

# CARBON FOOTPRINT REPORT

FY APR 2023 - MAR 2024



THE PATH TO A CLEANER FUTURE

## ABOUT THIS REPORT

This report outlines the carbon footprint generated by the operations of ThoughtSol Infotech Pvt. Ltd. | Limited in FY 2023-2024 through the assessment of greenhouse gas (GHG) emissions. It covers Scope 1, 2 and selected categories from Scope 3 emissions. All the data collected and analyzed within this report follow The Greenhouse Gas Protocol outlined by the World Resources Institute (WRI) and ISO 14064-1: 2018 – Greenhouse gases – Part 1, maintaining a high standard of accuracy and transparency in emissions measurement, management, and reporting processes.

### CARBON FOOTPRINT REPORT FY 2023-24

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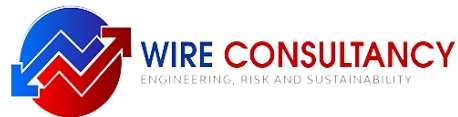
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## ABBREVIATIONS & ACRONYMS

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<b>BY</b>	Base Year
<b>CEA</b>	Central Electricity Authority
<b>CO<sub>2</sub></b>	Carbon Dioxide
<b>CO<sub>2</sub>e</b>	Carbon Dioxide Equivalent
<b>DEFRA</b>	Department for Environment, Food and Rural Affairs
<b>EF</b>	Emission Factor
<b>EPA</b>	Environment Protection Agency
<b>GHG</b>	Greenhouse Gases
<b>GWP</b>	Global Warming Potential
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>ISO</b>	International Standard Organization
<b>kWh</b>	Kilowatt Hour
<b>L</b>	Liter
<b>mt</b>	Metric Tons
<b>mtCO<sub>2</sub>e</b>	Metric Tons Carbon Dioxide Equivalent
<b>tCO<sub>2</sub>e</b>	Ton of Carbon Dioxide Equivalent
<b>WRI</b>	World Resources Institute

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## CEO/CSO/MD/CHAIRMAN MESSAGE

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At ThoughtSol Infotech Pvt. Ltd., we are driven by our commitment to excellence, innovation, and sustainability. As we continue to navigate the rapidly evolving digital landscape, our dedication to environmental responsibility remains unwavering. This Carbon Footprint Report underscores our resolve to minimize our environmental impact and lead by example in the IT industry.

Our mission is not only to drive digital transformation but also to ensure that this progress is sustainable. We believe in the power of technology to foster a better future—one where businesses thrive while being conscious of their carbon footprint. This Carbon Footprint Report is a testament to our dedication to environmental responsibility and underscores our belief in corporate accountability. The data contained within this report represents a comprehensive analysis of our emissions across various scopes, allowing us to identify areas for improvement. By transparently sharing our progress, we reinforce our commitment to accountability and invite our stakeholders to join us in our journey toward a more sustainable world.

We view this report as more than just a document; it is a call to action. We are open to feedback and collaboration as we strive to make a lasting positive impact on the environment. Together, let's build a future where technology and sustainability go hand in hand.

**CEO/CSO/MD/Chairman**

**ThoughtSol Infotech Pvt. Ltd.**

## 1 EXECUTIVE SUMMARY

ThoughtSol Infotech Pvt. Ltd. recognizes its role in working to conserve the environment while satisfying the needs of its clients and aims to take proactive steps to being part of the solution by assessing its carbon footprint and disclosing the overall emissions related to its operations.

The report analyses ThoughtSol Infotech Pvt. Ltd. carbon footprint during FY 2023-24. The assessment carried out considers various aspects of the operational activity of the ThoughtSol Infotech Pvt. Ltd. The assessment is based on ISO 14064-1 standard and GHG Protocol, forming commitment to sustainability.

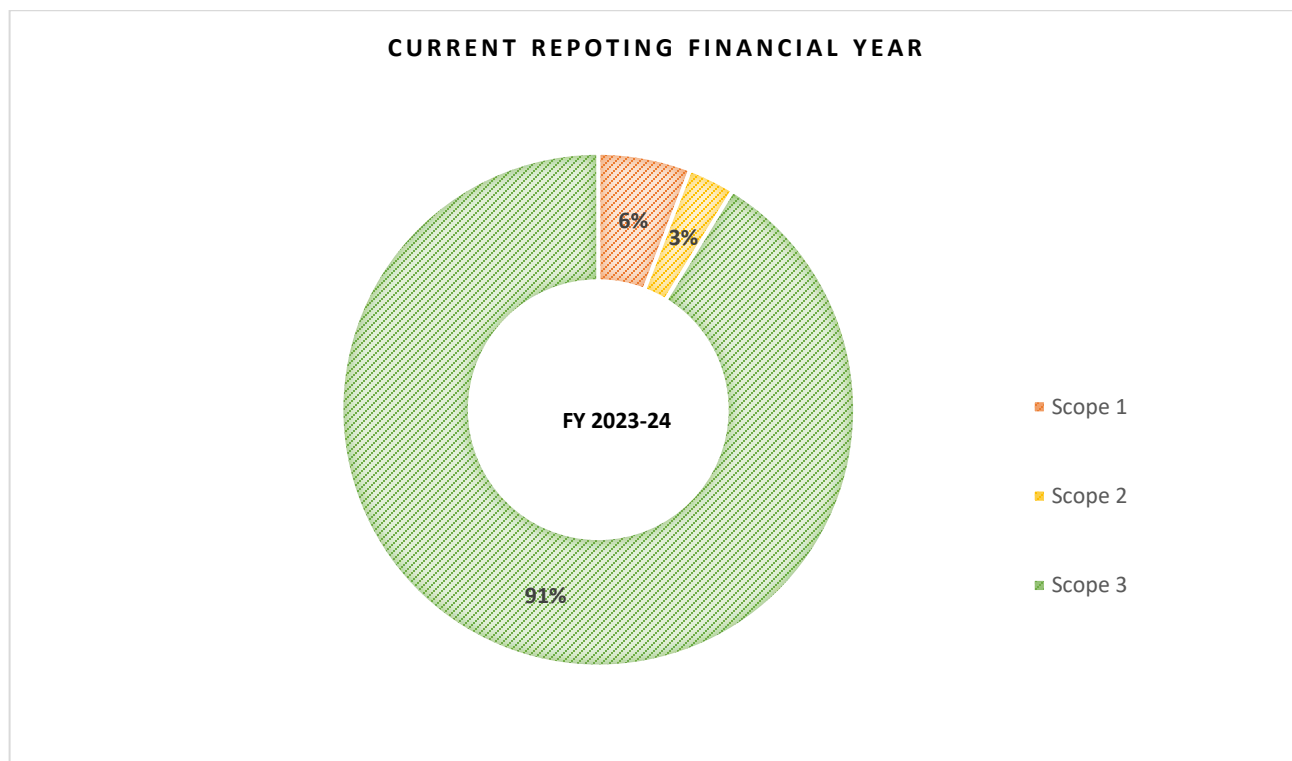
### 1.1 Carbon Footprint Results Summary

