



CII 23rd National Award for Excellence in Energy Management 2022

Kodathi, Bengaluru

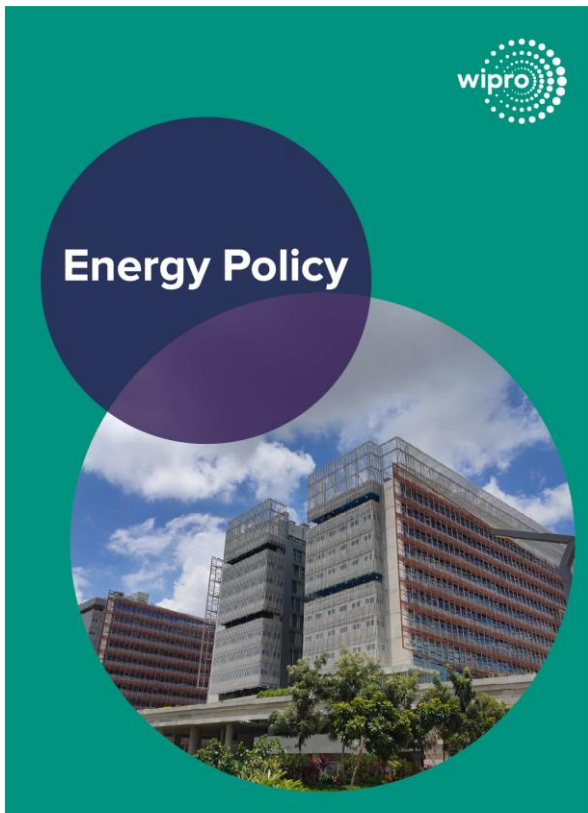
Eswaramoorthi M – Senior Manager

Kodathi Campus overview



- Established in 2018
- Campus Area - 48.25 Acres
- Built up area – 3.48 Million Sq.ft and Seating Capacity > 20,000
- 5 Towers (S4,S1,S3,S5,S2) – S2 is under construction
- 8 Numbers of 2000 kVA DGs for Raw power backup
- 4 Numbers of 1.8 MW DRUPS System with 4 Numbers of 2000 kVA DGs for Critical power back up

Energy Policy



Wipro is committed to optimize its energy footprint to support a sustainable world. We proudly integrate this commitment into our company culture and corporate values.








Wipro continuously improves its energy performance through a strategic action plan that is regularly

reviewed and updated annually. We have defined Energy Performance Indicators and set targets for ourselves in accordance with ISO 50001.

This policy sets the framework for managing our energy consumption and driving various initiatives to support the following goals:



In pursuit of these goals, Wipro is committed to:

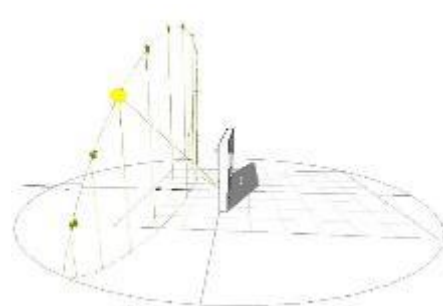
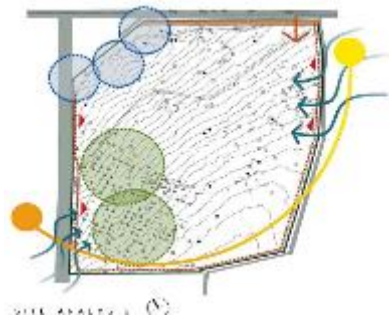
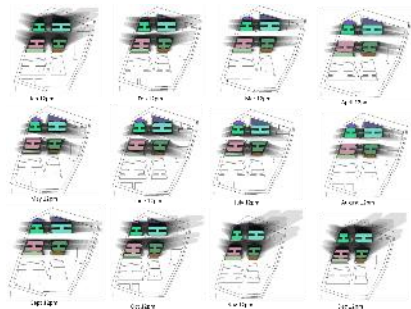
-  Responsible energy consumption and improving energy efficiency throughout all our sites
-  Purchasing energy-efficient services for our facilities and equipment needs
-  Net Zero goals by 2040, with a reduction in absolute emissions of 55 percent by 2030 keeping 2017 as the base line
-  Being legally compliant with applicable regulations and requirements
-  Investing in new technology that supports renewable energy sources
-  Designing our facilities for optimum energy performance
-  Considering life cycle energy costs for future business investments

We are addressing energy efficiency in all areas of our business including management, procurement, financial, technical, and more.

