24th National Award for Excellence in Energy Management 2023

CCC, Coimbatore

Sep 2023

Contents

Cognizant Overview

Cognizant (NASDAQ – 100: CTSH) is one of the world's leading professional services companies that engineers modern businesses. We help our clients modernize technology, reimagine processes and transform experiences so they can stay ahead in our fast – changing world. Together, we're improving everyday life.

355,300

Employees worldwide

$19.4B

Total revenue

Facility Overview

CCC (Cognizant Coimbatore Campus) is an owned facility.

Commencement of operation from:

- SDB1 – 2009
- SDB2 – 2014 (Tower – 2)
  – 2016 (Tower – 1)

Campus area :

- SDB1 – 6.56 Lakhs ft^2 with G+7 floors
- SDB2 – 6.50 Lakhs ft^2 with G+7 floors(Tower – 1&2)
- Green belt spread across 4.0 Lakhs ft^2

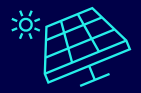
Seat capacity : 14,049

- SDB1 – 5,775 seats
- SDB2 – 8,274 seats

1st Facility in Cognizant to attain “LEED India Gold Certification”.

ISO 45001:2018 Certified Facility

Utilities Overview

Description	Specification
Substation 	• EB Demand : 7,400 kVA • Transformers Capacity : 2,500 kVA x 6 Nos (Oil cooled transformers)
Roof Top Solar 	• Total Capacity : 750 kW_p (2 x 375 kW_p)
Diesel Generators 	• Total Capacity : 15,000 kVA • Capacity Break up : 10 Nos x 1,500 kVA
UPS 	• Total Capacity : 2,860 kVA (Workstation – 2,300 kVA)
Chillers 	• Total Capacity : 6090 TR • Type - Water Cooled : 3 Nos x 950TR | 3 Nos. X 900TR | 2 Nos. x 270TR
Sewage Treatment Plant 	• Capacity : 2 Nos x 375 kL per day
High Speed Diesel (HSD) 	• Capacity : 60 kL
Rainwater Sump 	• Capacity : 70 kL

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Architectural design of the building

Façade glass (SHGC – 0.36 W/m2)

Roof top solar (750 kWp)

100% - Water cooled chillers
(ikW – 0.65 kW/TR)

100% - Modular UPS
(Efficiency - 99%)

100% LED lights @ workstation

Awards & Recognitions

Cognizant

Best Energy Saving Facility 2011

Cognizant

Best Energy Saving Facility 2012

CII

Excellent Energy Efficient Unit 2013

CII

Excellent Energy Efficient unit
Most Useful Presentation 2019

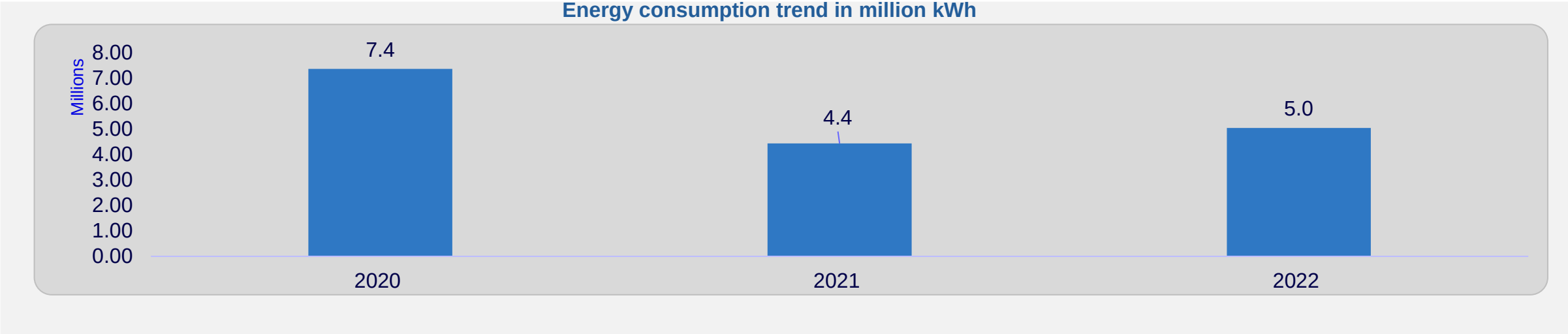
CII

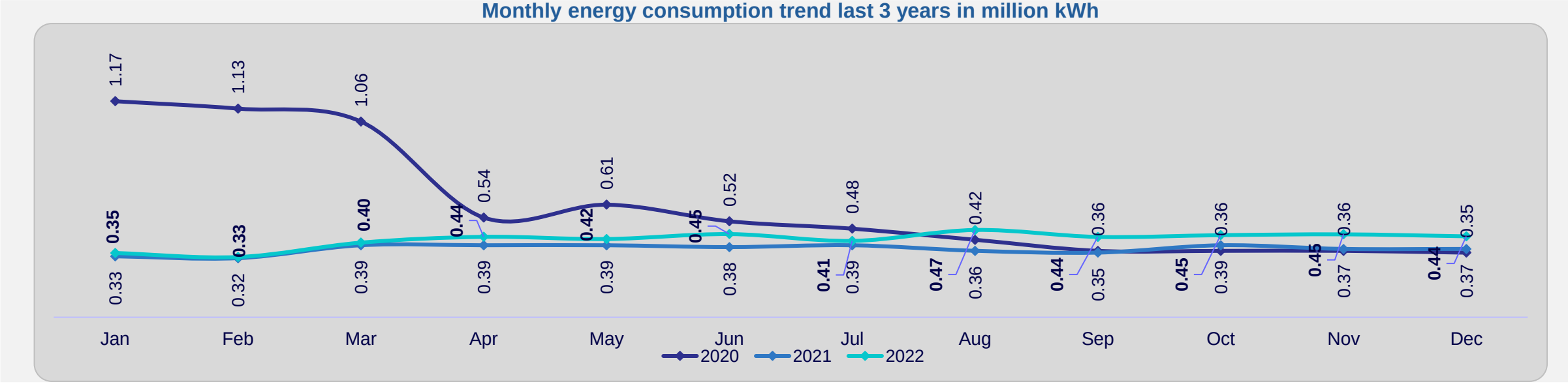
– Excellent Energy Efficient Unit 2022

We committed in 23rd National Award for Excellence in Energy Management 2022

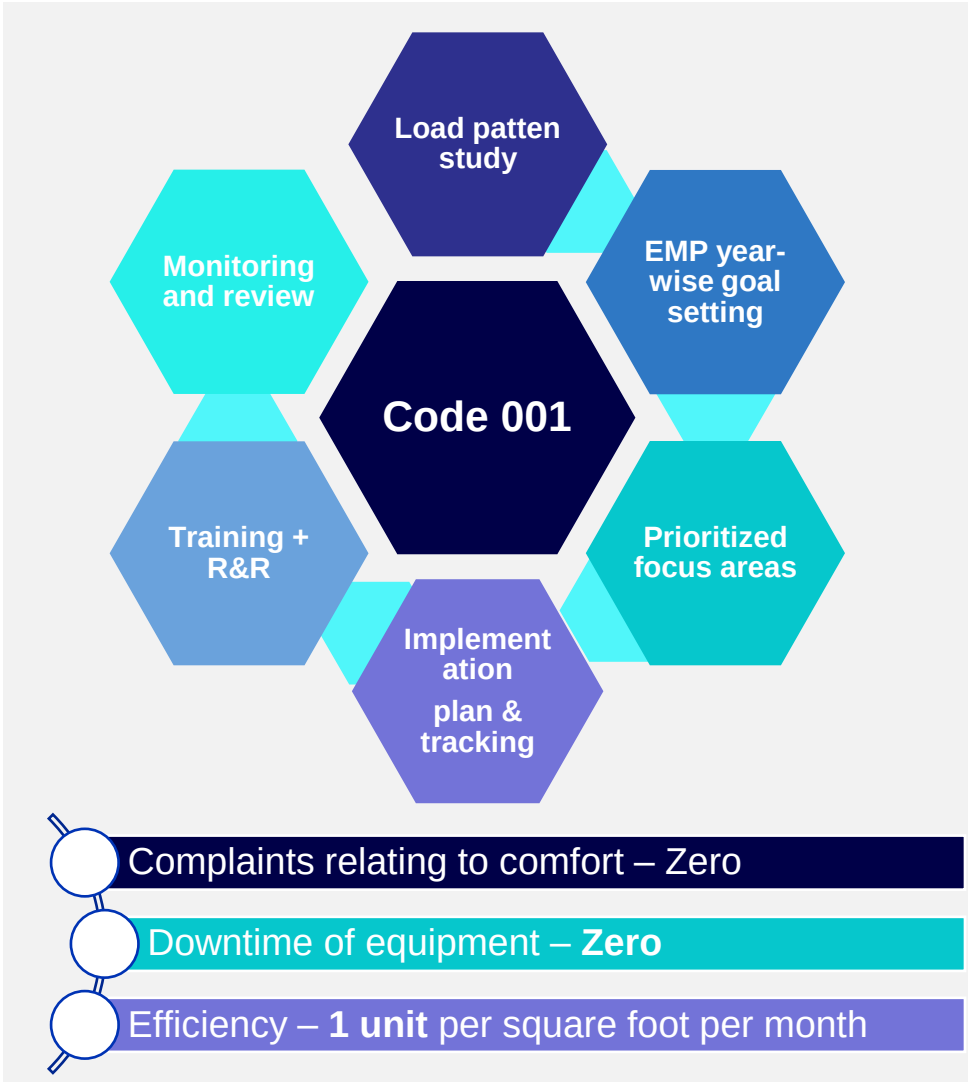
	Energy efficient power transformer retrofit	Completed
	AHU conventional V belt replacement with polyurethane belt	Completed
	Solar based battery inbuilt LED streetlight	Completed
	T5 light fixtures replace with LED light fitting	Completed
	AHU – EC fan retrofit	PO issued - WIP

