

23rd National Energy Award for Excellence in Energy Management - 2022



Kacheguda Station Heritage Building

Shri. A. Koteswara Rao

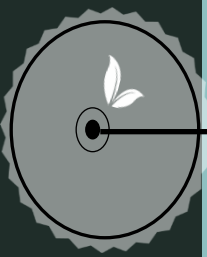
FIE, DCM, C.Engg(I), IRSEE

Senior Divisional Electrical Engineer,
Hyderabad Division, South Central Railway.

Brief introduction of Kacheguda Heritage Building

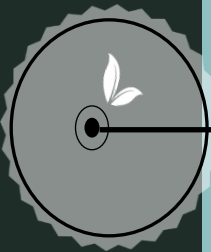


- Kacheguda Station is one of the important stations over Hyderabad Division located in the heart of the twin cities of Hyderabad and Secunderabad.



Brief introduction of Kacheguda Heritage Building

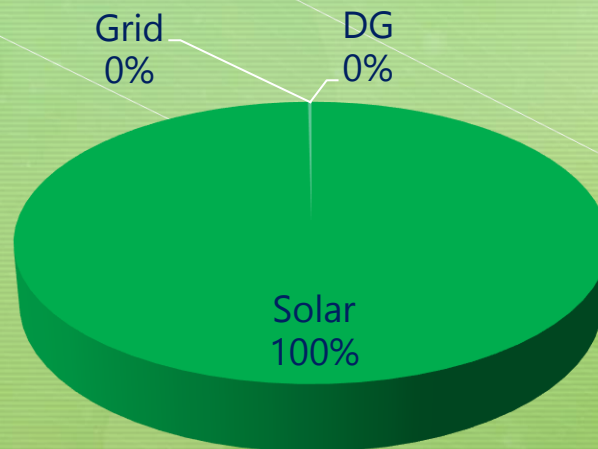
- Constructed in 1916, by the Nizam of the erstwhile Hyderabad State, this Station was the Headquarters of the then Nizam's Guaranteed State Railway.
- This Station handles 67 pairs of Daily trains with an average footfall of 44,000 passengers per day.
- It has received **14th Rank at all India level in Swachh Rail Swachh Bharat Cleanliness assessment** of A1 and A category stations by the 3rd party audit by Quality Counsel of India during 2018.
- This station was bestowed with the **INTACH Heritage Award in 2004** for its architecture.
- It was awarded "**GOLD rating**" by IGBC.
- It was certified with **ISO-14001:2015 for Environmental Management System.**



