Reliance
Industries Limited





24th NATIONAL AWARD FOR EXCELLENCE IN ENERGY MANAGEMENT 2023

RELIANCE CORPORATE IT PARK LIMITED

Presenter's Name :- Reliance Corporate IT Park
Navi Mumbai-400701

RELIANCE CORPORATE IT PARK LIMITED- EXECUTIVE SUMMARY

Reliance Industries Limited

Reliance Corporate IT Park Limited is a state-of-the-art facility located in Navi Mumbai – Ghansoli. It is part of Reliance Industries Limited (RIL), one of India's largest conglomerates with diversified interests in various sectors.

RCITPL is the headquarter for Reliance Industries Ltd and it's associate businesses comprising of all Hydrocarbons, Retail ,Telecommunications and M&A ventures.

Reliance Corporate IT Park is committed to sustainable development and eco-friendly practices. It employs renewable energy sources, waste management systems, and green building initiatives to minimize its environmental footprint.

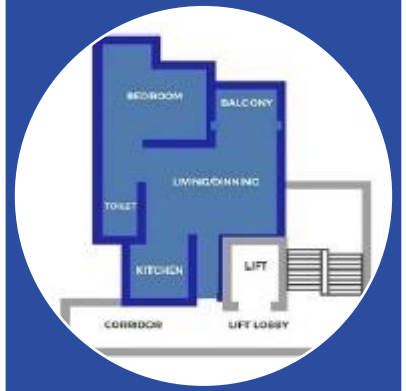
- No. Of Employees : 26000+
- No. of Agency Staff : 4000+
- No. Of Visitors : 2500/day
- Energy consumption : 2.5 Lakh kWh/ day(250 MWh/day)
- Water Consumption : 4000 m^3 /day

RELIANCE CORPORATE IT PARK LIMITED- DEMOGRAPHICS

Reliance Industries Limited

TOTAL AREA

507 Acres



BUILT UP AREA

201 Acres

TOTAL GREEN AREA

142 Acres

NUMBER OF FLOORS

260

AVERAGE DAILY FOOTFALL

26000+

TYPES OF SERVICES

Technical
Fire & Safety
Soft services
Administration
Horticulture
Sports
& Other empowering services

EQUIPMENTS IN RCITPL

Reliance Industries Limited

Equipments	Quantity
AHU	622
Air blower	8
Agitator	2
Bar screen	2
Boom barrier	24
Cassette	197
Chiller	14
Chemical dozing	2
Cold storage	5
Compressor	2
Condensor Pump	5
Cooling tower	13
Cooling water pump	3
Dewatering pump	10
DG	7
Diesel dewatering pump	2
Diesel storage pump	5
Ductable	34
DX	12
Digestor	1
Expansion tank	3
Fire pump	10
Fountain pump	3
Irrigation pump	3
KEF	44
KFA driver canteen	2
Ozone generator	2
PAC	109
PHE pump	6

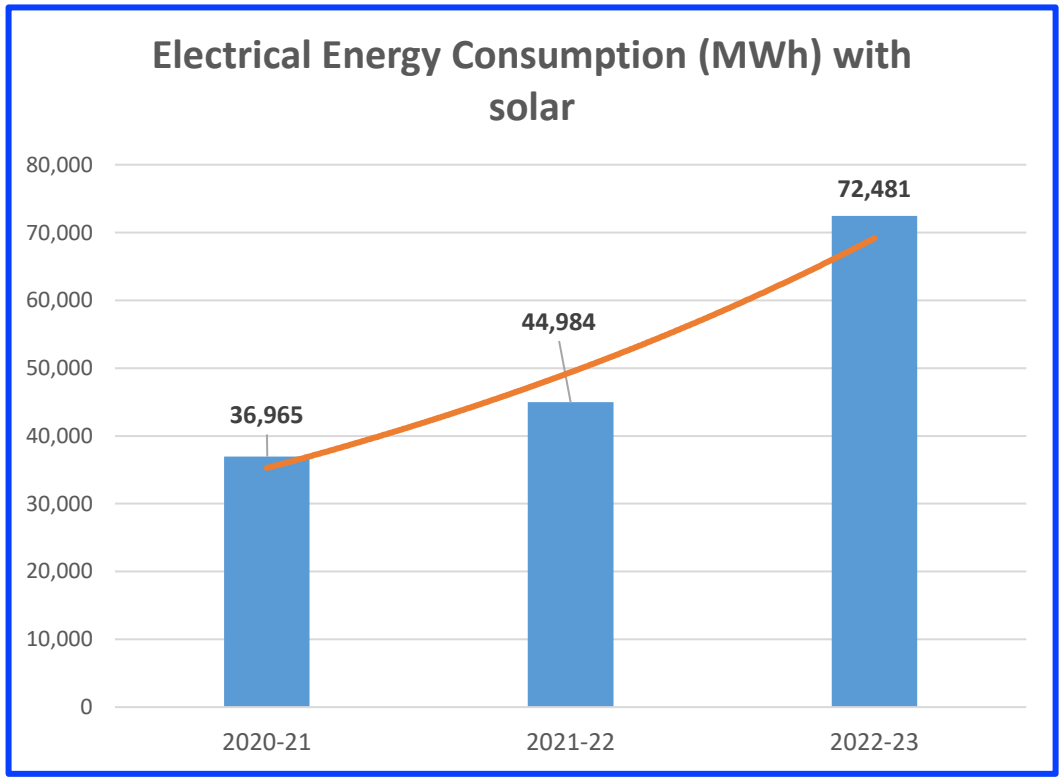
Equipments	Quantity
PHE	4
PSF	10
Pump	63
Refrigerator	270
SAC	582
Secondary pump	10
Sewage pump	13
Sliding gate	13
Shredder	2
Solar water tank	16
Solar flat plate collector	320
Baloon	1
Tanks	28
STP pumps	14
VAV	126
Ventilation fans	180
VRV	1772
Water booster pump	36
Water cooler	368
Water purifier	372
Aerator	7
Air curtain	48
Air coolers	215
Control panel	12
Dishwasher	32
Fire supression system	29
Gas leak detection system	29
Sliding gate	12
Surface water pumps	10

