



Let's get to the
future, faster.
Together.



24th CII National Award for Excellence in Energy Management 2023

LTIMindtree Limited – East Campus

**Dhananjaya Papanna (DJ) || Principal Director
Purushothama Shetty || Director
Anbarasu || Associate Director**

Agenda

LTIMindtree Campus details



LTIMindtree Energy policy



Energy Management Strategic Path



Effective Monitoring Methodology



Energy Efficiency Summary



Best practices & Key Initiatives.



Future

Building overview



LTIMindtree is on a mission for a tech that gives everyone a chance to grow by creating harmony between nature, humans, and corporate operations.

- We are a conscientious, futuristic, and sustainable organization committed to an inclusive vision, shared growth, and positive value creation for our stakeholders.
- Sustainability is a cornerstone of our business strategy, and we put ESG principles at the heart of our operations.
- We are fully committed to leverage the principles of sustainable development and make our company an environmentally, socially, and ethically responsible organization for diverse talent, providing equal and inclusive opportunities, and making meaningful technologies.

 LTIMindtree East Campus
Bengaluru



42100 Sqm Built-up area
3726 Sqm Green area



ISO : **14K, 45K, 9K & 27K** certified



2.7L Units consumption/month
@Present



91.6% Waste recycled



1800 average employee

Energy Conservation Philosophy

DEC- 010

Downtime of the equipment = Zero

- No overloading of equipment
- No compromise on maintenance of equipment

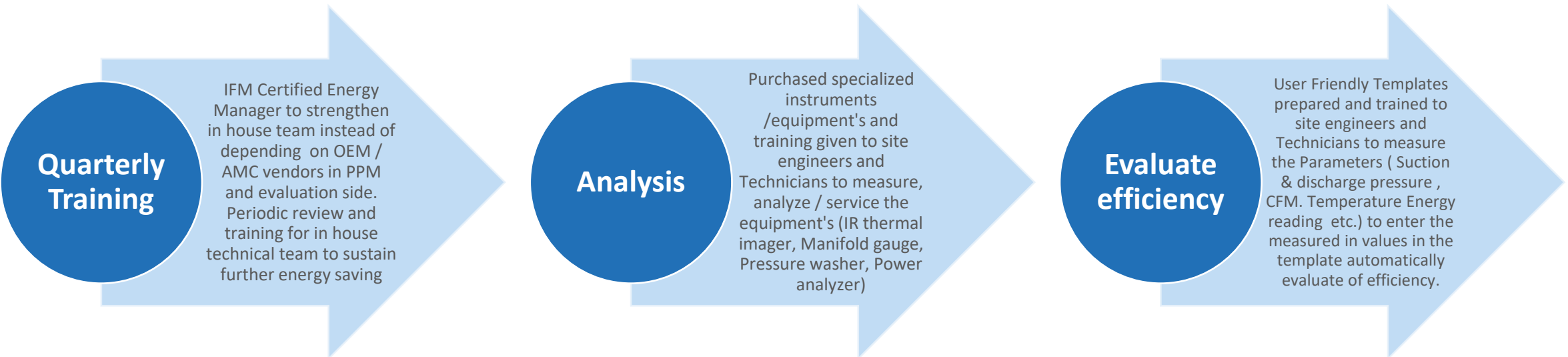
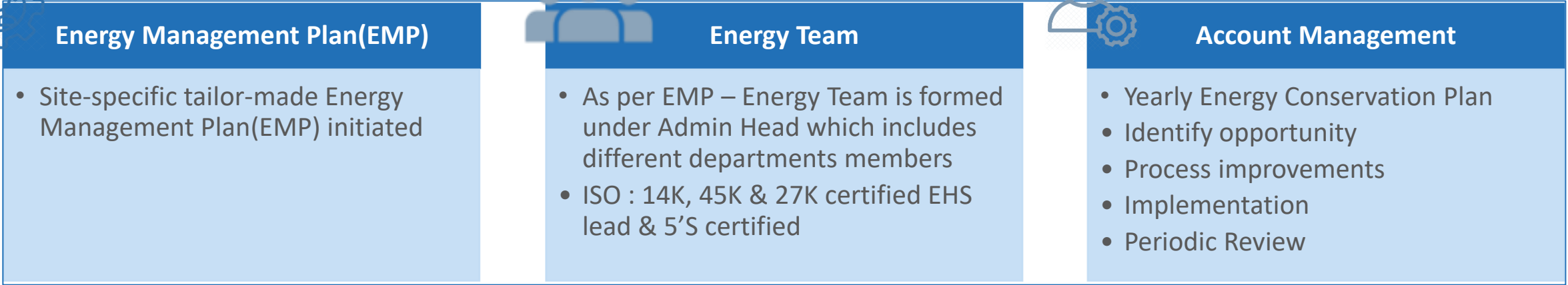
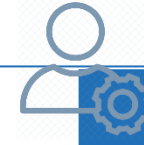
Efficiency target = One (kWh/Sqft of builtup area)

