



25th National Awards for Excellence in Energy Management - 2024

HYDERABAD BHAVAN

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Senior Divisional Electrical Engineer
Hyderabad Division, South Central Railway
Secunderabad

Brief introduction of Hyderabad Bhavan



- Hyderabad Bhavan was built in the year 2007, is the Divisional office of the Hyderabad Division, South Central Railway (SCR).

Brief introduction of Hyderabad Bhavan

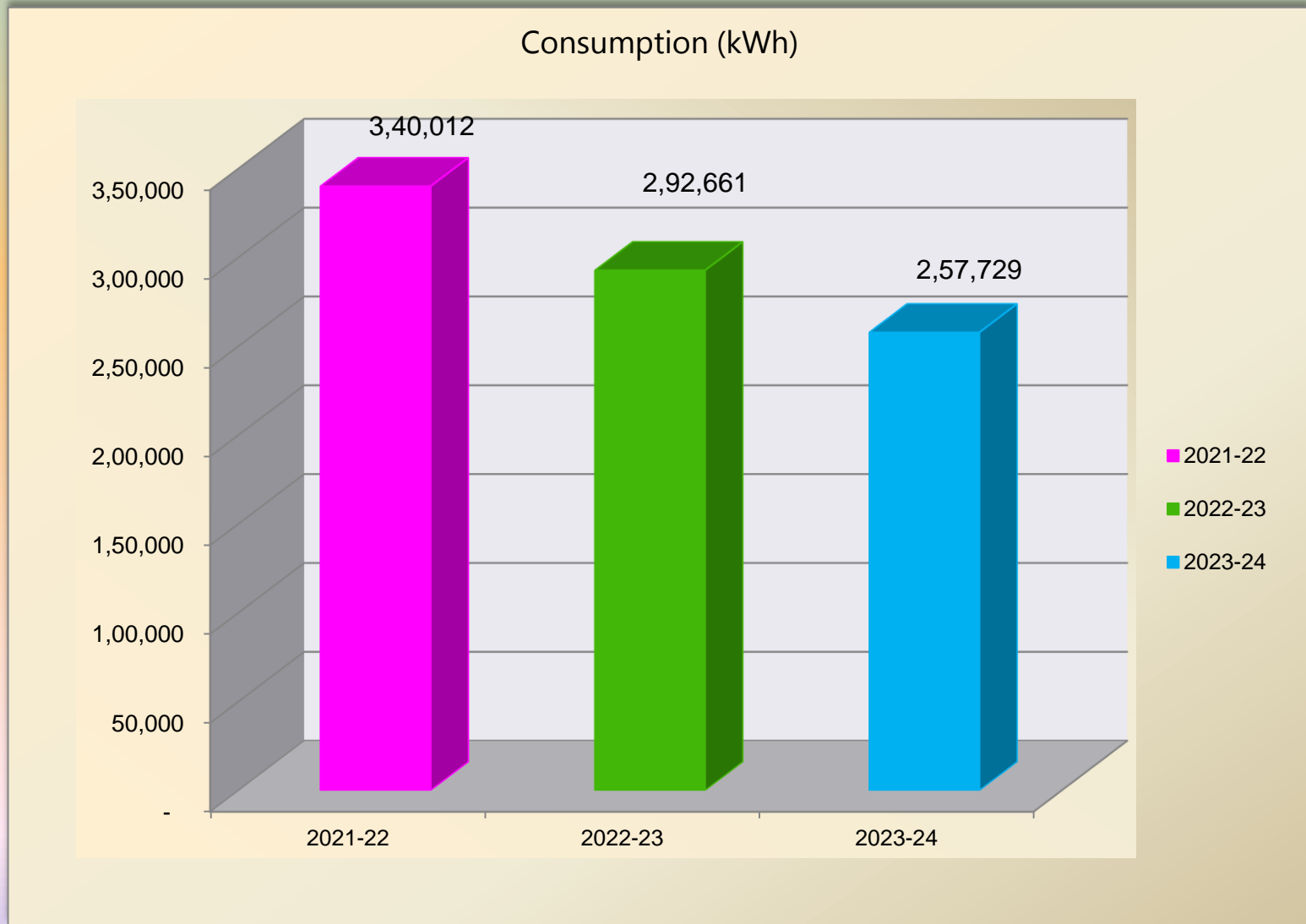
- ✓ The entire train operations of the Hyderabad Division are controlled and monitored at this building. Centralized Train Operations Control, Inter Divisional Coordination, Divisional Business Management.
- ✓ Integrated Block of 3 storeyed building.
- ✓ Built up Area: 8,515 Sq.mt
- ✓ Connected Electrical Load: 250 kW
- ✓ The entire building is surrounded by lush green patch to provide serene ambience which will also add to the energy conservation measures. The building has been provided with LED garden lights.
- ✓ This building comes in the **COMPOSITE** Climatic Zone. Orientation : North - East direction.
- ✓ Sources of Energy:
 - 11KV/440V Substation with 2 x 500 kVA Transformers.
 - 160 KVA Standby DG Set.