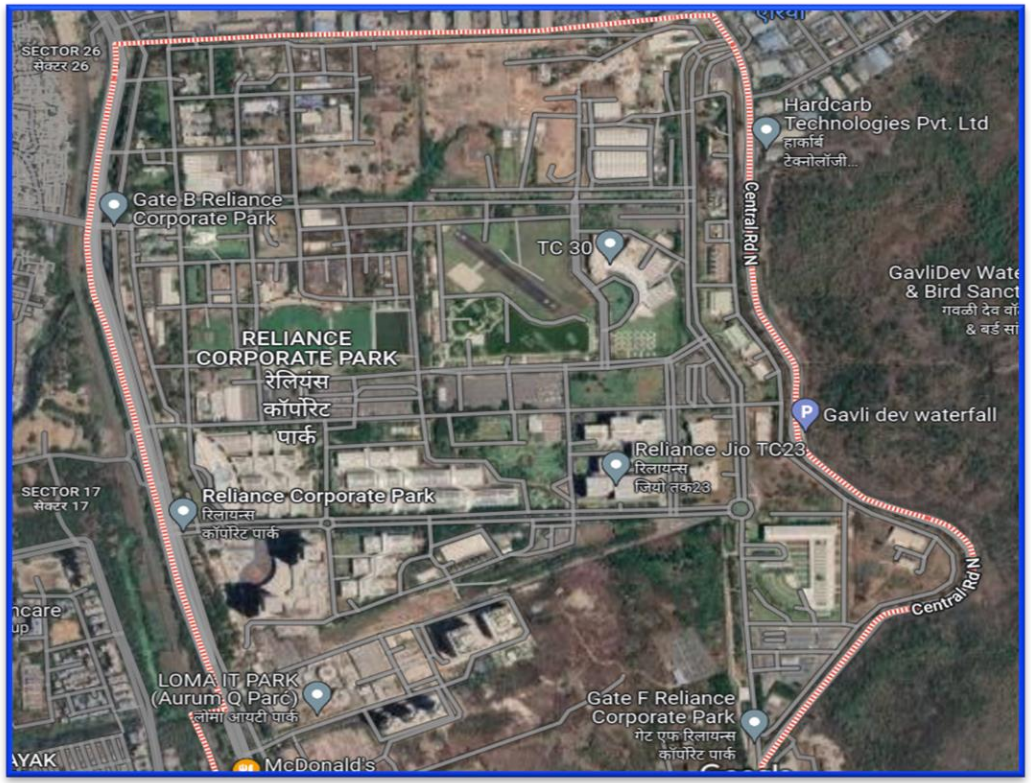
Equipments	Quantity
Transformer	88
Solar PV cells	6678
VCB	161
Motor	659
Lightning Arrestor	6

ENERGY CONSUMPTION OVERVIEW

Reliance Industries Limited

Sr.no.	Item	2020-21	2021-22	2022-23
1	Electrical Energy Consumption (MWh) including solar	36965	44984	72480

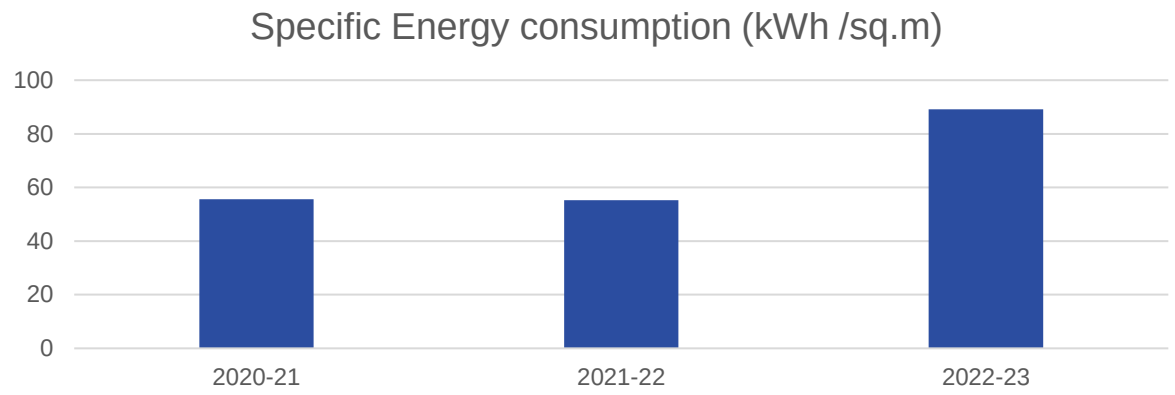




SPECIFIC ENERGY CONSUMPTION FOR LAST 3 YEARS

Reliance Industries Limited

Sr.no.	Item	2020-21	2021-22	2022-23
1	Specific Energy consumption (kWh/sq.m)	55.61	55.29	89.09



