
**Team members:**

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# Brief about Carriage Repair Workshop, Hubballi

| | |
|---|---|
| **Established on** | Year 1885 |
| **Total Area** | 45.23 Acres |
| **Covered Area** | 16.22 Acres |
| **Power consumption** | Avg 1.11 Lakh units/Month (83.34% solar generation) |
| **Staff on Roll** | 2881 |
| **Sources of Power Supply** | 1. Electrical Power Supply at 11kV from HESCOM<br>2. 999 KWP Solar Power Plant commissioned through Solar Power Developer and connected to the Grid on 19.06.2018<br>3. 45 KWP Solar Power Plant commissioned on 08.02.2017 |

# ACTIVITIES OF UBLS

ICF COACHES

LHB COACHES

MEMU RAKES

DEMU RAKES

BOBSN WAGONS

TOWER CARS

BVZI BRAKE VANS.

CONVERSION

NMG, RE etc.

REHABILITATION OF BOXN WAGONS

C- CATEGORY BOXN NPOH

IOH OF ICF TROLLEYS

SS1 OF LHB TROLLEYS

ASSISTANCE TO DIVISIONS

REPAIR & SUPPLY OF WHEELS, DV'S, BMBC, MISC. ITEMS

# Overall Energy Consumption & Production Data

| Year | Annual Consumption | | Outturn (ECU*) | Specific Energy Consumption | |
|---|---|---|---|---|---|
| | Electrical | Thermal | | Electrical TOE/ ECU | Thermal TOE/ ECU |
| | TOE | TOE | | | |
| 2019-20 | 120.10 | 113.73 | 1291.32 | 0.09301 | 0.08808 |
| 2020-21 | 105.75 | 80.28 | 1115.62 | 0.09479 | 0.07196 |
| 2021-22 | 117.61 | 89.97 | 1312.60 | 0.08960 | 0.06855 |

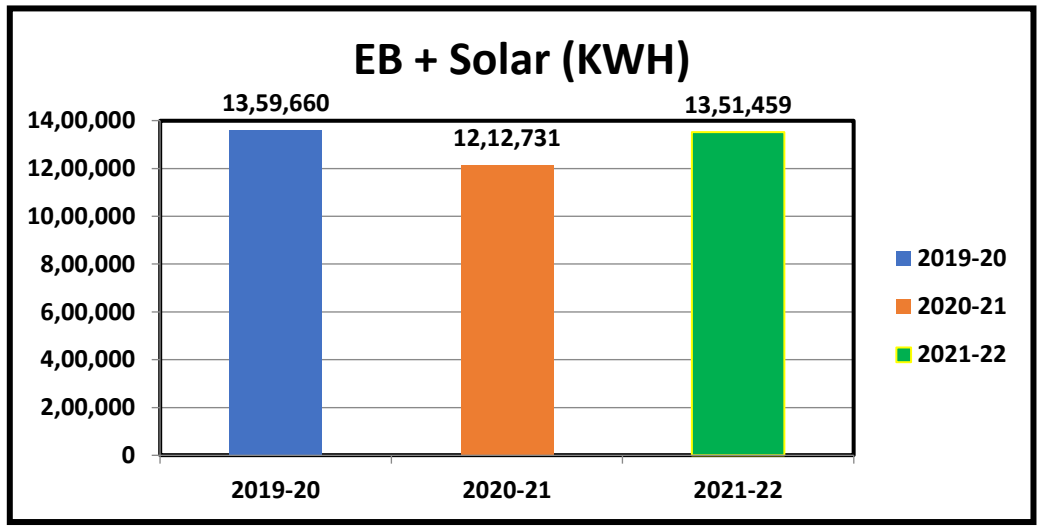
**Reduction in Specific Energy Consumption from 2019-20 to 2021-22:**

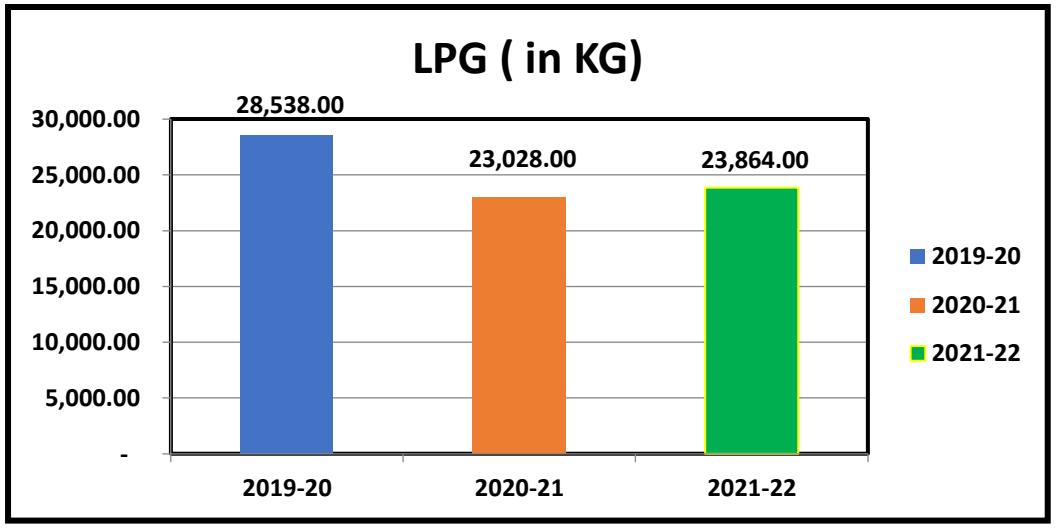
- Electrical Energy : 3.70%
- Thermal Energy : 22.20%
- Overall (Thermal + Electrical) : 12.70%

