Sustainability towards a better future

Category: Best Energy Efficient organization

Ashok Leyland Pantnagar

Amit Goel-Head EHS (DGM)
Niraj Jarmal- Team Member-EHS (Sr. manager)

ASHOK LEYLAND
Koi Manzil Door Nahin

HINDUJA GROUP

Company Profile

Certifications

- **IATF 16949**
- **ISO 45001**
- **ISO 14001**

Details	
Area Type	**Area (Acre)**
Total Area	**190**
Built Up Area	50.3
Hard top	14.8
Garden	43.7
Vehicle Parking Yard	13.7
RWH Pond	1

Key Aspects of Plant

- **Most Integrated Plant of Ashok Leyland**
- **Youngest workforce with an average age of 28 years**
- **Inhouse Learning center-Nalanda**
- **1st Plant in the world to get Deming award outside Japan in Commercial vehicle**
- **Green Coverage – 23% (No of trees – 56 K+)**
- **Delivers production of ~45% total AL M&HCV Trucks**

Ashok Leyland Ltd. ,Pantnagar

System for Problem capturing & Solving

Problem Capturing Process

Vision & Long Term Business Objectives

External Environment/ Benchmarking

Management Process Evaluation(PM/DM Diagnosis, Internal/External Diagnosis & Fresh Issue)

Top Down Goals/ Strategic Plans Current Year

Issue 1

Issue 2

Issue 3 - n

Customer Demand /Requirement

Policy & Project Selection Process

- Affinity Diagram
- Focused Items
- Policy Item Prioritization

Policy identification / Deployment

Goals & Means setting

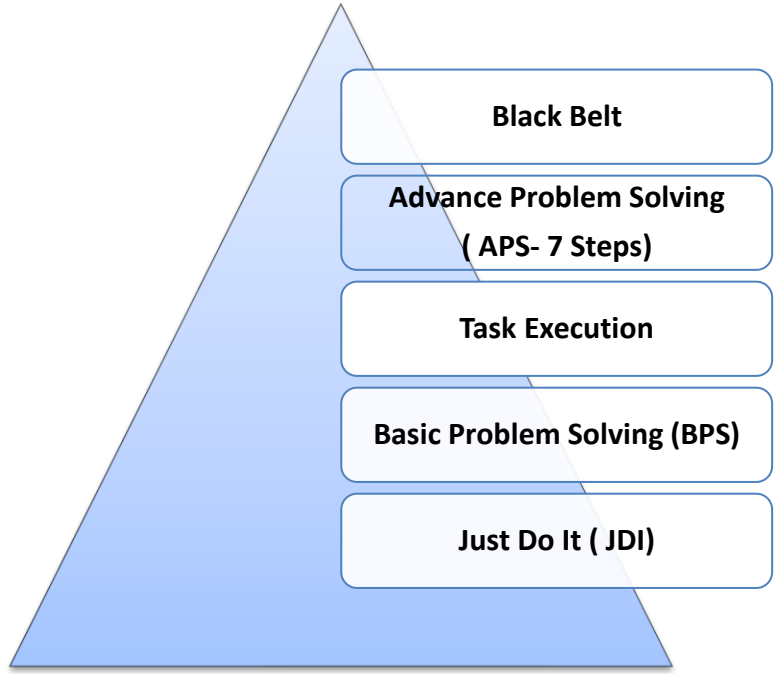
Strategy

Projects identification

Project evaluation & prioritization (as per defined criteria)

Management Value Addition

Problem Solving Categories



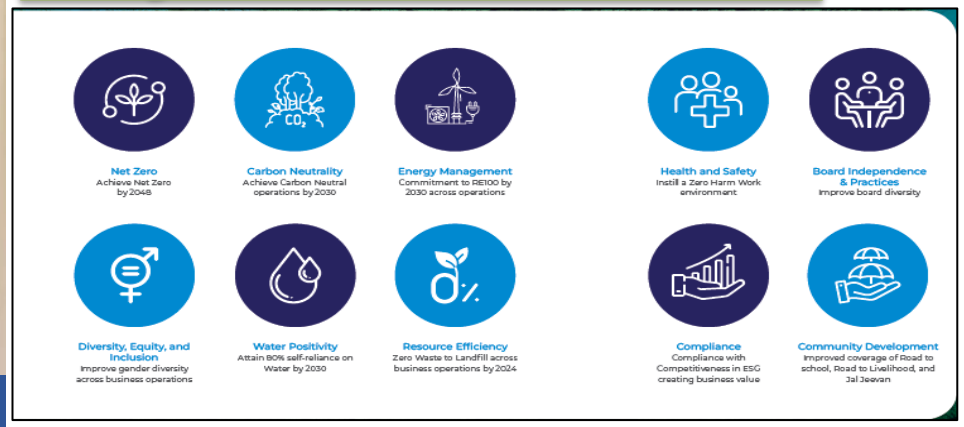
Based on Complexity Selection matrix criteria

ENCON Budget is allocated in two heads:
1.CAPEX, **2.** REVEX

Commitment and Strategy

Chairman Commitment : I am looking forward to accelerating the progress of our ESG initiatives to realize our stated ambition to be Net Zero by 2048.

Long Term Goal- Environment



Net Zero Emission by 2048


Ashok Leyland's net-zero mission behind setting-up of Lucknow plant

Focus Area-ESG

I. Environment
- Carbon neutrality
- Water Positive
- Resource Efficiency

II.Social
- Health and safety
- Diversity, Equity & Inclusion
- Community development
- Fair labour practices

III. Governance
- Board independence and practices
- Compliance
- Disclosures

Focussed Activity- Environment

1 Carbon neutral
- 1.1 .Energy Conservation
- 1.2 Renewable Energy RE100
- 1.3. Migration towards clean fuel
- 1.4. Sequestration Carbon

2 Water Positive
- 2.1 Water Extraction Reduction
- 2.2 Water Recharge

3 Resource Efficiency
- 3.1 Waste Optimization
- 3.2 Zero Waste to Landfill

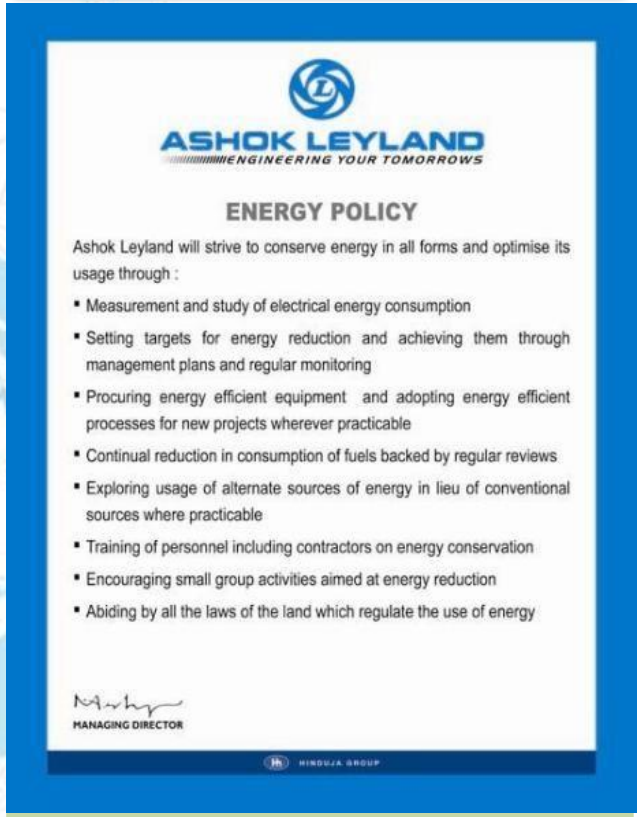
1. Carbon Neutral in Operations @ 2030

2. 80% self reliance on

3. Zero Waste to Landfill and recycling

Energy Policy

Energy Policy



ASHOK LEYLAND
ENGINEERING YOUR TOMORROWS

ENERGY POLICY

Ashok Leyland will strive to conserve energy in all forms and optimise its usage through :

- Measurement and study of electrical energy consumption
- Setting targets for energy reduction and achieving them through management plans and regular monitoring
- Procuring energy efficient equipment and adopting energy efficient processes for new projects wherever practicable
- Continual reduction in consumption of fuels backed by regular reviews
- Exploring usage of alternate sources of energy in lieu of conventional sources where practicable
- Training of personnel including contractors on energy conservation
- Encouraging small group activities aimed at energy reduction
- Abiding by all the laws of the land which regulate the use of energy

MANAGING DIRECTOR

HINDUJA GROUP

Strive to conserve energy

Energy Management Structure

Head-PNR (Plant Champion- Budget Allocation)

Head – Utility & Central Purchase (BEE Certified Energy Auditor)

Energy Manager
Role: Energy Budget , EC project feasibility checking , support in implementation, Awareness

- CFT Engine Shop
- CFT FSM Shop
- CFT Utility
- CFT CWP Shop
- CFT Weld Shop
- CFT Chassis Shop
- CFT Axle Shop
- CFT Paint Shop

CFT: Cross Functional Team

Energy Sources

EB Power-8000 KVA (Contract demand) 33 KV HT

→ Transformers (33KV HT to 11 KV)

DG -6X1500 KVA

→ MRS (11 KV)

Solar Power- 6200KWP

→ Substation (11 KV to 415 V)

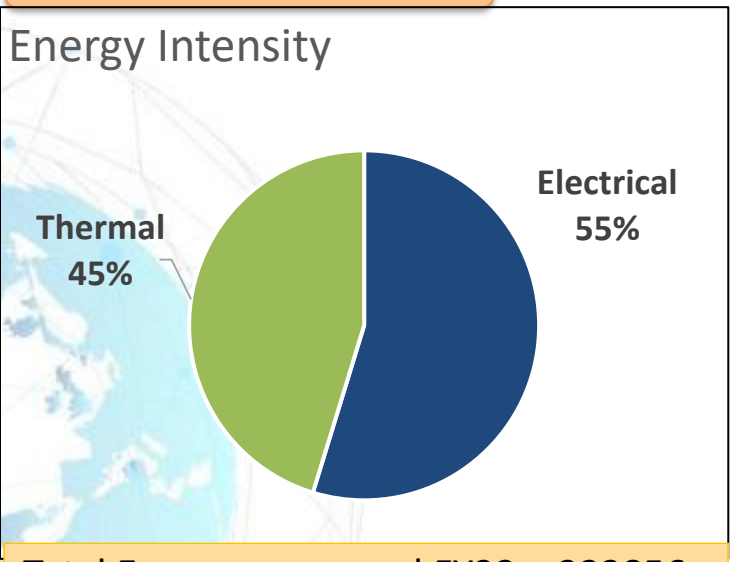
Thermal Energy
1. Propane
2. RLNG
3. Diesel

→ Machines

2. Energy Consumption Overview

Energy Mapping

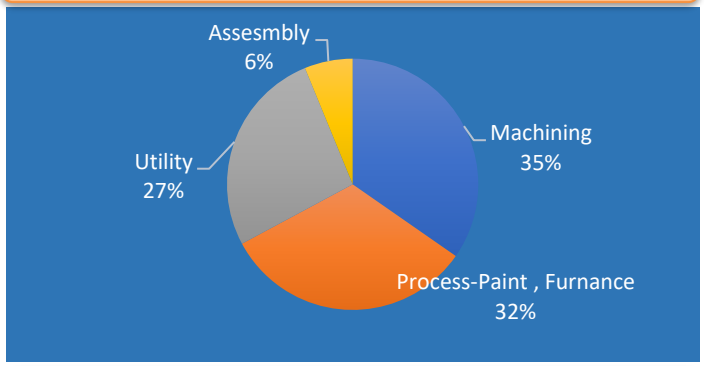
Distribution of Energy



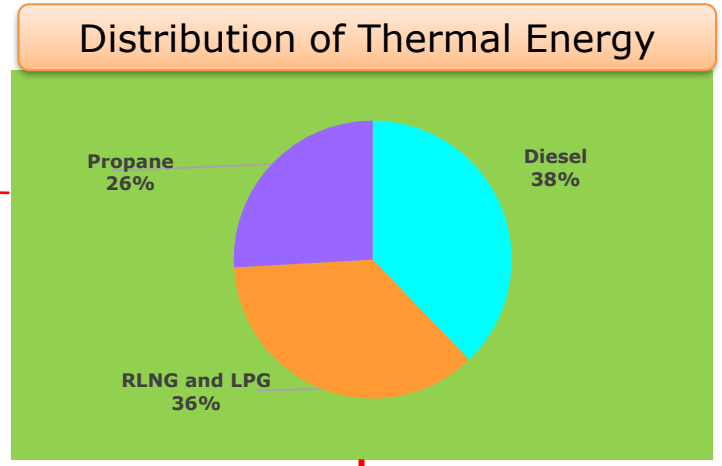
Total Energy consumed FY23 = 233856 Giga Joules

