



Hinduja Group – An Overview



- Founded in 1914
- Trans-national conglomerate
- Presence in 100 countries with more than 70,000 employees
- Sales revenue - \$25 billion (~ Rs. 170,000 Crore)



GUIDING PRINCIPLES:

- Work to Give
- Word is a Bond
- Act Local Think Global
- Partnership for Growth
- Advance Fearlessly



Automotive

Media

Chemical/ Lubes

Real Estate

Banking & Finance

Healthcare

Information Technology

Project Development

Power

Trading



Truck

- Long Haul
- Mining & Construction
- Distribution trucks



Specialty Vehicle

- Bulker
- Fire brigade trucks



Bus

- City Bus
- Suburban Bus
- Inter City Bus
- School & Special Bus



Power Solution

- Generator sets
- Marine Application
- Harvester Combine



Light Vehicle

- Dost
- Partner
- MiTR
- [BADA Dost](#)

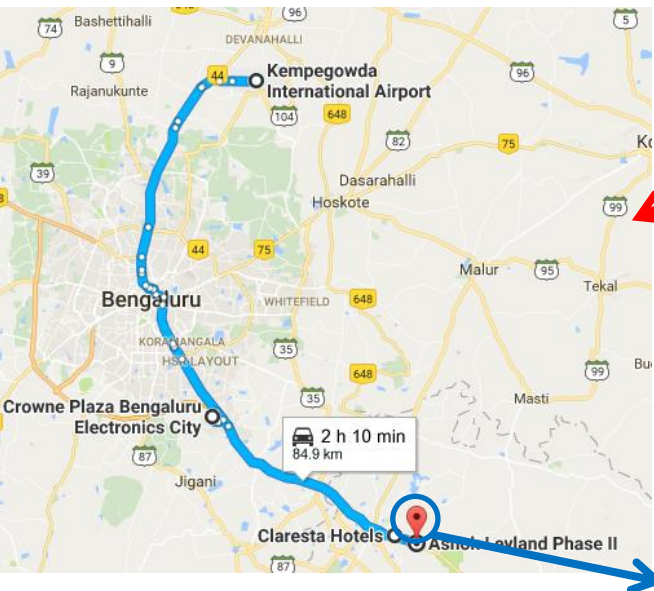
- **Over 700,000 trucks keep the wheels of Indian economy moving**
- **Every year Ashok Leyland buses transport over 26 billion people (equal to 3.5 times of world's population)**



Hosur Unit II plant (ALH2)



- **Vehicle Manufacturing plant located on Bengaluru- Chennai Highway**
- **Plant Capacity : 121,000 trucks/annum (M&HCV:56,000 and LCV:65,000)**



• ALH2 Sales Revenue :\$ 1251 Mn (FY19)
(31.3 % of Ashok Leyland turnover)

*Conversion ratio 1 \$: INR 73



Low investment plant with significant contribution to company's turnover



2. Impact of COVID-19



We have resumed our operations with effect from 11th May 2020 after obtaining appropriate approval from District Collector, Krishnagiri vide his letter dated 5th May 2020 with guidelines to adhere the conditions as prescribed by the Ministry of Home Affairs and the State Government.