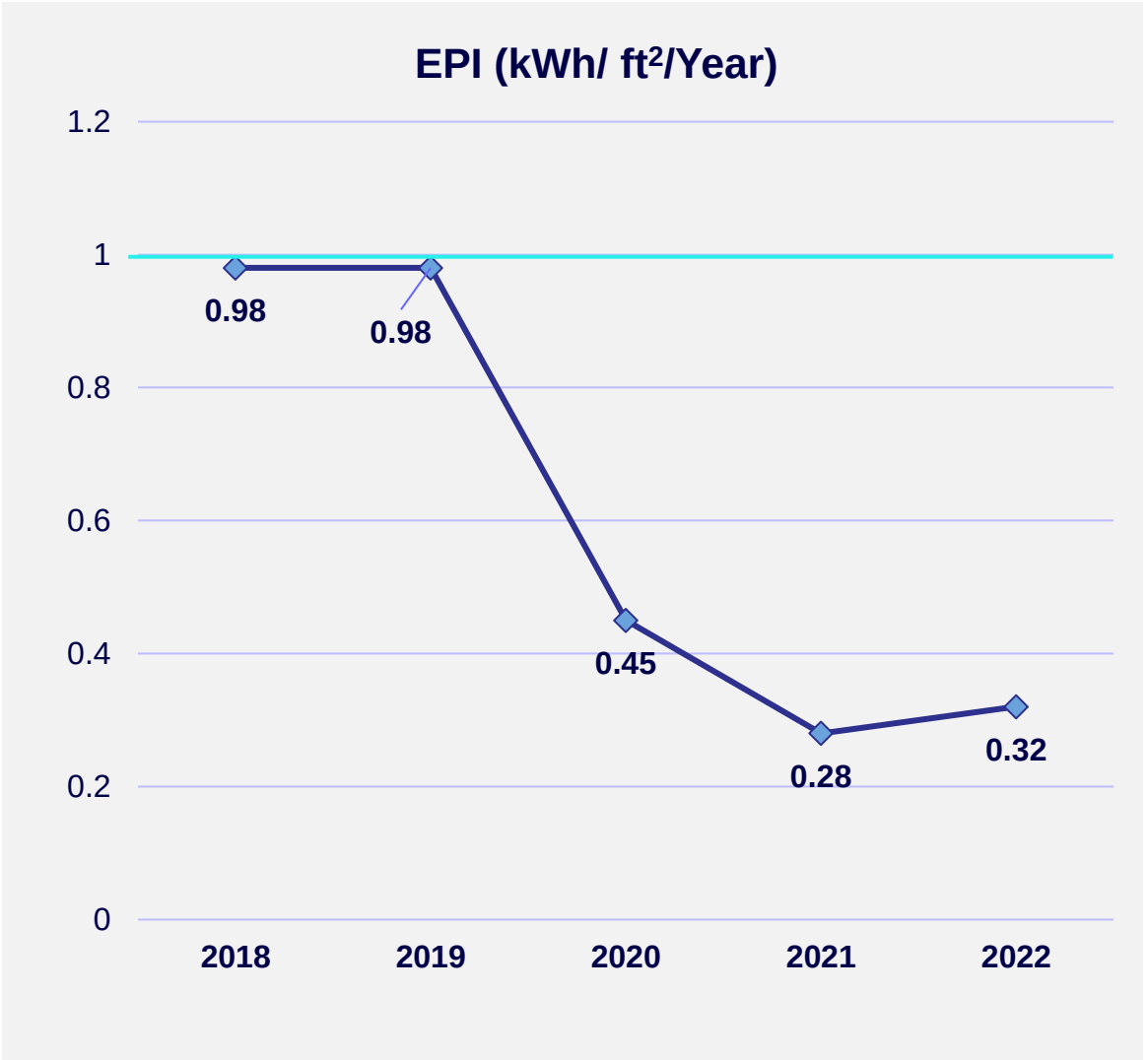
Energy consumption trend – 2020 to 2022





Cognizant's approach





National benchmark comparison

Benchmark data - BEE for buildings where air-conditioned area is 50% more than carpet area bandwidth at buildings for 3 climate zones

EPI in kWh / m^2/ Year			
Star rating	**Warm and humid**	**Composite**	**Hot and dry**
1 Star	200 – 175	190 – 165	180 – 155
2 Star	175 – 150	165 – 140	155 – 130
3 Star	150 – 125	140 – 115	130 – 105
4 Star	125 – 100	115 – 90	105 – 80
5 Star	Below 100	Below 90	Below 80

Coimbatore facility EPI				
Description	2019	2020	2021	2022
EPI: kWh/m^2/year	117	54	30	34

* Solar energy excluded.

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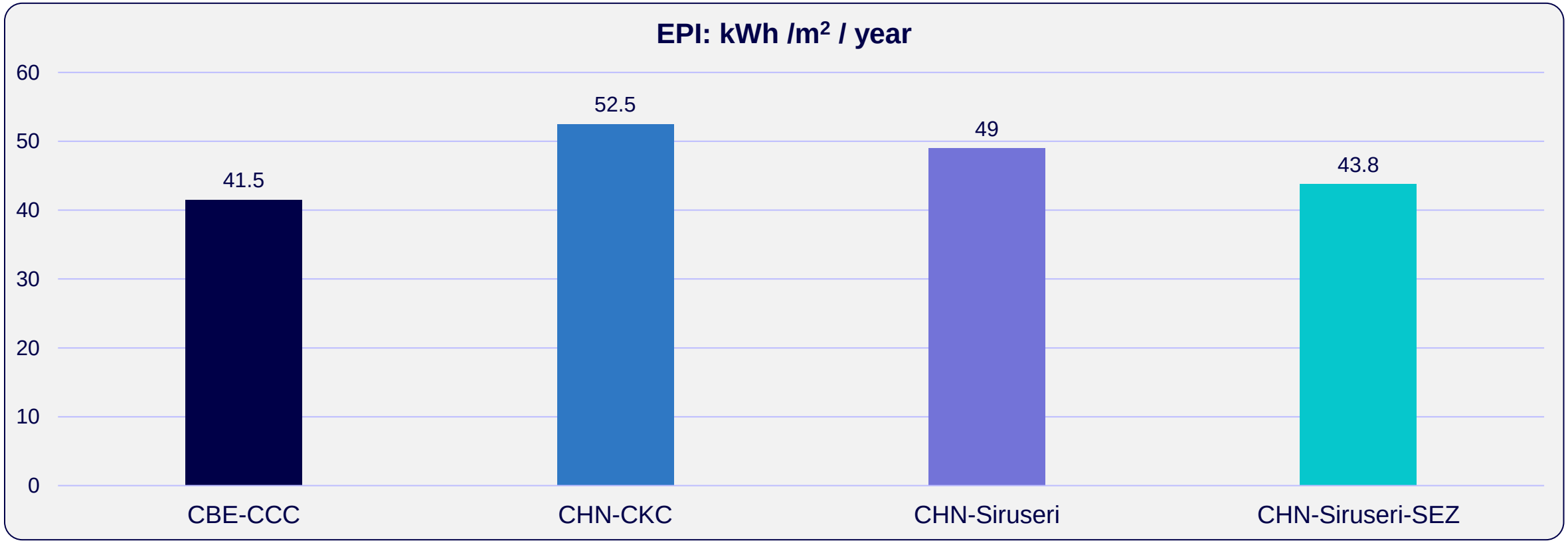
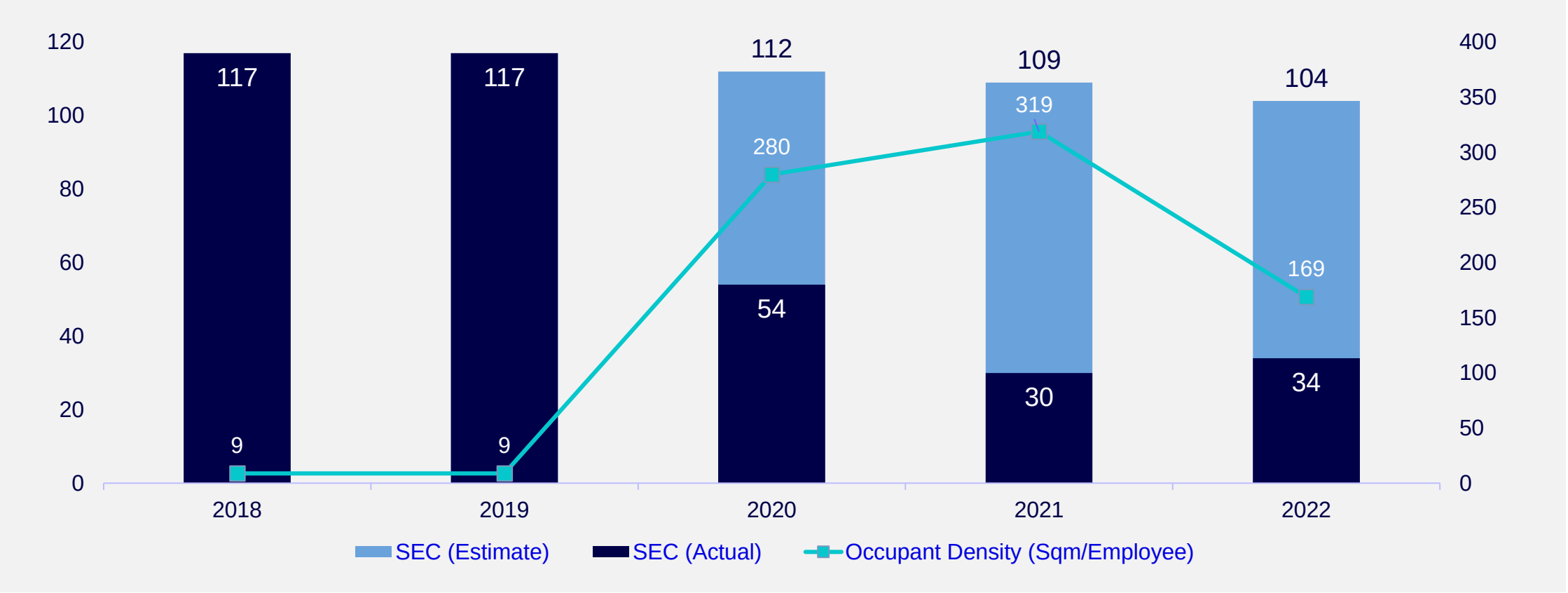
Cognizant internal benchmark comparison



