap	4217.048	Recycle and reused
	<b>Total Scrap</b>	<b>4535.78</b>	<b>Total Recycle scrap</b>	<b>4217.048</b>
1	2021-22	Wooden Scrap	34.17	Sale to Authorized Vendor
2	2021-22	Corrugated PVC bags	72.9	Sale to Authorized Vendor
3	2021-22	MS Scrap	35.75	Sale to Authorized Vendor
4	2021-22	Paper waste	92.57	Sale to Authorized Vendor
5	2021-22	Plastic Scrap	4086.81	Recycle and reused
	<b>Total Scrap</b>	<b>4322.2</b>	<b>Total Recycle scrap</b>	<b>4086.81</b>

# Graphical representation Year wise of Waste utilisation

Scrap Generated	2019-2020	2020-2021	2021-2022
Sale To Authorized Vendor	336.49	318.72	235.39
Recycle and Reused	4201.29	4217.048	4086.81
Total Scrap	4537.78	4535.768	4322.2

■ Sale To Authorized Vendor ■ Recycle and Reused ■ Total Scrap



# Group Energy Mix Consumption (In Lakh)



Particulars	FY 2019-20 (Actual)	FY 2020-21 (Actual)	FY 2021-22 (Actual)	FY 2022-23 (Budget)	FY 2023-24 (Budget)
Discom Units	2,414.83	2,238.09	2,301.69	2,235.60	2,285.00
DG Units	43.33	29.03	27.22	27.00	27.00
Wind Units	78.89	86.72	102.85	147.00 ↑	147.00
Solar-Capex	49.65	42.17	48.45	307.00 ↑	364.00
Hybrid Power			-	35.00 ↑	142.00
Solar Third Party	120.17	124.25	178.83	279.40 ↑	290.00
Office & Depot			9.18	10.00	10.00
<b>Total</b>	<b>2,706.87</b>	<b>2,520.26</b>	<b>2,668.22</b>	<b>3,041.00</b>	<b>3,265.00</b>

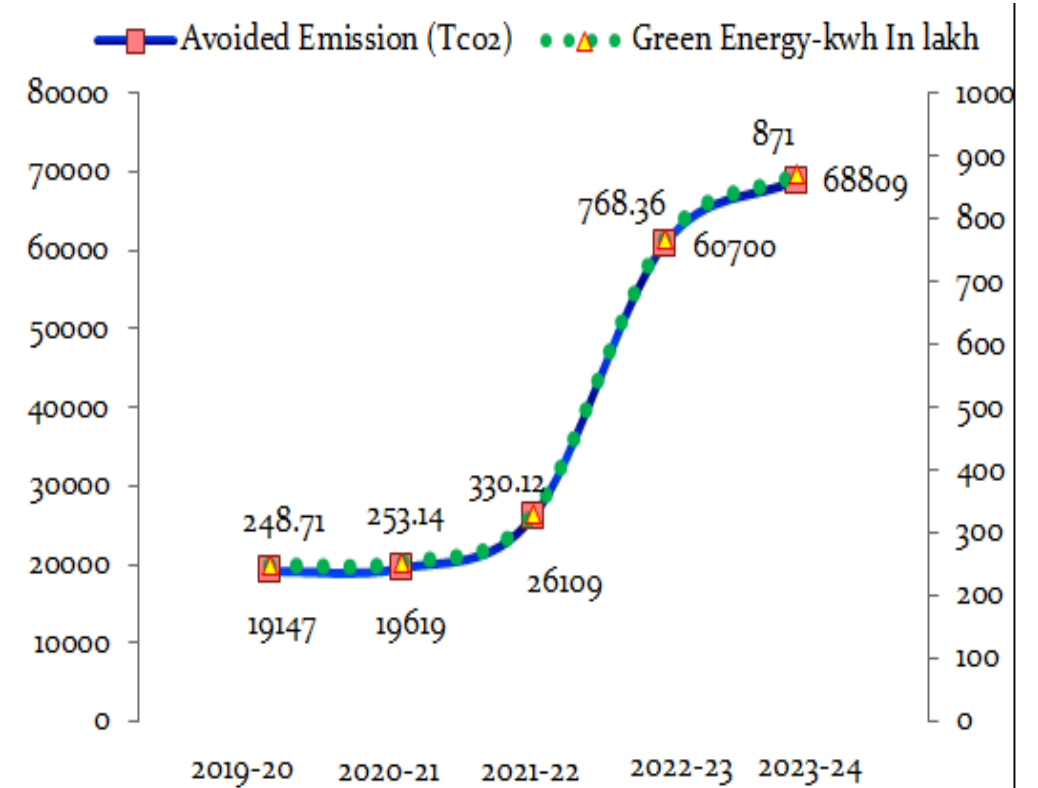
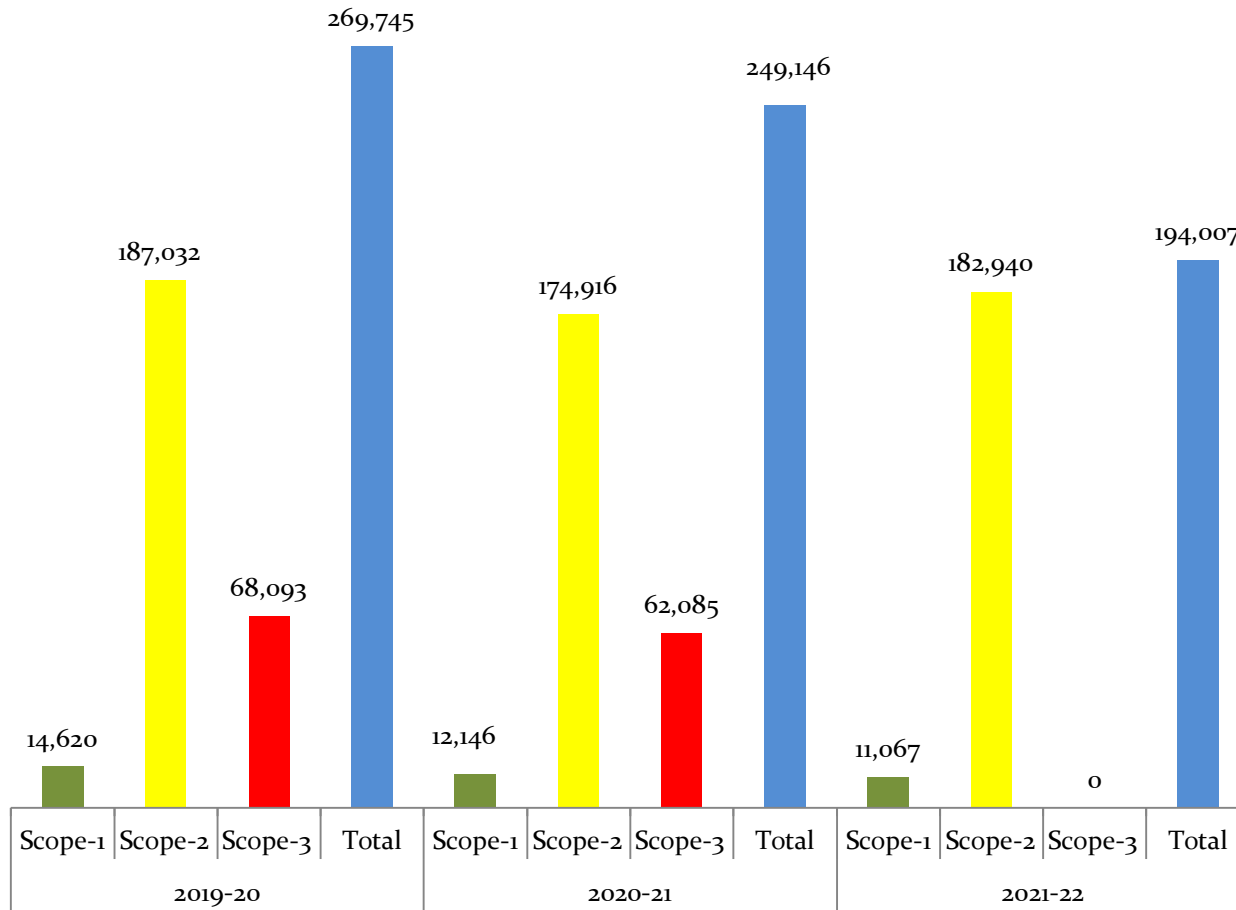
## 9. GHG Inventorisation