Entry at Gate



Aarogya Setu App Checking



Thermal Scanning



Hand Washing



Self Declaration



Doctor verification



Mask Distribution



Vehicle disinfection



Social Distancing at Canteen



Office fumigation

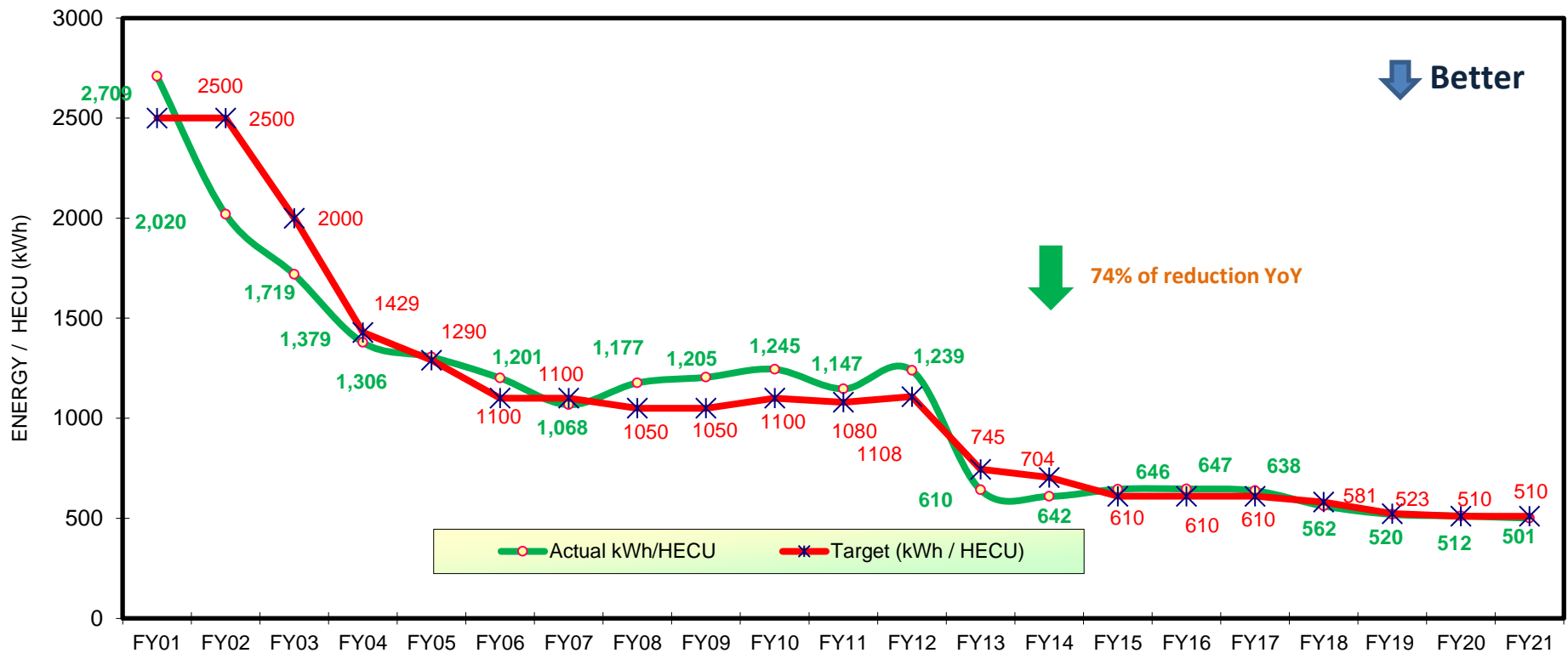


3. Specific Energy Consumption...



Long trend

ENERGY PER HECU - TREND

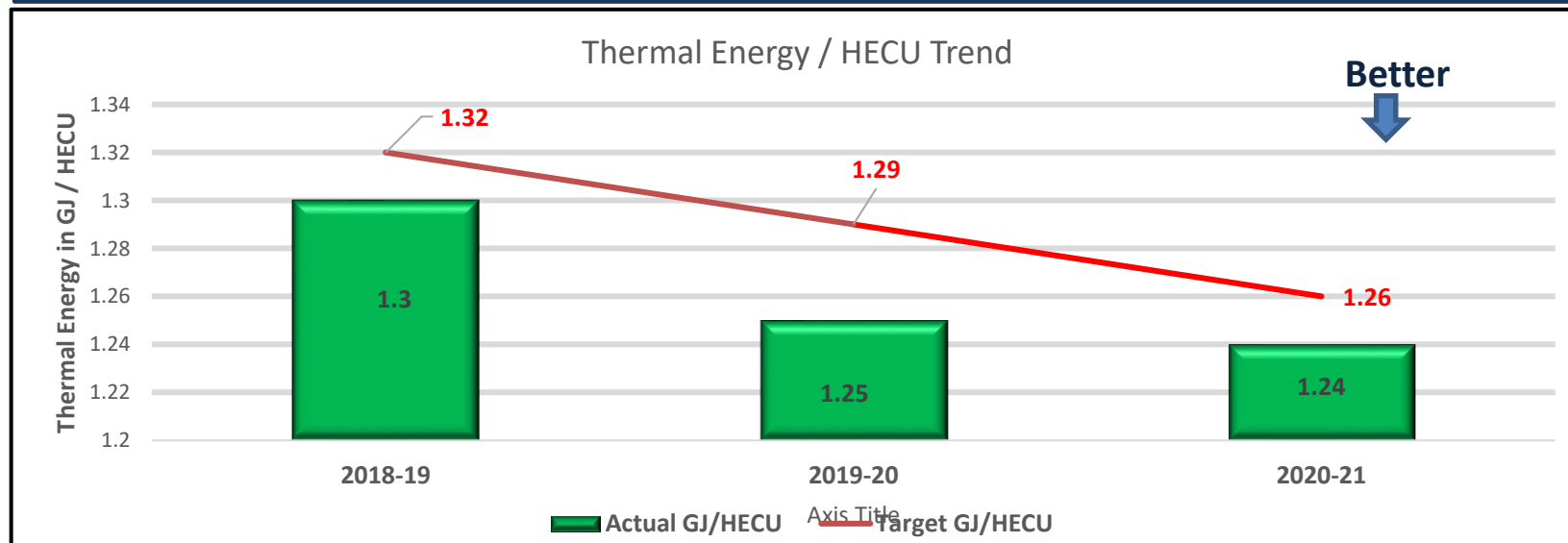
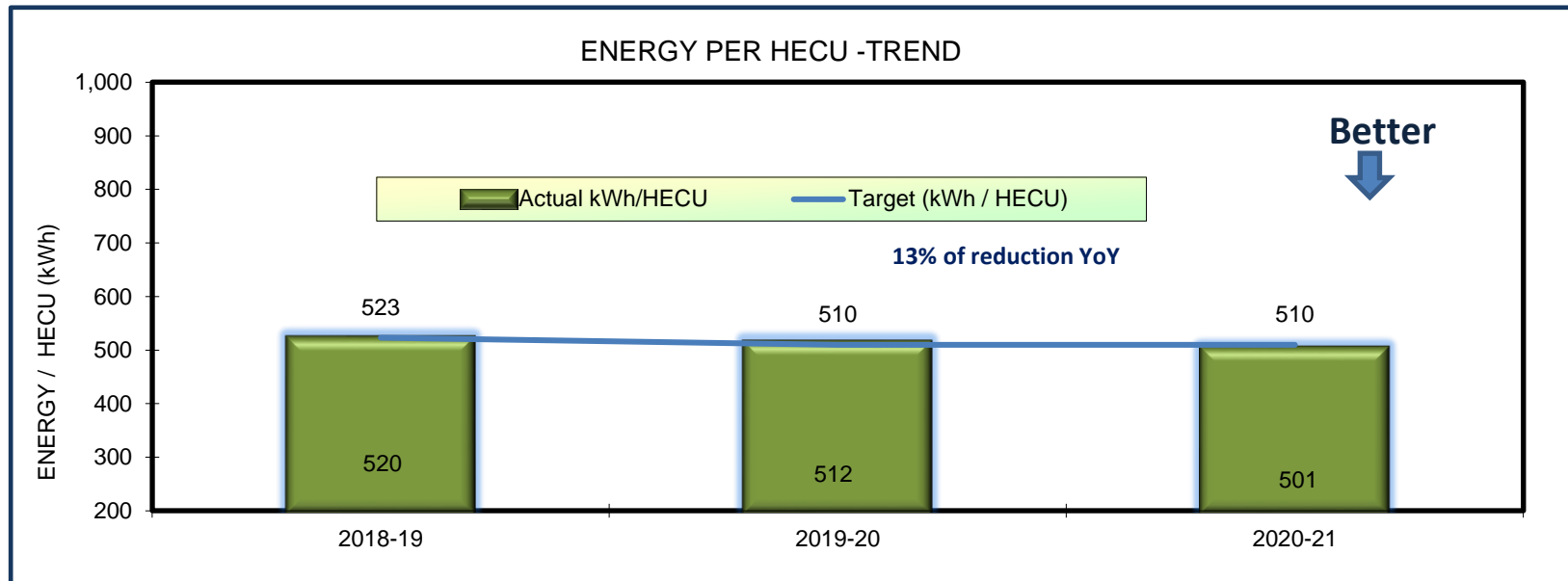




