13.2.2.1 Total energy used

Alexandria University implements a comprehensive energy management strategy focused on evaluating total energy utilization, monitoring CO2 emissions, and optimizing clean energy resources across all campus facilities. Through advanced performance assessment models, life cycle analysis, and integrated data tracking, the institution measures electricity and natural gas consumption to improve energy conservation, enhance energy efficiency, and lower greenhouse gas emissions. Combining solar energy conversion, smart grid technologies, and sustainable renewable energy sources, this systematic approach drives carbon footprint reduction, supports climate change mitigation, and advances long-term sustainable development.

1. Electricity Consumption (2024–2025)

- **Total Electricity Used: 4,228,995.91 kWh** (Kilowatt-hours) per year
- **Year-over-Year Change:** Represents a **6.42% decrease** compared to the 2023/2024 academic year (4,519,154.69 kWh) due to energy-saving retrofits and efficiency measures.

2. Clean & Renewable Energy Contribution

- **Total Renewable Energy Generated: 1,213,291.2 kWh/year**
- **Share of Total Electricity: 28.69%** of the university's total electricity demand was met by clean solar and hybrid systems installed across campus roofs.

3. Natural Gas Usage

- **Reduction:** Natural gas consumption decreased by **70%** compared to the previous reporting cycle as a result of transitioning to cleaner and more efficient heating systems.

Energy indicator	Reported value
Electricity consumption	4,228,995.91 kWh/year
Renewable electricity production	1,213,291.2 kWh/year
Renewable share of electricity use	28.69%
Natural gas consumption	70% reduction

The electricity figure is equivalent to approximately 14,685,563 GJ.