



جامعة هليوبوليس
Heliopolis University
for Sustainable Development

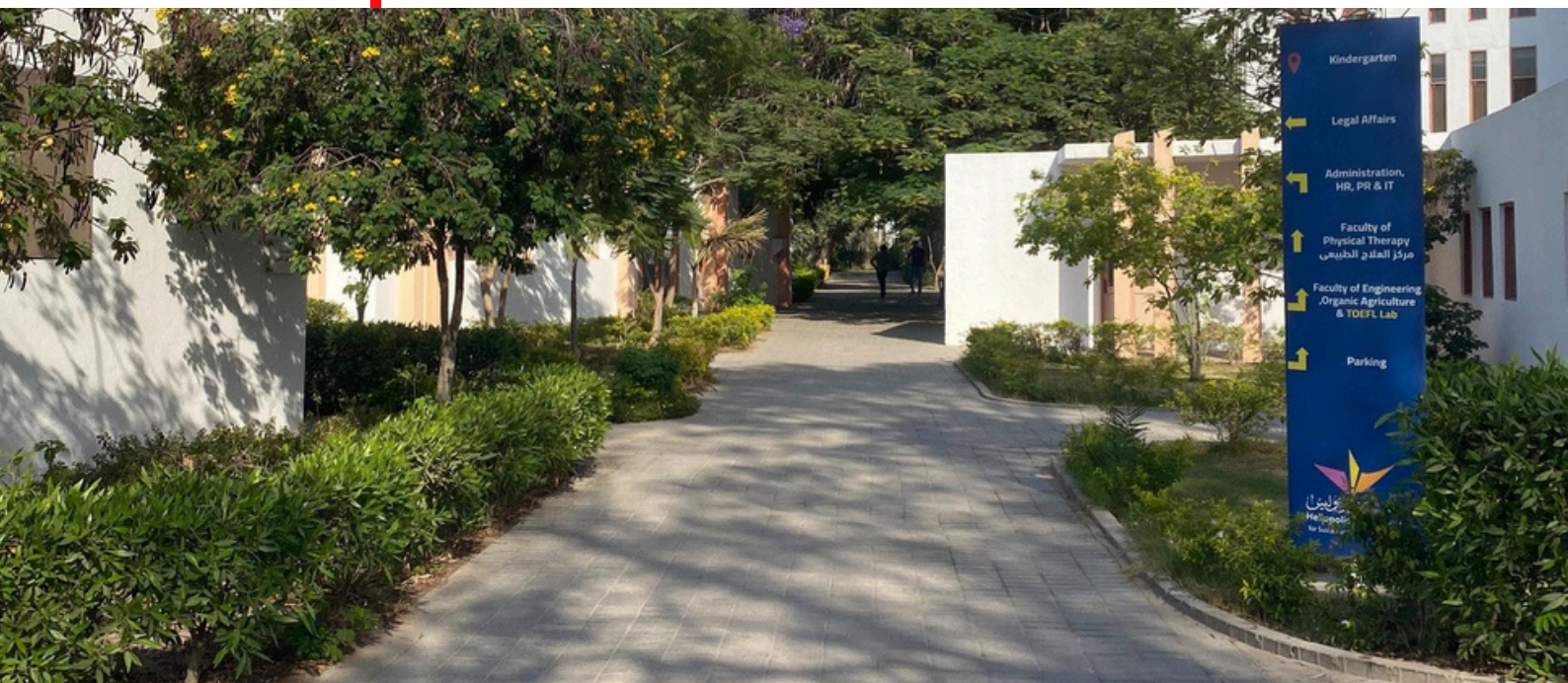


 <https://www.hu.edu.eg/>

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ACRONYMS & ABBREVIATIONS

GHG	Greenhouse Gases
GWP	Global Warming Potential
CO₂e	Carbon Dioxide equivalent
ISO	International Organization for Standardization
WRI	World Resources Institute
WBCSD	World Business Council for- Sustainable Development
DEFRA	Department for Environment, Food & Rural Affairs
UNFCCC	United Nations Framework Convention on- Climate- Change
EF	Emission Factor
KWH	Kilowatt per hour
MmtCO₂e	Metric Tonnes of Carbon Dioxide Equivalent
WTT	Well-to-Tank
L	Litre
Kg	Kilograms
M³	Cubic Meter



DEFINITIONS

Climate Change	Long-term shifts in temperatures and weather patterns. These shifts may be natural or human driven activities.
IPCC	The Intergovernmental Panel on Climate Change is an intergovernmental body of the United Nations responsible for advancing knowledge on human-induced climate change.
Emission Factor	A factor allowing GHG emissions to be estimated from a unit of available activity data (e.g. tonnes of fuel consumed, tonnes of product produced) and absolute GHG emissions).
GreenHouse Gas (GHG)	A gas that absorbs and emits radiant energy within the thermal infrared range, causing the greenhouse effect.
Direct Emissions	Greenhouse gas emissions from facilities/sources owned or controlled by the museum.
Indirect Emissions	Greenhouse gas emissions from facilities/sources that are not owned or controlled by the organisation , but for which the activities of the organisation , are responsible (electricity purchase).

ABOUT HELIOPOLIS UNIVERSITY



Heliopolis University for Sustainable Development was founded with the mission of advancing sustainable development in Egypt, tackling challenges that extend beyond environmental conservation to include the creation of equitable, resilient living conditions for both present and future generations. Established in 2009 by Dr. Ibrahim Abouleish (1937–2017), the university reflects the principles of SEKEM, an initiative Dr. Abouleish launched in 1977 to foster human potential and promote economic activities grounded in ecological and ethical practices. Heliopolis University is notably the first institution in the Middle East to prioritize sustainable development as its central guiding mission. Operating as a non-profit institution since 2012, Heliopolis University comprises five faculties: Engineering, Pharmacy, Business and Economics, Physical Therapy, and Organic Agriculture. Each faculty is an interdisciplinary approach to sustainability, integrating teaching, research, and practical applications to address diverse areas, including innovative business models, engineering solutions, organic agricultural practices, and holistic healthcare. In addition to their primary academic studies, students participate in a Core Program—a cross-disciplinary curriculum encompassing arts, music, theater, and language. This program enriches students’ perspectives on sustainability while fostering creativity and individual development. Heliopolis University also places a strong emphasis on promoting a campus culture of respect and safety, with initiatives such as workshops, performances, and awareness programs focused on gender equality and the prevention of sexual harassment. As a collaborative academic environment, Heliopolis University encourages students and faculty to actively engage in addressing sustainable development challenges, engaging with the community, and sharing knowledge. Through this community-focused approach, the university continues to promote sustainable practices and contribute positively to Egypt and the wider region.