3. Specific Energy Consumption...



Last 3 years trend



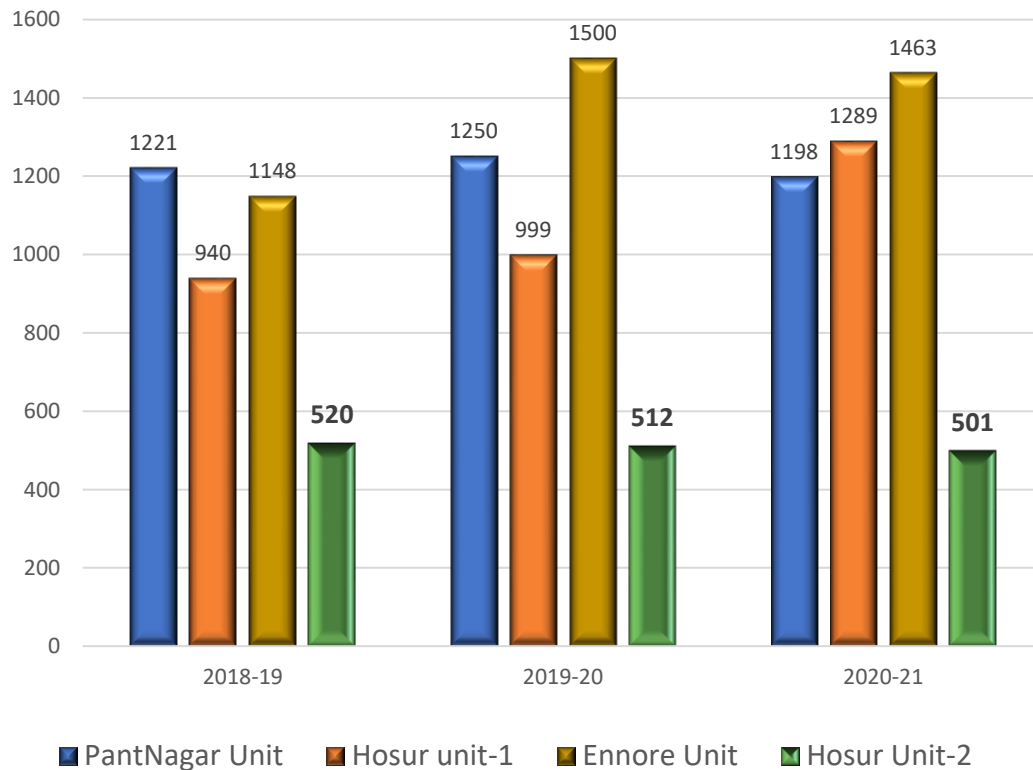


4. Bench marking



Internal

kWh / HECU



External / Global

- Process differs from plant to plant & local conditions
- Difference in outsourcing level
- Product of different specifications
- Various levels of system buying





- Benchmark of same unit which won “1st Place in National Energy Conservation Competition-2014” in the Automobile Sector conducted by BEE



5. Energy Saving projects implemented in last three years




Major ENCON project implemented in FY19

Sl. No	Project description	Pictorial representation	Annual Electrical savings		Annual Thermal savings		Investment in Rs. Million
			Kwh	Cost Savings in Rs. Million	Qty	Cost Savings in Rs. Million	
1	One of the conventional Reciprocating compressor (which is having 200kw motor for the generation of 1250CFM of compressed) air replaced with Energy Efficient Screw compressor of 160kw motor. The heat generated in the screw compressor recovered and used to pre-heat the water for the hot water generating process.	 	950400	6.17	78 kL	4.68	60
2	All the shop floor lightings, of 150Watts HPSV high bay lamps converted into 118Watts LED lightings all over the plant.		409500	3.152	NA	NA	27.6



5. Energy Saving projects implemented in last three years

Major ENCON project implemented in FY19

Sl. No	Project description	Pictorial representation	Annual Electrical savings		Annual Thermal savings		Investment in Rs. Million
			Kwh	Cost Savings in Rs. Million	Qty	Cost Savings in Rs. Million	
3	<p>Ambient temperature reduction initiatives inside compressor room</p> <ul style="list-style-type: none"> ✓ 1. Layot modification of heat generating equipment's inside the compressor house to avoid heat radiation from neighbor equipment ✓ 2. Extended ventilation for the compressor house for better cross ventilation ✓ 3. Exclusive ducting's for the compressors to vent out the heat from the compressor house ✓ 4. Introduction of turbo ventilators in the roof of the compressor house 	  	186200	1.44	NA	NA	0.2



5. Energy Saving projects implemented in last three years

Major ENCON project implemented in FY20

Sl. No	Project description	Pictorial representation	Annual Electrical savings		Annual Thermal savings		Investment in Rs. Million
			Kwh	Cost Savings in Rs. Million	Qty	Cost Savings in Rs. Million	
1	Energy efficient compressors installation - 1450 CFM - 1 no		576000	4.435	NA	NA	0.18
2	Energy efficient Drier installation		65520	0.505	NA	NA	0.42
3	Replacement of ceiling fans (80 watts) with BLDC ceiling fans (40 watts) - 145 nos as 1 st Phase – SUPERFAN		21700	0.16	NA	NA	0.55



5. Energy Saving projects implemented in last three years




Major ENCON project implemented in FY20

Sl. No	Project description	Pictorial representation	Annual Electrical savings		Annual Thermal savings		Investment in Rs. Million
			Kwh	Cost Savings in Rs. Million	Qty	Cost Savings in Rs. Million	
4	Automatic sprinklers in place of tractor driven supply of water for greenery maintenance		NA	NA	96000 Lit	67.21	0.26
5	Replacement of conventional centrifugal pumps of 7.5 replace with Energy Efficient "GRUNDFOS" make pumps of 5.5kW -2 nos at OHT water lifting		10440	0.08	NA	NA	1.2
6	LED lightings : RSO finished truck stock lights, Peripheral Street/Lawn lightings		27240	0.209	NA	NA	0.89



5. Energy Saving projects implemented in last three years

Major ENCON project implemented in FY21

Sl. No	Project description	Pictorial representation	Annual Electrical savings		Annual Thermal savings		Investment in Rs. Million
			Kwh	Cost Savings in Rs. Million	Qty	Cost Savings in Rs. Million	
1	BLDC Motor Driven Blowers introduction of cabin paint shop.		1382400	10.71	NA	NA	0
2	Propane Introduction instead of Diesel for paint shop burner		NA	NA	3745 kL	218.04	32
3	LPG introduction for Boiler Operations at Canteen & ETP process (8000Lits / Month)		NA	NA	96kL	6.72	8