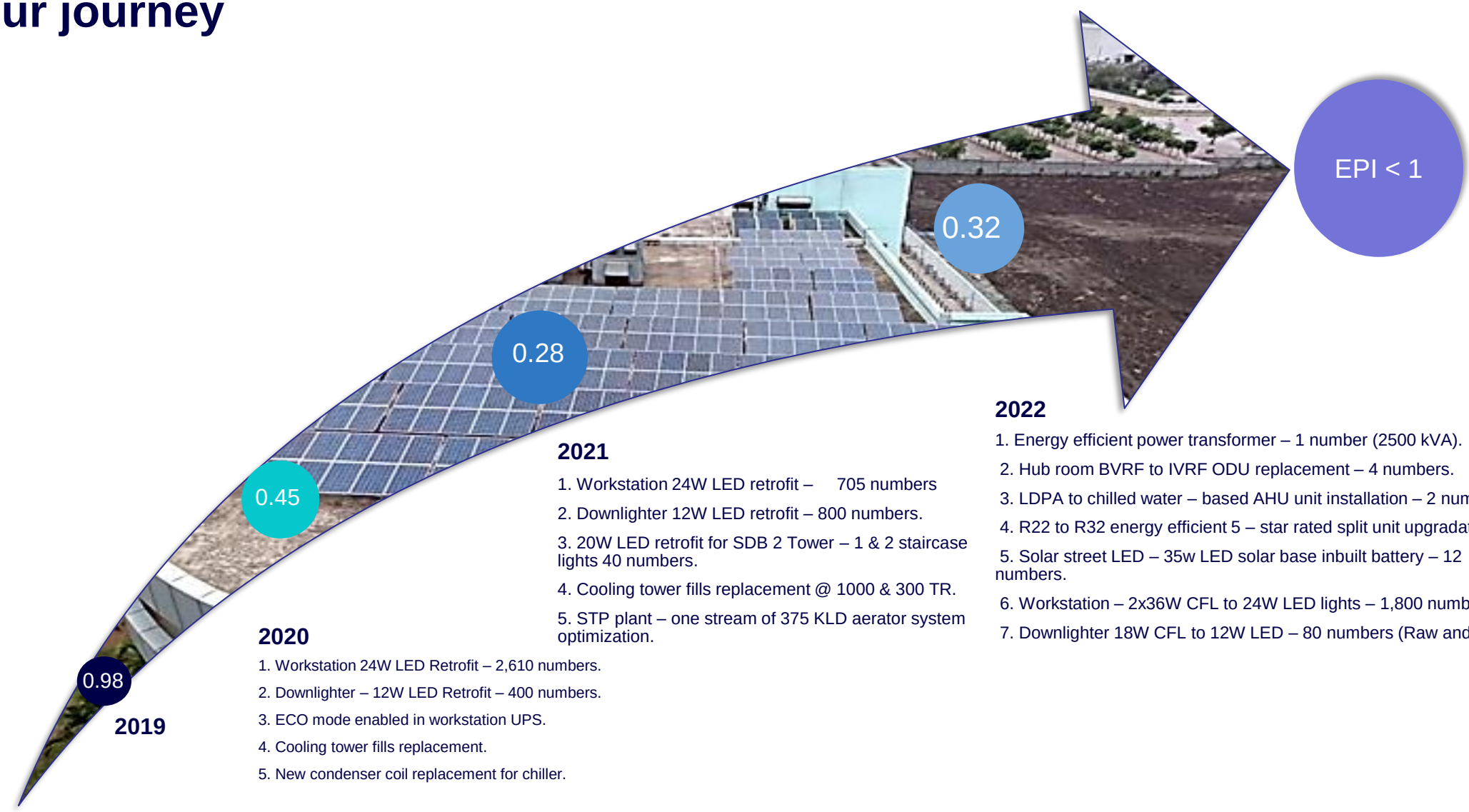
* Solar energy included.

Specific energy consumption (kWh/m²/Year) – 2018 to 2022



* Solar energy excluded.

Our journey



2019

2020

1. Workstation 24W LED Retrofit – 2,610 numbers.
2. Downlighter – 12W LED Retrofit – 400 numbers.
3. ECO mode enabled in workstation UPS.
4. Cooling tower fills replacement.
5. New condenser coil replacement for chiller.

2021

1. Workstation 24W LED retrofit – 705 numbers
2. Downlighter 12W LED retrofit – 800 numbers.
3. 20W LED retrofit for SDB 2 Tower – 1 & 2 staircase lights 40 numbers.
4. Cooling tower fills replacement @ 1000 & 300 TR.
5. STP plant – one stream of 375 KLD aerator system optimization.

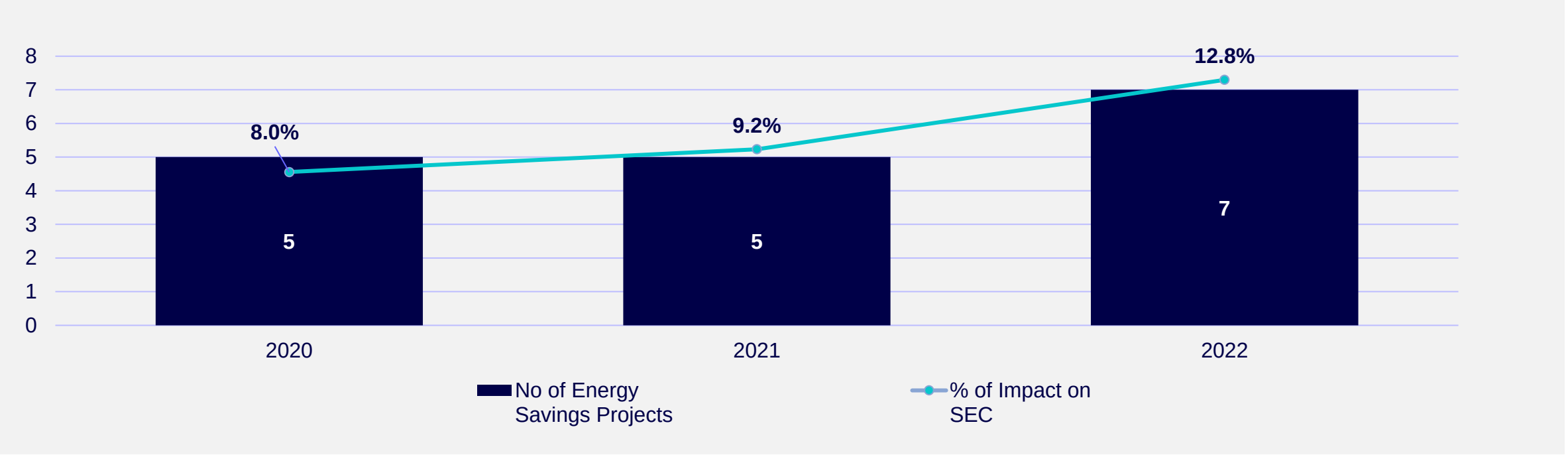
2022

1. Energy efficient power transformer – 1 number (2500 kVA).
2. Hub room BVRF to IVRF ODU replacement – 4 numbers.
3. LDPA to chilled water – based AHU unit installation – 2 numbers.
4. R22 to R32 energy efficient 5 – star rated split unit upgradation.
5. Solar street LED – 35w LED solar base inbuilt battery – 12 numbers.
6. Workstation – 2x36W CFL to 24W LED lights – 1,800 numbers.
7. Downlighter 18W CFL to 12W LED – 80 numbers (Raw and EL).

