



# CII National Award for Excellence in Energy Management -2023

## PRESENTING MEMBERS :

**DHANASEKARAN RAMACHANDRAN** - CENTRE DIRECTOR

**PRAKASH JAVARAN** - MANAGER - TECHNICAL

**BILAL SAYYED** - MANAGER - TECHNICAL

# NEXUS – COMPANY PROFILE



Inaugurated in 2004 Nexus Koramangala is the first and a full-fledged urban consumption center in south india with 11 cinema audis, international and national retail brands and other entertainment facilities. The shopping mall houses 56,260 m2 of shops over five levels

The center attracts an average monthly footfalls of 9 Lakhs/month.

## QUICK FACTS



0.55 Million sq. ft



24 F&B outlets



11 Screen multiplex



3 Anchors:  
Westside, Decathlon & PVR



Most awarded mall in India



FEC:  
Timezone & VR Galaxy



9,00,000+  
Footfalls per month



650-Seater food court



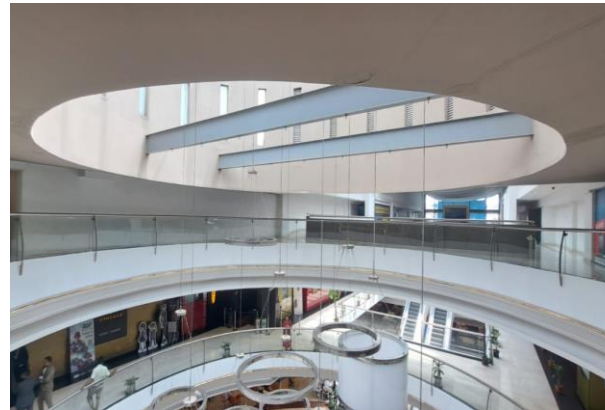
Highest trading density in  
South India



124 Stores (Inc Kiosk)

# ARCHITECTURAL DESIGN FEATURES

- Our mall has two entrances facing north and south respectively. North side façade was designed and constructed with **70% of heat resistant glass** to receive more natural light & reduce solar heat and remaining façade with double brick wall with 900mm gap in between to act as a thermal resistance.
- South side façade is made with **60% heat resistant glass** to receive natural sun light.
- Main entrance at both sides are made with full glass to receive more daylight and reduce lighting energy consumption.
- Entire peripheral area is covered with trees and plants to enhance the ambient temperature.

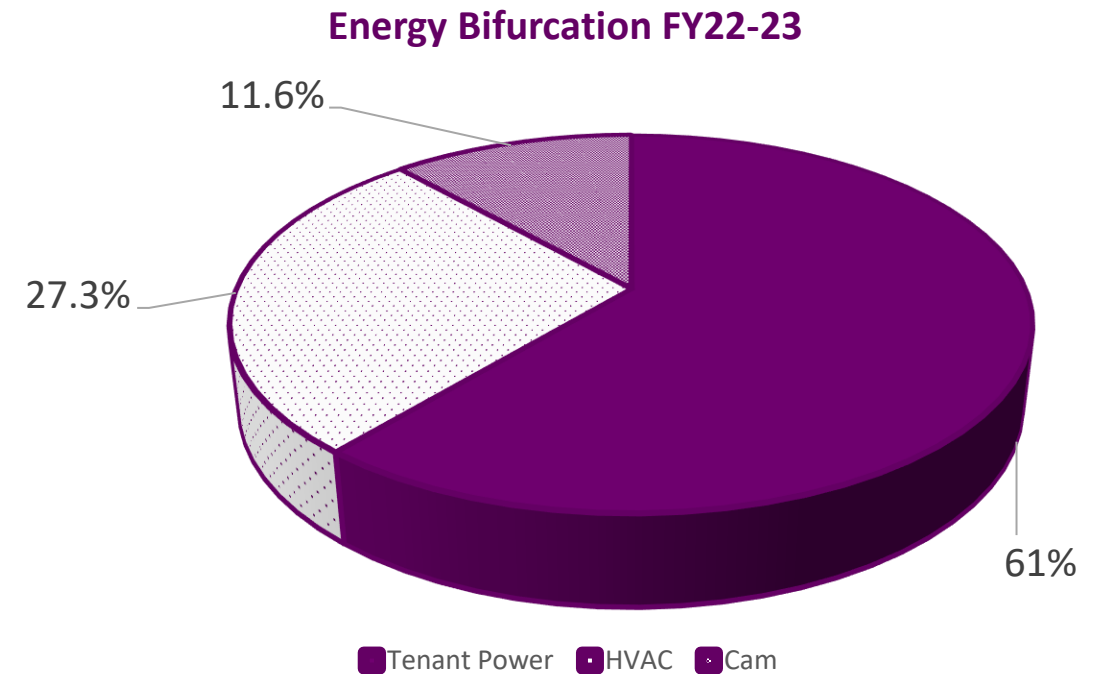
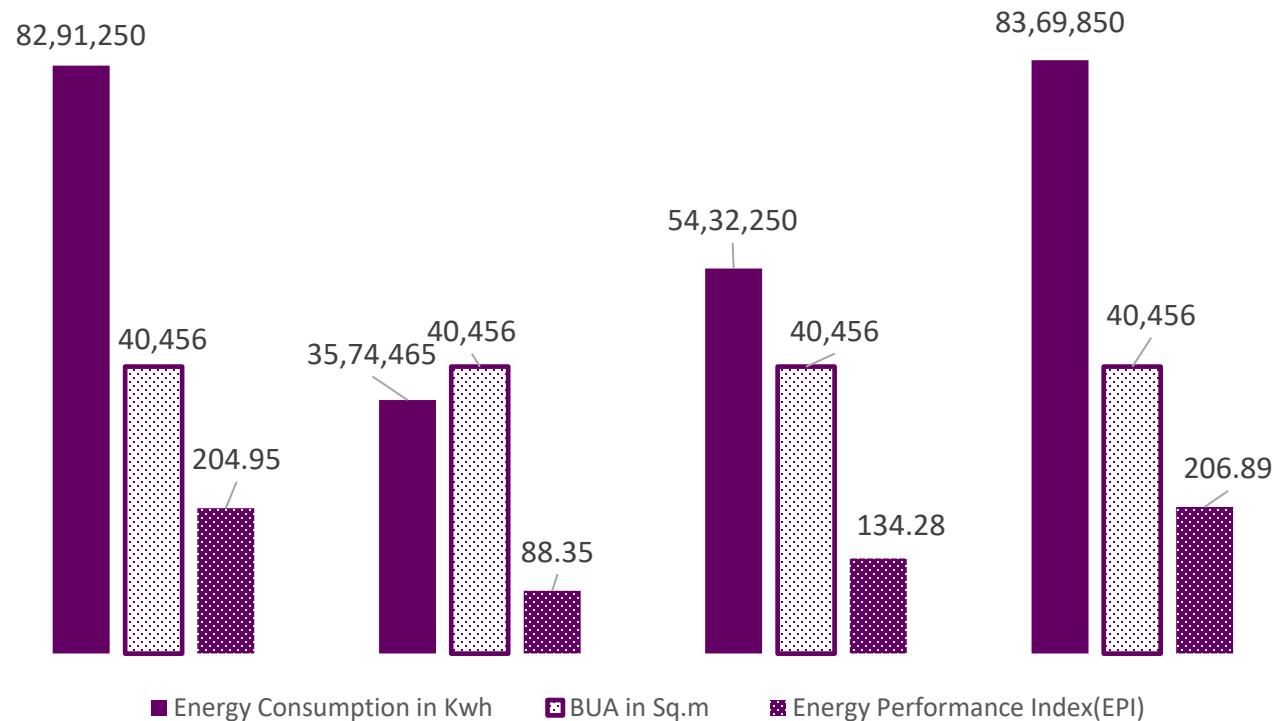


