22ND NATIONAL AWARD FOR EXCELLENCE IN ENERGY MANAGEMENT-2021

Rail Nilayam

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Hyderabad Division
South Central Railway, Secunderabad

Rail Nilayam, General Manager's Office,
South Central Railway, Secunderabad

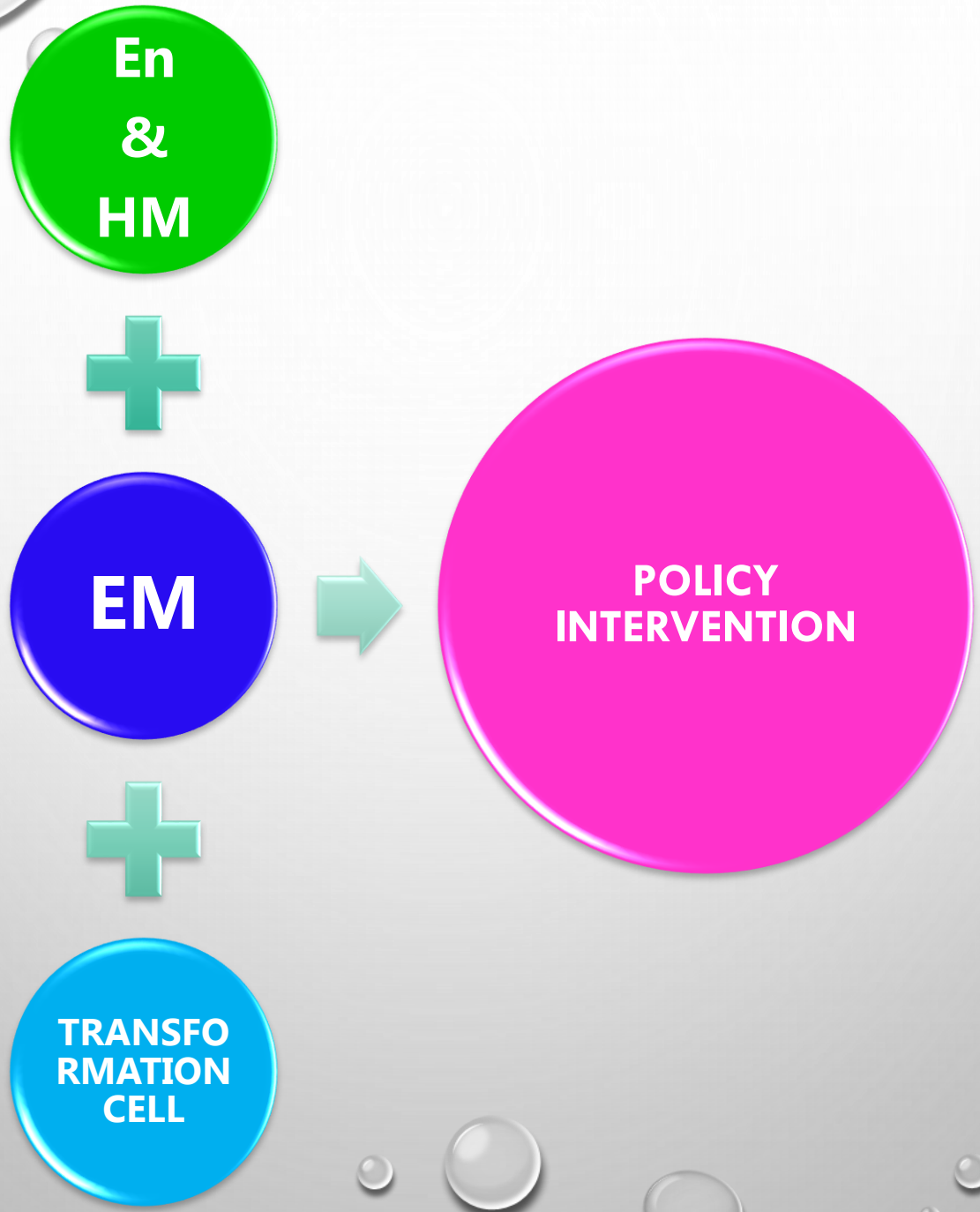
About Rail Nilayam

- Rail Nilayam was built in 1966.
- Main Function : Centralized Train Operations Control, Inter Zonal Coordination, Zonal Business Management.
- About 3200 officials and employees do work in building.
- The entire building was surrounded by Green patches to provide serene and lush green ambience which will also add to the conservation of energy.
- This building has been awarded with **Gold Rating** by IGBC.

