HL Mando / **Our vision is your freedom.**
In our creation, your tomorrow will be safer, greener and easier.

HL Mando Anand India Private Limited

Team Members,
Mr. Komahan (Manager)
Ms. Amaar Jyothy (Sr.Executive)
Ms. Bijinaya (Sr.Executive)

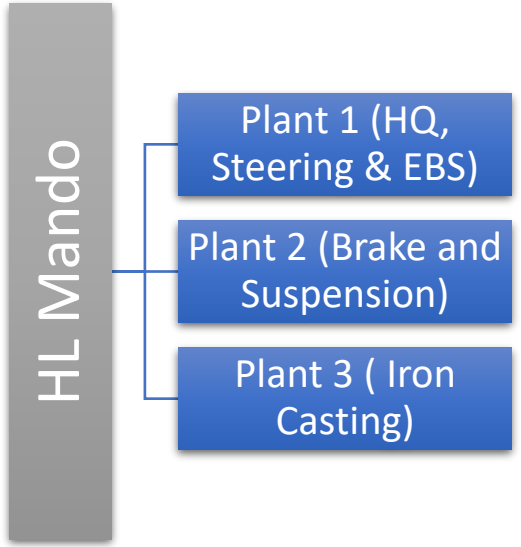
Our vision is your freedom
In our creation, your tomorrow will be safer, greener and easier

ProAktiv EHS

HL Mando Anand India Overview

❑ General Profile

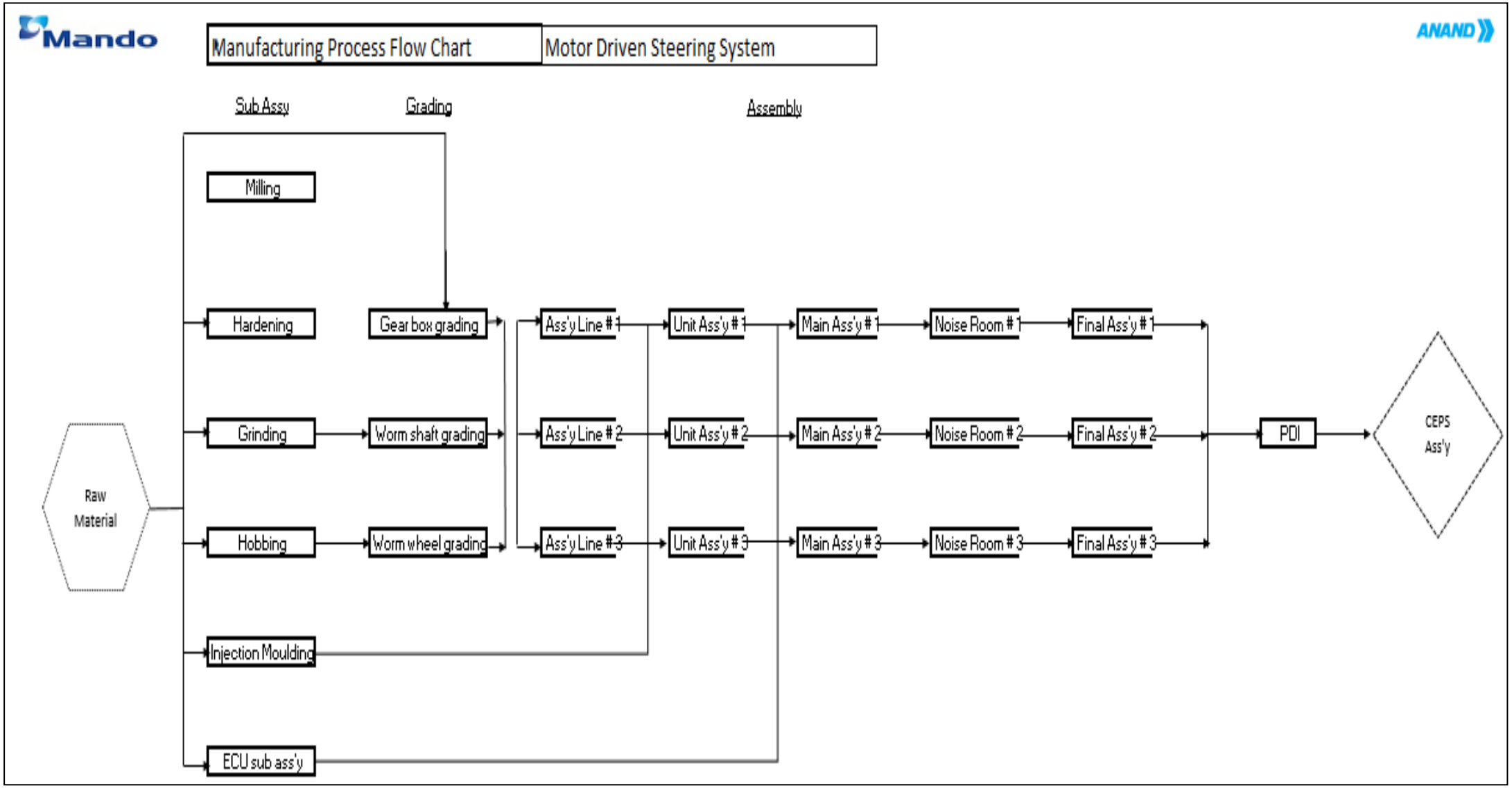
- ✓ **Incorporation:** September 1997 ~
- ✓ **Capital :** U$ 32 Million (HL Mando Corporation 71%/ Anand Group 29%)
- ✓ **Number of Employee :** 2961 (as of Dec'23)
- ✓ **Sales Revenue :** U$ 625 Million ('23)



❑ Manufacturing Plant:

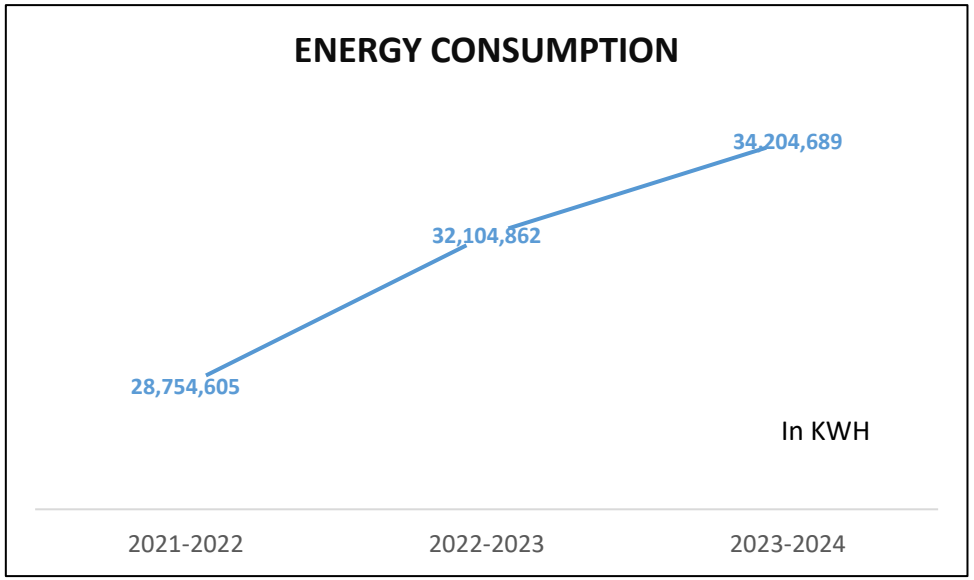
Steering	Brakes	Suspension
CEPS System, IMS, Manual Steering Gear, DP-EPS System	M/BSTR, Caliper, Drum Brake, EPB, Strut, S/ABS, DSM	ABS, ESC