#	Fuel	Used in
1	Propane	Paint Shop
2	RLNG	FSM Shop
3	Diesel	Engine Testing, Vehicle Testing, MHE

Distribution of Electrical Energy



Distribution of Thermal Energy



KPI

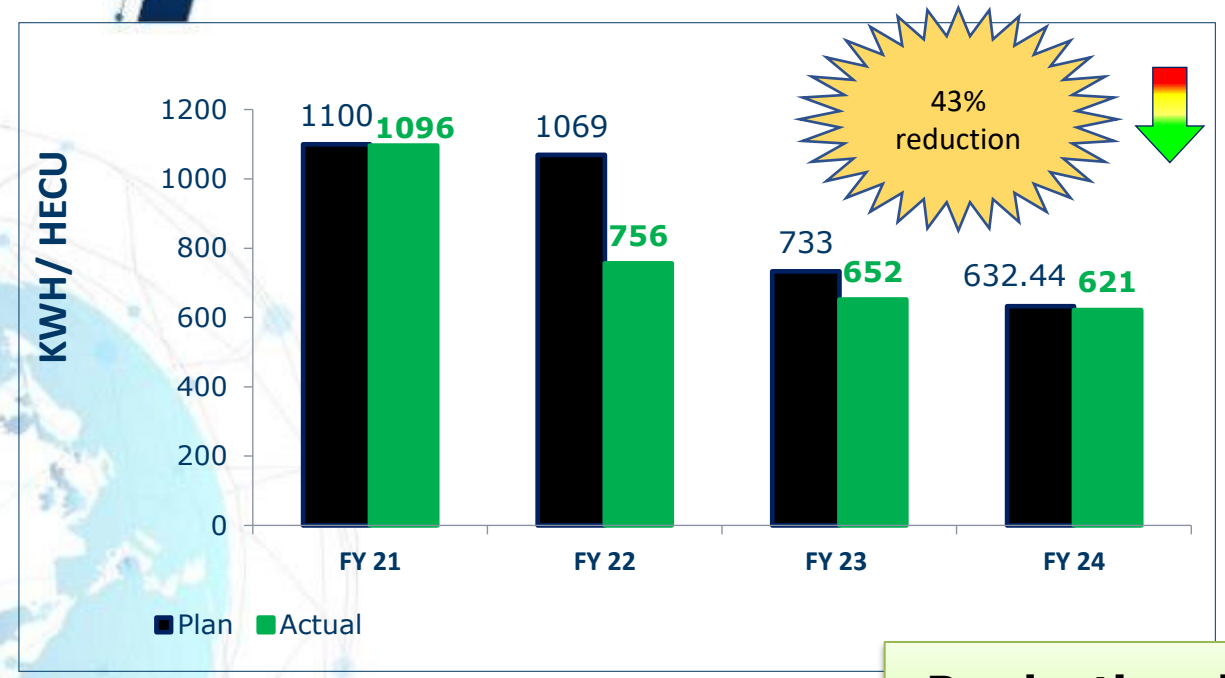
- **1. Electrical** → 1. Specific Power Consumption
- **2. Thermal** → 2. Specific Energy Consumption

Strategy

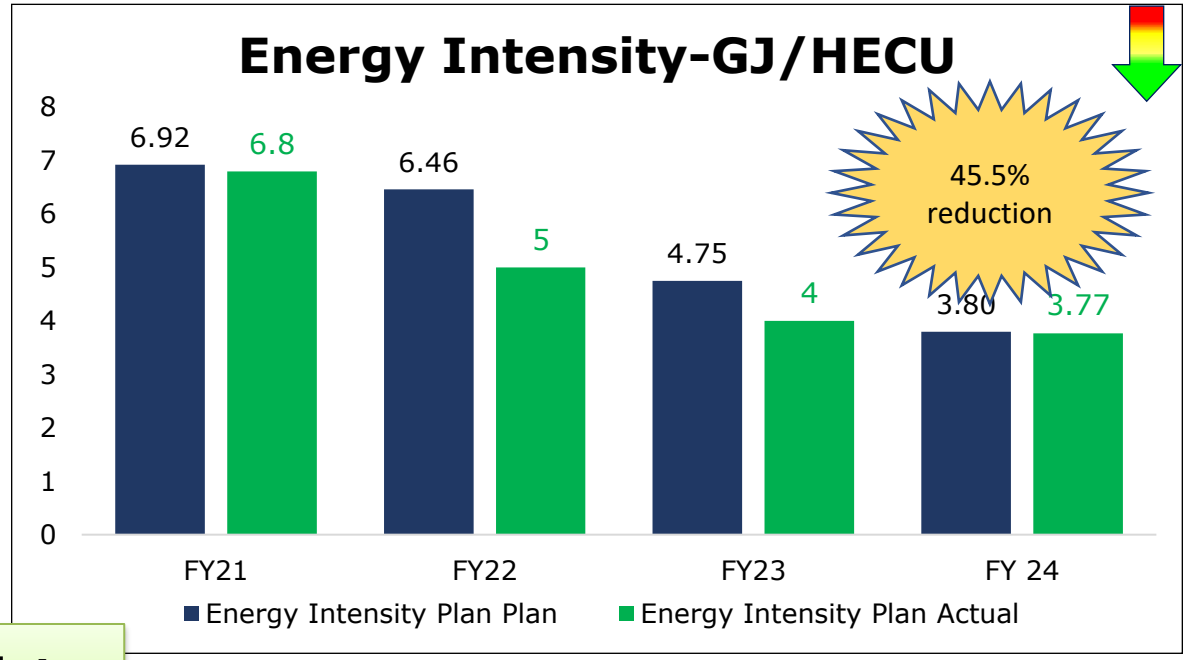
Reduce	Replace	ReUse
1.CWP hard machining efficiency improvement 2. Baking Temp Optimization in FSM Shop 3. Reducing the unloading hrs of Laser m/c	**1. Replacing less efficient compressor to energy efficient** **2. Introduction of new technology Paint**	**1. Waste heat Utilization in Washing machine** 2. Implementation of Heat Pump

2.1 Specific Energy Consumption in Last 3 Years

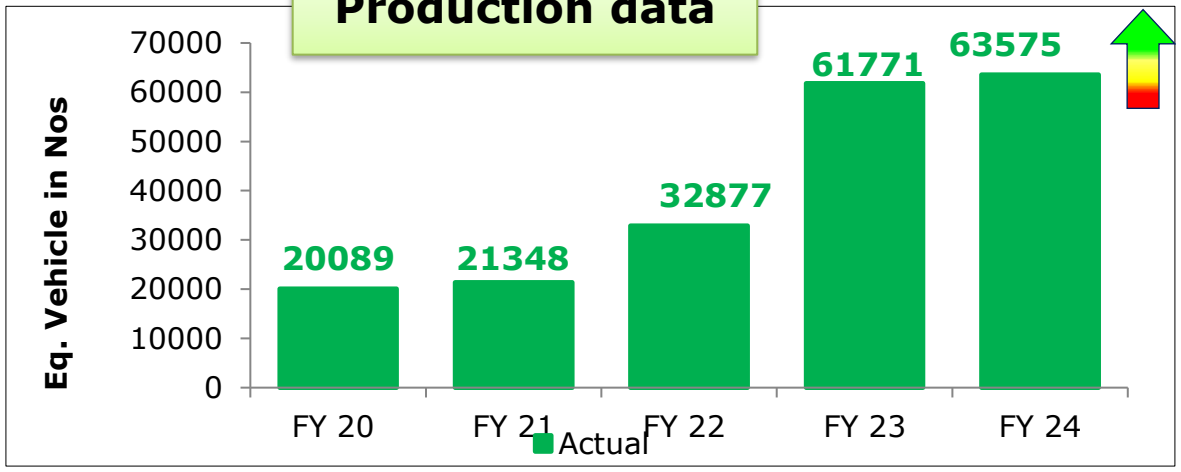
Electrical :Specific Power Consumption



Electrical+Thermal: Energy Intensity



Production data



HECU: Hybrid Equivalent of Chassis Unit

3.1 Information on Competitors, National & Global benchmark

Strategy

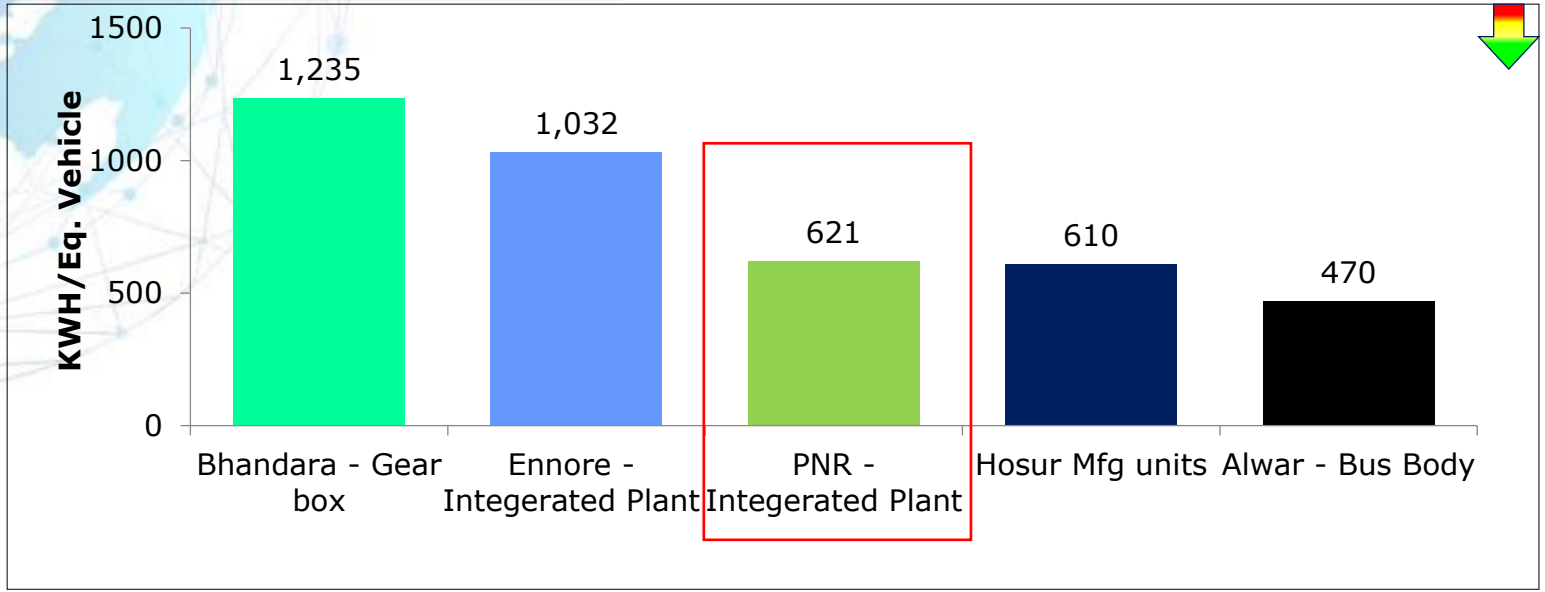
Internal Benchmarking

- Analyse Current Performance
- SWOT analysis
- Setting Benchmarks
- Horizontal Deployment of Projects