EXTENDED SUMMARY

Climate change represents one of the most critical global challenges of our era, with extensive consequences for our planet and its inhabitants. As the world addresses these impacts, all organizations are urged to evaluate their environmental impact and integrate sustainable practices.

Heliopolis University's commitment to Environmental, Social, and Governance (ESG) principles is evident in every aspect of its operations. Recognizing its pivotal role, the organization not only champions sustainability but also conducts a comprehensive carbon footprint analysis, demonstrating its unwavering dedication to environmental stewardship, transparency, and accountability.

We hereby present our Carbon Footprint Report for the reporting period spanning from January 1st, 2023, to December 31st, 2023. This report encompasses direct emissions from SEKEM Group owned assets (Scope 1), indirect emissions stemming from purchased electricity (Scope 2), and partial activities of (Scope 3).

The analysis and calculations of this assessment adheres rigorously to the Greenhouse Gas Protocol Guidelines, the 2006 IPCC Guidelines for Greenhouse Gas Inventories, and the ISO 14064-1:2018 Standards.



The report encompasses all operational facilities, including Heliopolis University in Egypt. The university employs 462 staff members across academic, administrative, and support services. Greenhouse gas (GHG) emissions were calculated using activity data and emission factors from DEFRA and the Environmental Protection Agency (EPA).

Total Employees
462 

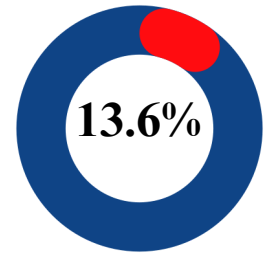
The **total carbon footprint** of Heliopolis University for 2023 was **532.377 mtCO₂e**, distributed as follows:

Scope 1 (direct emissions): **72.481 mtCO₂e (13.6%)**

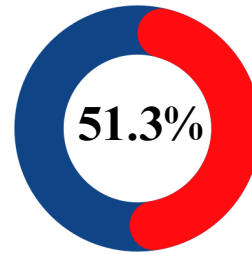
Scope 2 (indirect emissions from electricity): **276.101 mtCO₂e (51.8%)**

Scope 3 (other indirect emissions): **183.795.86 mtCO₂e (34.5%)**

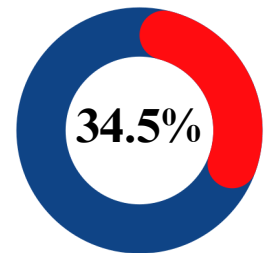
The emissions breakdown for Heliopolis University indicates that the highest emissions stem from electricity usage, totaling **276.101 mtCO₂e**, which accounts for **51.8%** of the university's total emissions. Following electricity, commuting under Scope 3 contributes **183.79 mtCO₂e (34.5%)**. Additionally, emissions from company-owned cars amount to **61.136 mtCO₂e (11.4%)**, while diesel usage contribute **11.345 mtCO₂e (2.1%)**.