- **28 % of terrace area** is double coated with GRIHA/CRDF certified solar reflective paint with **SRI value of 111**.
- Terrace is covered with roof top solar panels largely. Capacity of the **solar roof top is 175Kwp**

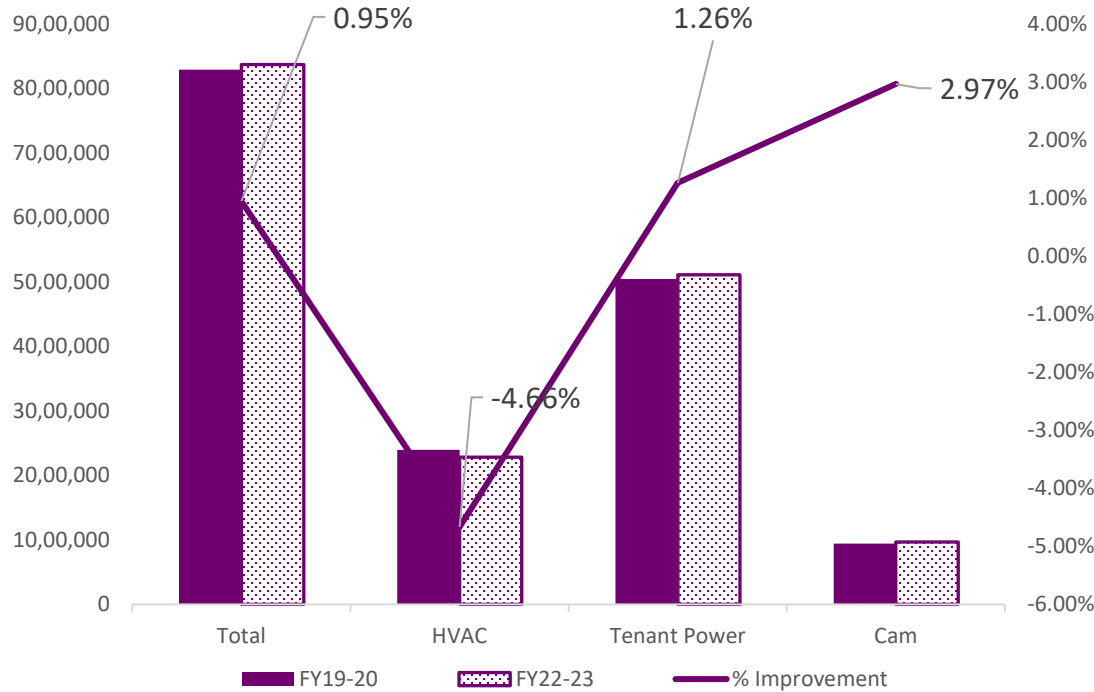
# ENERGY CONSUMPTION :

As per ECBC our climatic zone is **TEMPERATE**

Year	Energy Consumption in kwh	BUA in sq.mm (Only Air-Conditioned Area)	Energy Performance Index(EPI)
FY19-20	82,91,250	40,456	204.95
FY20-21	35,74,465	40,456	88.35
FY21-22	54,32,250	40,456	134.28
FY22-23	83,69,850	40,456	206.89



## ENERGY VARIATION EXPLANATION :



### Cam Variation:

- Operation hours has been increased from 12 hours to 16 hours due to cinemas operation which in turn increases our chiller, elevator, lighting operational hours etc.
- Average footfall monthly recorded during FY 19-20 was 7.12 lakhs, in FY 22-23 it had been increased to 9.08 lakhs/month which is an increase of 22%.

### HVAC Variation

- We had totally upgraded 11 no's of PVR AHUs to enhance the efficiency and reduce the chilled water load consumption.
- Also upgraded 2 no's of common area AHU's to enhance the efficiency and reduce the chilled water load consumption.
- 60% of tenant AHU/CSU's also underwent upgradation during renovation and new fitouts
- Almost 50% of tenant AHU/CSU's chilled water flow rate has been controlled with thermostat and actuators
- Solar reflective coating is applied for terrace area which resulted in reduction of 2–3-degree centigrade in Indoor temperature.