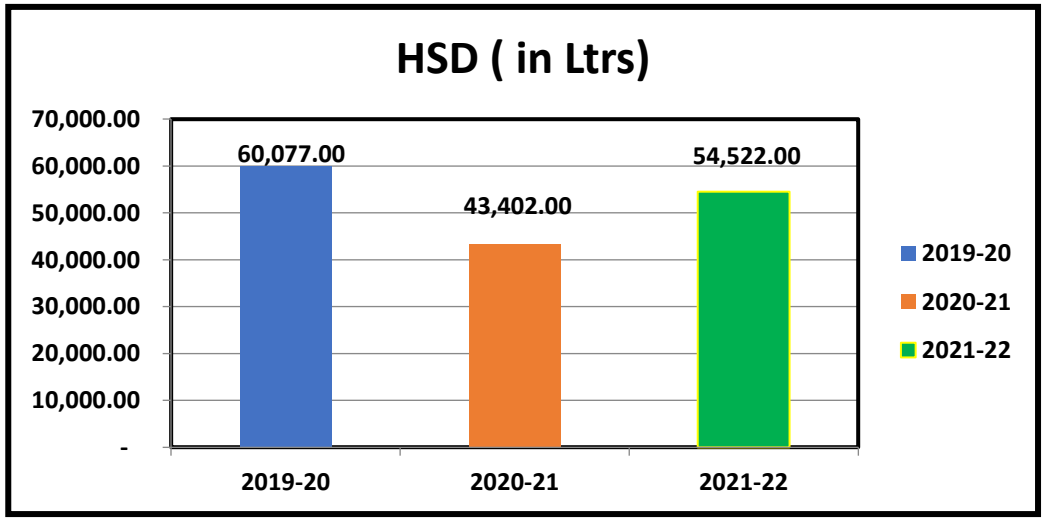
* ECU: Equated Coach Unit

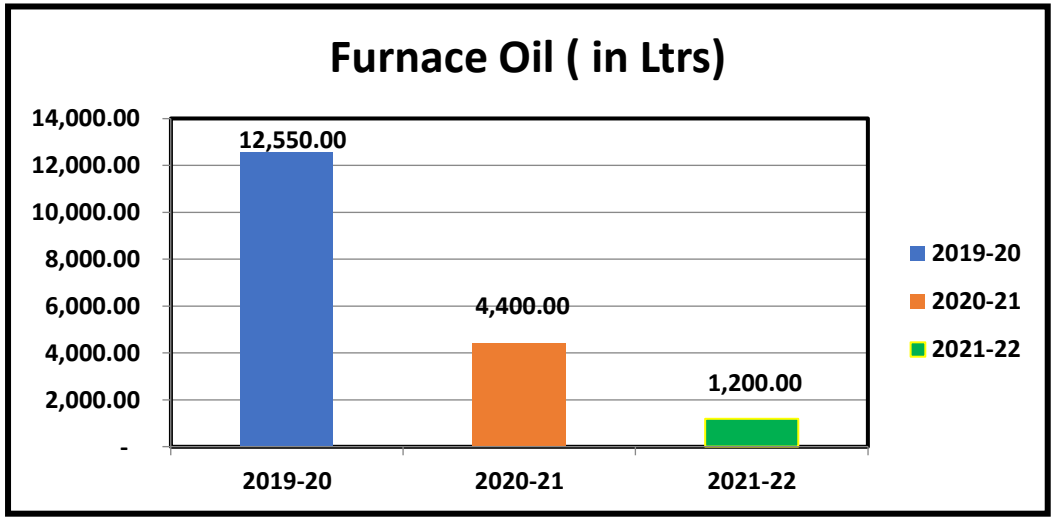
* TOE : Tonne of Oil Equivalent

# CONSUMPTION TREND OF ENERGY SOURCES - LAST 3 YRS

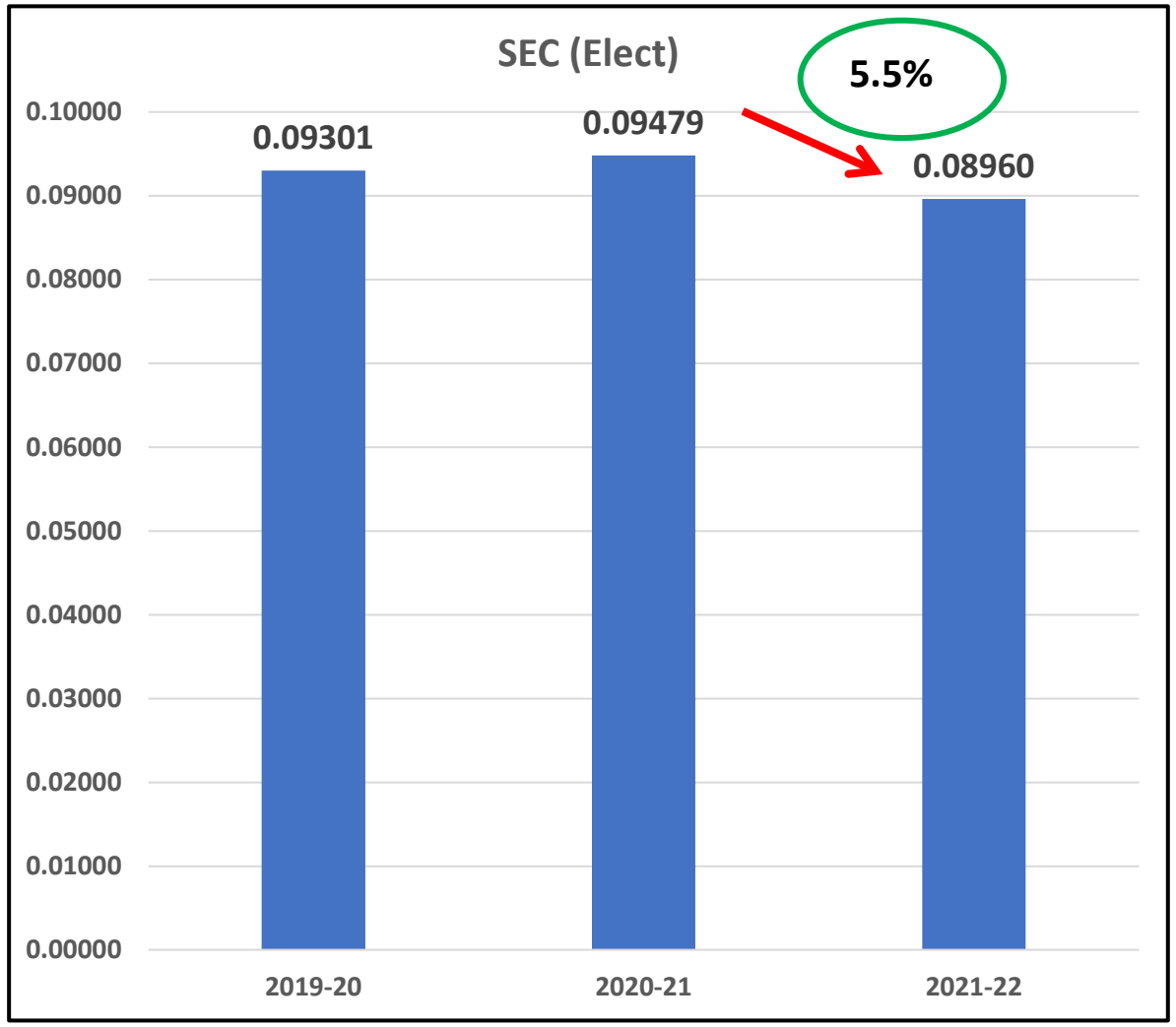


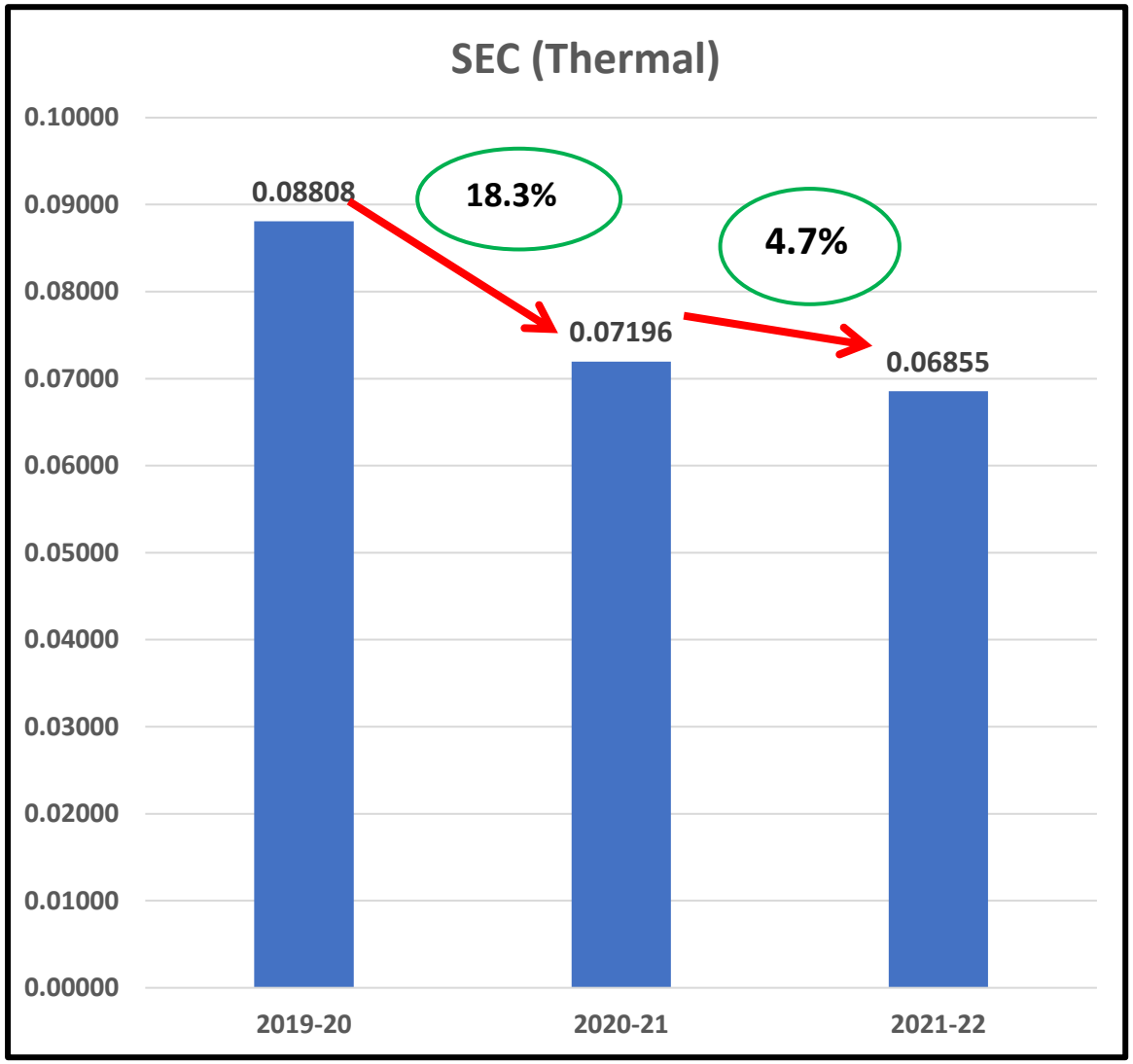
# Specific Electrical Energy Consumption – TOE/ECU