Reasons for Variations:-

1. Campus reopening post lockdown.

2. Perpetual complex landscape amplification.

3. During lockdown Campus was used as a Quarantine Centre and vaccination centre for Reliance Family.

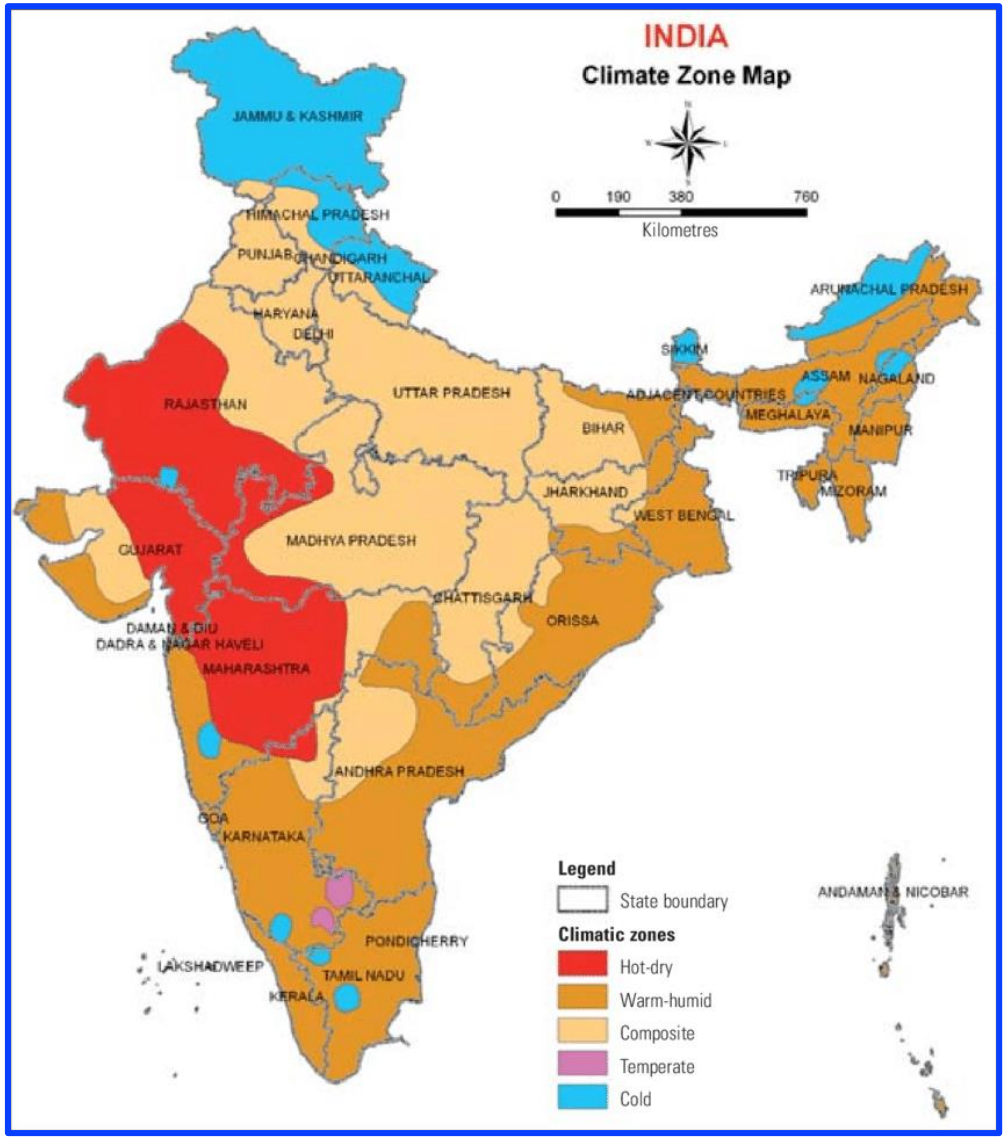
INFORMATION ON COMPETITORS BASIS NATIONAL & GLOBAL BENCHMARKING

Reliance Industries Limited

Sr. no	Benchmark for Commercial buildings	Climate zone	EPI (kwh/sqm) for more than 50% Air Conditioning
1	GRIHA	Warm & Humid	90
2	National (BEE)	Warm & Humid	182

Building	EPI (kwh/sqm)
Reliance Corporate IT Park	**89.09**

BEE Star Rating (Warm & Humid)	
EPI (kwh/sqm/year)	**Star Rating**
200-175	**1**
175-150	**2**
150-125	**3**
125-100	**4**
Below 100	**5**