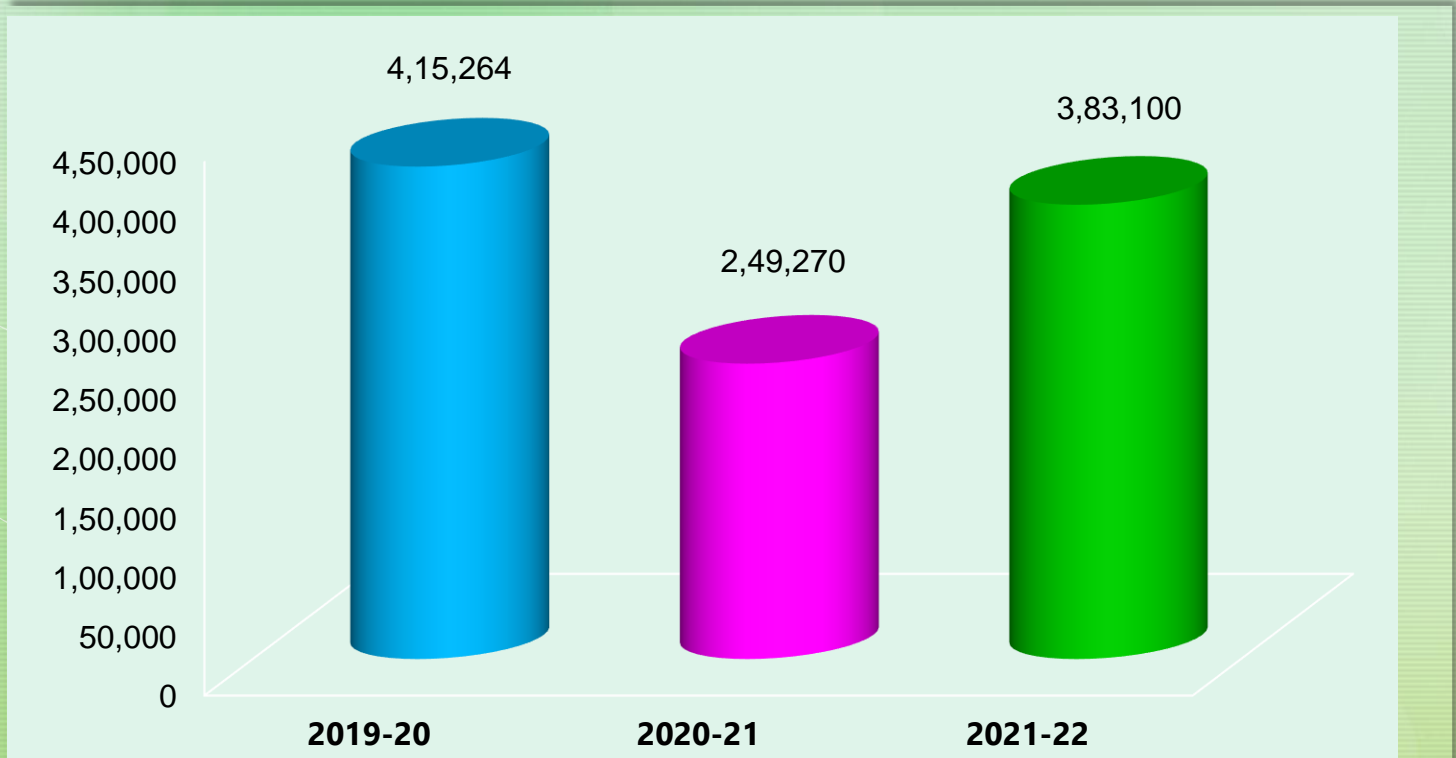
Energy Consumption Overview

Description	2019-20	2020-21	2021-22
Purchased from Grid (kWH)	0	0	0
Consumption through DG set (kWH)	664	530	100
Consumption through Solar Plant (kWH)	4,14,600	2,48,740	3,83,000
Total Consumption (kWH)	4,15,264	2,49,270	3,83,100
Total Built-up area (sq.mt)	41,521	41,521	41,521
Specific Energy Consumption (kWH/sq.mt)	10.00	6.00	9.23

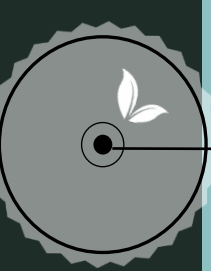
Consumption



Comparison of Consumption for the last 3 years



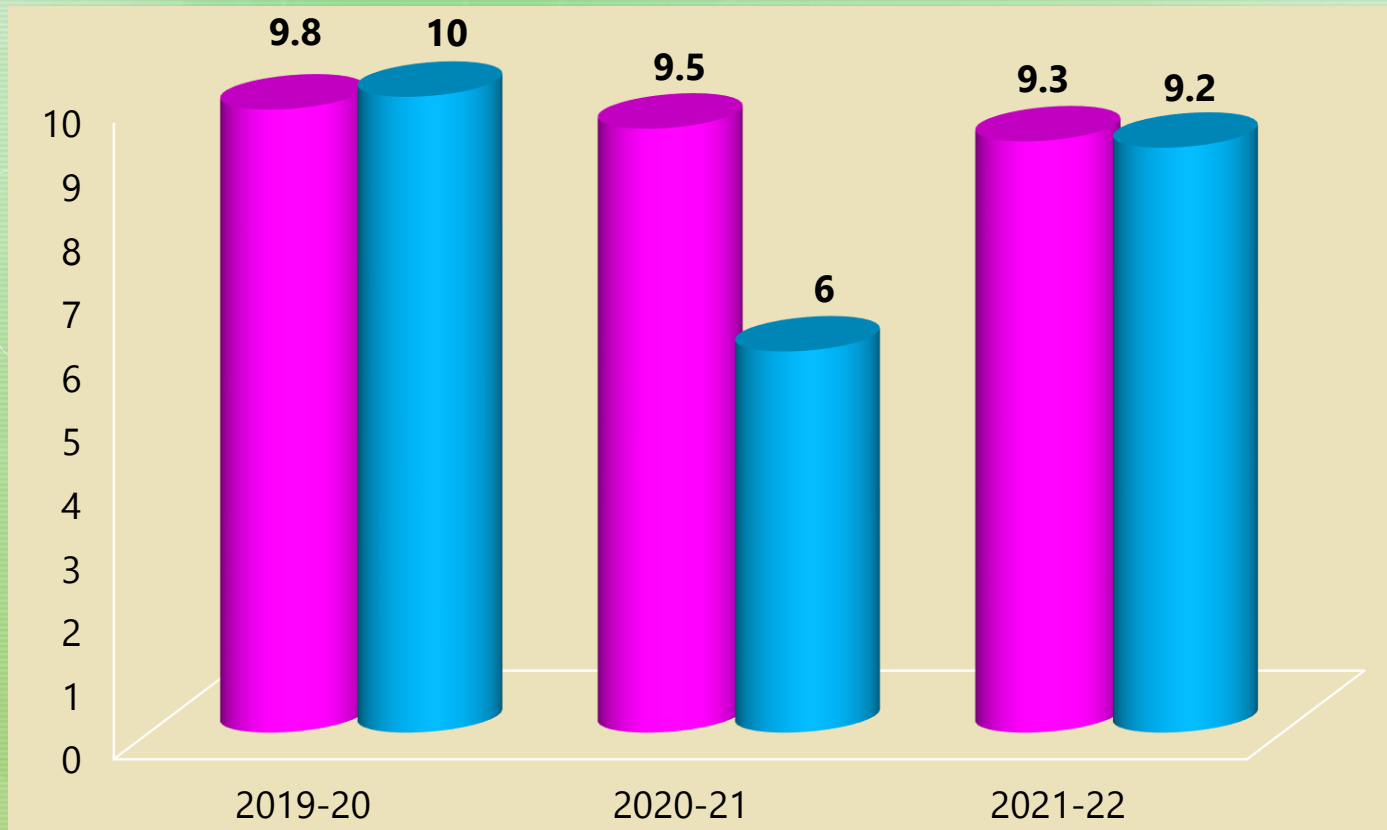
Consumption was reduced by 8% during 2021-22 compared to 2019-20 (pre-pandemic period)