We will ensure that the relevant information and resources are available to achieve our objectives and targets. This policy and our energy performance will be updated as new information becomes available.

Global Head - Operations
Dinesh Wadehra
July 2022

Kodathi Campus key highlights

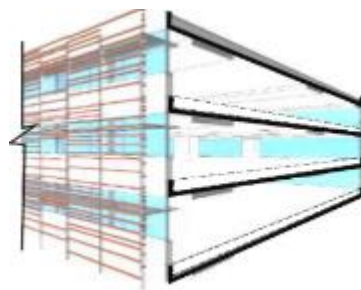


Building design based on Sun path

Double skinned Façade design to reduce heat ingress



95% Day lit workspaces with day light and movement sensors



Largest Underfloor Air Distribution System (UFAD) - 2.5 Mn ft²

Kodathi Campus key highlights

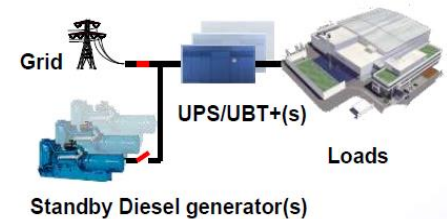


100% LED for Indoor and Outdoor Lighting

Naturally ventilated corridors in all floors

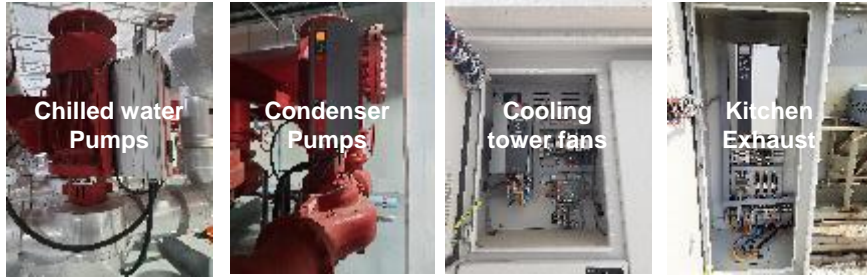


50% Cafeteria space is naturally ventilated



India's first Medium voltage Isolated parallel bus DRUPS system

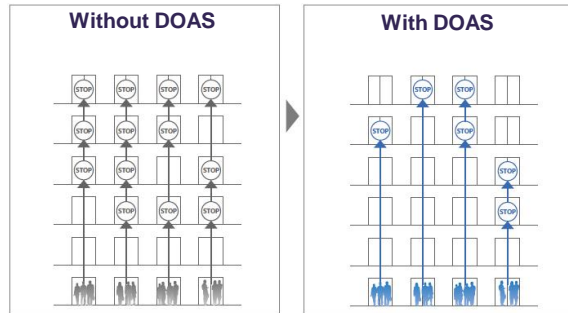