Process Flowchart:



Overall Energy Consumption:

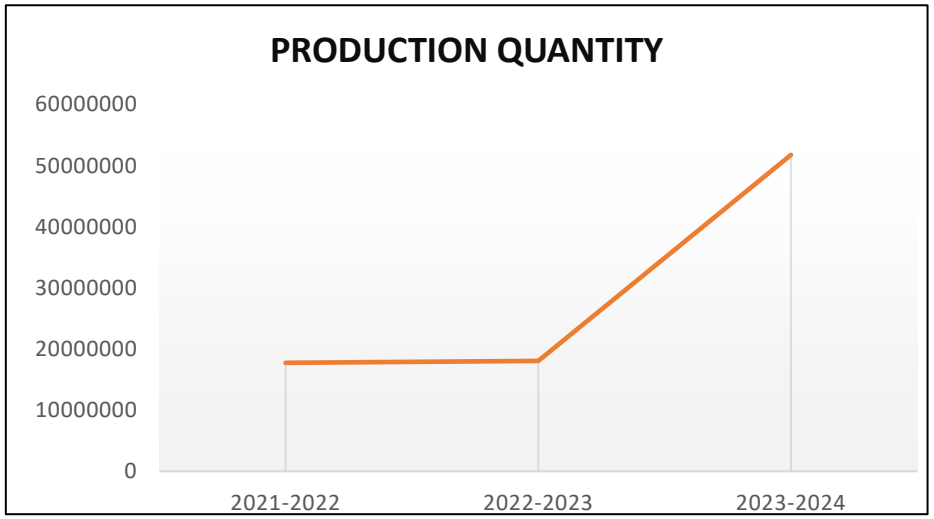
Year	Energy Consumption (MWH)
2021-2022	28,754
2022-2023	32,105
2023-2024	34,205



- Based on production volume increase (2022-2023), energy consumption increases.
- In 2023-2024 Energy consumption as well production data increases.

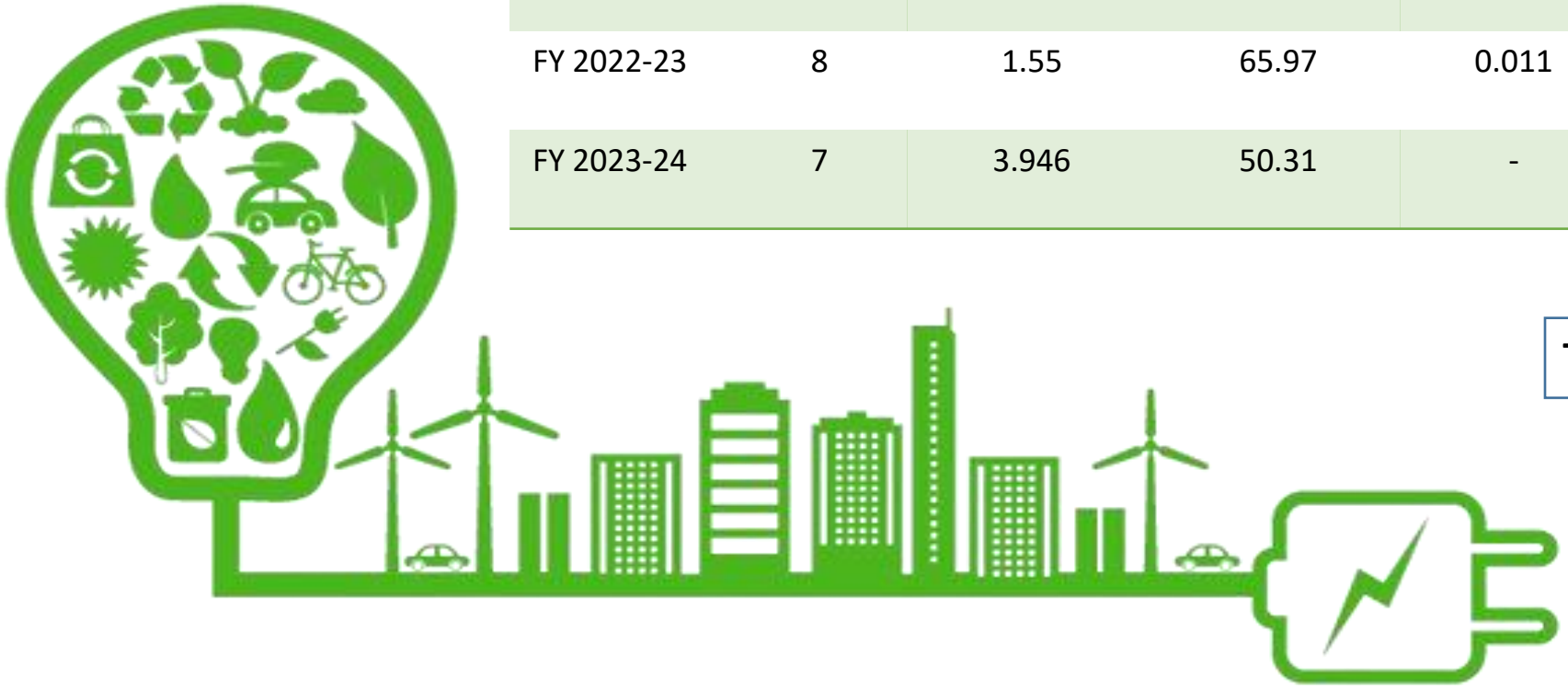
Production data (EA):

2021-2022	2022-2023	2023-2024
1,77,44,702	1,80,77,829	5,17,51,504



Energy saving projects in last three years:

Year	No of Energy saving project	Investment (INR Million)	Electrical Savings (million KWH)	Thermal savings (Million Kcal)	Total Savings (INR Million)	Payback period (in months)
FY 2021-22	5	4.915	34.57	-	1.289	12
FY 2022-23	8	1.55	65.97	0.011	2.2724	14
FY 2023-24	7	3.946	50.31	-	3.191	13



Total Energy saving project: 20 no's

Year: 2021 - 2022

Name of Energy saving project	Investments (INR Million)	Annual Electrical savings (Million kWh)	Annual Thermal savings (Million Kcal)	Total Annual Savings (INR Million)	Payback period (in months)
Sodium lamp to LED lamp	1.18	75600	-	0.64	22.12
AC Auto cutoff during lunch time	0	53196	-	0.45	0
Introducing BLDC fan at shop floor	0.13	9360	-	0.079	19.75
Installation of motion sensor light	0.005	14400	-	0.12	0.5
Diesel boiler to LPG boiler	3.6	0	0.011	6.0	7.2