Summary on ENCON projects – Investments

S.No	Title of project	Year	Total annual energy saving (kwh)	Total annual savings (₹ INR million)	Investment made (₹ INR million)	Payback (months)
1	LED Retrofit – workstation space – 2x36W CFL to 24W LED lights around – 2,610 numbers	2020	7,608	3.48	4.35	15.0
2	LED Retrofit – downlighter 18W CFL to 12W LED – 400 numbers (Raw and EL)	2020	10,800	0.08	0.34	53.0
3	300KVA UPS 1&2 workstation UPS Energy saver Eco mode enable	2020	2,30,256	0.11	0.00	0.0
4	Cooling tower fills replacement retrofit at SDB – 1 1000 TR CT 1 & 3 and 300 TR CT 1	2020	150	2.37	2.09	11.0
5	New condenser coil replacement at SDB – 1 chiller – 1 900TR	2020	87,060	0.00	4.49	0.0
6	LED retrofit – workstation space – 2x36W CFL to 24W LED lights around – 705 numbers	2021	15,216	1.21	1.17	12.0
7	LED retrofit – downlighter 18W CFL to 12W LED – 800 numbers (Raw and EL)	2021	5,530	0.21	0.69	39.0
8	LED retrofit for SDB – 2 Tower – 1 & 2 staircase lights (EL) from 2x18w CFL to 20W LED (surface mounted) fitting – 40 numbers	2021	1,53,504	0.08	0.09	14.0
9	Cooling tower FILS replacement retrofit at SDB – 1 1000 TR CT 3 and 300 TR CT 2	2021	1,45,152	2.14	1.05	6.0
10	STP Plant – one stream of 375KLD aerator system optimization	2021	8,460	2.02	0.00	0.0
11	LED retrofit – workstation space – 2x36W CFL to 24W LED lights around – 1,800 numbers	2022	2,30,124	3.45	3.45	13.0
12	LED retrofit – downlighter 18W CFL to 12W LED – 80 numbers (Raw and EL)	2022	1,728	0.03	0.03	11.0
13	Solar LED Retrofit – 35w LED St. Lights to 35w LED solar base inbuilt battery – 12 numbers	2022	7,200	0.11	0.11	49.0
14	Energy efficient power transformer retrofit at SDB – 1 substation – 1 number	2022	21,570	1.91	6.58	38.0
15	HVAC Retrofit – Hub room BVRF to IVRF ODU replacement at SDB – 1 – 4 numbers (2 X 22HP) & (2 X 12HP)	2022	98,280	1.14	1.14	20.0
16	HVAC Retrofit – LDPA unit to chilled water-based AHU unit installation – 2 numbers (22TR LDPA to 15TR AHU) at SDB – 1 GF UPS & Battery Room	2022	36,000	0.55	0.55	44.0
17	HVAC Retrofit – R22 to R32 energy efficient 5-star rated split unit upgradation	2022	2,49,885	0.25	2.08	7

Energy saving projects implemented – 2020 to 2022



Year	Number of energy savings projects	Investments (₹ INR million)	Energy Save (Million kWh)	Cost Save (₹ INR million)	Impact on SEC (%)
2020	5	11.27	0.59	6.04	7.97%
2021	5	3.01	0.41	5.66	9.15%
2022	7	16.22	0.64	10.93	12.77%

Innovative : 1 – Energy efficient power transformer retrofit

Ideation

Energy efficient power transformer

2500 kVA 22/0.433kV

Challenges

- High voltage issue at during nighttime and weekend.
- Forced to run the DG system.
- High carbon emission.

Target

- High voltage period is eliminated.
- DG running cost is eliminated.
- High efficiency & energy savings. Winding design is as per IS:1180 Level – 2.

Growth

Cost avoidance	19.5 Lakhs
Energy savings	21,570 kwh
Co2 emission	100 Metric Tons

Before

After

Efficiency	Exiting transformer 2500kVA, 22/11/0.433kV		New transformer 2500kVA, 22/0.433kV IS: 1180 Level – 2	
	U.P.F	0.8P.F	U.P.F	0.8P.F
100% load	98.78%	98.48%	99.27%	99.09%
75% load	99.00%	98.76%	99.40%	99.26%
50% load	99.18%	98.98%	99.51%	99.38%
25% load	99.19%	98.99%	99.50%	99.37%
Load at which max efficiency occurs	**Efficiency : 99.232% @ Load: 35.162%**		**Efficiency : 99.530% @ Load : 36.453%**	

Innovative : 2 – HVAC Retrofit – DX to AHU installation at the UPS room

Objective

Conversion of DX to chilled water- based AHU unit installation at the UPS room.

Process

22TR LDPA to 15TR AHU

DX to chilled water–based operation.

Target

- Low O & M cost.
- CO_2 reduction on refrigerated avoidances.
- Higher Efficiency

Growth

- Energy savings: **43,200 kWh**
- Cost savings: **INR 6,97,688**

Before

After

Energy savings calculation			
Sl. no	**Description**	**UOM**	**Qty**
1	LDPA unit operational average consumption	kWh/Day	130
2	AHU operational average consumption	kWh/Day	30
3	Energy savings per day	kWh/Day	100
4	Energy savings per month	kWh	3,600
5	Cost savings per month (Rs.15.25)	INR	45,750
6	**Cost savings per annum**	**INR**	**6,97,688**

Innovative : 3 – R22 to R32 energy efficient 5 – star rated split unit retrofit

Objective

Conversion of R22 to R32 energy efficient 5 star rated split unit.

Process

R22 to R32 operated split unit.

Target

- Eco-friendly maintenance
- High CFM level achieved – contributing energy saving
- Over energy savings achieved – 20%