Internal Benchmarking (SEC)

Target: 5% reduction

SEC (kWh/sq.mt)

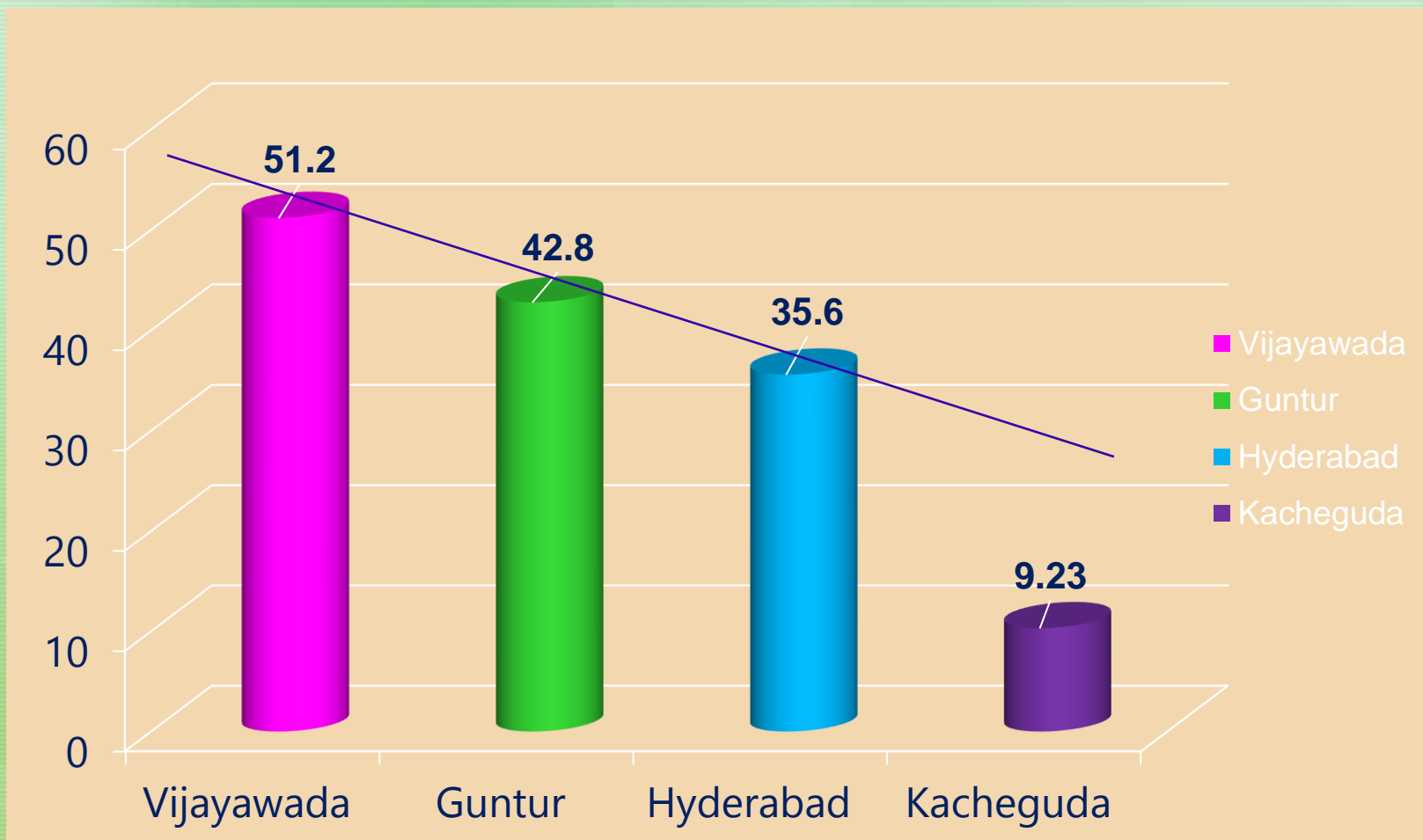


■ Targetted SEC

■ Achieved SEC

Information on Competitors, National & Global Benchmark

Direct Competitors and National Benchmarking



Data obtained from earlier CII Energy Awards presentations.