External Benchmarking

- Data collection
- Reviewing the Process
- Process benchmarking

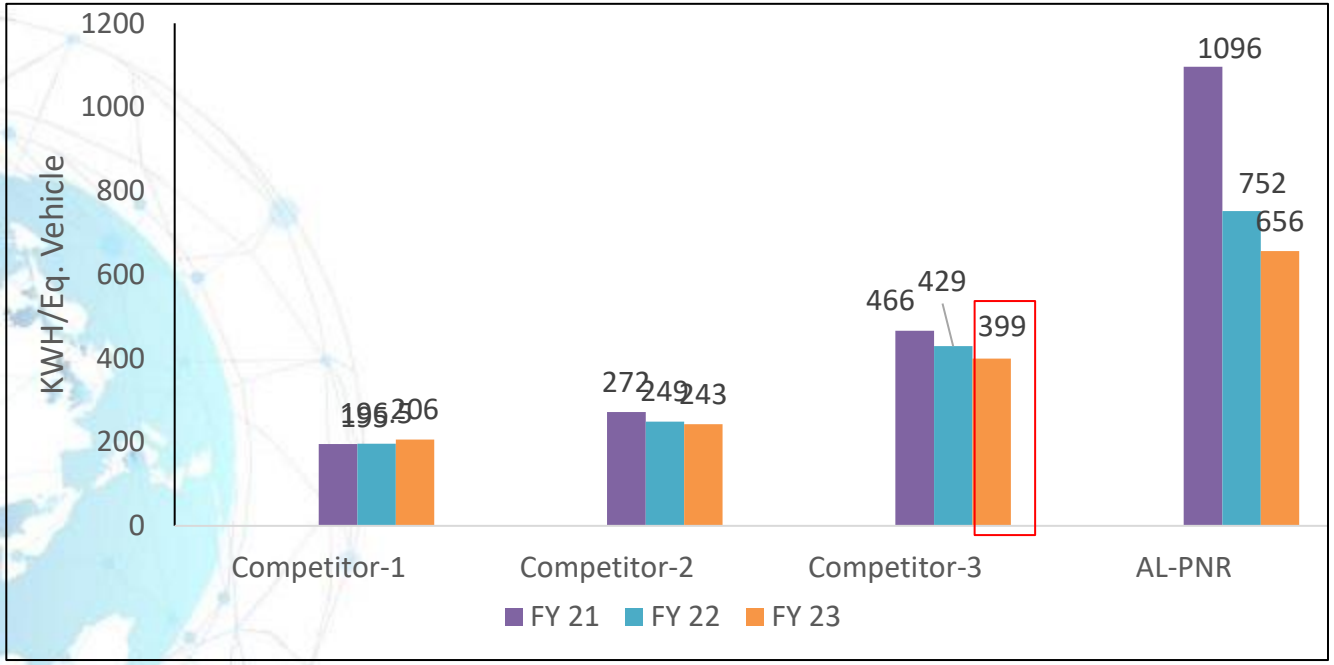
Internal benchmarking with other AL Units



PNR Stood top among all comparable units of Ashok Leyland

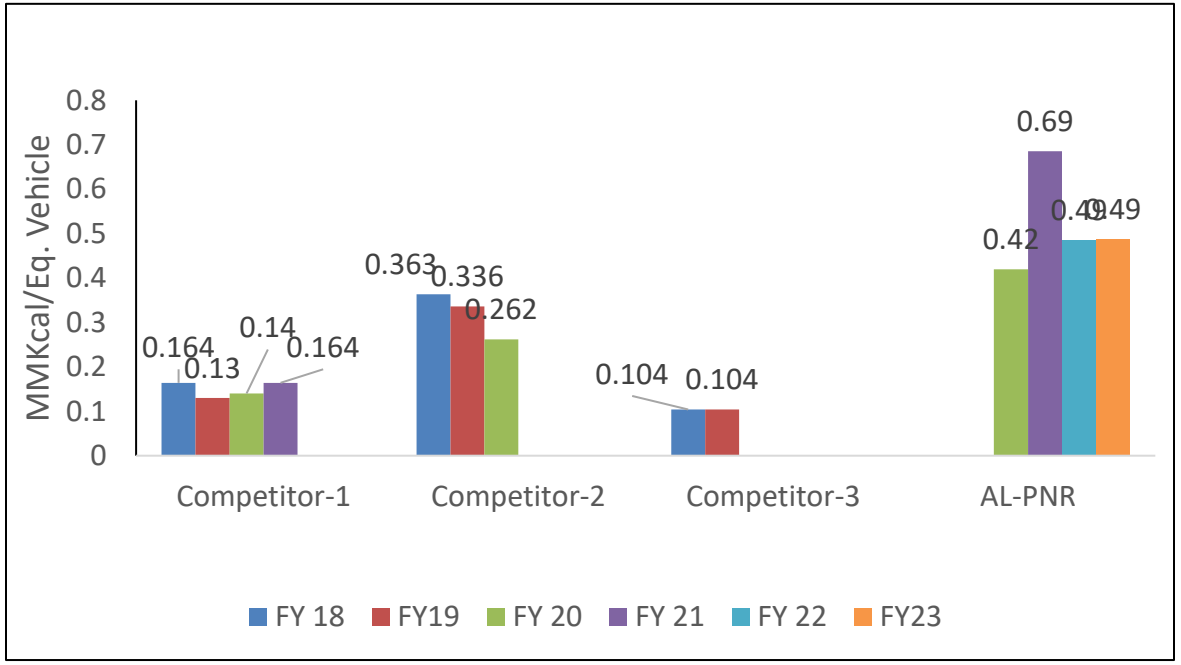
4 National Level benchmarking

National Level Benchmarking: Power SEC



AL Pantnagar benchmark itself with Competitor no. 3 because of similar product
However accurate benchmarking can not be done due to Production Volume, different Product and aggregates and different processes,

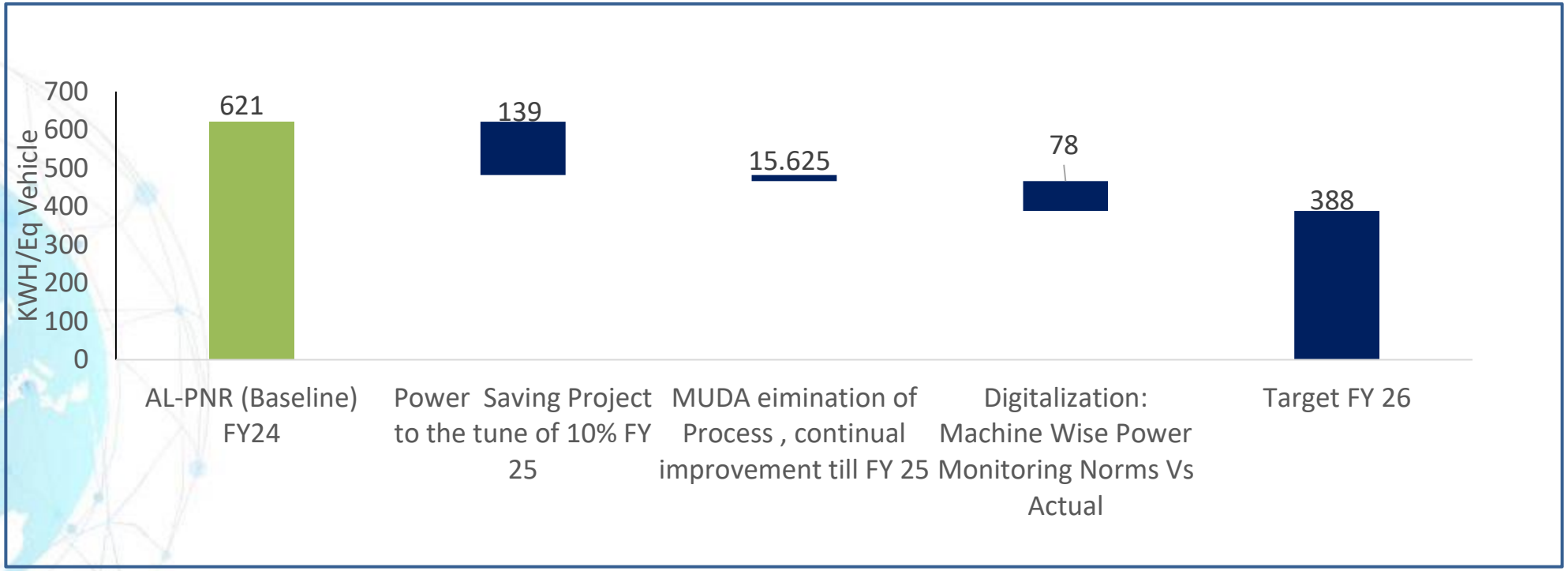
National Level Benchmarking: Fuel



Al Pantnagar has highest year on year reduction in thermal energy

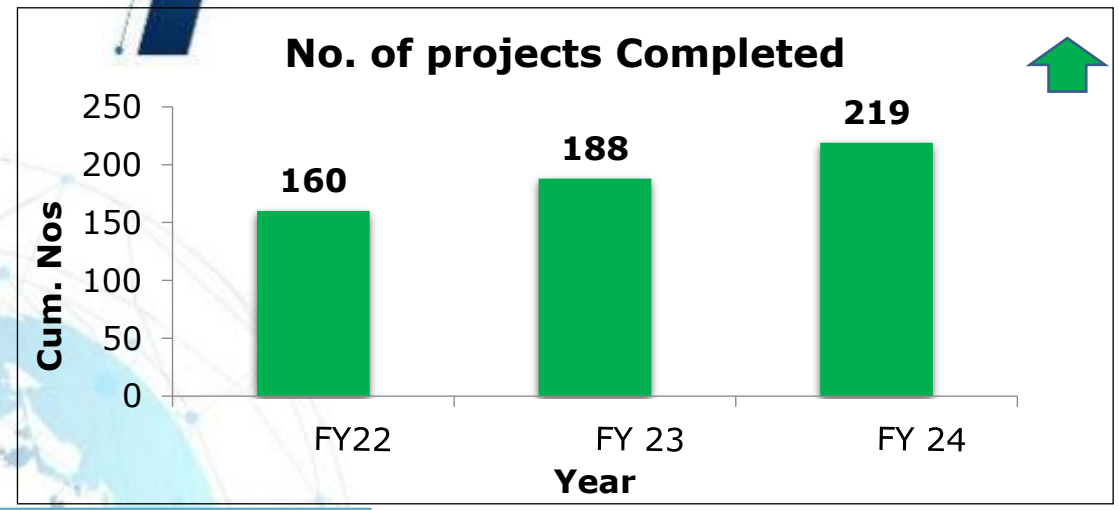
4.1 Roadmap to achieve National level Benchmarking

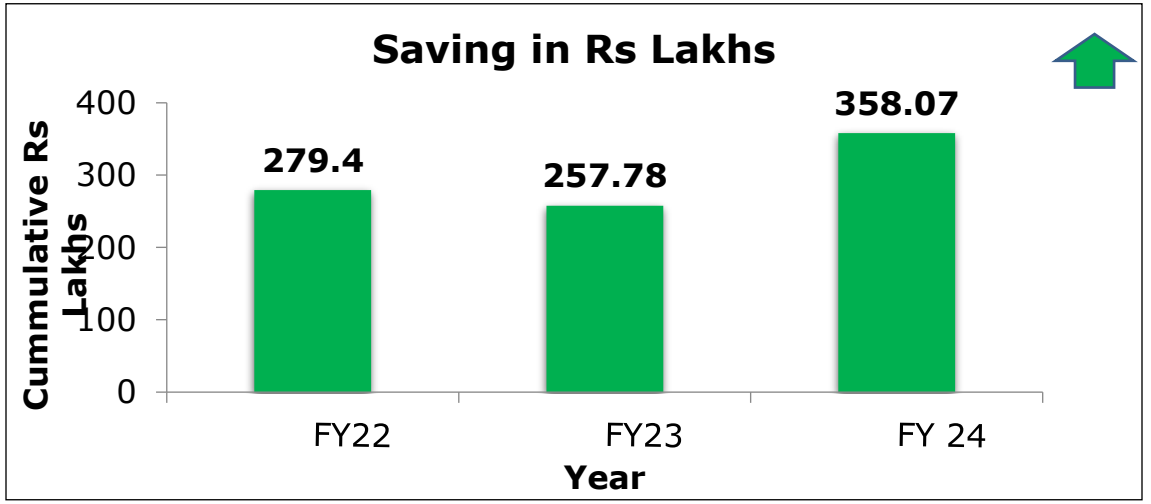
Road map to achieve Benchmarking-Competitor-3



Al Pantnagar benchmarked its competitors and taken target of 37% reduction till FY 26

5. Energy Saving projects implemented in last three years





Summary

Year	No of Energy saving projects	Investments (INR Lakhs)	Electrical savings (Lakhs kWh)	Thermal savings (Million Kcal)	Savings (INR Lakhs)	Impact on SEC (Electrical, thermal)
FY 2021-22	21	78.7	53	646	279.4	Electrical
FY 2022-23	28	46.57	39		257.8	Electrical
FY 2023-24	31	88	14	377.46	100.29(FY 24) 358.07 cumulative savings	Electrical+Thermal

5.1 Major Encon Projects done in FY 22

#	Project Tittle	Saving in Lakhs KWH	Saving in Rs. Lakhs	Investment in Rs. Lakhs
1	Power cost Saving from Front Facia Painting along with Cabin	19.6	102.8	70
2	To reduce compressor specific power consumption	8.0	42.0	0.70
3	Cost saving through optimization of CWP HT furnaces	6.1	31.8	0
4	Power saving by batch size optimization at weld lines in Cab weld shop	5.2	27.2	0
5	Power saving by avoiding idle running of machine	4.1	21.7	0
6	Power saving in top coat air circulation system	3.3	17.4	0
7	Power Cost saving thru administrative control during NPDs	3.0	16.0	0
8	To reduce power consumption in utility (Fixed Consumption reduction: LED implemntation,Motion sensor,	1.6	8.4	8
9	CPK improvement of center bearing cap side milling of Cylinder Block	1.4	7.5	0
10	Fixed power cost reduction in Non production days	1.2	6.1	0

Inference: Rs.279 Lakhs Saving Project implemented.