Growth

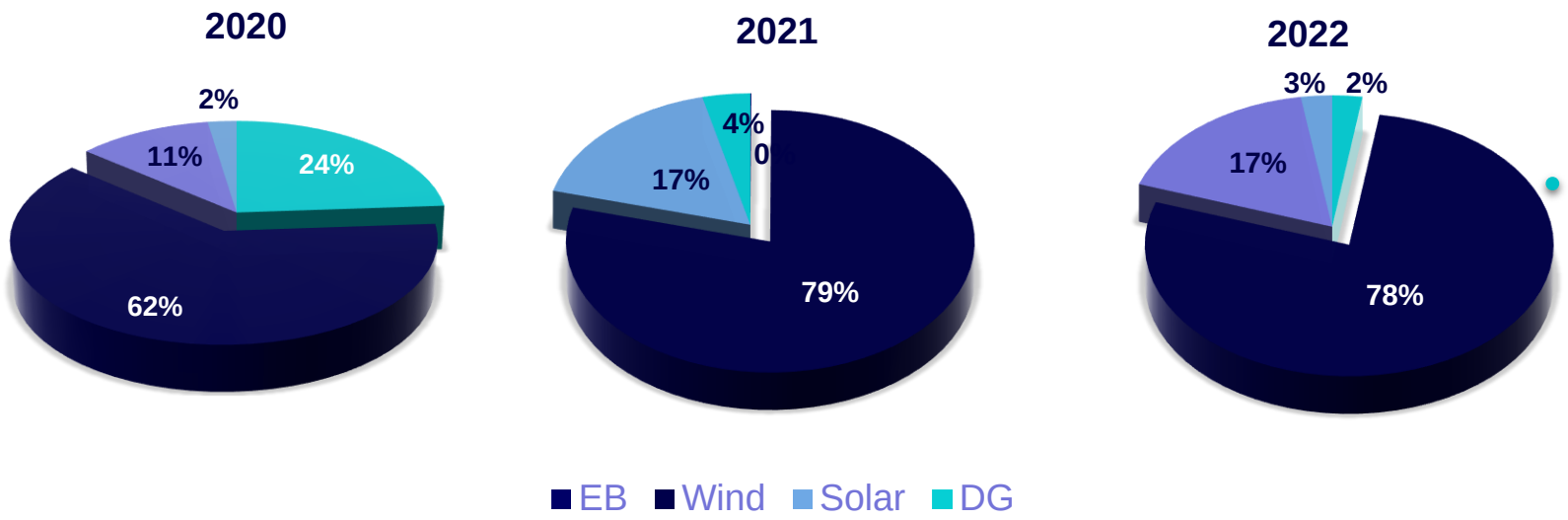
Energy savings: **2,49,885 kWh**

Cost savings: **INR 2,49,885**

Energy savings calculation

Make		Capacity	Qty	Total tonnage	Operational hour/day	Old unit EER	New unit EER	Old system energy consumption in annum	EE 5star unit energy consumption in annum	Energy save, kWh in annum
Daikin	Cassette	2	2	4	12	2.1	3.5	80,091	48,055	32,037
Daikin	Cassette	4	2	8	12	2.1	3.5	1,60,183	96,110	64,073
Daikin	Split	1.5	4	6	12	2.1	3.5	1,20,137	72,082	48,055
Daikin	Split	1.8	4	7.2	12	2.1	3.5	1,44,165	86,499	57,666
Daikin	Split	3	2	6	12	2.1	3.5	1,20,137	72,082	48,055
Total		**12.3**	**14**	**31.2**	**12**	**2.1**	**3.5**	**624,713**	**3,74,828**	**2,49,885**

Utilization of renewable energy sources



95% is through renewable energy

Year	EB	Wind (Offsite)	Solar (Onsite)	DG	Total	%of Renewable
2020	1,760,293	4,588,945	835,544	177,685	7,362,467	74%
2021	3,521	3,512,227	757,263	168,137	4,441,148	96%
2022	119,760	3,929,634	871,594	124,390	5,045,378	95%

Offsite wind wheeling

Onsite rooftop solar ($750\ kW_p$)

Waste management

E – waste
disposed through authorized recycler

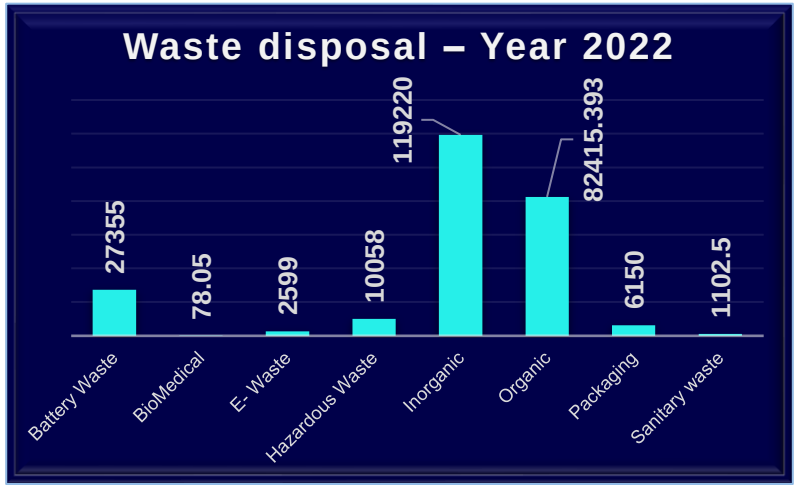
Food waste
processed through OWC and utilized as manure

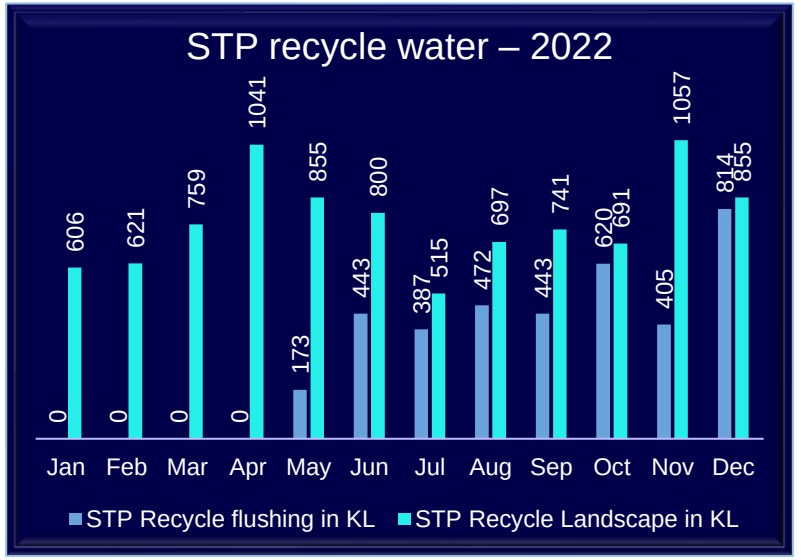
Paper waste
processed through ITC

STP plant
recycle water utilized for WC flushing, gardening

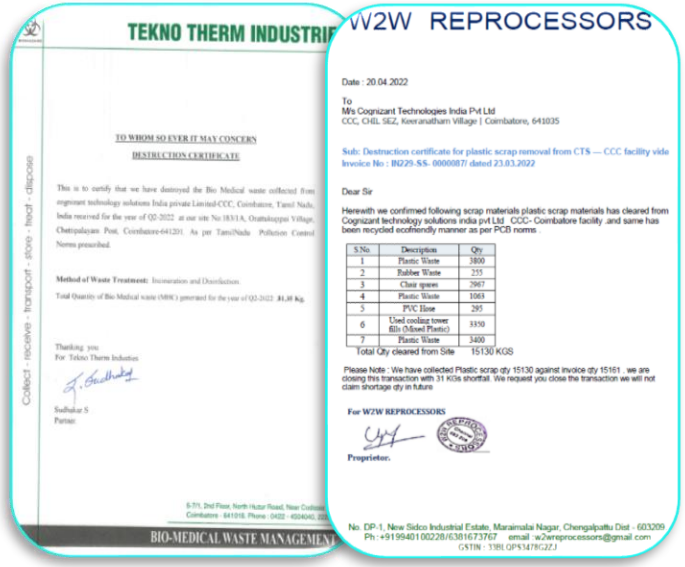
Ban on single – use plastic as per TNPCB