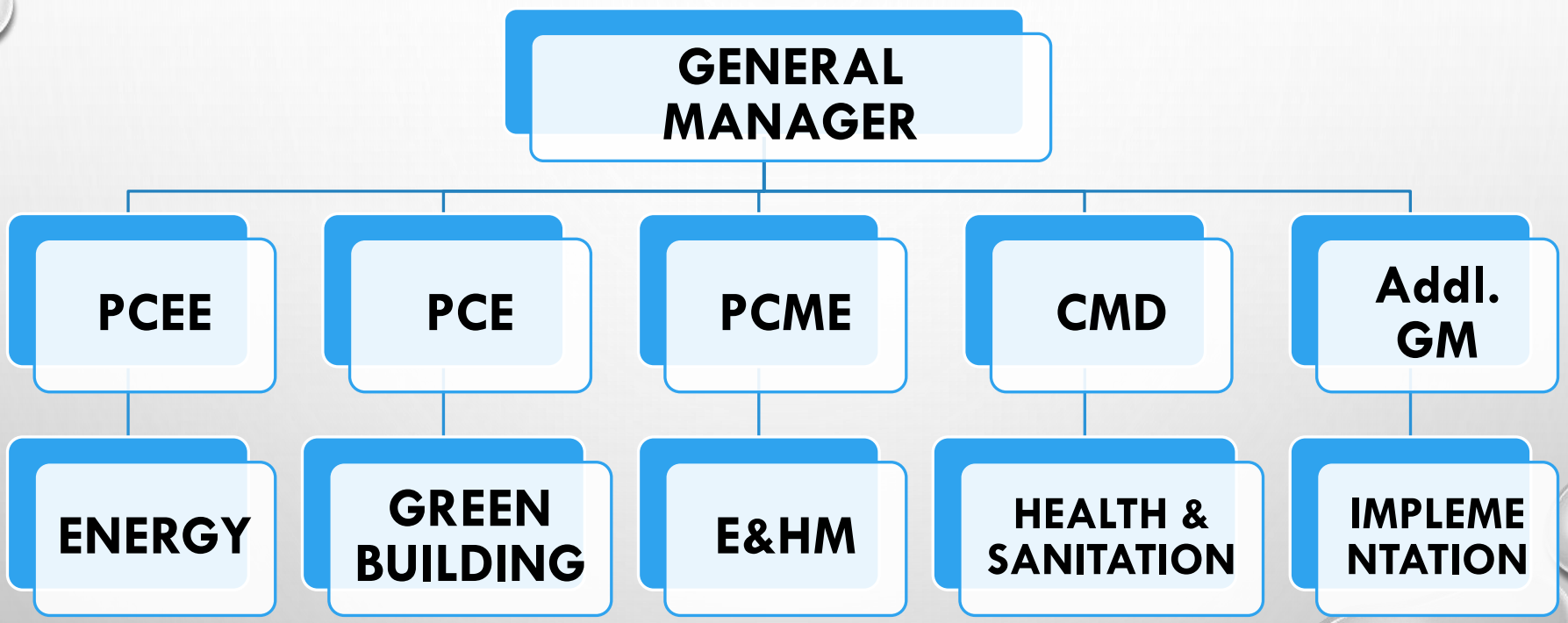
KEY FEATURES– Rail Nilayam

- 4 Integrated Blocks, 7 Storeyed Building
- Built Up Area: 40023 Sq.mtrs.
- Connected Electrical Load: 1.85 MW.
- Energy Sources:
  - 11 KV/440V Sub Station
  - Standby DG Sets
  - 0.22 MWp Rooftop BIPV Plant

