



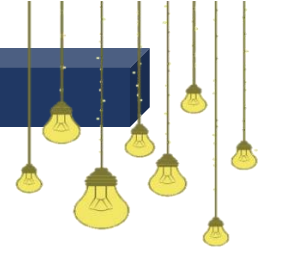
**24th National Award for Excellence in Energy
Management**

GMR Hyderabad International Airport Ltd.

Presenting By:

Mr. Vijay Rathod – Chief Project & Engineering Officer (Energy Auditor)

Mr. Bixam Bhukya – Specialist - Electrical



"GMR Group will be an institution in perpetuity that will build entrepreneurial organizations making a difference to society through creation of value"



Model

- Based on the PPP model & structured on – BOOT; Project Completed in Record time of 31 Months

Operations Commenced

- March 23, 2008

Design Capacity

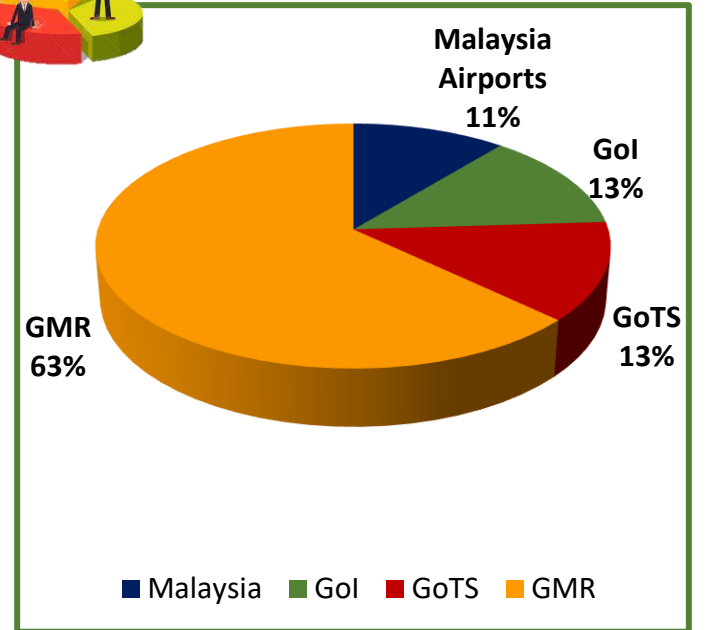
- Terminal: 12 Mn Passenger Per Annum
- Cargo: 1.5 Lakh MT /Annum

Present Operation

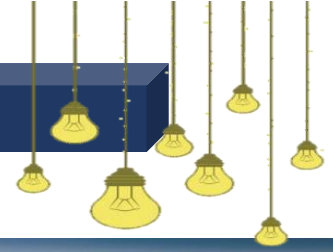
- Terminal: 21+ Million Passenger Per Annum (Pre-COVID)
- Cargo: 1.5 Lakh MT /Annum respectively

Currently under Expansion

- 40 MPPA & 2.5 Lakh MT/Annum



Building Specifications

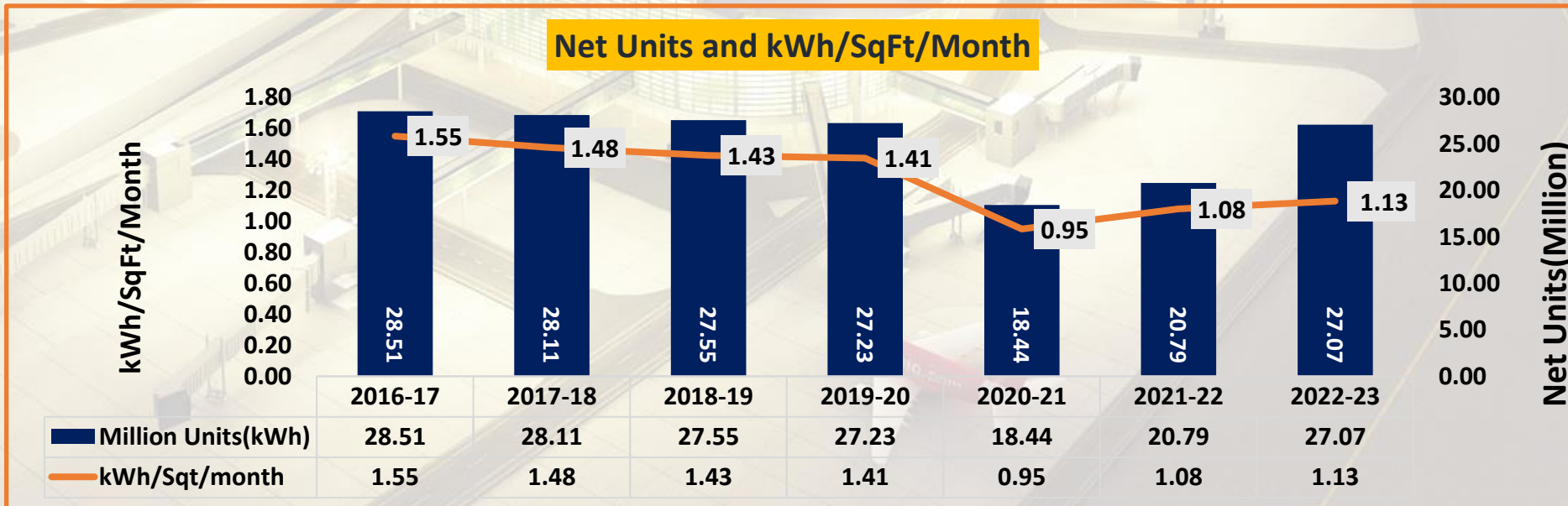
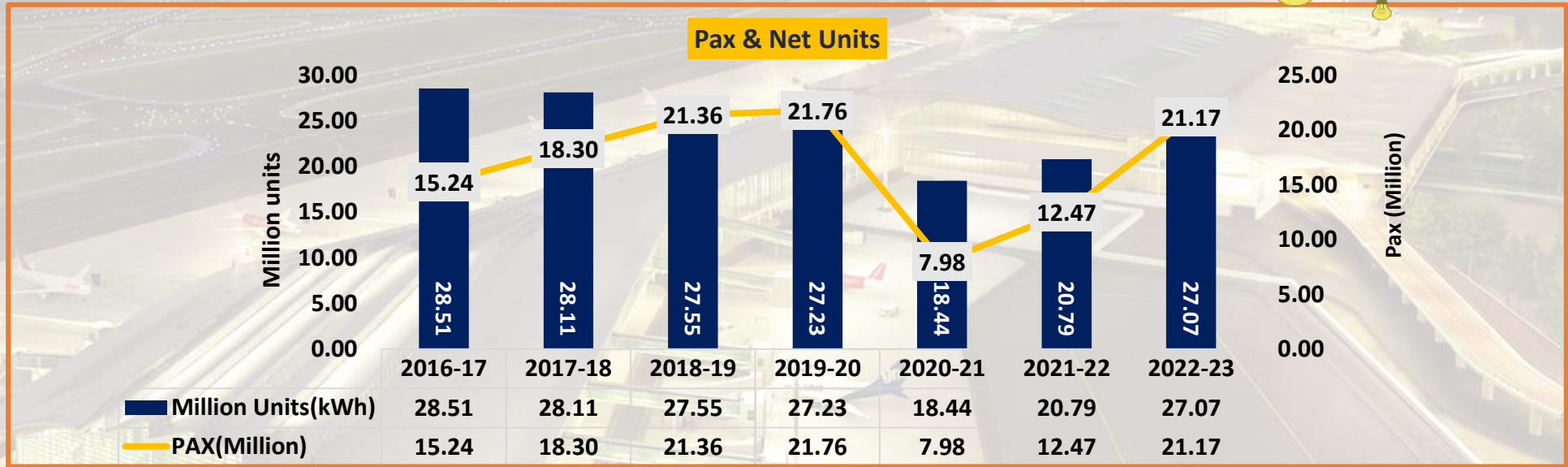


Natural lighting during day through Façade and Temple leaf structure in the roof.

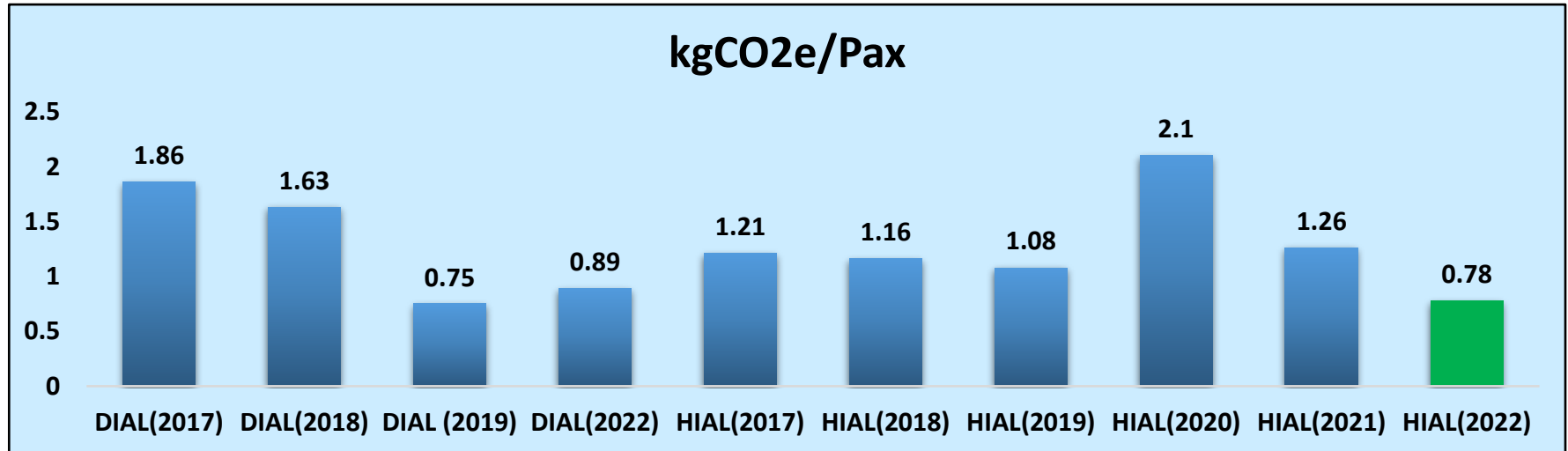
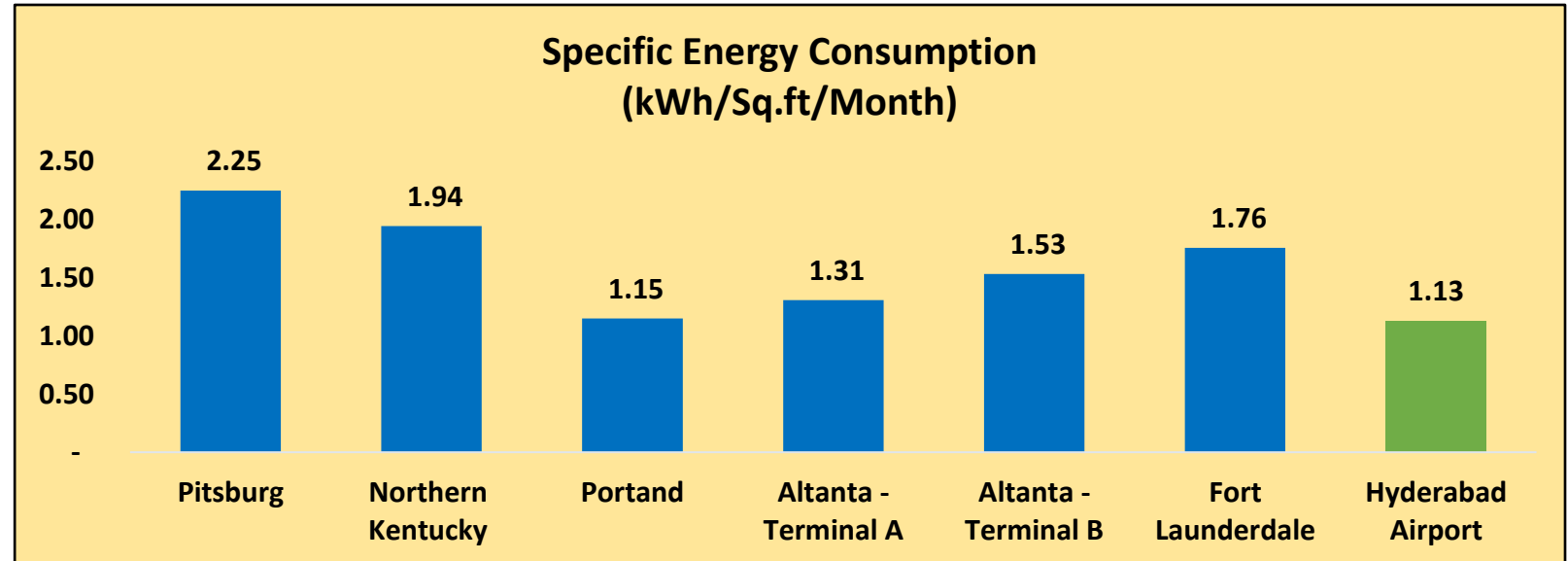
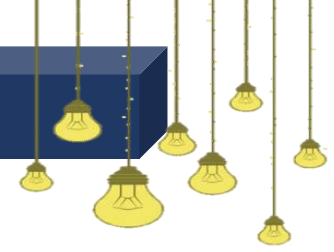
Curved & Corrugated, structure around the Passenger Terminal provides resistance from sunlight.