- Peak efficiency of equipment's
- Pro-active maintenance

Complaints relating to Mind's comfort = Zero

- No compromise on associate comfort as defined by Admin workspace policy
- Focus on energy wastage – Just in time comfort

Energy Management Strategic Path



Monitoring and control methodology- RACI

Activity	Frequency	Responsible	Accountable	Consulted	Informed
Daily energy	Daily	Facilities Team	Admin Location Manager	Admin MEP POC	Admin Ops lead
MEP review	Monthly	Facilities Team	MEP Location POC	Admin MEP city lead	Admin Location Manager
City review	Quarterly	Admin MEP City lead	Admin India Energy manager	MEP E&M India lead	Sustainability Team
Update to Admin Operation Lead	Quarterly	Admin Location Head	MEP India lead	Admin Ops lead	Sr. Management Team

Conservation Best Practices

HVAC

- Workplace Temperature policy standardized : 24°C +/- 1°C as per Energy Policy.
- Adjusting the equipment operating hours in line with the occupancy –Just in Time cooling.
- Duct cleaning ,Duct joint / collar leakage arrested.
- Using green chemical in the chiller line to reduce/avoid the blowdown
- Cooling units replaced with the new technology or modifications for energy conservation

UPS & Lighting

- Proposing new technology or modifications in the existing system for energy conservation
- Implementation of UPS battery monitoring system to extended battery life.
- Optimization of UPS batteries AH capacity as per site load calculation.
- Tracking energy data for analyzing
- Replacement of CFL to LED
- Dedicated lighting switches are provided in closed rooms like AHU rooms and electrical rooms.

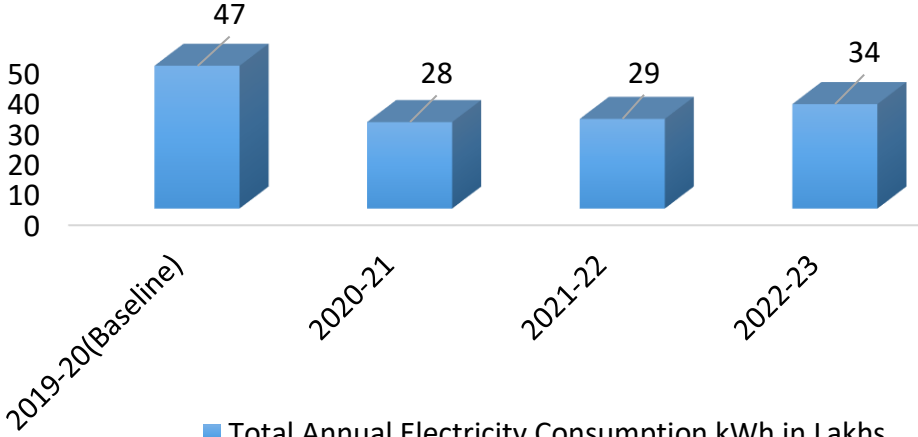
Water & waste Management

- Water less Urinals to reduce the water consumption.
- Installed Aero filters for reducing water consumption.
- Using Certified Green Seal Chemicals for HK activities.
- Feminine Hygiene System.
- No Plastic Zone-All plastic replaced with Steel
- Dry waste disposed through authorized recycler vendor
- Food waste and Garden waste converted to Compost by In-house team
- Monitoring and doing food & water tests periodically.
- Installed touch free Hand sanitizer dispensers at all entry points
- Placed social distance posters in various locations
- Sanitizing workplace areas on regular intervals.

Energy Consumption Overview

Description	UOM	2020-21	2021-22	2022-23	%Change 2019 to 23
Specific Electrical Energy Consumption	kWh /sq m	67.22	69.66	81.21	13%
Total Annual Electricity Consumption	KWh in Lakhs	28.29	29.32	34.19	13%
Total Annual Electricity Cost	INR in Lakhs	240.8	281.7	323.2	21%
Energy Saving – Through Projects	KWh in Lakhs	2.22	1.89	1.26	
YOY Energy Saving	KWh in Lakhs	18.71	-1.3	-4.87	