Road map to achieve Global Bench Marking



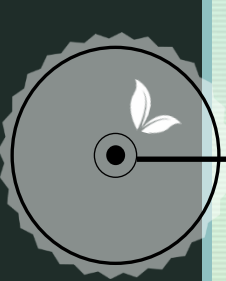


**EnCON Projects Implemented
from 2019-20 to 2021-22**

Energy Conservation Projects implemented in 2019-20

Major EnCon Projects implemented are:

Sl. No.	Description	Savings in Lakh Rs.	Investment in Lakh Rs.	Payback Period
1	Energy Efficient 5 star rated AC	0.39	1.80	4.6
2	Occupancy Sensors for Lighting	1.29	1.35	1.1
3	Super Energy Efficient BLDC pumps for Quick Watering facilities	1.91	2.34	1.2



Energy Conservation Projects implemented in 2020-21

Major EnCon Projects implemented are:

Sl. No	Name of the Item	Savings in Lakh Rs.	Investment in Lakh Rs.	Payback Period
1	Energy Efficient type Inverter AC	0.06	2.80	5.42
2	Bifurcation of 30% & 70% lights fans circuits	1.20	0.80	0.70

Energy Conservation Projects implemented in 2021-22

Major EnCon Projects implemented are:

Sl. No	Name of the Item	Savings in Lakh Rs.	Investment in Lakh Rs.	Payback Period
1	Nature Switches	0.35	2.6	6.5
2	Timers	0.25	0.52	1.6
3	Automation of Pumps	0.49	0.18	0.4
4	Replacement of BLDC fans in place of star rated ceiling fans	0.57	1.68	2.8
5	VVF Drives for Lifts	1.63	0.50	0.3

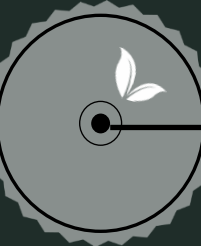


INNOVATIVE PROJECTS IMPLEMENTED

Innovative Projects implemented

Sl. No.	Name of the Project	Year of Implementation	Savings in Lakh Rs.	Investment in Lakh Rs.
1	Provision of Energy efficient BLDC fans i.e., adopting of super energy efficient fans	2018-19	2.92	9.25
2	Provision of 5 star rated energy efficient Inverter type AC units which uses eco friendly refrigerant (R-410A)	2018-19	1.26	6.48
3	Energy Efficient BLDC pumps for Quick watering	2019-20	1.98	2.34
4	Bifurcation of 30% & 70% fans circuits	2020-21	1.25	0.80
5	Automation of Pumps	2021-22	0.49	0.18
6	Provision of VVVF Drives for Lifts	2021-22	1.63	0.50

100% LED Lighting



Energy Efficient BLDC fans & Inverter type AC units



Utilization of Renewable Energy Sources



Year	Technology (Electrical)	Type of Energy	Onsite/ Offsite	Installed Capacity (kWp)	Total Consumption in kWh	Generation in kWh	% of Generation over Consumption
2019-20	Renewable Energy	SPV	Onsite	400	4,15,264	5,36,923	129 %
2020-21					2,49,270	5,15,800	206 %
2021-22					3,83,100	5,39,557	140 %

Utilization of Renewable Energy Sources

Energy Consumption analysis for the year 2021-22 (in Units)

Description	Utility (SEB) Consumption	DG Generated	Solar Generation	Total Consumption
Units	0	100	3,83,000	3,83,100
% of Total Consumption	0	0	100%	--

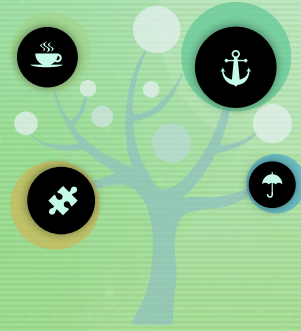
Energy Consumption Pattern



100% of the Kacheguda station consumption is met by renewable energy sources i.e., 400kWp SPV Plant.

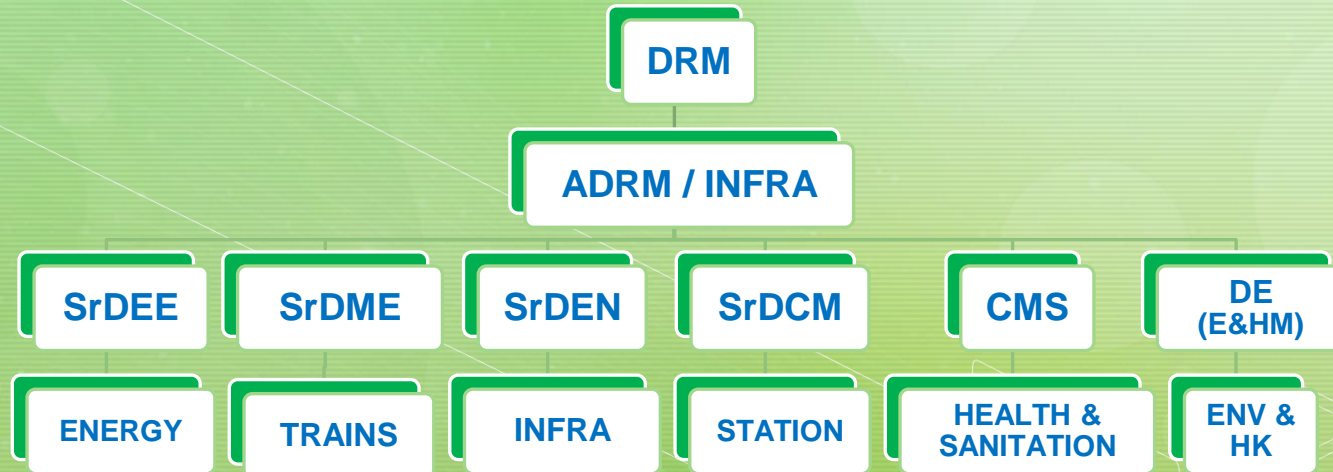
First A1 Category Energy Neutral Station over Indian Railways