#### SCOPE-WISE GHG EMISSIONS:

The summary of greenhouse gas (GHG) emissions by different scopes within the reporting boundary for FY 2023-24 is presented below.

**Table 1: Scope-wise GHG Emissions**

Category	Emissions in Ton of equivalent CO <sub>2</sub> (tCO <sub>2</sub> e-)
	FY 2023-24
Scope 1	42.61
Scope 2	21.41
Scope 3	666.33
<b>Total GHG Emissions</b>	<b>730.35</b>



**Figure 1: Scope-wise Emission**

### GHG Emission Intensity per Employee:

The per-unit/site details for GHG emissions intensity for FY 2023-24 are assessed as follows:

**Table 2: GHG Emission Site-wise Intensity per employee (FY 2023-24)**

Site	Number of Employees	Total GHG Emissions	Total GHG Emission Intensity per employee (tCO <sub>2</sub> )
Kalkaji, Delhi	159	730.35	4.59

This assessment provides valuable insights into the ThoughtSol Infotech Pvt. Ltd. Carbon footprint/GHG emissions, enabling targeted strategies for reduction and sustainable business practices.



## 2 INTRODUCTION

At the current global rate of consumption, humans are depleting natural resources at a faster pace than they are replenished, leading to a projected need to satisfy our needs by 2030. To address this challenge, it is imperative to reduce carbon emissions.

ThoughtSol Infotech Pvt. Ltd. is hereby presenting its carbon footprint assessment for FY2023-24, aimed at quantifying and evaluating the company's greenhouse gas (GHG) emissions. This assessment serves as a means to establish benchmarks for GHG emissions performance indicators and to track progress over time.

### 2.1 About ThoughtSol Infotech Pvt. Ltd.

ThoughtSol Infotech Pvt. Ltd., founded in January 2014, stands as a pioneer in digital transformation, driven by a vision to bring meaningful change through innovative technology solutions. The company's mission is to elevate the standards of technology, services, and commitment in the IT industry. As a leading IT services provider, ThoughtSol offers a comprehensive range of services across five key domains:

1. **Cloud Services:** Offering Cloud Managed Services, Cloud Cost Optimization, Cloud Migration, Cloud Assessment, Cloud Monitoring & Governance, Managed DevOps and Data AI.
2. **Cybersecurity Services:** Offering Firewall Solutions, Email Security, End-point Security, Cloud Security, Zero Trust Network Access (ZTNA), Web Application Firewall (WAF), Data Loss Prevention (DLP), Endpoint Backup, Email Backup, Cloud Workload Backup, Physical/Virtualization Backup, and Backup as a Service.
3. **Data Center Solutions:** Encompassing Hybrid IT Solutions, Digital Edge & Security, Enterprise Data Solutions, and Everything as a Service (XaaS)
4. **Digital Solutions:** Including Digital Device Choice, Digital Productivity Solutions, Digital Experience Solutions, and Device as a Service

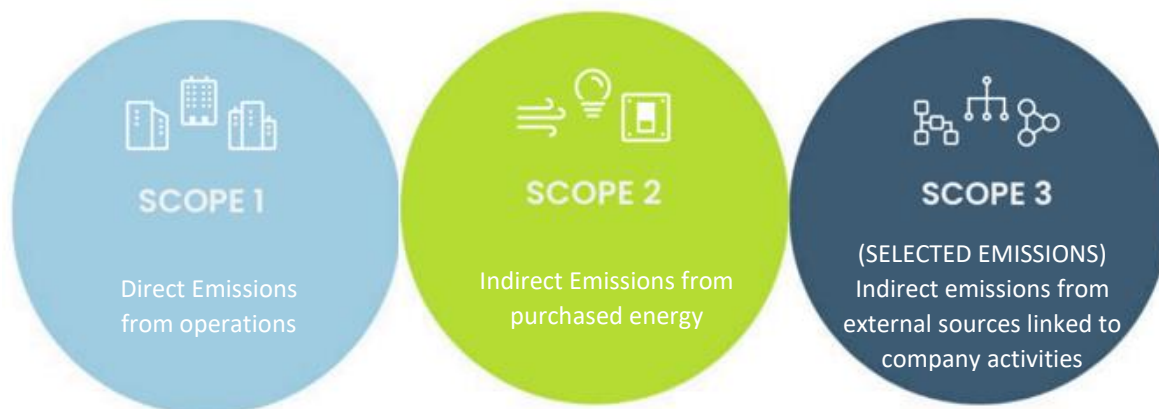
5. **NextGen Services:** Providing Hybrid Data Center Management, IT Service Helpdesk, Digital Workplace Management, IT Staffing Services, and Managed Print Services.