Energy Consumption Details



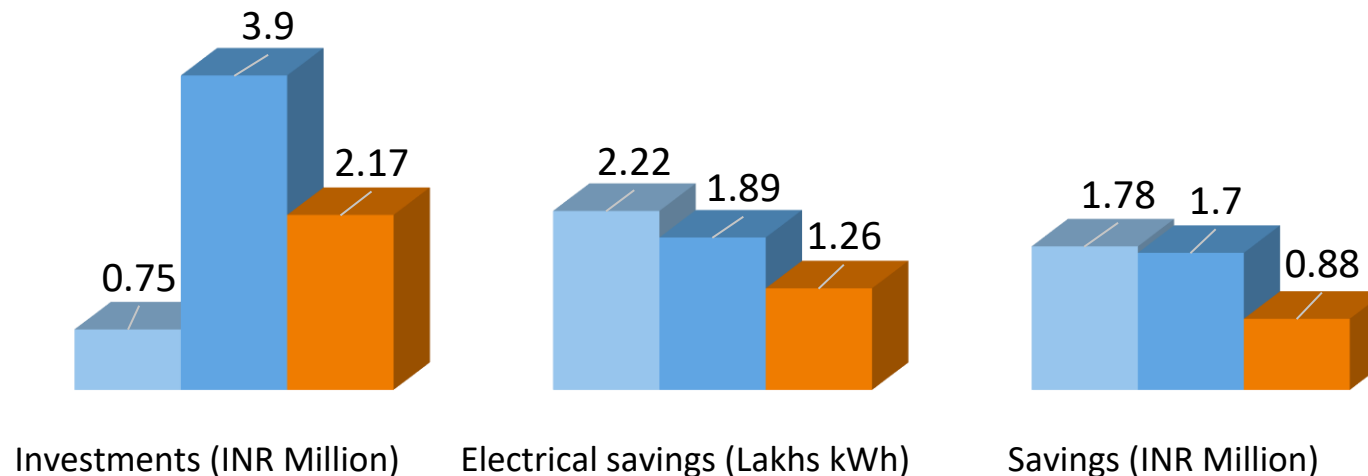
■ Total Annual Electricity Consumption kWh in Lakhs

©LTIMindtree | Privileged and Confidential 2022

Energy Saving Project Details

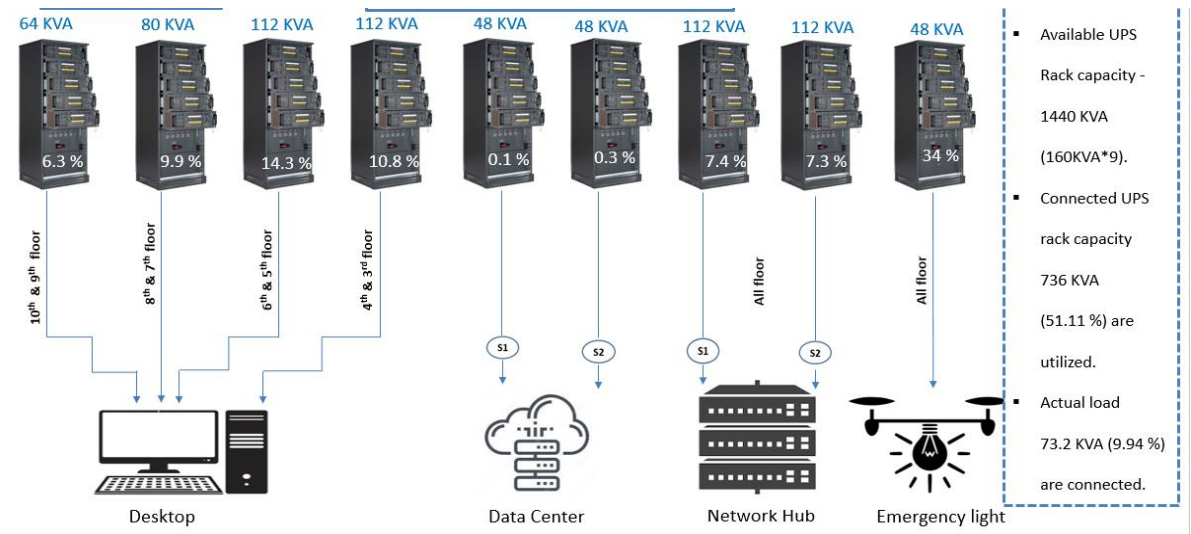
Year	No of Energy saving projects	Investments (INR Million)	Electrical savings (Lakhs kWh)	Savings (INR Million)	Impact on SEC (Electrical)
2020-21	2	0.75	2.22	1.78	3%
2021-22	2	3.9	1.89	1.7	3%
2022-23	1	2.17	1.26	0.88	2%
Total	5	6.82	5.37	4.362	

