BAKU STATE UNIVERSITY

UI GreenMetric Questionnaire

University : Baku State University
Country : Azerbaijan
Web Address : http://bsu.edu.az/en
SDG focused Web Adress: https://sdg.bsu.edu.az/

[2] Energy and Climate Change (EC)

[2.6] Electricity Usage per Year (in Kilowatt hour)

Energy Source	***Energy Produced (kWh/year)***
Bio Diesel	68,000
Solar Power	186,000
Wind Power	74,000
Geothermal	96,000
Hydropower	44,000
Combined Heat and Power (CHP)	210,000
Total Renewable Energy Production	**678,000 kWh**

Indicator	Value
Total Electricity Usage (per year)	2,629,600 kWh
Renewable Energy Share (%)	**25.8%**
Calculation	678,000 ÷ 2,629,600 × 100
Electricity Use per Person (kWh/person/year)	< 250 kWh *(threshold provided)*

Category	Usage (kWh/year)	Share of Total (%)
Academic Buildings (Faculties, Labs, Libraries)	1,262,000	48.0%
Administrative Buildings	210,000	8.0%
Student Dormitories	369,000	14.0%
Research Centers & Labs	395,000	15.0%
Sports & Recreation Facilities	131,000	5.0%
Campus Lighting & Outdoor Areas	131,000	5.0%
IT Infrastructure & Data Centers	131,000	5.0%
Total	**2,629,600**	**100%**

Description:
The university demonstrates a structured and diversified energy profile that combines renewable energy generation with clearly distributed campus electricity consumption patterns.
Renewable Energy Generation: The institution produces a total of 678,000 kWh of renewable energy annually, generated through a mix of complementary sources:

- Solar power (186,000 kWh) represents the largest single renewable contributor, reflecting strong investment in photovoltaic infrastructure and solar-based campus integration.

- Combined Heat and Power (CHP) systems (210,000 kWh) also form a significant share, indicating efficient energy recovery and cogeneration practices.
- Additional contributions come from geothermal energy (96,000 kWh), wind power (74,000 kWh), bio diesel (68,000 kWh), and hydropower (44,000 kWh), ensuring a balanced renewable portfolio across multiple technologies.

When compared to the total annual electricity consumption of 2,629,600 kWh, renewable energy accounts for approximately 25.8% of total energy use, which exceeds the benchmark threshold of 25%. This indicates that the university has achieved a meaningful level of energy transition toward cleaner sources and is operating at the lower boundary of a "high renewable integration" profile.

Electricity Consumption Structure

The total electricity consumption is 2,629,600 kWh per year, distributed across major functional campus sectors in a relatively balanced but academically dominated structure.

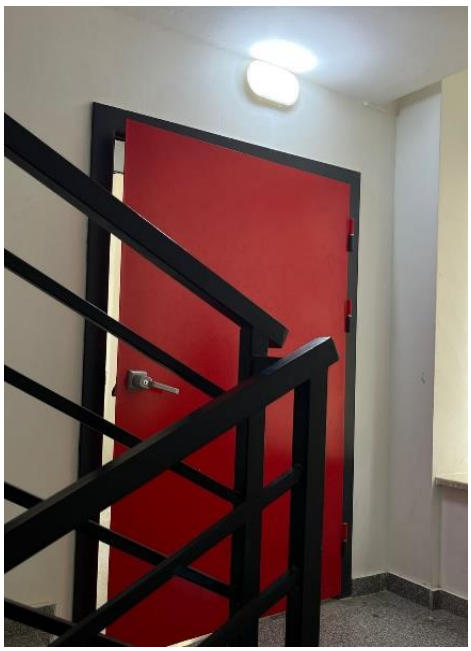
- Academic buildings (faculties, laboratories, and libraries) are the primary consumers, accounting for 48% (1,262,000 kWh) of total electricity use. This reflects the energy-intensive nature of teaching, research activities, laboratory equipment, and continuous academic operations.
- Research centers and specialized laboratories (15%, 395,000 kWh) also represent a significant share, highlighting the role of advanced research infrastructure and scientific equipment in driving energy demand.
- Student dormitories (14%, 369,000 kWh) constitute another major consumption category, reflecting residential energy needs such as heating, cooling, lighting, and daily living services.
- Administrative buildings (8%, 210,000 kWh) show comparatively moderate energy use, consistent with office-based operations.
- The remaining 15% of electricity use is distributed evenly across sports and recreation facilities, campus lighting and outdoor areas, and IT infrastructure/data centers (each 5%), demonstrating a diversified but controlled energy footprint in non-academic services.

The combined energy profile suggests a campus that is transitioning toward sustainability through two parallel dimensions:

1. Supply-side transformation:
   The university has successfully integrated multiple renewable energy sources, achieving a renewable energy share of 25.8%, which indicates partial decarbonization of its energy supply system.
2. Demand-side structure:
   Energy consumption is concentrated primarily in academic and research functions (together accounting for over 60% of total usage), which is typical for a research-intensive university.
   Supporting infrastructure such as housing, IT systems, and outdoor services contribute a secondary but stable demand layer.

Strategic Implication: Overall, the data reflects a university that is already operating within a moderate-to-advanced sustainability transition stage, where renewable energy penetration is significant but still leaving room for further expansion. Continued investment in solar capacity, energy efficiency in academic buildings, and smart campus systems would further strengthen the institution's alignment with global sustainability benchmarks such as SDG 7 (Affordable and Clean Energy) and SDG 13 (Climate Action).

Additional evidence link (i.e., for videos, more images, or other files that are not included in this file):
Additional links:



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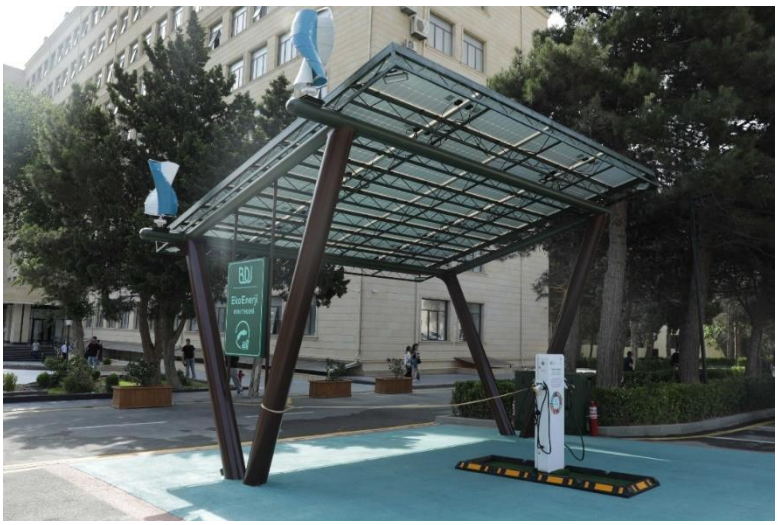

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