Year: 2022 - 2023

Name of Energy saving projects	Investments (INR Million)	Annual Electrical savings (Million kWh)	Annual Thermal savings (Million Kcal)	Total Annual Savings (INR Million)	Payback period (in months)
Mist collector running hour reduction	0	2054.4	-	0.0174	0
Shop floor machine excess lux reduction	0.05	7488	-	0.063	9.52
HCUAI2 Conveyor idle power auto cutoff	0	13104	-	0.111	0
Centralized Vacuum pump connected with VFD	0	10913.76	-	0.092	0
EVBM PDI Spot AC change to normal fan	0	28455	-	0.241	0
LPG kitchen to E-Kitchen conversion	1.5	0	0.011	0.99	18.18

Year: 2023 - 2024

Name of Energy saving projects	Investments (INR Million)	Annual Electrical savings (Million kWh)	Annual Thermal savings (Million Kcal)	Total Annual Savings (INR Million)	Payback period (in months)
High power consumption LED to lower	0.078	18876	-	0.16	5.85
Isolated Gate Bipolar Transistor Type UPS	0.068	10512	-	0.089	9.17
Kitchen Exhaust Auto cutoff at idle condition	0.01	19440	-	0.165	0.73
Self cleaning of AC outdoor unit coil	0	119839	-	1.011	0
Conversion of non invertor AC to invertor AC	0.69	65208	-	0.55	15.05
Conversion of split AC into duct AC	0.10	8986	-	0.076	15.79

Project plan: (2024-2025)

- Machine conveyor Idle time auto cut off - **Power saving : 13,104 Kwh/year**
- Elimination of Plating Oscillation motor - **Power saving : 32,400 Kwh/year**
- Nature cooling transformer replaced with Fore cooling transformer - **Power saving : 1,34,169 Kwh**
- Cooling fan pedestal fan to normal fan – **Power Saving 28,454.4 Kwh/year**
- HP motor connected to PLC for auto cutoff **- Power saving : 69,254 Kwh/year**

Sustainability Action Plan:

HL Mando ANAND	Renewable Energy road map				
Source	**Type of Renewable**	**Plan in Kwh**			
		2024	**2025**	**2026**	**2027**
PPA	Solar	35904000	54264000	60921315	69570637.5
	Wind		13020000	10546200	11848200
Third Party	Solar	2640000	1795500	3990000	3990000
	Wind	17360000	2790000	6200000	6200000
Total Renewable Energy		**5,59,04,000**	**7,18,69,500**	**8,16,57,515**	**9,16,08,838**
Total power consumtpion projection	Plant-1	1,44,00,000	1,58,40,000	1,74,24,000	1,91,66,400
	Plant-2	1,80,00,000	1,98,00,000	2,17,80,000	2,39,58,000
	Plant-3	4,44,00,000	4,88,40,000	5,37,24,000	5,90,96,400
	Total	7,68,00,000	8,44,80,000	9,29,28,000	10,22,20,800
Percentage of renewable energy	**Plant-1**	**73%**	**85%**	**88%**	**90%**
	Plant-2	**73%**	**85%**	**88%**	**90%**
	Plant-3	**73%**	**85%**	**88%**	**90%**
Grid power	**All Plant**	**27%**	**15%**	**12%**	**10%**
Carbon Neutrality	**All Plant**	**100%**	**100%**	**100%**	**100%**
Zero waste to landfill	**All Plant**	**100%**	**100%**	**100%**	**100%**

1.ETP sludge volume reduction

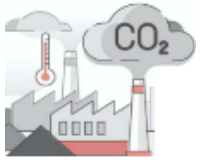
- To reduce the volume of Sludge.
- Lesser no. of Trips by the truck carrying the Sludge.

Sludge (From ETP) → Sludge loaded into tray dryer → Volume reduction of sludge

a)Sludge with water content in it

b)Tray dryer in which sludge is loaded

c)Dried Sludge



CO_2 footprint reduced – 393 Kg's / month

1.ETP sludge volume reduction

Dried Sludge

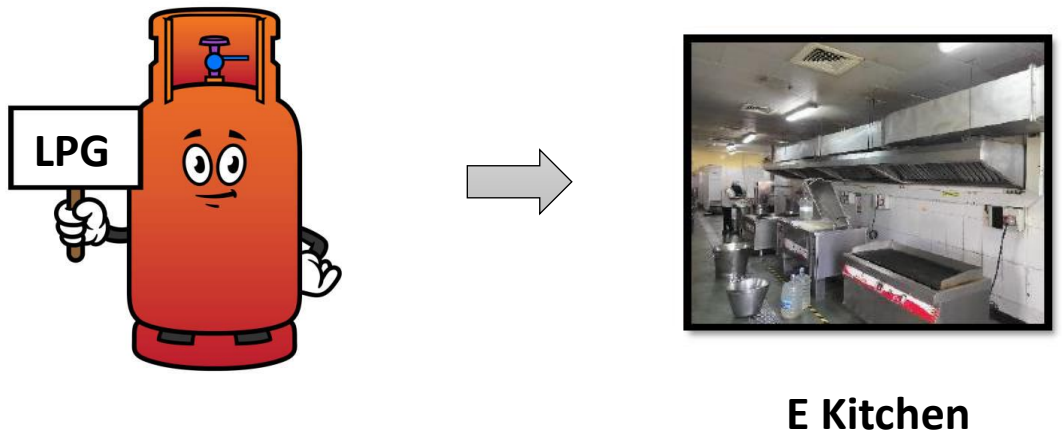
Cotton waste, Spent oil, Grinding sludge waste

Co process

Cement Industry

2.LPG Kitchen to E Kitchen

- LPG kitchen have been converted to electrical kitchen.
- Power consumption for Renewable energy
- Power consumed per month (KWH): ~13292.4



E Kitchen

Result/Benefits:

- Cost Savings : 1987,014.6 /year
- Elimination of risk in LPG handling
- Carbon footprint reduction:25,536 tons/ year.

CO_2 footprint reduced – 2,394 Kgs / month

Investment	Cost saving	ROI
40 lakhs	19 lakhs/year	2 years

3.Mobile fuel station for company owned vehicle

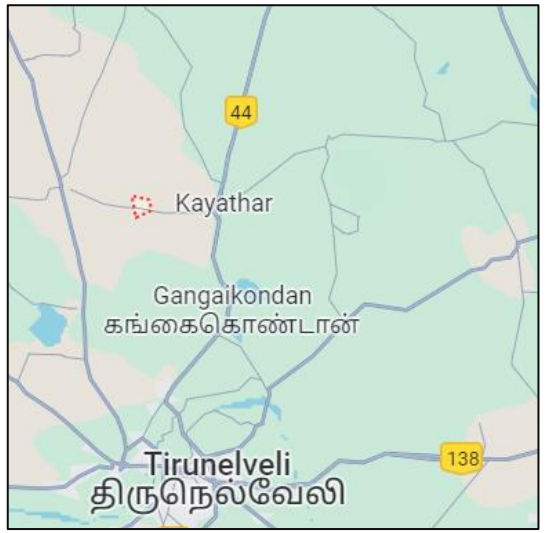
- Fuel for the vehicle is being filled inside the factory.
- This reduces the transportation distance and GHG emission of the vehicle to go and fill the fuel at out station.