**Reduction in Electrical energy (SEC) is owing to**

- **Replacement of 60 Nos. conventional welding plants into IGBT based welding plants**
- **Introduction of 100% LED light fittings – 1178 Nos.**
- **Provision of BLDC Ceiling, Wall and Air Circulator Fans – 511 Nos.**
- **Provision of VVVF drives for EOT cranes – 9 Nos.**
- **Replacement of non inverter based ACs to Inverter based Split ACs – 12 Nos.**

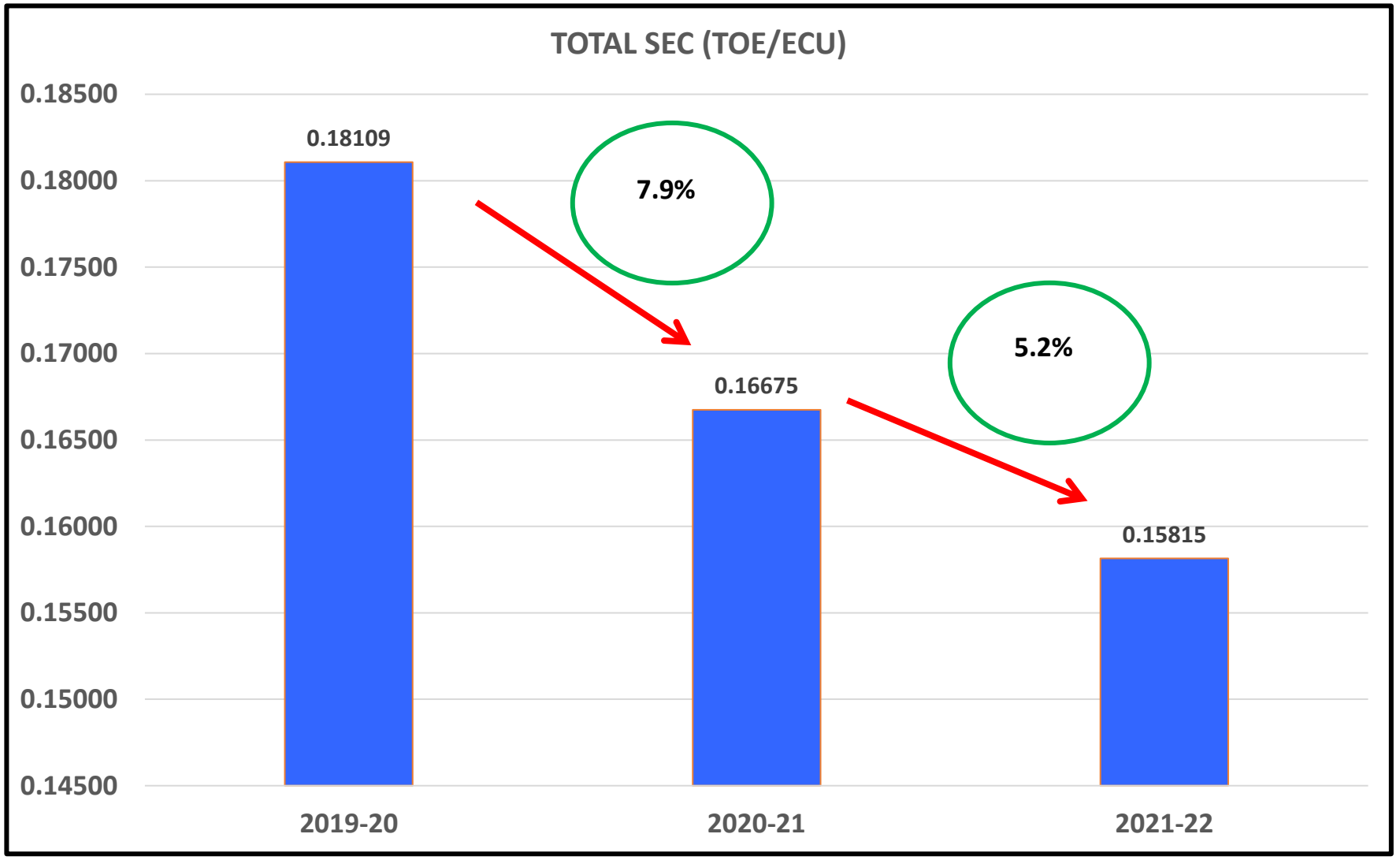
# Specific Thermal Energy Consumption – TOE/ECU




**Reduction in Thermal energy (SEC) is owing to**

- **Usage of chemical cleaning agents in place of thermal energy sources like Furnace Oil.**
- **Improving quality of inspection**
- **Reducing redundant repairs**
- **Reducing rework**
- **Plasma arc cutting in place of LPG gas cutting.**
- **Usage of Road Cum Rail Shunter in place of Diesel Locomotives for Shunting of coaches.**

# Total Specific Energy Consumption – TOE/ECU



# National Benchmarking

| DETAILS | 2021-22 | | 2022-23 |
|---|---|---|---|
| | SEC Target | SEC Achieved | Target for SEC Reduction |
| Internal Bench Marking (TOE/ECU) | 0.15841 (5 % reduction w.r.t. 2020-21) | 0.15815 (5.2 % reduction w.r.t. 2020-21) | 0.15024 (5 % reduction w.r.t. 2021-22) |

