

Campus Carbon Footprint Report

Balıkesir University (Çağış Campus) — 2025

UI GreenMetric — Energy and Climate Change (EC) Category, Indicator 2.11

Total Carbon Footprint (last 12 months)

7,882.44 t CO₂

Per capita: 0.40 t CO₂ (19,884 people)

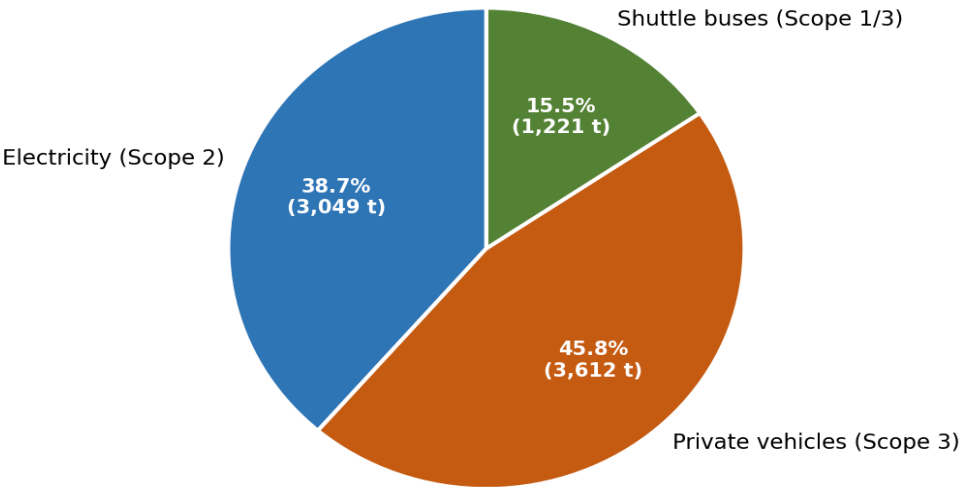
1. Executive Summary

This report presents the 2025 (last 12 months) carbon footprint of Balıkesir University, Çağış Campus. The total carbon footprint is calculated at 7,882.44 metric tons of CO₂. The calculation follows the UI GreenMetric “Option 2” methodology and covers campus electricity consumption together with transport emissions from shuttle buses and private vehicles entering the campus. The per-capita carbon footprint is 0.40 t CO₂.

The largest emission source is private vehicles entering the campus at 45.8%, followed by purchased electricity at 38.7% and shuttle buses at 15.5%. This report is prepared to establish a database for defining carbon-reduction policies and identifying key intervention points.

2. Breakdown of Emission Sources

Balıkesir University (Cagis Campus)
Breakdown of Emission Sources — 2025
Total: 7,882.44 t CO₂



Note: Motorcycle emissions reported as 0 t (included within the private-vehicle category).

3. Emission Calculation Table

Source	Activity Data	CO ₂ (t)	Share
Electricity (Scope 2)	6,851,874.08 kWh × 0.445	3,049.08	38.7%
Shuttle buses	53 buses × 48 trips × 20 km	1,221.12	15.5%
Private vehicles (Scope 3)	≈1,505 veh/day × 2 × 25 km	3,612.24	45.8%
Motorcycle	Included in private vehicles	0.00	0.0%
TOTAL		7,882.44	100%

Per-capita carbon footprint = 7,882.44 ÷ 19,884 = 0.40 t CO₂/person

4. Methodology and Emission Factors

4.1 Electricity

Electricity emissions were calculated using Türkiye's official national grid emission factor of 0.445 tCO₂-eq/MWh. This value is published by the Energy Efficiency and Environment Department (EVÇED) of the Republic of Türkiye Ministry of Energy and Natural Resources in the document “Türkiye Electricity Generation and Electricity Consumption Point Emission Factors Information Form” (ETKB-EVÇED-FRM-042 Rev.01, 2024). The transmission-connected consumption-point value (0.445) was adopted because the campus is supplied through the transmission grid. Using the official national factor instead of the generic 0.84 coefficient in the UI GreenMetric example provides a more accurate, country-specific and verifiable basis for the Scope 2 electricity emissions. Annual campus electricity consumption in 2025 was 6,851,874.08 kWh, giving electricity-related emissions of 3,049.08 t CO₂.

4.2 Shuttle Buses

Shuttle-bus emissions (1,221.12 t) are based on 53 buses operating 48 trips per day over an average in-campus distance of 20 km, computed with the UI GreenMetric transport formula.

4.3 Private Vehicles

Private-vehicle emissions (3,612.24 t) are based on a monthly average of 30,102 vehicles entering the campus, converted to a daily average of approximately 1,505 vehicles (assuming 20 working days per month). As entry records do not distinguish between cars, motorcycles, vans or pickups, all private vehicles are reported as a single combined category using the car emission coefficient; motorcycles are therefore not counted separately.

5. Scope Classification Note

- Electricity — Scope 2 (indirect emissions from purchased electricity).
- Shuttle buses — Scope 1 if the university operates its own fleet; Scope 3 if outsourced.
- Private vehicles and motorcycles — Scope 3 (commuting of staff, students and visitors).