GHG **Emission**

Annual Report FY 2023

> **Reporting period**: April 2022 - March 2023
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>TERMINOLOGY

Terms	Definitions
Greenhouse gas (GHG)	A gas that contributes to the greenhouse effect by absorbing infrared radiation, which contributes to Global Warming and climate change.
Global Warming Potential (GWP)	An index that integrates the overall climate impacts of different pollutant emissions in terms of carbon dioxide equivalents.
Scope 1 (GHG Emissions the company has direct control over):	These occur from sources owned or controlled by the company. e.g. emissions from combustion in owned or controlled Generators, Boilers, and Vehicles.
Scope 2 (Indirect GHG emissions related to energy demand):	It accounts for GHG emissions from purchased Electricity (grid system or sha Diesel Generator set)
Scope 3 (Indirect GHG emissions cover everything which makes business possible):	Scope 3 emissions are a consequence of the activities of the company but occur from sources not owned or controlled by the company. Some examples of scope 3 activities are the extraction and production of purchased materials.
Hotspot	A process that accounts for a significant proportion of the GHG inventory. Potential sources for the reduction of emissions.

>ACRONYMS

CO2	Carbon Dioxide
CO	Carbon Monoxide
CH4	Methane
GHG	Greenhouse gas
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
ADEME	Agence de la transition écologique
UNFCCC	United Nations Framework Convention on Climate Change
IRS	Internal Revenue Service
OECD	Organisation for Economic Co-operation and Development
IFI Default Grid Factors	International Financial Institutions Default Grid Factors
CEA	The Central Electricity Authority
NGEF	National Grid Emission Factor
HFC	Hydrofluorocarbons
DG	Diesel Generator
SBTi	Science-Based Target Initiative
Kg	Kilogram
kWh	Kilowatt Hour

>EXECUTIVE SUMMARY

Space Matrix Design Consultants is a workplace design consultancy that has expertise in workplace design and built projects. We have extensive project experience in over 80 cities and office presence at fifteen (15) locations in Australia, China, India, Hong Kong, the Philippines, Thailand, Singapore (HQ), and the United States.

Founded in 2001, our design practice has evolved into a dynamic, agile, 21st century digital enterprise; a design consultancy that specialises in workplace design. We have developed a unique client focus that creates and delivers profitable, sustainable, and future-ready workplace solutions. Our continuing mission aims to continue revolutionising the delivery of design and build services in both Asia and globally. Teamwork, Integrity, and Excellence guide the selection of our clients, the relationships with our business partners, the recruitment of our team members, and the delivery of our services. Our firm has approximately 500 professionals globally and continues to push the boundaries in workplace transformation.

Sustainability is the key area of focus where Space Matrix is committed to lowering its environmental footprint across its Global operations and analysing the supply chain to reduce its overall emissions to align its existing operational energy efficiency and resource efficiency initiatives. Following our ambition, our short-term and long-term climate targets have been validated by the SBTi in April 2023. As an early adopter of the SBTi climate ambition in the Workplace design industry in the region, we would like to disclose our GHG emissions and the progress made in our climate journey by publishing this report on our website.

The report includes a comprehensive list of GHG inventory for global operations, including Scope 1, 2, and relevant Scope 3 categories. This showcases our commitments and ambitious target to take responsibility for our actions and reduce our overall emissions for all the locations in the upcoming years. The current reporting period is April 2022 to March 2023; however, a detailed GHG assessment was done for the reporting period April 2019 - March 2020 to establish the baseline for the organisation. The Calculation of GHG Accounting Scope 1, 2 & 3 emissions is performed according to Greenhouse Gas Corporate Value Chain Accounting and reporting standard guidelines provided by the Greenhouse Gas Protocol.

1. Methodology

Considering the presence of Space Matrix at all 15 locations globally, the GHG emission accounting process has been performed considering the operational Controlled approach. We have considered all relevant Scope 1,2,3 emissions **and** have covered 100% of GHG operations we have control over.

The scope has been defined in accordance with the "GHG protocol standards", a widely used international methodology that is compliant with ISO 14064-1. The best available data have been captured to calculate the emission data, referencing the latest emission factors available in the industry, sourced from credible sources such as the IPCC GHG inventory, ADEME, UNFCCC, NGEF, CEA, IFI Default Grid Factors 2021 v3.1, OECD, and IRS. All the greenhouse gases (CO2, CH4, CO, HFC) are quantified as CO2e (carbon dioxide equivalents).

We have created a responsibility matrix for all the stakeholders according to their roles and responsibilities to collect and manage the data. Standard Excel-based data collection templates have been designed to collect and process the data for each location. The in-house Sustainability team has consolidated the data collected from the admin, finance, and IT departments and calculated the emissions for each location. The GHG emissions (CO2e) are calculated by multiplying activity data by the location-specific emission factor.