Batteries disposed through authorized recycler

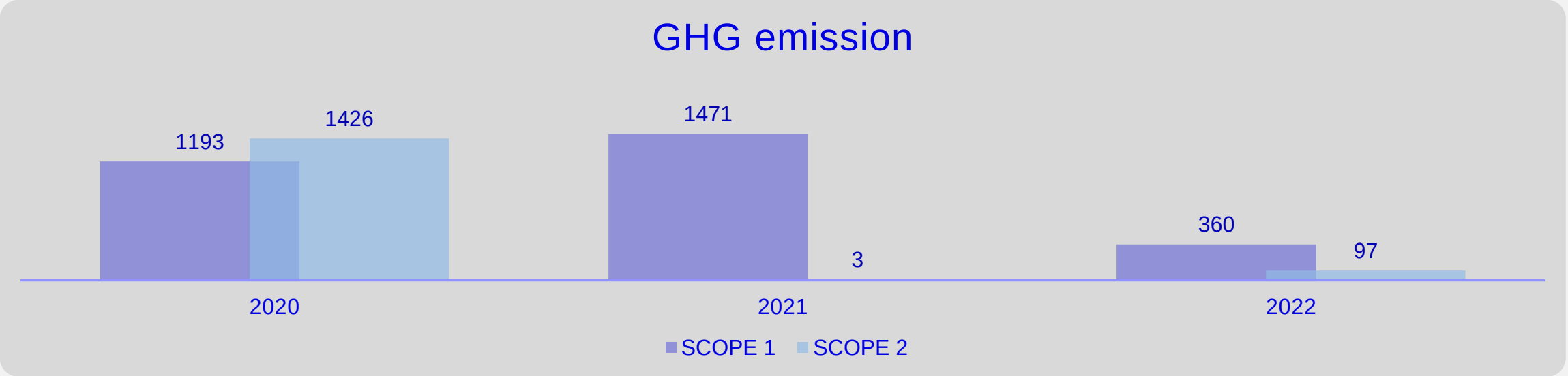




Recycle Certificate

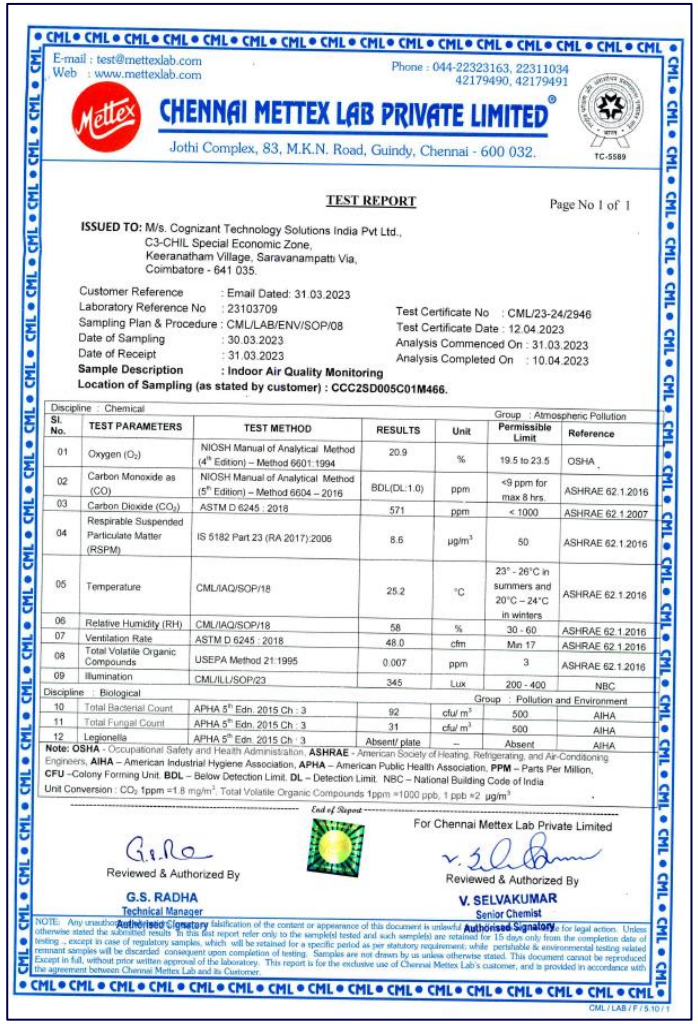


GHG emission trend



	Refrigerant							Diesel	LPG	Electricity	Scope 1	Scope 2
Sources	R22	R134a	R407C	R410A	R125	R32	R404A	Diesel (stationary & mobile)	LPG consumption	Grid unit		
UOM	kg	kg	kg	kg	kg	kg	kg	litre	kg	kWh	Ton of CO2	Ton of CO2
2019	16.4	930	7.5	92.6	0	0	0	1,01,140	32840	76,74,179	1,935.8	6,216.08
2020	9.22	434	30	155.5	0	0	0	65,680	235	17,60,293	1,193.2	1,425.84
2021	9.22	620	30	155.5	0	0	0	69,825	564	3521	1,471.4	2.85
2022	9.5	0	10.5	76.8	0	0	0	57,700	2612	1,19,760	359.6	97.01

Environment test reports



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Phone : 044-22323163, 22311034
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TC-5589

TEST REPORT

Page No 1 of 1

ISSUED TO: M/s. Cognizant Technology Solutions India Pvt Ltd.,
C3-CHIL Special Economic Zone,
Keeranatham Village, Saravanampatti Via,
Coimbatore - 641 035.

Customer Reference : Email Dated: 31.03.2023
Laboratory Reference No : 23103709
Sampling Plan & Procedure : CML/LAB/ENV/SOP/08
Date of Sampling : 30.03.2023
Date of Receipt : 31.03.2023
Sample Description : Indoor Air Quality Monitoring
Location of Sampling (as stated by customer) : CCC2SD005C01M466.

Test Certificate No : CML/23-24/2946
Test Certificate Date : 12.04.2023
Analysis Commenced On : 31.03.2023
Analysis Completed On : 10.04.2023

Discipline : Chemical — Group : Atmospheric Pollution

Sl. No.	TEST PARAMETERS	TEST METHOD	RESULTS	Unit	Permissible Limit	Reference
01	Oxygen (O_2)	NIOSH Manual of Analytical Method (4th Edition) – Method 6601:1994	20.9	%	19.5 to 23.5	OSHA
02	Carbon Monoxide as (CO)	NIOSH Manual of Analytical Method (5th Edition) – Method 6604 – 2016	BDL(DL:1.0)	ppm	<9 ppm for max 8 hrs.	ASHRAE 62.1.2016
03	Carbon Dioxide (CO_2)	ASTM D 6245 : 2018	571	ppm	< 1000	ASHRAE 62.1.2007
04	Respirable Suspended Particulate Matter (RSPM)	IS 5182 Part 23 (RA 2017):2006	8.6	µg/m³	50	ASHRAE 62.1.2016
05	Temperature	CML/IAQ/SOP/18	25.2	°C	23° - 26°C in summers and 20°C – 24°C in winters	ASHRAE 62.1.2016
06	Relative Humidity (RH)	CML/IAQ/SOP/18	58	%	30 - 60	ASHRAE 62.1.2016
07	Ventilation Rate	ASTM D 6245 : 2018	48.0	cfm	Min 17	ASHRAE 62.1.2016
08	Total Volatile Organic Compounds	USEPA Method 21:1995	0.007	ppm	3	ASHRAE 62.1.2016
09	Illumination	CML/ILL/SOP/23	345	Lux	200 - 400	NBC

Discipline : Biological — Group : Pollution and Environment

10	Total Bacterial Count	APHA 5th Edn. 2015 Ch : 3	92	cfu/ m³	500	AIHA
11	Total Fungal Count	APHA 5th Edn. 2015 Ch : 3	31	cfu/ m³	500	AIHA
12	Legionella	APHA 5th Edn. 2015 Ch : 3	Absent/ plate		Absent	AIHA

Note: OSHA - Occupational Safety and Health Administration, **ASHRAE** - American Society of Heating, Refrigerating, and Air-Conditioning Engineers, **AIHA** – American Industrial Hygiene Association, **APHA** – American Public Health Association, **PPM** – Parts Per Million, **CFU** –Colony Forming Unit. **BDL** – Below Detection Limit. **DL** – Detection Limit. NBC – National Building Code of India
Unit Conversion : CO_2 1ppm =1.8 mg/m³, Total Volatile Organic Compounds 1ppm =1000 ppb, 1 ppb =2 µg/m³

End of Report

For Chennai Mettex Lab Private Limited

Reviewed & Authorized By
G.S. RADHA
Technical Manager
Authorised Signatory

Reviewed & Authorized By
V. SELVAKUMAR
Senior Chemist
Authorised Signatory

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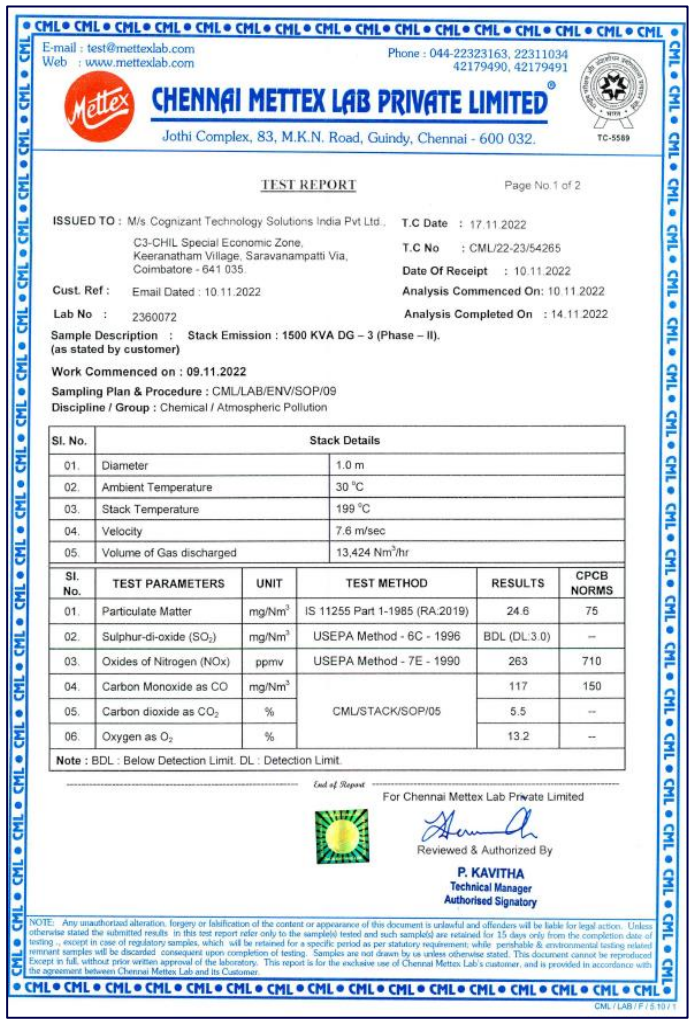

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TEST REPORT

Page No.1 of 2

ISSUED TO : M/s. Cognizant Technology Solutions India Pvt Ltd.,
C3-CHIL Special Economic Zone,
Keeranatham Village, Saravanampatti Via,
Coimbatore - 641 035.

