



# Carbon Emissions Report

(As per the GHG Protocol Corporate Standard)



**Kalinga Institute of Industrial Technology (KIIT)  
Deemed to be University, Bhubaneswar**

## Carbon Emissions Report in Line with GHG Protocol Corporate Standard

### Executive Summary:

This report provides an analysis of KIIT Deemed to be University (KIIT DU) carbon emissions in alignment with the GHG Protocol Corporate Standard, which is widely recognized and commonly used for calculating and reporting greenhouse gas (GHG) emissions. The report presents an overview of the methodology used, emission sources identified, and key findings related to KIIT DU's carbon footprint.

### Introduction:

KIIT University recognizes the importance of environmental sustainability and has committed to measuring and reducing its carbon footprint. The GHG Protocol Corporate Standard provides a comprehensive framework for organizations to account for and report their GHG emissions. This report aims to assess KIIT DU's carbon emissions using this internationally recognized standard.

### Methodology:

The following steps were undertaken to calculate KIIT DU's carbon emissions:

- a. Scope Definition:** The boundaries of the assessment were established, including direct emissions (Scope 1), indirect emissions from purchased energy (Scope 2), and other indirect emissions associated with the university's activities (Scope 3).
- b. Data Collection:** Data on energy consumption, transportation, waste generation, and other relevant activities were collected from various sources within the university, including utility bills, financial records, and transportation logs.
- c. Conversion Factors:** Standardized conversion factors were applied to convert the collected data into CO<sub>2</sub> equivalent (CO<sub>2</sub>e) emissions. These factors were sourced from recognized industry databases and emission factors recommended by the GHG Protocol.
- d. Calculation:** The collected data was multiplied by the corresponding emission factors to calculate the total CO<sub>2</sub>e emissions for each emission source and scope.
- e. Reporting:** The emissions data were aggregated and categorized by emission

source and scope to provide a comprehensive overview of KIIT DU's carbon emissions.

### Carbon Emission Sources:

The major emission sources considered in this report include, but are not limited to:

#### a. Scope 1:

- ✧ Direct emissions from combustion of fossil fuels in university-owned boilers, generators, and vehicles.
- ✧ Refrigerant leaks from cooling systems.

#### b. Scope 2:

- ✧ Indirect emissions from purchased electricity consumed by the university.

#### c. Scope 3:

- ✧ Indirect emissions from commuting and business travel by staff, faculty, and students.
- ✧ Indirect emissions from waste generated by the university.
- ✧ Indirect emissions from procurement activities and other upstream and downstream activities.

### Key Findings:

The assessment of KIIT DU's carbon emissions for the year 2023 - 2024, based on the GHG Protocol Corporate Standard, has revealed the following key insights:

**a. Scope 1 Emissions (3.51%):** These emissions, primarily from diesel generators (0.60%) and university vehicles (2.28%), contribute minimally to the overall footprint.

**b. Scope 2 Emissions (67.29%):** These emissions were significantly higher compared to Scope 1 & 2, as the university's reliance on purchased electricity contributed to indirect emissions.

**c. Scope 3 Emissions (29.20%):** Major contributors include electronic device usage (22.08%), food waste (2.01%), and miscellaneous activities (3.96%), highlighting the significant impact of indirect emissions from institutional operations.

Table: Details of Carbon Emissions by KIIT DU in 2023 - 2024

Sl. No.	Factors	Carbon Emission per annum (in kg)	%
1	Imported Electricity (in kWhs)	9829392.21	65.73
2	Mobile Phones & Computers (in hours)	3459939.252	23.14
3	Diesel Fuel for Generators (in litres)	94500	0.63
4	Fuel for University Vehicles (in litres)	357750	2.39
5	Food Wastage (in kgs)	315000	2.11
6	LPG (in kgs)	98000	0.66
7	Waste Treatment Plants (in litres)	150000	1
8	Paper Waste & Notebooks (in kgs)	24960	0.17
9	Consumables in Labs and Workshops (includes chemicals, refrigerants, lubricants, etc.)	4500	0.03
10	Miscellaneous	620550	4.15

<b>Total CO2 Emissions</b>	<b>14.955 kilo tonnes (kt)</b>
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<b>Scope 1</b>	<b>0.55 kilo tonnes (kt)</b>	<b>3.68%</b>
<b>Scope 2</b>	<b>9.829 kilo tonnes (kt)</b>	<b>65.73%</b>
<b>Scope 3</b>	<b>4.575 kilo tonnes (kt)</b>	<b>30.59%</b>

### Recommendations:

Based on these findings, the following measures are recommended to mitigate carbon emissions:

#### 1. Energy Efficiency & Renewable Energy:

- Reduce electricity dependency through more amount of solar panel installations and renewable energy procurement.
- Upgrade to energy-efficient systems, such as optimized HVAC systems.
- Implement smart energy monitoring to minimize wastage.

#### 2. Sustainable Transportation:

- Encourage faculty and students to carpool, cycle, or use public transport.
- Increase adoption of electric vehicles (EVs) and establish EV charging stations.

#### 3. Waste Management & Reduction:

- Strengthen recycling initiatives, especially for paper, electronics, and food waste.
- Promote organic waste composting and improved waste treatment processes.

**4. Awareness & Behavioural Change:**

- Conduct more sustainability workshops and awareness programs for students and staff.
- Encourage maximum responsible energy and electronic device usage.

**Conclusion:**

This assessment, conducted using the GHG Protocol Corporate Standard, highlights KIIT DU's carbon footprint for 2023 - 2024. The necessity of using renewable energy is required. Addressing Scope 3 emissions through waste management and digital sustainability can further enhance KIIT DU's commitment to environmental responsibility. Implementing these recommendations will help the university in future to achieve its carbon reduction goals and contribute to global climate action.