Kodathi Campus key highlights



VFD for pumps & fans applications

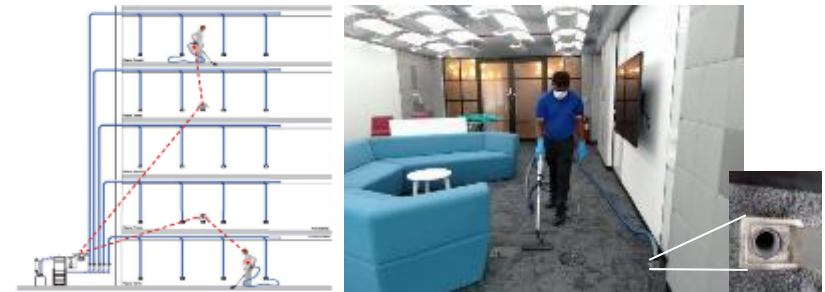


EC fans for AHUs, UFADs, Exhausts, DOAs



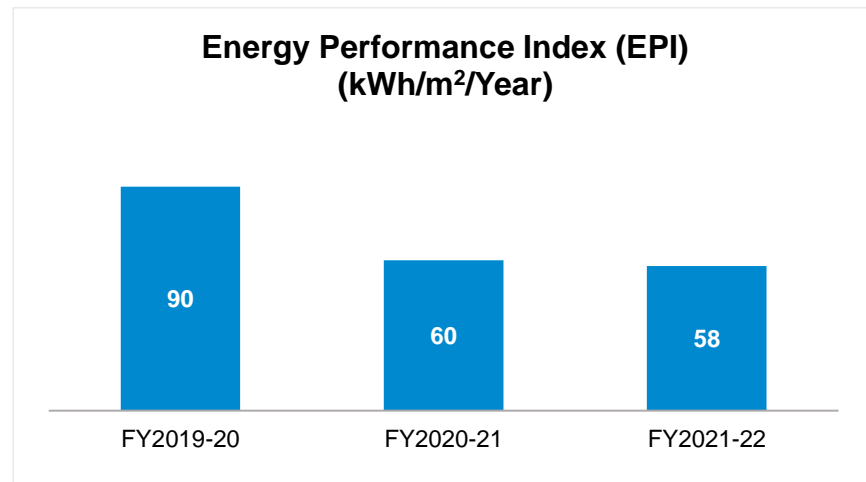
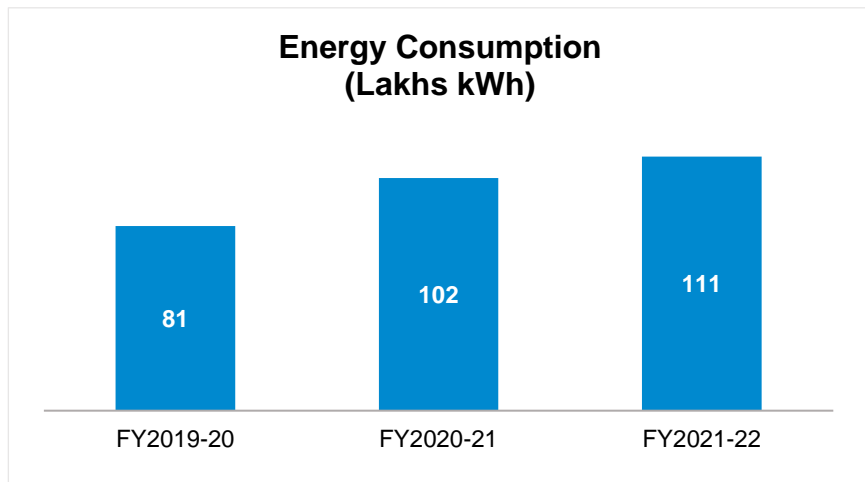
According to each car's location and passenger load, the group control system assigns a call to the elevator that best balances operational efficiency and energy consumption

Destination Oriented Allocation System (DOAS) in Lift operation



Centralized Vacuum System

Energy consumption overview



Year	EB (kWh)	DG (kWh)	Solar (kWh)	Total (kWh)	Area (m ²)	EPI (kWh/m ² /Year)	% Reduction	
FY2018-19	1,052,400	1,390,820	-	2,443,220	26,324	92.81	Base data	
FY2019-20	3,374,400	438,766	4,250,000	8,063,166	89,664	89.93	3%	
FY2020-21	747,600	528,330	8,890,000	10,165,930	168,365	60.38	35%	Owing to reduced occupancy
FY2021-22	2,618,400	491,618	7,993,581	11,103,599	191,219	58.07	37%	