Cust. Ref : Email Dated : 10.11.2022
Lab No : 2360072

T.C Date : 17.11.2022
T.C No : CML/22-23/54265
Date Of Receipt : 10.11.2022
Analysis Commenced On: 10.11.2022
Analysis Completed On : 14.11.2022

Sample Description : Stack Emission : 1500 KVA DG – 3 (Phase – II).
(as stated by customer)
Work Commenced on : 09.11.2022
Sampling Plan & Procedure : CML/LAB/ENV/SOP/09
Discipline / Group : Chemical / Atmospheric Pollution

Sl. No.	Stack Details	
01.	Diameter	1.0 m
02.	Ambient Temperature	30 °C
03.	Stack Temperature	199 °C
04.	Velocity	7.6 m/sec
05.	Volume of Gas discharged	13,424 Nm³/hr

Sl. No.	TEST PARAMETERS	UNIT	TEST METHOD	RESULTS	CPCB NORMS
01.	Particulate Matter	mg/Nm³	IS 11255 Part 1-1985 (RA:2019)	24.6	75
02.	Sulphur-di-oxide (SO_2)	mg/Nm³	USEPA Method - 6C - 1996	BDL (DL:3.0)	--
03.	Oxides of Nitrogen (NOx)	ppmv	USEPA Method - 7E - 1990	263	710
04.	Carbon Monoxide as CO	mg/Nm³	CML/STACK/SOP/05	117	150
05.	Carbon dioxide as CO_2	%		5.5	--
06.	Oxygen as O_2	%		13.2	--

Note : BDL : Below Detection Limit. DL : Detection Limit.

End of Report

For Chennai Mettex Lab Private Limited

Reviewed & Authorized By
P. KAVITHA
Technical Manager
Authorised Signatory

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CML / LAB / F / 5.10 / 1

CHENNAI METTEX LAB PRIVATE LIMITED
Jothi Complex, 83, M.K.N. Road, Guindy, Chennai - 600 032.
E-mail : test@mettexlab.com
Web : www.mettexlab.com
Phone : 044-22323163, 22311034
42179490, 42179491
TC-5589

TEST REPORT

Page No.1 of 1

ISSUED TO : M/s. Cognizant Technology Solutions India Pvt Ltd.,
C3-CHIL Special Economic Zone,
Keeranatham Village, Saravanampatti Via,
Coimbatore - 641 035.

Cust. Ref : Email Dated : 05.11.2022
Lab No : 2358932

T.C Date : 17.11.2022
T.C No : CML/22-23/54254
Date Of Receipt : 05.11.2022
Analysis Commenced On: 05.11.2022
Analysis Completed On : 11.11.2022

Sample Description : Ambient Air Quality - Near Pump Room - Phase - I.
(as stated by customer)
Work Commenced on : 03.11.2022 – 11.30 am to 04.11.2022 – 11.30 am
Ambient Temperature : Min. 22.9 °C & Max. 29.2 °C
Relative Humidity : Min.58 % & Max. 92 %
Sampling Plan & Procedure : CML/LAB/ENV/SOP/07
Discipline / Group : Chemical / Atmospheric Pollution

Sl. No.	TEST PARAMETERS	UNIT	PROTOCOL	RESULTS	TNPCB STANDARDS
01	Sulphur dioxide as SO_2	µg/m³	IS: 5182 Part 2- 2001(Reaff.2017)	7.2	80 (24 Hours)
02	Nitrogen Dioxide as NO_2	µg/m³	IS: 5182 Part 6-2006(Reaff.2017)	15.5	80 (24 Hours)
03	Particulate Matter (PM_{10}) (Size Less than 10 µm)	µg/m³	IS: 5182 Part 23-2006(Reaff.2017)	48.9	100 (24 Hours)
04	Particulate Matter ($PM_{2.5}$) (Size Less than 2.5 µm)	µg/m³	IS: 5182 Part 24-2019	25.2	60 (24 Hours)
05	Ozone as O_3	µg/m³	IS: 5182 Part 9 :1974 (Reaff.2019)	BDL (DL:20)	100 (8 Hours)
06	Lead as Pb	µg/m³	USEPA Compendium Method IO-3.4;1999	BDL (DL:0.1)	1.0 (24 Hours)
07	Carbon Monoxide as CO	mg/m³	CML/AIR/SOP/05	BDL (DL:1.0)	2.0 (8 Hours)
08	Ammonia as NH_3	µg/m³	IS: 5182 Part 25 :1999 (Reaff.2019)	BDL (DL:20)	400 (24 Hours)
09	Benzene	µg/m³	IS: 5182 Part 11-2006 (Reaff.2017)	BDL (DL:1.0)	5.0 (Annual)
10	Benzo (α) Pyrene	ng/m³	IS: 5182 Part 12 -2004 (Reaff.2019)	BDL (DL:0.1)	1.0 (Annual)
11	Arsenic as As	ng/m³	USEPA Compendium Method IO-3.4;1999	BDL (DL:1.0)	6.0 (Annual)
12	Nickel as Ni	ng/m³	USEPA Compendium Method IO-3.4;1999	BDL (DL:1.0)	20 (Annual)

Note: BDL: Below Detection Limit DL: Detection Limit
INSTRUMENT No: CML/ENV/FDS-042, RDS-029.

End of Report

For Chennai Mettex Lab Private Limited

Reviewed & Authorized By
P. KAVITHA
Technical Manager
Authorised Signatory

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ENCON projects summary – GHG emission reduction

2020

SL NO	Project Title	Annual Savings	Cost Savings
1	LED retrofit – workstation space – 2x36W CFL to 24W LED lights around – 2,610 numbers	33,83,40 kWh	INR 34.74 lakhs
2	LED retrofit – downlighter 18W CFL to 12W LED – 400 numbers (Raw and EL)	7,608 kWh	INR 0.78 lakhs
3	300KVA UPS 1 & 2 workstation UPS energy saver eco mode enable	10,800 kWh	INR 1.11 lakhs
4	Cooling tower FILS replacement retrofit at SDB – 1 1000 TR CT 1&3 and 300 TR CT 1	2,30,256 kWh	INR 23.67 lakhs
5	New condenser coil replacement at SDB – 1 chiller – 1 900TR	150 kWh	INR 0.02 lakhs

2021

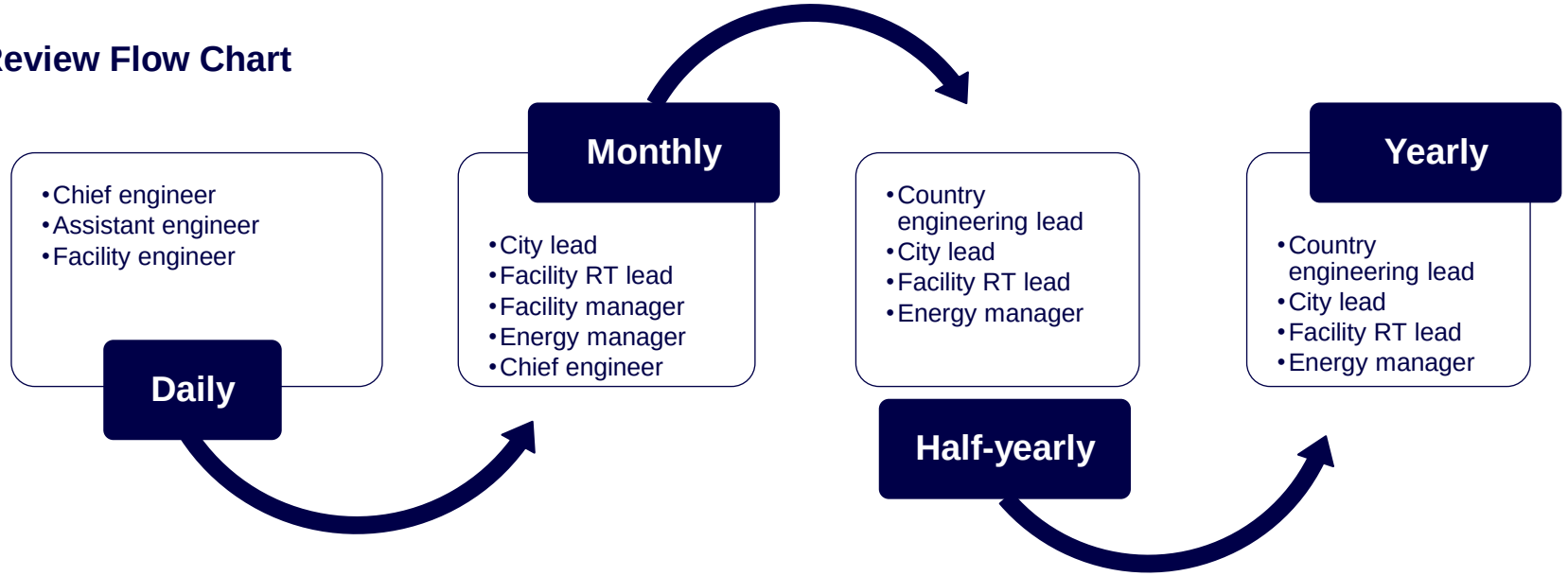
SL NO	Project Title	Annual Savings	Cost Savings
1	LED retrofit – workstation space – 2x36W CFL to 24W LED lights around	87,060 kWh	INR 12.11 lakhs
2	LED retrofit – downlighter 18W CFL to 12W LED – 800 numbers (Raw and EL)	15,216 kWh	INR 2.11 lakhs
3	LED retrofit for SDB – 2 Tower – 1 & 2 staircase lights (EL) from 2x18w CFL to 20W LED (surface mounted) fitting – 40 numbers	5,530 kWh	INR 0.76 lakhs
4	Cooling tower FILS replacement retrofit at SDB – 1 1000 TR CT 3 and 300 TR CT 2	1,53,504 kWh	INR 21.36 lakhs
5	STP Plant – one stream of 375KLD aerator system optimization	1,45,152 kWh	–

