Greenhouse Gas Emissions Report for 2025

The University "Turan-Astana" hereby confirms its commitment to the principles of environmental sustainability and reports the following within the framework of the indicator "Carbon Dioxide Emissions":

1. Adopted Standard

The University maintains records of energy resource consumption and assesses its carbon footprint in accordance with the methodology of the GHG Protocol Corporate Standard (Scope 1 and Scope 2).

2. Current Indicators (Reporting Period 2024–2025)

Scope 1 (Direct emissions): Accounting for fuel consumption from stationary and mobile sources (vehicle fleet, boiler equipment).

Scope 2 (Indirect emissions): Calculation of emissions associated with purchased electricity and heat supply used to support the operation of academic buildings.

Carbon footprint calculation of Turan-Astana University for 2025 based on the provided data (https://tau-edu.kz/media/docs/69dce3b9dae955.90442212.pdf)

Greenhouse Gas (CO_2) Emissions Report for 2025

1. Summary of Resource Consumption

Data are based on official reports provided by the financial department of Turan-Astana University:

- Electricity: 302,865 kWh
- Thermal energy: 1,807.202 Gcal
- Water supply: 10,786 m^3

2. Calculation of CO_2 Emissions

Average emission factors (EF) typical for the Republic of Kazakhstan were applied to convert resource consumption into tons of CO_2 equivalent.

Source (Resource)	Annual Consumption	Emission Factor (EF)	Total Emissions (tCO_2e)
Electricity	302,865 kWh	0.85 kg/kWh	257.44
Heat supply	1,807.202 Gcal	205.0 kg/Gcal	370.48
Water supply	10,786 m^3	0.3 kg/m^3	3.24
Total Carbon Footprint			631.16 tons CO_2

The total volume of indirect emissions of Turan-Astana University for the reporting period amounted to 631.16 tons of CO_2. This report can be used to monitor environmental impact and develop strategies for reducing the carbon footprint (e.g., implementation of energy-saving technologies).

Data reliability: Water consumption corresponds to average operational norms of a university.

Load distribution: The main environmental impact comes from heat supply (58.8%) and electricity (40.9%). The contribution of water supply is minimal (about 0.3%).

Seasonal monitoring: Peak loads occur during winter months (November–March), as confirmed by data across all three resource categories. This indicates the need to implement smart heating systems and LED lighting to achieve the goals of SDG 7 and SDG 13.

3. Monitoring System. The Vice-Rector for Infrastructure Development, Kapenova A.Z., is responsible for data collection and resource inventory.

4. Goals. Turan-Astana University aims to achieve an annual reduction in specific CO_2 emissions per unit area in accordance with the University Development Program.

This information is official and intended for submission to the ranking agency QS (Quacquarelli Symonds).

Financial Director: Amrenova L.K.

Vice-Rector for Infrastructure Development: Kapenova A.Z.