All the stakeholders were briefed to perform the data collection process systematically, verify the sources to maintain the accuracy of the data, and avoid double-counting and misinterpretation of the emission data.

2. GHG Emission Calculation

2.1. Scope of Activities

Following the Comprehensive GHG accounting framework, **Table 2** provides an overview of the covered scopes for **Space Matrix Design Consultant Pte Limited.**

Table 1: Overview of Scope 1, 2, & 3

Scope 1 - The GHG Emissions company has direct control over	• DG Fuel Consumption • Office Private Vehicle Fuel Consumption • Refrigerant Gas • CO2 Fire Extinguisher
Scope 2 - Indirect GHG emissions related to energy demand	• Electricity Consumption • Electricity purchased from an off-grid system
Scope 3 - Indirect GHG emissions cover everything that makes business possible	• Business Travel (Category 6: Business travel) • Paper Consumption, Purchased Drinking Water (Category 1: Purchased goods & services) • Waste Generation (Category 5: Waste generated in operations) • Employee Commute (Category 7: Employee Commuting)

2.2. GHG emissions inventory

The report consists of emission data from Scope 1, 2 & 3 for all 15 site activities and consumed resources. We have reported all the relevant Scope 3 categories with the available information transparently. Table 1 represents emission data for FY 2020 (base year) and FY 2023, considering Scope 1,2 & 3 emissions. The base year has been considered pre-COVID to give a realistic approach for data comparison.

Table 2 GHG inventory FY 2020 - FY 2023

No of Employees Globally Emissions identified		**500 (approx)**			
		FY 2020 (Base Year)		**FY 2023**	
Scope	**Emission Sources**	**tonne-CO2**	**%**	**tonne-CO2**	**%**
Scope 1	Diesel for DG set	1.6	0.10%	2.5	0.10%
	Fuels for company-owned vehicles	7	0.20%	5.5	0.10%
	HVAC Refrigerant gasses	0.1	0.00%	0.1	0.00%
	Scope 1 Total	8.7	0.30%	8.1	0.20%
Scope 2	Purchased Grid Electricity	449.4	14.70%	369.3	9.40%
	Purchased Off-grid Electricity	1.7	0.10%	4.3	0.10%

	Scope 2 Total	451.1	14.70%	373.6	9.50%
Scope 3	Employee Commuting	1,245.00	40.60%	834.3	21.20%
	Business Travel	1,328.10	43.30%	2,687.20	68.30%
	Waste generated	8.2	0.30%	9.1	0.20%
	Purchased goods (paper)	3	0.10%	2.3	0.10%
	Purchased goods (packaged water)	23.3	0.80%	20.7	0.50%
	Scope 2 Total	2,607.50	85.00%	3,553.60	90.30%
	Total (Scope- 1, 2, 3)	**3,067.30**	**100%**	**3,935.30**	**100%**

2.3 Location-specific Emissions

Following the comparison of FY 2020 & FY 2023, **Table 3** highlights the breakdown of FY 2023 GHG emissions contribution of Scope 1, 2 & 3 for 15 locations operated by Space Matrix. Location-specific emission data represents the breakdown for each global location where some of our offices contribute less than 1% to global emissions for Space Matrix. In upcoming years, we are looking at optimising resource consumption and reducing our scope 3 emissions, which have a larger share (up to 90%) in our overall emissions. Scope 1 & 2 are the major areas of focus where Space Matrix has direct control over its activities.

Table 3 Location-Specific GHG Emissions breakdown for FY 2023 (in tCO2e)

	Location	Scope 1 tC02e	% of total Scope 2	Scope2 tC02e	% of total Scope 2	Scope 3 tC02e	% of total Scope 3	Total emissions in tC02e	% of total emissions
1	Bangalore	3.79	46.79%	135.93	36.38%	1,092.08	30.70%	1,231.80	31.30%
2	Chennai	0.25	3.04%	34.27	9.17%	184.01	5.20%	218.53	5.55%
3	Gurugram	0	0.00%	50.83	13.61%	593.51	16.70%	644.34	16.37%
4	Hyderabad	0.01	0.17%	16.27	4.35%	165.53	4.70%	181.81	4.62%
5	Mumbai	0.01	0.11%	40.5	10.84%	295.21	8.30%	335.72	8.53%
6	Pune	0.01	0.11%	10.88	2.91%	114.93	3.20%	125.82	3.20%
7	Australia	0	0%	0	0.00%	0.87	0.00%	0.87	0.02%
8	Thailand	0	0%	0	0.00%	9.4	0.30%	9.4	0.24%
9	Hong Kong	0	0%	0	0.00%	0.33	0.00%	0.33	0.01%
10	Philippines	0	0%	0	0.00%	86.61	2.40%	86.61	2.20%
11	Beijing	0	0%	0	0.00%	8.53	0.20%	8.53	0.22%
12	Shenzhen	0	0%	0	0.00%	3.25	0.10%	3.25	0.08%
13	Shanghai	4.03	50%	59.01	15.79%	68.09	1.90%	131.13	3.33%
14	Singapore	0	0%	25.92	6.94%	929.65	26.20%	955.57	24.28%
15	USA	0	0%	0	0.00%	1.64	0.00%	1.64	0.04%
	TOTAL	**8.1**	**0.20%**	**373.6**	**9.49%**	**3,553.60**	**90.30%**	**3,935.35**	**100.00%**