Projects – Energy Saving details

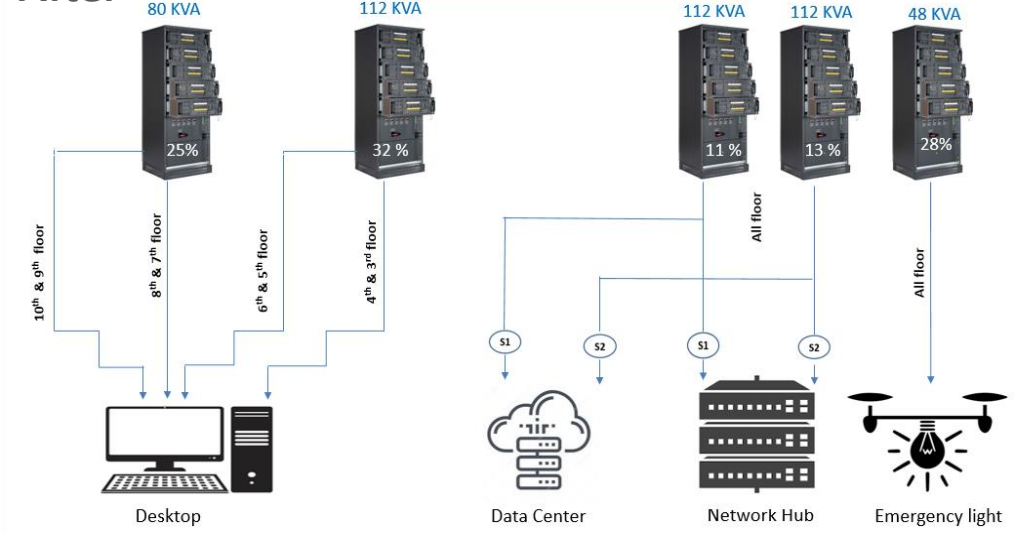


2020-21 | UPS optimization @ Phase-2 Building

Before



After



As an optimization programs towards power conservation, UPS of capacity **736 KVA** was reduced to **464 KVA**, helping in reduction of 272 KVA and Battery of quantity 416 numbers were reduced to 256 helping in reduction of cost , generation of waste, reducing the environment impact occurred due to disposal after total usage.

Benefits

- AMC cost saving 6.7 Lakhs INR
- 0.41 + 1.27 Lakhs KWH Units saving per annum.
- 3.35 Lakhs INR Energy saving cost saving per annum.
- 9.68 Lakhs INR saving by reduction batteries

2021-22 | PAC Replacement



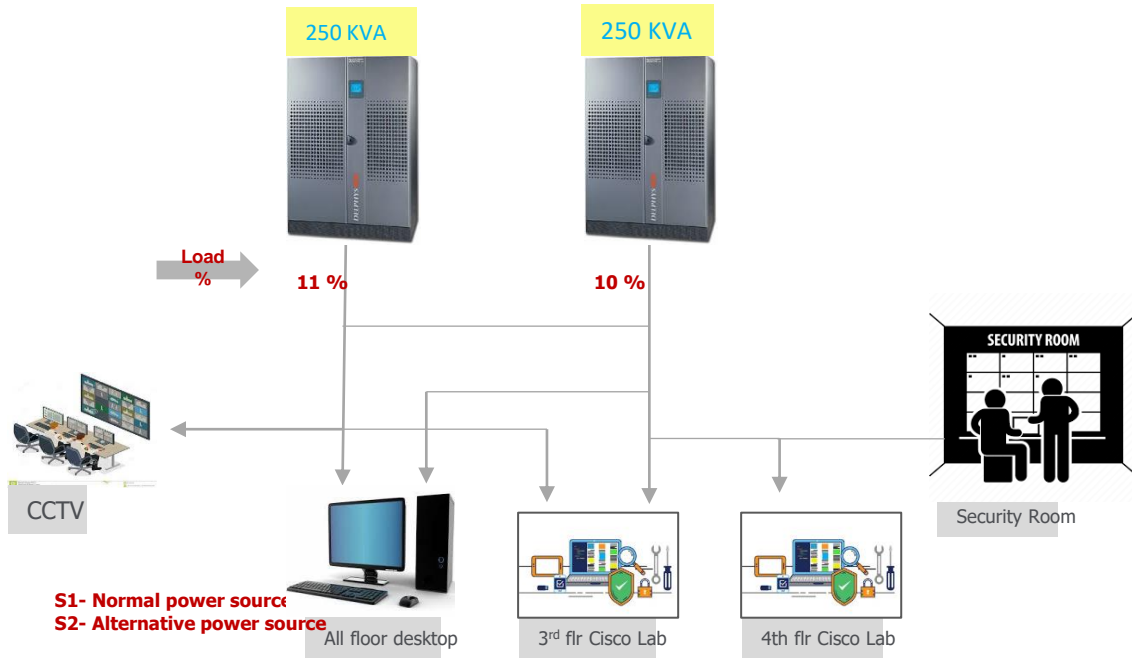
At one of the client data center, Precision Air Conditioning (PAC) unit with a total capacity of **39 TR** earlier. These units use technologies that are **10 years old**, with the **power consumption** being on the **higher side**.