National and global benchmarking

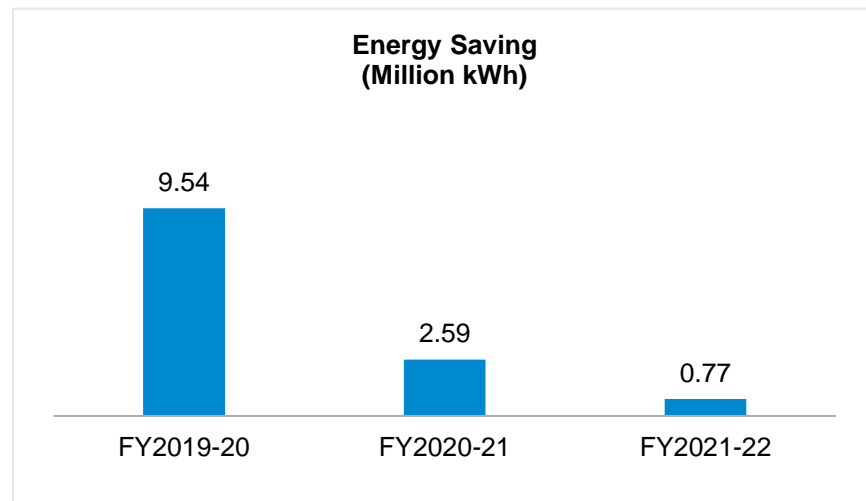
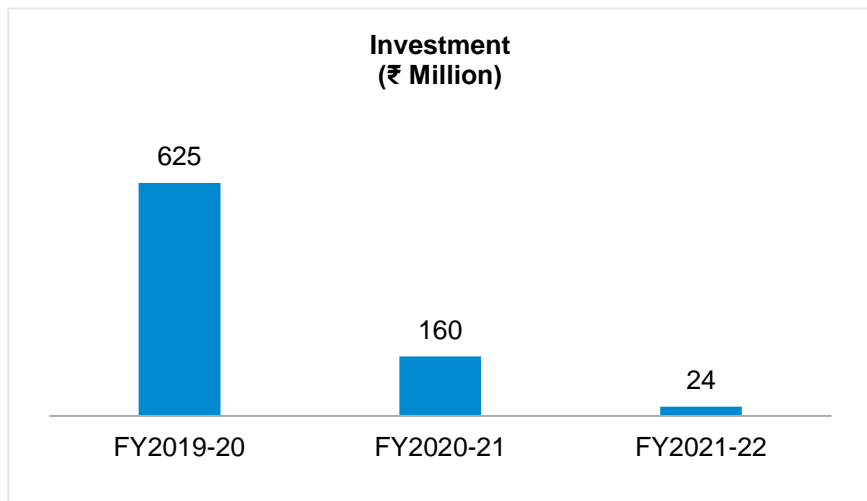
Benchmarking Details	Reference	SEC (kWh/m ² /Year)	Wipro Kodathi Campus
Other Wipro Campuses	Wipro Annual Report FY2021-22	177	90 (FY2019-20)
Other IT/ITES companies/Group	CII Energy award Programme, Bangalore (2020-21)	70	60 (FY2020-21)
National Level	BEE (Bureau of Energy Efficiency)	179	58 (FY2021-22)
International Level	Lawrence Berkeley National Laboratory	65 to 90	Expected to achieve 85-90 once employees are back to work from office

Encon Projects planned in FY2022-23

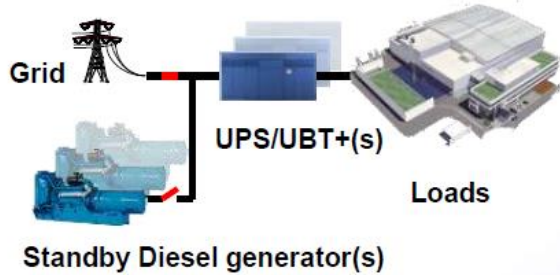
- BMS Implementation for S1,S3,S5 Towers
- Chiller Plant manager for S5 Tower chillers

Energy Saving projects implemented in last three years

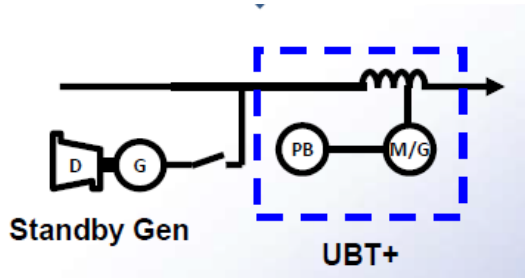
Year	No of energy saving projects	Investment (₹ Million)	Electrical energy Savings (Million kWh)	Cost Savings (₹ Million)
FY2019-20	4	624.84	9.54	70.00
FY2020-21	3	159.54	2.59	19.00
FY2021-22	5	24.25	0.77	7.15



Innovative project – Medium Voltage Isolated Parallel bus DeRUPS system



- Critical loads such as servers, network switches & PCs require energy storage devices to address the risk of interruption
- When switching from one source of power to another (e.g., utility power to generator power), **stored energy is used (Flywheel) to bridge the gap** and to ensure zero break to critical loads.
- When the power supply coming into the facility is unstable (e.g., power surges and sags), this is conditioned and stored energy can be used as needed to balance out disturbances and assure a **clean power supply** to the load at all times.