5.2 Major Encon Projects done in FY 23

#	Project Tittle	Saving in Lakhs KWH	Saving in Rs. Lakhs	Investment in Rs. Lakhs	ROI in Years
1	Power cost Saving from Front Facia Painting along with Cabin	19.6	102.8	70	7 month
2	To reduce compressor specific power consumption	8.0	42.0	0.70	1 month
3	Cost saving through optimization of CWP HT furnaces	6.1	31.8	0	0
4	Power saving by batch size optimization at weld lines in Cab weld shop	5.2	27.2	0	0
5	Power saving by avoiding idle running of machine	4.1	21.7	0	0
6	Power saving in top coat air circulation system	3.3	17.4	0	0
7	Power Cost saving thru administrative control during NPDs	3.0	16.0	0	0
8	To reduce power consumption in utility (Fixed Consumption reduction: LED implemntation,Motion sensor,	1.6	8.4	8	9 months
9	CPK improvement of center bearing cap side milling of Cylinder Block	1.4	7.5	0	0
10	Fixed power cost reduction in Non production days	1.2	6.1	0	0

Inference: Rs.279 Lakhs Saving Project implemented.

5.3 Major Encon Projects done in FY 24

#	Project Tittle	Saving in Lakhs KWH	Saving in Rs. Lakhs	Investment in Rs. Lakhs	ROI in Years
1	Optimization of agitation system in chemical tank at Water recirculation pit of Top coat	2.99	22.45	0	Immediate
2	60S productivity enhancement at CWP Hard line	2.73	20.44	0	Immediate
3	Energy Efficient Compressor	1.78	13.32	72	5.405405
4	Engine Utility Chiller running optimization	1.74	13.08	0	Immediate
5	Power cost reduction through additional bumper & Technology Change in PT chemical	1.33	10	1.5	0.2
6	Debottlenecking of Lapping operation at CWP machining line for 92S models	1.12	8.38	0	Immediate
7	Power cost optimisation through modification in 10 ton hoist hook	0.52	3.87	3.2	0.8
8	Cycle time reduction in CNC Punching machine from 4.96 Min/Set to 4.87 Min/Set	0.38	2.82	0	Immediate
9	Capacity enhancement in Weld Shop	0.27	2	0	Immediate
10	Reducing the unloading hrs of Laser m/c FSM Shop compressor	0.27	2	0.39	0.2
11	To eliminate usage of compressed air in Hub Tightening machine	0.19	1.45	0	Immediate
12	Energy saving in cooling tower pumps by Speed optimization	0.06	0.48	0	Immediate

Inference: Rs.100 Lakhs Saving Project implemented.

6.1 Innovative Projects implemented: Nano technology

Project: To reduce the Energy consumption in Paint Shop

Brief description of the project / initiative implemented:

- New Generation ED Paint (LB250) introduction in Paint Shop. Nano Technology
- It is super high throwing power and **low bake paint** (160°C / 8 min).
- Meet international level for RoHS compliance.

Key innovations/best practices – e.g. process change, etc.:

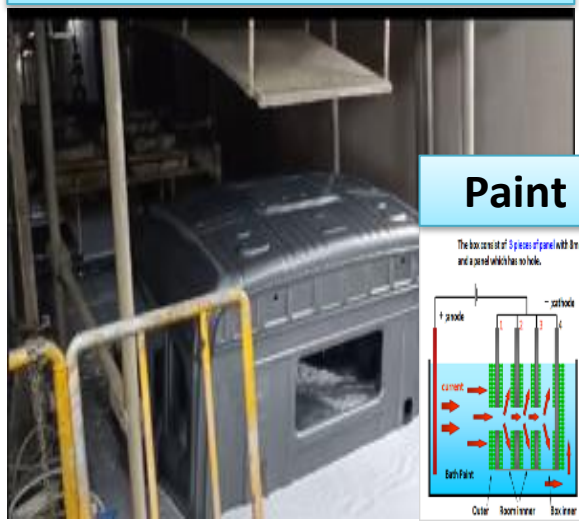
- Best Practices and this technology is new for Indian automobile OEMs.

Project Start Date	11.09.2023
Project End Date	21.03.2024

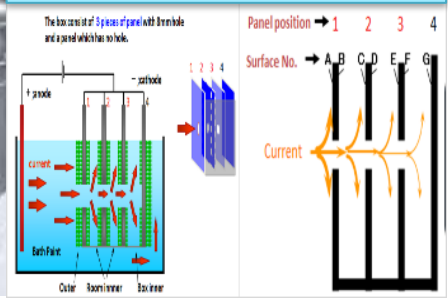
Paint Properties Before Vs After

PROPERTIES	LB 40 (Before)	LB 250 (After.)	Remarks
Deposition Time	180 Seconds	120 Seconds	33% less deposition time
SST Hrs	1200 @ 20 micron	1200 @ 16 micron	~15 % less paint consumption
Throw power	35 ~ 40%	50 ~ 60%	~50 % Better quality inside box section
Smoothness Ra	Less than 0.30	Less than 0.25	Improved by 20%
ED bath temperature	28 ~ 32 deg C	28 ~ 34 deg C	~6 % Higher (less chiller required)
DFT distribution	18 ~ 24 µ	15 ~ 16 µ	15% DFT reduction with same quality

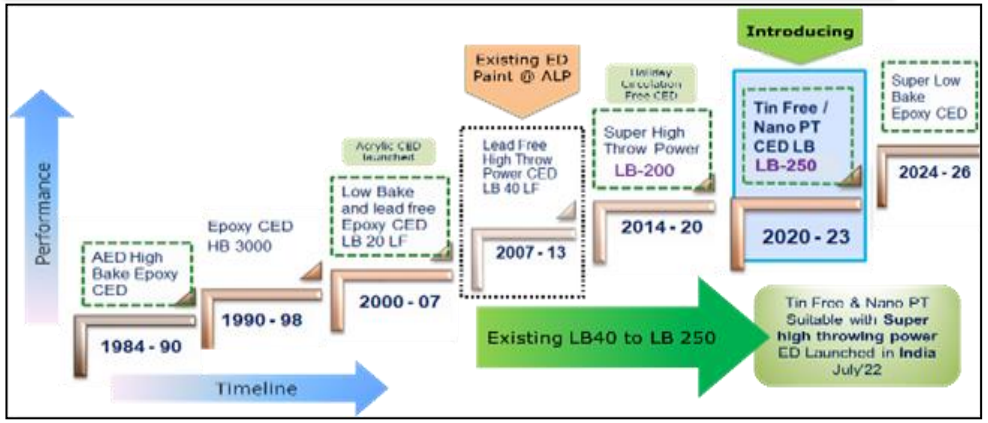
New Gen. ED Paint LB250



Paint penetration



Road Map for Environmentt friendly Paint



Benefits

Tangible	Intangible
• Propane Consumption reduction by **8%** • Co2 Emission reduction by – 117Tonnes/Annum • Saving of Rs 150 lakhs • **Hazardous Waste reduction by 10 T**	• High Employee Morale

6.2 Innovative Projects implemented

Background – Process till now

FSM paint pretreatment line is running with M/S Henkel supplied chemicals since inception

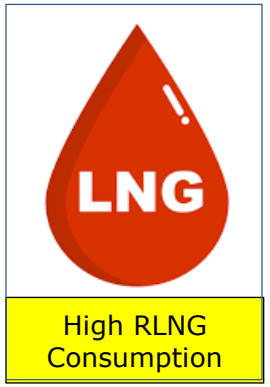
Process Flow at FSM

Roll Forming → Punching/piercing → Washing & Shot blasting → Chemical Pre treatment → Powder coating & baking → Kink Bending

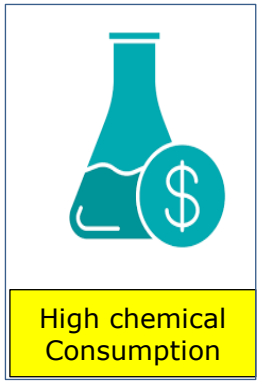
Issue – Why (Analysis) this Activity

The required working temperature is high leading to high sludge generation & RLNG consumption along with additional chemical cost

High Phosphate Sludge generation of 0.64Kg/Square metre



High RLNG Consumption



High chemical Consumption

Project theme with Target

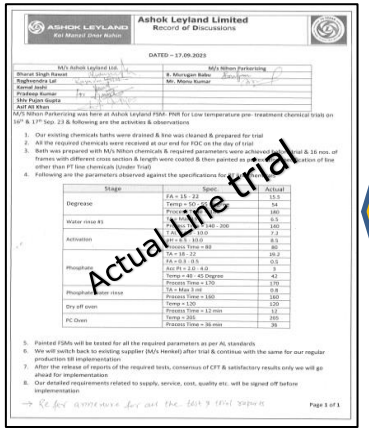
- Introduction of low temperature , low cost PT chemicals for FSM paint

Brainstorm with all the stakeholders

Alternate sourcing of chemicals is required with low working temperature

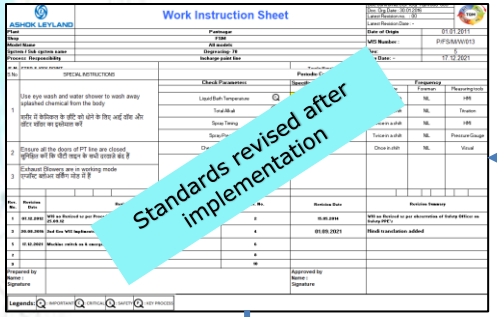
Discussion & negotiation with more than five suppliers for PT chemicals with low working temperature

Selection of Nihon Parkerizing for trial & implementation on line after successful trial & validation



Tests & validation

- SST
- UV
- Adhesion
- DFT & Cupping
- Kink Bending
- Pencil Hardness

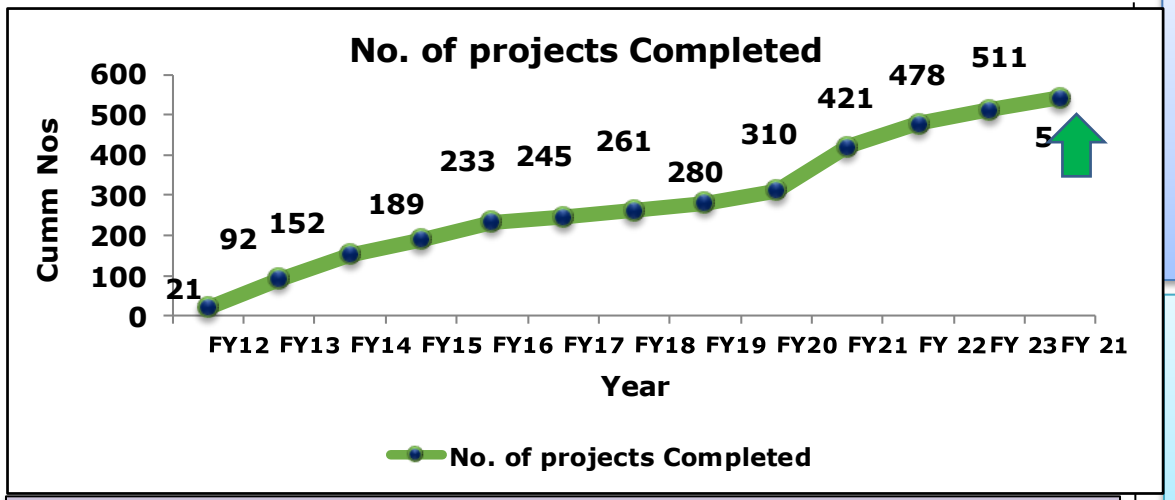


S. No	Cost description	CPC – Henkel	CPC – Nihon
1	Chemical cost(Rs/frame)	32.9	24.5
2	Sludge disposal cost(Rs/frame)	2.7	2.4
3	RLNG Consumption cost (Rs/frame)	462	416
4	Total(Rs/Frame)	497.6	442.9
5	Total Cost/Annum @ 120 K Volume	5.97 Cr	5.31 Cr