Team work, Employee Involvement & Monitoring

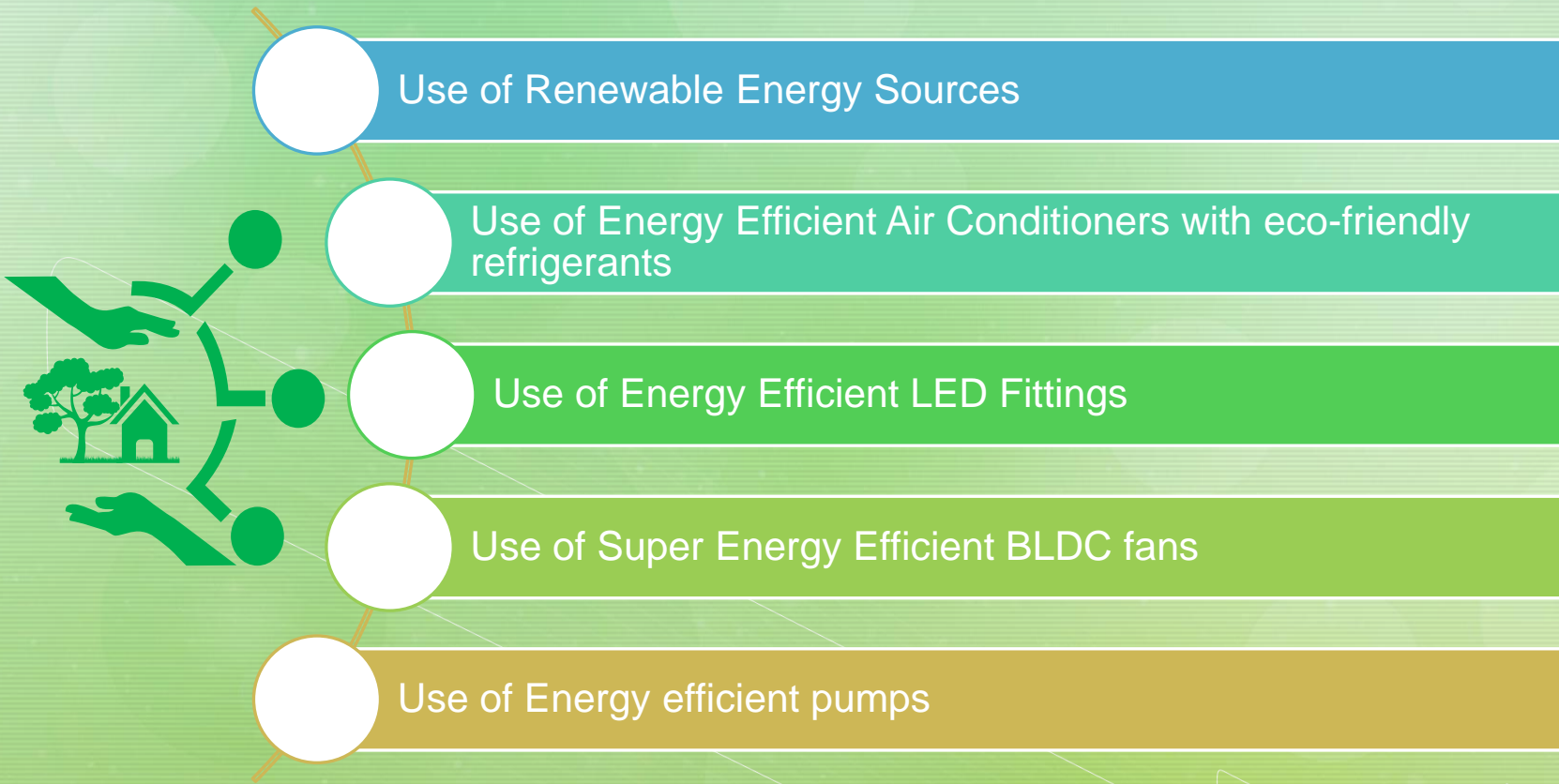
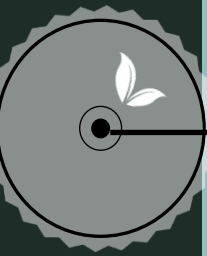


Green Mission Steering Team

- ✓ Committee of 'Service Improvement Group' is in place for regular monitoring of implementation, Operation & Maintenance of existing green features at station, consisting of ADRM(I) & Branch level officers who inspect the KACHEGUDA station on regular basis.



Green Supply Chain



Waste Management

- The solid waste at this station is being segregated at source itself by provision of bifurcated collection of Biodegradable waste and Non-biodegradable waste through 173 numbers of dust bins on all the five platforms.
- 3 Nos. Plastic Pet Bottle Crushing machines installed. The plastic waste is collected through plastic bottle crushing machines is being disposed to authorized Plastic Recycled agency.