**Information on GHG Inventorisation and public disclosure-** Company listed at stock exchange and voluntary adopted BRSR reporting from FY 21-22

### Unit GHG Emission Details:-

Year	Absolute Emission TCo2	Emission Intensity kgCo2/MT
2021-22 (Exclude Scope-3)	11,061	531.52
2020-21	14,470	833.50
2019-20	14,921	815.93

# Group Carbon Dashboard



# Group Sustainability Targets

## Short Term

- Replace 25% Energy
- Energy cost reduction by 8-9% by Re-Power
- Reduction in GHG Emission by 2%-3% by 2024-25

## Long Term

- Reduce Power Cost by efficient discom Tariff utilization.
- Application of new IoT technology in Mfg. Process
- Low Carbon Emission by substitution of fuel LPG to PNG
- EnMS 50001 **certification**

## Installation of Roof Top Solar

- FY 22-23 10 Mwp
- FY 23-24 4 Mwp
- FY 24-25- 4 Mwp



# 11. Teamwork, Employee Involvement & Monitoring

1. Robust energy monitoring system
2. In process of Implementation of the ISO 50001-2018 & focused approach on energy efficiency
3. Imparting the training of our team for the resource saving & sustainable development
4. Encourage Innovative technology for the Energy improvement
5. Use of Energy efficient motors IE-3
6. Enhanced the Sun light for Day time
7. Material feeding automation on injection molding machine
  - A) Replacement of HPMV/Mercury lamp by LED light.
  - B) Motor protection circuits are improved with sensitive overload relays to avoid frequent failure in Induction motor.
  - C) Water pipe line changed to higher sizes of pipe to improve Mixer cooling.
  - D) Conveyer installed for Moment of the material plant reduced to Vehicle transportation results in diesel saving. and made in operation to improve material dispatch time.

## 12. Implementation of ISO 50001

- ISO 50001 brings an effective process to measure and manage energy use in order to reduce or manage energy usage and operating costs.
- Implementation of ISO 50001 in our Unit is under Process.
- Ist stages audit successfully completed on 30/07/2022 with Zero NC.

## 13. Learning from CII Energy Award or any other award program

- ✓ 1.Awareness towards Energy saving.
- ✓ 2.Data Collection methods.
- ✓ 3.Data review & result analysis.
- ✓ 4.The Actions had been fixed based on the data analysis.
- ✓ 5.Habits developed to buying energy efficient machines.
- ✓ 6.Encouragement to work on projects.
- ✓ 7.Learning & methods to fix the wastages & reuse.

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**THANK YOU**

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