Energy Consumption Scenario

Description	2021-22	2022-23	2023-24
From SEB	2,53,458	2,42,505	2,57,697
From Solar	86,383	50,109	0
From DG set	171	47	32
Total Consumption	3,40,012	2,92,661	2,57,729
Built-up Area (Sq.mt)	8,515	8,515	8,515
SEC (kWh/Sq.mt) (Excluding Solar)	39.93	34.37	30.26

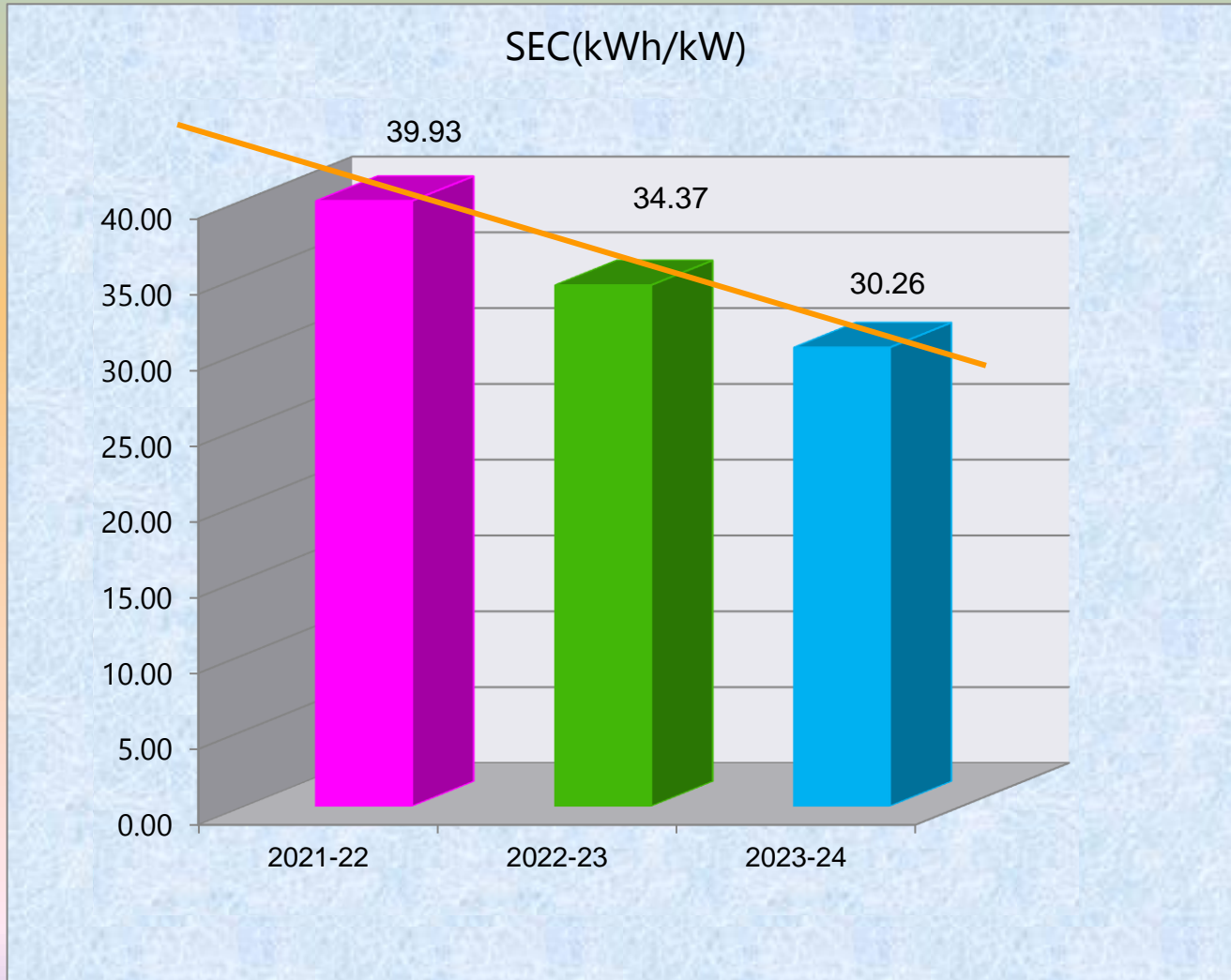
✓ Consumption has been reduced by 12% in 2023.24 by compared to 2022-23