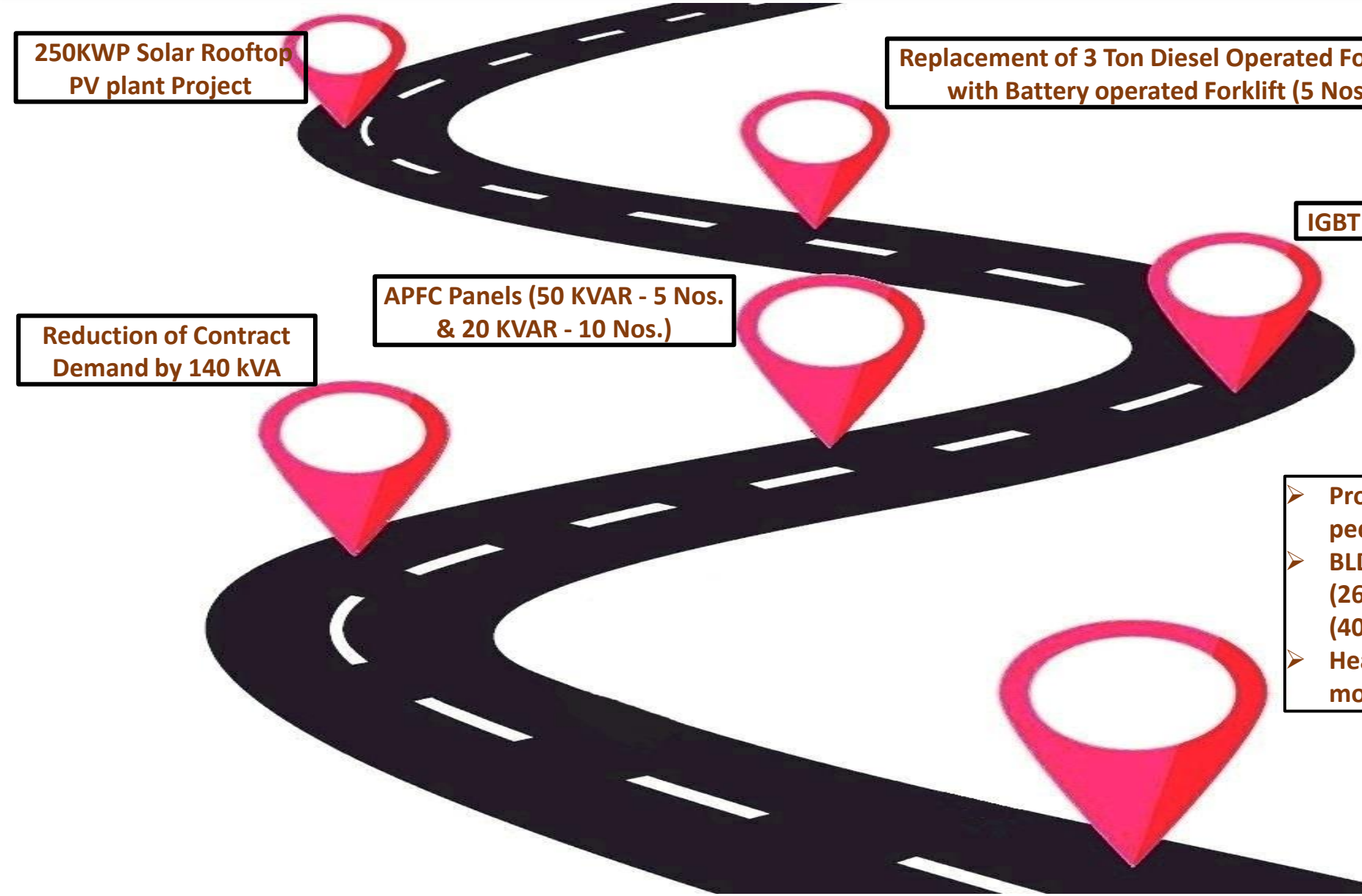
**External Benchmarking**

| Sl. No. | Name of the Workshop | SEC ( TOE/ECU) – 2020-21 |
|---|---|---|
| 1 | DMW, Patiala | 1.40 |
| 2 | GOC, Trichy | 0.242 |
| 3 | CLW, Chittranjan | 4.78 |
| 4 | Jagadhri Workshop | 0.066 |

**UBLS SEC (TOE/ECU) is 0.16675 TOE/ECU for 2020-21**

**Source for the above data is CII Presentations for 2020-21**

# Road Map 2022-23



250KWP Solar Rooftop PV plant Project

Replacement of 3 Ton Diesel Operated Forklift with Battery operated Forklift (5 Nos)

IGBT Welding Plants (20 Nos)

APFC Panels (50 KVAR - 5 Nos. & 20 KVAR - 10 Nos.)

Reduction of Contract Demand by 140 kVA

- Provision of energy efficient BLDC pedestal fan sweep 400mm (20 Nos),
- BLDC wall mounting fan size 400mm (26 nos), BLDC Ceiling Fan 1200 mm sweep (40 nos)
- Heavy Duty BLDC Air Circulating Fan(Wall mounting type), 600mm Sweep ( 90 nos)

# Major Energy Conservation Projects Planned in 2022-23

| Sl. No. | Description of ENCON (Energy Conservation Measure) Implemented | Annual Electrical Saving (Million kWh) | Annual Thermal Saving (Million Kcal) | Investment (Rs. In million) |
|---|---|---|---|---|
| 1 | 250KWP Solar Rooftop PV plant | 0.27 | 231.19 | 16.70 |
| 2 | Replacement of 3 Ton Diesel Operated Forklift with Battery operated Forklift (5 Nos) | 0 | 336.96 | 10.01 |
| 4 | IGBT Welding Plants (20 Nos) | 0.65 | 0 | 0.44 |
| 5 | Portable hand plasma cutting machine (2 nos.) | 0.031488 | | 0.5 |
| 6 | APFC Panels (50KVAR-5 nos. & 20KVAR-10 nos.) | 0 | 0 | 0.21 |
| 7 | Provision of Energy Efficient Submersible Pumps (2 nos.) | 0.0041 | | 0.204 |
| 8 | Reduction of Contract Demand by 140 kVA | | | |
| 9 | Provision of energy efficient BLDC pedestal fan sweep 400mm (20 Nos) | 0.00096 | | 0.06 |
| 10 | Provision of Super energy efficient BLDC wall mounting fan size 400mm wattage max 35W (26 nos.) | 0.0014352 | | 0.07 |
| 11 | Provision of Energy Efficient, BEE -5 star rated BLDC Ceiling Fan with remote1200 mm sweep (40 nos.) | 0.003072 | | 0.08 |
| 12 | Provision of Heavy Duty BLDC Air Circulating Fan(Wall mounting type), 600mm Sweep, 1370 RPM (90 nos.) | 0.01296 | | 1.16 |
| 13 | Supply and fixing of 20W,240 V Batten LED Light Fitting with diffuser and driver including all connected materials ( 30 nos.) | 0.00108 | | 0.01 |
| 14 | Supply, Installation, Testing and Commissioning of Wind Driven Turbine Type Ventilators (60 nos.) | 0.027 | | 0.44 |
| 15 | Provision of Solar 200 LPD(Rated Capacity In Litres Per Day) Solar water Heating System with Heat Exchanger (2 nos.) | 0.0048 | 1.065 | 0.10 |
| | TOTAL | | | 30.04 |

# 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 (Electrical, thermal) |
|---|---|---|---|---|---|---|
| FY 2019-20 | 16 | 36.77 | 0.72 | 194.4 | 1.91 | Electrical Thermal |
| FY 2020-21 | 7 | 1.10 | 0.07 | -- | 0.52 | Electrical |
| FY 2021-22 | 21 | 15.03 | 2.07 | -- | 15.10 | Electrical |

# INNOVATIVE PROJECTS IMPLEMENTED

| Innovation | Conversion of Non-AC BG Coaches to Isolation Coaches |
|---|---|
| Year of Implementation | 2020-21 |
| Trigger for implementing the project | To Strengthen the capabilities of the India in the united fight against Covid-19. |
| Brief description on why innovative | 1. Coaches more than life of 18 years have been converted to Isolation coaches with berths as beds for treatment of COVID-19 affected patients.<br>2.These Isolation Coaches can be easily moved and positioned at places of demand on the Indian Railways network. |
| Innovation Effected by | 1. G.V.R. Subramanyam Sarma, SSE/Carriage<br>2. Basavaraj Mallagi, SSE/Carriage<br>3. E.P. Srinivas, Sr.Tech/Carriage<br>4. Satish Ashok Madras, Tech-I/Carriage<br>5. M. Devendra Naik, Tech-II/Carriage<br>6. Dharmaraj V. Kusugal, Tech-III/Carriage |
| Category A/B/C/D | Category 'B'. First time implementation on national level |