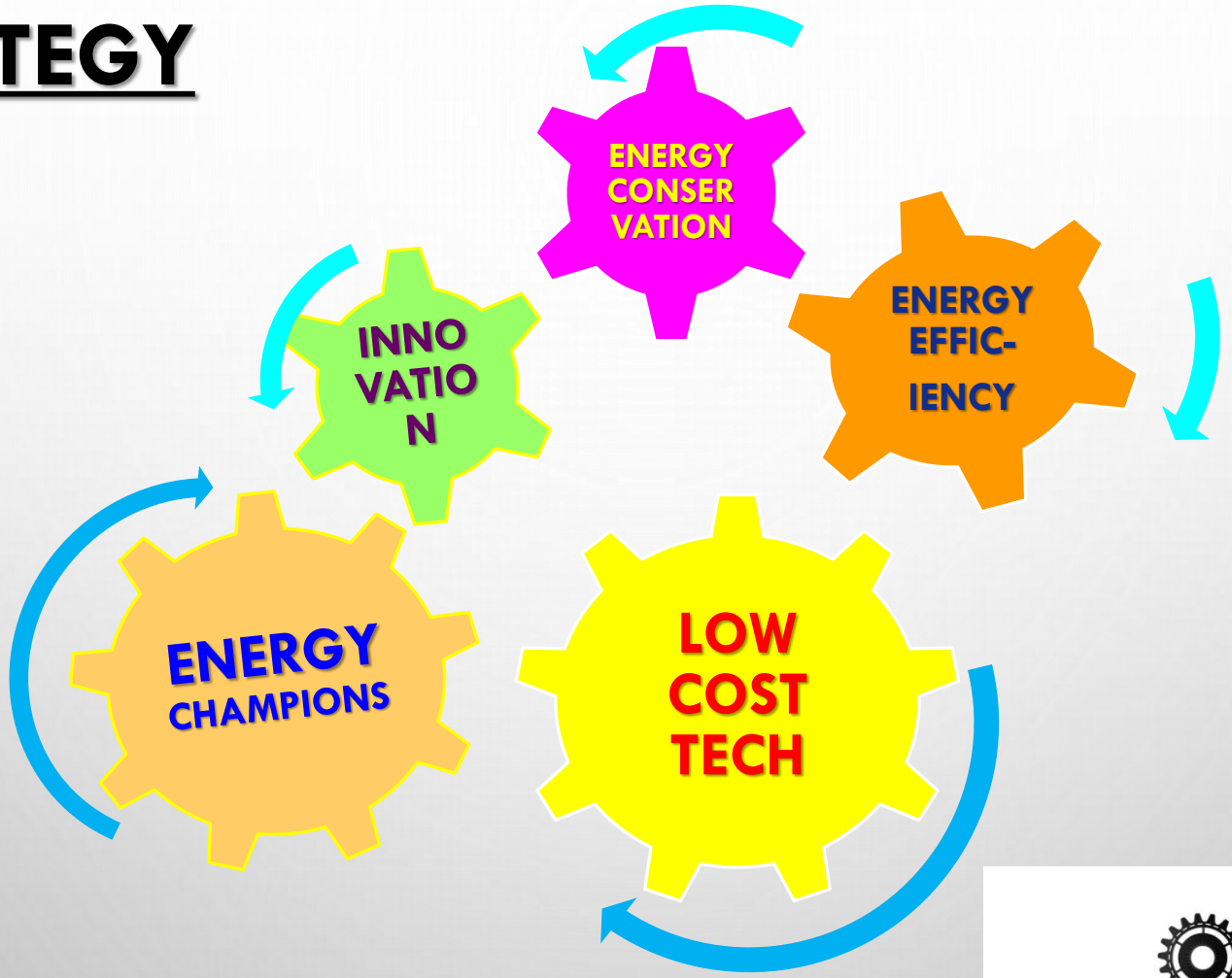
GREEN POLICY



GREEN MISSION STRATEGIC TEAM



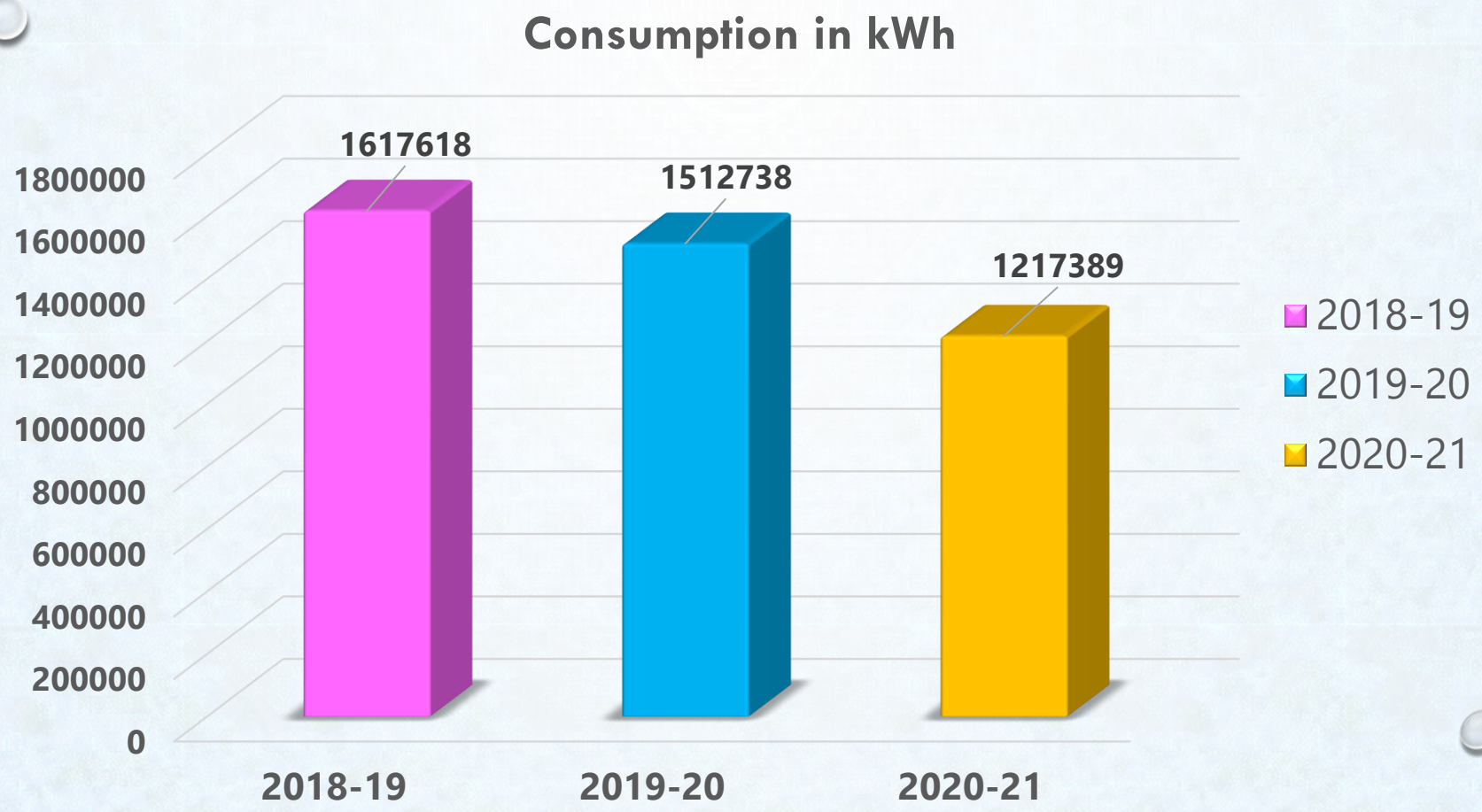
ENERGY STRATEGY



Energy Consumption

Description	2018-19	2019-20	2020-21
Total Units Purchased from Utility in kWh	1614718	1510638	1216779
Generated through DG set in kWh	2900	2100	610
Total Consumption in kWh	1617618	1512738	1217389
Total Built-up Area(Sq.mt)	40023	40023	40023
Specific Energy Consumption (kWh/Sq.mtr.)	40.42	37.80	30.42