Change & Benefits

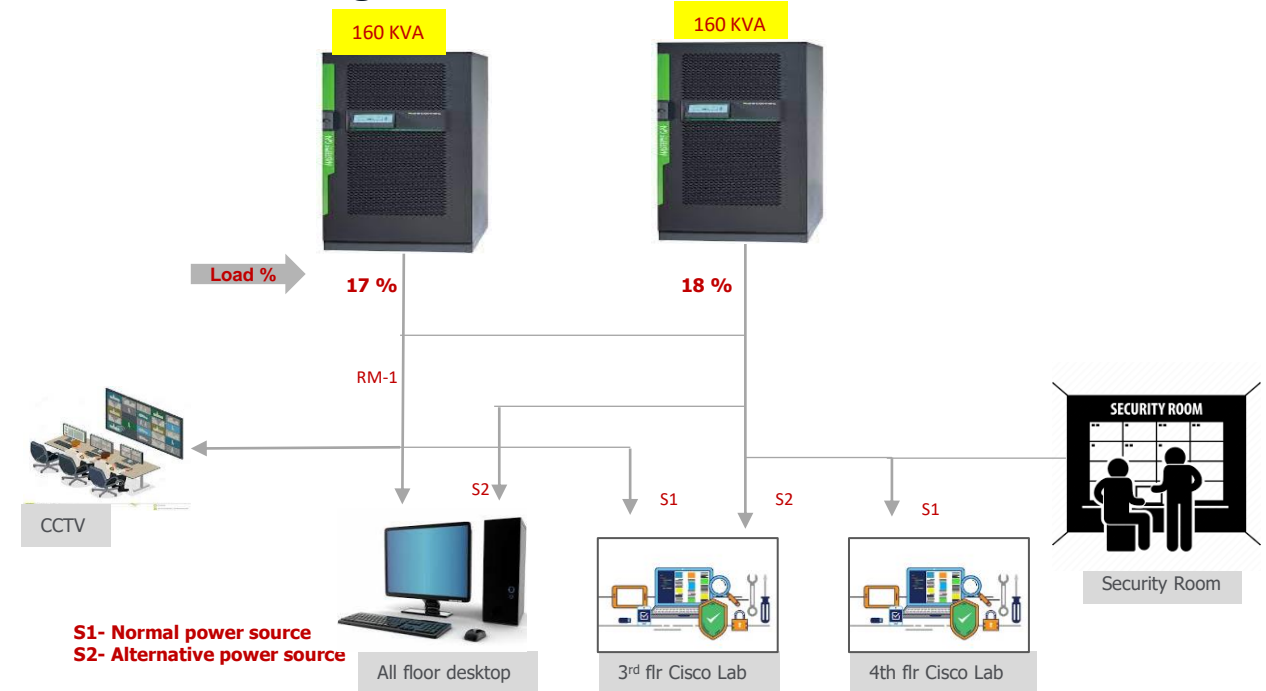
- ✓ To optimize the energy consumption, we replaced existing units with **inverter technology compressors (PDX PAC units)** with a total capacity of **31 TR**.
- ✓ It is the highest performing direct expansion floor mount unit in its range, **driving up efficiency to 95%**.
- ✓ These modulate at compressor and fan levels to decrease the energy consumption.
- ✓ Overall saving **1.83 Lakh units KWH savings** per Annum.