Scope 1

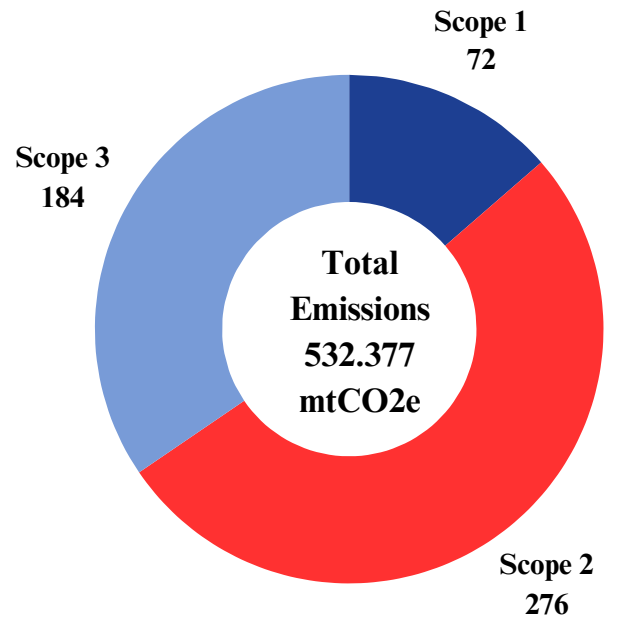


Scope 2

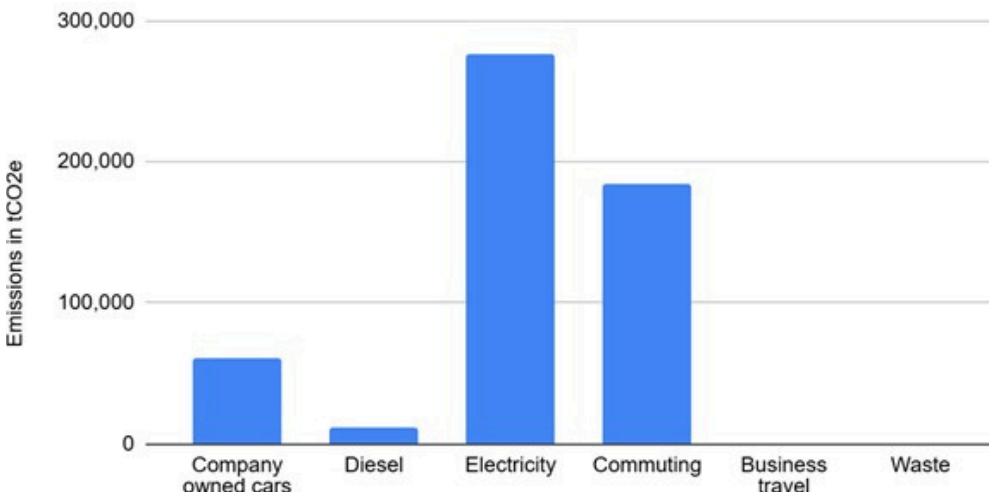


Scope 3

■ Scope 1 ■ Scope 2 ■ Scope 3



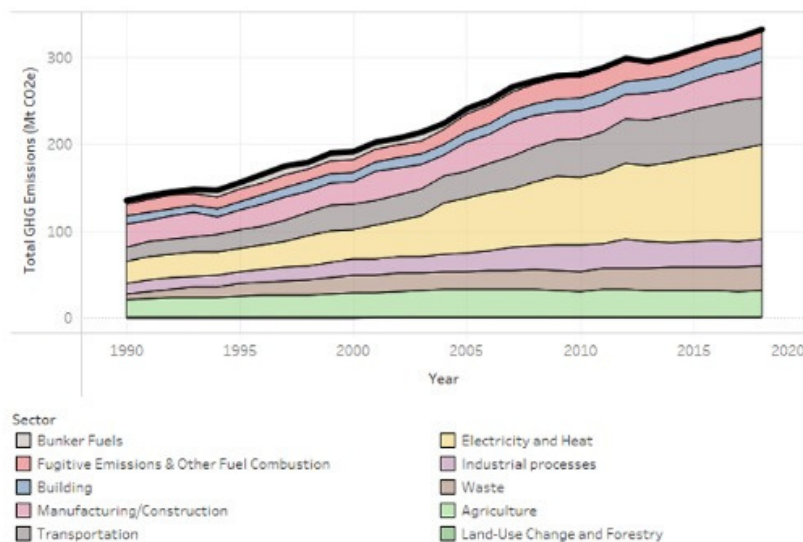
Emissions Per Category



INTRODUCTION

Climate change represents one of the most critical global challenges of our era, with extensive consequences for our planet and its inhabitants. As the world addresses these impacts, all organizations are urged to evaluate their environmental impact and integrate sustainable practices.

In 2021, Egypt's total greenhouse gas (GHG) emissions were approximately 0.6% of the global total, encompassing sectors such as energy, industry, agriculture, and waste. Egypt's economic and emissions growth are still tightly linked to each other, as reflected in total GHG emissions from 1990 to 2019, which grew 163% in absolute terms and 47% per capita. Between 2005 and 2015, emissions increased by about 31%, from 248 Mt CO₂eq to 325 Mt CO₂eq.



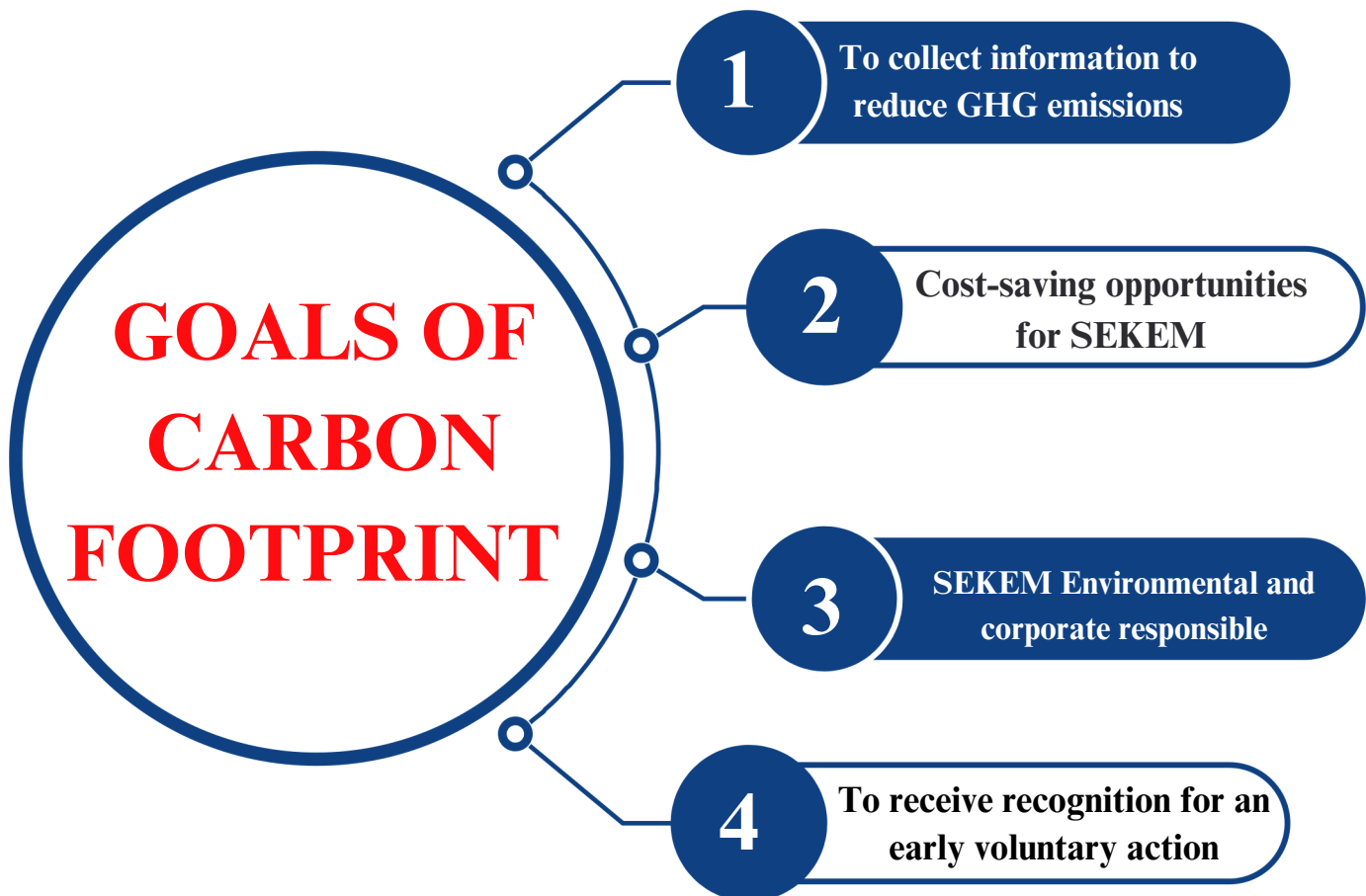
Source: WB team elaboration, using data from Climate Watch. 2022. Washington, DC: World Resources Institute. <https://www.climatewatchdata.org>.