ENERGY SAVINGS PROJECTS IMPLEMENTED IN LAST 3 YEARS

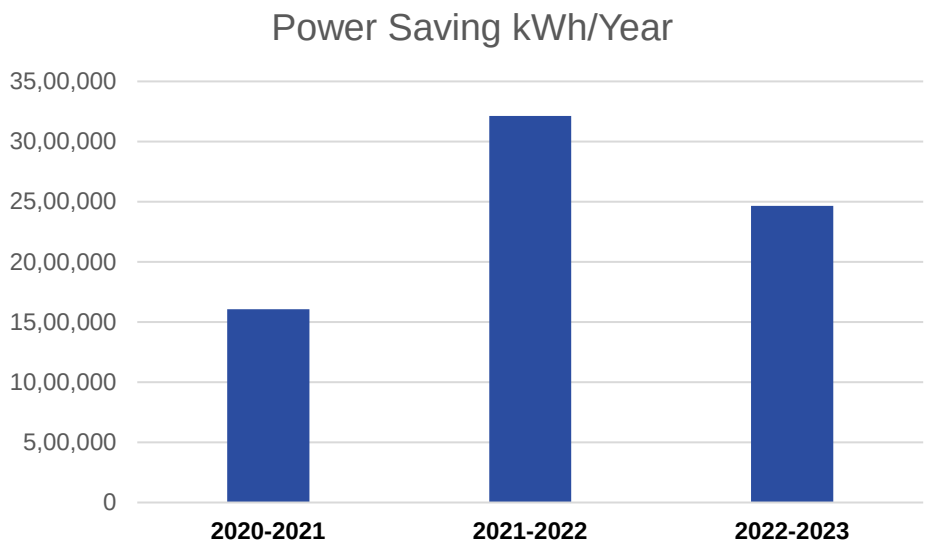
Reliance Industries Limited

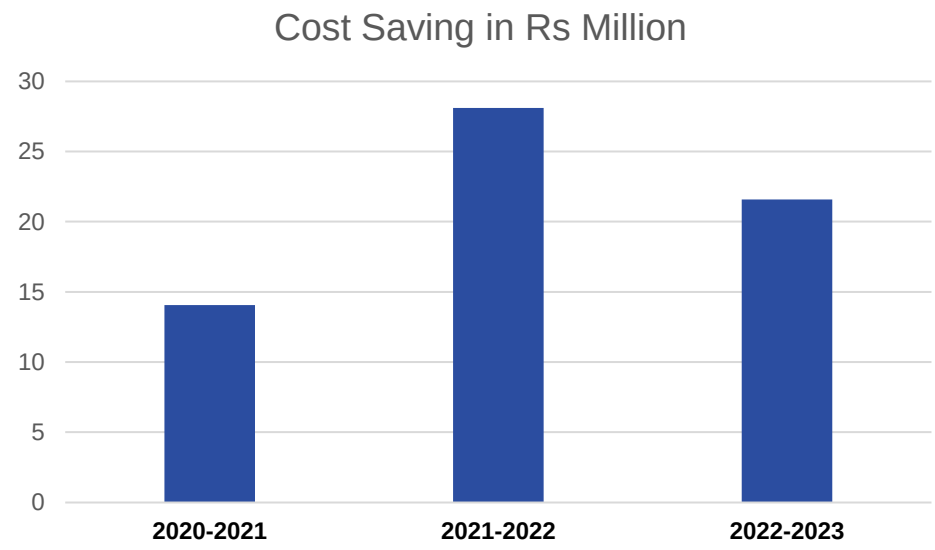
Sr.no	Title of the Project	Categories	Annual Electrical saving	Annual Electrical saving (kWh)	Annual Electrical Cost saving (Rs million)
1	Replacement of CFL/PL by Energy efficient LED	Energy savings through technology retrofits	2020-2021	16,06,052	14.05
2	Underground Pipeline replacement	Energy savings through passive design changes	2021-2022	86,048	0.75
3	Solar panel installations (4.8 MWp)	Energy savings through operational optimization	2022-2023	64,87,959	740.63

REPLACEMENT OF CFL/PL BY ENERGY EFFICIENT LED

Reliance Industries Limited

Encon Project 1	Before		After		Power Saving kWh/Year	Cost Saving in Rs Million
YEAR	CFL/PL kW	Quantity	LED kW	Quantity		
2020-2021	633	8387	165	6921	1,606,054	14.05
2021-2022	1271	21325	350	17390	3,212,039	28.1
2022-2023	1033	18145	327	15771	2,465,079	21.57





UNDERGROUND PIPELINE REPLACEMENT

Reliance Industries Limited

Encon Project 2

Water & Energy conservation through UG Pipe Line replacement achieved in year 2021-22.

Concept of Re-designing :-

- Earlier UG pipes laid without wrapping coating at welded joint. In OSBL area mark of JCB and earth moving equipment's observed on UG pipes.
- Overall impact of this caused heavy leakages in UG network causing loss of water and power.
- At road crossing MS sleeves provided to protect the line from heavy earth moving equipment .
- For water consumption monitoring water flow meters introduced in the system for each services.

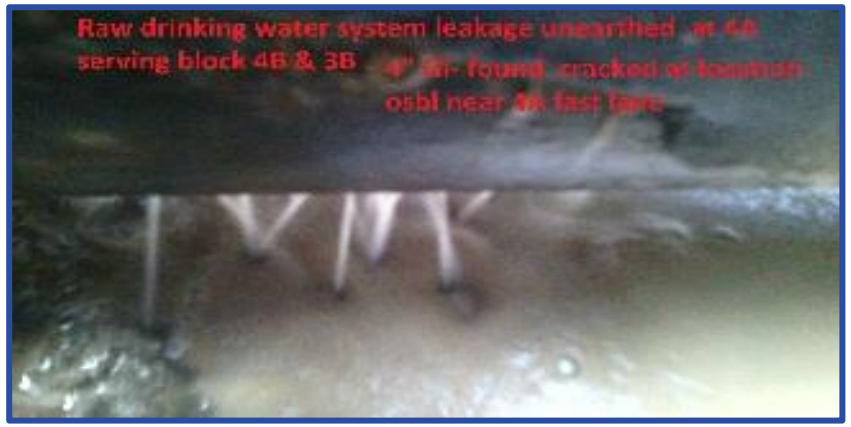
Value Stream Enhancement:	
Water Saving 507 M3 /day	Rs 41.6 Lakhs/year
Power Saving 10 kW	Rs 7.5 Lakhs/year
Total Saving/ year (Water +Power)	Rs 49.1 Lakhs/Year

UNDERGROUND PIPELINE REPLACEMENT (SUPPORTING DOCUMENTS)

Reliance Industries Limited

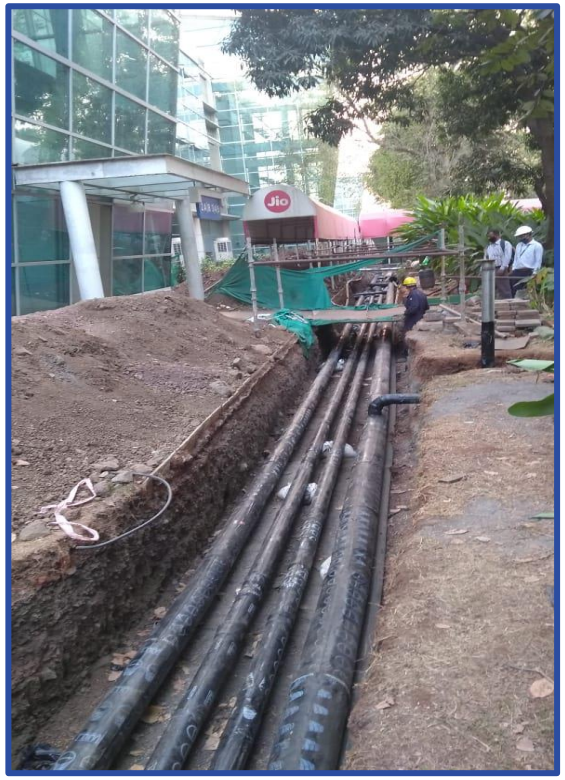
Before

Existing Pipe condition



Underground Line Leakages

After



Holiday test of Anticorrosive wrapping coating and Pipes laying

SOLAR PANEL INSTALLATION

Reliance Industries Limited

Encon Project 3

- Currently **4.8 MWp** system is operational.
- Laying of water connection lines for cleaning solar module.
- This is having potential of approx.. 9% of our total Maximum consumption.