2022-23 | Energy Efficient UPS @ Phase -1 Building

Before UPS Configuration



After UPS Configuration



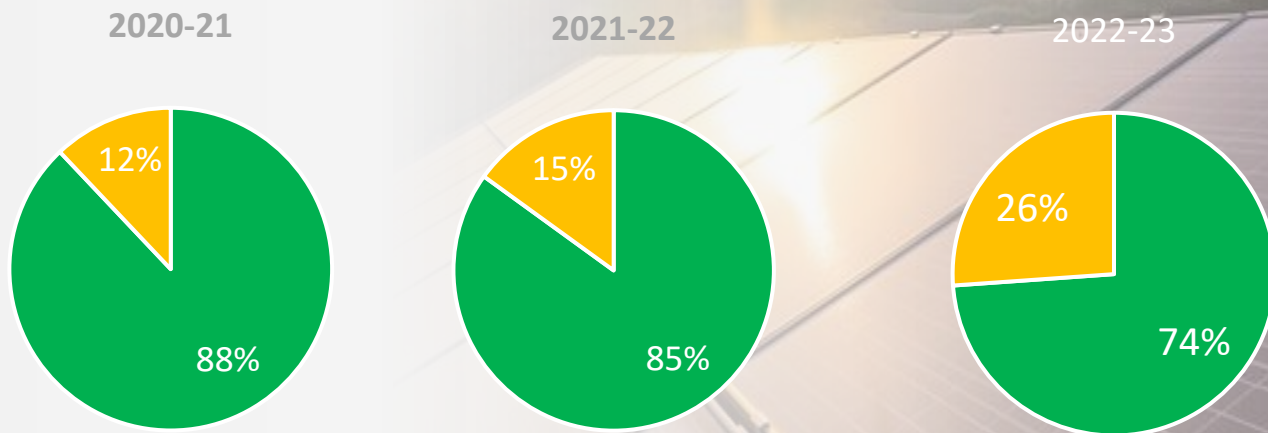
Benefits

- AMC cost saving 8.45 Lakhs INR
- 1.26 Lakhs KHW Units saving per annum.
- 5.4 Lakhs INR Energy saving cost saving per annum.

- ❖ Optimization of UPS capacity, 500 KVA was reduced to 320 KVA in addition with reducing the cost of AC capacitors replacement.
- ❖ Finally, UPS capacity 320 KVA in addition with reducing the cost of DC capacitors. reduced
- ❖ Overall impact on the Environmental – Energy & waste generation is avoided

Utilization of Renewable Energy Sources-2020-21 to 2022-23

Year	Type of Energy	Utilization Units	% of Overall Electrical Energy
2020-21	Solar	2.48	88%
2021-22	Solar	2.49	85%
2022-23	Solar	2.52	74%



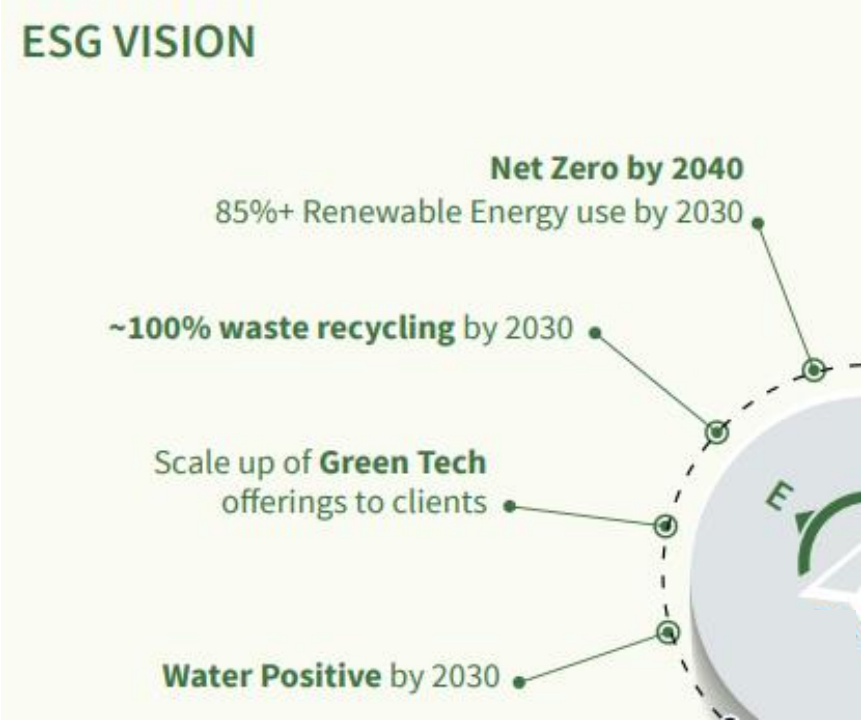
- RE Utilization Units
- Grid Units

- Our focus is on resource conservation and renewable energy
- We are striding on our clean energy approach with renewable energy component in the total energy mix stands healthy and robust at 74% for FY 2022-23
- We have committed to making our operations run through 85% renewable energy by 2030

LTIMindtree Overall GHG Performance

Year	Scope 1 Emission	Scope 2 Emission	Scope 3 Emission	Ton of Co2 equivalent
2020-21	137.29	279.13	374.39	790.81
2021-22	462.2	404.84	478.54	1345.58
2022-23	332.01	827.92	888.68	2048.61