0.66 Cr savings

Way Forward — Trial & implementation of Nano pre- treatment coating in FY25

Major Energy Conservation Projects



1. Heat Pump Installation in Washing Machines to reduce electrical consumption

Benefits :

1. Saving of 68 Tco2e/annum
2. Saving of 83K units/annum
3. Savings of Rs. 5 lakhs/annum

2. Fixed consumption reduction of washroom lights and exhaust fans

Benefits :

1. Saving of 14 Tco2e/annum
2. Saving of Rs 14K units/annum
3. Savings of Rs. 1 lakhs/annum

3. Conversion from Metal halide lamp to LED lights (2100 Fixtures .3730 tube lights changed)

Benefits :

1. Savings of 205 Tco2e/annum
2. Savings of 2.5 lakhs Units/annum
3. Savings of Rs.15 lakhs/annum

4. Utilization of waste heat of compressor and utilizing it in washing machine

Benefits :

1. Savings of 164 Tco2e/annum
2. Savings of 2 lakhs Units/annum
3. Savings of Rs. 12 lakhs/annum

5. Switched of standby transformer at no load thus eliminating no load loss of transformer

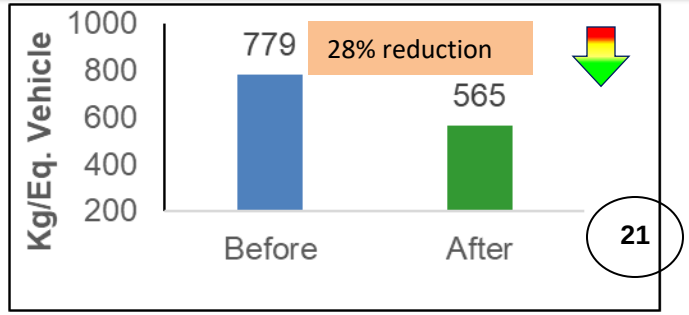
Benefits :

1. Savings of 41 Tco2e/annum
2. Savings of 0.5 lakhs Units/annum
3. Savings of Rs. 3 lakhs/annum

Benefits

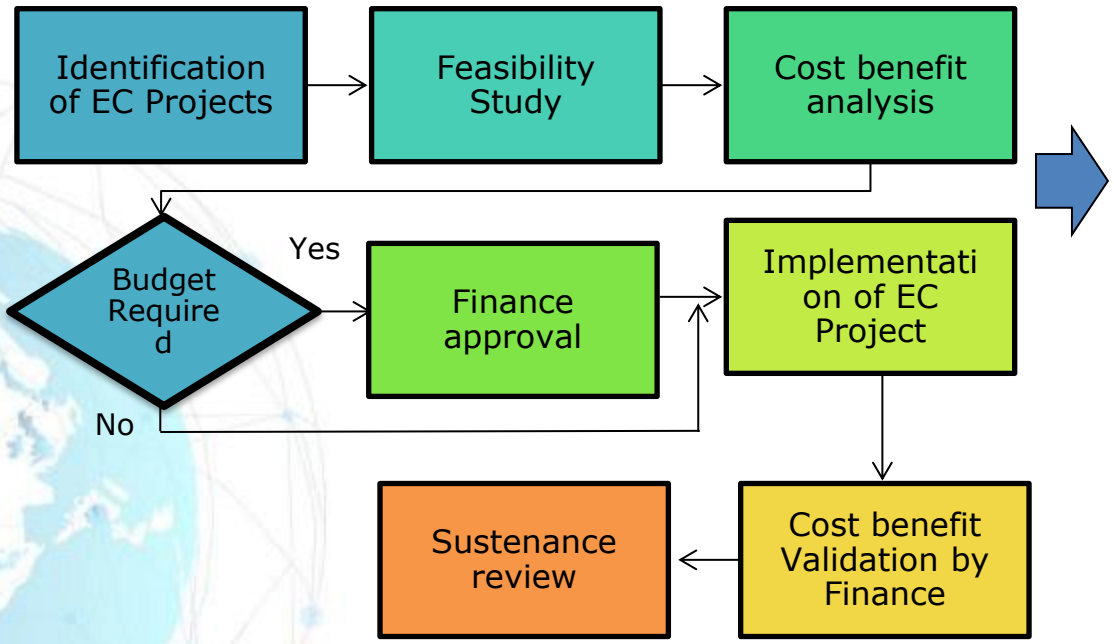
1. Reduction of 13,702 TCo2e in Fy23

2. Recurring Saving of Rs. 2.14 crore /annum



Budgetary Process in EC

Encon Project Implementation Methodology



	ASHOK LEYLAND LTD	
0	PRODUCTION - PTS VEHICLES	
0	PRODUCTION - PTS ENGINES	
1	EQ PRODUCTION	21659
2	FIXED UNITS REQD PER DAY	26000
3	FIXED UNITS REQD PER ANNUM (2*365)	9490000
4	VARIABLE UNITS REQD PER ECU	926
5	VARIABLE UNITS REQD FOR THE YEAR	20056234
6	TOTAL UNITS REQUIRED (3+5)	29546234
7	POWER CUT ASSUMED %	14
8	UPCL POWER UNITS (6 * 86%)	25409761
9	GEN SET UNITS (6 * 14%)	4136473
8A	WIND MILL UNITS	0
8B	UPCL UNITS	25409761
A	UPCL COST	
10	MAXIMUM DEMAND KVA (MD)	8000
11	MD RS. PER KVA + ET 5%	240
12	UPCL RATE RS./UNIT + ET 5% (3.50+5%)	3.68
12A	PEAKHOUR CONSUMPTION 4 LAKH UNITS PER MTH	0
12B	UPCL RATE FOR THE ABOVE (.7+5%)	0.74
13	MAXIMUM DEMAND IN RS. LAKHS (10*11)	230.40
14	CONSUMPTION COST RS. LAKHS (8*12)	933.81
14A	PEAKHOUR COST RS LAKHS (12A*12B)	0
14B	WIND MILL COST CREDIT (8A*.37)	0
14C	Electricity duty (8B*.25)	63.52
15	TOTAL UPCL COST RS LAKHS (13+14+14A+14B)	1227.73
B	SELF GEN COST	
16	UNITS GENERATED PER LTR OF DIESEL	3.50
17	DIESEL LTRS REQUIRED (9/16)	1181849
18	DIESEL COST PER LITRE RS.	36.43
19	DIESEL COST RS. LAKHS (17*18)	430.55
20	LUB OIL RS 0.25 LAKHS PER MONTH	3.00
20A	SELF GENERATION TAX (9*.1)	4.14
21	TOTAL DIESEL COST (19+20+20A)	437.69
22	TOTAL POWER COST RS. LAKHS (15+21)	1665.42
23	POWER COST PER ECU (22/8)	7689
24	POWER COST PER ECU YTD	
25	UNITS PER ECU (6/1)	1364

ENCON Budget is allocated in two heads:
1.CAPEX
2. REVEX

Beginning of every year, based on projected production volume, expected expenditure on power (considering variable + Fixed element of power cost & tariff impact) is sent to corporate.

On receipt of sanctions, plant level targets are set and this overall target is further broken down to Gemba level/Shop Level.

Project Suggestion given by Associates

Sl. No	Project Type	Gemba Unit	Idea Description	Category	Leader	Stage	Actual Saving with Finance Vetting
107	K54	P112	Productivity & Process Improvement in Press Line by conversion of 3 stage operation into 4 stage operation (T &GSE)	Power	HariPratap	IL5	
471	SGA	P104	Production optimization at Soenen M/c	Power	Prashant	IL5	3.08
483	SGA	P104	Power cost reduction thru temp optimization at washing m/c	Power	Chetan Negi	IL5	0.898
479	SGA	P104	Introduction of low bake powder	Power	Pradeep	IL5	
117		Utility	Solar plant 0.39 MW in Press Shop	Power	Rameshwar Dayal	IL5	
558	K54	P108	Cam Lobe Finish improved from Rz 1.5 to Rz 0.4 at cam lobe lapping machine.	Power	DevRaj	IL5	
339	SGA	P111	Cooling tower Commonization for bumper Assy.	Power	Bipin Singh	IL5	
476	SGA	P104	To optimize the running of blowers motor in STP	Power	Harpal	IL5	3.7
549	Utility	Utility	Fixed consumption reduction in Sewage Treatment Plant	Power	Pankaj	IL5	
25	SGA	P102	Power cost saving at shower testing	Power	Sunil Suyal	IL5	
274		R & M	Specific energy consumption reduction at Captain bumper line	Power	Sandesh Mhatre	IL5	
323		P103	Lead time Reduction at G-91 Cabin line from weld laydown to trim PTS	Power	Narendra Bohra	IL5	

100% involvement : Best Suggestion is awarded with RISE-I award

7. Utilisation of Renewable Energy sources

Renewable Energy

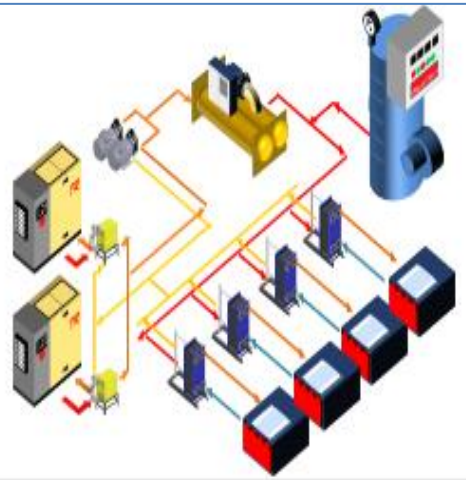
Yea	Technology (Electrical)	Type of Energy	Onsite/Offsite	Installed Capacity (MW)	Generation (million kWh)	% of overall electrical energy
FY 2021-22	**Solar PV**	**Electrical**	**Onsite**	3	3.2	14%
FY2022-23	**Solar PV**	**Electrical**	**Onsite**	3	3.7	10%
FY2023-24	**Solar PV**	**Electrical**	**Onsite**	3.2	7.7	22%

Roof Top Solar Power Plant

Renewable Energy

Year	Technology (thermal)	Type of Energy	Installed Capacity (million kCal)	Usage (million kCal)	% of overall thermal energy
FY 2021-22	Compressor exhaust heat recovery and utilization in washing machine	Thermal	300	255	1.5%
FY 2022-23				377	1.1%
FY2023-24				263.4	1%

Exhaust heat utilization ckt



8. Waste utilization and management

Focussed Activity- Environment

1 Carbon neutral

- 1.1 .Energy Conservation
- 1.2 Renewable Energy RE100
- 1.3. Migration towards clean fuel
- 1.4. Sequestration Carbon