Then	Now
	 In house

CO_2 footprint reduced – 873 Kgs / month

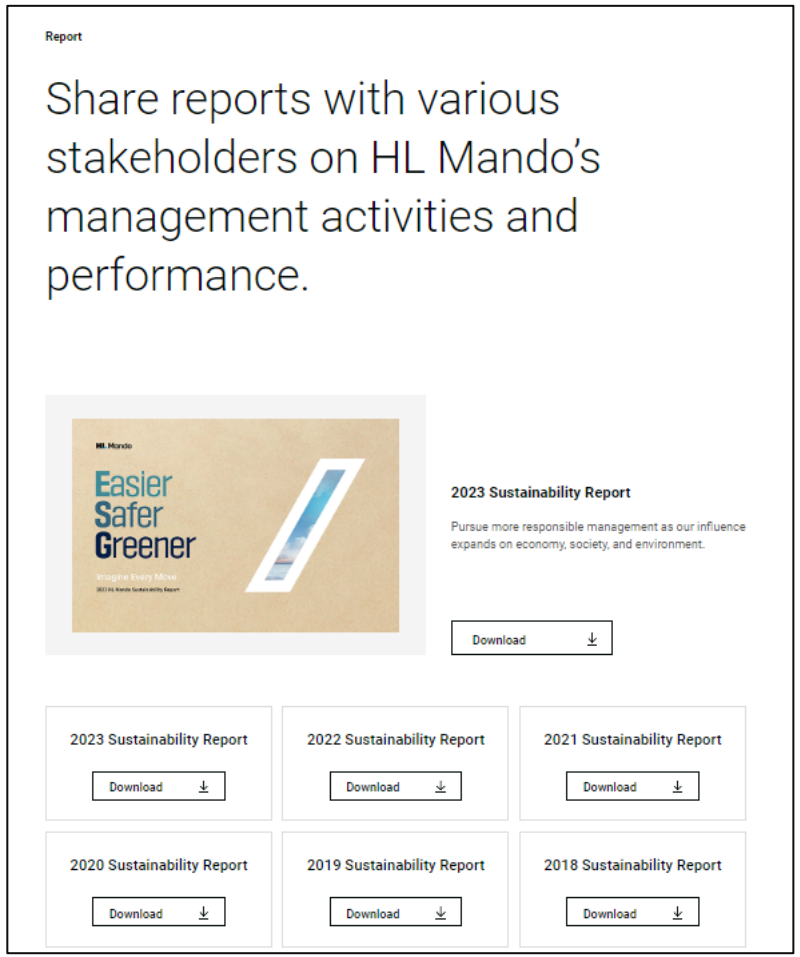
Utilisation of Renewable Energy sources (Off site):

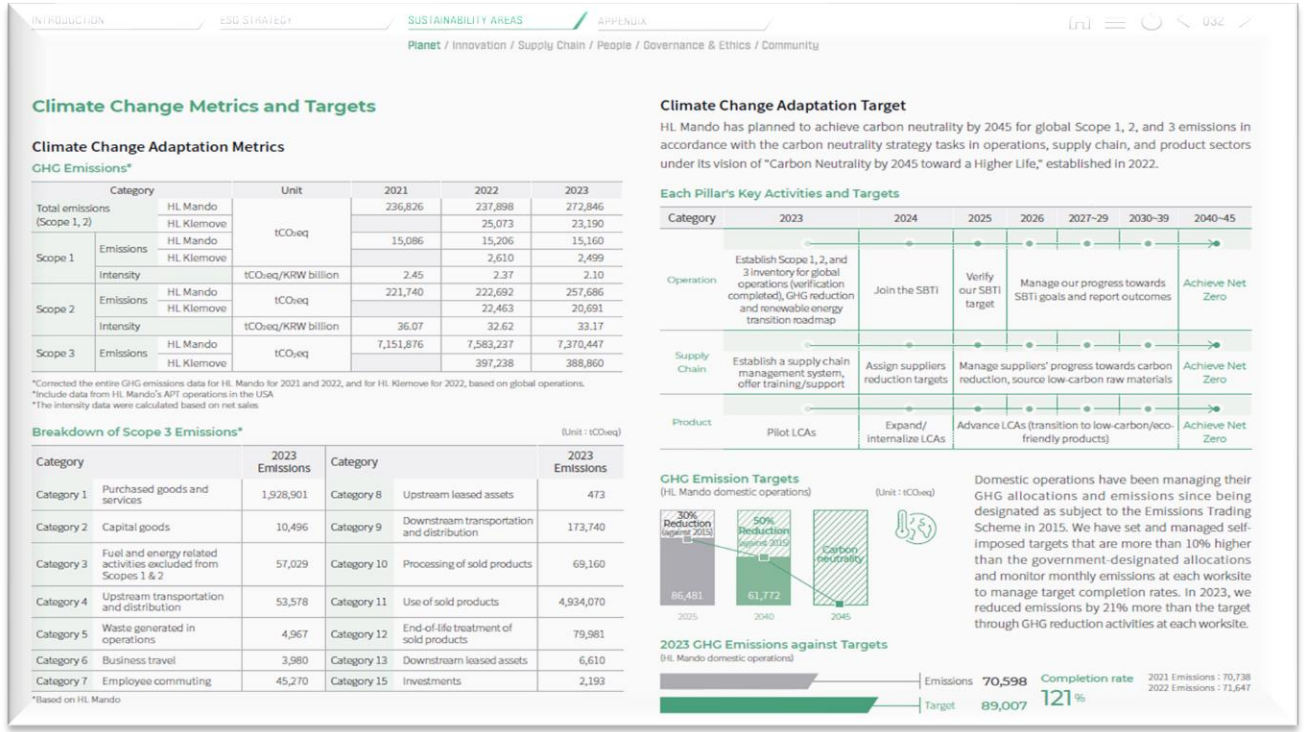
Year	Source (Solar, wind, etc.,)	Capacity addition (MW) after FY 2021	Total Generation (million kWh)	Share % w.r.t to overall energy consumption
FY 2021-22	Solar and Wind	-	20.5	72.18
FY 2022-23	Solar and Wind	2.0	22.5	71.41
FY 2023-24	Solar and Wind	-	7.2	10.53



Our Solar Power plant at Tirunelveli

GHG Inventorisation:





Year	Scope 1 (Kg CO2/Equivalent Product)	Scope 2 (Kg CO2/Equivalent Product)	Scope 3 (Kg CO2/Equivalent Product)
2021-2022	0.102	0.314	7.2
2022-2023	0.094	0.620	6.39
2023-2024	0.443	15.99	4.66

Short term & Long term plan:

HL MAIL ESG - Long term plan:

Our key ambitions for 2040

We and our value chain partner's are striving for,

- 100% - Carbon Neutrality along with our entire value chain
- 100% - Emission free mobility and industry
- 100% - Circular Economy
- 100% - Responsible value chain

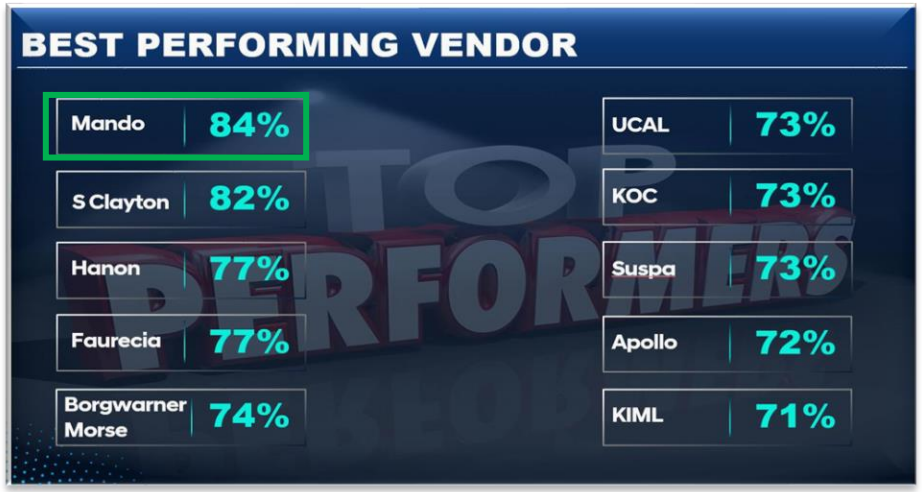
+ 6 Essentials

- ❑ Affordable and clean energy
- ❑ Good working condition
- ❑ Safe mobility
- ❑ Sustainable management practices
- ❑ Decent work & Economic growth
- ❑ Responsible consumption and production

Plan – 2024:

	Project Plan for 2024	Expected Outcome
Carbon Neutrality	Renewable energy – 80%	~5,850,000 units of renewable energy
Carbon Neutrality	Recycling of pet bottles	~48 kg/Year of PET bottle recycle
Carbon Neutrality	100% recycling of hazardous waste	Alternate fuel to cement industry
Carbon Neutrality	Diesel forklift conversion	~21,072 kg of CO_2 emitted per Year
Water Neutrality	Automatic utensil washer (Completed)	~78 Kl/Month water consumption reduction
Water Neutrality	Rain water utilization for production	~ 2400 Kl/year water consumption
Water Neutrality	DM water plant (Water Recovery from STP)	~600 kl/year water consumption
Social	Road side greenery development	5000+ tree plantation
Social	Awareness creation for nearby village/college/school	Awareness to society

HMI ESG Score:



HL Mando MD and HOT (EHS) receiving DERI Assessment Award from HMI ED

Waste recycle

— 100% of Hazardous waste recycle

Cotton waste

ETP Sludge waste

Oil waste

Grinding Sludge waste

Co process

Cement Industry

No Incineration

No Landfill

Waste Receipt From Industries

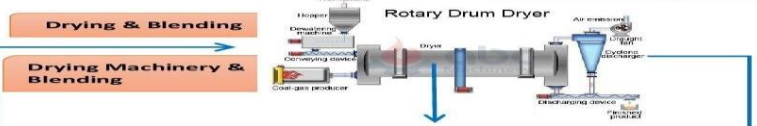
Random & Composite Sampling of each consignment

Quick Check Analysis

Waste Segregation as per process route wise

Hazardous Waste Labeling for process route wise

Hazardous Waste Storage Shed



Dispatch to Cement units for Co-processing

Final Product

Vibro Screening

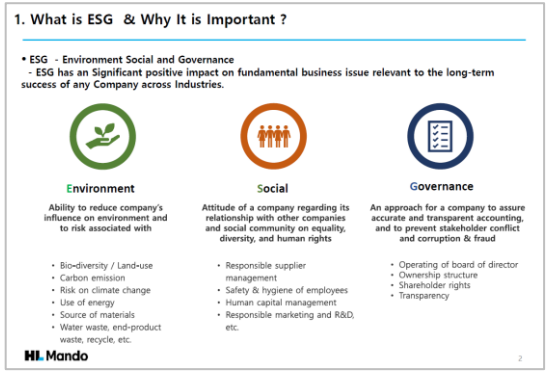
Co processing is a process or activity in which hazardous wastes are used either as fuel or raw material or both in cement industry.

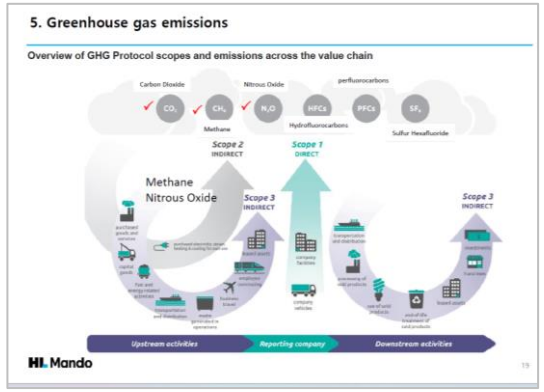
Green Supply Chain Management:

◈ ESG Training

ESG Training :

ESG Questioner Reference Manual

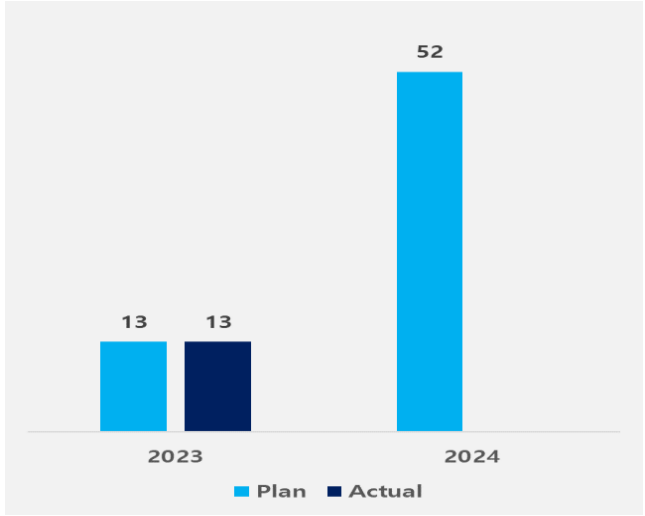


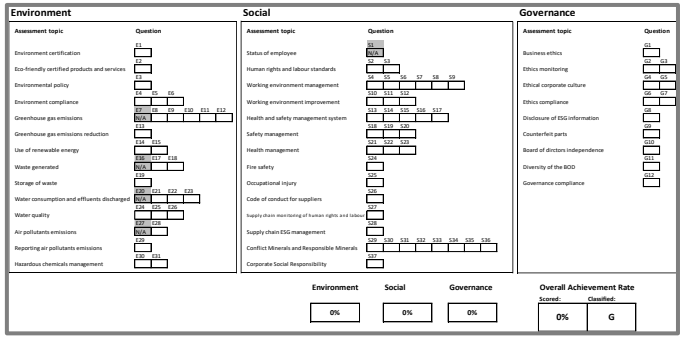


ESG Trainings : covered all suppliers

form Y2023~Till date

◈ ESG Audits





ESG Audit	Questions	Weightage	Score & Grade		
Environment	31	38%	A≥90	B≥ 80	
Social	37	47%	C≥ 70	D≥ 60	
Governance	12	15%	E≥ 50	F≥ 40	G<30