Organization Road Map



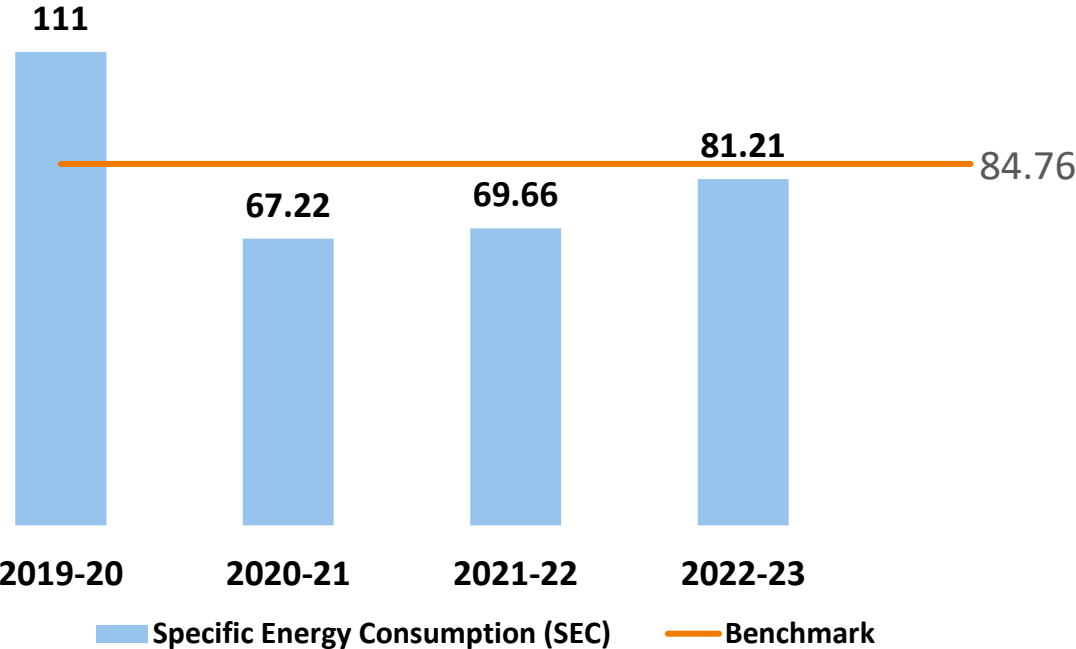
Scope 1 | Direct Emissions | Reduction due to better efficiency of our Diesel Generators

Scope 2 | Purchased Electricity | Reduction due to utilizing of renewable energy (Wheeling power) and efficiency improvement from the Energy Program .

- As a conscientious organization, we believe in and practice environmental stewardship.
- Our path involves energy conservation, emission reduction, renewable energy, and waste management practices, each with its own strategy and range of initiatives.
- We focus on making our operations and locations sustainable, in the true spirit of environmental responsibility

Energy Benchmarking - SEC

Benchmarking Details	Reference	SEC KWh/m2/Year	LTIMindtree –east Campus
IT/ITES Peers companies	CII Energy Award Program Bangalore (2019-20)	84.76	67.22 (FY-2020-21) 69.66 (FY-2021-22) 81.21 (FY-2022-23)



- Doing various energy trend analysis equipment wise (UPS, Pumps, Chillers, AC Units Etc) Implemented the new technologies, best practices to conserve more energy.
- Setting goals every year for energy savings with planned initiatives and allocating budget to execute the plan

EHS Initiatives - Retrofitting of Emission Control Device Installed



Installation of Emission Control Device

- ✓ Emission Control Device Installed for reduction of Particulate Matter and Carbon monoxide levels On average, there is 82% and 86% plus reduction in Particulate Matter and Carbon monoxide levels in line with CPCB requesting for 70% PM reduction.
- ✓ The Hydrocarbon emission from the device was also noted “Below Detection Limit”.

Reduction in emissions as tested by NABL Test:

Description	Units	Without Chakr Shield	After Chakr Shield	% Reduction
Particulate Matter	mg/Nm3	67.6	11.8	82.54
Carbon Monoxide	%	0.075	0.01	86.67

Organic based product treatment

We are using organic based product treatment in the cooling tower water to reduce the hardness and scale formation; this was helped us to reduce the water consumption by reducing the blow down water

This Green/ Organic product made from Vegetable (Neem AZ and Tannin Liquid) without Acid and alkaline based.

This Product will not allow to increase the TDS

IMPACT

- ✓ Good improvement in the water quality, scaling and slime formation was also reduced. TDS, Total Hardness, Calcium and Magnesium Hardness was reduced. 221 Kl savings per Annum,
- ✓ The condenser approach temperature is maintained consistently.