### Tenant Variation:

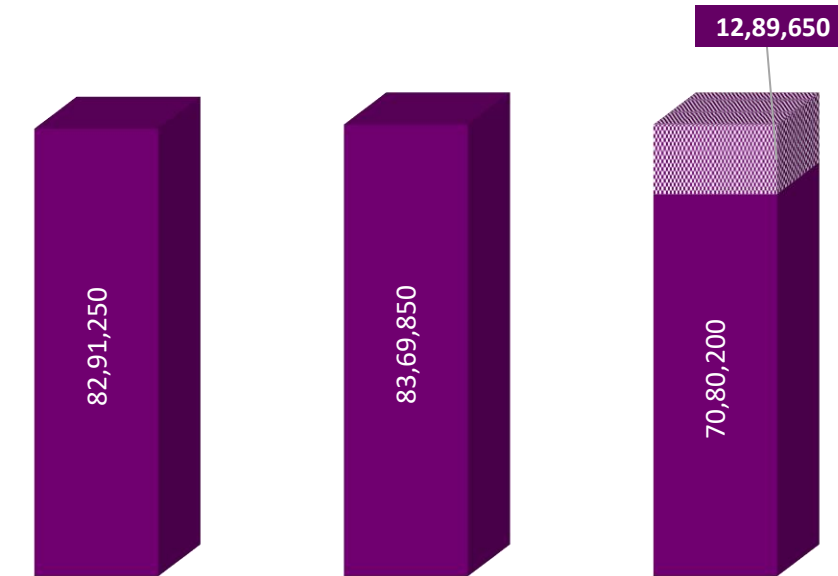
- Tenant consumption increase is due to increase in leased area and footfall .
- 6 New 150 KW EV charging station installed.
- Food court additional 40 KW Kiosk load added .
- TacoBell 120 KW load added

# ENERGY BENCHMARKING:

Comparison with other entities with same climatic zone – Temperate

Entity	Internal Benchmarking(Nexus Malls)	External Benchmarking	Nexus
	Nexus Shantiniketan	Royal Meenakeshi Mall	Koramangala
Energy Consumption in kwh	1,29,35,335	84,00,000	83,69,850
BUA in sq.m	61,303	34,839	40,456
Energy Performance Index(EPI)	211.0	241.1	206.89

Target for 2025-26 :



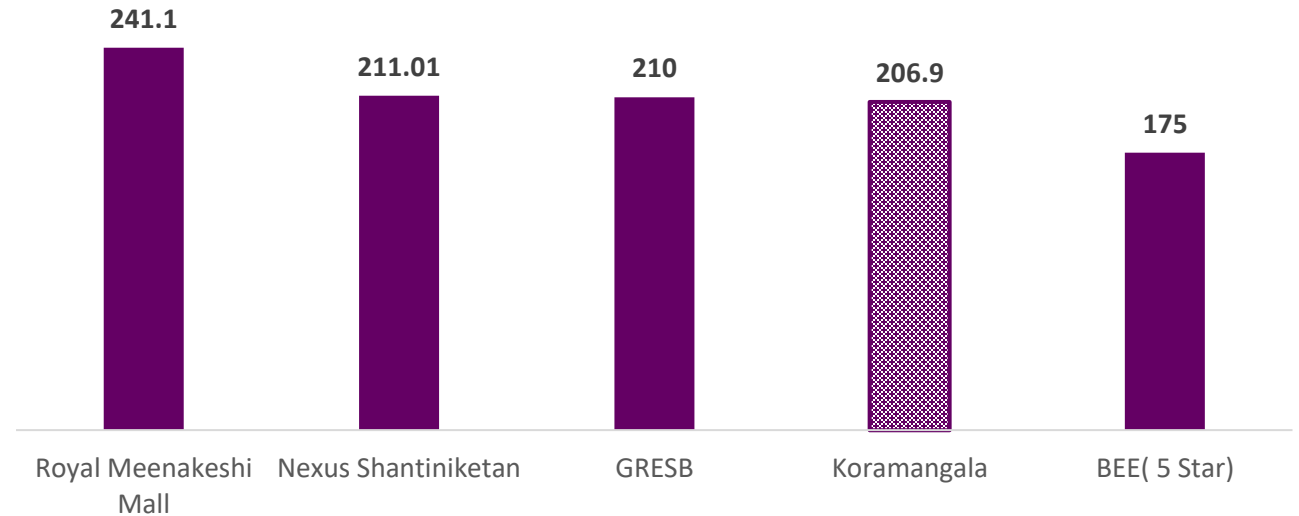
FY19-20

FY22-23

FY25-26

■ Energy Consumption in kwh    ▨ Savings

Energy Performance Index(EPI)



**Our commitment is to achieve EPI 175 by 2025-26. Therefore, a saving of 12.89 lakh units with baseline FY 22-23 to be achieved.**

# ROAD MAP TO ACHIEVE TARGET BY FY 2025-26



FY 2023-24

- Upgradation of IE2 chiller auxiliary motors to IE3/IE4 to improve the efficiency of the motors
- Ensuring all existing, upcoming and units under renovation to install VFD with thermostat for their AHU's.
- Insisting all F & B tenants to use gas based equipments to reduce electricity
- Entire parking lights to be controlled by motion sensor.

FY 2025-26

- Use of DALI technology for lighting to reduce the lights output and power consumption depending upon daylight availability inside the mall.
- Upgradation of chiller to optimal efficiency and advance technology chiller.

FY 2024-25

- All external lights to be controlled with photosensor and timer
- Upgradation of chiller plant manager(CPM) for operation of chillers, pumps & cooling towers in auto mode.
- Replacement of standard v-belts with cogged v-belts for all CSU's to reduce belt slip losses by minimum 5%
- Green lease contract-Insisting all tenants to use only 4/5 star BEE rated electrical apparatus and to have lighting load design –LPD as per ECBC super grade.