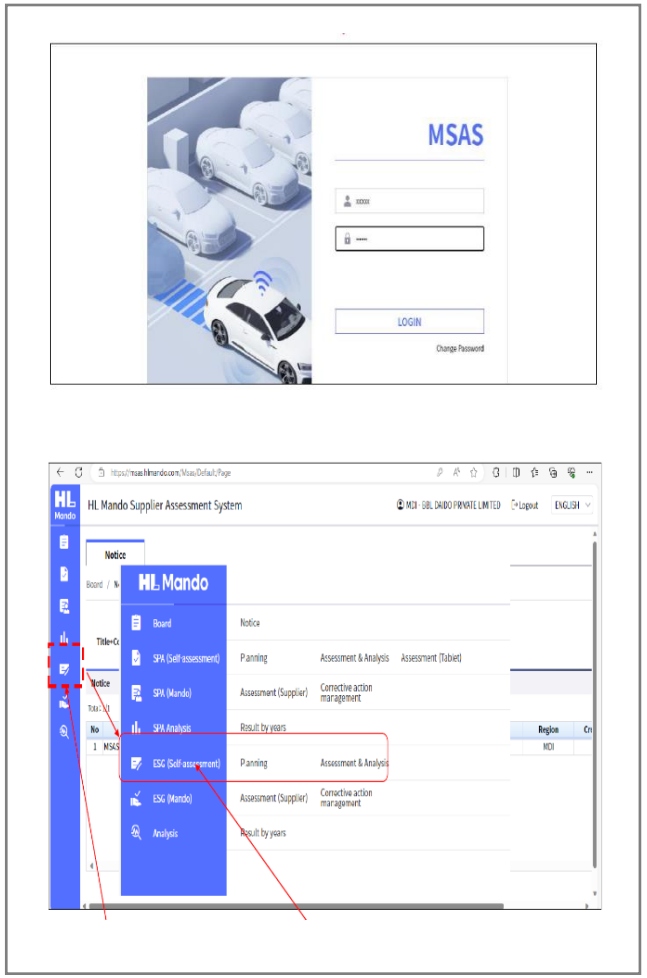
◈ 2024 Partners day ESG Emphasizing

[Partners day 2024]

ESG Session arranged for enforcing ESG

Green Supply Chain Management:

◈ ESG Audit Online Portal



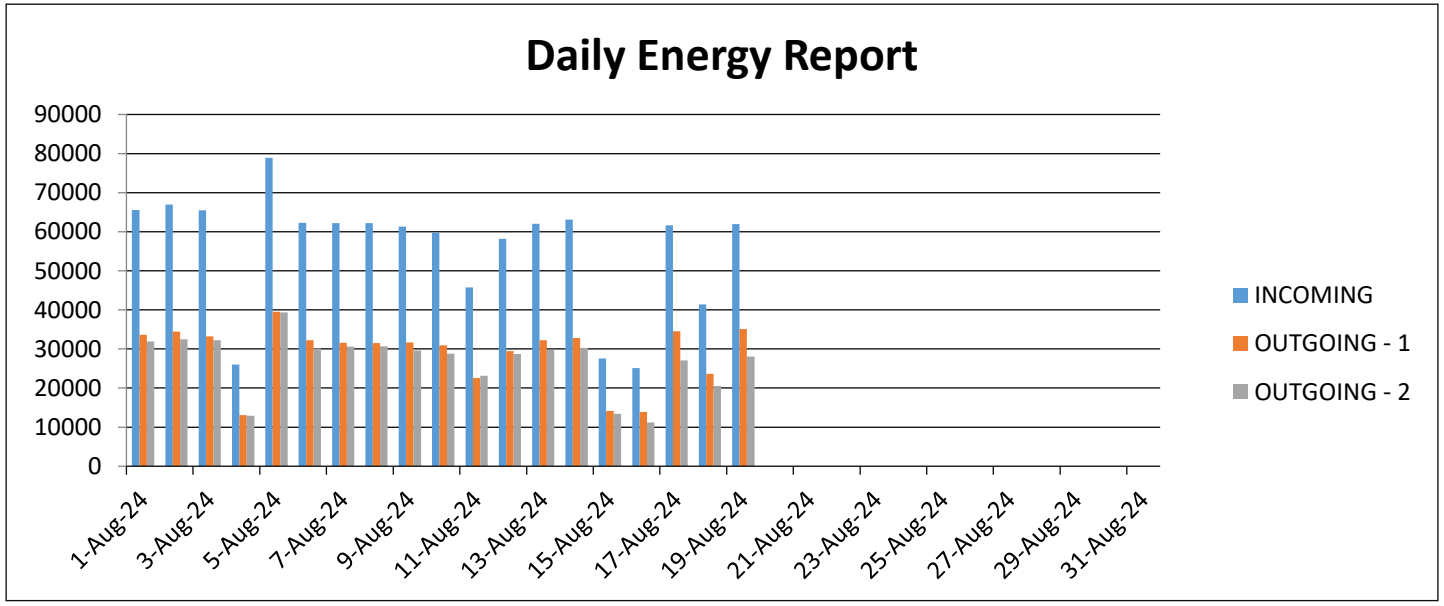
◈ ESG Audit Report manner

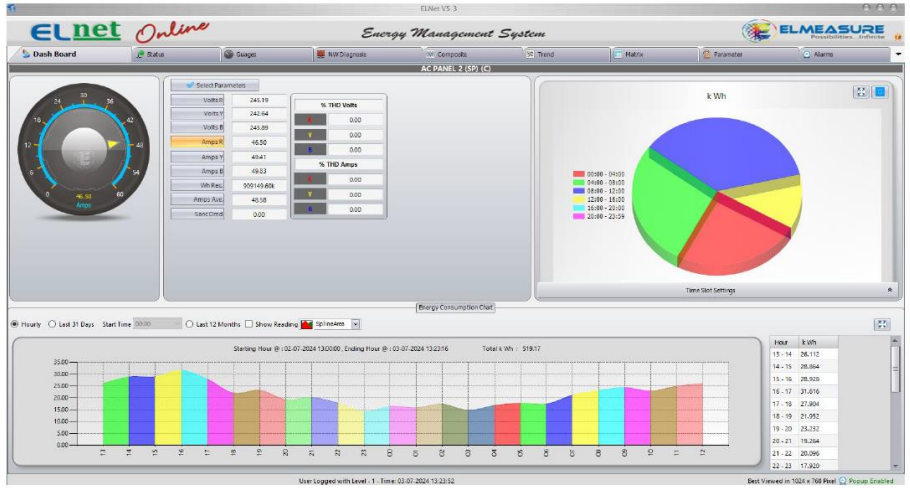
EMS and other requirements

Energy Monitoring system:

- Energy Monitoring system helps us to monitor and control our energy consumption.