Value Stream Enhancement:

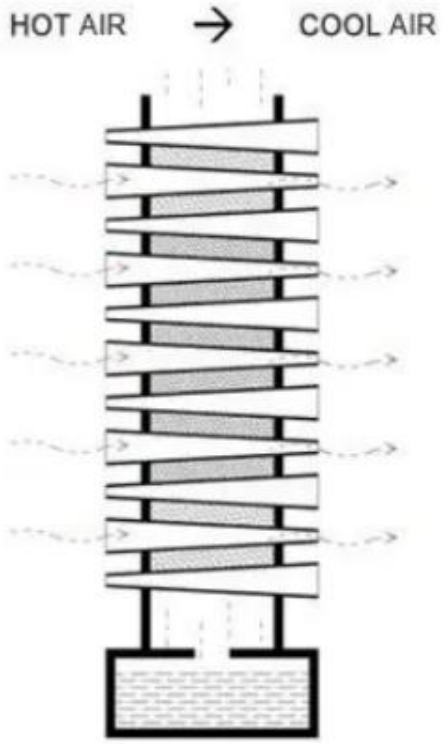
- Reduction in carbon foot print.
- Renewal Energy.
- Part of green initiative for commitment towards net carbon zero and Process efficiency.

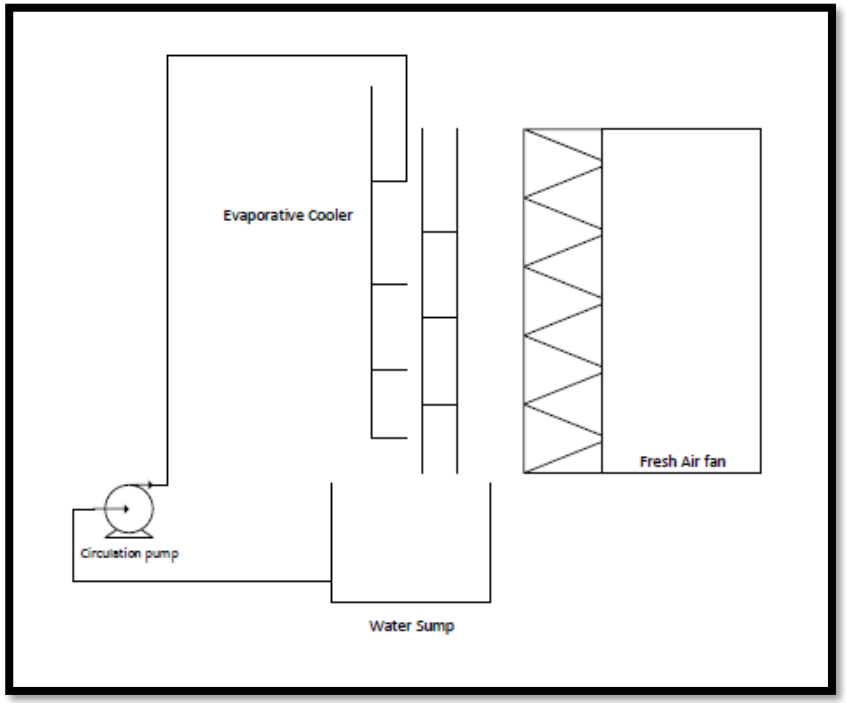
INNOVATIVE UPCOMING PROJECT

Reliance Industries Limited

Fresh air unit with evaporative cooler.(Indirect cooling)

- Utilization of evaporative type cooling concept in Fresh air fans and Kitchen fresh air fans.
- Use of terracotta material provides a sustainable and natural approach with a reduction in fresh air temperature by 4 deg. Celsius without adding moisture.
- With installation of evaporative cooling concept FCU use can be reduced, thus approximate saving of 40 TR thermal energy per day.(~8%)





INNOVATIVE PROJECTS

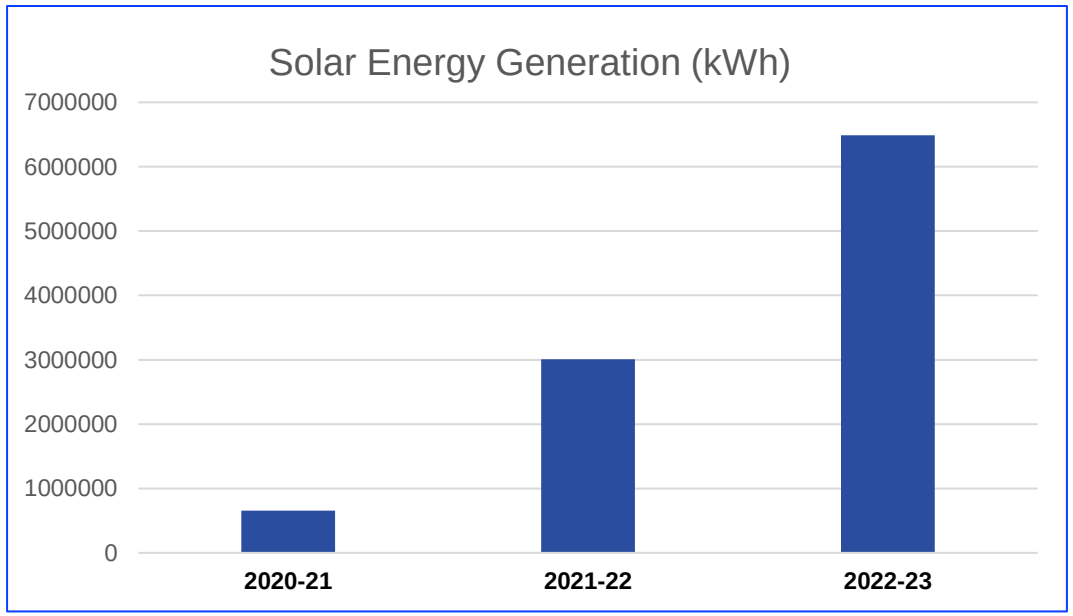
Reliance Industries Limited

Treated water utilization for Flushing

- In bldg. LDC, new 4” dia. 50 meter MS line was fabricated and laid from LDC flushing valve pit.
- This newly laid line was connected to treated water line.
- MIDC water saving per day: 28 to 32 M^3.