# ENERGY SAVINGS SUMMARY FY 20-21 TO FY 22-23



Year	No.of Energy saving projects	Investments (INR Rupees)	Electrical savings ( kWh)	Savings ( INR )	Impact on SEC ( Electrical, Thermal)
FY 2020-21	1	10,00,000	1,05,000	13,12,500	2.595
FY 2021-22	1	2,81,296	38,800	4,85,000	0.959
FY 2022-23	3	5,21,100	39,539	4,94,231	0.120



## ENCON PROJECT – FY 2020-21

- As our centre is 19 years old, all the lights installed were of CFL,fluorecent fixture,halogen,metal halide etc.
- We started converting all those old technology light fixture to LED lights to enhance the illumination with less power consumption.
- Total 3,496 no's CFL lights were replaced with LED lights
- Average per month savings = 8,750 kwh
- Average annual savings = 1,05,000 kwh



## ENCON PROJECT – FY 2021-22

- Earlier all our mall common area AHUs were operating without VFD's which had no control with respect to temperature and occupant density. Hence, we had installed VFD's for 4 no's AHU's which helped control the room temperature and reduce consumption significantly.
- This initiative helps us to save 15% of energy savings
- Average per month savings = 3,240 kwh
- Average annual savings = 38,880 kwh



# ENCON PROJECT – FY 2022-23

- We have 3 no's of Air Blowers of motor capacity 5.5 kw each used for aeration to fulfill the oxygen demand. As per KSPCB guideline required DO in aeration tank for effective treatment is 4 mg/L. As our DO was more than that we have installed the VFD to control the speed of the air blower which in turn controls the flow rate and sufficient flow rates 4 mg / l instead of high flow rates which does not make much difference in the treatment. But controlled air blower speed helps to conserve energy
- Similarly, we have installed the VFD for STP exhaust to control and maintain the sufficient and effective CFM at the STP by controlling the speed of the exhaust.



Particulars	UOM	QTY
STP Exhaust	KW	11
STP Blower ( 3 blower ) 5.5 kw each	KW	16.5
KWH for STP exhaust day ( Operational 24/7) without VFD drive	Kwh	264
KWH for STP Blower day ( Operational 1 blower 24/7) Without VFD drive	kwh	132
Consumption per day in kwh	Kwh	396
Consumption per annual in kwh	Kwh	1,42,560
With VFD we achieved a savings of	Kwh	1,21,176
Energy saving in a year	Kwh	21,384
Co2 reduction with respect to electricity in year	TCo2e	15.25



# ENCON PROJECT – FY 2022-23



- We have totally 4 no's of cooling towers and we were operating 2 no's i.e., 11kw x 2 everyday based on our requirement. Here, we were wasting the energy by running the cooling tower fans in full speed even though we had achieved our required condenser water temperature
- Hence, we have installed the VFD's for 2 no's of cooling towers, which will get signal from the condenser water return temperature and depends on the feedback VFD will decrease/increase the speed of the fans, which led to reduction in power consumption

Particulars	UOM	QTY
We operate 11 KW x 2 no's of cooling tower every day on average for 12 hours		
Average per day consumption	Kwh	264
Average per year consumption	Kwh	96,360
With installation of VFD our effective saving in energy is	Kwh	14,454
Co2 reduction with respect to electricity in year	TCo2e	10.16

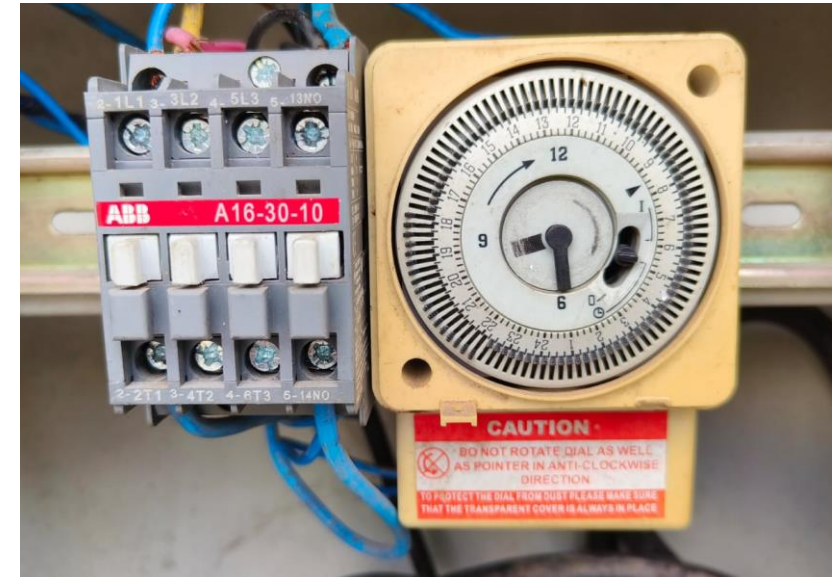


# ENCON PROJECT – FY 2022-23

- We have installed scheduled timer for all mentioned circuits to switch on/off the lighting circuits as scheduled to avoid early on of the lightings.



Areas	No of Lights	Wattage	In KW	No of hrs working	Kwh/day	KWH/Month	Considered 10% Saving
CMG side Flood light	16	300	4.8	5	24	720	72
BCG side Flood light	12	300	3.6	5	18	540	54
Entry rotanda light	63	24	1.512	16	24	726	73
Exit rotanda light	65	24	1.56	20	31	936	93.6
CMG side bollard light	10	60	0.6	5	3	90	9
BCG side bollard light	8	60	0.48	5	2.4	72	7.2
Units Saving/ Month							<b>308</b>
Units Saving/ Year							<b>3,701</b>
TCO2e							<b>2.65</b>