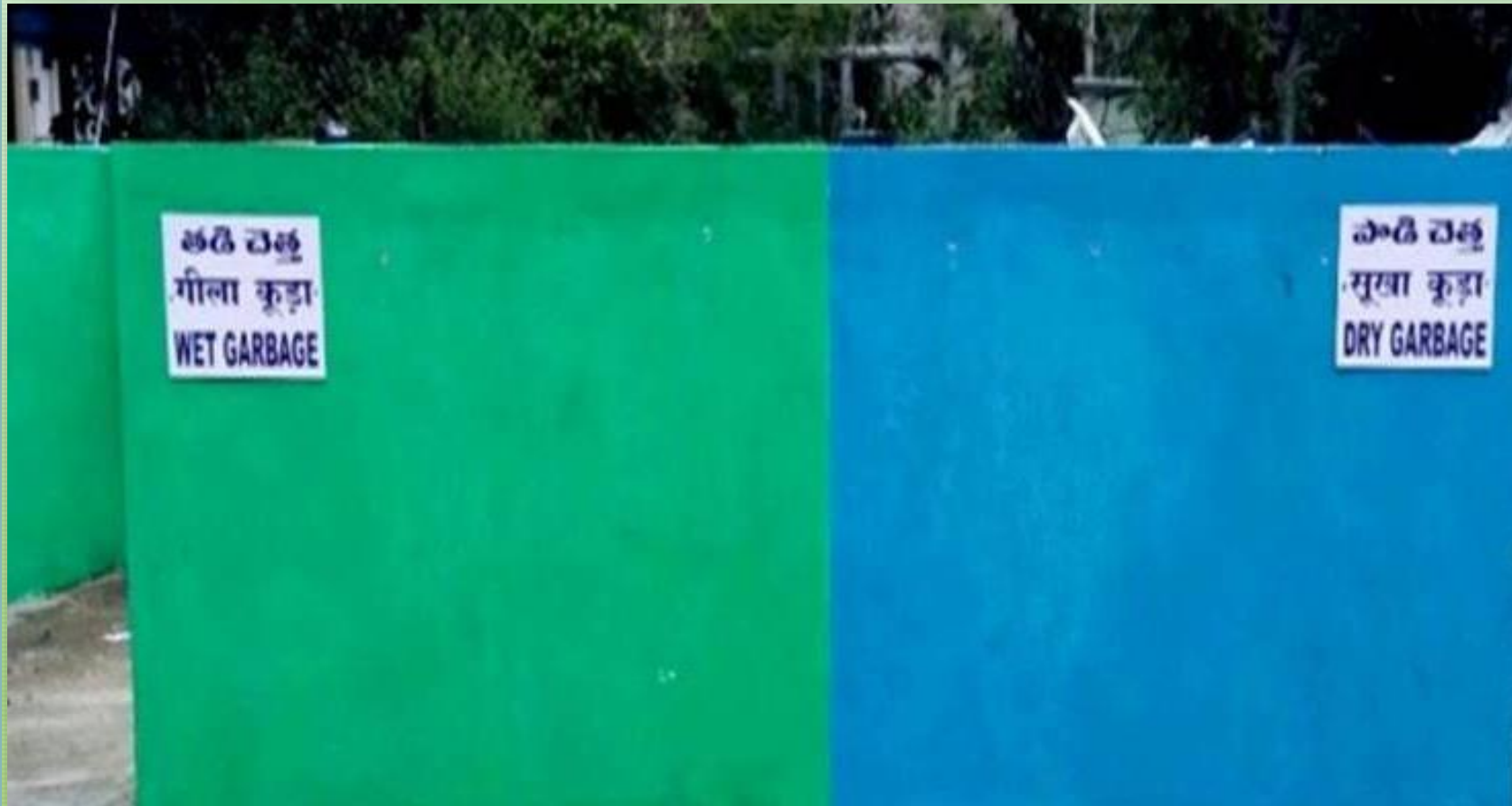
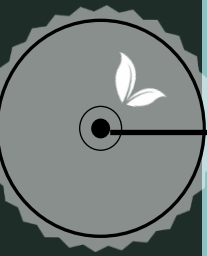


Solid Waste Management

- This station is installed with one De-composting machine and it is producing 100 kg to 120 kg high quality organic manure per week.
- This generated manure is used for the gardens at office premises and colonies.



Separation of Dry Waste & Wet Waste



Automatic Coach Washing Plant



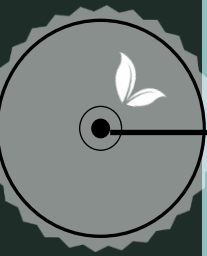
Sewage Water Recycling Plant – 270 KL Capacity