Energy Consumption Scenario



✓ Consumption has been reduced by 12% in 2023-24 by compared to 2022-23

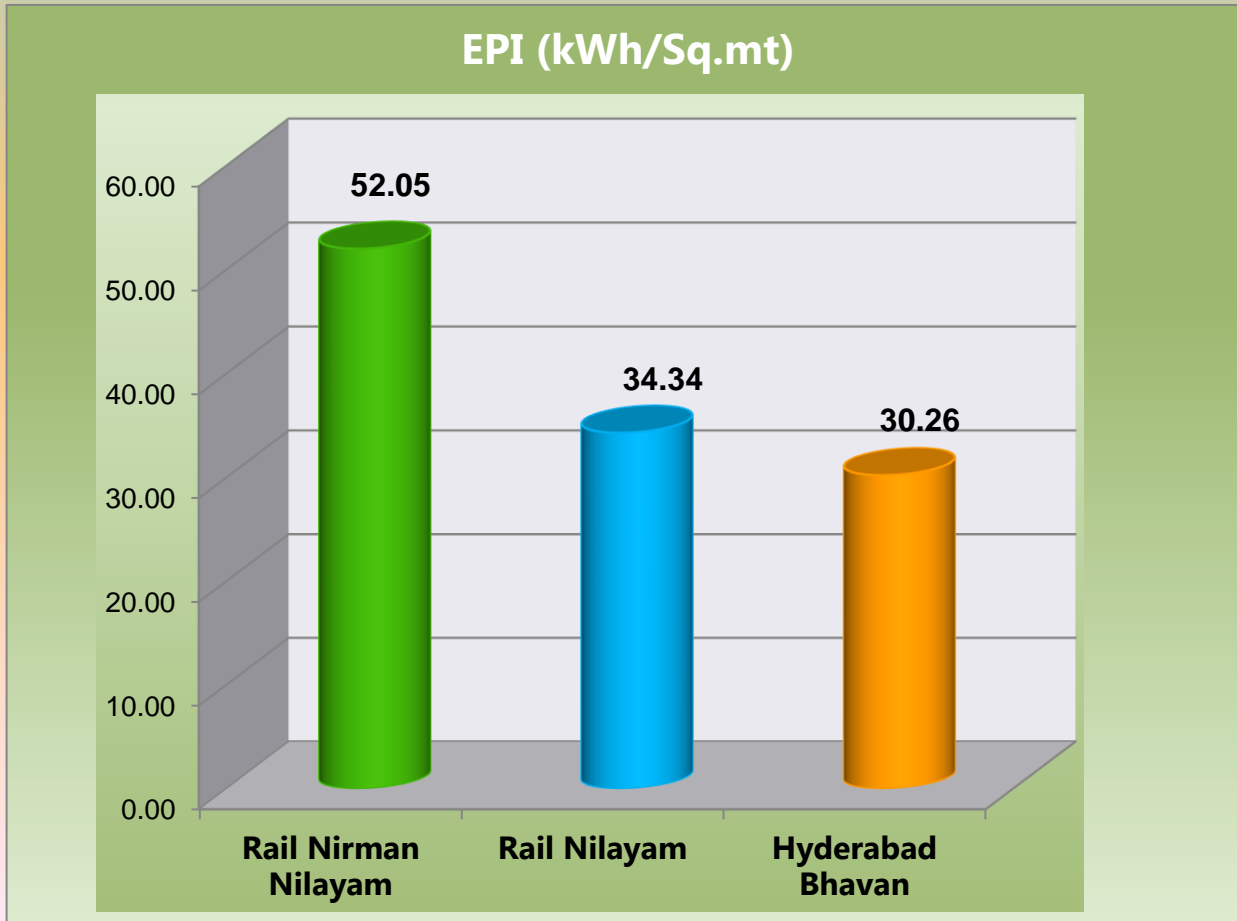
Energy Parameters



✓ SEC has been reduced in 2023-24 by 12% compared to 2022-23.