Power Wastage **Real time monitoring**





EMS and other requirements

ISO 50001 Certification:

Target for Audit:

- First stage – By Nov, 2024
- Second stage – By Dec, 2024

ROAD MAP FOR ACHEVING ISO 50001:2018 CERTIFICATION

Customer : M/S. Mando Automotive India Private Limited | Rev. No: 04 | Date : 12.08.2024

#	ACTIVITY	RESP	Apr-24			May-24				Jun-24				Jul-24				Aug-24				Sep-24			
			2nd week	3rd week	4th week	1st week	2nd week	3rd week	4th week	1st week	2nd week	3rd week	4th week	1st week	2nd week	3rd week	4th week	1st week	2nd week	3rd week	4th week	1st week	2nd week	3rd week	4th week
1	Kickoff Meeting	SCS																							
2	Briefing for ISO 50001:2018	SCS																							
3	Define and Establishing EnMS Policy & Objectives (Organizational Objectives and Department Objectives) and Communicating the same across the organization	SCS/ Client																							
ESTABLISHMENT																									
4	Formation of Core Team for EnMS Core Team	Client																							
5	Gap analysis of w.r.t EnMS	SCS																							
6	Preparation of Manual and Procedures	SCS / Client																							
7	Preparation of related Formats (All department, Legal and other requirements)	SCS																							
8	Fixing Roles, Responsibility, Authority & Accountability for EnMS	Client																							
9	No of departments/Process/ Activity identified for EnMS	SCS																							
10	Formation of Documents & Records w.r.t EnMS	SCS																							
11	Establishment of EnMS Procedures	SCS																							
12	Identifying Certifying body	SCS / Client																							
13	Identify EnPIS & SEU and fix Energy based Lines	SCS / Client																							
IMPLEMENTATION																									
14	Implementation of EnMS Policy(Displayed and communicate to all employees and staffs)	Client																							
15	Implementation of Documents & records w.r.t EnMS	Client																							
16	Measure of Performance w.r.t to EnMS (Last three Months data collection)	Client																							

Life Cycle Assessment :

Mando | ANAND

Environmental Occupational Health & Safety Management System

Product Life Cycle Study - Brakes & Suspension

Sl. No	Stage	Process	Element	Whether Eco friendly material (Yes or No)	Whether Hazardous material (Yes or No)	Whether eco-friendly material available to replace hazardous material (Yes or No, If yes, give details)	Applying of Reuse principles as applicable	Recycling opportunities Available (Yes or No, If yes, explain)	Remarks
1	Product, Design and Development	Product design done by Mando Corporation Korea .. For HYUNDAI Additional life cycle perspective requirements are completed as per applicable rules and regulations during design and development phase itself . Presently Localization part development process handled by MANDO .							
2	Procurement of Products & Services	Following used products and services to be considered while establishing the controls For life cycle perspective.							
		RM	Aluminium castings	Yes	No	NA		Yes	Sent For Recycling
			Cast iron Casting	Yes	No	NA	-	Yes	Sent For Recycling
			Zinc bar	Yes	No	NA	-	Yes	Sent For Recycling
		Housing - Machining	Consumables						
			Coolant	No	Yes	NA	-	Yes	Recycled in ETP
			EM Water	Yes	No	NA	-	Yes	Recycled in ETP
		Assembly line	Rubber parts (Seal, 'O' ring, dust cap, diaphram, gasket)	No	No	NA	-	Yes	Return to supplier
			Aluminium child parts(Piston , etc)	yes	No	NA	-	Yes	Return to supplier
			Plastic (Plugs)	No	No	NA		Yes	Return to supplier
		Suspension	Rubber parts (Upper bush , , lower bush , Insulator cap)	No	No	NA	-	Yes	Return to supplier
			stainless steel	yes	No	NA	-	Yes	Return to supplier
			Plastic (dust seal , dust cap)	No	No	NA		Yes	Return to supplier
		Equipment Maintenance	Hydraulic oil tilt -	No	yes	NA	-	Yes	Sent For reprocessing to TNPCB approved authorized vendor
			Lub oil tilt	No	yes	NA	-	Yes	Sent For reprocessing to TNPCB approved authorized vendor
			Diesel- EVOPORATOR BOILER / DG	No	Yes	No	No	-	Consumed entirely
			STP/ETP Chemicals (caustic soda/oil/chlorine/polyelectrolyte/alum/sodium hypo chloride/lime)	No	Yes	No			Consumed entirely
			Air quality monitoring						Ambient and indoor air quality maintained as per compliance
			Spillage of oils/fuel/chemicals						Controlled by DPC/spill clean kit
		Waste stream	oil soaked cotton waste	No	Yes	No	-	No	Sent to authorized recyclers for incineration
			Chemical containers	No	Yes	No		No	Sent to authorized vendor
			used oil	No	Yes	No		Yes	sent for reprocessing
			ETP Sludge / Salt	No	Yes	No	No	Yes	Sent to TNWML for disposal
			Process reject /sample product (Metal)	Yes	No	No		Yes	Return to supplier
			Process reject /sample product - Rubber	No	No	NA		Yes	Return to supplier
			Process reject /sample product - Plastic	No	No	NA		Yes	Return to supplier
3	Packing	Packing (For export / inter state)	Carton box	Yes	No	NA		Yes	Sent to recyclers
			Fumigated Crates	Yes	No	-		-	-
			Stretch wrapping Film	No	No	No		Yes	Plan for alternatives in packing material
		Packing (for OEM)	Send the product to Reusable trolleys						
4	Product - Transportation, Delivery and Use	Mando Handing over products to customer through recyclable carton box and further compliance ensured by customer including usage through appropriate agencies							
5	Product - End of Life and Disposal	Product end of life and final disposal is handled by customers as per their defined guidelines and applicable rules and regulations.(2,00,000 km of usage)							

Prepared by	Mr. Aswin	Approved By	Mr. Sureshkumar

Net Zero commitment

NET ZERO PLEDGES OF INDIAN GOVERNMENT

2070 – Achieve Net zero

500 GW – Non fossil energy capacity by 2030

1 Billion Tonnes – Carbon reduction by 2030

NET ZERO Target – HL MAIL

By 2045

Water neutrality road map

Source - Out source	Plant	2024	2025	2026	2027
Water Consumption	Plant-1	29,145	24,773	23,534	21,769
	Plant-2	42,860	42,860	41,574	40,326
	Plant-3	72,005	69,844	67,749	65,717
Water neutrality	**Plant-1**	**6000**	**10000**	**10000**	**10000**
	Plant-2	**0**	**1800**	**2000**	**2000**
	Plant-3	**1560**	**3000**	**3000**	**3000**
	Overall	**40%**	**45%**	**50%**	**55%**