Good thermal insulation properties @ Terminal glass Façade: U-value = 1.4 W/m²K, SC =0.47

Specific Energy Consumption, Passenger Growth & Energy Usage Trend



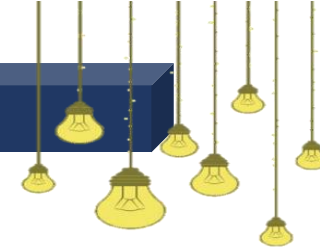
Benchmark – Power & Emissions



*Source –Internet & Internal Source

#1 SEC value is inclusive of solar power generation

#2 typo error corrected

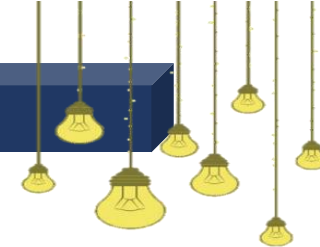


Energy Intensity Level for different Building Types



- Energy Performance Index for various types of Commercial Buildings is detailed in adjacent graph.
- The average EPI is observed to be ~200 kWh/M²/year.
- The EPI of HYD airport for FY23 is 145 kWh/M²/year.

ECBC Requirements



- The existing Terminal Building is undergoing expansion on East & West wings/piers to increase operational capacity from 12 MPPA to 34 MPPA.
- Current Building area has already increased by ~25%, due to operationalization of phased expansion areas.
- Once Expansion is complete, revised Building footprint shall be +143% of existing Building area.

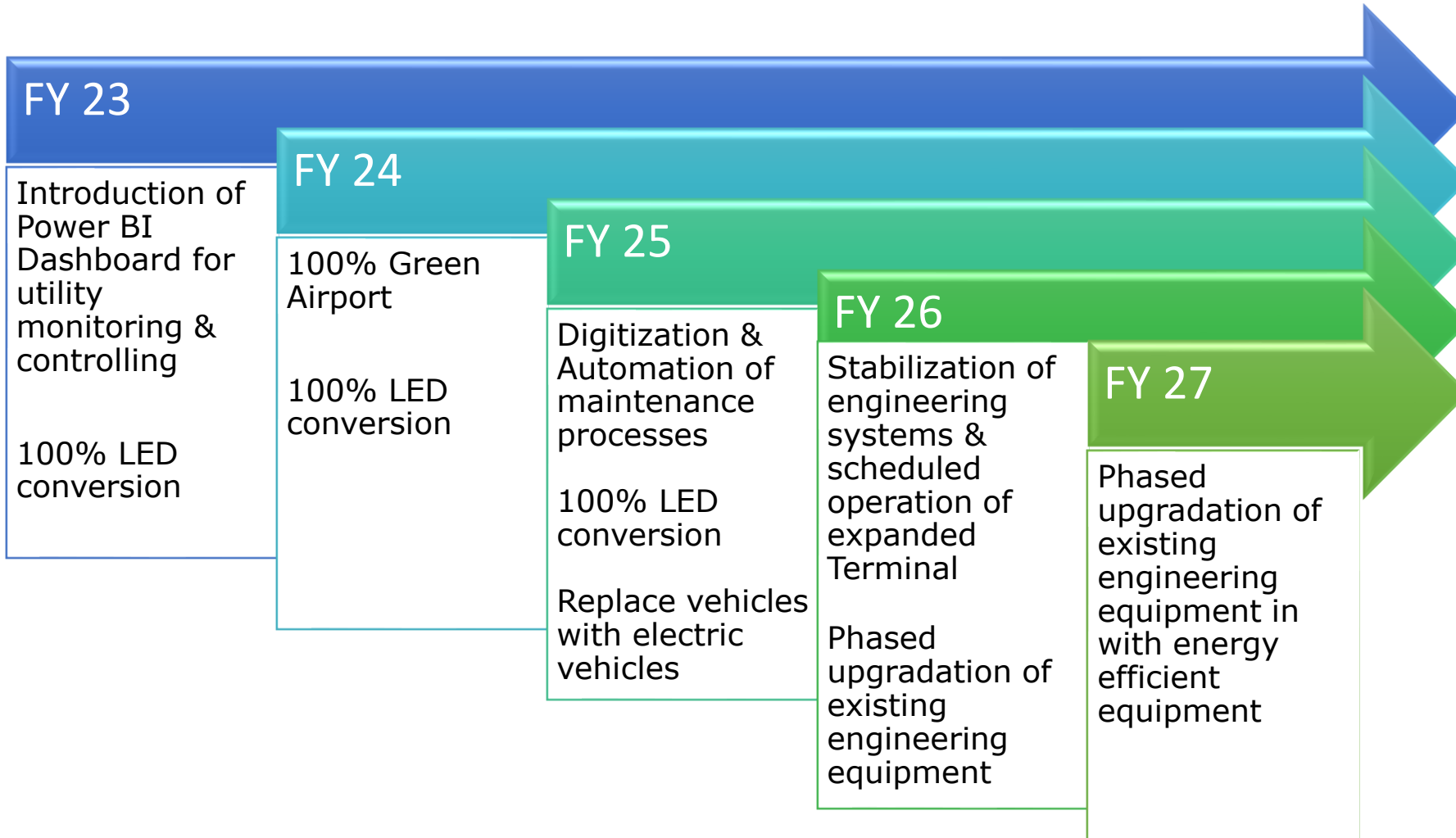
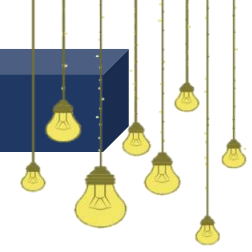


ECBC Certificate - Expansion

S No	Description of Feature	Existing Terminal Building	Expansion Terminal Building
1	Micro-Climate	Composite	Composite
2	Building Orientation	North-South	North-South
3	Shading Co-efficient of Glass	0.47	0.278
4	Visual Light Transmittance (VLT)	62%	38.8%
5	Energy Performance Index (EPI)		
A	Project Base case EPI (kWh/M ² /Year)	NA	342.36
B	Project Existing EPI (kWh/M ² /Year)	145.96	268.86
C	ECBC Rating	NA	★★★★



Roadmap for being Global Leader in Energy Efficiency



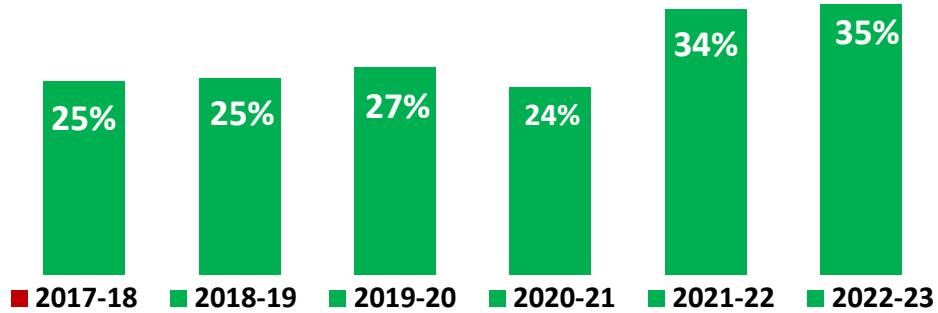
Global Leader in Energy Efficiency



Utilization of Renewable Energy Sources



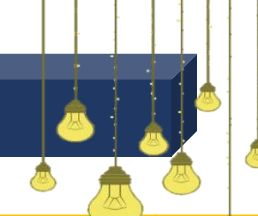
Solar contribution(%) in Net Consumption kWh



Technology	Type of Energy	Location	FY	Installed Capacity (MW)	Generation (million kWh)	% of overall electrical energy
Solar PV	Electrical	Onsite	2017-18	5 MW + 5 MW	7.02	25%
			2018-19	5 MW + 5 MW	6.99	25.3%
			2019-20	5 MW + 5 MW	7.31	27%
			2020-21	5 MW + 5 MW	6.02	24.3%
			2021-22	10 MW*	10.37	34.3%
			2022-23	10 MW	12.97	34.9%