# INNOVATIVE PROJECTS IMPLEMENTED

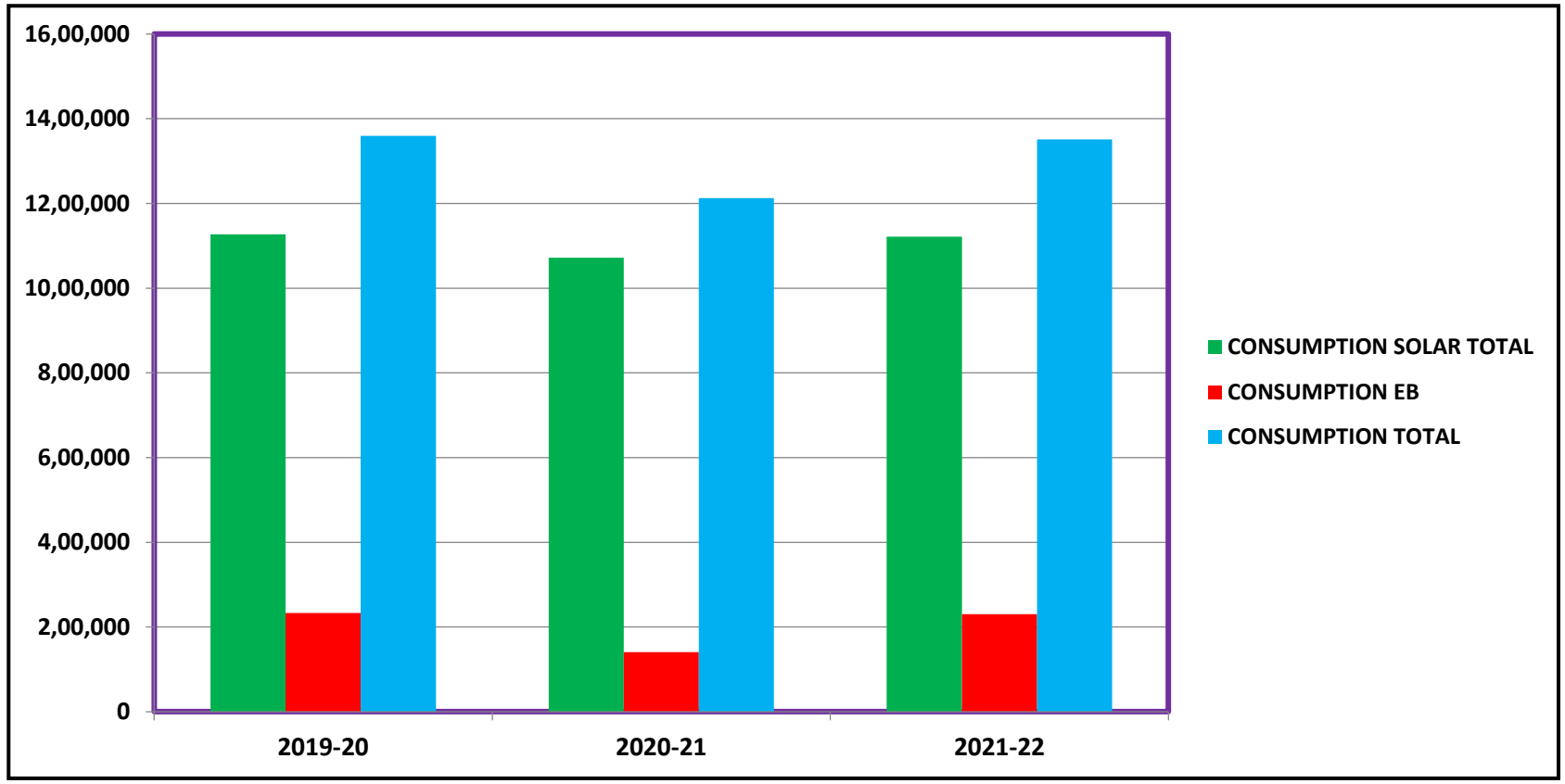
| Innovation | IZZAT GHAR |
|---|---|
| Year of Implementation | 2020-21 |
| Trigger for implementing the project | 1) To have Bio-Toilets at Remote locations like LC gates, small stations of Indian Railways.<br>2) To promote government's 'Clean India' campaign.<br>3) Swachh Bharat Mission of making the Indian Railways open defecation-free |
| Brief description on why innovative | 1. It is a Self Contained Bio toilet<br>2. Usage of Solar Light<br>3. Manufactured by use of released materials<br>4. Can be used in remote places like LC gates where toilets are not available.<br>5. Eradicates Open defecation. |
| Innovation Effected by | 1. Chowdhara Reddy, CI/ WTI<br>2. Areef, SI/WTI<br>3. Niyaz Ahmed Sedham, SI/WTI<br>4. Fonseca, SI/WTI<br>5. Nafees, SI/WTI<br>6. Syed Ali Asgar, SSE/IMS |
| Category A/B/C/D | Category 'B'. First time implementation on national level |


# INNOVATIVE PROJECTS IMPLEMENTED

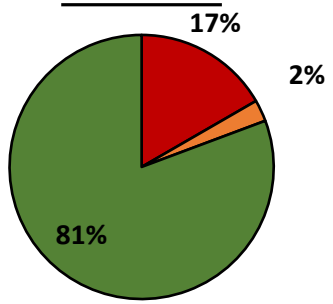
| Innovation | Development of Prototype NMGHS for transportation of Automobiles | |
|---|---|---|
| Year of Implementation | 2021-22 | |
| Trigger for implementing the project | 1) To enable faster shipment of automobiles from factories to consumption centres across India.<br>2) Due to the rise in demand for freight services, railway engineers came up with an idea to convert passenger coaches into automobile ferrying wagons. | |
| Brief description on why innovative | ➢ Safe and affordable transport for transporting automobiles to various parts of the country.<br>➢ Improved fall plate for easier loading of automobiles, lashing channels for proper securing of vehicles, fully welded chequered plate floor, louvers for ventilation and natural pipe light illumination.<br>➢ Energy Efficient mode of transportation due to savings in HSD oil used for Road transportation<br>➢ Cheaper mode of transportation compared to Road ways.<br>➢ Import of HSD oil from Gulf Countries is reduced. | |
| Innovation Effected by | 1. Arif , SSE/BVZI<br>3. Anthony, Tech-II/BVZI<br>5. Sudhakar, Tech-II/BVZI | 2. Prasad, SSE/BVZI<br>4. Prabhakar, Tech-I/BVZI<br>6. Lazarus, Tech-II/BVZI |
| Category A/B/C/D | Category ‘B’. First time implementation on national level | |

# Utilisation of Renewable Energy sources

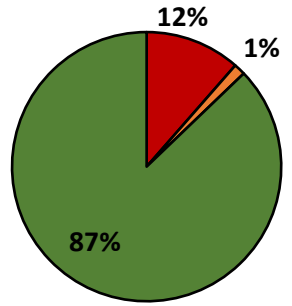
## Contribution of Renewable Energy for the last 3 years



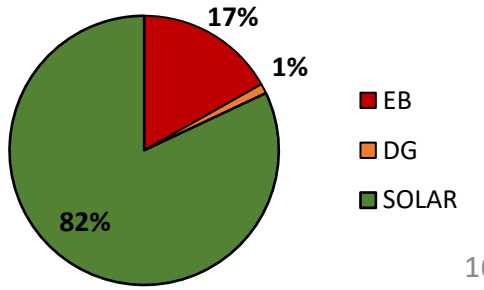

**2019-20**




**2020-21**




**2021-22**



# Waste Management

| Sl.No. | Type of waste generated | Quantity of waste generated (MT/year) | | | Disposal method |
|---|---|---|---|---|---|
| | | FY 2019-20 | FY 2020-21 | FY 2021-22 | |
| 1 | Ferrous | 3814.78 | 2740.55 | 2732.52 | 1.Disposed to Dy.CMM(GSD) / for auction sale<br>2.Disposed to RWF(GreenCo Gold) for Recycling |
| 2 | Non-Ferrous | 35.68 | 56.669 | 58.939 | Disposed to Dy.CMM(GSD) / for auction sale |
| 3 | Rubbish | 1958.33 | 1132.20 | 295.79 | Disposed to Dy.CMM(GSD) / for auction sale |
| 4 | Hazardous | 124.60 | 78.43 | 104.58 | Disposed to the PCB authorized contractor / agency / recycler via Dy. CMM(GSD). |

# WASTE UTILIZATION

**1.Co-processing of accumulated Zero Value Waste(ZVW) Rexine cloth at Cement factories to reduce their coal consumption An agreement was made with Kesoram industries in 2019 January to supply rexine scrap at zero cost. The firm used the rexine scrap as fuel for their alternate fuel feeding system.**