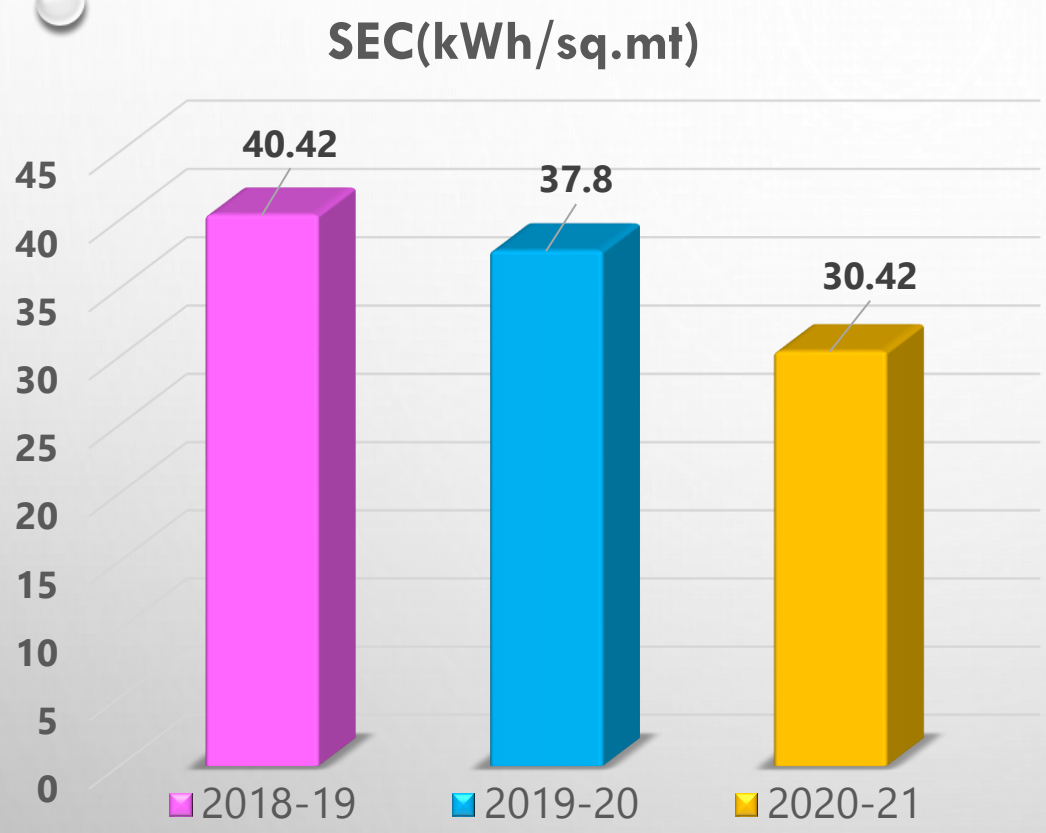
Consumption Pattern



Consumption has been reduced by 6.48% from 2018-19 to 2019-20.

Consumption has been reduced by 19.52% from 2019-20 to 2020-21.

SEC (kWh/sq.mt)



6.48 %

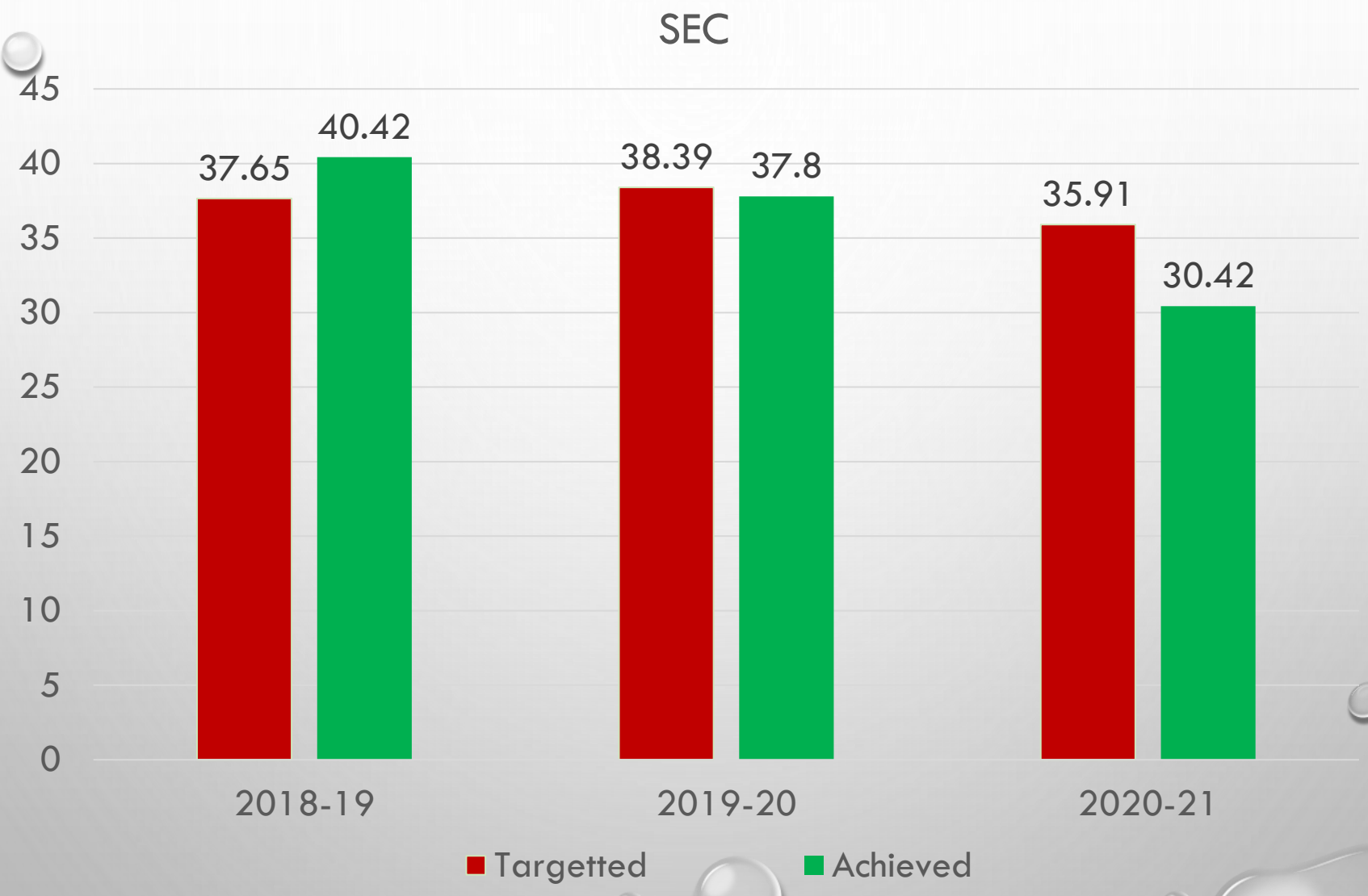
Reduction in SEC from 2018-19 to 2019-20