* Commissioned in July 2021 after approval from relevant authorities

Key EnCon Projects in Past 3 Years

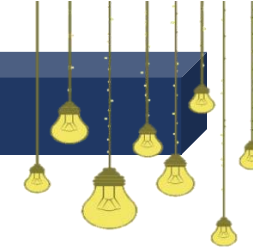


#	Few Energy Saving Projects Implemented	FY	Investment Million INR	Saving MU	Savings Million INR
1	Power optimization by Scheduled Operation of AHU & Lights	2020-21	0.0	2.82	20.59
2	Operation of New Energy Efficient Sewage Treatment Plant	2020-21	17.5	0.11	0.78
3	Secondary Runway AGL Upgradation & LED Conversion	2020-21	50.0	0.09	0.69
4	Cooling Tower Efficiency enhanced by Upgradation (Phase-I)	2020-21	2.45	0.05	0.35
5	Main Runway CAT-I to CAT-II upgradation with LED Upgradation	2021-22	50.00	0.19	1.36
6	Cooling Tower Efficiency enhanced by Upgradation (Phase-II)	2021-22	7.59	0.48*	3.51*
7	Upgradation of Pumping System	2021-22	3.43	0.23	1.68
8	Power Optimization by Scheduled Operation of AHU & Lights	2021-22	0.0	0.32	2.36
9	Low side HVAC Improvement works with the help of in-house team	2022-23	0.0	0.23	2.08
10	Upgradation of Chillers with Energy Efficient unit for Expansion	2022-23	60.00	0.54	4.83
11	Upgradation of Pumping system with Energy efficient Motors for Expansion Area	2022-23	1.75	0.42	3.74
12	Upgradation with LEDs at Expansion Area	2022-23	20.00	0.13	1.17
13	WTP Pump House -Raw to Domestic water filtration pumps upgradation	2022-23	0.00	0.05	0.48

Financial Year	Investment Million INR	Saving Million Unit	Savings Million INR	Payback (Months)
2020-21	73.2	3.14	22.95	38
2021-22	62.91	1.49	11.04	68
2022-23	86.69	1.52	13.51	77

* Typo error Corrected

EnCon Projects Implemented in FY2022-23



S No	EnCon Project Description	Energy Savings (Million kWh)	% Contribution in Overall Savings
1	Upgradation of Chillers with Energy Efficient unit (Expansion)	0.54	35.72
2	Upgradation of Pumping system with Energy efficient Motors (Expansion)	0.42	27.70
3	Low-side HVAC Improvement works (in-house)	0.23	15.37
4	Upgradation of LED lights in Airport Expansion Project	0.13	8.65
5	Replacement of Conventional fittings to LED at various locations (Departure & Airport village)	0.06	4.20
6	Upgradation of Water Filtration Pumps at WTP	0.05	3.56
7	Upgradation of Feed Pumps at STP	0.03	1.71
8	LED Conversion at Check IN hall & Departures	0.02	1.44
9	Energy & Domestic Water conservation at Township	0.02	1.42
10	Drain line modification at Gate 106	0.01	0.21
Total		1.52	100.00

FY23 Projected Energy Consumption: 272.22 Million kWh

FY23 Actual Energy Consumption: 270.70 Million kWh

1 Upgradation of Chillers with Energy Efficient unit for Expansion



Background:

- There are 7 Chillers in existing Terminal Building. To cater to additional load of expansion areas, 6 new Chillers were required to be installed.



Execution:

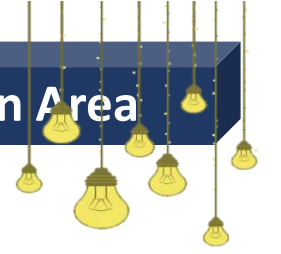
- Coordinated with Design team during Project Inception to explore & install high Energy efficient Chillers for Expansion areas.



Savings:

- Energy Savings: 0.54 MU/Annum
- Replication Potential: Yes
- Percentage of overall Savings- 35.72 %



**Background:**

- To cater to the enhanced operations of Expansion areas in Terminal, new pumping systems were required to be installed.

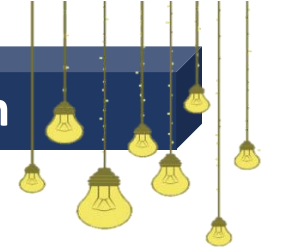
**Execution:**

- Coordinated with Design team at Project inception for installation of energy efficient pumping system.
- The Efficiency of new pumping system is 95.40%, compared to existing pumping systems' 83.3%.

**Savings:**

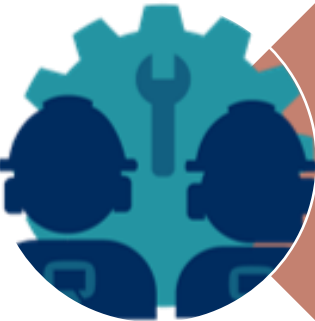
- Energy Savings: 0.42 MU/Annum
- Replication Potential: Yes
- Percentage of Overall Savings: 27.70%





Background

HVAC is one of the largest & important system which is the biggest power consumer at the airport terminal. To further optimize the HVAC system, we have carried out various refurbishment to the AHUs (Low-side).



Project Executed

- Refurbished the AHUs (attended Air & Water leakages, rectification of distorted Body parts
- Condition-based Monitoring to improve all relevant parameters (Low-side).

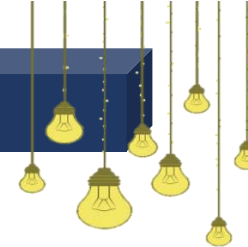


Savings:

- Energy Savings: of 0.23 MU/Annum
- Replication Potential - Yes
- Percentage of overall Savings- 15.37 %



Category	AHU (No's)	Remarks
Class A	61	
Class B	34	Taken up FY 23
Class C	8	Completed in FY 22
Total	103	



Towards 100% LED Conversion

- Coordinated with Design team during Project Inception stage to Install LED lights in Expansion area, along with Light Dimming system through LMS (Lighting Management System),
- Around 461 Nos of 85W LED fixtures installed in place of 150W conventional type.



Savings

- Energy Savings: 0.13 MU/Annum
- Replication Potential: With this project completion, all lights in expansion area are LED.
- % Percentage of overall Savings: 8.65%



Before



After



5 & 8

LED Conversion at Airport Village, Departure Entries, Level E Arrivals, Check-In hall & Departures



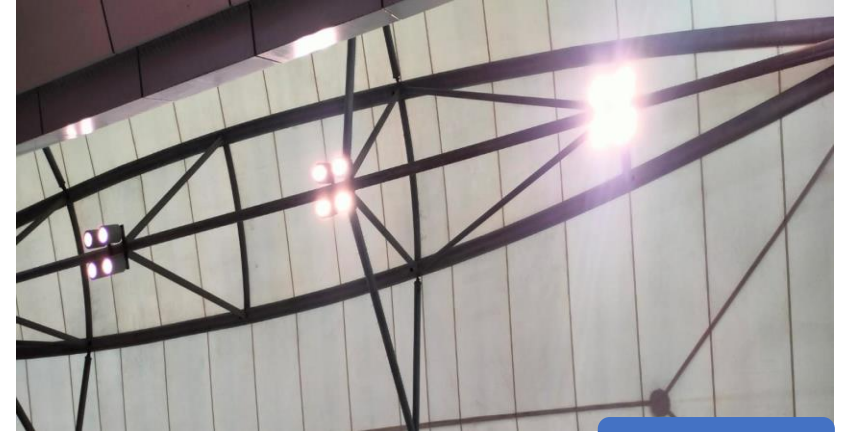
Towards 100% LED Conversion

	Existing (Conventional)		Replaced with LED	
	Qty	Watt	Qty	Watt
Airport Village	11	600	2	150
			6	11
Dep Entries	8	300	8	150
Level E Arrival	200	56	200	40
Check-In hall & Dep	100	200	100	150



Savings

- Energy Savings: 0.08 MU/Annum
- Replication Potential: Yes
- Percentage of overall Savings : 5.64%

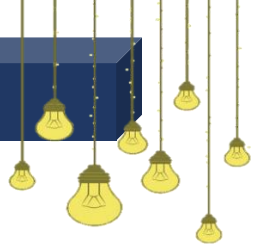


Before



After

*There was no impact on Lux levels and Illumination



Background:

- The Domestic Water Filtration System in WTP, comprises of 2 conventional pumps.
- These pumps were delivering domestic water at 100 KL/Hr.



Project:

- To optimize the energy consumption at WTP, these Filtration Pumps were replaced with a single pump of similar flow rate/capacity.
- This single pump operation has sufficed the requirement of flow rate of 100KL/Hr.



Savings:

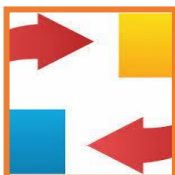
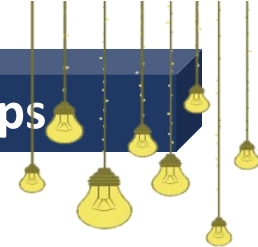
- Energy Savings: 0.05 MU/Annum
- Replication Potential: Yes
- Percentage of Savings- 3.56%



Before



After



STP 1 & 2 Feed pumps replacement

- In STP, conventional Feed pumps (5.5 kW) are installed.
- Due to continuous operation & general wear & tear, the pumps were not operating at design efficiency.
- These feed pumps were replaced with energy efficient of lower power rating (3.7kW).

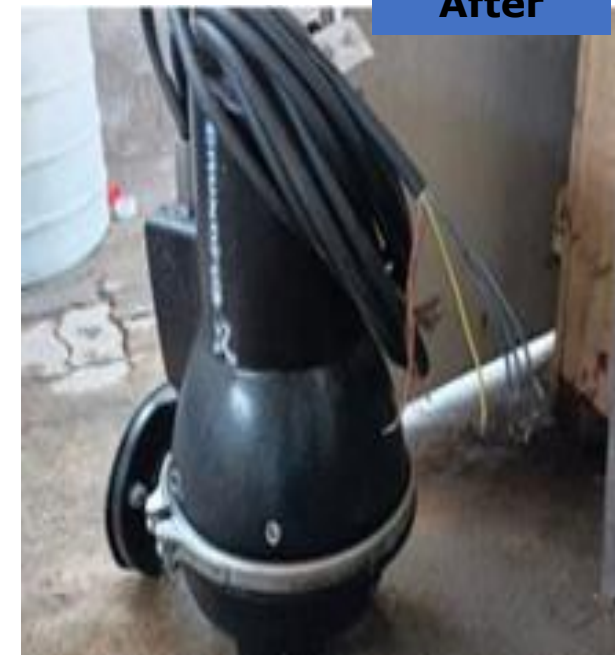


Savings:

- **Energy Savings:** 0.03 MU/Annum
- **Replication Potential:** Yes
- **Percentage of Overall Savings:** 1.71%



Before



After

Background:

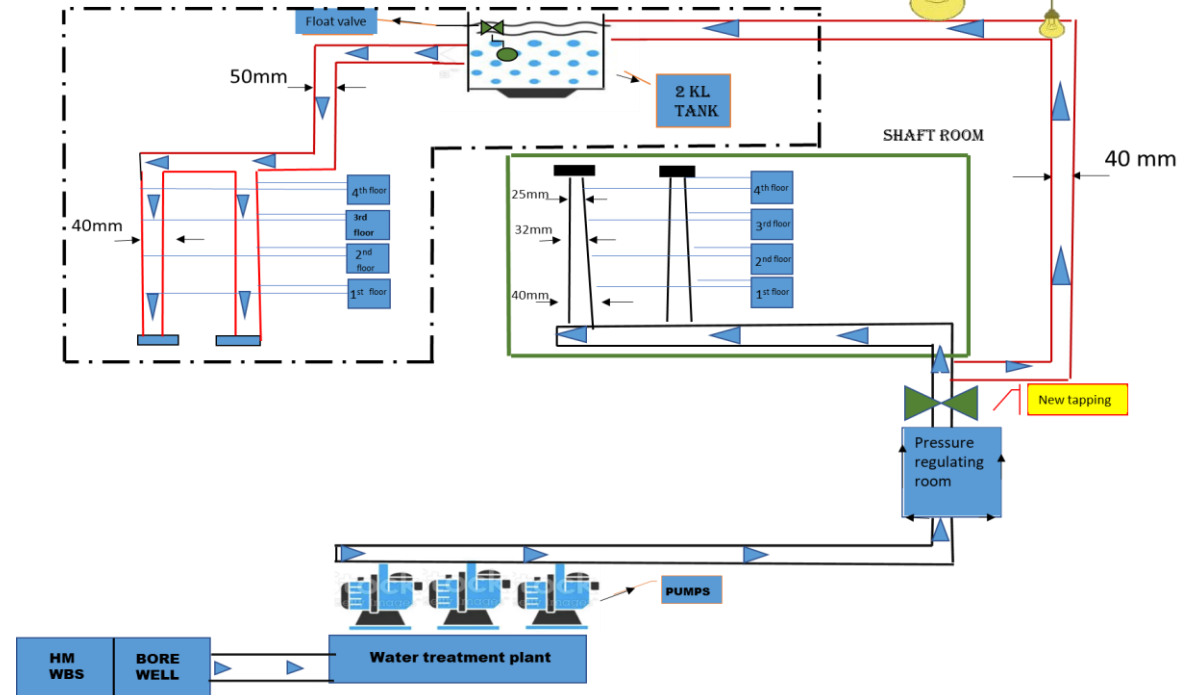
- At GMR Township, domestic water is being supplied with pressurized pump station with 3.7 KW rated pumps for ~20 Hrs.
- Average consumption was 170 KL -180 KL/day.

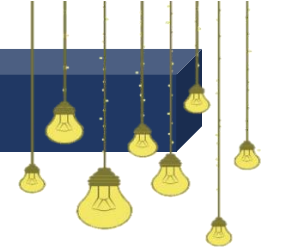
Execution:

- To Conserve Water & Energy , Installed total 29 no's of overhead tanks in all residential buildings with the capacity of 2 KL.~4 Hrs./day operation to serve the domestic water supply suffice the requirement.
- With pumping operations for ~4 Hrs./day, to serve the domestic water requirement.
- Provided 40 mm float valves in each overhead tank to control tank overflow.


Savings:

- Energy Savings: 0.02 MU/Annum
- Replication Potential: No
- Percentage of overall savings: 1.42%






Problem:




- Existing washroom drain was temporarily connected to an underground syntax chamber, where sewage sludge would need to be pumped to the existing sewage network.
- The manual pumping of sewage was causing foul smell & inconvenience to the Pax movement while using Gate 106.

Solution:



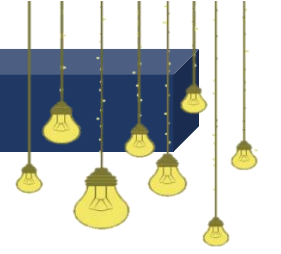
- Constructed new manhole chamber and modified the existing drain line network to accommodate new gravity-flow drain line for Gate 106 washroom without impacting operations with in-house team.

Savings:

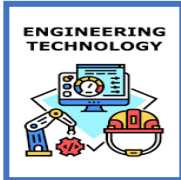


- Energy Savings : 0.01 MU/Annum
- Replication Potential: No
- Percentage of overall Savings: 0.21%





Upgradation of UPS:



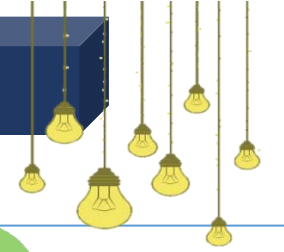
- Upgraded 200KVA UPS (2 No's from conventional type(90% efficiency) to Modular type (95% efficiency).
- In FY22, 4 No's were upgraded.



Savings:

- Energy Savings: 4.2 Lakhs Unit/Annum
- Replication Potential: Yes





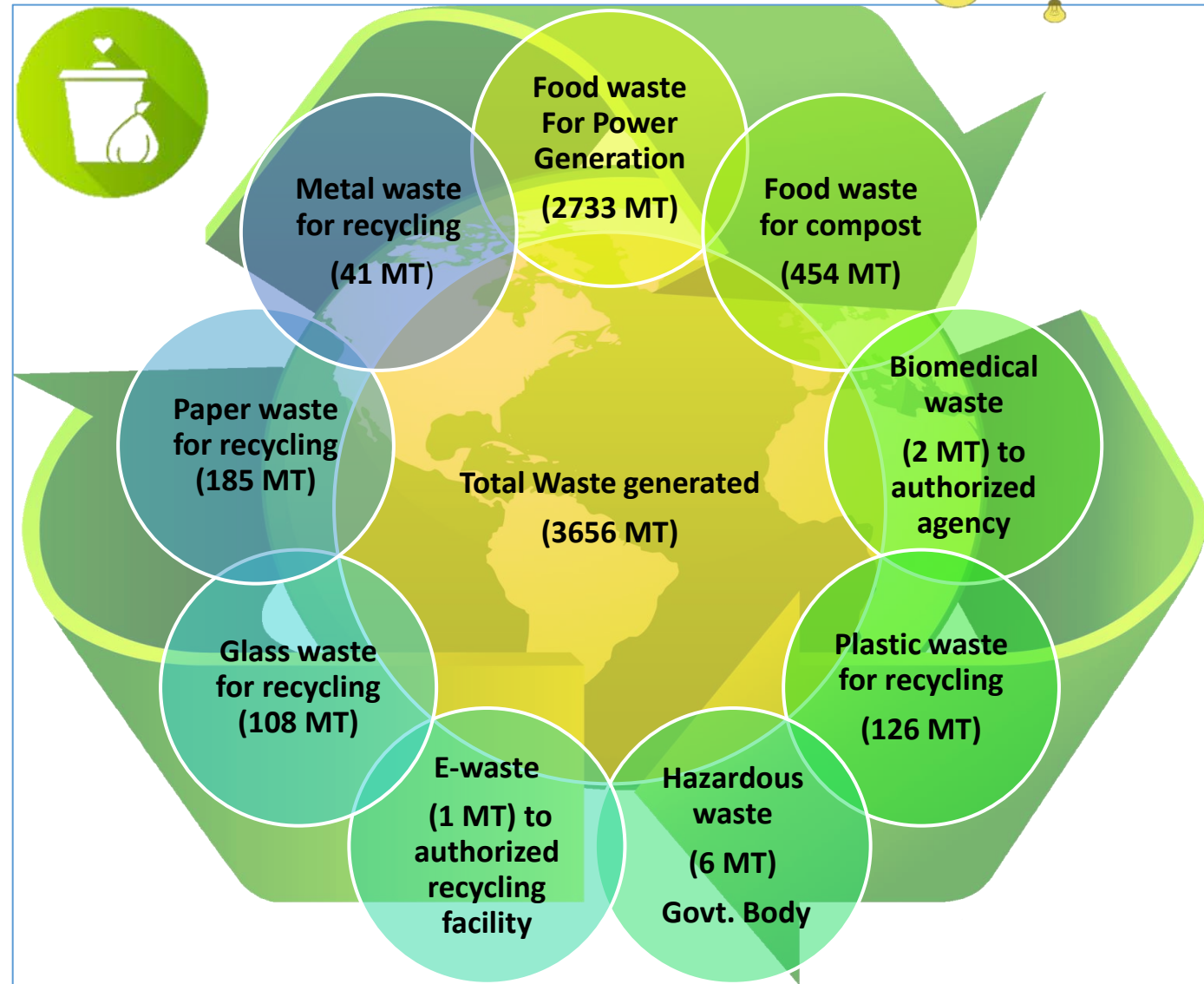
TSPCB Certified Vendors



M

Mistry Petroleum Products

📍 Medak, Telangana, India



TITLE

Project Title: Enhancement of Airfield Light fixtures serviceability



Background: To accommodate enhanced operations/substantially increased Air traffic additional new taxiways and stands were operationalized & Entire AGL System was upgraded to 100% LED.



Problem Faced: We observed that few of the LED lights were failing, due to moisture inside the light fixtures.



Innovative Solution: The team came up with an indigenous solution to identify faulty fixtures. Subsequently, faulty fixtures were repaired & system availability improved.



FAS SYSTEM

FAS SYSTEM



Problem:

- Due to continuous operations and ageing of conventional equipment, various electronic equipment like PCB's are failing, Which are difficult to source in market.



Innovative solution:

- we explored various methods to indigenously repair these circuit boards in-house.



Project Title:

- EV charging stations at Various locations



Background:

- GHIAL is promoting the benefits of EV vehicles to all its stakeholders & taking necessary initiatives for transitioning towards EV vehicle operations (like passenger coaches, baggage trolleys, staff movement vehicles etc.),



Execution:

- GHIAL installed EV Charging stations at various locations of the airport for its visitors, passengers & staff,
 - Car Park – 4 No's x 30 kW,
 - Public Transport Complex – 4 No's x 30 kW,
 - Airside – 4 No's x 240 kW,
 - Site Office – 6 No's x 7.5 kW,
 - Some more EV charging stations are in development.
- Liaising with State Govt. officials to arrange EV bus operations to & from airport





Project:

City-side Check-In Facility (before entering Terminal Building)



Project Brief:

GHIAL introduced the Self-Baggage Drop facility at city side for remote check in near PTB Car park to enhance passenger experience & provide a service at par with other world class airports.