ThoughtSol helps brands leverage the power of IT for comprehensive business impact. The company's commitment to excellence is demonstrated through certifications in Quality Management, Service Management, Information Service Management, Environmental Management, and Business Continuity Management. These certifications drive ThoughtSol's commitment to delivering high-quality, sustainable solutions with a focus on customer satisfaction. Additionally, ThoughtSol holds a CMMI Level 3 appraisal. At ThoughtSol Infotech Pvt. Ltd., the goal is not just to adapt to the future of technology, but to shape it, always with an eye on sustainability and responsible growth.

## 2.2 Boundaries & Methodology

Inventory boundaries are divided into organizational and operational. The organizational boundary pertains to the businesses and operations that form part of ThoughtSol Infotech Pvt. Ltd. In the FY 2023-24 reporting period, ThoughtSol Infotech Pvt. Ltd. office site is in Kalkaji, Delhi.

The operational boundaries are the activities that lead to emissions whether they are direct or indirect. They include direct GHG emissions (Scope 1), indirect GHG emissions from the consumption of purchased electricity (Scope 2), and selected categories from indirect GHG emissions from external sources (Scope 3).



The analysis and calculations of this assessment followed protocols & standards specially developed for accounting and reporting carbon footprint including The Greenhouse Gas Protocol Guidelines, the 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for Greenhouse Gas Inventories (with 2019 Refinements) and the ISO 14064-1:2018 Standards.

### **2.3 Base Year for GHG Inventory and Reporting Period**

A base year is a reference year in the past with which current emissions can be compared. In order to maintain the consistency and comparability with future carbon footprints, base year emissions need to be recalculated when structural changes occur in the company that change the inventory boundary (such as acquisitions or divestments). If no changes to the boundaries of the inventory happen, the base year is not adjusted.

The first year of reporting for the company is Fiscal Year 2023-24; thus, the current report is also considered the base year for the company

### 3 INVENTORY DESIGN & DEVELOPMENT

Sustainability reporting acts as a powerful tool for controllers, public interest groups, and other stakeholders to determine the environmental performance of an organization. Quantification of GHG emissions requires the GHG activity data to be collected and recorded at a sufficiently disaggregated level, and capable of being consolidated in various forms. The Company has developed and implemented GHG monitoring and quantification system in line with the requirements of ISO 14064-1:2018.

#### GHG MANAGEMENT PROCESS



The major steps taken in designing and development of GHG Inventory are as follows:

1. Defining organizational boundary
2. Defining operational boundary
3. Identification of GHG sources
4. Selection and collection of GHG activity data
5. Selection of GHG emission factors
6. Calculation of GHG emissions

The organization has adopted a control-based approach to consolidate its organizational boundary. The emissions factors selected, and methodologies used for GHG accounting are referenced from the sources as given in the standard (ISO 14064 - 1: 2018) e.g., GHG protocol, DEFRA, IPCC etc.

### Completeness

The company has accounted for emission sources which contribute significantly to its GHG emissions for scope 1 and scope 2 while has selected sources from scope 3 based on the relevance of the emission type.

Scope 1 sources have been allocated and assessed and a proper monitoring system has been identified for each emission source. All the purchased electricity consumption sources are accounted for direct GHG emissions under scope 2. There are no other exclusions for these two categories of GHG emissions.

### Materiality

Information is material if, by its inclusion or exclusion, it can be seen to influence any decisions or actions taken by users of it. Therefore, within the predefined scope the source of emissions that by its inclusion or exclusion makes a significant difference in reported GHG emissions or GHG removals will be considered material for GHG Inventory. The company has established and implemented procedures to identify and record GHG emission sources resulting within the boundary.

### GHG Activity Data Monitoring, Transparency and Accuracy




The company has established and implemented the procedures for identification of GHG sources and sinks and the procedures to monitor and record the GHG activity data during

the given period. The calculations of GHG emissions for the period are based on actual data monitored and recorded.

### 3.1 Organizational Boundaries

The organizational boundary for the current GHG report encompasses the operations of ThoughtSol Infotech Pvt. Ltd. ThoughSol is considered a single entity for this report, with no subsidiaries or separate entities included in the GHG emission boundary. The following site has been included within the set boundary:

**Table 3: Organizational Boundaries Details**

 Office Site	 Number of Employees	 Type of Office Premise
Kalkaji, Delhi	159	Owned

### 3.2 Operational Boundaries

In establishing the operational boundary for GHG accounting of ThoughtSol, it has identified emissions associated with its operations and categorized them as direct, indirect, and other indirect emissions, which fall under Scope 1, Scope 2, and Scope 3 categories respectively. The operational boundary includes the complete value chain and all products and services that are part of ThoughtSol's business offerings.

Direct GHG emission sources included in the GHG inventory are the sources owned and controlled by the company. The major and only identified source of indirect emissions caused by the organization is the consumption of grid electricity. Emissions due to this category are the consequence of energy consumption activities taking place in the office, however, the source (i.e., combined grid) is neither owned nor controlled by the organization. Similarly, other indirect emission sources (i.e., employee commuting, upstream transportation,

downstream transportation and business travel) included in this inventory are not under the control of the company.

### 3.3 Scope Emissions

#### Scope-1: Direct GHG Emissions

The organization has identified major source of its direct GHG emissions from operational safety processes like-

- Mobile Combustion
- Fugitive Emissions: Refrigerant Leakage

#### Scope 2: Indirect GHG Emissions

The only GHG emission source for Scope 2 emissions at the company is

- Grid Electricity Consumption (purchased Electricity)

The electricity is imported from Indian Grid. State DISCOM issues monthly electricity bills against electricity consumption. The total consumption units given in the power bills are used for the calculation of indirect GHG emissions from purchased electricity.