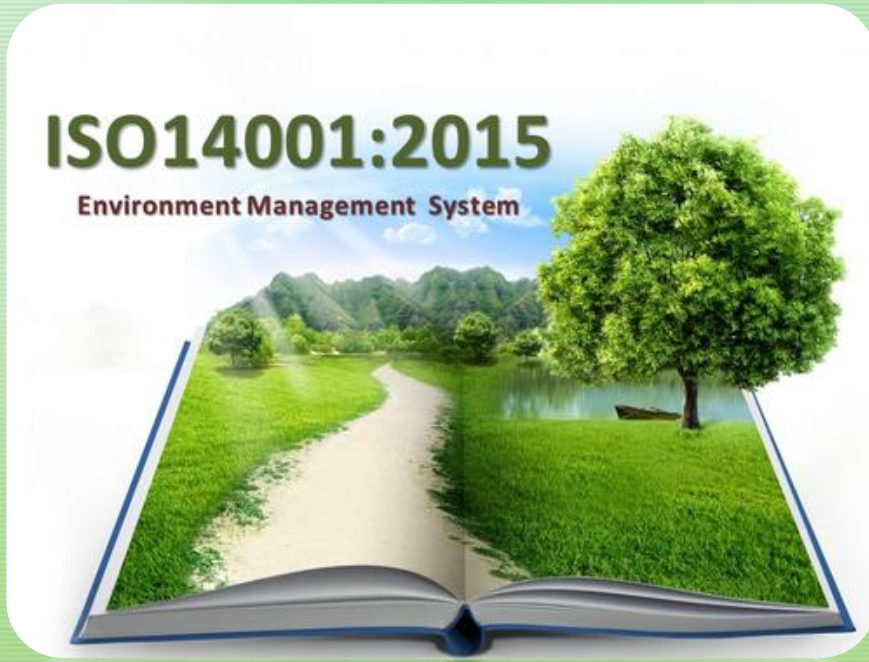
**Implementation of ISO 14001/ Green Co/
IGBC rating**

IGBC Green Rating - Gold





ISO 14001:2015 Certification



DNV·GL

MANAGEMENT SYSTEM CERTIFICATE

Certificate No: 288659-2019-AE-IND-UKAS Initial certification date: 25 November 2019 Valid: 25 November 2019 - 24 November 2022

This is to certify that the management system of
KACHEGUDA RAILWAY STATION
Nimboliadda, Kacheguda, Hyderabad - 500027, Telengana, India

has been found to conform to
the **Enviornmental management System** standard:
ISO 14001:2015

This certificate is valid for the following scope:
**Providing services including Housekeeping and Amenties for
Railway station maintenance**

Place and date:
Chennai, 25 November 2019

For the issuing office:
DNV GL - Business Assurance
ROMA, No. 10, GST Road, Alandur,
Chennai - PIN - 600 016, India



Sivadasan Madiyath
Management Representative

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.
ACCREDITED UNIT: DNV GL Business Assurance UK Limited, 4th Floor, Vivo Building, 30 Stamford Street, London, SE1 9JZ, United Kingdom.
TEL: +44(0)203 226 4000. www.dnvgl.co.uk

Awards & Achievements

22nd National Awards for Excellence in Energy Management - 2021

Bagged **Excellent Energy Efficient Unit** Award



Confederation of Indian Industry

22nd National Award for Excellence in Energy Management 2021

This is to certify that

Kacheguda Railway Station, Kacheguda

has been recognized as

“Excellent Energy Efficient Unit”

*This acknowledgement is based on the evaluation by the panel of judges at the
“National Award for Excellence in Energy Management” held during 24 - 27 August 2021.*

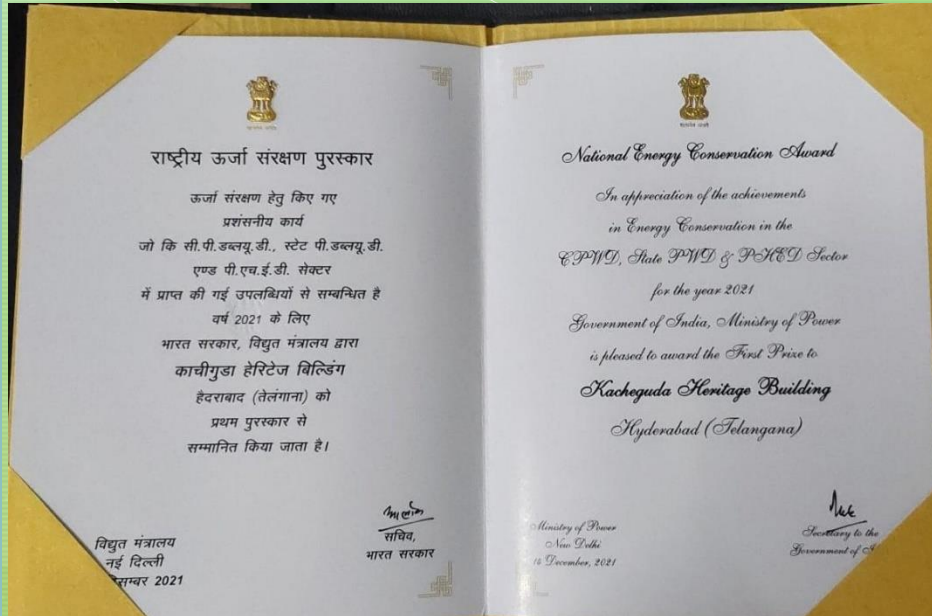
A handwritten signature in blue ink, appearing to read 'K S Venkatagiri'.

K S Venkatagiri
Executive Director
CII - Godrej GBC

A handwritten signature in blue ink, appearing to read 'Ravichandran Purushothaman'.