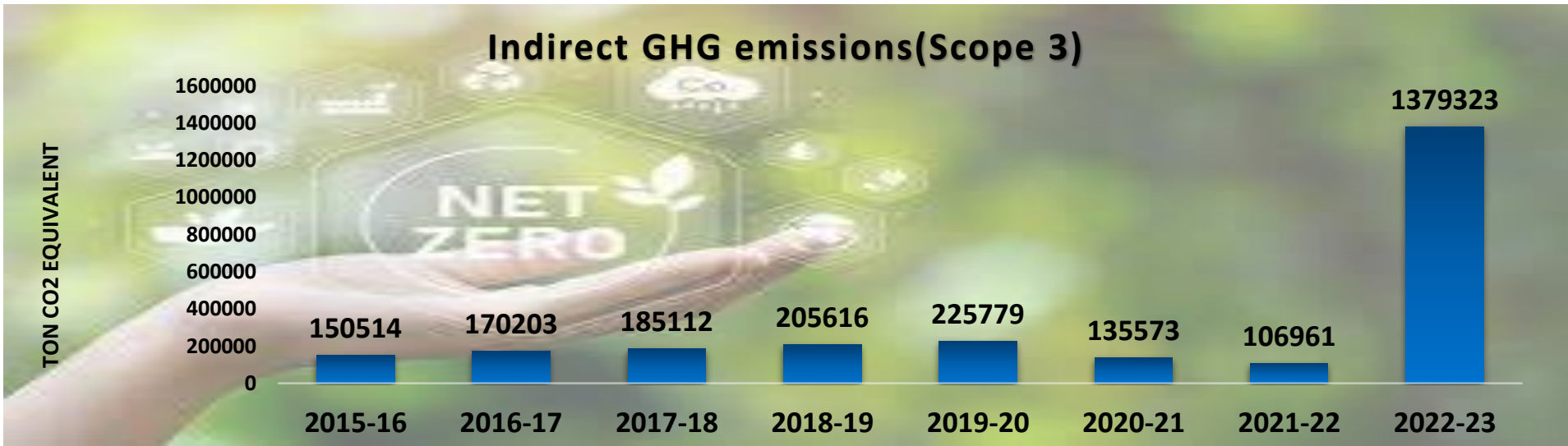
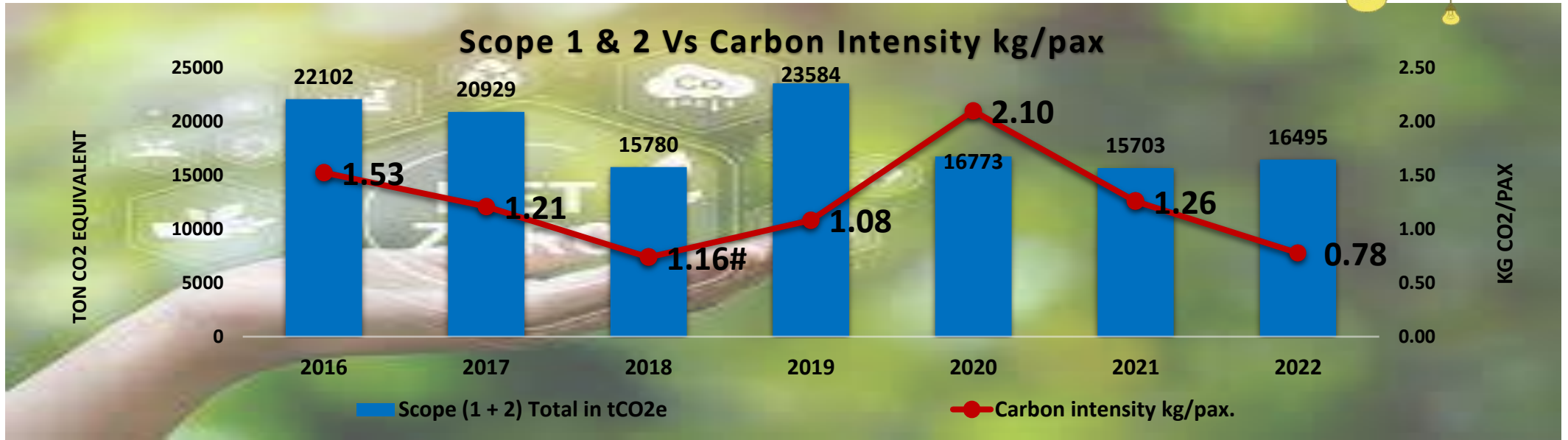


Benefits:

- It reduces the check-in time and queuing and
- It allows passengers to shop & dine at available facilities without the burden of carrying their luggage

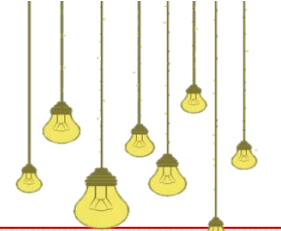


GHG Emissions



typo error Corrected

GHG emissions for 22-23 was prepared as per the ACA Level 4+ requirements



Bureau Veritas Certification

GMR HYDERABAD INTERNATIONAL AIRPORT LIMITED

GMR Aero Tower, Rajiv Gandhi International Airport, Shamshabad, Hyderabad 500 108, Telangana, India.

Bureau Veritas Certification Holding SAS – UK Branch certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the Management System Standard detailed below.

Standard

ISO 50001:2018

Scope of certification

Operation and Maintenance of Passenger Terminal Building, Air Side & Land Side Facilities

Original cycle start date: 20 August 2017
 Recertification cycle start date: 11 August 2023
 Subject to the continued satisfactory operation of the organisation's Management System, this certificate is valid until: 19 August 2026
 Certificate No. IND.23.7595/ENU Version: 1 Issue date: 11 August 2023

For certificate authenticity, click here <https://certcheck.ukas.com/>

Signed on behalf of BVCH SAS UK Branch
Jagdish N. MANIAN
 Director – CERTIFICATION, South Asia
 Commodities, Industry & Facilities Division

Local office: Bureau Veritas (India) Private Limited (Certification Business)
 72 Business Park, MIDC Industrial Area, MIDC Cross Road 101,
 Andheri (East), Mumbai – 400 063, India.

Further certifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organisation.
 To check the certificate validity please call + 91 22 9274 2000.

Energy management System Certified by BVI

CERTIFICATE of ACCREDITATION

6 December 2019 - 5 December 2023

This is to certify that Airport Carbon Accreditation, under the administration of WSP, confirms that the carbon management processes at

RAJIV GANDHI INTERNATIONAL AIRPORT

implemented by GMR Hyderabad International Airport Ltd.

have earned the accreditation level of **NEUTRALITY**, in recognition of the airport's exceptional work in managing, reducing and compensating all of the CO₂ emissions under its control, as part of the Global airport industry's response to the challenge of Climate Change.

www.airportcc32.org

Malvina Harcourt
 Director General
 ACT Asia Pacific

Simon Clouston
 Director
 WSP

Certificate of Accreditation

ऊर्जा दक्षता ब्यूरो
 (भारत सरकार, विद्युत मंत्रालय)
BUREAU OF ENERGY EFFICIENCY
 (Government of India, Ministry of Power)

150 YEARS OF CELEBRATING THE MAHATMA

F.No. BEE/PAT/Buildings/Airport/2019-20/10475

2nd January, 2020

Ms. Rubina Ali,
 Joint Secretary,
 Ministry of Civil Aviation,
 Rajiv Gandhi Bhawan, Block B, Safdarjung Airport Area,
 New Delhi – 110003
 Ph: 011-24628012

Subject: Inclusion of Airport sector under PAT Scheme.

Dear Madam,

This is with reference to the meeting held in your office on 18th December, 2019 regarding implementation of PAT Scheme. As per the discussion, we are enclosing the Energy Performa for the Airport sector to capture all energy consumption data for the Airport.

This performa may be sent to all the Airports and they would be requested to fill the performa and submit to BEE office within 15 days. They may also be requested that the officials from BEE will contact them for their support in data collection and implementation of the Scheme.

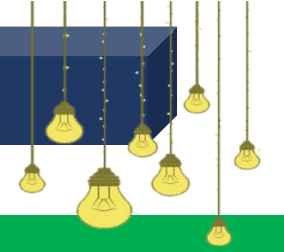
After receipt of requisite data Technical Committee Meeting may be held in your chairmanship.

This comes with the approval of DG, BEE.

Yours sincerely,

 (Sarabh Dixit)
 Director

BEE PAT Scheme



ENVIRONMENTAL & SUSTAINABILITY POLICY

We, at GMR Hyderabad International Airport Limited (GHIAL), consider that environmental protection and sustainability are integral part of our business, and are committed to conducting the operations at Rajiv Gandhi International Airport (RGIA) in an environment-friendly and sustainable manner, in line with our Vision, Mission, Values & Beliefs and Corporate Policies. As part of this commitment we will strive to conserve the environment and achieve sustainability by:

- Managing environmental aspects of the airport through identification, impact evaluation and providing suitable control measures
- Ensuring compliance to applicable environmental statutory requirements
- Preventing pollution and maintain optimum levels of ambient noise and local air quality by adopting eco-friendly technology, infrastructure and practices in collaboration with the stakeholders
- Conserving natural resources by inculcating the culture of reduce, recycle & reuse. Promoting green economy through green supply chain . in particular, use of sustainable resources, and eco-friendly products by partnering with local communities
- Formulating long term absolute greenhouse gas emissions reduction target for achieving net zero carbon emissions through sustainable airport operations - green buildings, energy conservation by efficient devices and practices, and opting for renewable energy & alternative fuels by partnering with the relevant stakeholders.
- Maintaining clean and green airport eco-system through greenery, clean fuel, life cycle assessment of materials, efficient waste management practices, and stringent monitoring of environmental quality parameters
- Inculcating sustainable environment stewardship among the airport community and other stakeholders through trainings and awareness programmes
- Setting environmental objectives to achieve continual improvement in the airport's environmental performance and the overall environmental management system
- Reporting on our environmental performance and initiatives taken to achieve sustainable development

We will communicate this Policy to all persons working for and on behalf of the organization. The Policy will be reviewed periodically in line with the emerging requirements and practices.

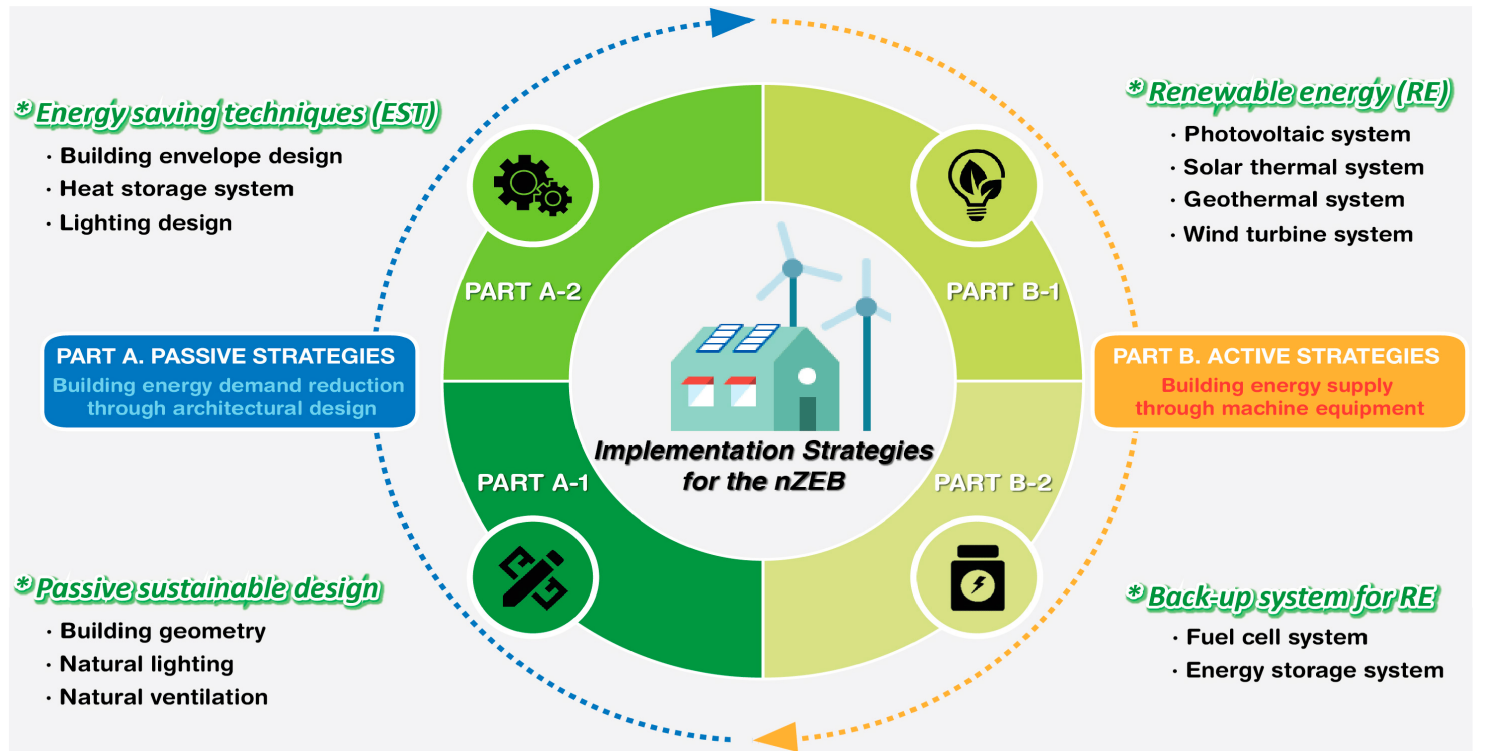
Amrinder Singh
Date: 1st January, 2021
Chief Operating Officer