Egypt has long been a proactive leader in addressing climate change on both regional and global stages. Since ratifying the UNFCCC in 1994, Egypt has consistently advocated for measures to mitigate human interference with the climate system. The nation reaffirmed its dedication to global climate efforts by signing the Paris Agreement in April 2015, with parliamentary ratification following in June 2017. These pivotal steps reflect Egypt's steadfast commitment to promoting environmental sustainability in alignment with international frameworks such as the Sustainable Development Goals.

GENERAL INFORMATION

This carbon footprint calculation was carried out upon request of the SEKEM Group and done by the CFC team. The study aims to lay out and calculate the corporate carbon footprint of LinkMisr Factory in Egypt. This report is based on the reported SEKEM Group emissions from January 1st, 2023 until December 31st, 2023.

This assessment results in the carbon footprint of SEKEM Group. The goal is to identify sources of greenhouse gas emissions and to calculate numerous of such gases emitted due to the operation of the assessed organization over one determined year. The carbon footprint serves to identify the environmental performance of a specific organization regarding greenhouse gas emissions, thus assessing its impact on climate change.



METHODOLOGY

The assessment methodology

CFC is certified ISO 14046-1 in quantification, monitoring, and reporting of GHG. The methodology used for this assessment is based on the guidelines of the GHG protocol. The GHG protocol is a global corporate standard for carbon footprint measurement and reporting. It standardizes the measurement, management, and reporting of Greenhouse gas (GHG) emissions generated by a company. The GHG protocol was created jointly by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD). The GHG protocol categorizes emissions related to company operations into three scopes (areas) and has become a widely used international standard. The carbon footprint assessment is conducted based on several international and widely applied standards, protocols, and guidelines specially developed for accounting and reporting, **including the following:**

- **Intergovernmental Panel on Climate Change (IPCC) Guidelines**
- **The GHG Protocol: corporate accounting and reporting standard**
- **ISO 14064-1:2018 Greenhouse gases Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals**

System boundary and scopes

In this chapter, the system boundary, as well as the scopes of assessed companies will be described. The term boundary refers to the parameters that are accounted for in the carbon footprint of a specific corporation.

In this assessment, the boundaries were set to cover all corporate facilities and staff-related emissions in their companies. Once this boundary has been defined, the greenhouse gas emissions arising from the corporate's operations will be identified and assigned to three different scopes, as introduced in the Greenhouse Gas Protocol.

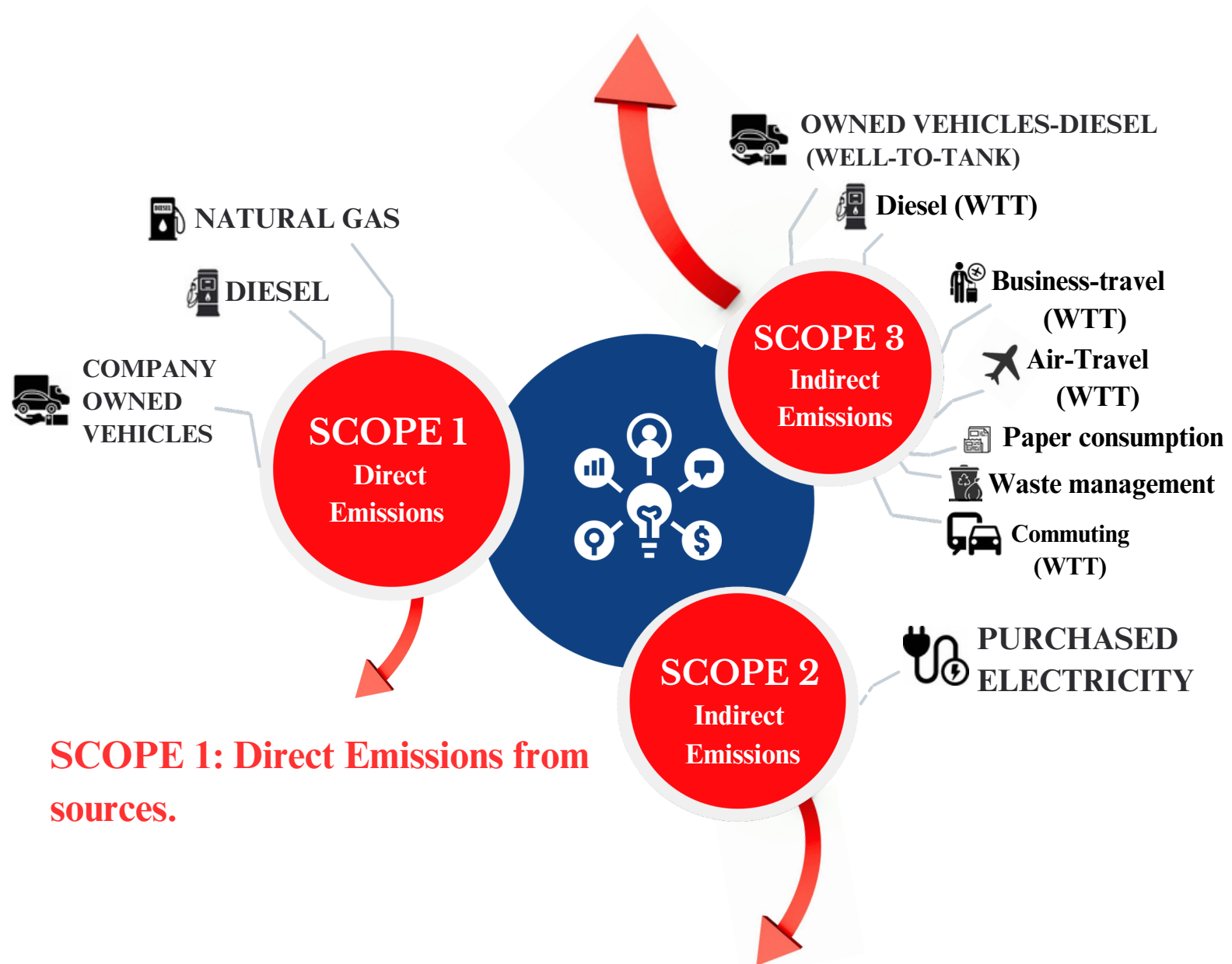
In line with the approach of the Greenhouse Gas Protocol, the emissions identified within the system boundary and the different levels are assigned to three different scopes as follows:

Scope 1: Emissions include the direct greenhouse gas emissions of a corporation. These emissions arise from sources that are owned or controlled by the corporate or employees.

Scope 2: emissions include indirect greenhouse gas emissions caused by the corporate. These are emissions from the generation of purchased electricity consumed by the corporation.

Scope 3: Emissions include all the other indirect greenhouse gas emissions of the corporation. These emissions are a consequence of the activities of the corporation but (mostly) occur at sources owned or controlled by another entity.

SCOPE 3: Indirect Emissions



SCOPE 1: Direct Emissions from sources.

SCOPE 2: Indirect Emissions from sources with the consumption of purchased electricity.

Emission Factors

Greenhouse gases (GHG) can be measured by recording emissions at the source, by continuous emissions monitoring, or by estimating the amount emitted using activity data (such as the amount of fuel used) and applying relevant conversion factors. These conversion factors allow organizations and individuals to calculate GHG emissions from a range of activities, including energy use, water consumption, waste disposal, recycling, and transport activities. Below are the sources used for the study, these have been screened among all options available and selected due to their accuracy and appropriateness for this particular case:

- **DEFRA Department for Environment, Food & Rural Affairs UK 2023 Egypt Specific Grid**
- **Emission Factor, the national grid average emission factor for the Arab Republic of Egypt is 0.533 MT CO₂e/MWh based on the Institute for Global Environmental Strategies (IGES, 2022) and the BUR Report of Egypt (UNFCCC, 2018). Environmental Protection Agency**
- **(EPA), 2023**

Data sources

Different types of data may be taken to carry out a corporate carbon footprint.

The most commonly used types of data are:

- **Primary data: data taken from documents that are directly linked to the assessment questionnaire, such as electricity invoices to calculate emissions caused due to electricity.**
- **Secondary data: such as databases, studies, and report**
- **Assumption; Assumptions help to ensure that the analysis is appropriate for the data and the problem being addressed, and that the conclusions drawn are valid and reliable.**

SCOPE OF THE INVENTORY

Organizational Boundary

The organizational boundaries considered in this report include the buildings of Heliopolis University. This encompasses the main campus in Cairo, located at 3 Belbeis – Cairo Desert Road, Cairo. Heliopolis University employs a total of 500 staff members, who collectively commute a distance of 949,143 km per year.

GHG Emission Calculation

According to the WBCSD/WRI GHG Protocol, all Kyoto Protocol greenhouse gases have been included in the assessment where applicable and material. Global warming potentials (GWPs) are used in GHG accounting to convert individual greenhouse gas emissions to a standardized unit for comparison; carbon dioxide equivalent (CO₂e).

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

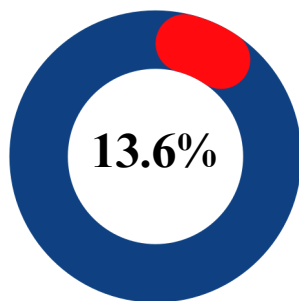
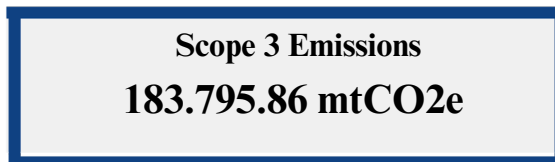
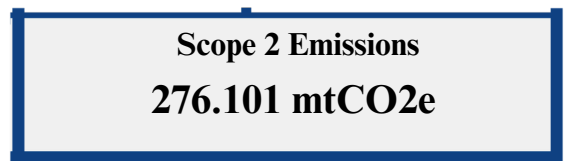
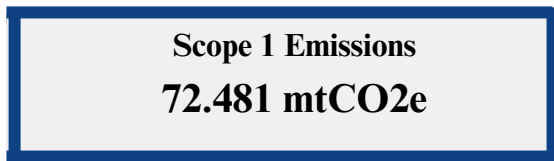
GHG Emissions = Activity Data (unit of activity) × Emission Factor (kgCO₂e/unit of activity)

Where:

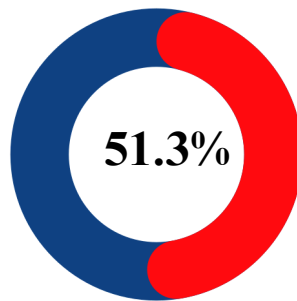
Activity Data = Quantitative measure of activity that results in a GHG emission (varies among different types of emission sources (e.g. electricity, diesel consumption, etc.).

