

# Carbon Footprint Assessment of the University of Biskra (year 2025)

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## 1. Methodological Framework

This study follows the GHG Protocol, classifying emissions into Scope 1 (direct), Scope 2 (electricity), and Scope 3 (indirect emissions such as transport, waste, and water).

## 2. System Boundaries and Assumptions

25,000 students, 2,000 staff, 220 days/year, hot arid climate requiring significant cooling.

## 3. Scope 2: Electricity Emissions

Estimated electricity consumption: 10 GWh/year. Emission factor: 0.3 kg CO<sub>2</sub>/kWh. Total emissions: 6,000 tCO<sub>2</sub>/year.

## 4. Scope 1: Direct Emissions

Fuel consumption (vehicles, generators): 100,000 liters/year. Emissions: approximately 270 tCO<sub>2</sub>/year.

## 5. Scope 3: Indirect Emissions

Transport: ~1,780 tCO<sub>2</sub>/year. Water: ~50 tCO<sub>2</sub>/year. Waste: ~500 tCO<sub>2</sub>/year.

## 6. Total Carbon Footprint

Scope 1: 270 tCO<sub>2</sub>/year

Scope 2: 6,000 tCO<sub>2</sub>/year

Scope 3: 2,330 tCO<sub>2</sub>/year

Total: ~8,600 tCO<sub>2</sub>/year

## Conclusion

The University of Biskra carbon footprint is estimated at approximately 8,600 tCO<sub>2</sub>/year.