Pradeep Pannik
Chief Executive Officer

Version - 4

GHIAL aspires to achieve

Net Zero carbon emission through sustainable airport operations by opting for renewal energy & alternative fuels by partnering with stakeholders. GHIAL Achieved 100% Green Power in Jun'2023.





You are cordially invited for the
**Energy Conservation
Reward & Recognition**
December 2022

Venue: Old Site Office – Auditorium,
Opp. GMR Aero Towers,
Hyderabad International Airport, Shamshabad

Date: Friday, 16th December 2022

Timing: 10:30 AM – 12:00 noon

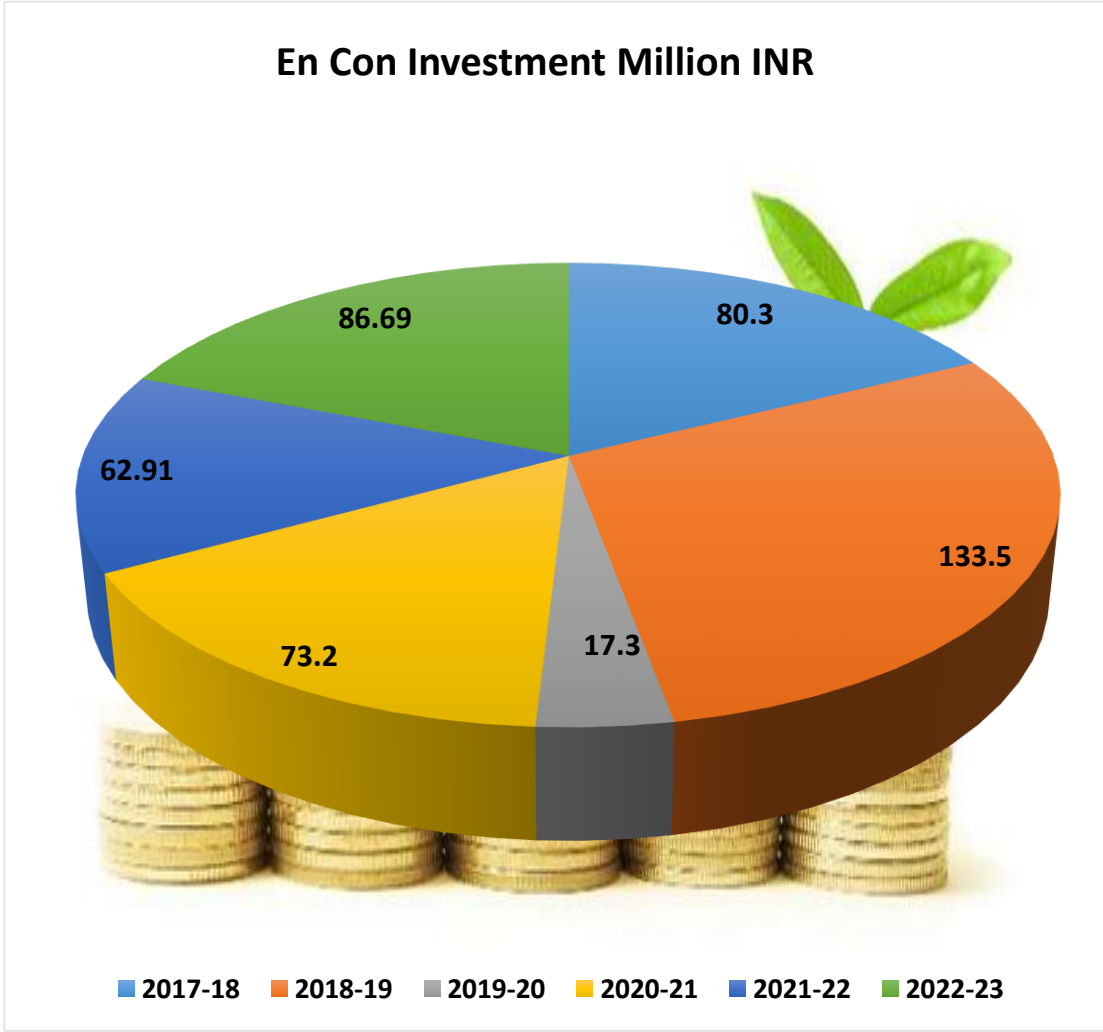


We have Conducted Energy Management System Awareness Training across the GHIAL Staff covering various departments & Stakeholders listed below:

- Engineering & Technical Services
- Procurement
- CFL-FMS Service Provider
- AOCC
- Projects Expansion
- Ground Transport Dept.
- Business Development (Non-Aero)
- Security
- External Stakeholder
 - Beumer (BHS)
 - AMA (AGL)
 - Faber Sindoori (MEP ALS & PTB)
 - ADB Safe Gate (AGL)



EnCon Team, Monitoring & Budget





Daily Energy Monitoring Report Chaired by EVP

Rajiv Gandhi International Airport, Shamshabad, Hyderabad		
Daily O&M Report		
Report Date & Time: 0000 to 2359Hrs	Thursday, 10 August, 2023	
Day Shift :-	Sankar, Suneel & Ankit	
Night Shift :-	Gopi Kumar, Satish & Saravanan	
HVAC		Electrical
Chiller Load (TR)	33060.00	Total Consumption KWh(220KV+Solar Generation)
Decoupler Flow (M ³ /Hr.)	79.60	Total Consumption KWh (220 KV SS)
Chilled Water dt (Deg C)	3.69	Solar Generation (MWh)
Condenser Water dt (Deg C)	6.43	Solar Net Export (MWh)
Average Ambient temperature (deg C)	27.79	Gross Consumption PTB(kWh)
Max. Ambient Temp (Deg C)	32.64	Gross Consumption ALS (kWh)
Water Consumption (Cooling Tower PTB) KL	211.40	Maximum Demand (MVA)
R.Humidity	75.53%	Commercial KVAH
Serviceability Chiller (Number)	7/7	Commercial MD(MVA)
Serviceability AHU (Number)	103/103	Industrial KVAH
CPM (Chiller Plant Manager) Status	OK	Industrial MD(MVA)
IKW-PTB (Ind Secondary)	0.69	Power Consumed by NOB Chillers kWh
IIDT Chiller Load (TR)	0.00	Power Consumed by PSOB Chillers kWh
IKW -IIDT	0.00	DG Yard - Status (Ok/Not Ok)
NOB Chiller Load (TR)	2756.90	Serviceability of BMS (Ok/Not Ok)
IKW-NOB	0.69	Pax Area Lighting Number - Fittings (W /NW)
PSOB Chiller Load (TR)	1165.63	
IKW-PSOB	0.68	
B/D of equipment (hrs.)	0.00	
Chiller Running Hrs	57.8	

Dashboard for AMR Water Meters & IoT based Road Lighting System

Sewage Inflow			
STP		Initial Reading	Final Reading
STP-1 Input	M1	0	0
STP-2 Input	M2	0	0
Total STP Inflow	M1+M2	0	0

Treated Water Output			
STP		Initial Reading	Final Reading
STP-1 Output	M3	0	0
STP-2 Output	M4	0	0
Total STP Output	M3+M4	0	0

STP Efficiency	
Details	Efficiency (%)
STP-1 In-Out Difference	M1-M3
STP-2 In-Out Difference	M2-M4
Difference of Inlet-Outlet	(M1+M2)-(M3+M4)

Flushing Water	
Details	Consumption (KL)
Total Treated Water Generation	M3+M4
Gross Flushing Water Consumption	M8+M9
Difference of Generation-Consumption	(M3+M4)-(M8+M9)

Flushing Water Line-1	
Details	Consumption (KL)
Flushing Line 1 Consumption	
Total Sub-Consumption to Flushing Line	Cluster 6
Difference of Line 1 to Sub-Consumption	INLET
	OUTLET
	INLET-OUTLET

Flushing Water Line-2	
Details	Consumption (KL)
Flushing Line 2 Consumption	
Total Sub-Consumption to Flushing Line	Cluster 7
Difference of Line 2 to Sub-Consumption	INLET
	OUTLET
	INLET-OUTLET

The dashboard displays a GIS map of the Shamshabad area with various locations marked by colored dots representing device status: Online Phase On (green), Online Phase Off (blue), Faulty (red), Recent Offline (grey), and Offline (purple). Key locations include Kurmalguda, Mamidpally, Basaguda Thanda, and Sreenagar. The map also shows major roads like Nehru Outer Ring Rd and landmarks like Gandiguda and Chinna Goponda.