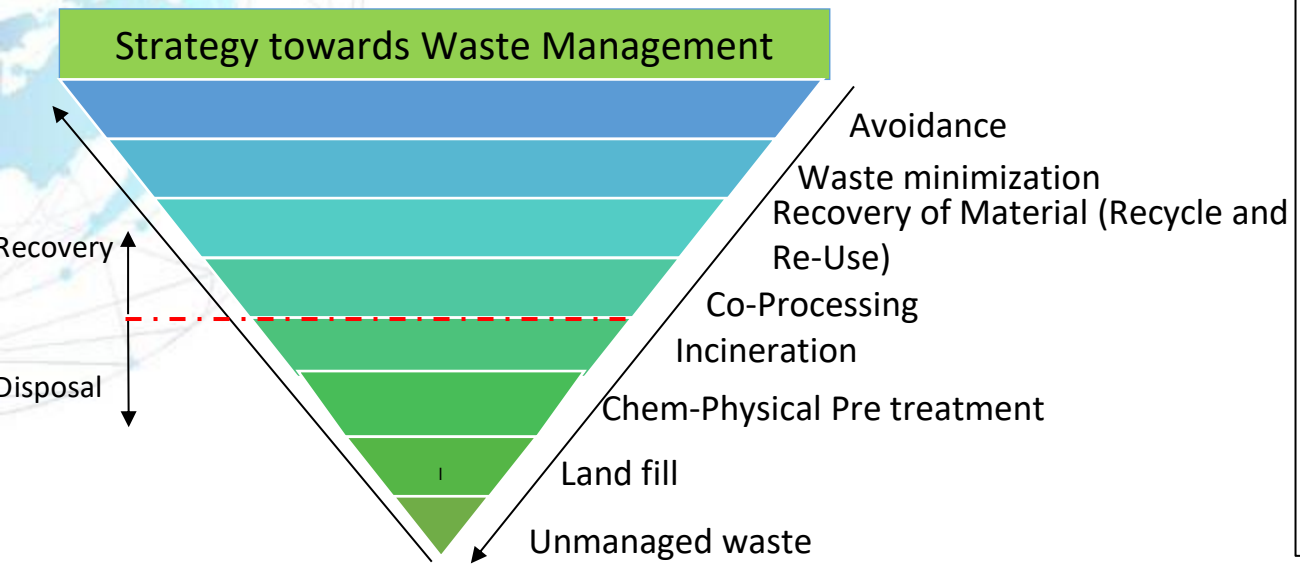
2 Water Positive

- 2.1 Water Extraction Reduction
- 2.2 Water Recharge

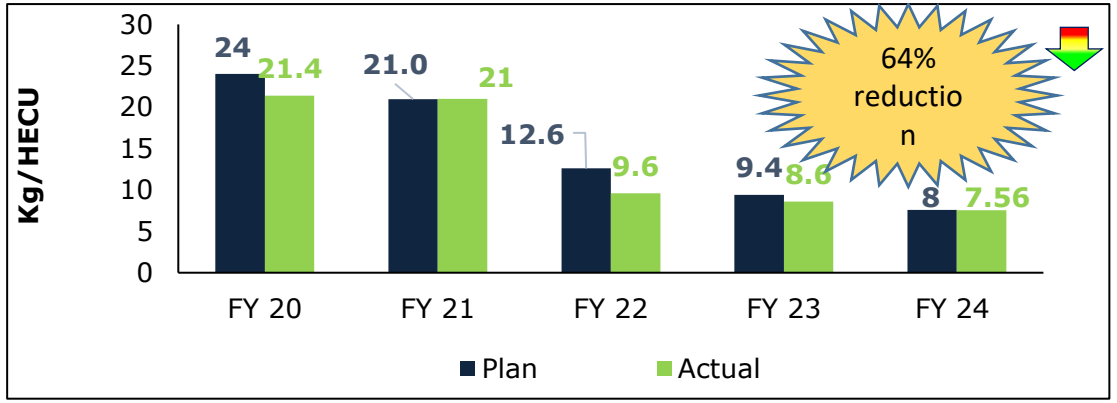
3 Resource Efficiency

- 3.1 Waste Optimization
- 3.2 Zero Waste to Landfill

Zero Waste to Land Fill



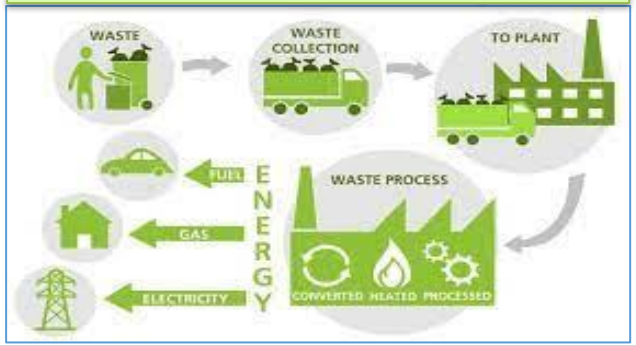
Hazardous Waste Generation



Achievement

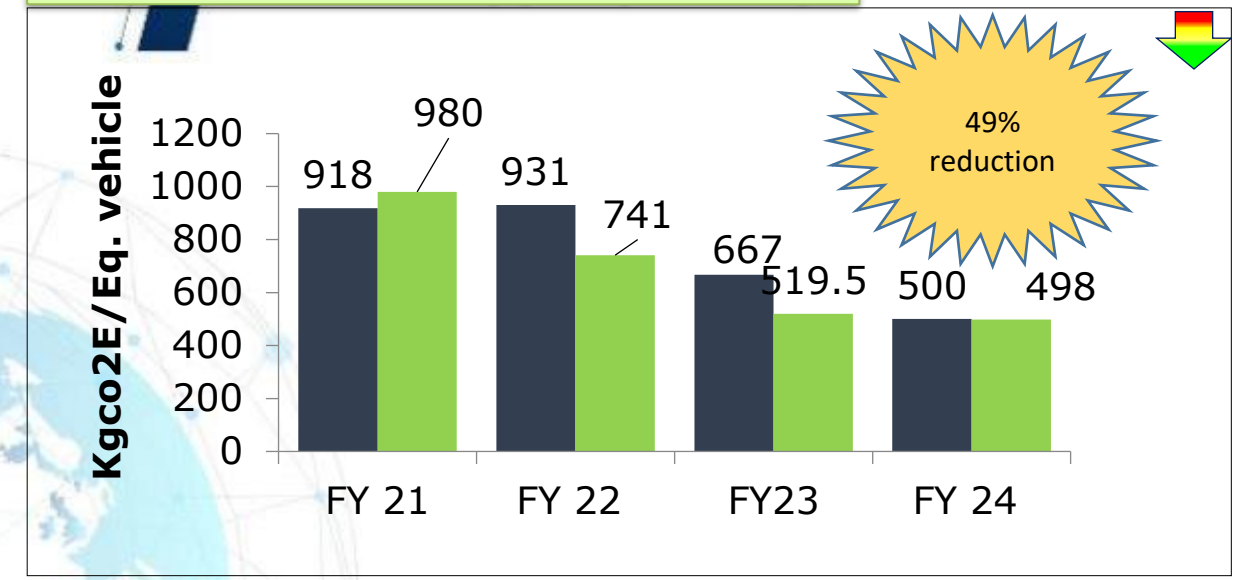
- Lead and Tin free Nano Technology Paint in Paint Shop
- Reduction of discarded container
- Moisture free ETP Sludge

Waste to Landfill cycle

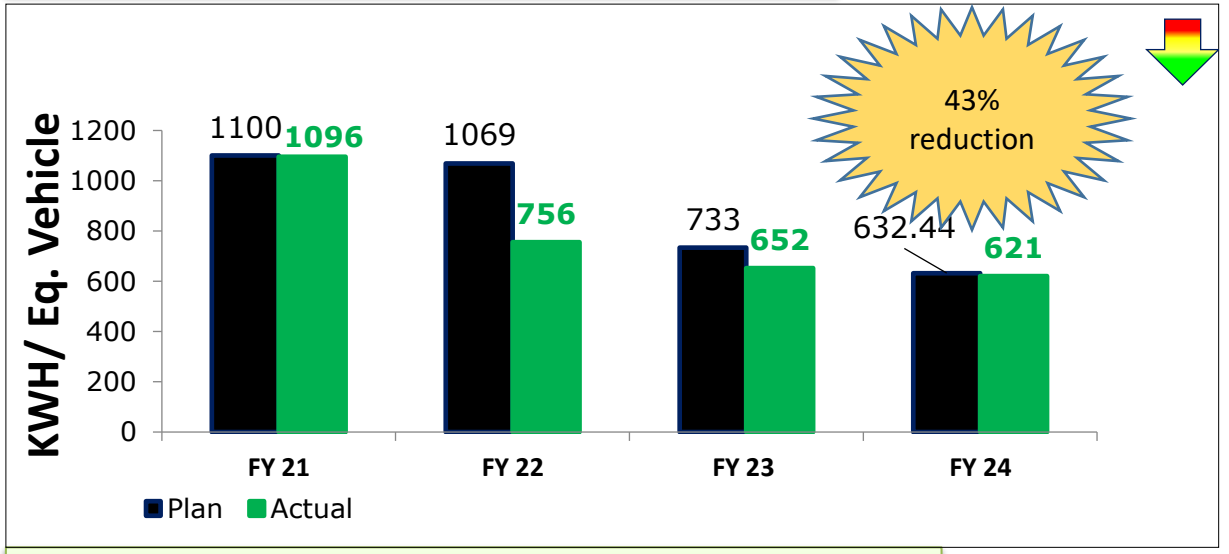


9 GHG Accounting & Inventorization

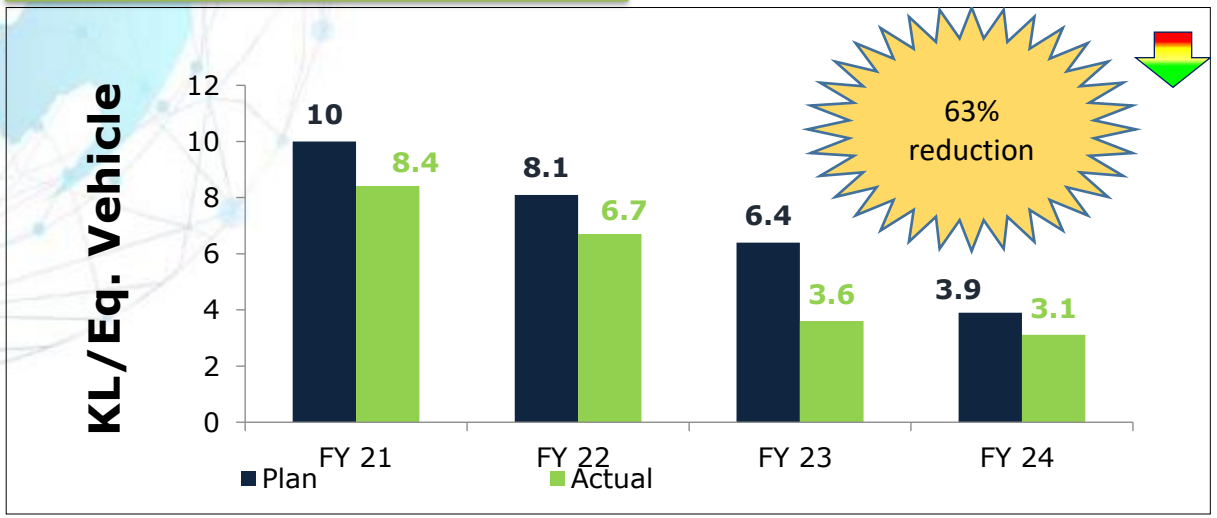
1 Carbon neutrality(Scope-1+2)



1.1 Specific Power Consumption



2 Water Consumption



Annual Sustainability Reporting

8.3 Efforts to reduction in GHG:Transition towards Clean Fuel

Focussed Activity- Environment

1 Carbon neutral

- 1.1 .Energy Conservation
- 1.2 Renewable Energy RE100
- **1.3. Migration towards clean fuel**
- 1.4. Sequestration Carbon

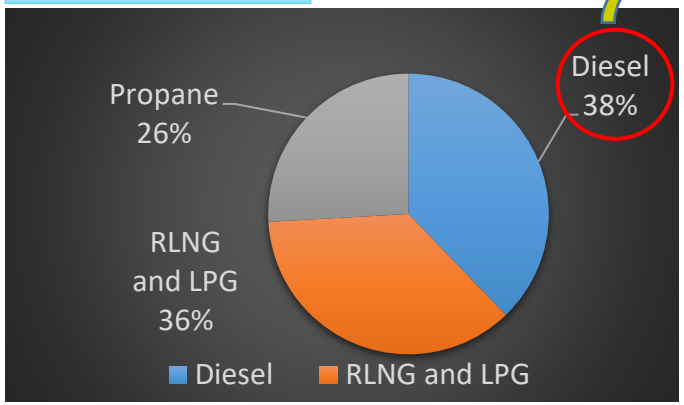
2 Water Positive

- 2.1 Water Extraction Reduction
- 2.2 Water Recharge

3 Resource Efficiency

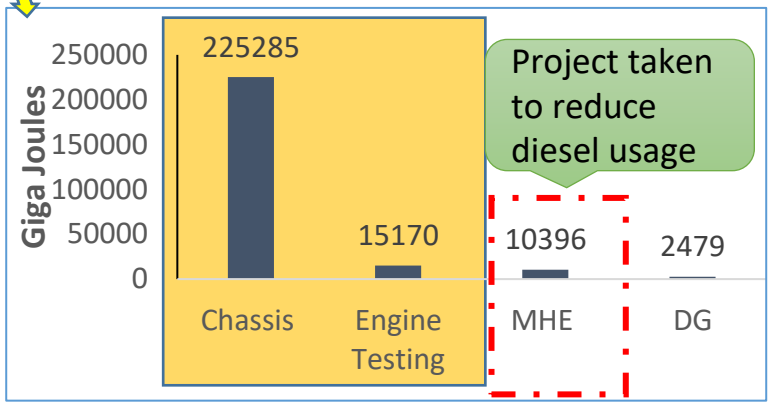
- 3.1 Waste Optimization
- 3.2 Zero Waste to Landfill