- India's first MV IP UBT+ External Genset system
- Medium Voltage DeRUPS ,UBT + 1800 with 21MJ flywheel x 4 Numbers
- No Single point of failure (Each DRUPS supplies to one load. To reach redundancy loads are connected via an IP Choke and connected to an IP ring)
- High short circuit capacity
- There are no additional standby units with no load

Innovative project – Medium Voltage Isolated Parallel bus DeRUPS system



Advantages

- No Air conditioning requirements
- No hazardous materials introduced into the facility
- No recycling / disposal responsibilities
- No spill containment required
- Does not emit harmful gases into air
- Lower carbon footprint

Energy Savings

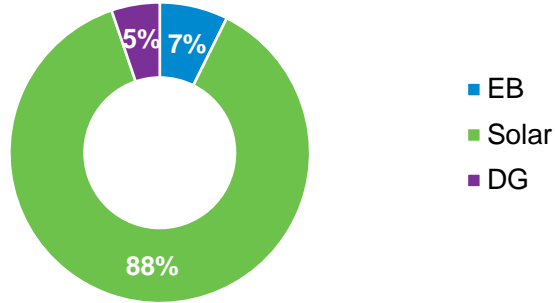
- 3.2 Million kWh (Savings due to air conditioning and electric loss)

Environmental Benefits

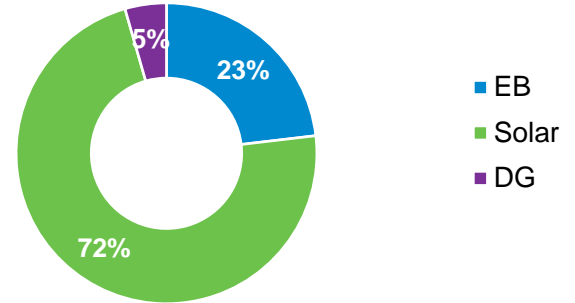
- 278 Tons of CO₂

Utilization of Renewable Energy sources

FY2020-21



FY2021-22



- We entered into power purchasing agreement with two Solar PV Developers (20MW & 30MW) and started procuring Solar Power from Sep' 2019 onwards for Kodathi campus.
- We have installed 462 kW_p onsite Solar PV Plants at Utility block, S1 and S3 tower roof areas recently.

Roof Location	Plant Capacity	Investment (₹ Million)	Date of commissioning
Utility Block	65.52 kW _p	2.675	April 2021
S3 Tower	162.24 kW _p	6.156	July 2021
S1 Tower	234 kW _p	7.996	August 2021
Total	462 kW_p	16.8	



GHG Emissions

ENVIRONMENTAL METRICS

1.1 Absolute emission profile (tons of CO2 eq)

Table 1.1.1 - Scope 1

Scope 1	FY 2019-20	FY 2020-21	FY 2021-22
Fuel & Refrigerant – India offices	13,366	10,885	9,571

Table 1.1.2 - Scope 2

Scope 2	FY 2019-20	FY 2020-21	FY 2021-22
Purchased electricity – India offices and DCs	1,24,564	86,463	75,844

Table 1.1.3 - Scope 3

Scope 3	FY 2019-20	FY 2020-21	FY 2021-22
Employee commute	84,536	18,055	16,969
Business travel	1,23,789	13,538	20,456
Waste	274	140	153
Upstream Fuel + energy	72,888	53,937	71,650
Purchased goods/services	1,00,460	2,15,830	2,53,955
Upstream leased assets	39,580	12,606	10,381
Work from home emissions	Not Material	36,230	36,639

Table 1.1.4 - Scope 1 & scope 2 Split

Scope 1 & scope 2 Split	FY 2019-20	FY 2020-21	FY 2021-22
Offices	1,35,537	84,140	72,884
Data centers	2,458	13,207	9,660

Table 1.1.5 - Emission Intensity Scope 1 & 2

Emission Intensity Scope 1 & 2	FY 2019-20	FY 2020-21	FY 2021-22
India office owned (kg CO2 per sq. Mt. per annum) *	87	108	87

For further details, Please refer Wipro Annual Report

<https://www.wipro.com/content/dam/nexus/en/investor/annual-reports/2021-2022/integrated-annual-report-2021-22.pdf>

<https://www.wipro.com/content/dam/nexus/en/investor/annual-reports/2021-2022/wipro-esg-dashboard-fy-2021-22.pdf>

Wipro is a founding member of 'Transform to Net Zero': A global alliance to accelerate the transition to a net-zero global economy. **Our Net Zero Commitment: We're committed to contribute to planetary Net-Zero Greenhouse Gas emissions targets by reducing our emissions to zero by 2040 and a 55% reduction by 2030**