Earth Hour



2023-Energy conserved in earth hour		
Location	Unit saved in KW	Co2e reduced in Kgs
LTIMindtree East Campus	30.4	27.70

Innovative approach – Interactive Garden

Pedal a watt to stay fit



A low impact sport, cycling won't lead to joint pain. You burn calories, build muscle and strengthen your body in the process.

- Cycling for 30 minutes burns around 346 calories
- In average of 25 person cycling per day an avg. of 20 min
- Results in 55 units per month

Honeybee



Honey harvesting at office garden, and it's been distributed for clients at visitors, In an average 6-10 Kg per annum

Environmental Initiative



Employee Friendly Nursery

- To create awareness on farming and to train people on this an organic farming unit is been set up and running on the horticulture nursery in the campus.
- Interested employees are being issued with pots, manure, and training. The products are being distributed to the participants on harvesting. This helps employees to set up kitchen gardens at their homes.



World Environment day



Plantable Seed Paper Indian Flag

Waste Management



We recycled 91.61% of the waste generated in FY 2022-23

- We approach waste management with the intent of generating less waste and minimizing the input to the landfill.
- The strategy is to adopt responsible disposal and maximize recycling and reuse.
- Periodic monitoring enables us to track our progress and meet our overall objective of reducing landfill burden.

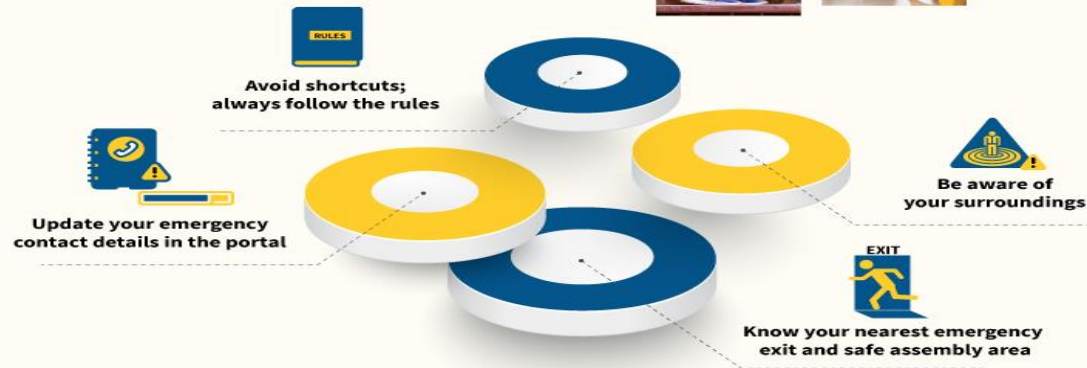


National Safety Day



National Safety Week

March 4 – 10, 2023



If you come across any unsafe or hazardous conditions, workplace injuries, accidents, or illnesses, please notify the EHS team by sending an email to EnvironmentHealthSafety@LTIMindtree.com.

Show your commitment towards safety by taking a picture at our selfie booth and posting it on the below social media platforms using [#NationalSafetyWeek2023](https://twitter.com/NationalSafetyWeek2023).



Embrace workplace safety as an ethical responsibility.



Safety PPE's

Slogan Pledge



Awards & Recognition

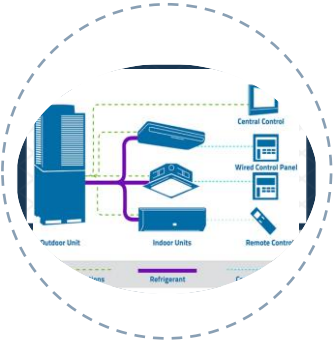


CII National Award for Excellence in Energy Management 2022 - Energy Efficient Unit



5 Star Rating in State Level OHS&E Award - 2022 from World safety organization

Future



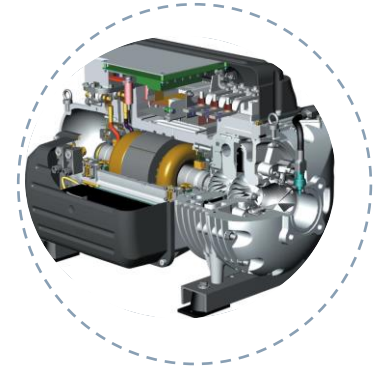
VRF Units
(Replacement of R22 refrigerant)



Roof top solar



Remote monitoring system with Smart Water meter



Turbocore Compressor Chiller

Long terms

Continue to improve efficiency of buildings and work towards the sustainability goals and achieve the benchmarks.

Expending latest technology for Energy conservation program like IoT and AI..

Establishment of Command center .

Behavioral changes of the employees to save energy in workplace

Moving towards carbon neutrality campus.

Thank You