19.5 %

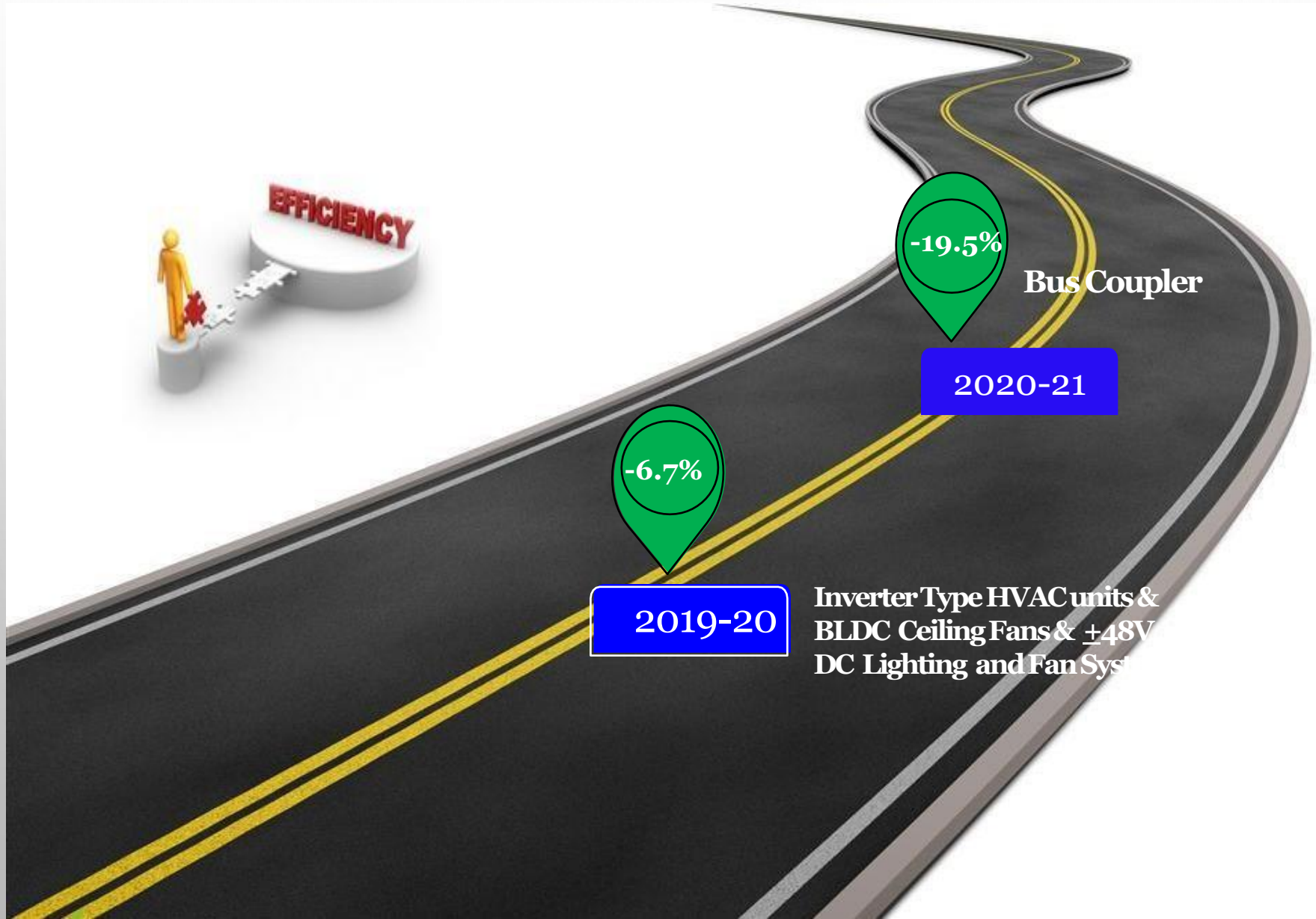
Reduction in SEC from 2019-20 to 2020-21

Internal Bench Marking

5% Reduction to previous year's SEC



Road Map to achieve Bench Marking



EnCON Projects Implemented from 2018-19 to 2020-21

Energy Saving Projects 2018-19

Sl. No.	Name of the Item	Savings in Lakh Units	Savings in Lakh Rs.	Investment in Lakh Rs.	Pay Back Period in years
1	Solar (220 kWp)	0.766	3.056	---	---
2	5 star AC	0.082	1.260	6.800	5.4

Energy Saving Projects 2019-20

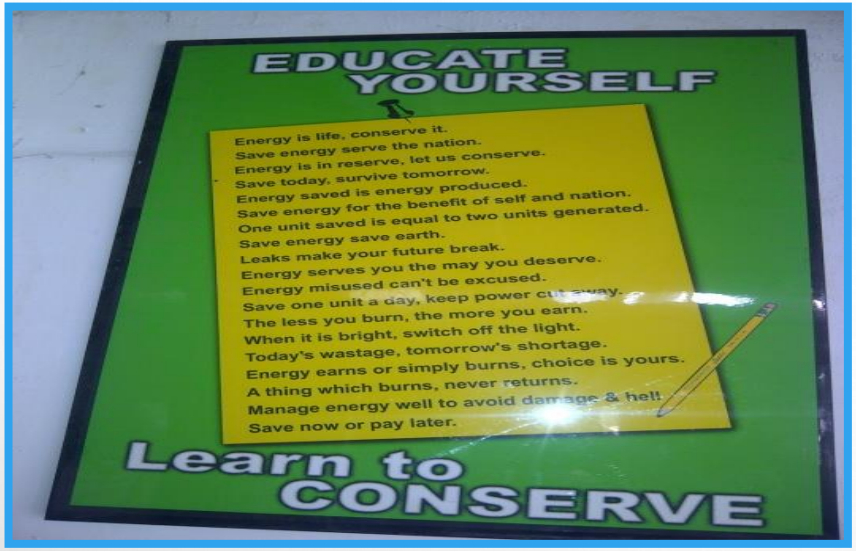
Sl. No.	Name of the Item	Savings in Lakh Units	Savings in Lakh Rs.	Investment in Lakh Rs.	Pay Back Period in years
1	BLDC Ceiling fans	0.087	0.796	4.200	5.3
2	Energy Efficient Inverter type AC units	0.960	8.736	45.000	5.2
3	Provision of Energy Savers for AC units	0.612	5.569	4.500	0.8
4	Occupancy Sensors for Lights	1.224	11.138	5.000	0.4

Energy Saving Projects 2020-21

Sl. No.	Name of the Item	Savings in Lakh Units	Savings in Lakh Rs.	Investment in Lakh Rs.	Pay Back Period in years
1	Super Energy Efficient BLDC fans	0.40	0.37	19.60	4.8
2	Energy Efficient Inverter Type AC units	0.35	0.32	16.65	5.3

