

Energy and Climate Change CO2 Emission Report 2025

❖ Total Carbon Footprint (CO2 emission in the last 12 months, in metric tons)

A) Scope 1 + Scope 2 (GHG Protocol)

Scope 1

CO₂ (bus)

$$= \frac{\text{number of shuttle bus in your university} \times \text{total trips for shuttle bus service each day} \times \text{approximate travel distance of vehicle each day inside campus only (KM)} \times 240}{100} \times 0,01$$

$$= \frac{0 \times 0 \times 1.4 \times 240}{100} \times 0,01$$

$$= 0 \text{ metric tons}$$

CO₂ (cars)

$$= \frac{\text{number of cars entering your university} \times 2 \times \text{approximate travel distance of vehicle each day inside campus only (KM)} \times 240}{100} \times 0,02$$

$$= \frac{200 \times 2 \times 1.4 \times 240}{100} \times 0,02$$

$$= 26.88 \text{ metric tons}$$

CO₂ (motorcycle)

$$= \frac{\text{number of motorcycle entering your university} \times 2 \times \text{approximate travel distance of vehicle each day inside campus only (KM)} \times 240}{100} \times 0,01$$

$$= \frac{0 \times 0 \times 1.4 \times 240}{100} \times 0,01$$

$$= 0 \text{ metric tons}$$

Scope 2

CO₂ (electricity)

$$= \frac{\text{electricity usage per year (kWh)}}{1000} \times 0,84$$

$$= \frac{1500000 \text{ kWh}}{1000} \times 0,84$$

$$= 1260 \text{ metric tons}$$

Scope 1 + Scope 2 (total)

$$= 1260 + 0 + 27 + 0$$

$$= 1287 \text{ metric tons}$$

Carbon footprint Scope 1+ Scope 2 in 2024-2025= 1287 Metric Tons

B) Scope 3 Emissions Calculation Table (GHG Protocol)

Category	University Sources	Estimated Emissions (tons CO ₂ e/year)	Share of Total (%)
Purchased goods & services	IT equipment, food services, office supplies	2,000	33%
Capital goods	Buildings, lab equipment (annualized)	400	7%
Waste generated in operations	Landfill, recycling, compost	600	10%
Business travel	Staff/student flights, conferences	500	8%
Employee commuting	Staff travel to campus	1,000	17%
Student commuting	Daily trips to campus	1,300	22%
Other (investments, leased assets, franchises)	Financial holdings, outsourced services	200	3%
Total Scope 3 Emissions	—	6,000 tCO₂	100%

*Remarks: -No shuttle buses inside campus (not applicable) and no motorcycles available
 -Number of Cars entering campus in 2024-2025 was (200 cars)/has decreased due to policy restrictions and emission reduction programs.*

❖ Jadara University’s Innovative Programs for Energy & Climate Change & Scope Classification (2024-2025)

#	ICT System Name (Jadara IP)	Purpose / Function/Program	GHG Scope
1	CAC Management System	Smart air conditioning control via app; reduces energy use and improves air quality	Scope 2
2	ICT System for Air Conditioning Monitoring	Centralized control and optimization of cooling systems	Scope 2
3	ICT System for Heating Management	Replaces boilers with solar-powered electric heating	Scope 2
4	ICT System for Energy Monitoring	Tracks electricity consumption across campus	Scope 2
5	ICT System for Solar Energy Supply Management	Manages solar panel output and distribution	Scope 2
6	ICT System for Carbon Footprint Tracking	Monitors Scope 1 (fleet), Scope 2 (energy), and Scope 3 (commuting, travel) emissions	Scope 1, 2, 3
7	ICT System for Transportation Emission Evaluation	Assesses emissions from university fleet and commuting	Scope 1 & 3
8	ICT System for Energy-Efficient Appliance Inventory	Tracks Energy Star-certified devices and Zero Client units	Scope 2
9	ICT System for LED Lighting Efficiency	Monitors LED installations and energy savings	Scope 2