Ravichandran Purushothaman
Chairman, Energy Efficiency Council
CII - Godrej GBC

First Prize in National Energy Conservation Awards – 2021 by Bureau of Energy Efficiency



Telangana State Energy Conservation Awards - 2021

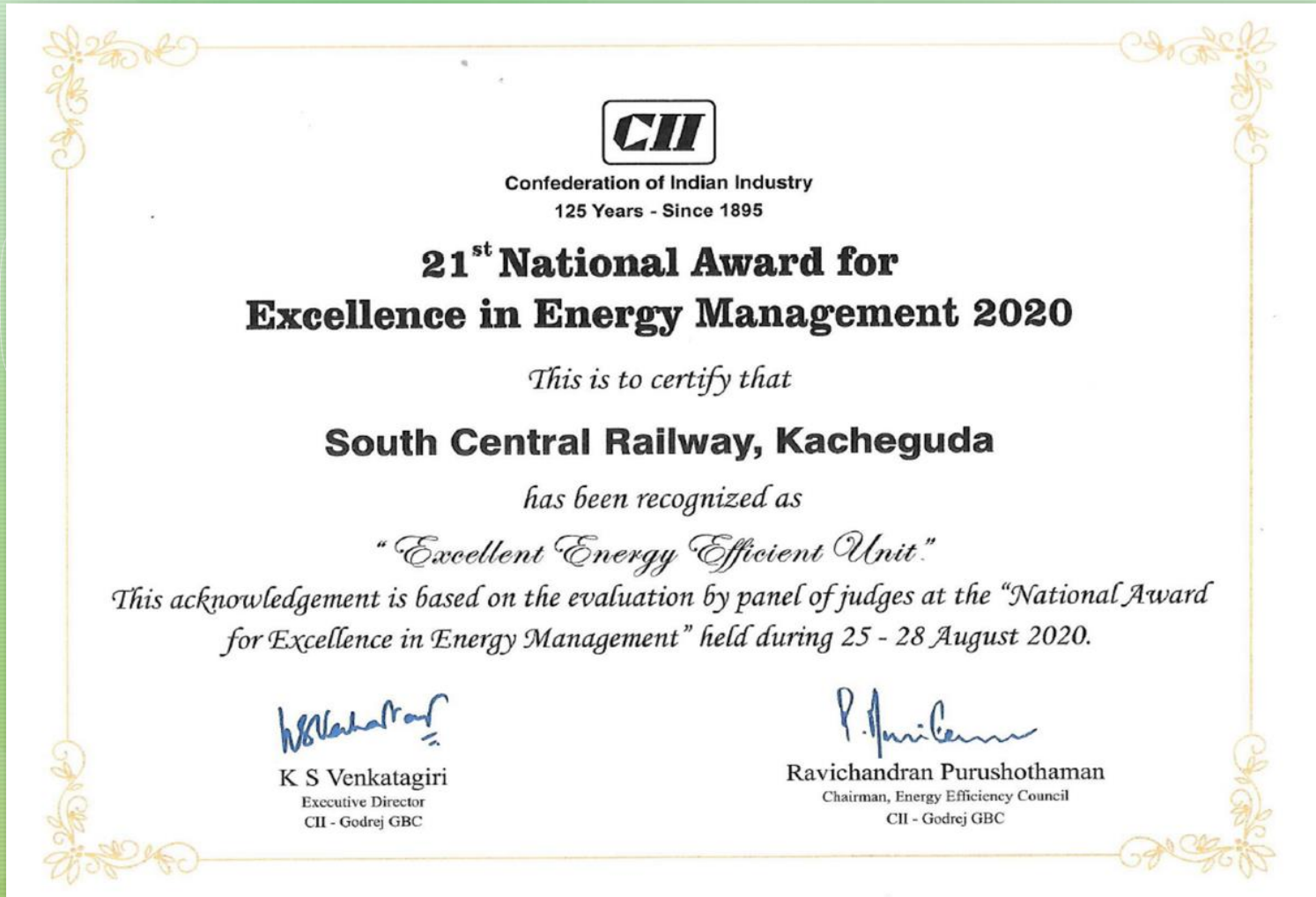
Bagged **SILVER** Award in Railway Stations Buildings Category



Receiving Second Prize (Silver) in Railway Station Building category for the year 2021 from Telangana

21st National Awards for Excellence in Energy Management - 2020

Bagged **Excellent Energy Efficient Unit** Award



NEC Awards 2019 - Certificate of Merit



National Energy Conservation Award

This commendation certificate is awarded to

Kacheguda Heritage Building

Secunderabad (Telangana)

in appreciation of their efforts in

Energy Conservation in the

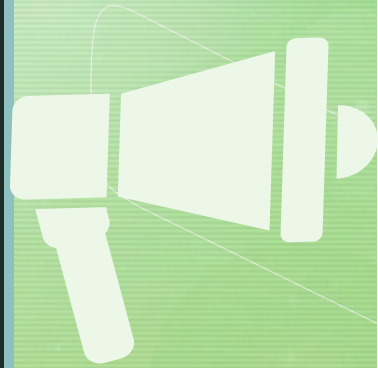
CPWD, PS&ED & State PWDs Sector

for the year 2019

*Ministry of Power
New Delhi
14 December, 2019*

[Signature]
*Secretary to the
Government of India*







Thank you

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email: srdeemhyb@gmail.com