Background



Diesel is the Major Energy Contributor

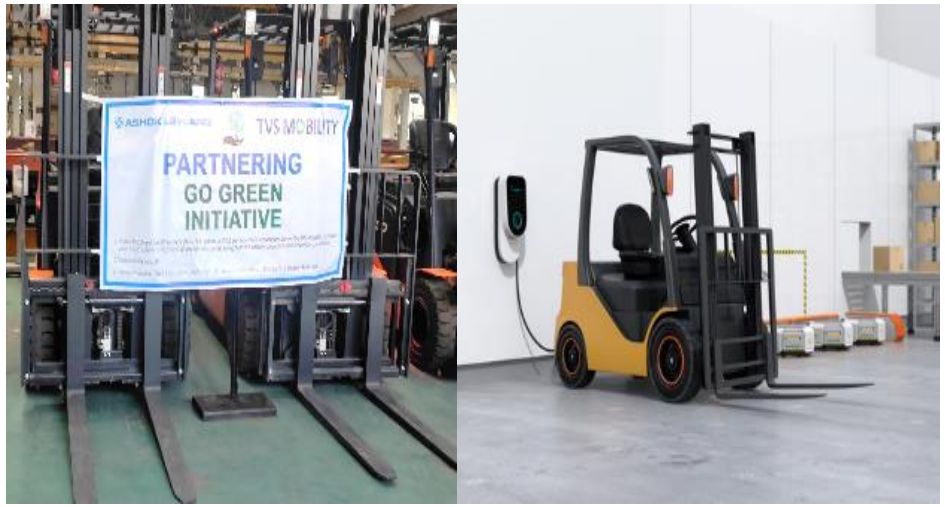
Analysis



Major energy consumption are directly related to vehicle filling

Solution Implemented

- Migration from Diesel Operated Forklifts to Battery Operated
- Agreement done with M/s TVS for supply of battery operated



Phase-1: We have migrated from Diesel to Battery Operated forklifts 54 nos

Benefits

Tangible	Intangible
• Energy Consumption reduction by **74%** • **Co2 Emission reduction by – 127 Tonnes/Annum** • Saving of Rs 100 lakhs	• High Employee Morale • **Lesser noise** • Fuel consumption during diesel filling at yard eliminated

Project Start Date	01.05.2023
Project End Date	15.02.2024

10. Green Supply Chain Management

Focussed Activity- Wood Reduction

1 Carbon neutral

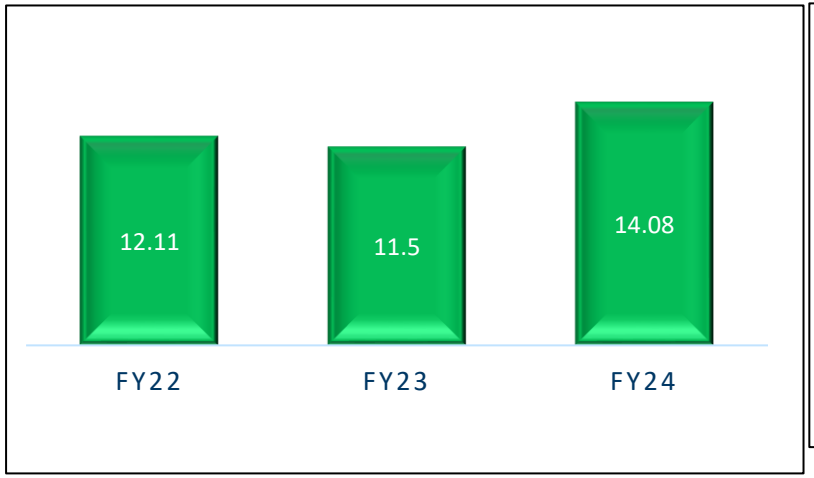
- 1.1 .Energy Conservation
- 1.2 Renewable Energy RE100
- 1.3. Migration towards clean fuel
- 1.4. Sequestration carbon

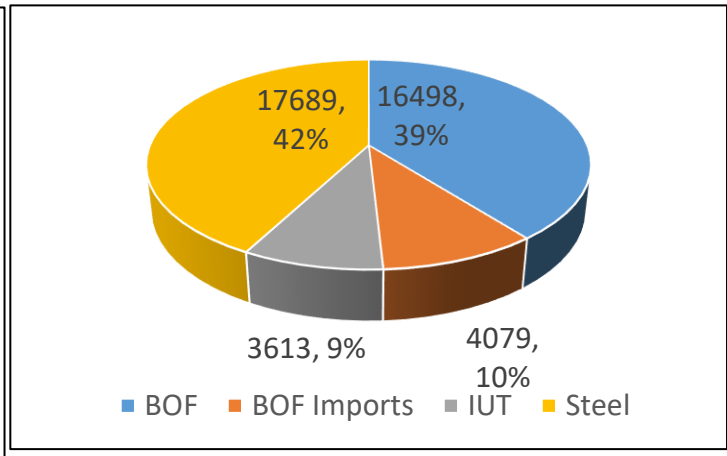
2 Water Positive

- 2.1 Water Extraction Reduction
- 2.2 Water Recharge

3 Resource Efficiency

- 3.1 Waste Optimization
- 3.2 Zero Waste to Landfill





Capability building on Environment Aspect and Impact:

1. Service Provider
2. Contractors
3. Suppliers

Emphasizing on Carbon foot Print reduction in Value chain

Awareness and Knowledge sharing through Cross learning during Vendor Meet

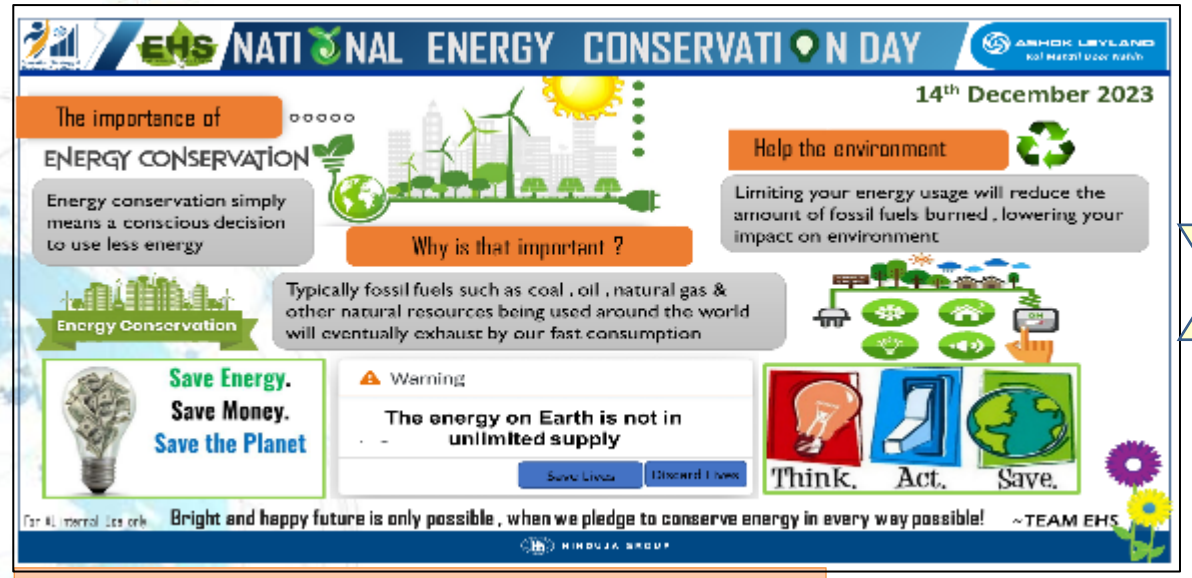
Awareness session to suppliers

Improvement :-

1. AL-SPU started supplying in ESR Steel Cages.
2. M/S Ashley Alteams started supplying in Returnable packaging.
3. 20% reduction in overall wood receipt in FY25.

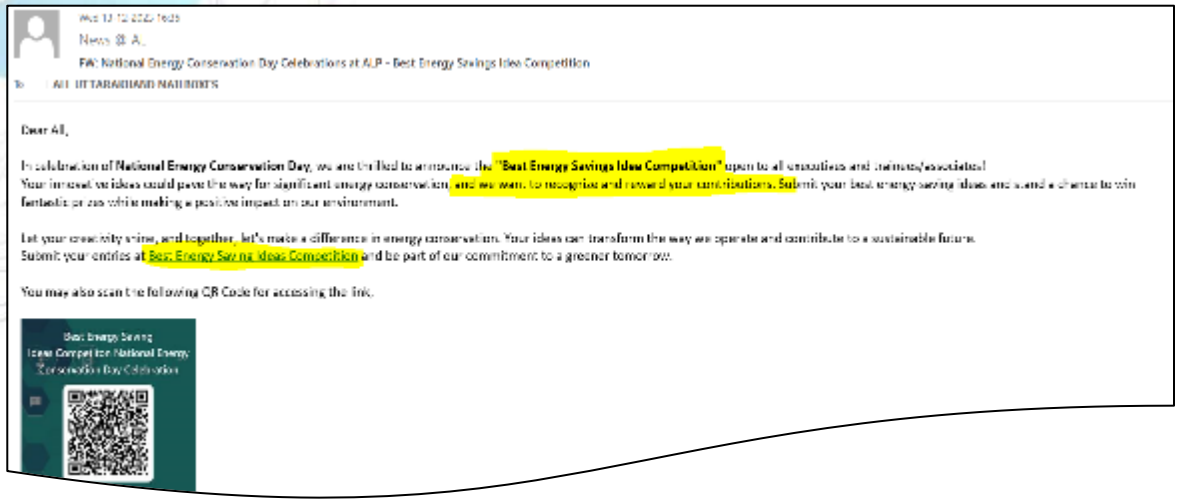
10.1 Energy Efficiency awareness and Training program

Display of Banners at Gemba



Energy Conservation Pledge taken at GEMBA

Conducted Idea Generation Work Shop



News @ A...

FW: National Energy Conservation Day Celebrations at ALP - Best Energy Savings Idea Competition

To: All UTTARAKHAND NATIONITS

Dear All,

In celebration of National Energy Conservation Day, we are thrilled to announce the "Best Energy Savings Idea Competition" open to all executives and trainees/associates!
Your innovative ideas could pave the way for significant energy conservation, and we want to recognize and reward your contributions. Submit your best energy saving ideas and stand a chance to win fantastic prizes while making a positive impact on our environment.

Let your creativity shine, and together, let's make a difference in energy conservation. Your ideas can transform the way we operate and contribute to a sustainable future.
Submit your entries at Best Energy Savings Ideas Competition and be part of our commitment to a greener tomorrow.

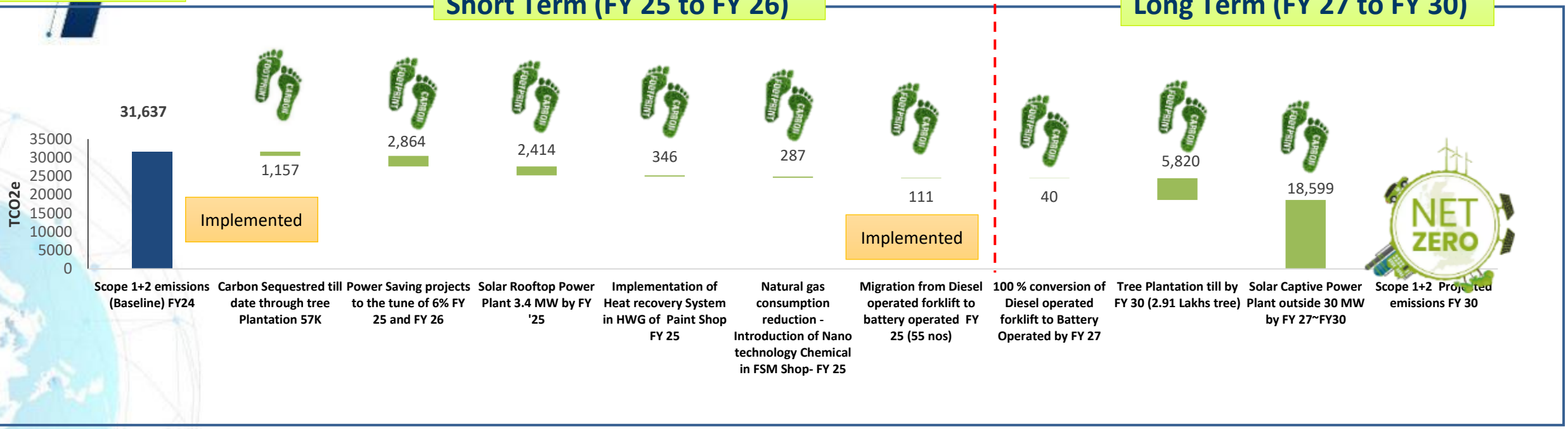
You may also scan the following QR Code for accessing the link.