Chiller Plant Daily MIS Report

CHILLER PLANT DAILY MIS REPORT				
Temperatures		Summary		
	Max. Min. Avg.	Average REA %:	93.61	
DBT (Ambient)	28.57 25.67 25.58	Total Tonnage (TR):	37820.00	
WBT	17.84 16.79 17.21	Total Consumption of Chiller plant (KW):	27947.20	
Rh %	94.84 71.62 82.77	SEC (KWH/TR):	0.61	
Condenser Outlet	37.89 34.34 36.89	COP of the plant:	6.3	
Condense Inlet	29.97 28.29 29.17			
Chiller Header Inlet	11.43 9.66 10.51			
Chiller Header Outlet	8.41 5.83 7.12			
Run Hours		Availability (%)		
Chillers	99.9	Chillers	100.00	
Condenser Pumps	61.8	Condenser Pumps	97.14	
Primary pumps	60.9	Primary pumps	71.43	
Secondary pumps	72.0	Secondary Pumps	100.00	
Cooling Towers	51.2	Cooling Towers	69.44	
Energy Consumption (KWh)		Water Consumption (KL)		
Chillers(KWH)	24666.00	CT Makeup Water Consumption (KL)	206.1	
Condenser Pump(KVAH)	2551.83			
Primary pumps (KVAH)	1295.24			
Secondary Pump (KVAH)	1482.53			
Cooling Towers (KVAH)	1943.58			

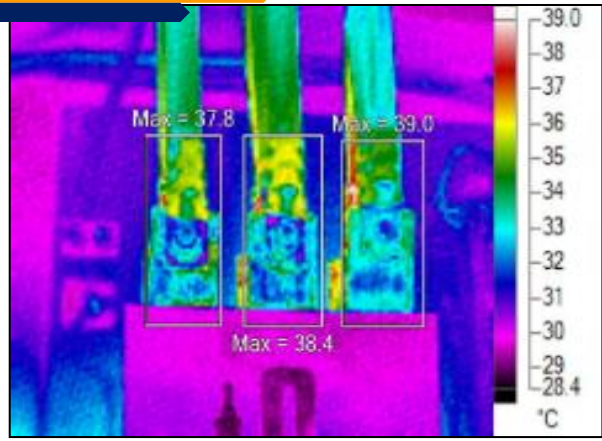
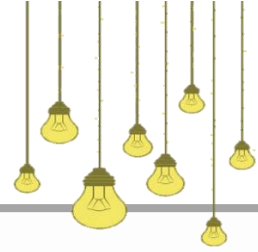
Chiller Plant Manager

The screenshot shows the Chiller Plant Manager interface with a complex schematic diagram of the plant. It includes various components like chillers, pumps, and piping, with real-time data points and status indicators for each element.

Power Consumption Analysis with and Same day last year

Energy Consumption Report (Including Concessionaries)																						
09-Aug-2023																						
Consumption on date	TXF-1	TXF-2	TXF-3	TXF-4	TXF-5	TXF-6	TXF-7	TXF-8	TXF-9	TXF-10	TXF-11	TXF-12	Total	Chiller & Asso. equipment Consumption	PTB Chiller Running Hours	Max Temp °C	Min Temp °C	IIDT	IDAT	PAX	KPI (kWh/ PAX)	
Consumption on 08-08-2023	11000	14298	8748	11864	7840	10004	6564	6616	9292	3571	0	1701	91498	27894	52:50:00	31	23	2750	0	55,977	1.63	
Consumption on 09-08-2023	10400	17096	8772	12456	7948	10364	6876	6524	9496	3683	0	1480	95095	28167	60:10:00	31	23	2719	0	61,950	1.54	
Difference Comparison with previous day			2,222	592	108	360	312	(92)	204			112	(221)	3,597	273	07:20:00	0	0	(31)	-	5,973	(0.10)
Consumption on 09-08-2022	9406	5289	16942	11973	8476	10351	5032	6932	8620	118	6553	2811	92503	24180	55:30:00	27	22	8132	1332	58054	1.59	
Difference Comparison with 2022 year			4,631	483	(528)	13	1,844	(408)	876		(2,988)	(1,331)	2,592	3,987	4:40:00	4	1	(5,413)	(1,332)	3,896	(0.06)	

Energy Monitoring –Best Practices



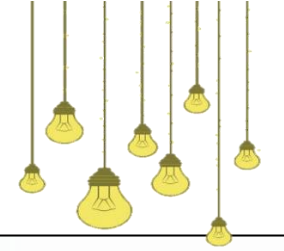
Thermography for Electric Panels (Replicated from AGL maintenance best practices)

Status	Unit Name	Mode	Cumulative Balance	Last Bill	Last Payment	Last Payment At	View
✓	W Shop (F-LV-DoM)	Prepaid	₹ 15729.81	₹ 103,846.05			👁
✓	(Espress Coffee)KBL Enterprises (Dom.)	Prepaid	₹ 15879.67	₹ 264,560.25			👁
⊗	AI Sats RestRoom (LVL-C)	Postpaid	₹ 0				👁

Prepaid Energy Meter Dashboard

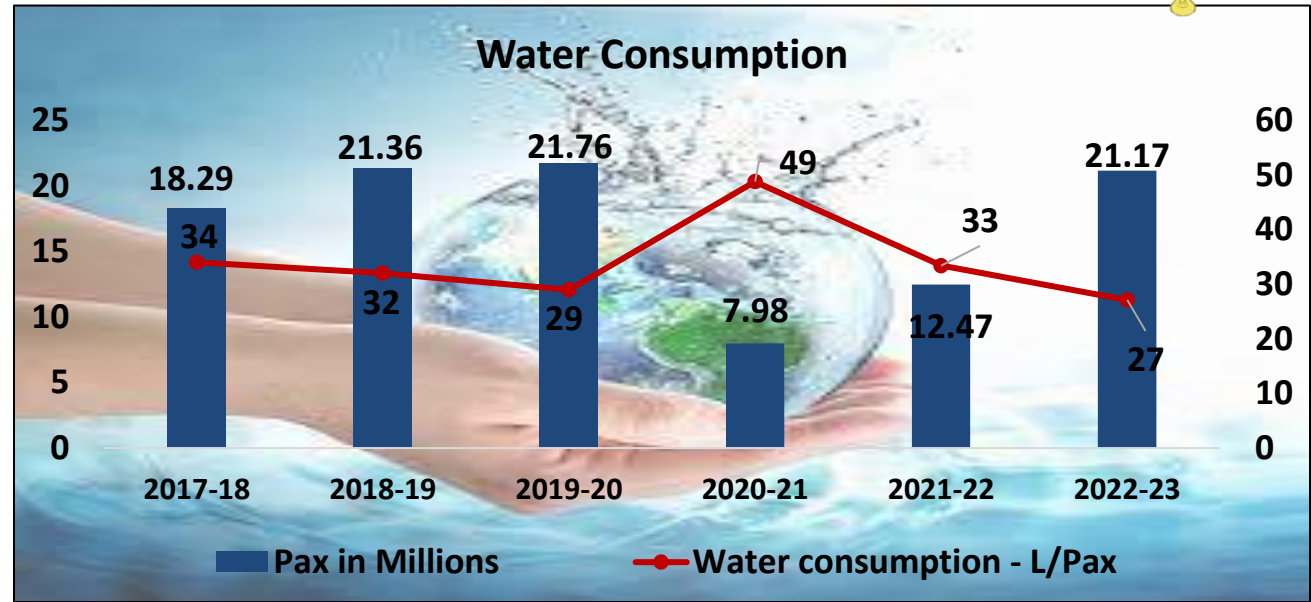


Water - Net Consumption



Key Water Conservation Initiatives:

- Water Balancing Analysis & Pressure Control
- Recharge of Open Wells & Bore wells
- Topographical Study of Airport Land to create reservoirs for rainwater usage
- Cloud based Automatic Irrigation System
- Natural Coagulant – Enhanced STP throughput by 30%
- Water efficient appliances & equipment
- Creating awareness among the Airport Community
- Wastewater reuse & recycling (STP 2*925KLD+1*1325KLD)
- Rainwater runoff use
- Push-type taps with aerators installed
- Less water consuming plantation in Landscape Area

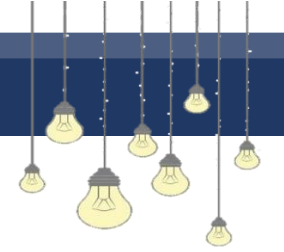


Based on entire campus hydrological study, GHIAL has developed 4 storm water reservoirs at strategic locations capable to store 10 Lakh KL water, spread over 127 acres, for domestic use & ground water table recharge.

At CII National Award Ceremony for ‘Excellence in Energy Management”, GHIAL has previously won

- **National Energy Leader** for the 4th consecutive time (2019, 2020, 2021 & 2022)
- **Excellent Energy Efficient Unit** for the 8th time (2014, 2015, 2017, 2018, 2019, 2020, 2021 & 2022)





At the Telangana State Energy Conservation Awards, GHIAL clinched

The “Gold Award” in 2020,
The “Excellence Award” in 2021,
The “Special Award” in 2022.



GMR-led Hyderabad International Airport Limited (GHIAL) clinched the prestigious “Certificate of Merit” at BEE’s National Energy Conservation Awards (NECA) 2021.

GHIAL Bagged

- 1 Super Challenger Award
- 2 Star Challenger Awards
- 2 Jury Challenger Awards
- Jury Champion Award



Awards & Accolades



GHIAL has won the ACI Green Airports Gold Recognition 2023, in the 15-35 MPPA category in the Asia – Pacific region for its '**Single-Use Plastic Elimination**' process. Starting from 2018, this is the 6th consecutive year that GHIAL has won this award.



GHIAL named as the “**Best Regional Airport in India & South Asia**” at the 2023 Skytrax World Airport Awards.

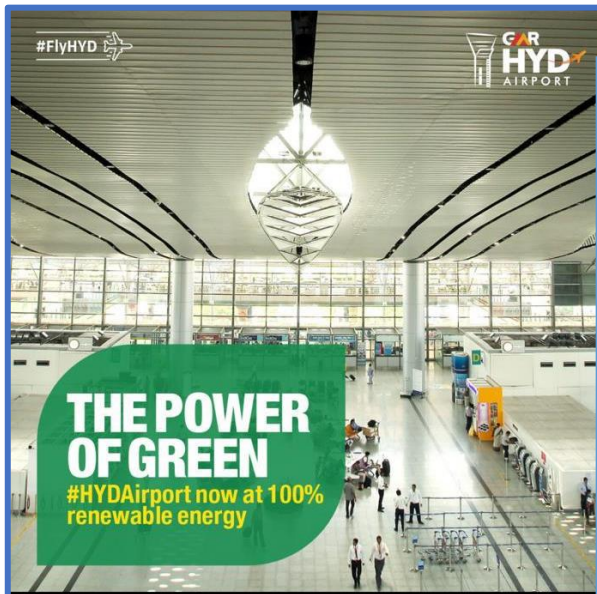
GHIAL wins the prestigious ‘**ACI Worlds - ASQ Best Airport Award 2022** for outstanding Pax Experience’ in 15-25 Million Pax/Annum (MPPA) category.



International Best Practice Competition, 2023
 GHIAL clinched the 6 star rating for “Eliminate unsafe incident during PBB wheel negative angle movement” 4 star rating for “Water depth measurement on RWY - GRF Tool”



GHIAL has won Third Position under the Category Infrastructure & Construction under **18th National Awards for Excellence in Cost Management-2022** announced by The Institute of Cost Accountants of India.



It is Green all the Way for GMR Hyderabad Airport Now fully powered 100% by Green Energy

Taking a leap towards sustainability, GHIAL announced its transition to 100% sustainable green energy for its energy consumption at the airport and across its ecosystem. Hyderabad Airport, in partnership with Telangana State Southern Power Distribution Company Limited, TSSPDCL will revolutionise its operation by harnessing the power of green energy through a combination of its own 10MWp solar power plant and green energy supplied by TSSPDCL.

The airport by integrating green energy into its operation and infrastructure will reduce its carbon footprint by approx. 9300 tons of carbon dioxide annually.

Awards, Accolades and Certifications



GMR Group level Competition in 2022

CIP Group award at Business Excellence event 1st prize award in “recurring cost saving.”