#### Scope 3: Other Indirect GHG Emissions








Scope 3 allows for the treatment of all other indirect GHG emissions which are a consequence of the activities of the company but occur from sources not owned by the company and not included under scope 1 and scope 2 emissions. The scope 3 emissions are distinguished in 15 categories depending upon the upstream and downstream emission sources across the corporate value chain of the organization<sup>1</sup>.

The company has accounted for the selected emissions from Scope-3 such as

- Business travel
- Upstream transportation
- Downstream transportation

- Employee commuting

Other categories have not been included in the scope of calculation for the reporting year either due to unavailability of data or due to inapplicability of the category for the company scope and relevant business activities.




SCOPE 1	SCOPE 2	SCOPE 3
 <b>Mobile Combustion</b>	 <b>Purchased Electricity</b>	 <b>Employee Commute</b>
 <b>Refrigerant</b>		 <b>Upstream Transportation</b>
		 <b>Downstream Transportation</b>
		 <b>Business Travel</b>



## 4 OVERALL METHODOLOGY

### 4.1 Followed Protocols & Standards

Currently there are several internationally recognized methodologies and standards for the calculation of carbon footprint according to their approach, scope and orientation. ThoughtSol Infotech Pvt. Ltd. Carbon Footprint analysis and calculations were based on:

 <p>GREENHOUSE GAS PROTOCOL</p>	<p><b>THE GREENHOUSE GAS PROTOCOL GUIDELINES</b></p> <ul style="list-style-type: none"> <li>❖ A Corporate Accounting and Reporting Standard</li> <li>❖ Corporate Value Chain (Scope 3) Accounting and Reporting Standard</li> </ul>
	<p><b>ISO 14064-1: 2018</b></p> <ul style="list-style-type: none"> <li>❖ Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals</li> </ul>
	<p><b>2006 INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC)</b></p> <ul style="list-style-type: none"> <li>❖ Guidelines for Greenhouse Gas Inventories (with 2019 Refinements)</li> </ul>

### 4.2 Data Collection

The identification of emission sources and the type of data available assessment has been done. Accordingly, customized data collection spreadsheets were designed for each emission source considered in the GHG inventory. Data collection sheets were communicated and reviewed simultaneously with the focal points at the departments to ensure transparency and completeness in data collection procedure. Data collected was categorized under Scope-1 direct emissions, Scope-2 indirect emissions and Scope-3 other indirect emissions.

### 4.3 Calculation Approach



Global warming potentials (GWPs) are factors describing the radiative forcing impact of one unit of a specific greenhouse gas (e.g. methane) relative to one unit of carbon dioxide. They are used in GHG accounting to convert individual greenhouse gas emissions to a standardized unit for comparison; carbon dioxide equivalent (CO<sub>2</sub>e).

100-year GWPs to all emissions data in this inventory in order to calculate total emissions, in metric tons carbon dioxide equivalent (tCO<sub>2</sub>e). Global warming potential values were sourced from the Intergovernmental Panel on Climate Change's (IPCC) Sixth Assessment Report (AR6, Version No. 2, 2024), the most recent IPCC report available at the time of assessment. The Kyoto Protocol GHGs (or categories of GHGs) and their respective GWPs are listed in the table below:

**Table 4: Global Warming Potentials (GWP)**

Greenhouse Gas	Chemical Formula	100-Year GWP
Carbon Dioxide	CO <sub>2</sub>	1
Methane	CH <sub>4</sub>	27
Nitrous Oxide	N <sub>2</sub> O	273
Hydrofluorocarbons (HFCs)	Various	Various
Perfluorocarbons (PFCs)	Various	Various

Greenhouse Gas	Chemical Formula	100-Year GWP
Nitrogen Trifluoride	NF <sub>3</sub>	17,400
Sulphur Hexafluoride	SF <sub>6</sub>	24,300

To calculate the GHG emissions, the main formula used is:

$$\text{GHG Emissions (tCO}_2\text{e)} = \text{Activity Data (unit of activity)} \times \text{Emission Factor} \times \text{GWP}$$

Where,



#### ACTIVITY DATA

Activity data are those associated with the consumption of energy, electricity or consumables of the organization and were obtained via customized data collection sheets.



#### EMISSION FACTOR

Emission factors (EF) are representing the quantity of pollutants released to the atmosphere caused by a certain activity. The emission factor is usually expressed as the carbon dioxide equivalent (CO<sub>2</sub>e) emissions generated by a unit such as weight, volume and distance, e.g., CO<sub>2</sub>e/litre fuel consumed or CO<sub>2</sub>e-/kWh of purchased electricity etc. Emission factors are retrieved from Department for Environment, Food & Rural Affairs (DEFRA), 2006 Intergovernmental Panel on Climate Change (IPCC) with 2019 Refinements, Country Specific

Emission Factors, India, Country specific grid electricity emission factor and Environmental Protection Agency.

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### **GLOBAL WARMING POTENTIAL (GWP)**

GWP, is the heat absorbed by any greenhouse gas in the atmosphere, as a multiple of the heat that would be absorbed by the same mass of carbon dioxide. GWP is 1 for CO<sub>2</sub>. The global warming potentials of the sixth IPCC report have been used.

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## 5 CARBON FOOTPRINT

### 5.1 Overview



#### Emissions By Category

Scope	Category Name	Emissions tCO <sub>2</sub> e- in FY 2023-24
1.1	Mobile Combustion	40.39
1.2	Refrigerant Leakage (Fugitive Emission)	2.22
2	Purchased Electricity	21.41
3.1	Business Travel	274.06
3.2	Upstream Transportation	384.5
3.3	Downstream Transportation	0.9
3.4	Employee Commute	6.94

#### Emissions By Scope tCO<sub>2</sub>e-



Scope 1 Scope 2

Scope 3

## 5.2 Emissions Breakdown

The breakdown sections below show FY 2023-24 for each category of emissions.

### 5.2.1 SCOPE-1 EMISSIONS

#### 5.2.1.1 Mobile Combustion

Mobile combustion refers to the greenhouse gas (GHG) emissions produced by the combustion of fossil fuels in vehicles and other mobile equipment. These emissions are a significant component of Scope-1 emissions, which are direct emissions from owned or controlled sources.