2022

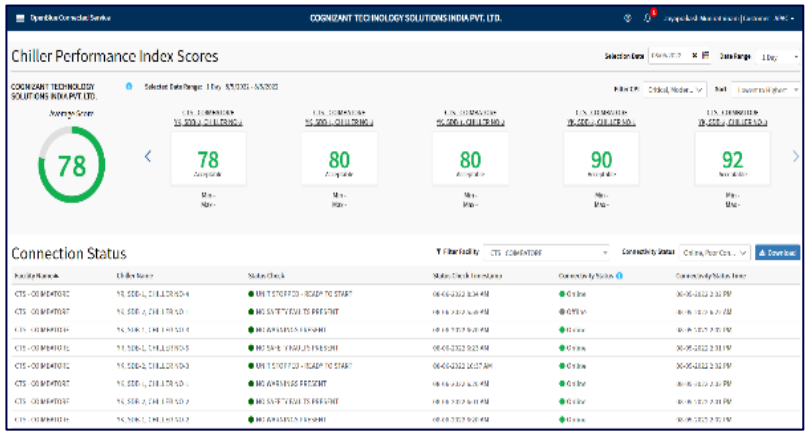
SL NO	Project Title	Annual Savings	Cost Savings
1	LED retrofit – workstation space – 2x36W CFL to 24W LED lights around – 1800 numbers	2,30,124 kWh	INR 34.52 lakhs
2	LED retrofit – downlighter 18W CFL to 12W LED – 80 numbers (Raw and EL)	1,728 kWh	INR 0.26 lakhs
3	Solar LED retrofit – 35w LED street-lights to 35w LED solar base inbuilt battery – 12 numbers	7,200 kWh	INR 1.08 lakhs
4	Energy efficient power transformer retrofit at SDB – 1 substation – 1 number	21,570kWh	INR 32 lakhs
5	HVAC retrofit – Hub room BVRF to IVRF ODU replacement at SDB1 – 4 numbers (2 X 22HP) & (2 X 12HP)	98,280 kWh	INR 11.44 lakhs
6	HVAC retrofit – LDPA unit to chilled water-based AHU unit installation – 2 numbers (22TR LDPA to 15TR AHU) at SDB – 1 GF UPS & Battery Room	36,000 kWh	INR 5.49 lakhs
7	HVAC retrofit – R22 to R32 energy efficient 5-star rated split unit upgradation	2,49,600 kWh	INR 38 lakhs

Measuring, monitoring & training

Energy Report Monitoring & Review Flow Chart



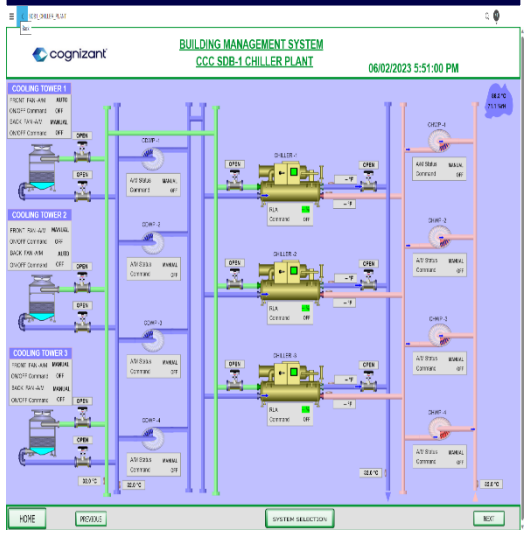
Energy Report Monitoring & Review Flow Chart



Best practices

Digitalization

Digitalization



Digitalization

Power Quality Improvement

TAMILNADU GENERATION AND DISTRIBUTION CORPORATION LIMITED

Field Harmonic Measurement Report — No: 132/2019

Name of the Industry: M/s.Cognizant Technology Solution India (P) Ltd., Phase-II

Circle:	CEDC/NORTH	Date of test:	18.01.2019
Division:	Vallancadavai	Voltage level at PCD:	33KV/110V
Sub-division:	Sunnambupatty	Sanction Demand:	5100 KVA
Section:	Keeranatham	Last 12m average demand/Current:	1589 KvA / 36.98 A
HT SC No:	589	Average Current during measurement:	36.76 A
Nature of Industry: Others (IT)			99%

Measured Values of Power Quality Parameters

Sl.No	Description	Values: Allowable Limit	Values: Measured	
1	Individual Voltage Harmonic Distortion (Max)	3%	0.95%	H5
2	Total Voltage Harmonic Distortion	5%	0.96%	
3	Total Current Harmonic Distortion (TDD)	8%	1.98%	

Witnessed by

Sl.No	Office	Designation	Signatures
1	O&M / TANGEDCO	AE / O&M Kaattoor(Rom)	
2	MRT / TANGEDCO	AE/HTH/MRT/A/CBE	
3	CONSUMER	T. M. RAMESH CHIEF ENGINEER, Plot	

Note: The values of the power quality parameters are arrived based on the average readings, over the measurement period as per IEC 61000-4-30 & IEEE 519, with a 'Class-A' compliant instrument [SL No.27083112] adopting the limits.

- Live monitoring on critical systems
- Energy savings through automation

IGBC – LEED Certificate


Confederation of Indian Industry

Indian Green Building Council (IGBC)

hereby certifies that

Cognizant Green Campus

Coimbatore

has successfully achieved the Green Building Standards required for the following level of certification under the Leadership in Energy and Environment Design (LEED) India Green Building Rating System

LEED India for New Construction Gold
November 2009

C N Raghavendran
Chairman, LEED India

Dr Prem C Jain
Chairman, IGBC

SDB-1


Confederation of Indian Industry

Indian Green Building Council (IGBC)

hereby certifies that

Cognizant Green Campus Phase II

Coimbatore

has successfully achieved the Green Building Standards required for the following level of certification under the Leadership in Energy and Environment Design (LEED) India Green Building Rating System

LEED 2011 for India Core & Shell Gold
July 2014

C N Raghavendran
Chairman, LEED India

Dr Prem C Jain
Chairman, IGBC

Executi

SDB-2

Cognizant's commitment

2040: Reduce absolute emissions by 90%

2030: Reduce absolute emissions by 50%

2026: Source 100% renewable energy

NetZero to reduce our contribution to climate change we set a global, public goal of reaching net zero emissions compared to our 2019 emissions baseline. In order to achieve our Net Zero Goal, we will address emissions in our operations, including our offices and facilities, as well as from our supply chain and business travel. The commitment will shape our real estate management, energy sourcing, supply chain and travel philosophy in addition to the equipment and technologies we use in our offices and data centers.

Key elements of our Net Zero Goal

- Focuses on absolute emissions reductions through operational efficiencies and renewable energy use, before the use of carbon offsets.
- Measures reductions from a recent, pre-COVID 19 emissions marking 2019 as a baseline.
- Includes a near-term renewable energy target.
- Includes often-hidden emissions, from travel to supply chain to associate commuting, in Scope 3
- Aligns with the need to keep global average temperature increases to 1.5 degrees Celsius

Key elements of our Net Zero Goal governance

- Submitted for third-party validation with the Science Based Targets Initiative (SBTi)*
- Periodically reviewed by the Board's Governance and Sustainability Committee
- Commissioned an external third-party to perform attestation procedures over our GHG emission
- According to the United States Environmental Protection Agency, Scope 3 emissions are the result of activities from assets not owned or controlled by the reporting organization, but that the organization indirectly impacts in its value chain.

Way forward 2023 to 2024

SBR unit installation for cooling towers water treatment

Higher efficiency HVAC pump retrofit

Lift room across ventilation system to avoid running of DX unit-👍

AHU – EC fan retrofit - ⏳

OCEMS system installation at STP Plant -👍

Investment towards energy saving projects in 2023	
No of energy savings project in 2023	Investment (Rs in Million)
07	**18**

Thank you

Kanipandi. G – Senior Associate

Jayaprakash. M – Chief Engineer