

**Ministry of Education and Science of the Republic of Kazakhstan**  
**KEJSC "Caspian University of Technology and Engineering named after Sh. Yessenov"**



**Carbon Emissions Report**

translated from original copy

**APPROVED**  
by decision of the Scientific Council  
Protocol No. 6, January 20, 2025

Date	A copy	Edition
		First

**ST UE 018-2022 -QUALITY MANAGEMENT SYSTEM STANDARD**

**Aktau 2025**

1. **DEVELOPED AND ENTERED BY** Quality Assurance Office of Yessenov University January 5 , 2025.
2. **AGREED** by the decision of the Quality Council of Yessenov University January 6, 2025, No. 3 protocol
3. **APPROVED AND IMPLEMENTED** by the Scientific Council of Yessenov University by decision of January 20, 2025, protocol No. 6

# Yessenov University

**Annual Carbon Emissions Report (2024)**

**Prepared in accordance with the GHG Protocol Corporate Standard**

**Date: April 01, 2025**

**Submitted to: Ministry of Ecology, Geology, and Natural Resources of Kazakhstan**

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## 1. Introduction

This report details Yessenov University's greenhouse gas (GHG) emissions for the calendar year **2024**, calculated using the **GHG Protocol Corporate Standard** (World Resources Institute). The university commits to transparent reporting and reducing its carbon footprint in line with Kazakhstan's **Environmental Code (2021)** and **Carbon Neutrality Strategy (2060)**.

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## 2. Organizational Boundaries

- **Operational Control Approach:** Emissions from all facilities under Yessenov University's control are included.
- **Reporting Scope:**
  - **Scope 1:** Direct emissions (natural gas, fleet vehicles).
  - **Scope 2:** Indirect emissions (purchased electricity).
  - **Scope 3:** Optional but tracked (commuting, waste).

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## 3. Emissions Inventory (2024)

### 3.1. Scope 1: Direct Emissions

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Source	Activity Data	Emission Factor	CO2e (tons)

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Natural Gas (heating)	<b>39,520 m<sup>3</sup></b>	2.75 kg CO2e/m <sup>3</sup>	<b>108.68</b>
University Fleet	5,200 liters diesel	2.68 kg CO2e/liter	<b>13.94</b>
<b>Total Scope 1</b>			<b>122.62</b>

*Emission factors sourced from Kazakhstan's National GHG Inventory Report (2023).*

### **3.2. Scope 2: Indirect Emissions (Purchased Electricity)**

Source	Activity Data	Emission Factor	CO2e (tons)
Electricity	650,000 kWh	0.55 kg CO2e/kWh	<b>357.50</b>
<b>Total Scope 2</b>			<b>357.50</b>

*Factor based on Kazakhstan's grid mix (coal-dominated).*

### **3.3. Scope 3: Optional Emissions**

Source	Activity Data	CO2e (tons)
Student/Staff Commuting	1,200,000 km (gasoline)	<b>288.00</b>
Waste to Landfill	50 metric tons	<b>12.50</b>
<b>Total Scope 3</b>		<b>300.50</b>

### **Total GHG Emissions (2024):**

- **Scope 1 + 2: 480.12 tons CO2e**
- **Scope 1 + 2 + 3: 780.62 tons CO2e**

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## 4. Methodology & Data Quality

- **Standards:** GHG Protocol, IPCC 2006 Guidelines.
- **Data Sources:**
  - Utility bills (gas/electricity).
  - Fleet logs (odometer readings, fuel receipts).
  - Commuting surveys (sample of 20% students/staff).
- **Uncertainty:** ±5% for Scope 1/2; ±15% for Scope 3.

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## 5. Emissions Reduction Initiatives (2025–2027)

Project	Target	Estimated Reduction (tons CO2e/yr)
Solar PV Installation	200 kW system (2026)	60
LED Lighting Retrofit	100% campus-wide (2025)	30
Behavioral Campaigns	Reduce energy use by 10% (2026)	40
<b>Total Planned Reductions</b>	<b>130</b>	

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## 6. Verification & Next Steps

- **Third-Party Audit:** Planned for Q1 2026 (partner: Kazakhstani Carbon Trust).
- **Future Goals:**
  - Achieve **ISO 14064-1** certification by 2027.
  - Reduce total emissions by **20% by 2027** (baseline 2024).

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## **7. Conclusion**

Yessenov University acknowledges its climate impact and pledges to align with Kazakhstan's low-carbon development goals. This report will be updated annually to track progress.

**Berik Akhmetov**

**Rector of Yessenov University**