Energy Conservation Awareness Programme

Energy Conservation Awareness Programme

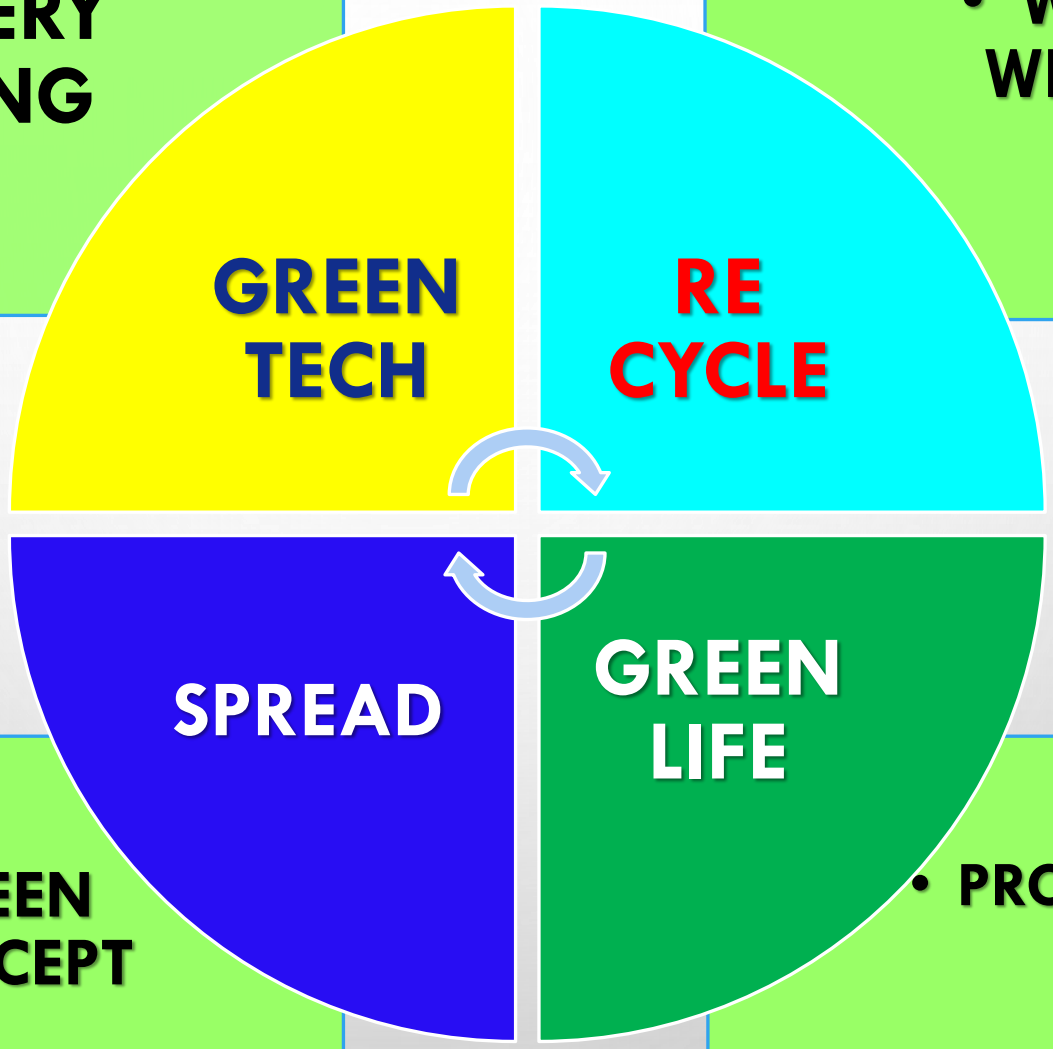


Energy Conservation awareness programme had been organised during the energy conservation week. As part of this Energy Conservation Tips scrolling board, Door to Door Campaign, etc. are provided