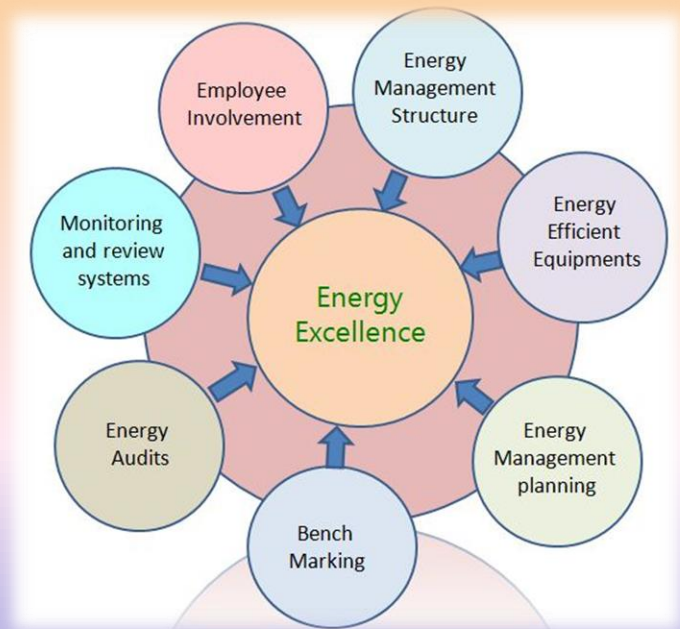
National Benchmarking

Direct Competitors and National Benchmarking



Achieving Energy Efficiency - A Multi Pronged Approach

- ✓ Targeted energy conservation action plan & Implementation.
- ✓ Low cost innovation & use of new technology.
- ✓ Continuous Energy monitoring and Corrections.
- ✓ Energy Audits by BEE Accredited Auditors.
- ✓ Renewable energy Initiatives.
- ✓ Very well maintained electrical equipment.
- ✓ Energy Conservation Week celebration and Mass Awareness Program.



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**EnCON Projects Implemented
from 2021-22 to 2023-24**

Energy Saving Projects 2021-22

Some of the major Energy Saving Projects implemented.

Sl. No.	Project Description	Electrical Energy Savings in kWh	Savings (INR Million)	Investment (INR Million)	Payback Period in months
1	Occupancy sensors for Lights	20148	0.20	0.06	5
2	Timers for water coolers	8640	0.07	0.02	3
3	BLDC Fans	8877	0.09	0.21	29
4	Temperature setting of 18 deg C to 22 deg C in Water coolers	4320	0.04	0.0	0.0

Energy Saving Projects 2022-23

Some of the major Energy Saving Projects implemented.

Sl. No.	Project Description	Electrical Energy Savings in kWh	Savings (INR Million)	Investment (INR Million)	Payback Period in months
1	Energy Efficient Inverter AC units	54000	0.54	1.94	43
2	Energy Efficient Pumps	13615	0.14	0.07	6
3	Temperature setting of 24 deg C to 26 deg C in AC	26496	0.27	0	0

Energy Saving Projects 2023-24

Some of the major Energy Saving Projects implemented.

