**Istanbul Gedik University 2025 Carbon Footprint Calculation**

This document was prepared to calculate the greenhouse gas (GHG) emissions of Istanbul Gedik University for the year 2025, based on the university's energy consumption, transportation, and waste data.

The calculation follows the **Greenhouse Gas Protocol (GHG Protocol)** and classifies emissions under **Scope 1, Scope 2, and Scope 3**.

**Activity Data and Emission Factors**

| **Category** | **Data Type** | **Amount** | **Unit** | **Emission Factor** |
|---|---|---|---|---|
| Natural Gas | Consumption | 332,349.04 | $m^3$ | 1.904 kg $CO_2e/m^3$ |
| Electricity | Consumption | 1,360,331 | kWh | 0.442 kg $CO_2e$/kWh |
| Gasoline | Consumption | 2,839.13 | L | 2.31 kg $CO_2e$/L |
| Diesel | Consumption | 33,481.98 | L | 2.68 kg $CO_2e$/L |
| Packaging Waste Sent for Recycling | Waste | 3.29 | tons | Not included in total emissions |

**Emissions Calculations**

| **GHG Protocol Scope** | **Source Type** | **Emission (kg $CO_2e$)** | **Emission (ton $CO_2e$)** |
|---|---|---|---|
| **Scope 1 – Direct Emissions** | | | |
| Natural Gas Consumption | Natural Gas | 632,792.57 | 632.79 |
| Gasoline Consumption | Gasoline | 6,558.39 | 6.56 |
| Diesel Consumption | Diesel | 89,731.71 | 89.73 |
| **Total Scope 1** | | 729,082.67 | 729.08 |

| GHG Protocol Scope | Source Type | Emission (kg $CO_2e$) | Emission (ton $CO_2e$) |
|---|---|---|---|
| **Scope 2 – Indirect Emissions (Electricity)** | Electricity Consumption | 601,266.30 | 601.27 |
| **Scope 3 – Other Indirect Emissions** | Packaging Waste Sent for Recycling | Not included | – |
| **TOTAL** | | 1,330,348.97 | 1,330.35 $tCO_2e$/year |

**Emission Distribution**

Total: 1,330.35 tons $CO_2e$

Scope 1: 54.8%

Scope 2: 45.2%

Scope 3: Not included in the total calculation

Natural gas consumption represents the largest source of greenhouse gas emissions, accounting for approximately 47.6% of total emissions. Electricity consumption is the second-largest contributor, accounting for approximately 45.2%. Diesel consumption represents approximately 6.7%, while gasoline consumption accounts for approximately 0.5% of total emissions.

Scope 3 emissions were not included in the total carbon footprint calculation due to the limited availability of reliable activity data. Packaging waste sent for recycling (3.29 tons) is reported for information purposes only.

The total carbon footprint of Istanbul Gedik University for 2025 is estimated at approximately 1,330.35 tons of $CO_2e$.

This value establishes a baseline for developing policies and actions to reduce the university's overall environmental impact and move toward carbon neutrality.

**References**


1. Ministry of Energy and Natural Resources of the Republic of Türkiye (2024). *Türkiye Electricity Generation and Electricity Consumption Point Emission Factors.* Energy Efficiency and Environment Department (EVÇED).
2. UK Department for Energy Security and Net Zero (2024). *Greenhouse Gas Reporting: Conversion Factors 2024.* UK Government.
3. Intergovernmental Panel on Climate Change (IPCC) (2006). *2006 IPCC Guidelines for National Greenhouse Gas Inventories.*
4. World Resources Institute (WRI) & World Business Council for Sustainable Development (WBCSD). (2004). *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, Revised Edition.*