Renewable Energy road map

Source	Type of Renewable	Plan in Kwh			
		2024	2025	2026	2027
PPA	Solar	35904000	54264000	60921315	69570637.5
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Third Party	Solar	2640000	1795500	3990000	3990000
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Total power consumtpion projection	Plant-1	1,44,00,000	1,58,40,000	1,74,24,000	1,91,66,400
	Plant-2	1,80,00,000	1,98,00,000	2,17,80,000	2,39,58,000
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Grid power	**All Plant**	**27%**	**15%**	**12%**	**10%**
Carbon Neutrality	**All Plant**	**100%**	**100%**	**100%**	**100%**
Zero waste to landfill	**All Plant**	**100%**	**100%**	**100%**	**100%**

Net Zero commitment – ESG Road Map (2024 ~ 2027)

Year	ESG		ESG Road Map (2024 ~ 2027)	Expection Outcome	Carbon footprint reduction (Ton) / Year	Water Neutrality (KL) / Year	Plant
2024	Environment	1	AC centralized remote control for controlling temp & Meeting room motion sensor	Power saving : 13..4625 Kwh/year	106.4	NA	Plant 1
		2	70% Green power procurement (Solar & Wind)	27.2 MW of solar power	2148.8	NA	Plant 1, 2 & 3
		3	Machine conveyor Idle time auto cut off	Power saving : 13,104 Kwh/year	10.4	NA	Plant 1
		4	All M/C Air auto shutoff system installation	Power saving : 10,920 Kwh/year	8.6	NA	Plant 2
		5	ESG training for suppliers	To reduce carbon emission	NA	NA	NA
		6	Pipe line modification - to reduce pressure drop	Power saving : 42.375 Kwh/year	0.0	NA	Plant 1
		7	Elimination of Plating Oscillation motor	Power saving : 32,400 Kwh/year	25.6	NA	Plant 2
		8	Mist collector running hour reduction	Power saving : 2054.4 Kwh/year	1.6	NA	Plant 1
		9	Shop floor machine excess lux reduction	Power saving : 7488 Kwh/year	5.9	NA	Plant 1
		10	HP motor connected to PLC for auto cutoff	Power saving : 69,254 Kwh/year	54.7	NA	Plant 1
		11	Centralized vacuum pump connected with VFD	Power saving : 19,913.76 Kwh/year	15.7	NA	Plant 1
		12	500 sapling plantation	12,500kg CO_2 reduction after 10 years	12.5	NA	Plant 1,2 & 3
		13	Road side/OSR Land greenery development	1800 Trees plantation	36.0	NA	Plant 1 & 2
		14	Rain water utilization for production	Rain water consumption : 2400 Kl/year	NA	2400	Plant 1 & 3
		15	DM water plant (Water Recovery from STP)	DM water consumption : 600 Kl/year	NA	600	Plant 1
	Social	16	Optimist health app for employee's	Improvement in physical and mental health of employee's	NA	NA	NA
		17	Classroom construction for school at patramvakkam	To improve the infrastructure of school	NA	NA	NA
		18	Plastic waste awareness to school kids	To increase awareness among school children	NA	NA	NA
		19	Healthcamp at hostel for OE'S	To ensure that the employee's are at good health	NA	NA	NA
2025	Environment	20	EVBM PDI Spot AC change to normal fan	Power saving : 20,067.84 Kwh/year	15.9	NA	Plant 1
		21	Cooling fan pedestal fan to normal fan	Power saving : 28,454.4 Kwh/year	22.5	NA	Plant 1
		22	Procurement of solar power	10.5MW of solar power	829.5	NA	Plant 1, 2 & 3
		23	100% recycling of hazardous waste	100% Circular economy	NA	NA	Plant 1& 2
		24	Timer for lighting at out skirt area	Power saving : 2,880 Kwh/year	2.3	NA	Plant 1 & 2
		25	700 sapling plantation	17,500kg CO_2 reduction after 10 years	17.5	NA	Plant 1,2 & 3
		26	Spot cooler to be extend and remove the wall mounted fan in CHM-4 line	Power saving : 5,060 Kwh/year	4.0	NA	Plant 2
		27	High Watts light to low watts light	Power reduction from 121 Kwh to 60.5 Kwh/year	0.0	NA	Plant 1
		28	Isolated Gate Bipolar Transistor type UPS for No Load power loss	No load loss energy per year - 10,512 Kwh	8.3	NA	Plant 1
		29	Exhaust Blower auto cutoff	Energy reduce from 51840 to 32,400 Kwh/year	15.4	NA	Plant 1
		30	Air Conditioner Outdoor unit self Cleaning	Power saving : 1,19,839 Kwh/year	94.7	NA	Plant 1
2026	Environment	31	Ductable AC Installation	Power saving : 8986 Kwh/year	7.1	NA	Plant 2
		32	Nature cooling transformer replaced with Fore cooling transformer	Power saving : 1,34,169 Kwh	106.0	NA	Plant 2
		33	Renewable energy – 90%	5,850,000 Units of RE	4621.5	NA	Plant 1, 2 & 3
		34	Best practices implementation at supplier end	1,50,000 kg CO2 emission reduction	150.0	NA	NA
		35	Recycling of pet bottles	48 Kg/year of Pet bottle recycled	0.3	NA	Plant 1, 2 & 3
		36	Inverter Type AC Installation	Power saving : 65,208 Kwh/year	51.5	NA	Plant 2
		37	CNG truck conversion	12,240 Kg of CO2 emission reduction per year	12.2	NA	Plant 1 & 2
2027	Environment	38	Automatic utensil washer - All three plant	Water consumption reduction : 78 Kl/year	NA	78	Plant 1, 2 & 3
		39	Conversion of truck going to customer end - from diesel to CNG	61,200 Kg of CO2 emission reduction per year	61.2	NA	Plant 1 & 2
		40	Best practices implementation at supplier end	3,00,000 kg of CO2 emission reduction	300.0	NA	NA
		41	Conversion of diesel boiler to E-boiler - 2 no's	84219.9 Kg of CO2 emission reduction	84.2	NA	Plant-2
		42	DG set fuel convert to PNG from diesel - 3 no's	101114.2 Kg of CO2 emission reduction	101.1	NA	Plant-2

Achievements:

DERI ASSESSMENT (1st Place)

From: HMI

C. K. Ramachadar Oration Award 2023-2024

Health at workplace (2nd place)

From: CII

Industry Excellence Award

From: "The Institution of Engineers (India)" : Tamilnadu state centre National Environment Climate Change Forum

Date: 13 July, 2024.

EHS Excellence (Bronze)

From: CII

Thank You