For the period from April 1<sup>st</sup>, 2023, to March 31<sup>st</sup>, 2024, ThoughtSol Infotech Pvt. Ltd. has meticulously assessed the GHG emissions resulting from mobile combustion activities. The evaluation revealed that the organization consumed a specific amount of fuel, leading to emissions equivalent to **40.39 tons of CO<sub>2</sub>e**.

**Table 5: Emissions from CO<sub>2</sub> used Mobile Combustion (FY 2023-24) (Diesel & Petrol)**

Source	Quantity (Liter)	Emission Factor	Emission (tCO <sub>2</sub> e)
Diesel (Transportation)	4311	CO <sub>2</sub> : 11.68 kg/L CH <sub>4</sub> : 2.97194E-06 kg/L	35.960
Petrol (Transportation)	10619	N <sub>2</sub> O: 5.94387E-06 kg/L	

**Table 6: Emissions from CO<sub>2</sub> used Mobile Combustion (FY 2023-24) (CNG)**

Parameter	Value	Unit
CNG Cost	1,25,775	INR
Price per Kg	80	INR/kg
CNG Consumed	1572.1875	Kg
Net Calorific Value (NCV)	50	TJ/Gg
Implied CO <sub>2</sub> Emission Factor	4.410	kgCO <sub>2</sub> /kgCNG
Implied CH <sub>4</sub> & N <sub>2</sub> O Emission Factor	0.007467891	kgCO <sub>2</sub> /kgCNG
<b>CO<sub>2</sub> Emission (CNG)</b>	<b>4.417</b>	<b>tCO<sub>2</sub>e<sup>-</sup></b>

**Table 7: Emissions from CO<sub>2</sub> used Mobile Combustion (FY 2023-24)**

Source	Emission (tCO <sub>2</sub> e <sup>-</sup> )
Diesel + Petrol (Transportation)	35.960
CNG (Transportation)	4.417
<b>Total CO<sub>2</sub>e<sup>-</sup> Emission</b>	<b>40.387</b>

### 5.2.1.2 Refrigerant Leakage

Refrigerants are fluids used in refrigeration cycles to cool a space. The company has used a consumption-based method to quantify its fugitive emissions from use of refrigerant gases in the air conditioners installed at the site. It was observed that refrigerant gas, R32, is being used.

ThoughtSol Infotech Pvt. Ltd. has determined that from 1<sup>st</sup> April 2023 to 31<sup>st</sup> March 2024, a total of **2.88 kg of R32** were consumed for refrigerants, resulting in emissions equivalent to **2.22 tons of CO<sub>2</sub>e- in FY 2023-24.**

**Table 8: Emissions due to use of Refrigerants (FY 2023-24)**

Site	Quantity of R32 consumed (kg)	Global Warming Potential (GWP)	Emission from Refrigerants (kgCO <sub>2</sub> )	Emission from Refrigerants (tCO <sub>2</sub> e-)
Kalkaji, Delhi	2.88	771	2220.48	2.22048
<b>Total</b>	<b>2.88</b>	<b>-</b>	<b>2220.48</b>	<b>2.22048</b>



## 5.2.2 SCOPE-2 EMISSIONS

### 5.2.2.1 Purchased Electricity

Scope 2 emissions are indirect GHG emissions associated with the purchase of electricity, steam, heat, or cooling. ThoughtSol Infotech Pvt. Ltd didn't purchase any heat, steam or cooling during the reporting period. Thus, Scope 2 emissions only include purchased electricity emissions.

The company's electricity consumption is met through the purchase of electricity from external sources (national power grid), ensuring a reliable and continuous power supply. This strategic decision allows the company to focus on its core operations without the need for self-generation.

The emissions are based on the total electricity drawn from the grid during these periods of reliance. From April 2023 to March 2024, the total electricity consumed from the grid amounted to **29.90 MWh**, resulting in emissions equivalent to **21.41 tons of CO<sub>2</sub>e**.

The indirect GHG emissions from purchased electricity have been calculated using emission factor for Combined grid derived from CEA database (Version 19). The tool provides a method to calculate combined margin emission factor as a weighted average of operation margin and build margin emission factors of grid. Also, since there is no renewable energy sourcing for the consumption in the reporting year, Scope-2 emissions for market based and the location-based method would be similar.

$$E_{Electricity,y} = Q_{Electricity,y} * EF_{NEWNE}$$

Where:

$E_{Electricity,y}$  : Emissions from consumption of purchased electricity during year y at office (MWh)

$Q_{Electricity,y}$  : Quantity of electricity consumed during year y (MWh)

$EF_{NEWNE}$  : Emission factor for Combined grid (0.716 tCO<sub>2</sub>/MWh; calculated as per tool to calculate emission factor for electricity system, using CEA version 19).

**Table 9: Summary of Scope-2 Emissions (FY 2023-24)**

Site	Total Electricity consumption from Indian Grid (MWh)	Emission from Electricity usage (tCO <sub>2</sub> ) following Location-based Method	Renewable Energy Consumption (MWh)	Emission from Electricity usage (tCO <sub>2</sub> ) following Market-based Method
Kalkaji, Delhi	29.9025	21.41	Nil	21.41
<b>Total</b>	<b>29.9025</b>	<b>21.41</b>	<b>Nil</b>	<b>21.41</b>

### 5.2.3 SCOPE-3 EMISSIONS

The organization has decided to report partially on scope 3 emissions as well. Under this scope the sources of emissions are divided into 15 categories of GHG emissions which happen due to operations of organization but are not controlled by the organization (upstream and downstream indirect emissions).