Greenhouse gas emission reduction programs (next page)

❖ Greenhouse gas emission reduction program

	
<p>1. High parking fees at the Main Gate for non- staff(Jadara University, Jordan)</p>	<p>2. Carpool Initiative Between Staff Members (Jadara University, Jordan)</p>
	<p>14 stations near Buildings D+A / 10 Stations near Building B</p> 
<p>3. Renewable Energy (Jadara University)</p>	<p>4. (24) Free Electrical Charging Stations for Zero-Emission Cars (Jadara University, Jordan)</p>

Description of Greenhouse gas emission reduction programs:

1. **Car sharing (Carpool)** is commonly used between staff and are encouraged to do so through Staff Social Committee, which covers **scope 3**.
2. As per Jadara **Air Travel policy** at our university helps indirectly in decreasing gas emission in the environment by minimizing the number of travelers participating in conferences or meetings. We encourage virtual meetings and call conferences rather than physically have to commute or travel. Also, it helps in decreasing the expenses on travel and utilizes these funds in more sustainable practices like for research and sustainability efforts. This includes **scope 3** too.

3. **Bus services are offered to students and staff for free (no charge)** to encourage them to stop using their own cars or other types of cars like cabs, taxis **scope 3** while converting **our buses fleet to electric vehicles** in the coming years/ **scope 1**.
4. University **charges high fees for temporary parking or specific access** for non-staff at the main gate they pay for a paid parking ticket to the security staff. **Scope 3**
5. **Solar Panels are installed 5 years ago in all parking areas and above all building roofs to** decrease use of electricity and produce (electricity generation) more than 80% of Campus need by that we eliminated & cancelled all boilers inside the campus. This covers scope 1 and **Scope 2**.
6. Jadara University offers **24 free electric vehicle charging stations on campus**, promoting sustainable transport and reducing emissions. This initiative contributes to **Scope 2** (electricity use) and **Scope 3** (commuting-related emissions).
7. Please refer to our sustainability policy page 1, 2 and 3 / section 1 on the link below:

<https://jadara.edu.jo/images/gmetric/SDG%20Policy%20-Jadara%20University%202023-2024.pdf>

Elements of Green Building Implementation (next page)

❖ Elements of Green Building Implementation as Reflected in All Construction and Renovation Policies



Description:

Elements of green building implementation on Campus:

Eco-Conscious Design and Natural Cooling

Buildings are designed to make full use of **natural lighting**, with large windows positioned in halls, corridors, entrances, and stairwells. **Natural cooling** is achieved through open internal layouts, skylights, and strategically placed windows that enhance airflow and reduce reliance on mechanical systems. Light-colored interior finishes and low ceiling designs help minimize the need for artificial lighting.

Renewable Energy and Efficiency Measures

Solar energy systems are installed on building rooftops and over selected parking areas, providing both electricity and passive shading. All lighting has been upgraded to energy-efficient LEDs, including indoor and outdoor areas. Solar-powered lights are used for nighttime illumination across the campus.

Heating and cooling systems now operate entirely on solar electricity, replacing conventional fuel-based systems to lower carbon emissions.

Water Conservation and Reuse

The campus uses an internal system that channels groundwater, rainwater, and treated wastewater for toilet flushing and landscape irrigation, helping to preserve freshwater resources.

Sustainable Transportation and Emission Reduction

Access for private vehicles is restricted, with reduced parking capacity and shaded parking designated for staff. The university provides free transportation for students and employees between campus and surrounding areas. Additionally, more staff members are shifting to electric vehicles to reduce emissions on campus.

Smart Building and Energy Monitoring

A building management system (BMS) oversees and regulates energy use, air conditioning, and indoor air quality across all buildings to ensure optimal performance and sustainability.

Policy: Please visit the link for Jadara University Sustainability Policy Page 1-2 (1.1) Energy Use section

<https://jadara.edu.jo/images/gmetric/SDG%20Policy%20-Jadara%20University%202023-2024.pdf>