6. Innovative Projects implemented



- ✓ Introduction of “BLDC” motor driven Air Handling Units for Paint Shop
- ✓ Intelligent Water Management system
- ✓ Integrated RBT in assembly line.... first time in commercial vehicle industry



6. Innovative Projects implemented

✓ Integrated RBT in assembly line... EOL (End Of Line) testing Process

Past Process:

7Mins



800mts by road



12Mins



Manual Wheel Alignment



15Mins



Roller Test Bench



4Mins



ABS Test



6Mins



Brake Test

SALES

Avg. Cycle time :35min/Vehicle

Diesel : 1.8 Liters/ Vehicle



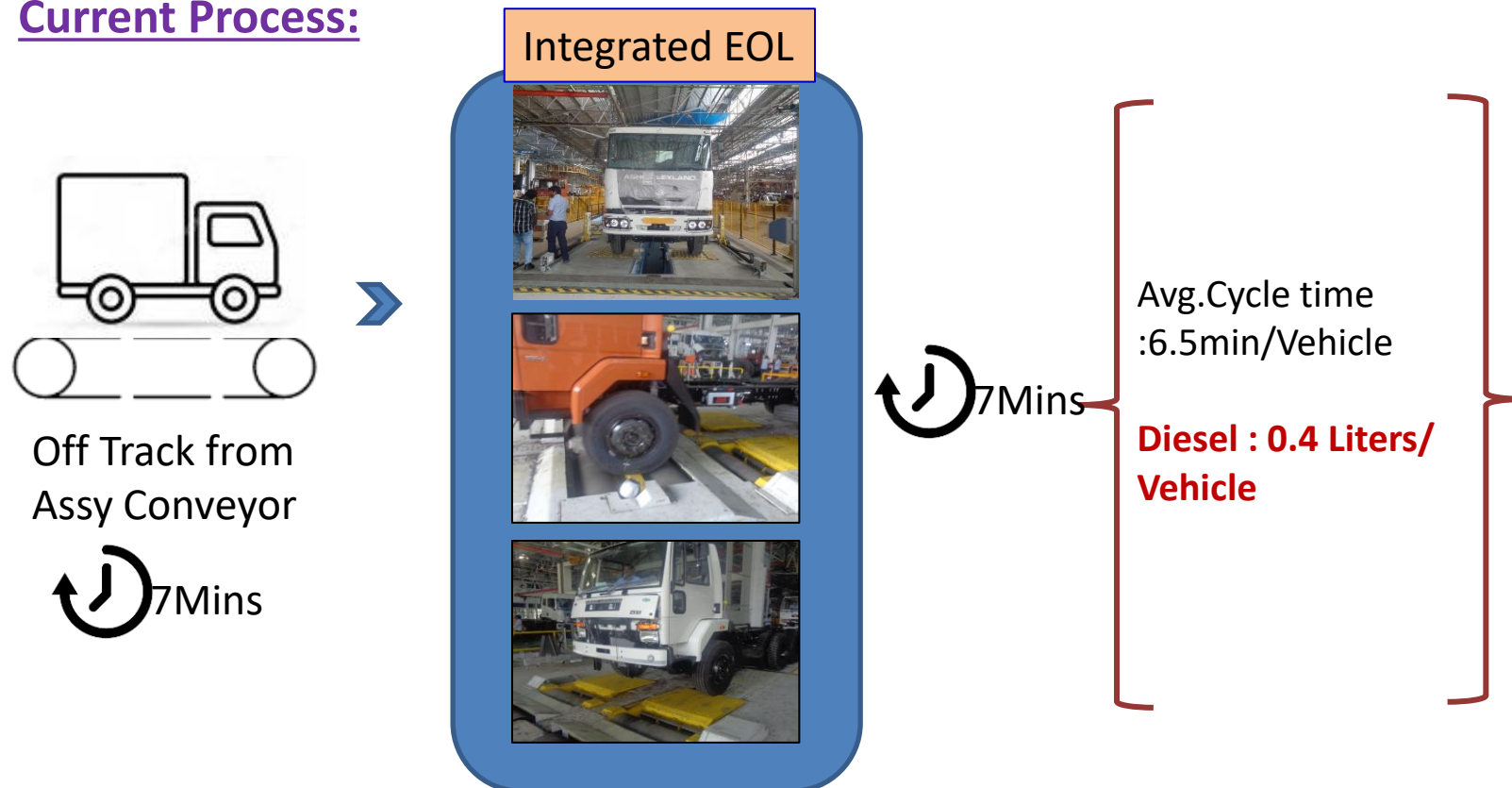
6. Innovative Projects implemented

✓ Integrated RBT in assembly line... EOL (End Of Line) testing Process

Idea & Objective:

- Integrated Automated Contactless test Booth for Wheel alignment & Roller Brake test- M/s.DURR, German
- To be positioned next to off-track stage of Conveyor
- Cycle time/ Tact Time to be inline with Conveyor (7 Mins/ Vehicle)

Current Process:





6. Innovative Projects implemented



✓ Integrated RBT in assembly line.... EOL (End Of Line) testing Process

✓ Benefits

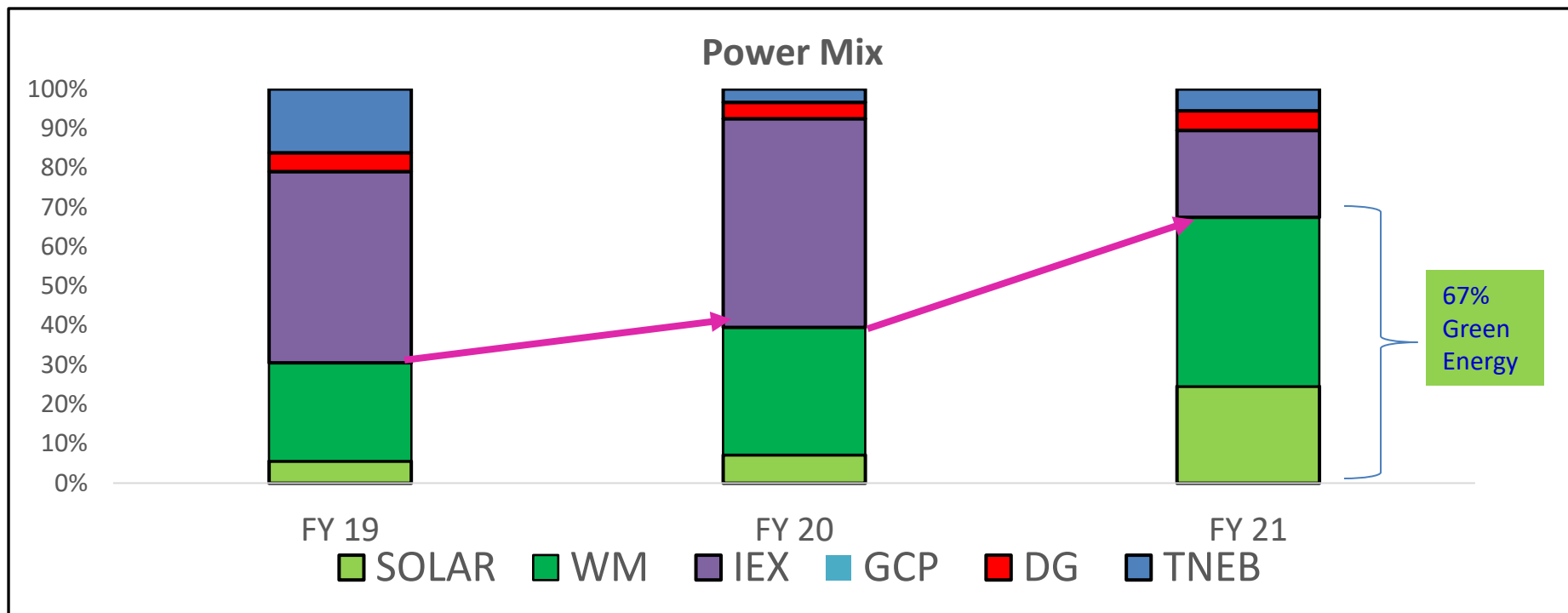
1. Productivity improvement by 74%
2. Energy Conservation reduction by 1714285 units/ Annum
 - ✓ Energy cost saving : **Rs.12.0 Millions**
3. Diesel Conservation upto : 28658 Lits / Annum
 - ✓ Diesel cost Saving : **Rs.20.06 Millions**
4. Set benchmark of “End of Line Testing Process” cycle time matched with “Assembly Conveyor Cycle Time”
5. Horizontal deployment in “DOST” assembly line in FY21
6. Elimination of “Vehicle Test Shop” process

Special Note:

1. 1st of its kind in a commercial vehicle industry to Completed EOL tests at end of conveyor
2. 1st of its kind to meet cycle time inline with conveyer cycle time.



7. Utilization of Renewable Energy Sources



Roof Top SOLAR (inside plant) Energy contribution FY21 : 6.75%



Wind Mill Energy contribution : FY21 : 29%



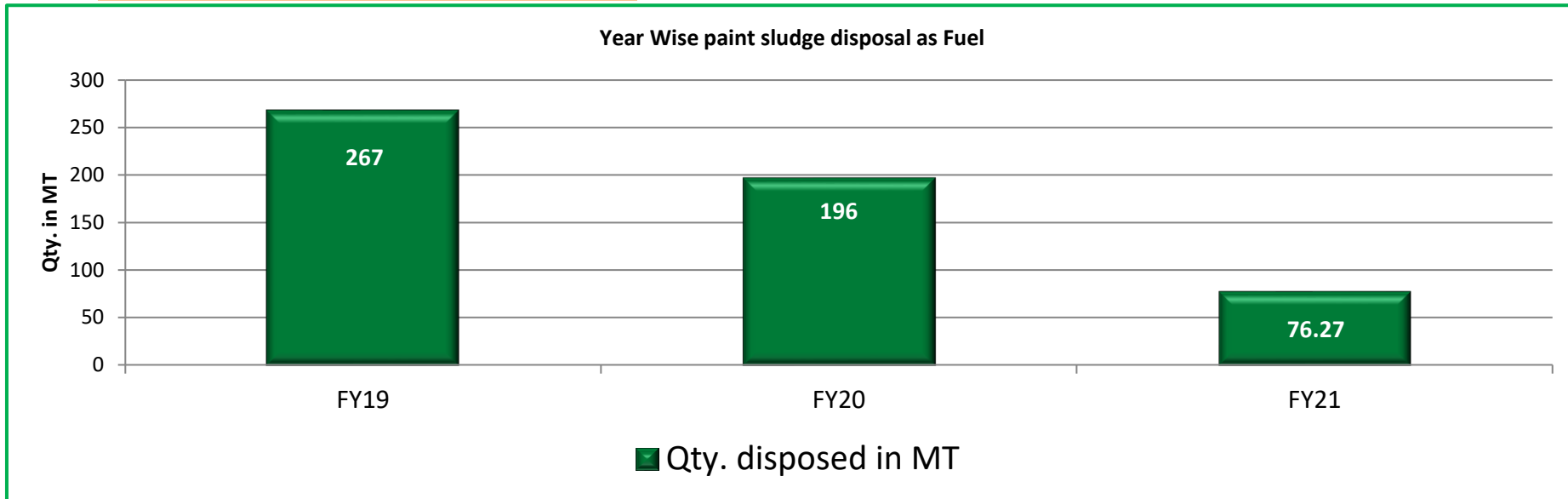
Captive SOLAR (outside plant) Energy contribution FY21 : 31.25%





8. Waste Utilization & Management

Industrial Waste Management



Ashokleyland, Unit-2, Hosur



Pre-processor
M/s.GGEPIL,Ranipet



Fuel for cement Kiln
M/s.Ultratech Cements,Karur





8. Waste Utilization & Management

Domestic Waste Management

Canteen wastages like food, egg shells, vegetable peels etc being converted as manure in Organic Waste Composter-500Kg/Day Capacity