Quantification of this scope necessitates assessing GHG emissions across the entire value chain. However, quantification of scope 3 GHG emissions is limited to the category “Business Travel”, “Upstream Transportation”, “Downstream Transportation” and “Employee Commuting”. For remaining categories either the data is insufficient or not available at all. Also, there are some categories which don’t apply to the scope of operating activities of the company.

The details of scope 3 emissions as calculated are as follows.

- Business Travel
- Upstream Transportation
- Downstream Transportation
- Employee Travel to office (Employee Commute)

#### 5.2.3.1 Business Travel

Business travel, categorized under Scope 3 emissions, encompasses the greenhouse gas (GHG) emissions resulting from employee travel activities that occur outside the direct operational control of a company. This includes emissions generated from modes of transport such as flights, buses, cars, and railways used by employees for business purposes. The emissions are calculated using distance-based methods, incorporating data on the travel modes and distances covered, and applying relevant emission factors as provided by the GHG Protocol Corporate Accounting and Reporting Standard.

Emissions arising from Business Travel are calculated following the distance-based method given in “India GHG Program” version 1.0, ([Transport Emission Factors | India GHG Program](#)) and IPCC AR5 & AR6 reports (GHG Protocol default values).

For the reporting year from April 2023 to March 2024, a total of **1,145,569 km** traveled by employees for business purposes resulted in associated emissions of **274.0566 tons of CO<sub>2</sub>e**.

**Table 10: Emissions from Business Travel (FY 2023-2024)**

Vehicle	Total Distance travelled for Transportation (Kilometer)	Emission Factor (KgCO <sub>2</sub> e/km)	Emission from Business Travel (tCO <sub>2</sub> )
Bus	147152	0.0152	0.0744

Vehicle	Total Distance travelled for Transportation (Kilometer)	Emission Factor (KgCO <sub>2</sub> e/km)	Emission from Business Travel (tCO <sub>2</sub> )
Car	270818	0.2900	78.5372
Flight	672436	0.2900	195.0064
Railway	55136	0.0080	0.4385
<b>Total</b>	<b>1145569</b>	<b>-</b>	<b>274.0566</b>

### 5.2.3.2 Upstream transportation

Upstream transportation emissions are a critical component of Scope 3 emissions would involve emissions resulting from the transport of materials, representing the carbon footprint associated with the movement of goods and services from suppliers to a company's premises. This includes the transportation of raw materials, components, and other necessary products that contribute to the final output of a business. These emissions are part of the broader calculation of an organization's total carbon footprint and are critical to understanding and mitigating the environmental impact of business operations.

Calculating these emissions, as outlined by frameworks like the India GHG Program and IPCC reports, is essential for understanding the full environmental impact of business operations. Emissions arising from Business Travel are calculated following the distance-based method given in "India GHG Program" version 1.0, ([Transport Emission Factors | India GHG Program](#)) and IPCC AR5 & AR6 reports (GHG Protocol default values).

For the reporting year from April 2023 to March 2024, a total of **6,48,565 kilometers** traveled by employees for business purposes resulted in associated emissions of **384.5 tons of CO<sub>2</sub>e**.

By accurately assessing and mitigating these emissions, companies can take significant steps toward reducing their overall carbon footprint and contributing to global sustainability efforts.

**Table 11: Total Emissions from Upstream Transportation (Other Indirect Emissions)**

Vehicle	Upstream Transportation India Average (Kms)	Emission Factor (KgCO <sub>2</sub> e/km)	Emission from Upstream transportation (tCO <sub>2</sub> )
Freight	648565	0.5928	384.5
Total	648565	-	384.5

### 5.2.3.3 Downstream Transport

Downstream transportation emissions, a key component of Scope 3 emissions, refer to the carbon footprint associated with the transportation of goods and services from a company's premises to its customers or end-users. This includes the emissions resulting from the distribution and delivery of finished products to retailers, distributors, or directly to consumers.

Calculating these emissions, as outlined by frameworks like the India GHG Program and IPCC reports, is essential for understanding the full environmental impact of business operations. Emissions arising from Business Travel are calculated following the distance-based method given in "India GHG Program" version 1.0, ([Transport Emission Factors | India GHG Program](#)) and IPCC AR5 & AR6 reports (GHG Protocol default values).

For the reporting year from April 2023 to March 2024, a total of **1,466 km** traveled by employees for business purposes resulted in associated emissions of **0.9 tons of CO<sub>2</sub>e**.

By accurately assessing and mitigating these emissions, companies can take significant steps toward reducing their overall carbon footprint and contributing to global sustainability efforts.

**Table 12: Total emissions from Downstream Transportation (Other Indirect Emissions) (FY 2023-24)**

Vehicle	Downstream Transportation India Average (Km)	Emission Factor (KgCO <sub>2</sub> e/km)	Emission from Downstream transportation (tCO <sub>2</sub> )
Freight	1466	0.5928	0.9
Total	1466	-	0.9

#### 5.2.3.4 Employee Commute

Emissions arising from employee travel to Office/ Home are calculated following the distance-based method given in “India GHG Program” version 1.0, ([Transport Emission Factors | India GHG Program](#)) and IPCC AR6 reports (GHG Protocol default values).

Based on the data collected of employee commute of the employees, from April 2023 to March 2024, the total distance travelled for Transportation is **1375477 km** resulted to associated emissions is **6.9393 tons of CO<sub>2</sub>e-**,

This method involves collecting data from employees on commuting patterns (e.g., distance travelled, and mode used for commuting) and applying appropriate emission factors for the travel modes adopted by the employees of the company.

$$E_{commuting,i,y} = (\sum D_{i,y}) \times EF_i$$

where:

$E_{commuting,i,y}$  : CO<sub>2</sub> emissions from employees travel in year y using vehicle type i (tCO<sub>2</sub>)

$D_{i,y}$  : Total distance traveled by employees in year y using vehicle type i (Passenger-miles)

$EF_i$ : CO<sub>2</sub> Emission factor of vehicle type i (kg CO<sub>2</sub>/passenger-km default values used for two-wheelers, petrol-based cars, diesel-based cars, taxi, train commute, and bus commute as given in GHG Protocol Corporate Accounting and Reporting Standard, 2nd Edition's cross-sector emission factor reference tool)

The distance traveled by employees has been calculated based on data collected from third-party rental vehicle providers, personal and public vehicles, covering bikes, cabs, and cars used for employee commutes.