# RENEWABLE ENERGY:

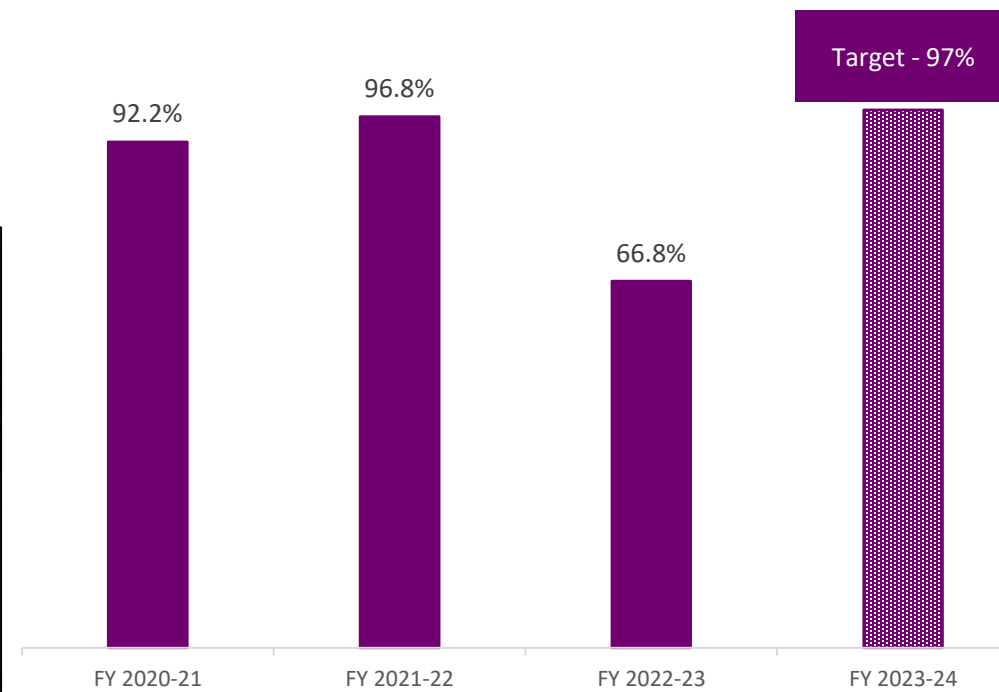
Year	Technology	Mode	Installed capacity	Contract demand of the Company(MW)	Consumed Renewal Energy Off-site (Mn Kwh)	Total Consumption (Mn Kwh)	RE contribution to overall consumption in %
FY 2020-21	Solar	Group Captive	20MW <sub>DC</sub> /15MW <sub>AC</sub>	3.00	33,44,565	36,28,115	92.2%
FY 2021-22	Solar	Group Captive	20MW <sub>DC</sub> /15MW <sub>AC</sub>	3.00	53,07,600	54,84,490	96.8%
FY 2022-23	Solar	Group Captive	20MW <sub>DC</sub> /15MW <sub>AC</sub>	3.00	56,30,074	84,27,320	66.8%

Group Captive Investment : 90 cr's

Group total capacity share for our building : 3.1MW / 15% of total capacity

On-site Captive roof top solar investment : 0.85 cr

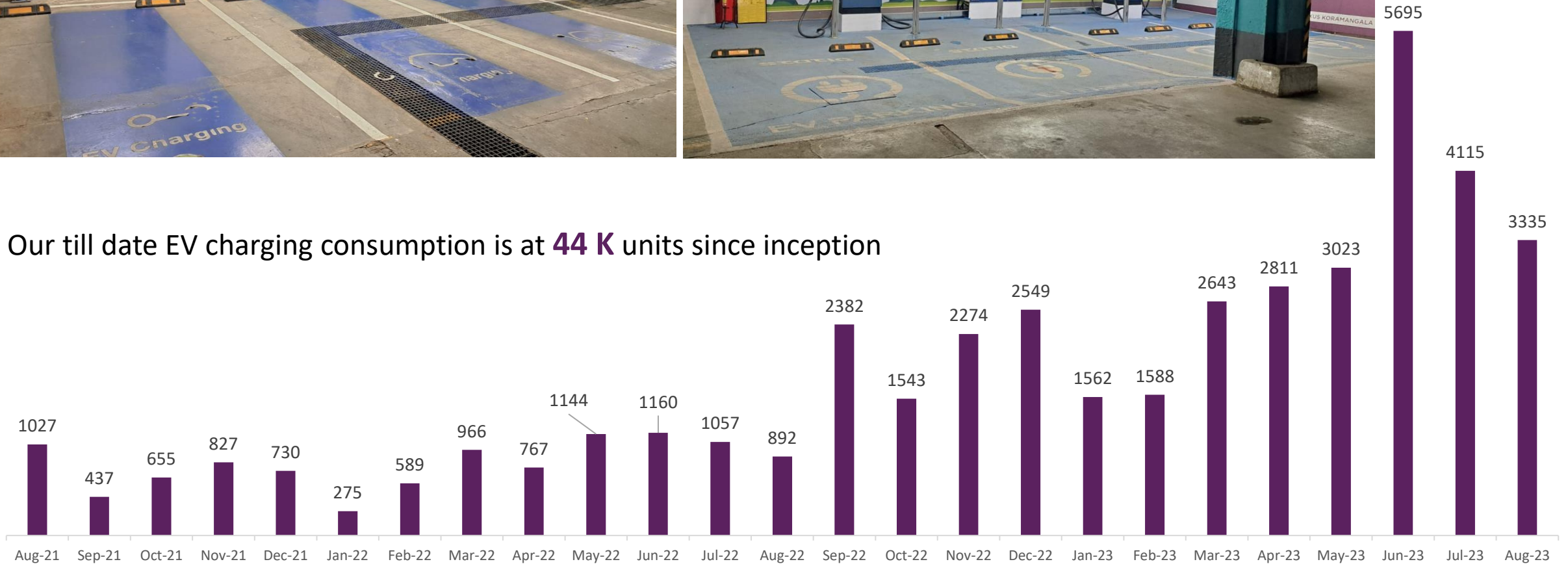
On-site roof top RE contributes to 4 % of annual consumption



# EV CHARGING CONSUMPTION (2W + 4W)



Our till date EV charging consumption is at **44 K** units since inception



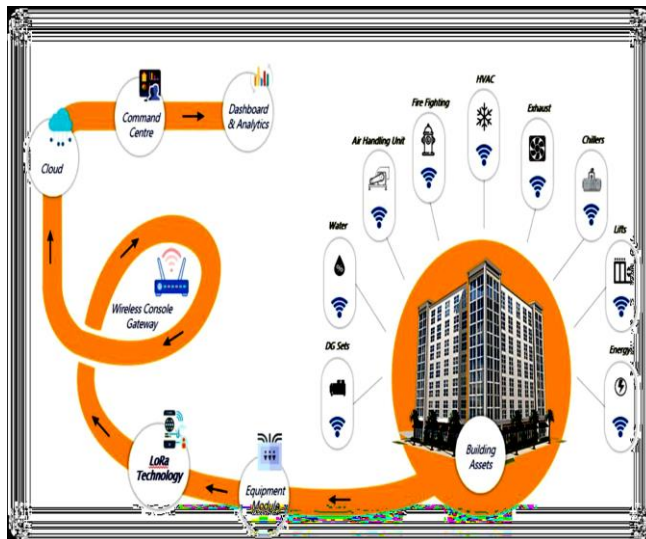
## IOT Module for Energy meters



IOT module will collect the data from all energy and BTU meters and data is shared to the cloud server which is displayed in the dashboard.