Emission Factors (EF) = Site-specific or default emission factors.

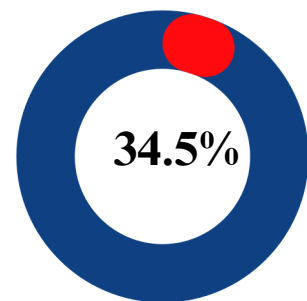
Since there are no emission factors released by Egypt, except for the national grid emission factor, all other emission factors were adapted from DEFRA Databases



Scope 1



Scope 2



Scope 3

Heliopolis University GHG Emissions

Power related emissions

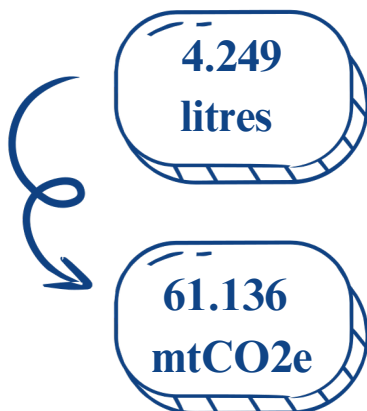
In alignment with the United Nations Sustainable Development Goals (SDGs) 7 (Affordable and Clean Energy), 9 (Industry, Innovation, and Infrastructure), and 12 (Responsible Consumption and Production), it is crucial to address the power-related emissions that stem from the corporation's electricity purchases, as well as its consumption of natural gas and petrol.

These emissions are linked to the purchase of electricity the corporation used, as well as its Natural Gas and petrol consumption.



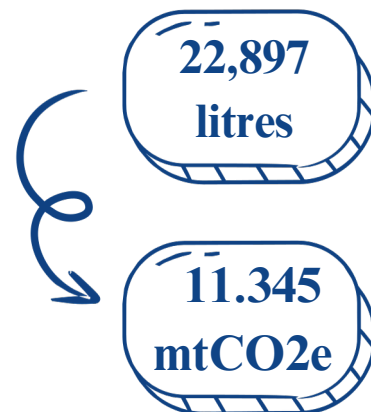
Company Owned Cars: Petrol

Heliopolis University-owned cars consumed **22,897 liters** of petrol in the year 2023, resulting in **61.136 mtCO₂e** of emissions. These emissions from company-owned cars are also considered direct emissions, accounted for under Scope 1.



Company Owned Cars: Diesel

Heliopolis University-owned cars consumed **4,249 liters** of diesel in the year 2023, resulting in **11.345 mtCO₂e** of emissions. These emissions from company-owned cars are considered direct emissions, accounted for under Scope 1.





Electricity

Electricity is indirect emission under scope 2. Heliopolis University uses electricity from the grid as an energy source for lighting and cooling, etc. The Heliopolis University consumed **615,063 kWh in 2023 which resulted in 276.101 mtCO2e.**

The power related emissions are linked to the purchase of electricity the corporation used, as well as petrol consumption. shown in the table

SCOPE	Emission component	Emissions resulting in mtCO2e
Scope 1	Company Owned Cars: Diesel	11.345
Scope1	Company Owned Cars: Petrol	61.136
Scope2	Electricity	276.101
Total		348.582