UTILIZATION OF RENEWABLE RESOURCES

Sr.no.	Item	2020-21	2021-22	2022-23
1	Solar Energy Generation (kWh)	657732	3009311	6487959



- Increase in generation is due to increased installed capacity of the Solar panels.
- Proper cleaning and maintaining schedule is defined.
- We have road map of increasing the solar generation capacity by 2 MW/year.

UTILIZATION OF RENEWABLE RESOURCES

Reliance Industries Limited

Sr.no.	Name of the Fuel	Year	Quantity of waste Fuel used (MT/year)	GCV of fuel (kCal/kg)	Heat Value (million kcal/year)
1	BIOGAS	2020-2021	3964	4980	19.7
2	BIOGAS	2021-2022	9165		45.6
3	BIOGAS	2022-2023	31837		158.5

- Food waste, Green vegetables & Bio gradable waste generated in food court areas utilized for generation of biogas in 3 TPD capacity and used for bulk cooking in food court.
- Dry vegetation coming out from landscaping is converted into vermicomposting with the help of biogas waste slurry.
- Vermicomposting generated is used by in-house gardening team as a manure.

For Year 2021-2022
Total Production – 49273 Kg
Avg. Production per month – 4106 Kg
Approx. cost saving – 3.45 lacs.

For Year 2022-2023
Total Production – 105717 Kg
Avg. Production per month – 13200 Kg
Approx. cost saving – 7.40 lacs.

GHG EMISSIONS AND INDOOR AIR QUALITY

Reliance Industries Limited

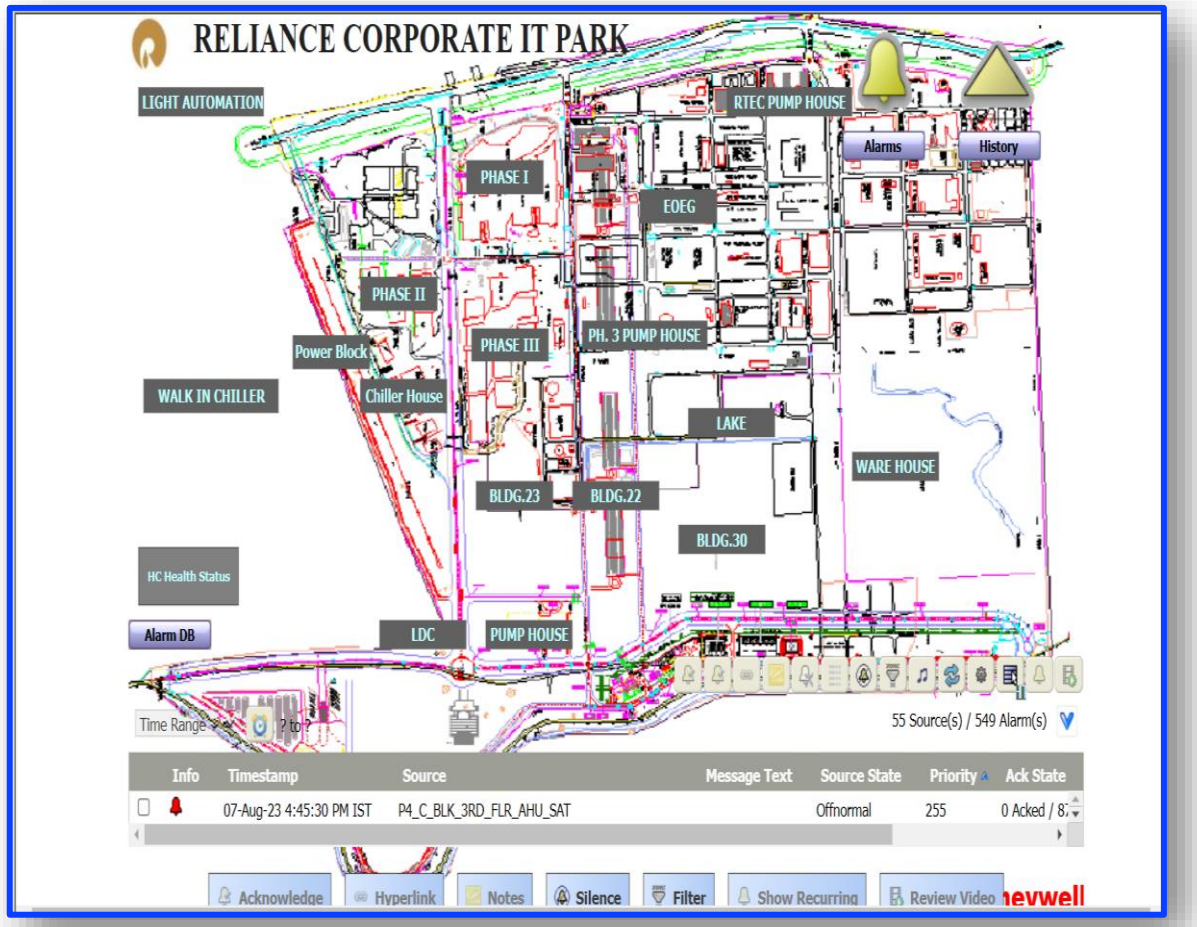
Sr.no.	Year	Scope 1 emissions	Scope 2 emissions	Tons of CO2 equivalent
1	2020-21	139	29409	29548
2	2021-22	116	33160	33276
3	2022-23	167	46855	47022

INDOOR AIR QUALITY MONITORING										
Date	**Phase/Bldg.No**	**Floor**	**Location**	**VOC**	**TEMP**	**Relative Humidity**	**CO2(PPM)**	**CO(PPM)**	**Average Occupancy**	**PM2.5**
11-04-2023	Bldg. 22									
		09FLOOR	WS102	0	24	42.5	500	0	12	0.162
			WS145	0	24.2	43.5	535	0	12	0.167
			WS183	0	24.2	42.9	541	0	10	0.182
			WS199	0	24.2	43.1	542	0	15	0.185
			WS251	0	24.2	43.2	551	0	12	0.191
			WS290	0	24.1	43.2	552	0	12	0.192
		08FLOOR	WS105	0	24.1	44	621	0	15	0.182
			WS148	0	24	45.5	671	0	15	0.181
			WS185	0	23.8	44.6	690	0	15	0.211
			WS197	0	24	44.7	669	0	10	0.201
			WS254	0	24	42	635	0	10	0.199
			WS295	0	24	43.1	625	0	10	0.191

- Round the year, Indoor air quality monitoring is carried out for knowing air quality across complex by internal team with the use of multi factor monitor- 3M- EVM7.
- ISHRAE standards are followed for office building IAQM limits.