3. SBTi Target

3.1 Target description

The Science Based Targets Initiative (SBTi) is a global body enabling businesses to set ambitious emissions reduction targets in line with the latest climate science. It is focused on accelerating companies across the world to halve emissions before 2030 and achieve net-zero emissions before 2050. The commitment is focused on reducing Scope 1 and Scope 2 GHG emissions by 46% by 2030 from a 2019 base year and measuring and reducing its Scope 3 emissions. **Space Matrix Design Consultants Pte Ltd** commits to reducing scope 1+2+3 emissions by 90% by 2050 from a 2019 base year.

The SBTi has validated Space Matrix's near-term science-based emissions reduction target. Space Matrix has also committed to setting long-term emissions reduction targets with the SBTi in line with reaching Net Zero by 2050. This is published on the SBTi webpage, and the readers of the report can refer to our climate targets by clicking on the link below https://sciencebasedtargets.org/companies-taking-action; look for 'Space Matrix Design Consultants Pte Ltd' to know more about our climate targets.

3.2 Substantial emission variations and changes in the target

Compared to the base year data, the data collection process has improved with a general understanding of the units of each inventory item, the importance of data management, our focus on resource consumption, etc., among the stakeholders. By understanding the stakeholder requirements and organisation structure, consistency of the data collection process and emission calculation are the major areas of improvement.

Scope 1 and scope 2 are the major areas of improvement where Space Matrix focuses on reduction targets instead of offset schemes. Our higher ambition to achieve this goal is to build confidence for external and internal stakeholders, in addition to inviting young talent towards the growth of the organisation.

Currently, the company is not dealing with large amounts of goods in its operational boundary, considering the end of life of those products. The range of Scope 3 is limited to relevant categories for our organisational activities as listed under **section 2.1.** We have worked with the latest version of secondary inventory data to avoid uncertainty during the emission calculation process.

The industry is maturing with collaboration from other industries concerning the Emission factors (Secondary data) and also experiencing technological advancements in the features of the available tools and solutions. In the upcoming year, Space Matrix will aspire to automate and streamline the data collection process to refine the GHG accounting process for all the scopes.

4. Actions towards meeting SBTs

Considering the past years of experience in analysing the Space Matrix's emission sources and their complexity, we have documented all the takeaways and challenges to improve the process. Our stakeholders are very keen on contributing their efforts during the process of GHG emission calculation. We are utilising the expertise of our in-house team to reduce our operational energy demand.

All the responsible stakeholders have contributed to this journey. The sustainability team is responsible for focusing on the data collection process and identifying challenges with stakeholders to maintain the consistency and quality of the data. Frequent monitoring of the data to evaluate the emission results and discussing the concern areas with respect to the reduction strategies with stakeholders have been the key areas of focus for the sustainability team to have more precise and actionable data.

Further to the streamlining of the data collection process, the sustainability team has been vigilant about all of our actions and impacts. This helps in building a stronger pathway towards our Climate goals.

5. Way Forward

We have started our climate journey by calculating base year data (FY 2020) to achieve our climate commitment of short-term goal by 2030 and long-term goal by 2050 or earlier. With the GHG accounting process, we have analysed the potential sources to improve and reduce our different sources of emissions compared to the FY 2023 data.

So far, we have identified the trend, where we noticed energy consumption, business travel, and employee commute-related emissions are the major areas to implement reduction strategies.

The in-house sustainability team is devising a robust sustainability program that would encompass all the potential solutions that would accelerate our climate actions to reach our short-term and long-term goals in a more advanced manner. Being a Small-Medium Enterprise, the challenges we face are numerous in our journey to integrate most of the available solutions that large corporations can easily adopt. However, the dedicated sustainability team is exploring solutions to reduce our emissions and switch to alternative energy sources by creating awareness among the stakeholders and making small changes to eliminate major environmental impacts, etc.

We foresee a lot of action-packed next few months for us that involve firming up the strategies to be implemented and solutionizing our ideas with a more accurate and impact-driven approach. In this process, we try to be more adaptive, inclusive, and transparent to champion the cause. We believe that we will be able to strive better when, as a whole organisation, we take part in this sustainability agenda and aspire to lead the market transformation resulting in significant impacts in our supply chain as well.

>REFERENCES

1. SBTi-Corporate-Manual.pdf (sciencebasedtargets.org)
2. GHG-protocol-revised.pdf (ghgprotocol.org)
3. Space Matrix - Leading Workplace & Corporate Office Interior Design Company