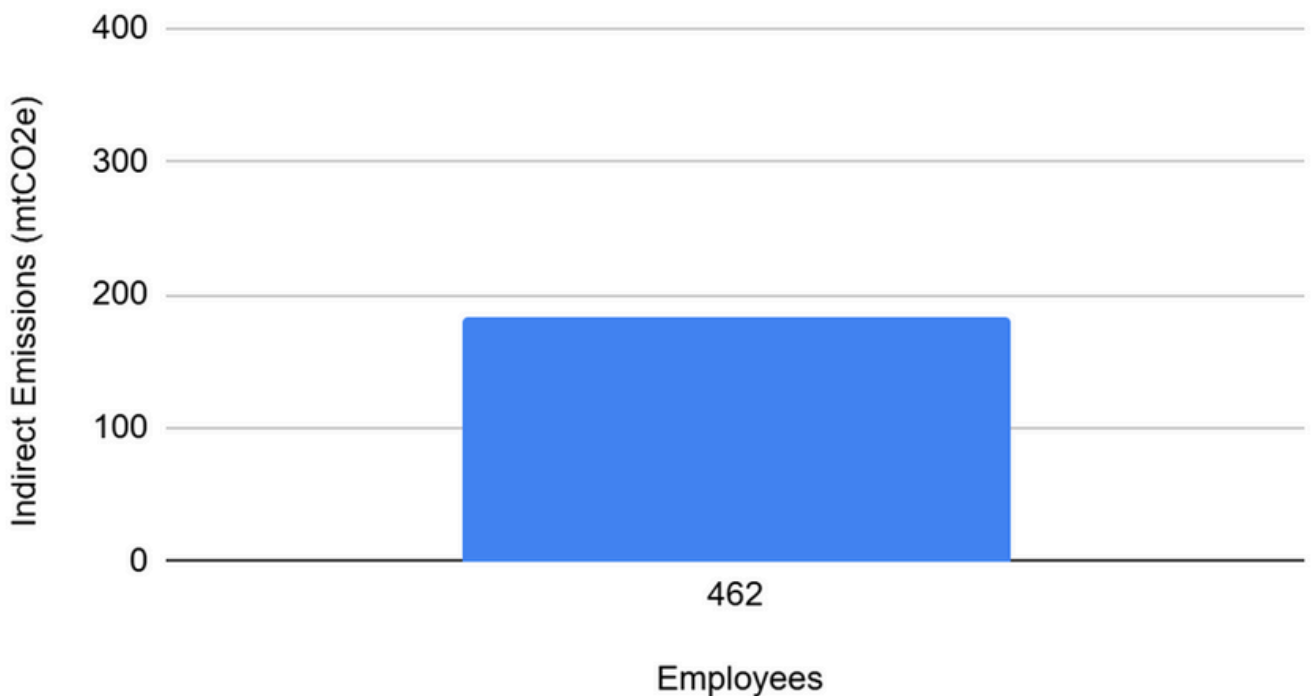
Power related emissions



Commuting related emissions

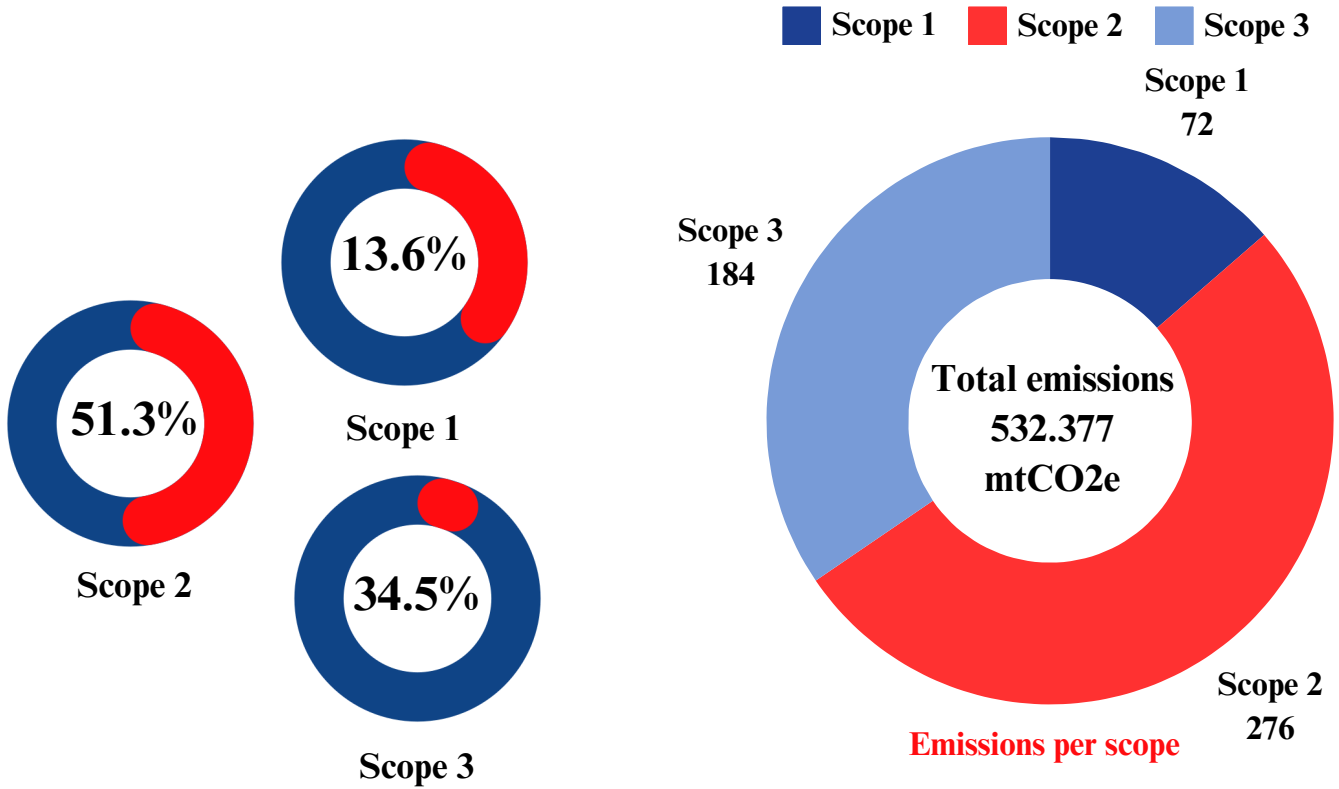
The total Heliopolis University staff counted **462** employees. Emissions from employees commuting in vehicles that are not owned by the company are under Scope 3. In 2023 Heliopolis University employees travelled **949,143 km**, which resulted in **183.796 mtCO2e** in indirect emissions.