BMS AND CERTIFICATION

We have an integrated building management system for monitoring and controlling the campus. The monitoring & analysis of the BMS is 24x7.



The implementation of a Building Management System offers several significant advantages for our campus:

•**Energy Efficiency:** BMS optimizes energy consumption by controlling HVAC,systems based on occupancy and environmental conditions, leading to cost savings and reduced carbon footprint.

•**Occupant Comfort and Productivity:** Proper environmental control enhances occupant comfort, leading to increased productivity and well-being.

•**Safety and Security:** BMS integrates fire alarm systems to enhance building security and safety measures.

•**Centralized Monitoring and Control:** BMS provides a single platform for managing multiple systems, streamlining facility management and reducing manual intervention.

•**Sustainability :** BMS plays a crucial role in achieving sustainability goals.

AWARDS AND RECOGNITION

Reliance Industries Limited

YEAR	AWARD
2012	CII-National Award for Excellence in Energy Management 2012
2016	IGBC Green Campus Platinum Rating 2016.
2018	ACREX 2017-2018 Hall of Fame award – Building no 22 - The most ICONIC Building 2017-2018 .
2021	Renewed IGBC Green Campus Platinum Rating 2021.


CII
Confederation of Indian Industry

National Award for
Excellence in Energy Management 2012

This is to certify that

RELIANCE CORPORATE IT PARK LTD , NAVI MUMBAI

is an "Energy Efficient Unit"

This is being given on completion of the National Competition for Excellence in Energy Management held on 22 & 23 August 2012 at Hyderabad

L S GANAPATI
Chairman
National Award for Excellence in Energy Management 2012

Dr NAUSHAD FORBES
Chairman
Energy Efficiency Council & Energy Efficiency Summit 2012


IGBC

CII
Confederation of Indian Industry

Indian Green Building Council (IGBC)

hereby certifies that

Reliance Corporate IT Park

Ghansoli, Navi Mumbai

(IGBC Registration No. GCE 16 0004)

has successfully achieved the Green Building Standards required for the following level of certification under the

IGBC Green Campus Rating System

(Existing Campus)

Platinum

19 November 2021

The recertification is valid for 5 years

Jayesh Hariyani
Chair, IGBC Green Campus

V Suresh
Chairman, IGBC

K S Venkatagiri
Executive Director, CII-Godrej GBC

NET ZERO COMMITMENT

Reliance Industries Limited

2020
Announced Net Carbon Zero by 2035 target

2023
2.53 million GJ energy savings; 120% increase Y-o-Y

6.73 million GJ Renewable energy consumption; 115% increase Y-o-Y

Waste biomass utilization at Dahej & Hazira form 7% & 4.7% of respective site's energy consumption

2024
10 GW solar PV factory to commence production in Jamnagar
Start production of battery packs and scale up to a fully integrated 5 GWh annual cell to pack manufacturing facility

2025
Establish 20 GW solar capacity for captive needs of RTC power and intermittent energy for Green Hydrogen
Commence transition from grey to green hydrogen

2026
Jamnagar PV factory scaled to 20 GW in a phased manner

2027
Expansion of cell-to pack manufacturing facility to 50 GWh annually

2030
Establish and enable 100 GW of Solar Energy

2035 Net Carbon Zero

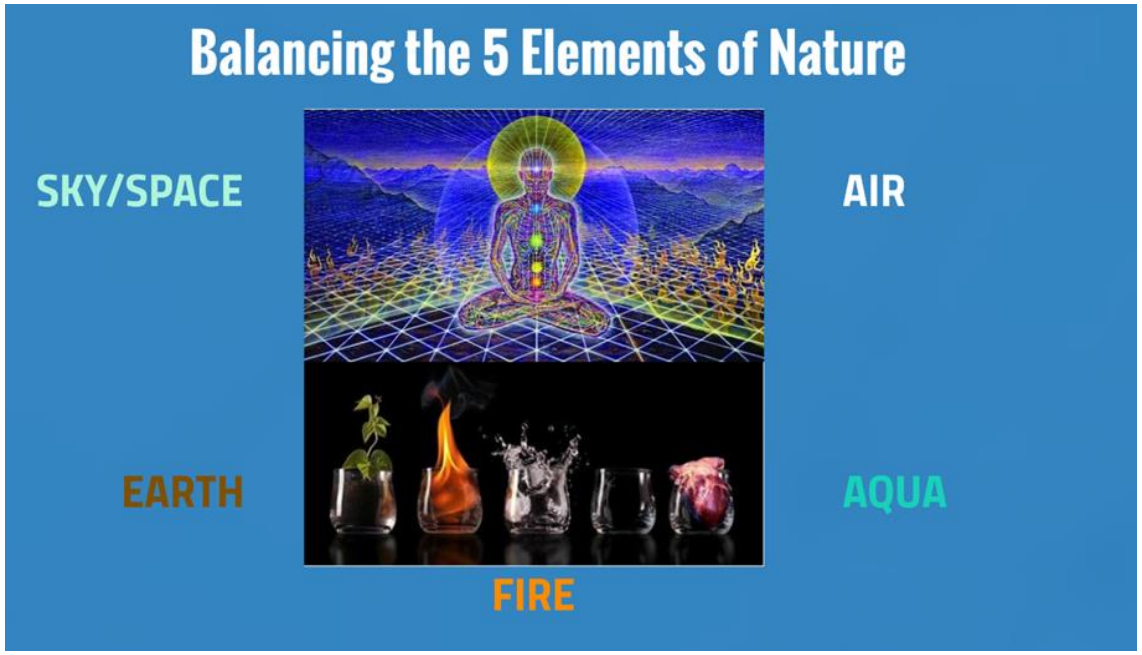
Reliance has made a strong start on the ambitious journey to become Net Carbon Zero by 2035. The Company envisions becoming one of the world's leading **New Energy** and **New Materials Company** over a period of 15 years through a strategic focus on:

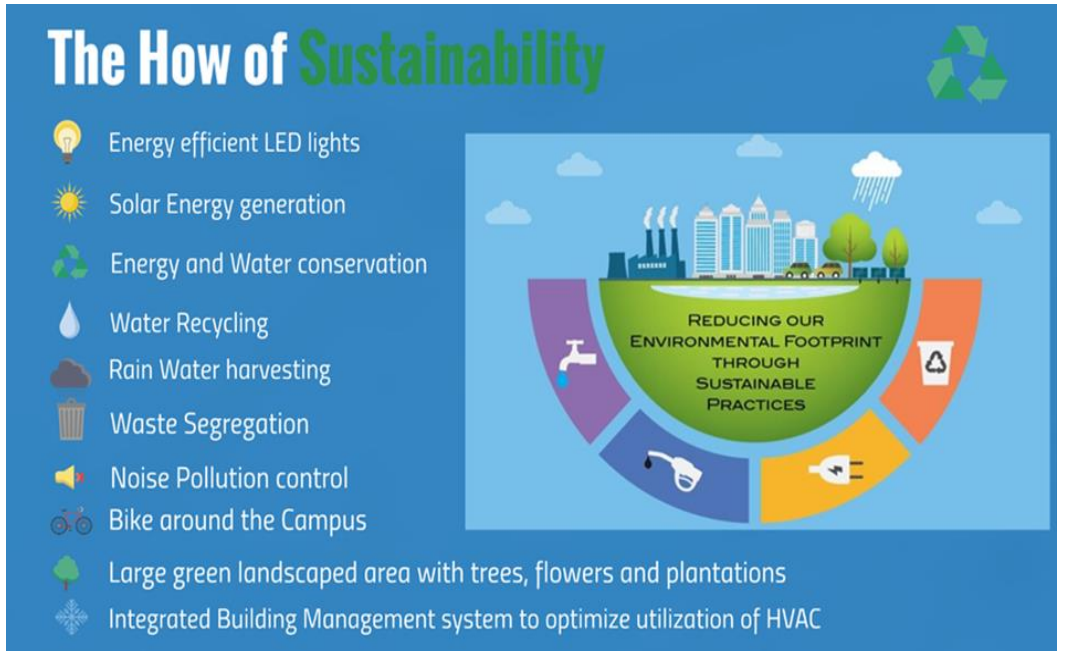
Clean energy transition	Making CO_2 a recyclable resource	Replacing transportation fuel	Others include
			• Improving energy efficiency • Upgrading syngas to high-value chemicals • Converting transportation fuels to valuable petrochemicals and material building blocks

ROADMAP TO NET ZERO IN RCITPL

Reliance Industries Limited

SUSTAINABILITY…….What does it really mean to us ?





- The answer is found in the ancient science of Pancha Bhoota which is extensively explained in the Vedas!!
- Nature and the human body is made up of five basic elements: **earth, water, fire, air, and space**.
- Sustainability is achieved through and optimum **“Balance of these 5 elements in nature and the human self”**

SUSTAINABILITY IN RCITPL

Reliance Industries Limited

1) Solar Power Generation

- RCITPL Currently has operational 4.8 MW solar power plant.
- In Phase 1-2-3, terrace has been modified with Solar panel resulting in reduced heat gain in module area.

2) IBMS

- All the Lights and HVAC systems are integrated with the BMS system
- Optimum utilization of the HVAC system is obtained resulting in the Energy savings.
- The Energy data is monitored remotely through BMS system.

3) EV Charging stations

- Overall in RCITPL there are 14 Charging points of Electric Vehicles.

4) BIOGAS

- Food waste and Green vegetables biogradable waste generated in food court areas utilized for generation of biogas. The gas created is sold to the vendors. There is creation of wealth from waste.
- Biogas Plant Capacity : 3 TPD.

SUSTAINABILITY IN RCITPL

Reliance Industries Limited

5) LAKE

RCITPL has an artificial Lake of 7-acre area with 28000 Square meter surface area.

- The total rainwater storage available in the lake is 45000 Cubic meter.
- The Lake is catching all the rainwater coming from uphill side & storing the water.
- Lake has drastically reduced long-term negative environmental impacts thereby promoting habitat and biodiversity.

6) Rain Water and Condensate Harvesting

- Use of rain water by directly transferring to cooling tower from chiller house roof resulted in not only saving of MIDC water but also it's pumping power.
- Total Catchment Area : 27211 sq. m.

7) Effluent Treatment Plant (ETP)

- **50 M3/Day** is the capacity of the Effluent Treatment plant for treating wastewater generated from the RTG Labs.

SUSTAINABILITY IN RCITPL

Reliance Industries Limited

8) Sewage Treatment Plant

- **2050 M3/day** is the capacity of the Sewage Treatment plant for treating domestic waste water generated from the office premises of Reliance Corporate IT Park.
- Technology Used **i**s **(CAACO)Chemo- Autotrophic Activated Carbon Oxidation.**
- The treated water is utilized for gardening and flushing purpose.

9) Landscape and Horticulture

- At Various location in our green campus we have recycled the used old bicycles in the campus with the wonderful piece of art.
- Recycling helps in preserving the resources and indirectly reducing the emissions and multiple benefits.
- Horticulture plays a very significant role into our ecological Sustainability - oxygen production, carbon sinks, pollution amelioration, erosion control urban shade etc.

SUSTAINABILITY IN RCITPL

Reliance Industries Limited

10) Zen Garden

A Zen garden is a minimalist dry landscape comprised of natural elements of rock, gravel, sand and wood, with very few plants and no water.

Five elements of Zen—earth, fire, water, wood and metal—that work together to balance the energy in your environment.

Reliance
Industries Limited

GO GREEN IS A TREND , SUSTAINABILITY IS A MINDSET !!