Sl. No.	Project Description	Electrical Energy Savings in kWh	Savings (INR Million)	Investment (INR Million)	Payback Period in months
1	Automation of Pumps	4476	0.04	0.09	2
2	Implementation Preventive Maintenance Schedules - Elimination of losses due to hotspots	2574	0.03	0.0	0
3	Provision of VFD drives for Lifts	39209	0.39	0.05	2

Renewable Energy Utilization

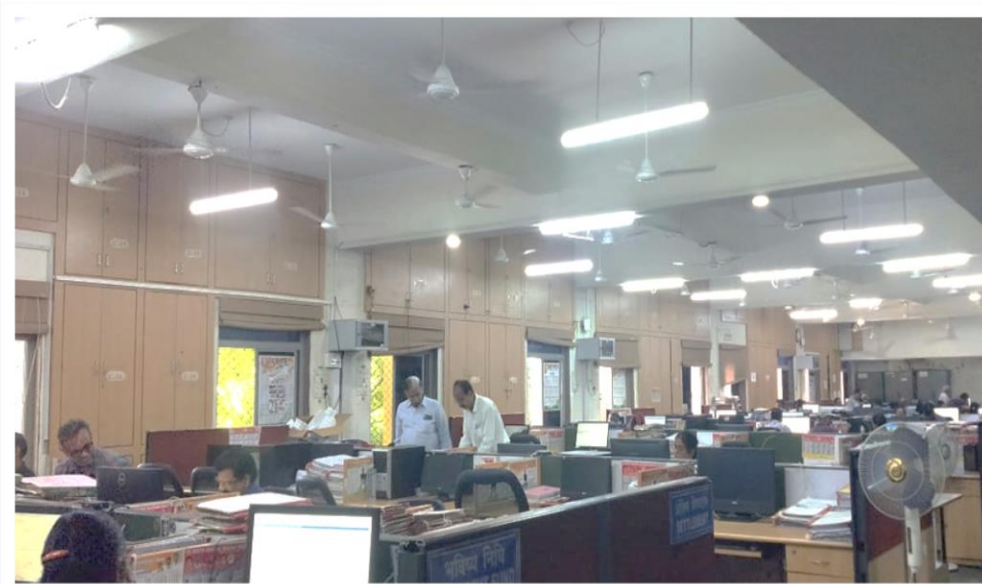
Year	Technology	Type of Energy	Onsite/ Offsite	Installed capacity	Generation in kWh	% of overall electrical energy
2021-22	Solar PV	Electrical	Onsite	50 kWp	86,383	35%
2022-23	Plant disconnected					
2023-24						



Other Energy Conservation Measures



100% LED Lighting



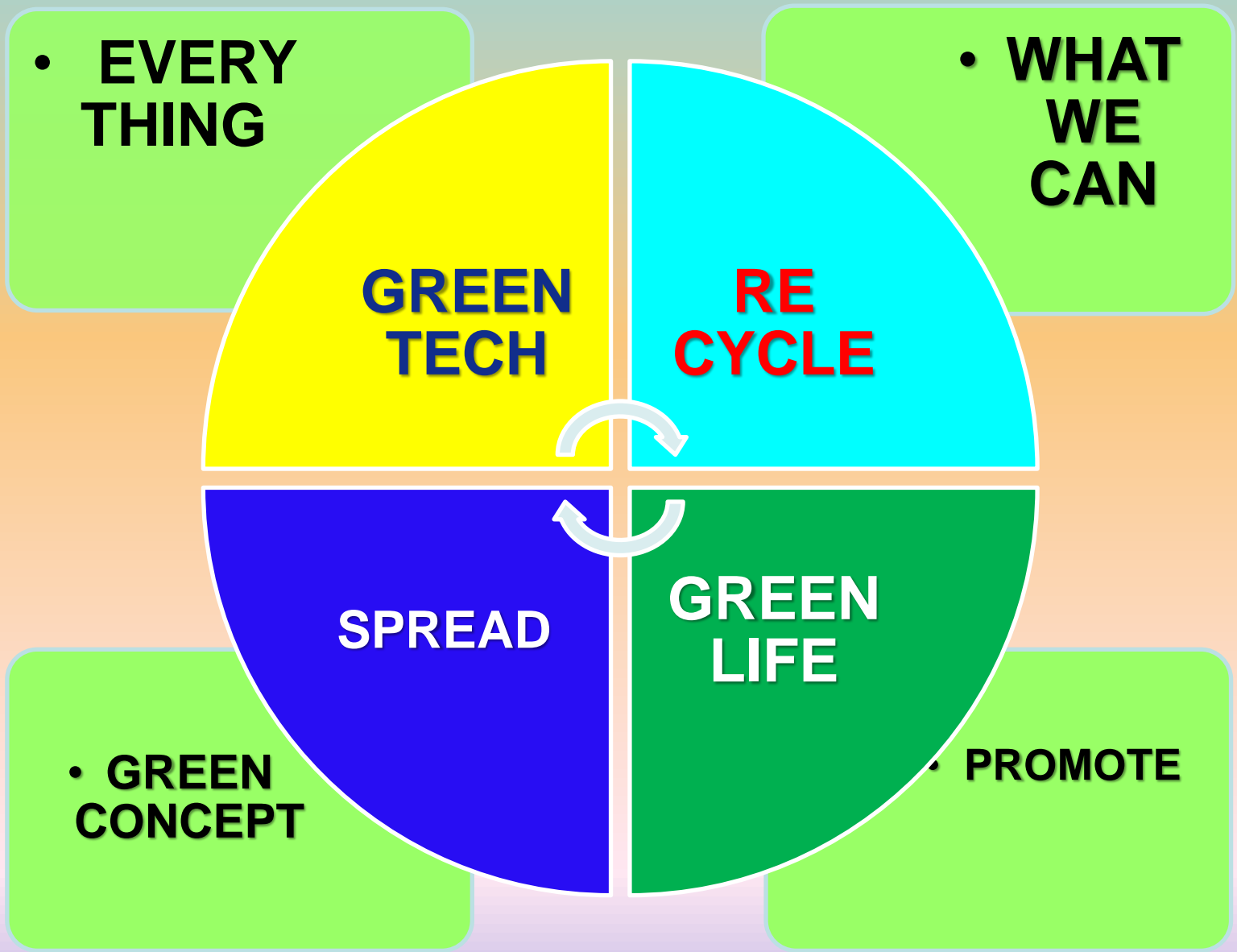
Use of Occupancy Sensors and Energy Savers