CIP Group award at Business Excellence event 3rd prize award for Best “5S Zone” – Workplace management Project.

CIP Group award at Business Excellence event 2nd prize award in “Dare to try” category.



Certifications

- EnMS – ISO 50001: 2018
- GHG - ISO 14064: 2006
- QMS - ISO 9001: 2015
- EMS - ISO 14001: 2015
- OHSAS – ISO 450001: 2018
- CRM - ISO 10002: 2018
- ISMS - ISO 27001: 2013
- ITSM - ISO 20001: 2018
- LEED Certification- “Silver Rating”
- Airport Carbon Accreditation – Level 3+ Neutrality
- British Safety Council-5 star



Young & Emerging Leader Award 2022

Rise high Awards 2023 finalist – GMR Township

శంషాబాద్ విమానాశ్రయానికి రెండు జాతీయ పురస్కారాలు

శంషాబాద్, న్యూఢిల్లీ: శంషాబాద్ రాజీవ్ గాంధీ అంతర్జాతీయ విమానాశ్రయం సిగల్లో మరో రెండు జాతీయ పురస్కారాలు చేరాయని సోమవారం జీహెచ్ఐఎఎల్ అధికారులు ఓ ప్రకటనలో తెలిపారు. కాన్సెప్షన్ అవార్డ్ ఇండియన్ ఇండస్ట్రీ గోడ్రెజ్ గ్రీన్ బిజినెస్ సంస్థల ప్రతినిధులు సంయుక్తంగా విమానాశ్రయాలు కల్పన ఉద్ధారాల నివారణ కోసం ఆచరించిన వారిని సత్కరిస్తూ వివిధ విధానాలను త్రైత స్థాయిలో పరిశీలించారు.



పురస్కారాలు అందుకున్న జీహెచ్ఐఎఎల్ అధికారులు

వారు. ఇటీవల నిర్వహించిన ఎనర్జీ ఎఫిషియెన్సీ సమ్మిట్ 21వ ఎడిషన్లో శంషాబాద్ విమానాశ్రయం నేషనల్ ఎనర్జీ లీడర్, ఎక్సలెంట్ ఎనర్జీ ఎఫిషియెంట్ యూనిట్ 2022 జాతీయ అవార్డులు గెలుచుకున్నట్లు ప్రకటించారు. వరుసగా నాలుగోసారి వరించిన ఈ పురస్కారాలను జీహెచ్ఐఎఎల్ చీఫ్ ప్రాజెక్ట్ అండ్ ఇంజనీరింగ్ అధికారి విజయ్ రాజోడ్, ఎయిర్పోర్ట్ వెల్ఫేర్ కెల్ విభాగం ఏజీఎం బిక్షం భూక్యా అందుకున్నారు.

జీఎమ్మార్ ఎయిర్పోర్టుకు నేషనల్ ఎనర్జీ లీడర్ అవార్డు

సాక్సి, సిటీబ్యూరో: కాన్సెప్షన్ అవార్డ్ ఇండియన్ ఇండస్ట్రీ (సీఐఐ), గోడ్రెజ్ గ్రీన్ బిజినెస్ సెంటర్ (జీబీసీ) నిర్వహించిన ఎక్సలెన్స్ ఇన్ ఎనర్జీ మేనేజ్మెంట్ 23వ జాతీయ అవార్డులలో హైదరాబాద్ అంతర్జాతీయ విమానాశ్రయానికి నేషనల్ ఎనర్జీ లీడర్, ఎక్సలెంట్ ఎనర్జీ ఎఫిషియెంట్ యూనిట్ అవార్డులు లభించాయి. జీఎమ్మార్ హైదరాబాద్ అంతర్జాతీయ విమానాశ్రయం ఈ అవార్డులను

గెలుచుకోవడం వరుసగా ఇది 4వ, 6వ సారి. చీఫ్ ప్రాజెక్ట్ అండ్ ఇంజనీరింగ్ అఫీసర్ విజయ్ రాజోడ్, ఏజీఎం బిక్షం భూక్యా ఈ అవార్డులను అందుకున్నారు.



CII'S ENERGY EFFICIENCY AWARD FOR HYD AIRPORT



GMR Hyderabad International Airport has won the National Energy Leader and Excellent Energy Efficient Unit awards at the 23rd National Award Ceremony for 'Excellence in Energy Management' organised by the Confederation of Indian Industry (CII) on Monday

'విద్యుత్తు'పై పీహెచ్డీ చేసిన కేసీఆర్

కేసీఆర్ కు ఉన్న అవగాహన దేశంలో ఎవరికీ లేదు... ఇంద్ర పాదుపు పురస్కారం ఇవ్వాలింది కేసీఆర్ కే

- లిట్టె అయిన వేస్తారు, వెళ్ళేప్పుడు లాభ వేస్తారు
- పట్టణాలంతట గ్రామాల్లోనే విద్యుత్తు వ్యూహ ఎక్కువ
- త్వరలో స్కూళ్లలో పాఠశాలకంటా ఇంద్ర పాదుపు
- ఇంద్ర పాదుపు పురస్కారాల్లో మంత్రి జగదీశ్ కేరెండ్రి



జగదీశ్ రెడ్డి మంత్రి ఇంద్ర పాదుపు పురస్కారం అందుకుంటున్న కేసీఆర్ ప్రతినిధులు

కేసీఆర్ కు లిట్టె అయిన వేస్తారు, వెళ్ళేప్పుడు లాభ వేస్తారు. అనే పాదాల్ అన్నాడనే విషయం వర్ణించుకొని కేసీఆర్ కు, లిట్టె అవసరం వేసే అంటే ఆర్థికం వ్యర్థం చేస్తారు అన్నారు. మంత్రి ఇంద్ర పాదుపు శ్రీలంకా రాష్ట్ర ప్రభుత్వం నుండి పురస్కారం ప్రసాదించింది. మొత్తం అదిగా ఈ ఏడాది మంత్రి పదవిలో ఉన్న కేసీఆర్ కు ఇచ్చిన అవార్డులు వివిధ విధానాలను అమలు చేసినందుకు ప్రశంసించారు. కేసీఆర్ కు ఇచ్చిన అవార్డులు వివిధ విధానాలను అమలు చేసినందుకు ప్రశంసించారు.

కేసీఆర్ కు ఇచ్చిన అవార్డులు వివిధ విధానాలను అమలు చేసినందుకు ప్రశంసించారు. కేసీఆర్ కు ఇచ్చిన అవార్డులు వివిధ విధానాలను అమలు చేసినందుకు ప్రశంసించారు.

ప్లట్ టైంలో శంషాబాద్ షా

సమయపాలనలో హైదరాబాద్ ఎయిర్పోర్ట్ టాప్

ప్రపంచ స్థాయిలో అర్జీలపకు అగ్రస్థానం • సమయానుసారంగా 90% విమానాల రాకపోకలు



హైదరాబాద్ విమానాశ్రయం, మే 11 (వందవ రోజు): ఇక్కడ అనేక విషయాలు ఉన్నాయి. అందులో ఒకటి ఏం మెగా ప్రాజెక్టు రేపంపాల్సి ఉంది. రాష్ట్రంలో అనేక (ఎం అండ్ మో) పాని తెచ్చాము, రాష్ట్రం కేంద్రం అయి, కేంద్ర ప్రభుత్వం కేంద్రం చేసింది. ఇప్పుడు కేంద్రం చేసింది. అందులో ఒకటి ఏం మెగా ప్రాజెక్టు రేపంపాల్సి ఉంది. రాష్ట్రంలో అనేక (ఎం అండ్ మో) పాని తెచ్చాము, రాష్ట్రం కేంద్రం అయి, కేంద్ర ప్రభుత్వం కేంద్రం చేసింది. ఇప్పుడు కేంద్రం చేసింది.

ప్రపంచంలోనే అత్యంత సమయపాలన కలిగిన ఎయిర్పోర్టుగా గుర్తింపు రావడం సంతోషంగా ఉన్నది. రాష్ట్ర విద్యుత్ అభివృద్ధిని ప్రోత్సహించే అంశం. ప్రపంచంలోనే అత్యంత సమయపాలన కలిగిన ఎయిర్పోర్టుగా గుర్తింపు రావడం సంతోషంగా ఉన్నది.



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శంషాబాద్ ఎయిర్పోర్టుకు అవార్డు

దిశ శంషాబాద్: జీఎంఆర్ హైదరాబాద్ ఇంటర్నేషనల్ ఎయిర్పోర్ట్ లిమిటెడ్ ఇంద్ర పాదుపులే చేసిన కృషికిగాను తెలంగాణ ప్రభుత్వం నుంచి 2021-22కు ప్రత్యేక అవార్డును అందుకుంది. హైదరాబాద్ విమానాశ్రయం 'కమర్షియల్ బిల్డింగ్' విభాగంలో ఈ అవార్డు పరించింది. డిసెంబర్ 20న ఖైరతాబాద్ లోని ద ఇన్స్టిట్యూట్ ఆఫ్ ఇంజనీర్స్ భవనంలో జరిగిన కార్యక్రమంలో మంత్రి జగదీశ్ రెడ్డి చేతుల మీదుగా ఎయిర్పోర్ట్ సీనియర్ అధికారులు ఈ అవార్డును అందుకున్నారు.



అవార్డు అందజేస్తున్న మంత్రి జగదీశ్ రెడ్డి

హైదరాబాద్ ఎయిర్పోర్టుకు రెండు అవార్డులు

హైదరాబాద్, వెలుగు: కాన్సెప్షన్ అవార్డ్ ఇండియన్ ఇండస్ట్రీ (సీఐఐ), గోడ్రెజ్ గ్రీన్ బిజినెస్ సెంటర్ (జీబీసీ) లు ప్రకటించిన 'ఎక్సలెన్స్ ఇన్ ఎనర్జీ మేనేజ్మెంట్' 23వ జాతీయ అవార్డులలో జీఎంఆర్ హైదరాబాద్ అంతర్జాతీయ విమానాశ్రయం (జీహెచ్ఐఎఎల్) నేషనల్ ఎనర్జీ లీడర్, 'ఎక్సలెంట్ ఎనర్జీ ఎఫిషియెంట్ యూనిట్' అవార్డులను గెలుచుకుంది. 'ఎనర్జీ ఎఫిషియెంట్ యూనిట్' 21వ ఎడిషన్ సందర్భంగా వీటిని ప్రకటించారు. హైదరాబాద్ ఎయిర్పోర్ట్ 'నేషనల్ ఎనర్జీ లీడర్' అవార్డును గెలుచుకోవడం వరుసగా ఇది నాలుగవ సారి కాగా, 'ఎక్సలెంట్ ఎనర్జీ ఎఫిషియెంట్' యూనిట్ అవార్డును దక్కించుకోవడం వరుసగా ఇది ఆరవసారి. గత మూడేళ్ళగా ఎనర్జీ సమర్థవంతంగా వాడుకోవడానికి వివిధ చర్యలు చేపడుతున్నామని జీహెచ్ఐఎఎల్ సీ.సీ.ఎం.లో పేర్కొంది. ఇప్పటి



TEAM GHIAL