GREEN MISSION

- EVERY THING

- WHAT WE CAN



- GREEN CONCEPT

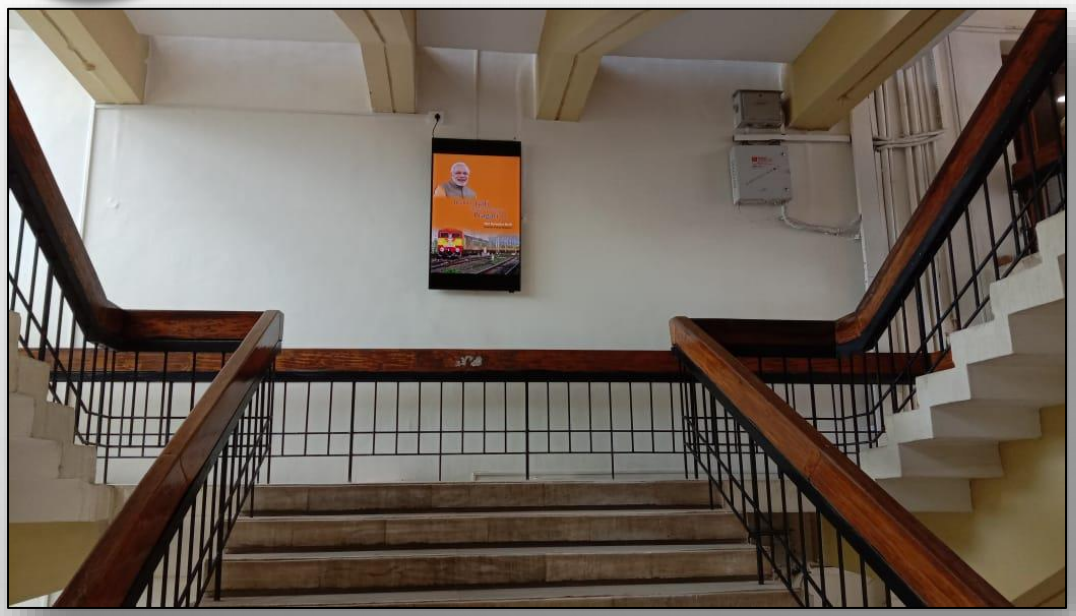
- PROMOTE

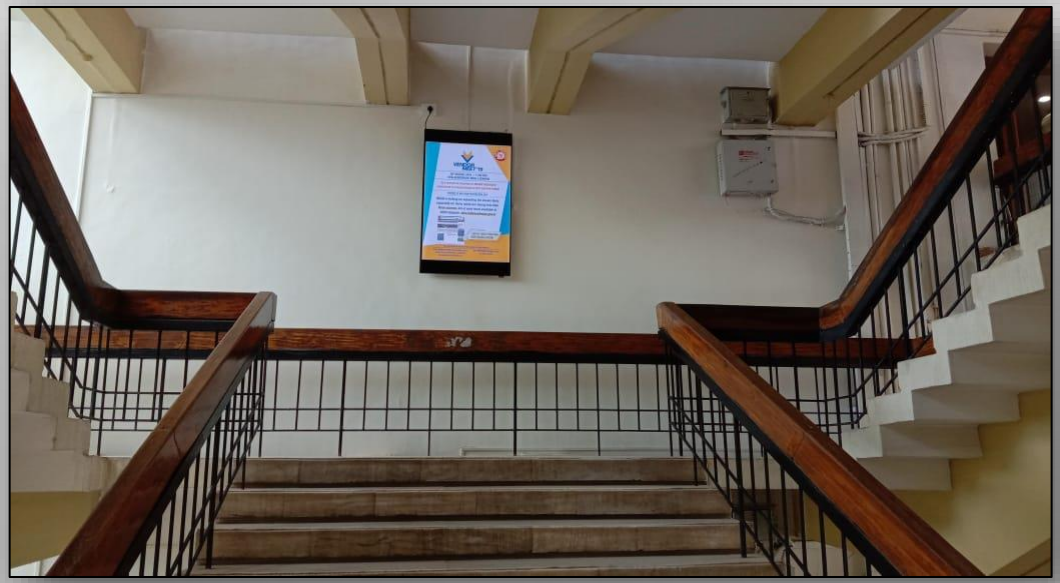
GREEN INITIATIVES AND FEATURES

- GREEN TREE FAÇADE BY ASHOKA (Saraca - asoca) TREE
- BIPV SOLAR POWER PLANT
- NATURAL ILLUMINATION PROMOTIONS
- RECYCLING OF WATER & STP
- DAY LIGHT PIPE SYSTEM
- SUN CONTROL FILM ON WINDOW PANS
- MASSIVE TREE PLANTATIONS
- e-WORKING AND e-FILE SYSTEMS
- e-DISPLAYS OF INFORMATIONS
- SMART REST ROOMS AND GREEN URINAL
- LED SIGNAGES AND NAME BOARDS
- SOLAR WATER HEATING SYSTEM
- ROOF GARDEN AND LAWN
- SEGREGATION OF WASTE AND WASTE MANAGEMENT
- HEAT REFLECTIVE PAINTS AND LOW EMISSION PAINTS

GREEN ARCHTECTURE OF BUILDING

e-Display of Information





GREEN INITIATIVES AND FEATURES

BIPV Solar Plant

Natural Day Light

Segregation of Dry & Wet Waste

PAN IR Video Conference Hall

GREEN INITIATIVES AND FEATURES

Recycling of Water & STP

Roof Garden

LED Signage Boards

Sensor based Taps

INNOVATIVE PROJECTS

Innovation Projects Implemented

Innovative Ideas	Project Description	Benefits Achieved
Provision of Bus Coupler	Bus Coupler provided for shifting loads between 1500kVA and 500kVA transformers during light load days i.e., weekends/holidays.	1.2 Lakh units per annum Rs. 9.6 Lakhs per annum
Provision of Energy Efficient AC units	130 Nos. of conventional AC units replaced with Inverter type 5 star AC units which gives continuous comfort user.	1.9 Lakh units per annum Rs. 15.20 Lakh per annum

Innovation Projects Implemented

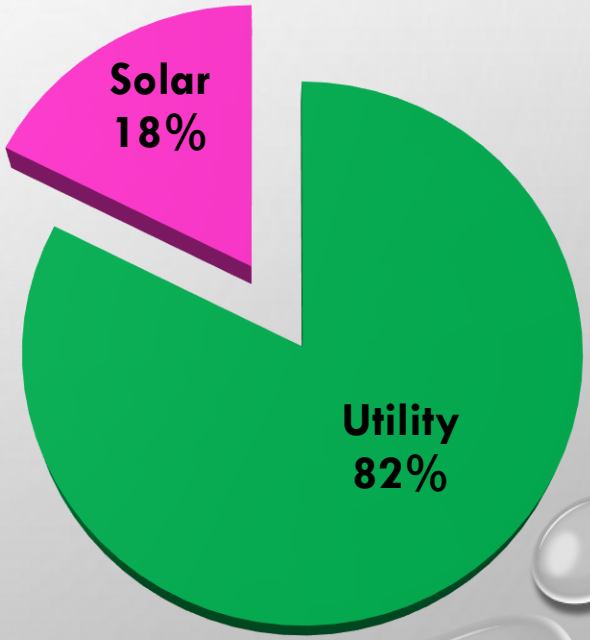
- Bus coupler panel was energized for shifting loads between 1500kVA and 500kVA transformers during light load days i.e., weekends/holidays.
- No load losses of the transformer will be reduced and also increases the efficiency of the 1500kVA transformer.
- Approximate Energy Savings per annum – 1.20 Lakh Units per annum.
- Approximate Monitory Saving of Rs. 9.60 Lakhs per annum.