Best Energy Saving Ideas Competition National Energy Conservation Day Celebration

External audit

12 Short Term and Long Term: Net Zero Commitment

Roadmap



Renewable Energy

- Implementation of Solar Power Plant will reduce **Tc02e by 20767**

New Technology

- Energy Efficient Equipment
- Specific energy consumption reduction
- Technology upgradation

Adopting Clean Fuel

- Conversion from Diesel to battery operated forklift
- Utilization of waste heat

Carbon Sequester

- Development of green coverage by Planting cumulative **3 lakhs tree**

Commitment :

- **Carbon neutral by 2030 (Scope-1 & Scope-2)**
- Net zero by 2048 in all form of emissions

12.1 RE100 Commitment

Focussed Activity- Environment

1 Carbon neutral

- 1.1 .Energy Conservation
- **1.2 Renewable Energy RE100**
- 1.3. Migration towards clean fuel
- 1.4. Sequestration Carbon

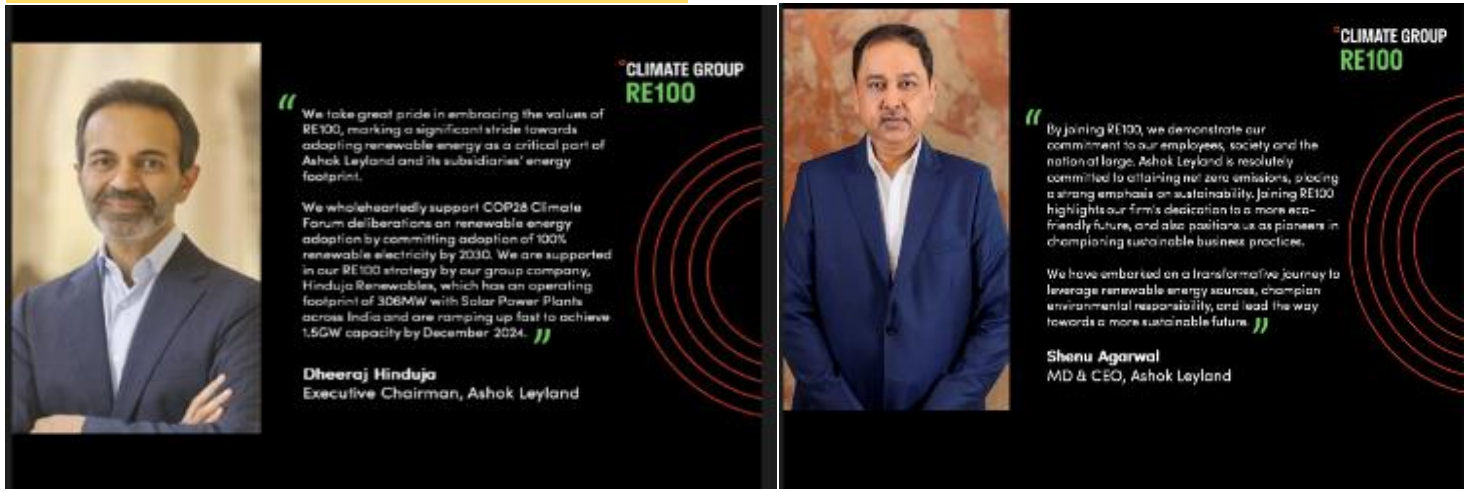
2 Water Positive

- 2.1 Water Extraction Reduction
- 2.2 Water Recharge

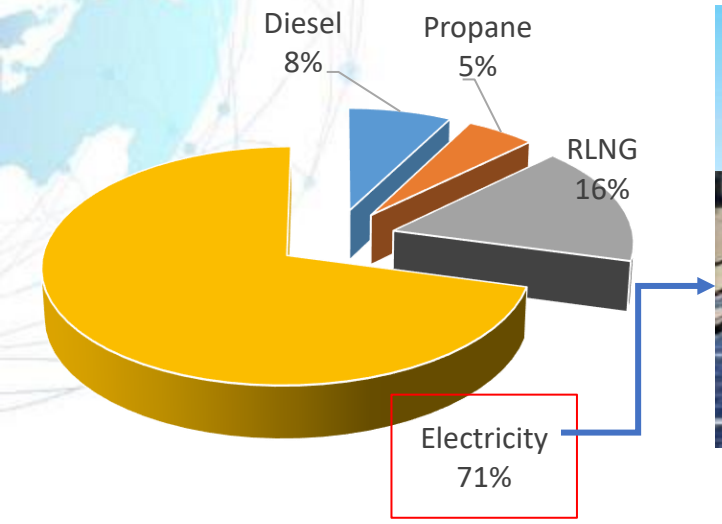
3 Resource Efficiency

- 3.1 Waste Optimization
- 3.2 Zero Waste to Landfill

Ashok Leyland Joined RE 100

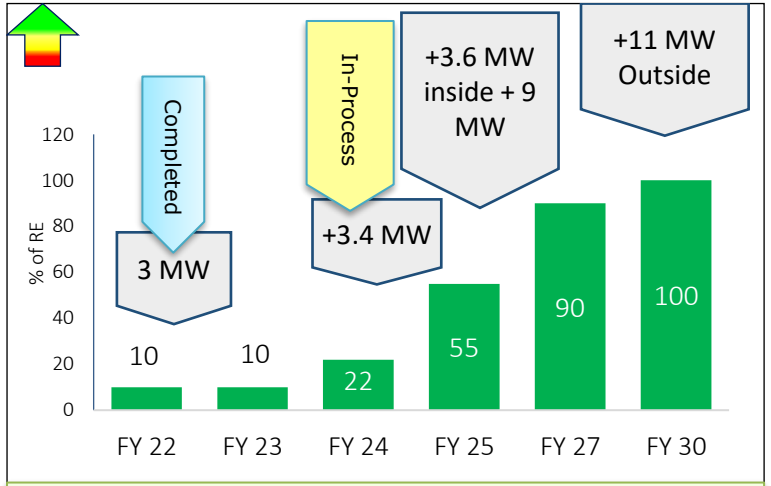


Carbon Emission



Major Contributor is Electricity

1.2 Renewable Energy RE100



RE100 by 2030

Benefit :

- **Potential Saving of Rs 90 lakhs/annum**
- Saving of 4920 Tco2E/annum
- 60 lakhs unit/annum will be generated

Challenges

- No Net Metering above 1 MW
- Dependency on **Weather** due to Extreme Winter
- **No alternate source of renewable energy except Solar**
- **Deemed Charges**

12.2 Carbon Sequestration

Mass Plantation drive

56554 Trees

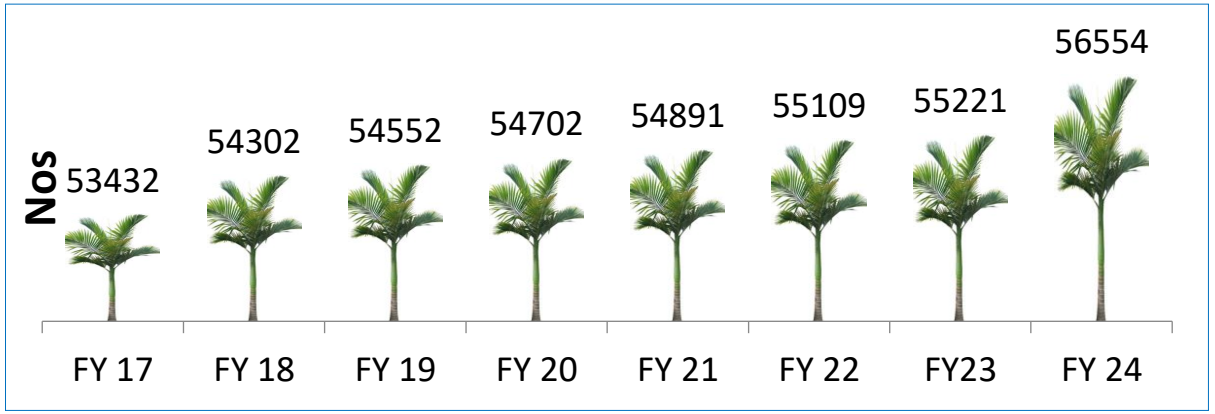
- Journey from 1 tree to 56K+ trees
- 3 Miyawaki dense forest development
- In-house Nursery saplings
- 29 types of mix variety of trees
- Dedicated team for in-house maintenance

23% Green Top

- 767837.3 sq. meter total land
- 250342 sq. meter green cover
- Habited place for birds & animal (Ducks & Rabbits)

1157 tons CO_2 of Carbon sequestration

- Drive towards net zero plant
- Habitable place for migrant birds
- Better employee workplace environment



Major Accolades External

CII – Platinum Award – Net Zero Carbon Emission – Aug'23

CII – Excellent energy efficient unit Award – Sept'23

CII - Winner - EHS Inter Industry competition northern region – Sept'23

"Gold" award in IAQ Quality Sustainability Award 2023 – Oct'23

IMexI "Distinguished Prize" – Dec'23

"Certificate of Merit" award in "National Energy Conservation Award 2023" by Govt of India-Dec'23

External awards in a Financial Year (FY 24) – 37 Nos. (Historic High)

Benefits in FY 24

Electrical energy savings

19.8 lakhs units

Thermal energy savings

8712 Giga Joules

GHG emission mitigation

1366 Tonnes CO2 eq

Water conservation

31151 KL

Rainwater captured

12110 KL

Plastic waste recycled

637 MT

Tree Plantation

56K+ tress Planted

Installed Renewable energy capacity

6.2 MWp

Waste Reduction

66 MT

Water recharged

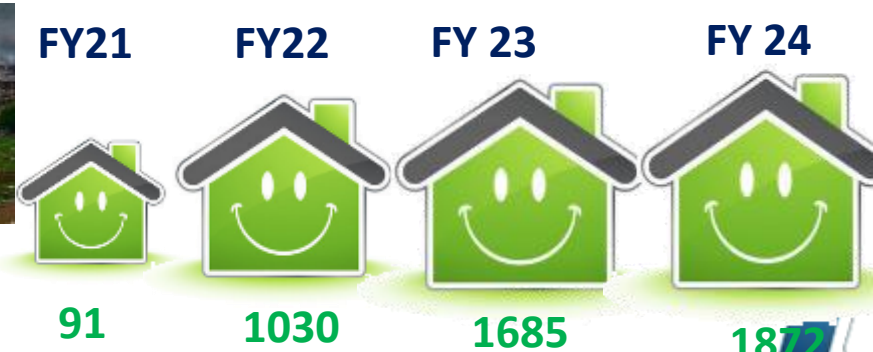
₹

Cumulative annual recurring savings

Rs 210 lakhs

No. of Houses

By the annual Energy Saved by us, thousands of Uttarakhand houses can be enlightened for an year



Future Plan : Environment

Uniqueness of the Project

- Adoption of Tin Free Nano Technology in Paint Shop
- Spring Recharge Implementation with Scientific approach First Industry in Uttarakhand
- Water Positive Plant
- Energy Efficient Compressor

Future Plan

- 100% Self Reliance on Pond Water – 50 % by Mar’25, 100 % by Dec’27
- Wood usage elimination-Mar’25
- Afforestation -2 lacs trees by Mar’26
- Renewable Energy 100% - 25 % by Sep’24, 50% by Mar’26, 100% by Mar’30
- CII Greenco Assessment : Mar’25

12. Learning from CII Energy Award or any other award program

- Innovative Projects implemented
- External Benchmarking data of similar industries
- Best Practices of various industries
- New Product Knowledge through energy suppliers
- Different Problem Solving technique
- Approach of industries towards climate change

Money Is Yours But Resources Belong to The Nature & Society

Thank you !

Contact detail:

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Niraj.Jarmal@ashokleyland.com