Food Waste from canteen



Output soil nutrient serves as alternative for chemical fertilizers

Waste loaded- 500Kg
Output soil nutrient- 96Kg
Volume reduction- 80%



Food Waste loaded into OWC



Output collected from the OWC

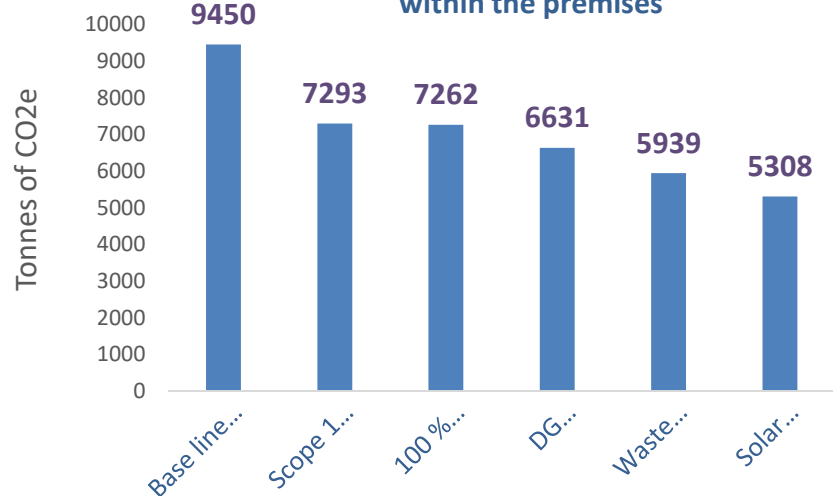


Nutrient Mixed with soil in 1:10 and used as manure

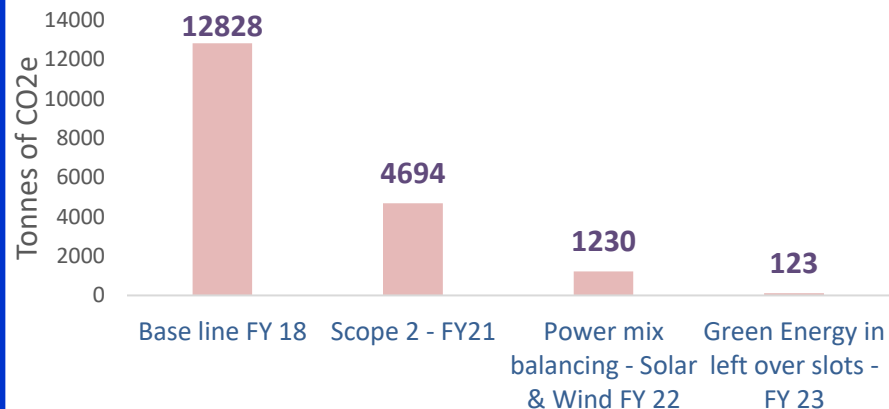


9. GHG Inventorisation

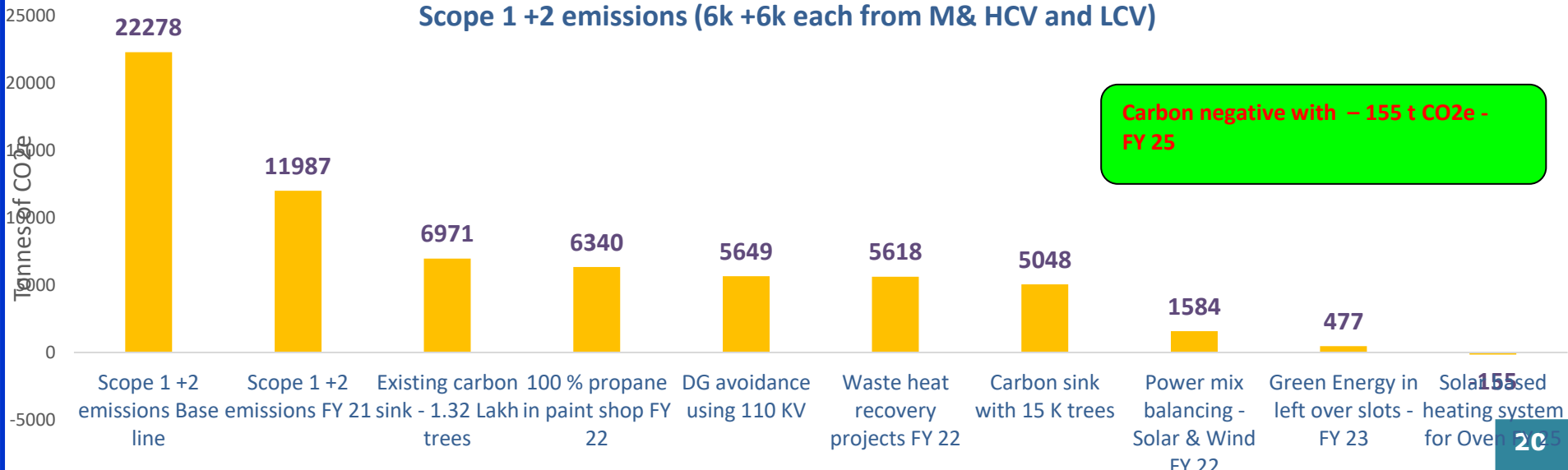
Scope 1 emissions : Emissions from fossil fuel usage within the premises



Scope 2 emissions : Emissions from fossil fuel usage due to (TNEB, IEX, CPP power usage)



Scope 1 +2 emissions (6k +6k each from M& HCV and LCV)