Read more at [wipro.com/sustainability](https://www.wipro.com/sustainability)

Online Indoor Air Quality (IAQ) monitoring at workplace



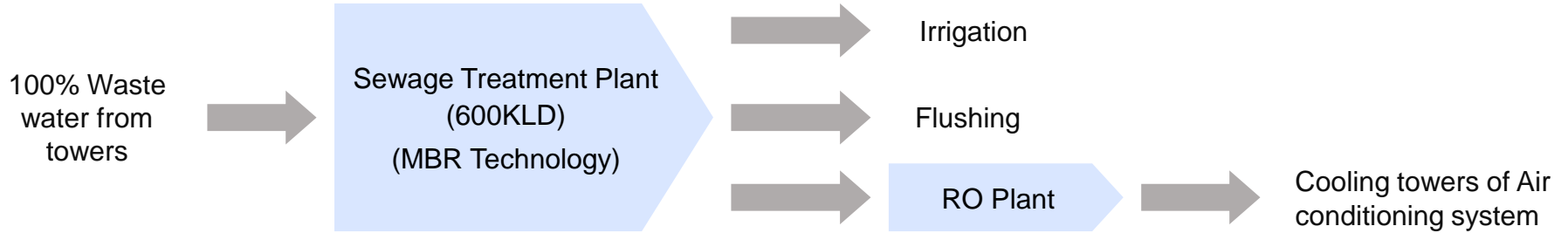
Air handling units provided for DOAs are Eurovent certified units with 2 stage filtration system with UV lamps and refrigerant heat pipes. Fresh air VAV's provided in the DOA unit distribution ensures supply of fresh air based on space CO₂ demand. All the fans in DOA units are of EC fans for better energy efficiency.

We have installed IAQ sensors at work places which monitors Temperature, RH, CO₂, PM_{2.5} and TVOC parameters on continuous basis. IAQ sensor is tested and certified by the RESET standard for accuracy, and fully compliant with the WELL v2 building standard for performance.

We have used best practices of ISHRAE and IGBC and incorporated continuous monitoring of RH, CO₂, PM_{2.5} and TVOC through IAQ sensor and other parameters are measured through external agency in all ODCs at regular interval.

Waste management

Waste Water Management

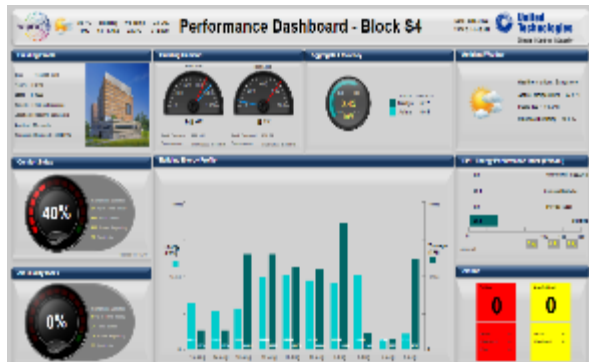


Waste reduction initiatives

- Battery free DRUPS System (No disposal requirement of Batteries)
- Magnetic bearing centrifugal chiller (No oil management system & no disposal requirements)
- Entire campus exteriors with form concrete finish (No Plastering and No painting requirements)
- 1000 kg/day organic waste composter (OWC) for composting food waste and garden waste
- Fire hydrant and chilled water lines are provided with grooved couplings and hence there is no welding in FHS and Chilled water lines. It will also reduce the wastages of pipes during any modifications.
- No single use plastic is used in the campus (No PET bottles, No Plastic dust bins, No dust bin liners, Empty chemical cans are sent back to OEM for reuse/recycling)

Teamwork, Employee involvement and Monitoring

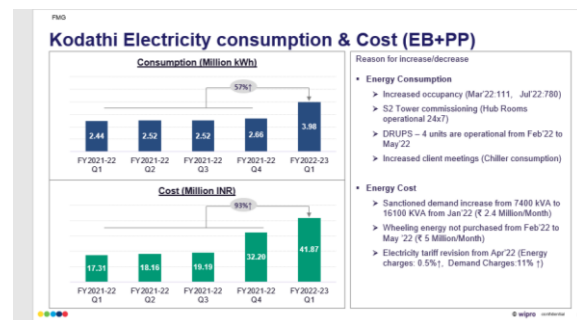
BMS System to monitor energy consumption