Green Initiatives and Features at Hyderabad Bhavan

- Building has Green façade by trees
- Sun control film on window pans
- e-office working system
- LED signage and name boards
- Occupancy indicators and display panels
- Pan IR video conference system
- In building potted plantation
- Segregation of dry & wet waste and waste management

GREEN MISSION



Green Initiatives and Features



GHG Emissions Reduction Initiatives

✦ Dedicated 11kV/440V Line, so that Generation from DGis reduced



✦ Use of 5 star rated Inverter HVAC



✦ Energy Audits



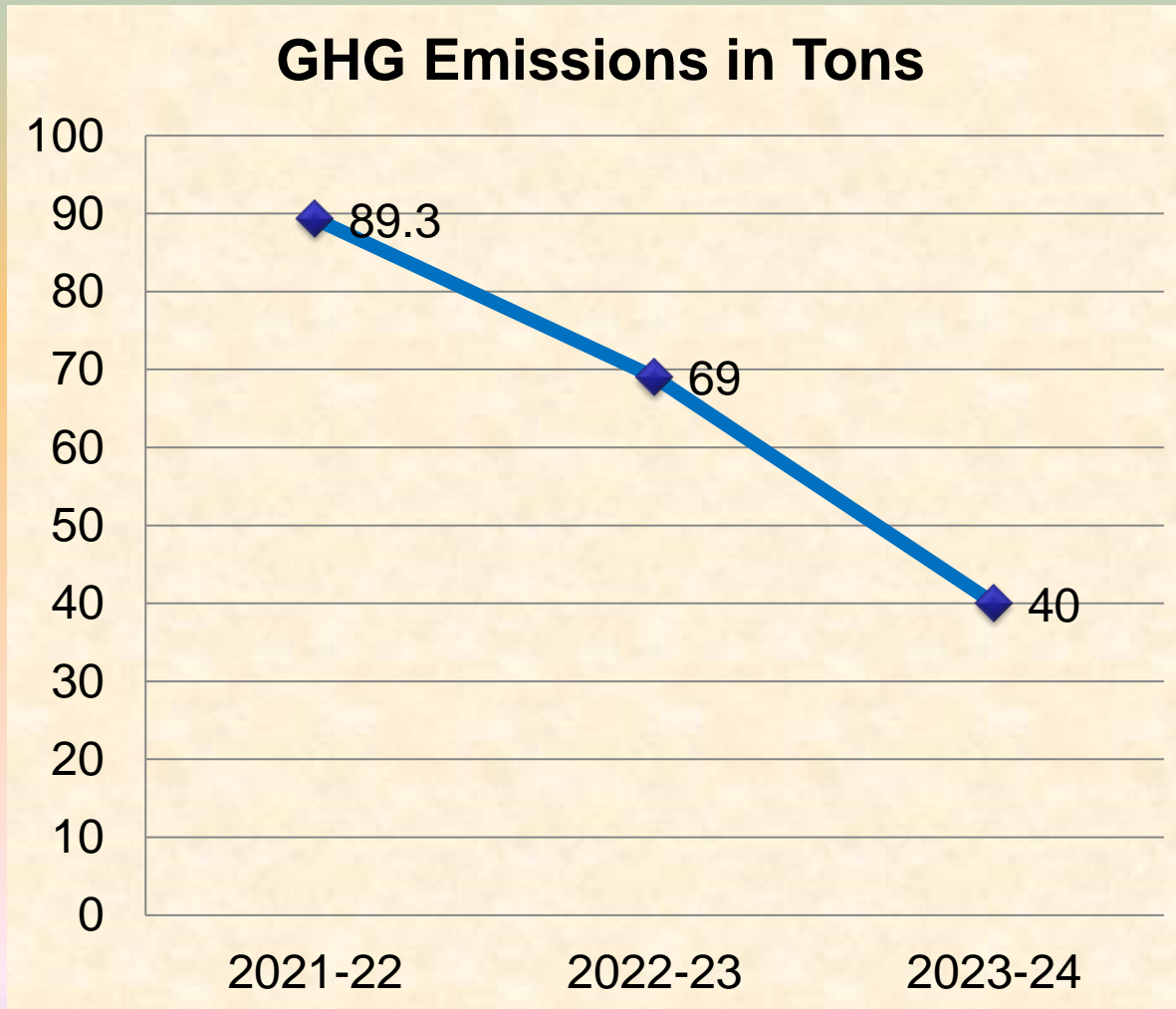
✦ 100% LED Lightings



✦ Energy Efficient VVF Drives in Lifts



GHG Emissions



- GHG emissions reduced to 40 MTons.

Waste Management

- Building is provided with separate garbage bins for collection of dry and wet waste.
- EN & HM Department is educating the employees about segregation wet and dry waste.
- Daily collection and segregation of dry and wet waste from each floor and effective disposal of the same.



Team Work, Employee Involvement & Monitoring



Energy Conservation Awareness Programme



CII Awards

- ✓ Hyderabad Bhavan Building has awarded with Energy Efficient Unit by CII



IGBC Green Co Rating

✓ Hyderabad Bhavan Building has awarded with Gold Rating by IGBC