Carbon negative with - 155 t CO2e - FY 25

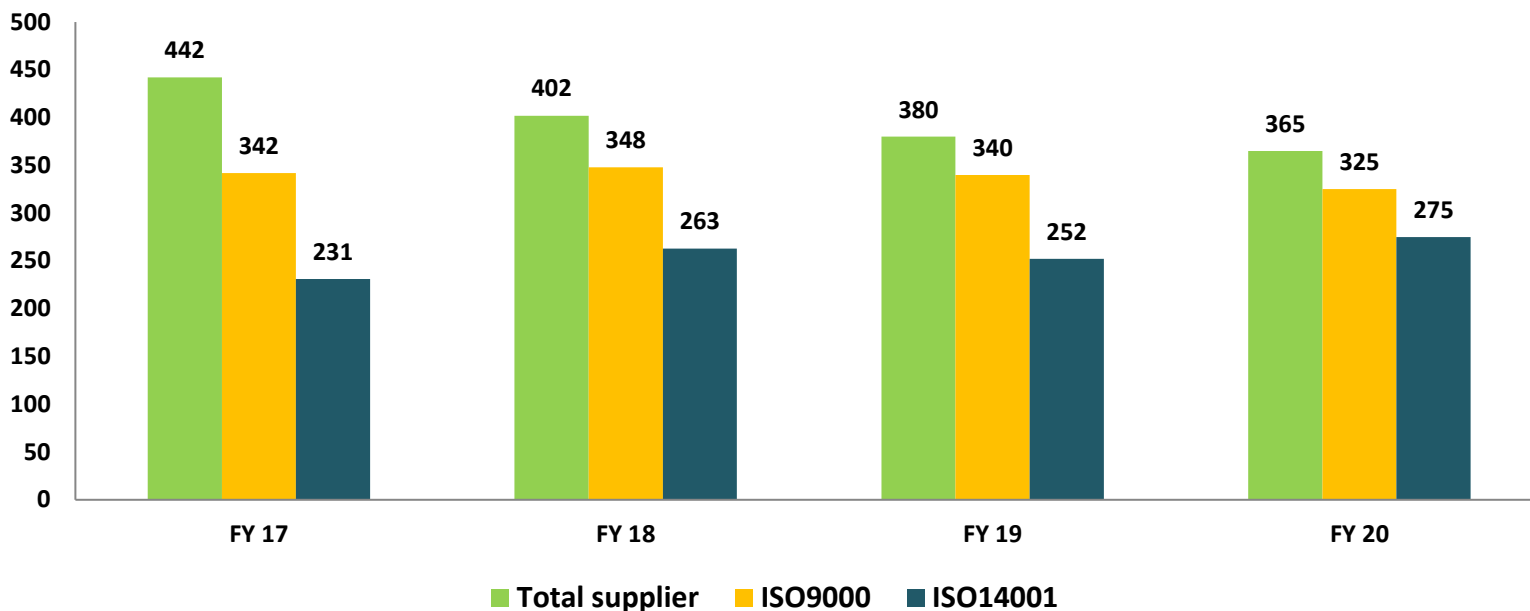


10. Green Supply Management



Green Purchase

- Adoption to No. of Parts/Suppliers
- Greening the Supply Chain



❖ Significant Initiatives :

- Awareness Creation to Supply Chain Partners (63 Supplier Gemba's Started at Organisation Level)
- Adoption of vendors for Gemba Concepts Implementation
- Procurement of Energy efficient ,Water efficient Equipment
- Incentivize the Vendors with Recyclable pallets



11. Team work, Employee Involvement & Monitoring

Online Monitoring...

SI No	FeederName	StarKwh-I	EndKwh-I	Consumption-I	StarKwh-II	EndKwh-II	Consumption-II	StarKwh-III	EndKwh-III	Consumption-III
1	DG-1	281882.52	281882.52	0	281882.52	281882.52	0	281882.52	281882.52	0
2	DG-2	0	0	0	0	0	0	0	0	0
3	DG-3	0	0	0	0	0	0	0	0	0
4	DG-4	620899.39	620899.39	620899.39	620899.39	620899.39	0	620899.39	620899.39	0
5	DG-5	584520.38	584520.38	0	584520.38	584520.38	0	584520.38	584520.38	0
6	OPPS	4010.62	4010.62	0	4010.62	4010.62	0	4010.62	4010.62	0
7	DG-6 (AMF PAINT PLANT)	0	0	0	0	0	0	0	0	0
8	22KV I/C	18113276	18130967	17691	18130967	18159424	28457	18159424	18184694	25270
9	11 KV TR-1 I/C	1887637.12	1887637.12	0	1887637.12	1887637.12	0	1887637.12	1887637.12	0
10	11 KV TR-2 I/C	654705.6	672305.53	17599.93	672305.53	700556.92	28251.39	700556.92	725590.52	25033.6
11	11 KV DG I/C	1245906	1245906	0	1245906	1245906	0	1245906	1245906	0
12	TR-13 LT I/C	1081319.42	1081319.42	0	1081319.42	1081319.42	0	1081319.42	1081319.42	0
13	TR-3 LT I/C	0	0	0	0	0	0	0	0	0
14	MRS MLP	40932	40961.89	29.89	40961.89	40968.88	6.99	40968.88	41015.28	46.4
15	AXLE PCC-1	1628323.54	1628507.39	183.81	1628507.39	1628908.8	401.41	1628908.8	1629259.13	350.33
16	AXLE PCC-2	335930.94	335969.92	38.98	335969.92	33667.87	97.95	33667.87	336148.67	80.8
17	AXLE VSSB	76034.8	76059.75	24.95	76059.75	76126.19	66.44	76126.19	76170.79	44.6
18	AXLE MLP	521359.04	521460.73	101.69	521460.73	521488.86	28.13	521488.86	521615.2	126.34
19	DG-6	169062.11	169062.11	0	169062.11	169062.11	0	169062.11	169062.11	0
20	DG-7	100046.05	100046.05	0	100046.05	100046.05	0	100046.05	100046.05	0
21	TR-12 PRY	8038225.4	8038489.6	264.2	8038489.6	8040176.64	1687.04	8040176.64	8041584.64	1408
22	MVSB-10	1165893.76	1166137.34	243.58	1166137.34	1167776.12	1638.78	1167776.12	1169141.37	1365.25
23	SMP SCREW COMP	0	0	0	0	0	0	0	0	0
24	TR-4 PRY	4242427.9	4246773.24	4345.34	4246773.24	4252613.12	5839.88	4252613.12	4257322.49	4709.37
25	TR-5 PRY	179525.02	180106.84	581.82	180106.84	180979.21	872.37	180979.21	181246.89	267.68

