



Carbon Emissions Reporting Framework and Inventory Disclosure

October 6 University (O6U) reports its greenhouse gas (GHG) emissions in alignment with the GHG Protocol Corporate Standard, the globally recognized framework for carbon accounting and reporting. This ensures consistency, transparency, and comparability with international best practices. The University also considers principles from ISO 14064 to strengthen its quantification, documentation, and verification processes.

1. Methodology and Scope of Emissions

O6U adopts a comprehensive institutional approach to GHG accounting, covering the following emission scopes:

- **Scope 1 (Direct Emissions):**
Includes emissions from on-campus fuel combustion such as diesel used in backup generators, university-owned vehicles, and other stationary sources.
- **Scope 2 (Indirect Energy Emissions):**
Includes emissions from purchased electricity consumed across academic buildings, laboratories, administrative offices, and campus facilities.
- **Scope 3 (Other Indirect Emissions):**
O6U has initiated the inclusion of selected Scope 3 categories, including:
 - Staff and student commuting
 - Business travel
 - Solid waste generation and disposal
 - Water consumption and wastewater treatment

Emission calculations are conducted using national electricity emission factors and internationally recognized guidance from the Intergovernmental Panel on Climate Change. All emissions are reported in metric tons of carbon dioxide equivalent (tCO₂e).



2. Data Collection and Institutional Processes

O6U has established a coordinated institutional framework for environmental data management:

- **Data Collection:**

- Electricity consumption data (kWh/year) obtained from utility bills and campus metering systems
- Fuel consumption data (liters/year) from procurement and maintenance records
- Transportation data derived from staff and student surveys
- Waste data collected through contracted waste management service providers

- **Institutional Responsibilities:**

The Sustainability and Environmental Management Unit coordinates the GHG inventory process in collaboration with:

- Facilities and Maintenance Department
- Procurement and Logistics
- Administrative Affairs

- **Verification and Quality Assurance:**

Data is internally verified through cross-checking with financial records and operational logs. O6U is progressing toward external verification in line with ISO 14064 principles.

3. Most Recent GHG Inventory

- **Reporting Year:** 2024
- **Total Estimated Emissions:** ~8,200 tCO_{2e}

Breakdown by Scope:



- **Scope 1:** ~1,600 tCO₂e
- **Scope 2:** ~5,700 tCO₂e
- **Scope 3:** ~900 tCO₂e (partial estimation)

Key Data Sources:

- Electricity consumption records across 14 faculties and central services
- Diesel fuel usage for generators and transport
- Survey-based commuting estimates
- Waste generation and disposal reports

4. Documentation and Evidence

O6U documents and reports its GHG emissions through:

- Annual Sustainability and Environmental Report (2024)
- Green Metric Assessment Report
- Supporting datasets from Facilities and Administrative Departments

These documents include:

- Emission calculation methodologies
- Scope definitions and boundaries
- Data sources and assumptions
- Emission factors applied

The reports are reviewed internally and approved by the University's senior administration.

5. Alignment with Sustainability Rankings and Continuous Improvement

O6U's carbon reporting framework is designed to meet the requirements of international sustainability rankings such as QS and GreenMetric Sustainability Rankings and similar frameworks.



The University is committed to continuous improvement through:

- Expanding Scope 3 emissions coverage (e.g., procurement, supply chain)
- Enhancing data accuracy through digital monitoring systems
- Increasing transparency via public disclosure of sustainability reports
- Supporting Egypt's national climate commitments and global sustainability goals

6. GHG Emissions Trend with Scope Breakdown (2022–2024)

6.1. Emissions Overview by Scope

Year	Scope 1 (tCO₂e)	Scope 2 (tCO₂e)	Scope 3 (tCO₂e)	Total (tCO₂e)
2022 (Baseline)	1,700	5,900	950	8,550
2023	1,650	5,800	920	8,370
2024	900	5,700	900	7,500

6.2. Overall Trend (2022 → 2024)

- Total Reduction:
350 tCO₂e (from 8,550 → 7,500)
- Percentage Reduction:
≈ 12.2% decrease
- Trend Insight:
The University demonstrates a consistent and gradual decline across all emission scopes, reflecting improved environmental management practices.



6.3. Scope-by-Scope Analysis and Explanation

Scope 1 (Direct Emissions)

- Trend: 1,700 → 900 tCO₂e (-47%)
- Reduction Drivers:
 - Relocation of bus parking outside campus reduced fuel combustion
 - Total shift toward electric internal transport (golf carts)
 - Improved fuel efficiency and operational controls
 - Shifting to PV solar water heaters

Interpretation:

This reflects a clear reduction in on-campus fossil fuel use, indicating effective direct emissions management.

Scope 2 (Purchased Electricity)

- Trend: 5,900 → 5,700 tCO₂e (-3.4%)
- Reduction Drivers:
 - Improved energy efficiency in buildings (lighting, equipment, operations)
 - Better monitoring of electricity consumption across faculties
 - Increased awareness and behavioral changes among campus users

Interpretation:

Although electricity demand remains high, efficiency gains have successfully reduced emissions intensity.

Scope 3 (Indirect Emissions)

- Trend: 950 → 900 tCO₂e (-5.3%)
- Reduction Drivers:



- Initial improvements in transport organization (reduced congestion and idling time)
- Increased awareness of sustainable commuting practices
- Better waste management and reduced waste-related emissions

Interpretation:

Scope 3 shows a moderate but important decline, despite being more complex to control and measure.

Conclusion:

Between 2022 and 2024, October 6 University achieved an approximate **12,2% reduction in total greenhouse gas emissions**, decreasing from 8,550 tCO₂e to 7,500 tCO₂e. Reductions were observed across Scope 1, Scope 2, and Scope 3 emissions, driven by improved energy efficiency, reduced on-campus fuel use, and enhanced transport and waste management practices, in alignment with the GHG Protocol Corporate Standard.