**2.The Kitchen waste is disposed to Bio Gas Plant of the Workshop Canteen which converts the kitchen waste to useful cooking gas (methane). It reduces the dependency on LPG cylinders for cooking purpose.**

| Name of the Fuel | Quantity of waste Fuel used (MT/year) | GCV of fuel (kCal/kg) | Heat Value (million kcal/year) |
|---|---|---|---|
| Year 2019-20 | | | |
| Kitchen waste/Bio Gas | 0.085 | 6250 | 0.20 |
| Grease | 64.06 | | |
| Rexine cloth | 150 | 4000 | 600 |
| Year 2020-21 | | | |
| Grease | 33.00 | -- | -- |
| Year 2021-22 | | | |
| Kitchen waste/Bio Gas | 0.06 | 6250 | 0.14 |
| Grease | 20.2 | -- | -- |

# WASTE MANAGEMENT (WM)

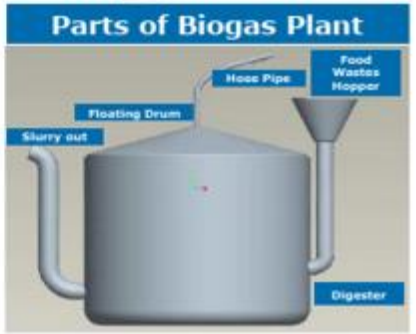
## Biogas Plant

South Western Railways – SWR: In line with the Indian Railways mission of reducing its carbon footprint, with the mantras of three R's (i.e Reduce, Reuse & Recycle). The Carriage Repair Workshop, Hubballi has installed a Biogas plant in its premises, which converts the Kitchen/Food wastes into useful cooking gas(methane), Thereby tapping the same to considerably cater for its cooking needs, This also reduces the Workshops canteens gas bills as it reduces the dependencies for cooking fuel from the outside agencies.

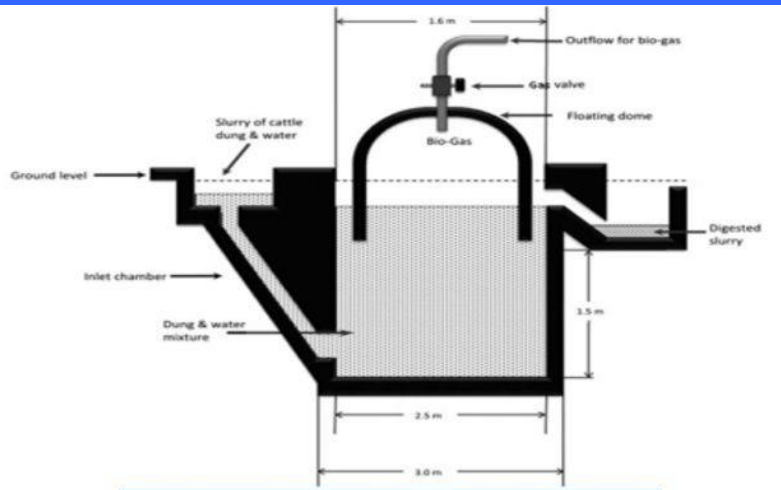
Further, this plant also helps in managing of the solid waste to a large extent as most of the food waste readily gets converted into methane gas, as a renewable source of heat energy, which can be utilized to full potential for the cooking needs of staff canteen. Thus it is environmental friendly.

Salient Features:

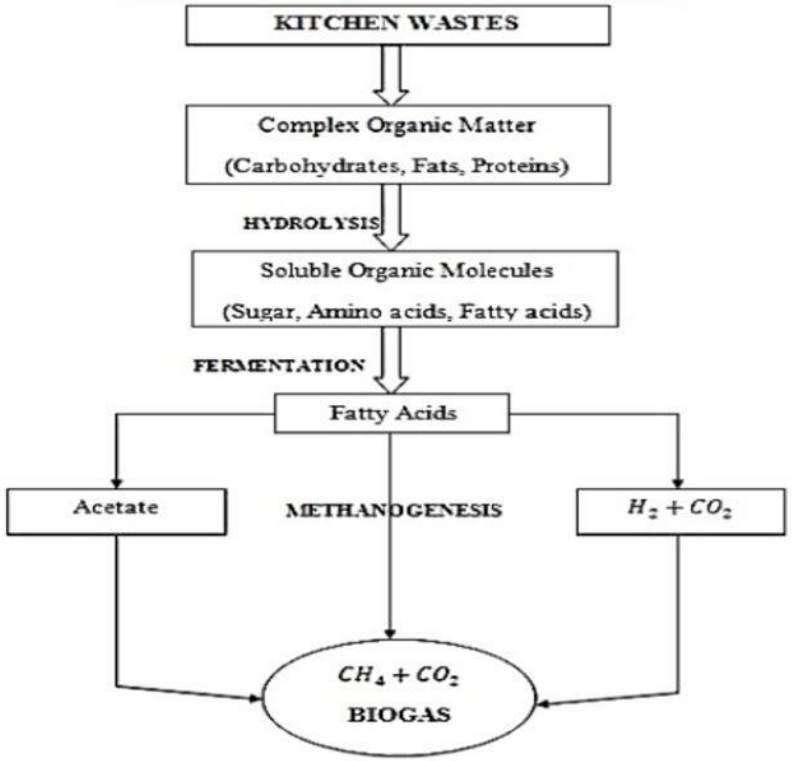
- The cost of the equipment along with commissioning & installation is INR 93833/-
- Food Waste Consumption 10kg/day
- Average Cooking Gas produced 0.5m³/loading




"हम सबका यही सपना, स्वच्छ भारत हो अपना"
"Clean India; Green India should be our dream India"