The dashboard has user-friendly interface with following benefits

- Ease in analysis of energy consumption cost centre wise and could monitor performance of each machinery.
- The status and the health of the machinery can be observed and analyzed in the comfort of one's couch.
- Helps generate the energy consumption for tenant monthly billing which reduces human interference and eradicates human errors.

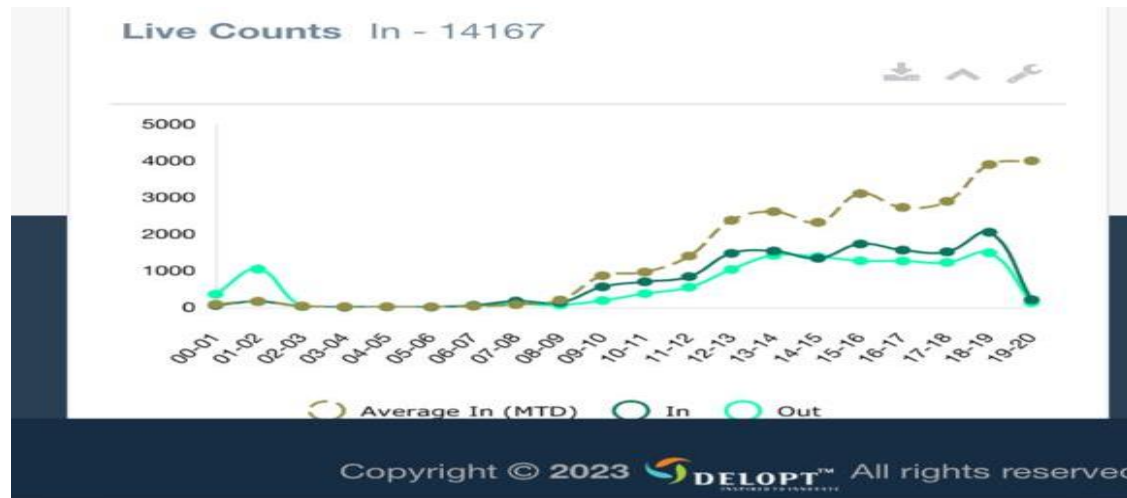


# BMS & CERTIFICATION

## IOT Based Football Counting Machines

We have installed the footfall counting device at all mall entrances and exits to count how many people are entering and exiting the property. It helps us to

- Set a target for energy intensity per footfall
- Control the common area AHU's and chiller set points based on occupant density



Nexus Koramangala mall was certified with Platinum IGBC certification in the year 2022 for sustainability and green initiatives of the building.

## IGBC CERTIFICATION –PLATINUM - 2022





# GREEN HOUSE GAS EMISSION:

Scope 1 : Diesel

Scope 2 : Energy Consumption(only common area)



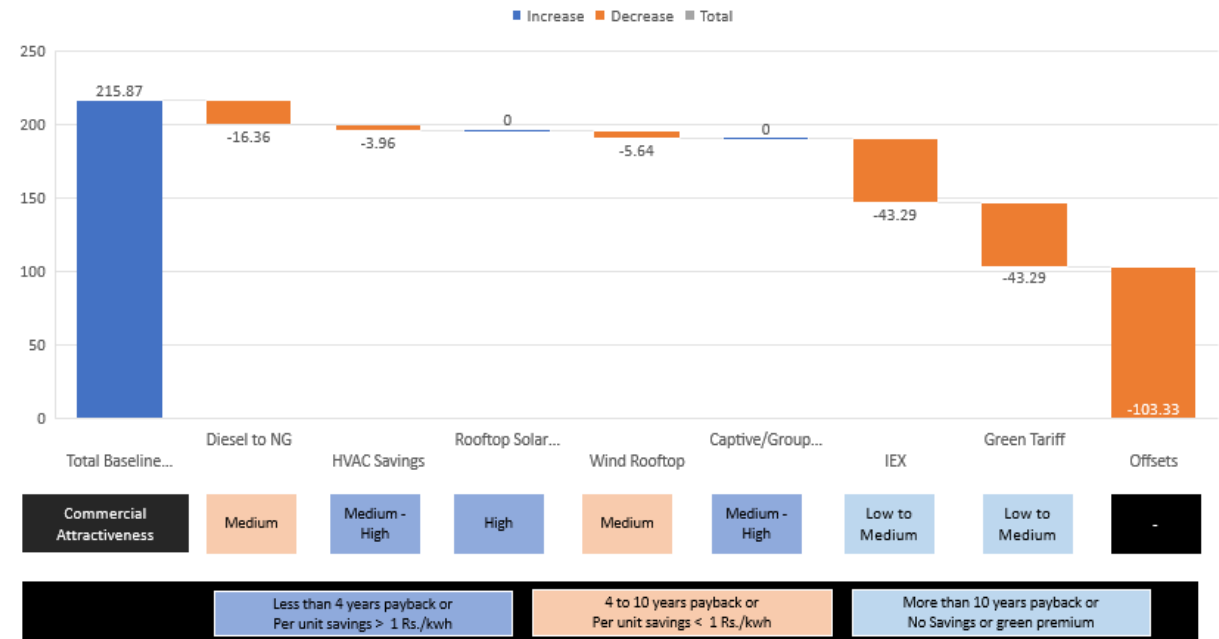
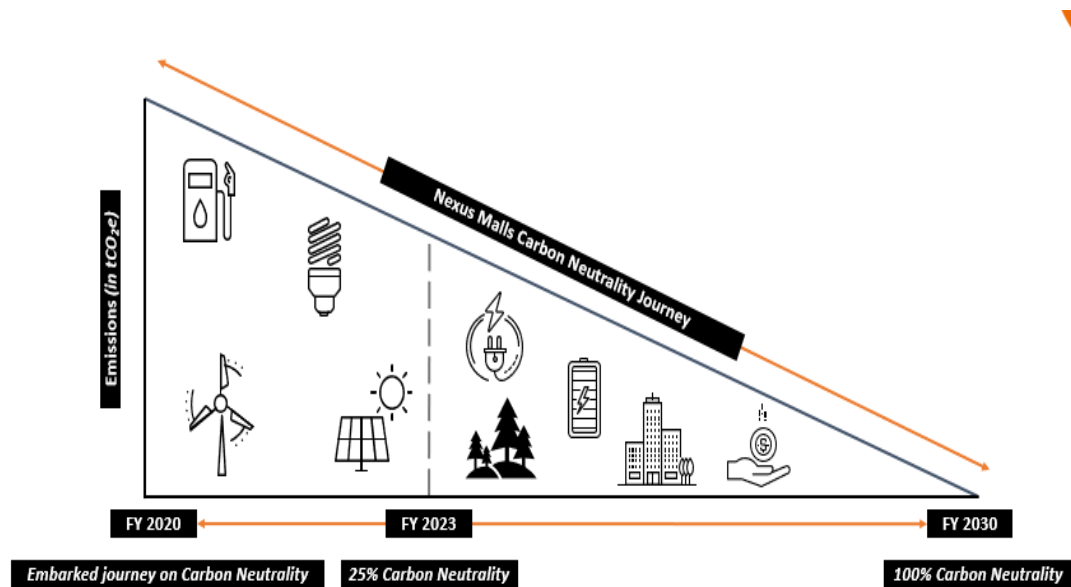
S. No.	Particulars	Units	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23
1	Scope 1 Emissions	TCO2e	96.29	52.45	56.60	62.54
2	Scope 2 Emissions	TCO2e	119.57	72.73	36.24	833.54
	<b>Total Emissions</b>	TCO2e	<b>215.86</b>	<b>125.18</b>	<b>92.84</b>	<b>896.08</b>