Internal Portal to update energy, water and waste data

Site	Date	Status	Assigned To	EB Units	Upload EB Bill Evidence	Green RE Units	DG Units
Kodathi	Jun 2022	Review by Corporate Team	Raghu S.M, Hegesh J Mahr...	119000 kWh	EB_Bil_Jun_2022	1275000 kWh	12900 kWh
Kodathi	May 2022	Review by Corporate Team	Raghu S.M, Hegesh J Mahr...	1307700 kWh	EB_Bil_May_2022	0 kWh	112710 kWh
Kodathi	Apr 2022	Review by Corporate Team	Raghu S.M, Hegesh J Mahr...	1284000 kWh	EB_Bil_Apr_2022	0 kWh	80120 kWh
Kodathi	Mar 2022	Review by Corporate Team	Raghu S.M, Hegesh J Mahr...	1070100 kWh	EB_Bil_Mar_2022	0 kWh	31280 kWh
Kodathi	Feb 2022	Review by Corporate Team	Raghu S.M, Hegesh J Mahr...	748700 kWh	2 Files	NA kWh	44790 kWh
Kodathi	Nov 2021	Review by Corporate Team	Raghu S.M, Hegesh J Mahr...	51200 kWh	EB_Bil_Nov_2021	770000 kWh	68410 kWh
Kodathi	Dec 2021	Review by Corporate Team	Raghu S.M, Hegesh J Mahr...	281600 kWh	EB_Bil_Dec_2021	650000 kWh	33260 kWh

Quarterly review of energy performance

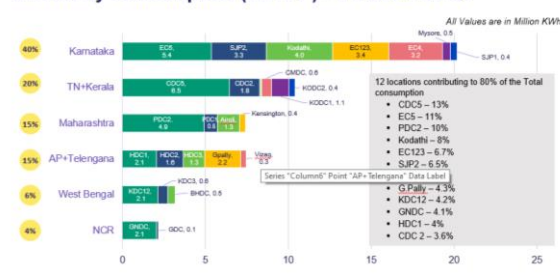


Energy Performance is reviewed on monthly basis by FMG Head – PAN INDIA



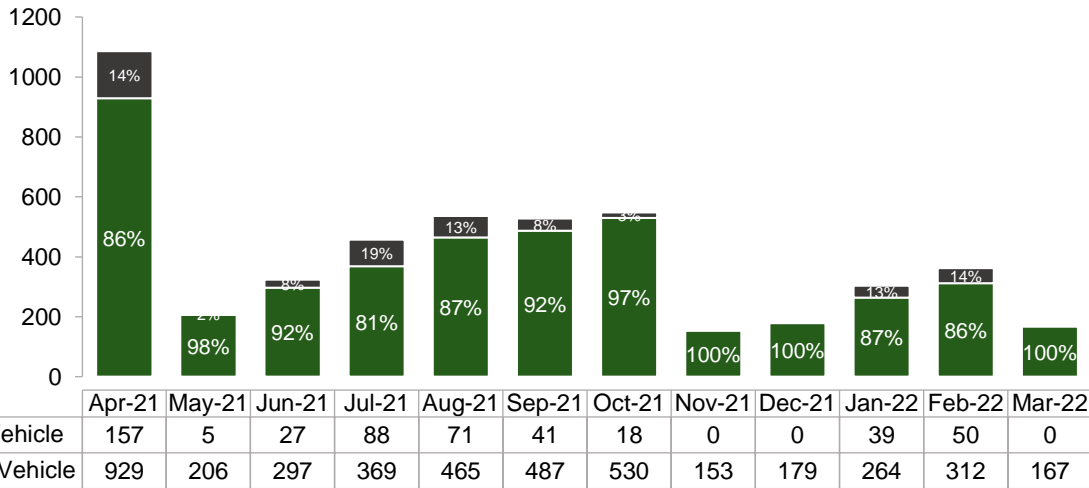
Site	Date	Status	Assigned To	EB Units	Water Units	Waste Units
Kodathi	Feb 2022	Review by Corporate Team	Raghu S.M	56160	4913.0	12.52
Kodathi	Mar 2022	Review by Corporate Team	Raghu S.M	84800	7551.0	10.74
Kodathi	Jan 2022	Review by Corporate Team	Raghu S.M	54190	4237.0	21.8
Kodathi	Dec 2021	Review by Corporate Team	Raghu S.M	42990	3782.0	12.03
Kodathi	Nov 2021	Review by Corporate Team	Raghu S.M	37110	2063.0	21.9
Kodathi	Oct 2021	Review by Corporate Team	Raghu S.M	24780	1776.0	28.33
Kodathi	Sep 2021	Review by Corporate Team	Raghu S.M	38530	2045.0	46.92
Kodathi	Aug 2021	Review by Corporate Team	Raghu S.M	36720	1864.0	30.24
Kodathi	Jul 2021	Review by Corporate Team	Raghu S.M	30460	1514.0	10.2