## Process/Mechanism




## Harnessing Food Wastes for RENEWABLE ENERGY Biogas Plant

# Solid Waste Management Measures

Recycled Plastic Benches have been provided in Gardens, Lawns

PET BOTTLE SHREDDING MACHINE


**South Western Railway**

**Commitment Towards Swach Bharat**

**IZZAT GHAR – Eco Friendly Toilet with Bio Digester Tank**

# GHG Emission Inventorization

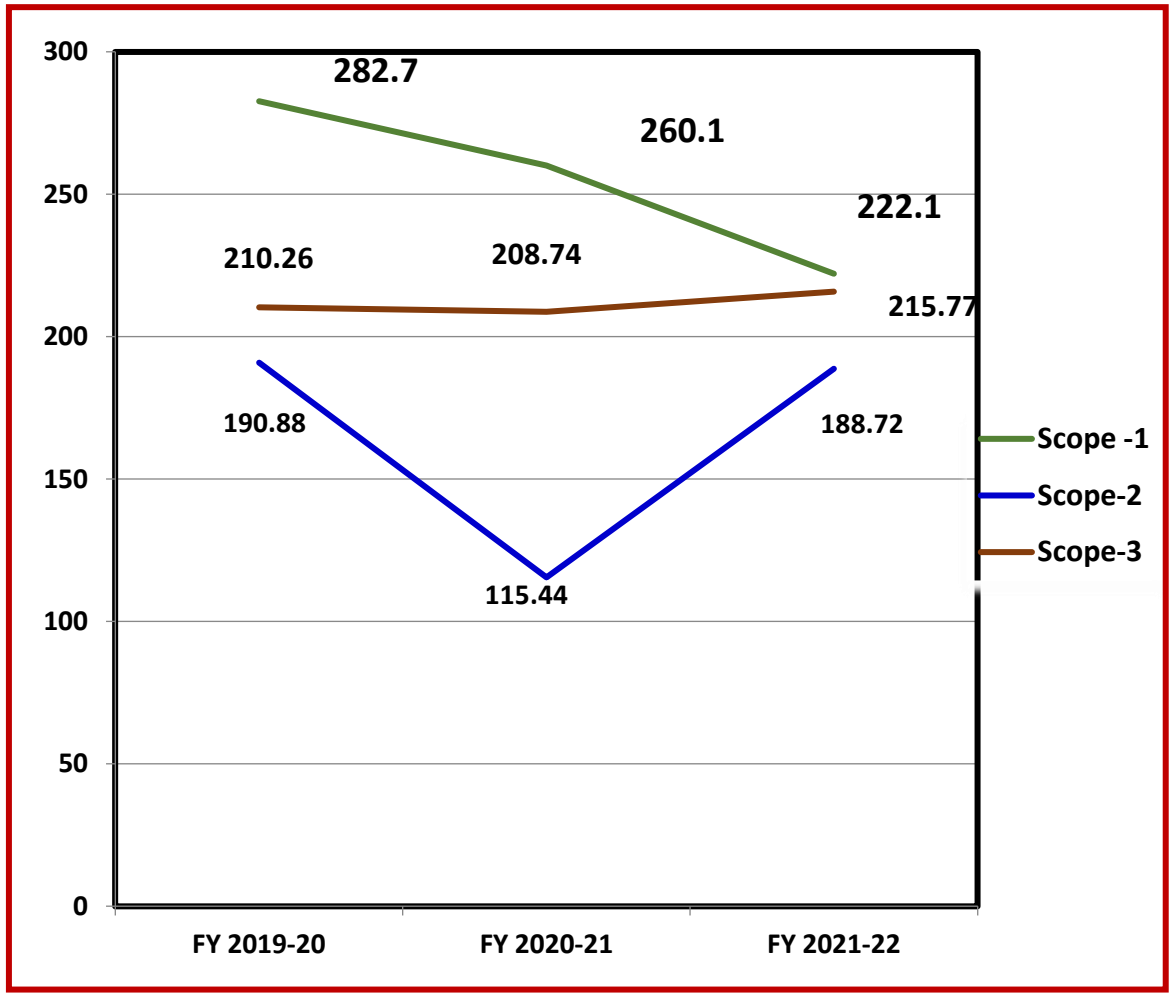
| Scope of Emission | FY 2019-20 | FY 2020-21 | FY 2021-22 |
|---|---|---|---|
| Scope -1 | 282.7 | 260.1 | 222.1 |
| Scope-2 | 190.88 | 115.44 | 188.72 |
| Scope-3 | 210.26 | 208.74 | 215.77 |
| Total Tonne of CO2 eq. | 683.84 | 584.28 | 626.59 |
| ECU | 1291.32 | 1115.618 | 1312.603 |
| Ton of CO2/ ECU | 0.530 | 0.524 | 0.477 |
| % Reduction w.r.t previous year | | -1.10% | -8.85% |

**Scope-1:** Includes all direct emissions-offsets or those from all sources or activities controlled by the workshop.

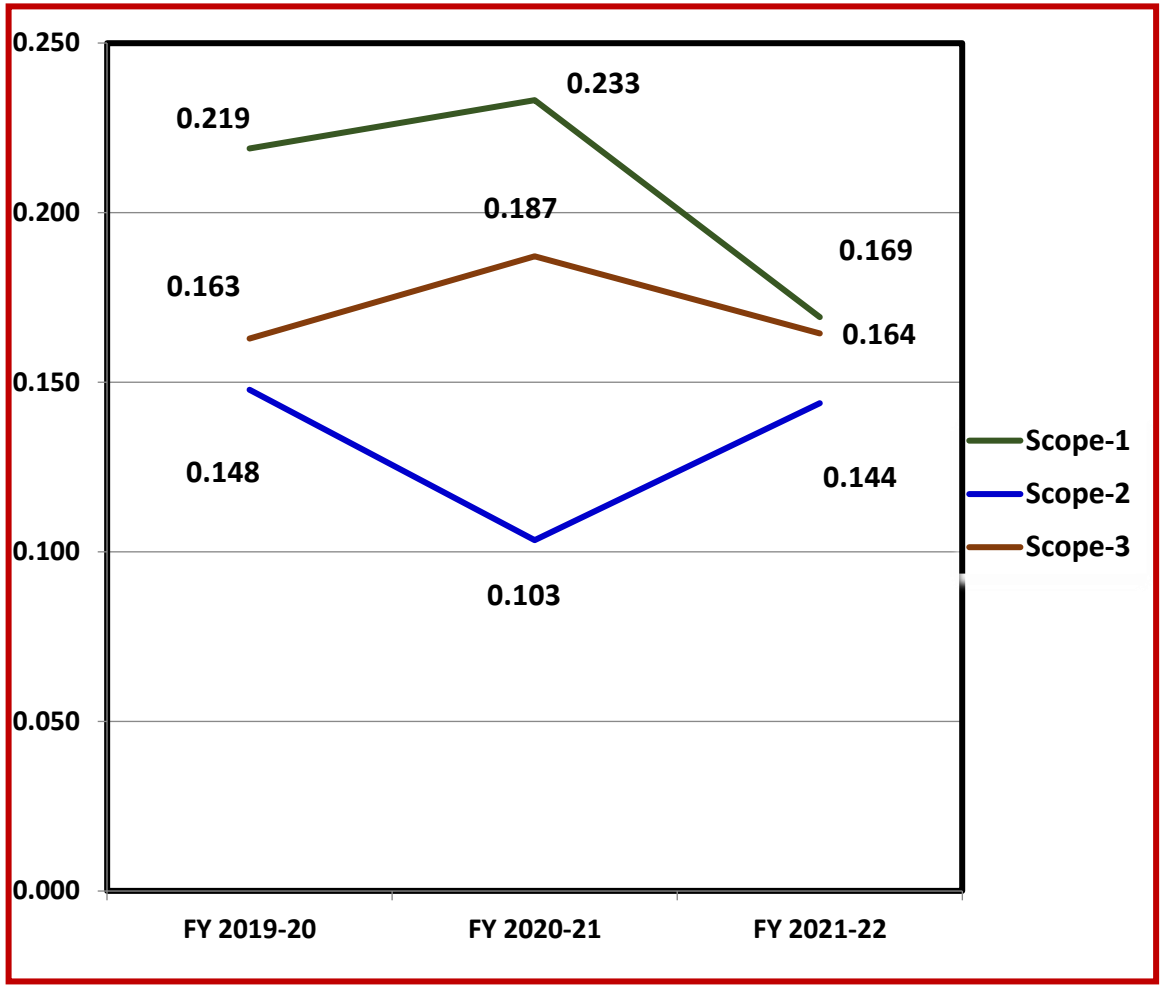
**Scope-2:** Includes indirect emissions-offsets from the consumption of purchased electricity.

**Scope-3:** Includes indirect emissions-offsets resulting from workshop-related activities, such as the emissions due to employee business travel, Transportation of materials to workshop by vendors.

# Absolute & Specific GHG




Absolute GHG (Ton of CO2)




Specific GHG (Ton of CO2/ECU)

# Action plan for reducing GHG emission

## Short Term Targets

- Proposed to reward Green Commuters attending to duty by ´Walking / Using Bi-Cycle, ´Public Transport, 'Car / Bike Pooling.
- Increasing Green covers: Lawns, tree plantations, vertical gardening's, Nurseries.
- Conversion of Furnace Oil Furnace to Electric Furnace.
- Emphasizing on Requirements for Green Supply Chain Management System with Stores/Purchasers and Vendors/Suppliers.
- Effective Utilization of Wireless Internet / Intranet for reducing paper usage, E-office, UDM Modules, WhatsApp, WISE & MMIS integration
- Planning for plantation of 365 trees/year.(March 2022 till date 150 planted already).
- Vendor training on Green Supply chain management systems.

## Long Term Targets

- Implementing Energy Efficiency Measures: LEDs, BLDCs, VVVF Drives, Inverter Based Star Rated ACs and Welding Plants etc.
- Implementing More Green/Renewable Energy Systems: Solar Rooftop Plant.
- Switching from Diesel powered to Battery operated Fork lifts.