S. No.	Particulars	Units	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23
A	Emission Intensity as per Footfall	TCO2e/1000 Footfall	0.025	0.061	0.012	0.093
B	Emission Intensity as per Revenue	TCO2e/Million INR	0.277	0.371	0.195	1.048
C	Emission Intensity as per leasable area	TCO2e/100 Sq. Ft.	0.061	0.035	0.026	0.251

# ROAD MAP FOR ACHIEVING CARBON NEUTRALITY

Entity	Baseline Year	Baseline Emissions (tCO2e)	Target Year	Current Emissions FY23(tCO2e)	Current Progress in FY23
Nexus Select Trust	2019-20	69,276.51	2029-30	60,341.32	-12.90%
Nexus Koramangala	2019-20	215.87	2029-30	896.09	315.11%

For Nexus Koramangala, the Renewable energy share was >90% in the baseline inventory, but in the past year renewable energy share had come down to 66% due to shortfall of generation in our group captive. To compensate the RE share shortfall, we had signed a PPA with third party to wheel the RE from April-23 to meet our targets.

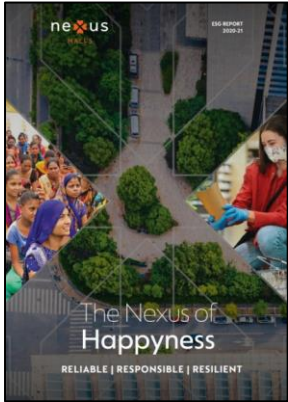


# CARBON NEUTRALITY ACTION PLAN

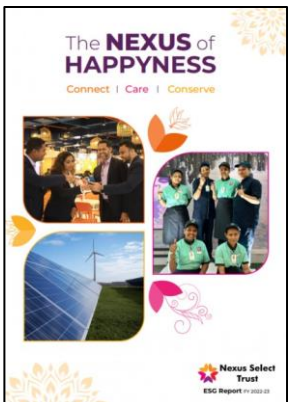


## Public Disclosure

Nexus has published 3 ESG Reports



ESG Report FY 20-21



ESG Report FY 22-23



ESG Report FY 21-22



## Target Year 2030

Nexus commitment for Net Zero

From a long-term perspective, our goal is to achieve carbon neutrality (Scope 1 and Scope 2) for our operational assets by 2030.

We have developed a comprehensive ESG strategy and decarbonization roadmap to positively impact our stakeholders, environment, and the larger ecosystem. Our six strategic pillars have multiple focus areas, defined KPIs, targets, and implementation plans.

## Signatories



We have become a signatory to the India Business & Biodiversity Initiative, strengthening our commitment to preserving biodiversity.



We have joined The Task Force of Climate Related Financial Disclosures (TCFD). We ensure that our climate-related disclosures are consistent with the TCFD guidelines.



We have become a member of UNGC (United Nations Global Compact), committing to the corporate responsibility initiative and embracing UNGC's principles of upholding human and labour rights, protecting the environment, and implementing anti-corruption practices.



We have adopted the WASH pledge developed by the World Business Council for Sustainable Development and its member companies to increase access to safe Water, Sanitation, and Hygiene.

# AWARDS AND RECOGNITION OF NEXUS



Won 10 awards including “The Most Admired Centre’ of the Year



Recognised as ‘The Economic Times Best Organisation for Women 2023’



Great Place to Work- Certified™ for the third year in a row



Awarded Best Workplaces for Women in 2022

## S&P Dow Jones Indices

A Division of **S&P Global**

### Overall Score

61

We scored 61 in our first DJSI (Dow Jones Sustainability Indices) assessment, putting us in the 94th percentile among the 523 companies assessed.