Electricity consumption (EB+PP) – FY 2022-23 Q1



EV Vehicle usage for employee commute

More than 80% of the trips are happening through EV vehicles now



We invested ₹ 61 Lakhs in FY2021-22 to create the electrical infra for EV charging in Kodathi campus

Wipro won the 2021 EPEAT Purchaser award for positively impacting the environment by procuring sustainable IT products

Our IT hardware procurement guidelines are in accordance with the Electronic Product Environmental Assessment Tool (EPEAT) standard from Green Electronic Council (GEC) since 2017. We have purchased more than 10,350+ products across desktops, laptops, displays, imaging equipment and mobiles in 2020. This is estimated to lead to a GHG reduction of 403 tons CO₂ equivalent, 15.01 MWh of energy savings and 2.3 million liters of water over the lifetime of products. We received this assessment from GEC in 2021.

Based on this, we are the only IT services and consulting organization globally to have received the EPEAT purchaser award in 2021 across 4 product categories.

Source:

<https://globalelectronicscouncil.org/peat-purchaser-awards/2021-peat-purchaser-award-winners/>



2021 EPEAT Purchaser Award Winner

www.globalelectronicscouncil.org

Wipro Limited

Total sustainability impact and cost savings for **10,352** products purchased in 2020

ENVIRONMENTAL IMPACT REDUCTION

EQUIVALENT TO

GHG Reduction

403,003
kilograms of CO₂ equivalents



Taking **86** average US passenger cars off the road for a year



Energy Savings

1,501,598
KwH



The annual electricity consumption of **124** average US households



Hazardous Waste

5
kilograms



The weight of **0.04** refrigerators



Solid Waste

67,727
kilograms



Annual waste generation of **36** average US households



Primary Materials

1,210
kilograms



The weight of **0.2** elephants



Water Consumption

2,275,920
liters of H₂O



1 olympic sized swimming pools



Material Conservation

3,315
kilograms



The weight of **1,461** bricks



Certifications

ISO Certification

Standard	Details of Management System	Validity
ISO 9001:2015	Quality Management System	02 Jan' 21 – 01 Jan' 24
ISO 14001:2015	Environmental Management System	07 Feb' 21 – 06 Feb' 24
ISO 45001:2018	Occupational Health and Safety Management System	07 Feb' 21 – 06 Feb' 24
ISO 22301:2012	Business Continuity Management System	22 Dec' 20 – 30 Apr' 23
ISO/IEC 27001:2013	Information Security Management System	19 Sep' 20 – 18 Apr' 23
ISO/IEC 20000-1:2018	IT Service Management System	04 Dec' 20 – 04 Feb' 23
ISO50001:2018	Energy Management System	01 st Aug 22 – 01 st Aug' 25

IGBC Certification

We have applied for IGBC platinum certification for Kodathi facility including S2 tower. Final approval is pending with IGBC

Awards in last 3 years

CII - EHS 5 Star Rating



CII - Excellent Energy Efficient Unit



Waste reduction – Innovative technology



Golden Peacock - Energy efficiency



Office Innovation award



Kodathi campus awarded “5-star rating” in the first attempt in CII - Southern Region EHS Excellence Awards 2020 and secured 3rd place in IT/ITES sectoral category

Kodathi campus awarded as “Excellent Energy Efficient Unit” in Buildings sector during CII National Award for Excellence in Energy Management 2021

Kodathi campus awarded for “Innovative Technology for reduction in waste” during CII - Southern Region Waste Management -2021

Kodathi campus won “Golden Peacock Award for Energy Efficiency” for the year 2021

Kodathi campus won two awards for “Digital checklist” and “IAQ monitoring” in CII National Office Innovation Competition 2022





**Thank You
for your time**

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