**Table 13: Emissions from Employee Commute (FY 2023-24)**

Vehicle	Total Distance travelled for Transportation (Kilometer)	Emission Factor (KgCO <sub>2</sub> e/km)	Emission from Employee Commute (tCO <sub>2</sub> )
Bike	396838	0.0597	0.7897
Cab	447372	0.0680	1.0140
Car	531267	0.2900	5.1356
<b>Total</b>	<b>1375477</b>	<b>-</b>	<b>6.9393</b>

## 6 DATA SOURCES AND QUALITY

All the information used to compute the various footprints comes from ThoughtSol Infotech Pvt. Ltd. database. The data quality has been evaluated and presented below, with data from each business sector evaluated independently to enable for better analysis and display of resolution and further explanations. The most used types of data are:

- ❖ **Primary Data:** Data taken from documents that are directly linked to the assessment, such as electricity invoices, to calculate emissions caused due to electricity.
- ❖ **Secondary Data:** Such as databases, studies, and reports.
- ❖ **Assumptions:** Assumptions made based on internationally recognized standards and studies.



**Table 14: Quality of Sourced GHG Data**

#	SCOPE	ACTIVITY	DATA	NOTES
	1	Mobile Combustion	Petrol- 4311 L Diesel- 10619 L	Calculations involved spend-based method, converting data points to kilometers, by aligning most accurate emission factors available, which are based on a per-km basis
	1	Refrigerant Leakage (R32)	2.88 kg	Assumptions were made based on the number of ACs provided. The breakdown of AC tonnage is not available, which may cause a ±10% variance in the value.
	2	Purchased Electricity	29.90 MWh	For the current reporting period, data for four months was missing, estimations were made based on the average consumption of available months.
	3	Business Travel	1145569 km	Calculation involved a spend-based method with conversion to km. Data points

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#	SCOPE	ACTIVITY	DATA	NOTES
				aligned with emission factors from reliable sources.
	3	Upstream Transportation	648565 km	Calculation involved a spend-based method with conversion to km. Data points aligned with emission factors from reliable sources.
	3	Downstream Transportation	1466 km	Calculation involved a spend-based method with conversion to km. Data points aligned with emission factors from reliable sources.
	3	Employee Commute	1375477 km	Data was received on total distance traveled by employee, mode of transport and type of vehicle.

**FOUNDATIONAL:**  
Area for refinement

**SATISFACTORY:**  
Potential for enhancement

**GOOD:**  
No changes recommended

## 6.2 Relevancy & Exclusions

A few emissions sources due to being negligible or non-availability of appropriate activity data are not included in this GHG inventory. The details of the same are given below.

### Exclusion of GHG Emissions

**Table 15: Exclusion of GHG Emissions**

#	SCOPE	ACTIVITY	DESCRIPTION	STATUS
	1	Stationary Consumption	No Diesel Generators or direct stationary fuel consumption exist within ThoughtSol's operational boundary.	Not Applicable
	1	Fugitive Emission through Fire Extinguisher	No fire extinguisher refilling occurred during the current financial year	Not Applicable
	3	Purchased Goods and Services (PG&S)	Based on an allocation approach, emissions from this category were determined to be trivial relative to overall Scope 3 emissions. Available data does not support inclusion in the current reporting period	Not Applicable

#	SCOPE	ACTIVITY	DESCRIPTION	STATUS
	3	Capital Goods	This category typically includes large goods with long operational lives. While ThoughtSol owns equipment such as laptops, the emissions associated with their production are not considered significant for the reporting year	Not Applicable
	3	Fuel and Energy-Related Activities (Not Included in Scope 1 and 2)	Data unavailability prevents inclusion. These activities are expected to occur infrequently and contribute minimally to overall emissions	Not Applicable
	3	Waste Generated in Operations	Emissions from this activity contribute minimal (approx. less than 1%) of total GHG emissions. Waste management is outsourced to a third-party service provider	Not Included, shall be reported in subsequent year

#	SCOPE	ACTIVITY	DESCRIPTION	STATUS
	3	Upstream Leased Assets	This category is not directly relevant to ThoughtSol operations and has therefore been excluded.	Not Applicable
	3	Processing of Sold Products	ThoughtSol's business model does not involve the processing of sold products by third parties	Not Applicable
	3	Use of Sold Products	ThoughtSol's products and services do not generate significant emissions during their use phase	Not Applicable
	3	End of Life Treatment of Sold Products	While potentially relevant, current data is insufficient for accurate calculation. Future reporting will require tracking of equipment disposal methods, weights, and quantities	Relevant, reporting in next financial year
	3	Downstream Leased Assets	ThoughtSol does not lease assets to other entities as part of its core business operations	Not Applicable

#	SCOPE	ACTIVITY	DESCRIPTION	STATUS
	3	Franchises	ThoughtSol's business model does not include franchising activities	Not Applicable
	3	Investments	Emissions associated with investments in external entities or projects are not applicable to ThoughtSol's current operations	Not Applicable

**FOUNDATIONAL:**  
Area for refinement

**SATISFACTORY:**  
Potential for enhancement

**GOOD:**  
No changes recommended

## 7 DECARBONIZATION ACTION PLAN

ThoughtSol Infotech recognizes the need to combat climate change and is committed to reducing its carbon footprint. The company has not initiated any activities for GHG reduction but has an overall objective to be carbon neutral in future.

The knowledge obtained from this assessment regarding the impact of the operations will help to develop more sustainable business scenarios and evaluate future policies with a series of projects with different levels of complexity to implement.