Capturing in SAP

Shop wise Power Consumption Report

Area C - Area Description

Area	MES	01.07.2018 - Sun	02.07.2018 - Mon	03.07.2018 - Tues	04.07.2018 - Wed	05.07.2018 - Thur	06.07.2018 - Friday	07.07.2018 - Sat	08.07.2018 - Sun	09.07.2018 - Mon	10.07.2018 - Tues
AC01	AXLE ASSY	824	977	976	971	976	976	976	976	976	976
AC02	COMPRESSOR HOUSE	4377	17,622	14,154	14,882	14,569	13,901	12,994	6,878	13,264	13,264
AC04	FRAME PREP & ASSY	184	3,740	4,423	4,540	4,960	5,289	5,018	210	4,003	4,003
AC18	FRAME PAINT	306	4,131	3,959	4,646	4,548	5,865	4,355	981	4,405	4,405
AC05	SMP	581	4,431	4,116	3,928	3,348	6,498	4,025	452	2,480	2,480
AC06	CW	5,913	23,754	28,356	29,921	27,319	22,399	28,562	16,122	26,533	26,533
AC07	CAP-FED	996	4,038	4,246	4,352	4,320	4,371	5,602	1,111	4,303	4,303
AC20	CAP-AMF	1,986	2,622	3,683	3,592	3,536	3,472	3,472	2,093	2,900	2,900
AC19	CAP - TOP COAT	2,949	10,570	10,195	9,963	9,950	9,687	9,917	3,010	10,115	10,115
AC08	PUMP HOUSE	200	250	270	270	270	270	270	280	270	270
AC10	CHASSIS ASSY	1,166	4,190	4,426	4,435	4,317	4,338	3,937	1,165	3,594	3,594
AC11	V.T.S	3,298	3,862	3,992	4,208	4,210	7,692	3,996	2,640	3,996	3,996
AC12	CANTEEN	670	313	345	354	397	349	329	180	329	329
AC13	WORKS OFFICE	200	285	278	303	293	250	291	201	274	274
AC14	K.D.C	205	328	484	520	509	950	483	205	483	483
AC15	E.T.P	104	132	154	154	154	900	154	900	900	900
TC	Total Consumption (A)	24,300	82,320	85,300	88,360	85,129	88,020	85,980	23,640	79,560	79,560
EB	EB Power Generation	24,300	82,320	85,300	88,360	85,129	88,020	85,980	23,640	79,560	79,560
DG	DG Power Generation	0	0	48,845	0	5,809	0	0	0	0	0
OPPS	OPPS Power	0	0	3,585	0	0	0	0	0	0	0
TED	Total Power (B)	24,300	82,320	85,300	88,560	85,129	88,020	85,980	23,640	79,560	79,560
ERR	Error = (B - A)	0	0	0	0	0	0	0	0	0	0
ERR%	Error = (B - A) %	0	0	0	0	0	0	0	0	0	0

- Daily**
 - Aggregate-wise daily reports to GEMBA leaders
- Weekly**
 - Power cost analysis with respective process owners
 - Corrective actions planning
- Monthly**
 - Gap analysis review by Unit Head
- Plant Head**
 - Inter unit review by VP-Hosur units

9.5) Conducting various competitions like Poster making, Photography contest, ENCON Ideas & Awarding Best ENCON Projects through Kaizens





Madhakondapalli Lake rejuvenation : Volunteers from ALH2 participated in CSR's initiative of lake rejuvenation. Aspiring to get 250 Dried Borewells recharged irrigation for 4,000 acres of 3 adjacent villages in FY22





Sapling donation to MYRADA (Mysore Resettlement and Development Agency)

- ❖ MYRADA is an NGO that has had extensive experience in incubating, developing and managing sustainable growth in south India





- ❖ On TN Govt's directive Ban on "use of one time use and throwaway plastics" following initiatives implemented progressively

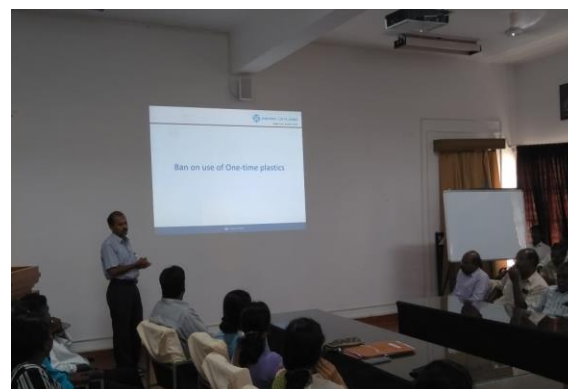
Awareness to public at *Bodichipalli* village near *Kelamangalam, TN*



Spreading awareness to families, students and Visitors



- ❖ On 27/09/19 a knowledge sharing session on "Awareness on Harmful effects of plastic" was conducted by MR-H2 to the staffs of "Central Silk Board Authority of India"-Hosur





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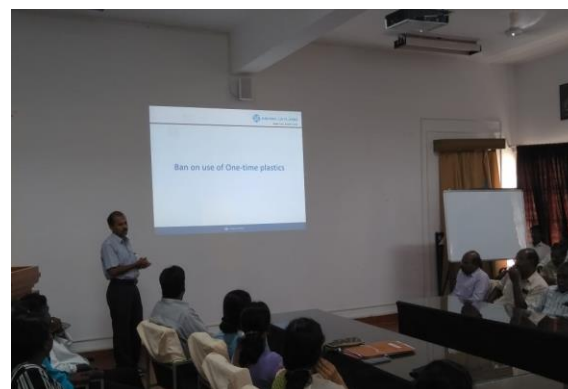
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- ❖ MR-EMS – conducted a Tech-Talk session on “ Energy Trends in Efficiency Improvements of Blowers” to the members of ISHRAE,Hosur chapter



- ❖ MR-EMS – conducted knowledge sharing session on “ Energy Conservation Practices” to the final year students of Adhiyamaan Engineering College,Hosur on 14th December’2019





14. Other relevant Information.

COVID Care beyond boundary...

- During Lockdown we have extended our arm for social welfare
- From 1st April 20, we were providing 3 time meals to various category of people – Team at GH, Primary Health Centres, Stranded people, Migrated community, Police and Municipal workers till June'20
- Donated 1000 nos of N 95 MASKS to GH.
- Organized basic provision items, vegetables to interior village communities – covered about 09 villages and 03 homes – provided worth of Rs.2 lakhs of materials
- Provided nutrition food to 20 HIV infected persons.
- Distributed the HIV Tablets from ART Centre, GH, Hosur and Krishnagiri to 100 HIV infected patients, who could not come to GH – Due to no transportation.
- Distributed 200 packets of buttermilk to the working staff of different departments, on various points for about 15 days.





14. Other relevant Information.



COVID – 19 Warriors: Screening Camp for Interstate Migrant Workmen



A free COVID 19 screening camp was arranged for the inter state migrant workmen on 13th April 2020.

236 inter state migrant workmen were screened and none of them were found with any symptoms.

These migrants were working under different contracts in ALH2.

The screening comprises self evaluation of COVID 19 through a questionnaire, temperature monitoring, vitals assessment (oxygen saturation, pulse rate) and clinical examination





14. Other relevant Information.



COVID 19 – Care beyond Work (during Country wide lockdown)



Due to the outbreak of Covid-19, the entire nation is under lockdown, resulting in suspension of inter- state transportation, closure of hotels / mess.

To support the Interstate migrant / Trainees, AL provides three times food for them till normalcy resorted, every day 300 breakfast/ lunch/ dinner are being distributed to Interstate migrant workmen



H2 AWARDS TIMELINE