### Environment

Nexus 64 | Industry Mean 23 | Industry Best 98

### Social

Nexus 68 | Industry Mean 21 | Industry Best 87

### Governance

Nexus 46 | Industry Mean 28 | Industry Best 87



76

Our first-time participation in the Global Real Estate Sustainability Benchmark (GRESB) exercise earned us a score of 76 with a 3-star green rating

# BSI ASSURANCE STATEMENT:



Inspiring trust for a more resilient world.

## INDEPENDENT ASSURANCE

### OPINION STATEMENT

Statement No: SRA-IND-772414

#### Nexus Select Trust ESG Report 2022-23

The British Standards Institution is independent to Nexus Select Trust (NST) and has no financial interest in the operation of NST other than for the assessment and assurance of this report.

This independent assurance opinion statement has been prepared for NST only for the purposes of assuring its statements relating to its ESG report, more particularly described in the scope, below. It was not prepared for any other purpose. The British Standards Institution will not, in providing this independent assurance opinion statement, accept or assume responsibility (legal or otherwise) or accept liability for or in connection with any other purpose for which it may be used, or to any person by whom the independent assurance opinion statement may be read.

This statement is intended to be used by stakeholders & management of NST. The stage 1 assurance was completed using hybrid model of onsite visits and remote assessment using immersive techniques. More than fifty percent of the sites covered in scope were visited onsite to verify the claims. The data for remaining sites were verified and assured remotely, which was conducted over Microsoft Teams video-conferencing tool, where the assessor and the client representatives connected through the computer systems and internet.

This independent assurance opinion statement is prepared on the basis of review by the British Standards Institution of information presented to it by NST. The review does not extend beyond such information and is solely based on it. In performing such review, the British Standards Institution has assumed that all such information is complete and accurate.

Any queries that may arise by virtue of this independent assurance opinion statement or matters relating to it should be addressed to NST only.

#### Scope

The scope of engagement agreed upon with NST includes the following:  
1. The assurance covers the ESG Report 2022-23 of the NST, prepared "with reference to" GRI Standards, 2021 and focuses on systems and activities of Nexus Select Trust,



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- GRI 302: Energy 2016 - 302-1, 302-2, 302-3, 302-4
- GRI 303: Water & Effluent 2018 - 303-3, 303-4, 303-5
- GRI 305: Emissions 2016 - 305-1, 305-2, 305-3, 305-4, 305-5
- GRI 306: Waste 2020 - 306-3, 306-4
- GRI 401: Employment 2016 - 401-1, 401-2, 401-3
- GRI 403: Occupational Health and Safety 2018 - 403-3, 403-5, 403-9
- GRI 404: Training & Education 2016 - 404-1, 404-2
- GRI 405: Diversity and Equal Opportunity 2016 - 405-1
- GRI 413: Local Communities 2016 - 413-1
- GRI 418: Customer Privacy 2016 - 418-1

#### Competency and Independence

The assurance team was composed of Lead auditors experienced in industrial sector, and trained in a range of sustainability, environmental and social standards including GRI Universal Standard 2021, AA1000, ISO10002, ISO 14001, ISO 45001, ISO 14064, ISO 50001 and ISO 9001, etc. BSI is a leading global standards and assessment body founded in 1901. The assurance is carried out in line with the BSI Fair Trading Code of Practice.

#### Assurance Level

The type 1 moderate level of assurance provided is in accordance with AA1000 Assurance standard, AA1000AS v3 in our review as defined by the scope and methodology described in this statement.

#### Responsibility

It is the responsibility of NST's senior management to ensure the information presented in the ESG report is accurate. It is also left to the decision of the NST management on the publishing / submission of the report to any of their stakeholders. Our responsibility is to provide an independent assurance opinion statement to stakeholders giving our professional opinion based on the scope and methodology described.

#### Reliability

The assurance statement on the performance was issued based on the evidence collected from ground level provided by the employees of NST. The sample selection was on random basis and selection is done by BSI auditor



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The assessment included all sites covering the 17 Malls (Nexus Shantiniketan at Bengaluru, Nexus Seawoods at Navi Mumbai, Nexus Ahmedabad one at Ahmedabad, Nexus Koramangala at Bengaluru, Nexus Whitefield at Bengaluru, Nexus Westend at Pune, Nexus Centre City at Mysuru, Nexus Celebration at Udaipur, Nexus Elante at Chandigarh, Nexus Hyderabad at Hyderabad, Nexus Vijaya at Chennai, Fiza by Nexus at Mangaluru, Nexus Amritsar at Amritsar, Nexus Esplanade at Bhubaneswar, Treasure Island at Indore, Nexus Indore Central at Indore, Select City Walk at Delhi), 2 Hotels (Oakwood Residences at Bengaluru, Hyatt Regency at Chandigarh) & 3 Offices (Vijaya Office at Chennai, Elante Office at Chandigarh, Westend Icon Office at Pune), India during the period from 1<sup>st</sup> April 2022 to 31<sup>st</sup> March, 2023. The assurance team was convinced that the performance information presented in the report are reliable and representative.

#### Quality

The quality of information was checked through cross verification of data. Field level measurement and records were verified with the procurement and supply chain invoices/bills. Interview with the responsible persons detailed the activities, maintenance, and process performance. The fitness of the measuring devices, frequency of measurement and recording, competency of the person concerned, and review & approval of information were checked and found in conformance.

#### Performance Information

NST ESG Report has addressed their Environmental, Social and Governance performance through GRI Universal Standard 2021 topic disclosures. The assurance team has evaluated the requirements of the GRI disclosures for general disclosures and those relevant to the material topics only. For the specific data presented in the report, minimal technical/compilation errors were identified during the sampling process which were corrected for the final report.

Based on the processes and procedures conducted with a moderate assurance, there is no evidence that the Environment, Social data, and information presented in the Nexus Select Trust ESG Report 2022-23 are not materially correct and are not a fair representation of their Environmental and Social performance.

For and on behalf of BSI:

Theuns Kotze, Managing Director - IMETA Assurance  
06th July 2023





THANK YOU