The decarbonization plan aims to reduce the emissions of the organization's operations in pursuit of reducing its overall carbon footprint. To develop a customized decarbonization plan, we analyzed inventory data and assessed the company's environmental performance.

### 7.2 GHG Reduction Strategies

We would like to highlight the voluntary measures that can be taken as good practices for GHG reduction. The decarbonization list of actions is presented in the table below, with a target reduction of 2% in each annual year.

**Table 16: Action Plan**

ACTIVITY	TARGET	KEY METHODOLOGY	IMPLEMENTATION TIMELINE	MEASUREMENT
<b><u>ACTION PLAN-1:</u></b>  Mobile Combustion Efficiency	Reduce Scope 1 emissions from mobile combustion by 2% by next financial year	<ul style="list-style-type: none"> <li>Implement a company-wide fuel-efficient driving policy</li> <li>Conduct eco-driving training</li> <li>Regularly maintain and service company vehicles to ensure optimal performance</li> <li>Encourage route optimization for business trips to reduce unnecessary mileage</li> <li>Track and report fuel consumption for all company vehicles</li> </ul>	<ul style="list-style-type: none"> <li>Month 1: Develop and distribute fuel-efficient driving policy</li> <li>Month 2: Conduct eco-driving training sessions</li> <li>Month 3: Set up a system for tracking fuel consumption</li> <li>Ongoing: Regular vehicle maintenance and quarterly review of fuel consumption data</li> </ul>	Monthly tracking of fuel consumption, annual calculation of vehicle-related emissions



ACTIVITY	TARGET	KEY METHODOLOGY	IMPLEMENTATION TIMELINE	MEASUREMENT
<b><u>ACTION PLAN-2:</u></b>  Energy Efficiency in Office	Reduce Scope 2 emissions by 2% by next financial year through energy conservation measures	<ul style="list-style-type: none"> <li>Implement a "Switch Off" campaign for lights and equipment when not in use</li> <li>Optimize thermostat settings- In summer: Set the air conditioning to a slightly higher temperature (e.g., from 22°C to 24°C); In winter: Set the heating to a slightly lower temperature (e.g., from 22°C to 20°C)</li> <li>Enable power-saving modes on all computers and office equipment</li> <li>Conduct monthly energy awareness sessions for employees</li> </ul>	<ul style="list-style-type: none"> <li>Month 1: Launch "Switch Off" campaign and adjust thermostat settings</li> <li>Month 2: Configure power-saving settings on all devices</li> <li>Ongoing: Replace bulbs with LEDs as needed, conduct monthly awareness sessions</li> </ul>	Monthly tracking of electricity consumption, quarterly progress reports

ACTIVITY	TARGET	KEY METHODOLOGY	IMPLEMENTATION TIMELINE	MEASUREMENT
<b><u>ACTION PLAN-3:</u></b>  Business Travel and Employee Commute	<ul style="list-style-type: none"> <li>Reduce Scope 3 emissions from business travel and employee commute by 2% by next financial year</li> </ul>	<ul style="list-style-type: none"> <li>Promote virtual meetings over in-person meetings when possible</li> <li>Implement a "No Travel Week" once per quarter for non-essential business trips</li> <li>Promote the use of public transportation by sharing route information and schedules</li> </ul>	<ul style="list-style-type: none"> <li>Month 1: Set up virtual meeting guidelines</li> <li>Month 2: Announce and implement "No Travel Weeks"</li> <li>Month 3: Create and distribute public transportation information</li> <li>Ongoing: Regular reminders and promotion of these initiatives</li> </ul>	<ul style="list-style-type: none"> <li>Quarterly surveys on commute patterns and business travel frequency</li> </ul>
<b><u>ACTION PLAN-4:</u></b>  Waste Reduction and Recycling	Reduce waste sent to landfill by 2% by next financial year, indirectly	<ul style="list-style-type: none"> <li>Implement comprehensive recycling program for paper, plastic, and e-waste</li> <li>Promote use of reusable water bottles, coffee mugs, and lunch containers</li> </ul>	<ul style="list-style-type: none"> <li>Month 1: Set up recycling stations and educate employees on proper sorting</li> <li>Month 2: Distribute reusable items to</li> </ul>	Monthly tracking of waste generated and recycled, annual waste audit

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ACTIVITY	TARGET	KEY METHODOLOGY	IMPLEMENTATION TIMELINE	MEASUREMENT
	contributing to Scope 3 emission reduction	<ul style="list-style-type: none"> <li>Set printers to double-sided printing by default</li> <li>Digitize documents where possible to reduce paper use</li> <li>Partner with a local e-waste recycling company for proper disposal of electronic equipment</li> </ul>	<p>employees and set default printer settings</p> <ul style="list-style-type: none"> <li>Month 3: Begin digitization process for appropriate documents</li> <li>Ongoing: Regular reminders about recycling and waste reduction</li> </ul>	

### 7.3 Uncertainty Assessment

The GHG emissions reported in this GHG inventory are based on input (consumption) data from the records of GHG activity data maintained by the company. Further for employee commutation, a questionnaire has been shared with rental vehicle providers to consider the distance and travel mode adopted. Also, the emission and GHG removal factors are referenced from IPCC 2006 guidelines and World Resource Institute (GHG Protocol's corporate accounting standard, 2<sup>nd</sup> edition, Nov 2011). Therefore, the uncertainties considered by IPCC apply to the current GHG inventory.

The IPCC Reports default uncertainty range for fossil fuel combustion data to be plus or minus 5 percent. The description of plus or minus 5% is given below:

- The value in the energy statistics or energy balance is interpreted as the point estimate for the activity data
- The lower limit value of the 95 percent confidence interval is 0.95 times the point estimate.
- The upper limit value of the 95 percent confidence interval is 1.05 times this value.

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## REFERENCES

1. ISO 14064-1: 2018, Greenhouse gases – Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals
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