# Initiatives on Carbon Reduction Measures

Installed 999kWP and 45 kWP Solar Roof Top Plants. $CO_2$ reduction – 1065.24 Tons/annum

Installed 370 nos. of Transparent/ Translucent Sheets. $CO_2$ reduction – 101.232 Tons/annum

Installed 25 nos. of Solar Pipe lights
$CO_2$ reduction – 10. 688 Tons/annum

Installed 50 nos. of Turbo Air Ventilators.
$CO_2$ reduction – 21.375 Tons/annum

# GREEN SUPPLY CHAIN MANAGEMENT

## GSC Policy

File No.SWR-UBLS0MSD(L2)/373/2022-O/o AMM/MSD/UBLS/SWR

**POLICY & OBJECTIVES OF GREEN SUPPLY CHAIN**

We at Carriage Repair Workshop, Hubballi are committed to encouraging the green consciousness by creating awareness amongst all our workforce and all those who work for & on behalf of us (I.e Vendors/Suppliers, Contractors/Service Providers) with an inclusive approach towards all activities involved in our supply chain business.

We aim high to achieve the following objectives:

1. Identifying & monitoring environmental friendly partners duly evaluating their green supply performances.
2. Motivate towards green supply chain to conserve natural resources, minimize waste generation & environmental emissions by adopting energy efficient measures, water & material conservation processes, effective waste management techniques.
3. Promote implementation of Environmental, Health & Safety management systems with our partners.
4. Develop a systematic mode of communication with all our partners to create awareness about Green Supply chain Management System thereby propagate know-hows of environment conservation and best green practices.
5. Regular review of Green Supply chain Objectives and Targets.

Digitally Signed by Umesh Kumar
Date: 26-05-2022 10:38:20
Reason: Approved

CWM/UBLS

| Sl. No | Projects Implemented | Benefits Achieved | Description |
|---|---|---|---|
| 1 | E-Auction | 1) Paperless working,<br>2) Transparency,<br>3) Easy availability of documents,<br>4) Better price realization for the Scrap. | Implementation of E-Auction System for disposal of Scrap |
| 2 | IPAS | 1) Paperless working,<br>2) Transparency,<br>3) Easy availability of documents,<br>4) Payroll and Accounting | Implementation of Integrated Payroll and Accounting System (IPAS) |
| 3 | HRMS | 1) Paperless working,<br>2) Issue of Digital Pass (e-pass), PTO(e-PTO)<br>3) Withdrawal of Provident Fund,<br>4) Self appraisal | Implementation of Human Resource Management System (HRMS) |
| 4 | WISE | 1) Paperless working,<br>2) Improved maintenance of Computation sheets,<br>3) Transparency,<br>4) Easy availability of documents,<br>5) Saving of Trees | Implementation of Workshop Information System (WISE) |
| 5 | UDM | 1) Paperless working,<br>2) Improved maintenance of Stores,<br>3) Transparency,<br>4) Easy availability of Stock position | Implementation of User Depot Module (UDM) |
| 6 | E-Office | 1) Paperless working,<br>2) Deforestation of Trees is avoided,<br>3) Time saving | Implementation of E-Office |
| 7 | E-Tendering | 1) Paperless working,<br>2) Transparency,<br>3) Saving of trees | Works & Service Contracts Tendering through E-Procurement system module IREPS |

# Education & Awareness Creation for Suppliers & Vendors

**Green Supply Chain concepts were shared with critical & most common suppliers to UBLS & other units of SWR. Meeting Chaired by PCMM at HQ Level, in Co-ordination of AMM/MSD/UBLS**

# Action Plan to expanding the "Green Supply Chain" activities

- **Procurement**
  - ✓ Emphasizing on Purchasing of energy efficient equipment/ products to reduce the energy use & conserve energy, which in turn minimizes greenhouse gas emissions.
- **Packaging**
  - ✓ Emphasizing the suppliers to use packaging materials that are biodegradable in nature, which cause least hazard to the environment
  - ✓ Planning for Reuse & Recycle of used packaging materials.
- **Storage & Warehousing**
  - ✓ Encouraging suppliers, distributors & vendors to construct their warehouses as green buildings so that less energy is consumed.
  - ✓ Using efficient material product handling equipment that consumes less energy or fuel. For example Battery operated listers, trucks and forklifts instead of diesel powered variants.
- **Distribution & Transportation**
  - ✓ Encouraging local/ near by suppliers, distributors & vendors for supply of materials. This reduces the distance of travel.
  - ✓ Encouraging suppliers, distributors & vendors to Opt efficient transportation medium of Rail Freight instead of Roadways/Trucks or Airways

# TEAMWORK, EMPLOYEE INVOLMENT & MONITORING

- Daily Performance Review Meeting Chaired by Dy.CWM/UBLS
- Monthly Performance Review Meeting Chaired by CWM/UBLS
- Daily monitoring of SEC is done. The system adopted is as follows:
  1. Energy consumption is being monitored on hourly basis at Electrical Substations 'A', 'C' & 'D' of 11kV/433V round the clock.
  2. Feeder-wise Energy Consumption is recorded and monitored.
  3. Daily monitoring is done by Officer Incharge of Electrical Department.
  4. Monthly consumption report of Shop is monitored and is compared with last year same period.
  5. Monthly PCDO to Railway Board through PHOD of Electrical Department of the Zone.
  6. Monitoring is also done at Railway Board level.

**Energy efficiency/awareness training program**


# IMPLEMENTATION OF ISO 50001 /GREEN Co / IGBC RATING

CII - Sohrabji Godrej Green Business Centre

hereby certifies that

Carriage Repair Workshop
South Western Railway, Hubballi

has successfully achieved the standards as required for the following level of certification under the GreenCo - Green Company Rating System which is valid for a period of 3 years

GreenCo Bronze
November 2017

Jamshyd N Godrej, Chairman, CII-Godrej GBC
Pradeep Bhargava, Chairman, GreenCo Rating System
L S Ganapati, Chairman, GreenCo Assessor Panel
K S Venkatagiri, Executive Director, CII-Godrej GBC

CERTIFICATE

This is to Certify that the Energy Management System of

CARRIAGE REPAIR WORKSHOP

SOUTH WESTERN RAILWAY, GADAG ROAD, HUBBALLI - 580020, INDIA

has been independently assessed and is compliant with the requirements of

ISO 50001:2011

This Certificate is applicable to the following product or service ranges:

Provision of Periodic Overhauling, Intermediate Overhauling and Nominated Repair Works of BG Coaching Stock, their Assemblies and Manufacturing of Bogies, Brake Vans and their Assemblies

:: Certificate No :: IN804870

Date of initial registration 27 July 2017
Date of this Certificate 27 July 2017
Recertification Due / Certificate expiry 26 July 2020

Director

## ALLOCATION OF FUNDS FOR ENERGY CONSERVATION PROJECTS

- REVENUE FUNDS
- M&P PH-41 Funds
- EnHM Funds – 1 % of Sanctioned estimates of Workshop Projects
- Upgradation of POH facilities Projects

**% INVESTMENT OF ENERGY SAVING PROJECTS ON TOTAL TURNOVER OF THE COMPANY : 0.52 %**

# QUALITIES ACCREDITED









- ✓ 5 S Implemented across the premises.
- ✓ Certified with Key ISO's on Management System such as : 9001 Quality, 14001 Environment, 45001 Safety, 50001 Energy & 3834 Welding Quality
- ✓ Green-Co Rated with Bronze shield, presently undergoing re-assessments
- ✓ ISO 50001:2011 certified, presently undergoing ISO 50001:2018 recertification.

## KAIZEN

- Provision of Timers for Street Lights, High Masts.
- Automatic water level controller has been provided for overhead water tank at BVZI Shop. This will help in arresting Water overflow and when the water reaches the lower level, the motor automatically restart for filling the water.
- Power Savers for Welding Transformers
- Cleanliness drives in Shop Floors
- Tree Plantation drives

## LEARNING FROM CII ENERGY AWARD OR ANY OTHER AWARD PROGRAM

- Best Practices Followed by other Industries for Energy Conservation.
- Use of Solar Thermal Concentrators for Hot Water Requirements.
- Sewage Treatment Plant

# ANY OTHER RELEVANT INFORMATION

**Workshop Efficiency Shield received from GM/SWR for the year 2019-20 & 2021-22**




**For the year 2021, South Western Railway (S.W.R) has secured 3rd position in Transport Category under Zonal Railways Sector.**

# Save Energy : Save Money : Save the Earth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