Confederation of Indian Industry

Indian Green Building Council (IGBC)

hereby certifies that

HYDERABAD BHAVAN

Secunderabad

(IGBC Registration No: GEB 17 0217)

*has successfully achieved the Green Building Standards required for
the following level of certification under the
IGBC Green Existing Buildings Rating System*

Gold

March 2018

(This certification is valid for 3 years)



Gurmit Singh Arora
Chair, IGBC Green EB O&M

Dr Prem C Jain
Chairman, IGBC

S Raghupathy
Deputy Director General, CII

K S Venkatagiri
Executive Director, CII-Godrej GBC



BEE Star Rating – 4 Star

✓ Hyderabad Bhavan Building awarded with 4 Star Rating by BEE

CERTIFICATE FOR STAR RATING

It is certified that **Divisional Railway Manager Office, Hyderabad Bhavan** located in Composite climatic zone has been awarded a BEE 4★★★★ Label with the details below:

Name of the building	:	Divisional Railway Manager Office, Hyderabad Bhavan
Connected Load	:	431 kW
Climatic zone	:	Composite
Building Type	:	Day Use Office Building
Percentage Air Conditioning	:	33.80 Percent
Built up area	:	6920.2 sq.meter
Annual Energy Consumption	:	2,85,451 kWh
Annual Energy Performance Index (EPI)	:	41.24 (kWh/yr/Sq.Mtr)
BEE Star Label Awarded	:	★★★★

The label would be valid for a period of 5 years.