Scope 3 Commuting-Related Emissions

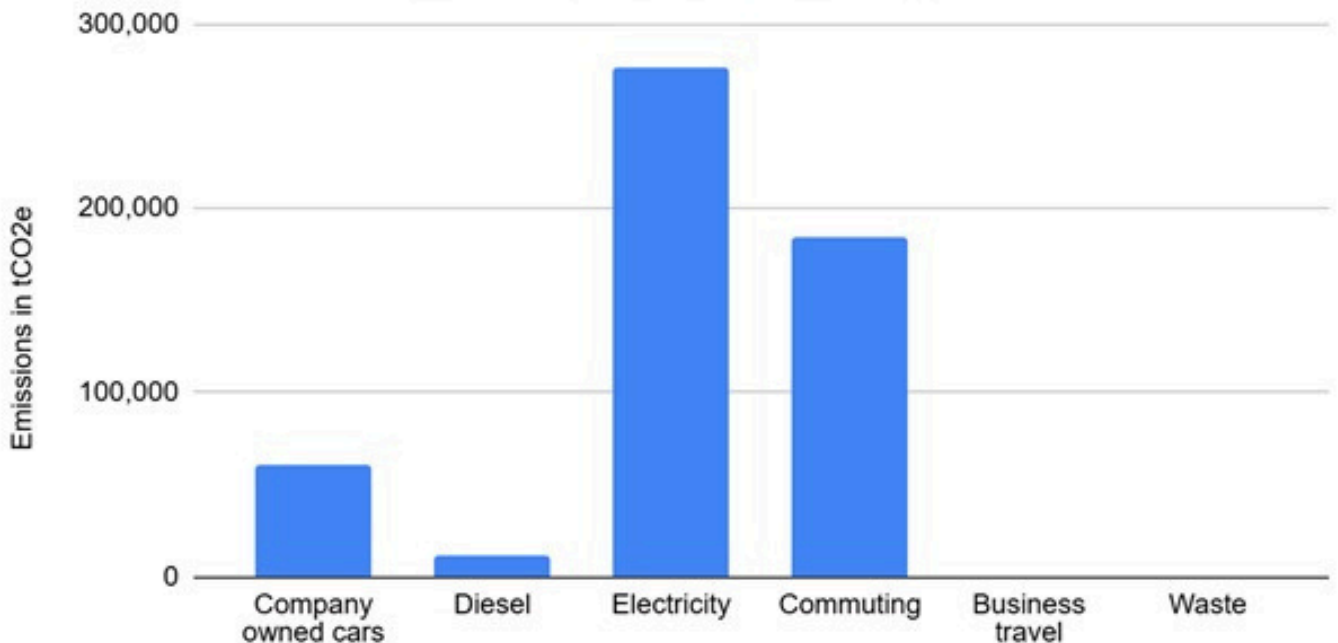


Results of Heliopolis University

In 2023 the **Total Carbon Footprint** per divisions for Heliopolis University is **532.377 mtCO2e**



Emissions Per Category



Quality control & Assurance

Carbon Footprint Centre is an environmental research centre belonging to Heliopolis University for sustainable development. The centre was established in 2014, and in 2023 it was accredited with ISO.14064-1:2018 certified on specification with guidance at the organisational level for quantification, and reporting of greenhouse gas emissions reductions and removals standards and accredited with ISO 14064-2:2018 is certified on specification with guidance at the project level for quantification, monitoring, and reporting of greenhouse gas emissions reductions or removal enhancement standard.

CFC has conducted the Carbon footprint assessment for Heliopolis University for the period from 1st January to 31 December 2023. With confidence in the relevance, completeness, consistency, transparency, and accuracy of GHG estimates, CFC has established a formal approach for the collection and compilation of consumption data. collecting data, estimating and reporting GHG emissions is accredited according to ISO 14064-1:2018.

In 2023, The Total Carbon Footprint of Heliopolis University is 532.377 mtCO₂e.

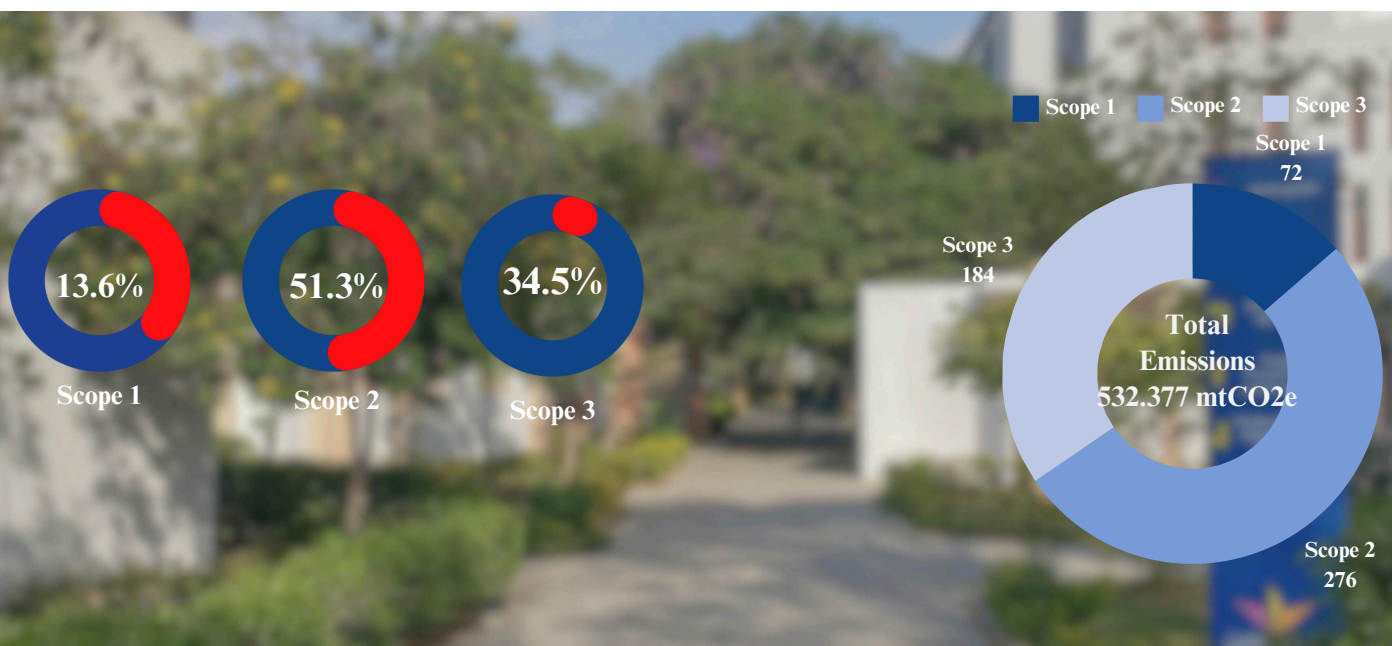
Certificate of carbon footprint assessment have been conducted according to ISO 14064-1:2018 specifications with guidance at the organizational level for quantification and reporting of greenhouse gas emissions reductions and removals standards for the period of January 1, 2023, to December 31, 2023.

The total carbon footprint for scopes 1, 2, and 3 is 532.377 mtCO₂e.

scope 1: 72.481 mtCO₂e

scope 2: 276.101 mtCO₂e

scope 3: 183.795.86 mtCO₂e



Certificate of Carbon Footprint Assessment

Have been conducted according to ISO 14064-1:2018 specifications with guidance at the organizational level for quantification and reporting of greenhouse gas emissions reductions and removals standards for the period of January 1, 2023, to December 31, 2023.

The total carbon footprint for scopes 1, 2, and 3 is 532.377 mtCO₂e.