Renewable Energy Utilization (220 kWp)

Solar Generation Vs Total Consumption

Description	Utility Consumption	Solar Generation	Total Consumption
Lakh Units	12.17	2.60	14.77
% of Total Consumption	82	18	---

Energy Consumption



220 kWp Solar Power Plant

Solar Water Heater

Natural Day Light Pipes

GHG Emission Reduction

GHG Emissions Reductions:

- 220 kWp Solar Energy 
- Dedicated 11kV/440V Line, so that Generation from DG is reduced 
- Use of 5 star rated Inverter HVAC 
- Energy Audits 

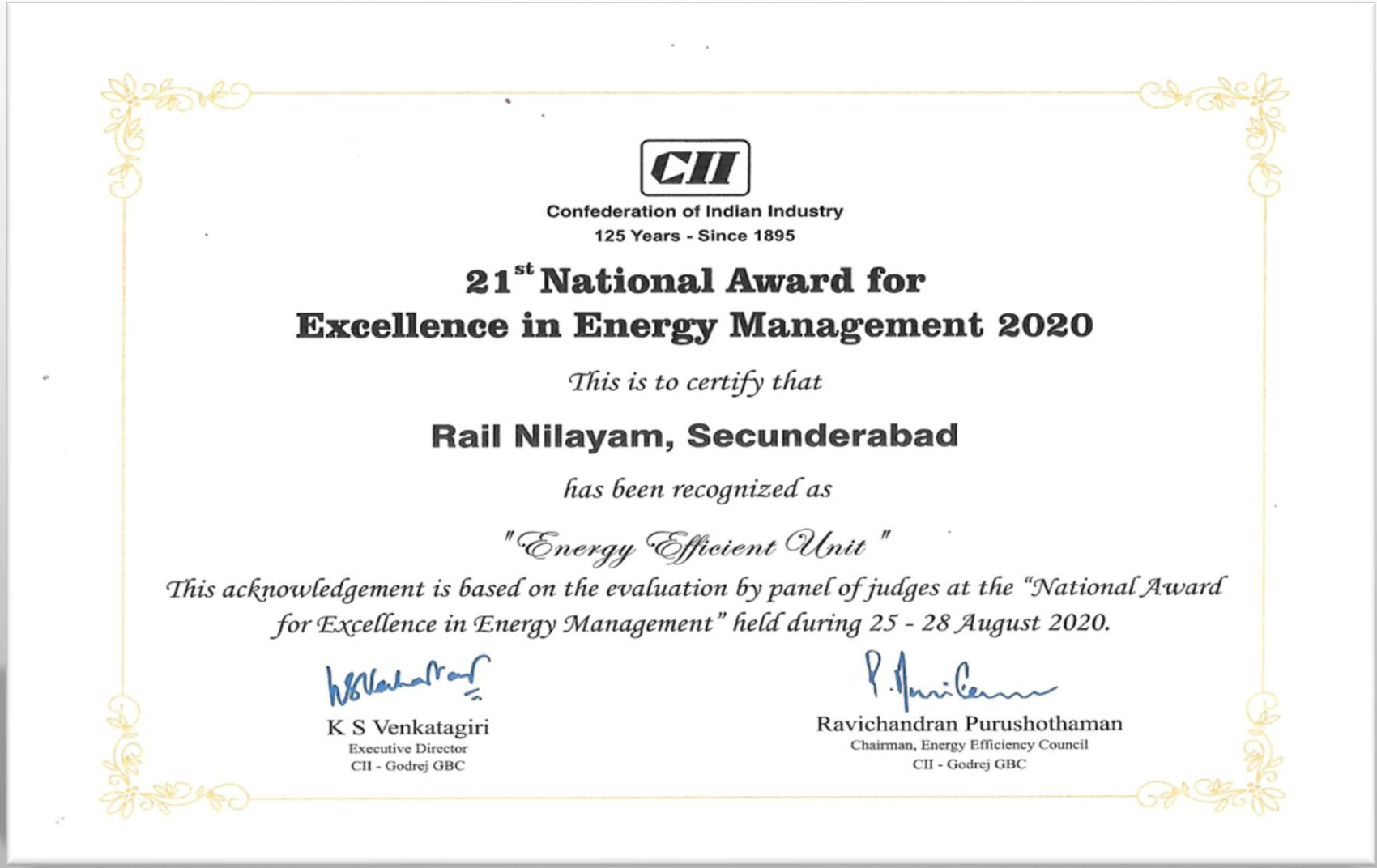
- 100% LED Lightings 
- Energy Efficient VVF Drives in Lifts 

Other Energy Conservation Measures

100% LED Lit Zonal HQ Building - First in Indian Railways

21st National Award for Excellence in Energy Management - 2020

Rail Nilayam has received Energy Efficient Unit Award.



CII

Confederation of Indian Industry

125 Years - Since 1895

21st National Award for Excellence in Energy Management 2020

This is to certify that

Rail Nilayam, Secunderabad

has been recognized as

"Energy Efficient Unit"

This acknowledgement is based on the evaluation by panel of judges at the "National Award for Excellence in Energy Management" held during 25 - 28 August 2020.

K S Venkatagiri
Executive Director
CII - Godrej GBC

Ravichandran Purushothaman
Chairman, Energy Efficiency Council
CII - Godrej GBC

20th National Award for Excellence in Energy Management - 2019

RailNilayam - Excellent Energy Efficient Unit

National Energy Conservation Awards – 2018

Certificate of Merit

राष्ट्रीय ऊर्जा संरक्षण पुरस्कार

यह प्रशस्ति प्रमाण–पत्र

मेसर्स रेल निलायम (जनरल मैनेजर/एससीआर ऑफिस)

सिकंदराबाद, (तेलंगाना) को

वर्ष 2018 के लिए

राज्य पीडब्ल्यूडी, सीपीडब्ल्यूडी एण्ड

पीएचईडी सेक्टर में

ऊर्जा संरक्षण के सराहनीय प्रयास के लिए

प्रदान किया जाता है।

सचिव,
भारत सरकार

National Energy Conservation Award

This commendation certificate is awarded to

M/s Rail Nilayam

(General Manager/SCR Office)

Secunderabad, Telangana

in appreciation of their efforts in

Energy Conservation in the

State PWD, CPWD & PHED Sector

for the year 2018

IGBC Green Rating – Gold

- This building has been received IGBC gold certification in the year 2017.

Energy Conservation future Plans and Targets

- 5% Electrical Energy Consumption reduction in every year
- 100% Energy Efficient BLDC Pumps.
- 100% Energy Efficient BLDC fans.
- 20% Water reduction through recycling & control
- 30% Load on SPV Through PPA mode
- Smart Water Management and Pumping System
- 100% Eco friendly refrigerant used Inverter type HVAC units
- Load wise energy monitoring system
- Optimization of Transformer loads during weekends


Q & A


THANK
YOU
100 % ECO