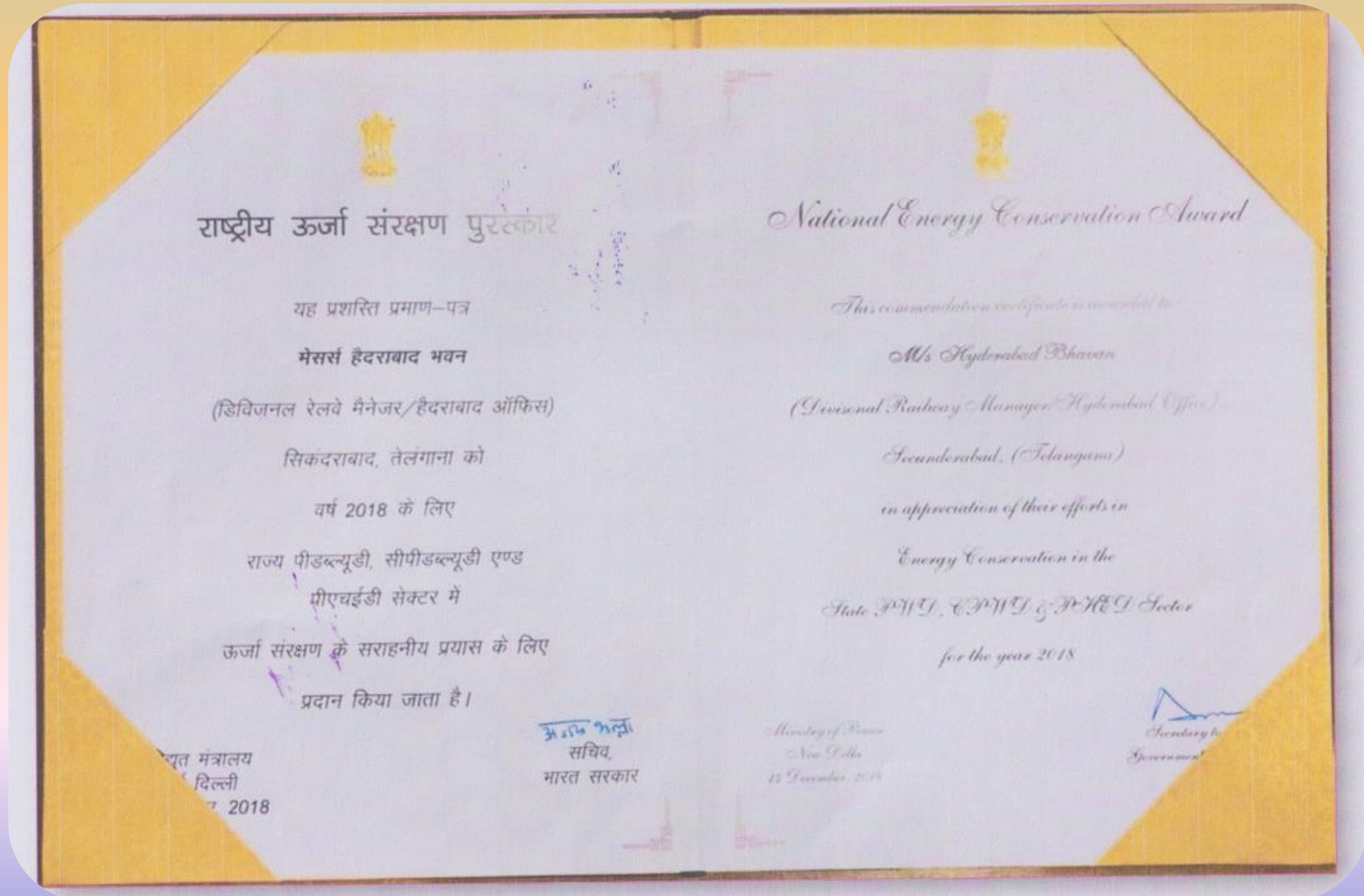
F.no. 08/01/Star rating/OB/09/DUO-144
Dt. 4th August, 2016


Sanjay Seth
Energy Economist



National Energy Conservation Awards - 2018

- ✓ Hyderabad Bhavan Building has received Certificate of Merit in Office buildings Category by BEE



Long Term Vision on EE

- ❖ Provision of Solar Power Plant on available roof top of shed/ shops building
- ❖ Implementation of SMART Energy Management System.
- ❖ Provision of Energy efficient Pumps
- ❖ Use of IoT Technology for Electrical Energy Monitoring and Controlling.



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