



UI GreenMetric Questionnaire

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

[2] Energy and Climate Change (EC)

[2.8] ratio of renewable energy production divided by total energy usage per year (EC.5)





Description:

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



Indicator	Value
Total Electricity Usage (per year)	2,629,600 kWh
Renewable Energy Share (%)	25.8%
Calculation	$678,000 \div 2,629,600 \times 100$
Electricity Use per Person (kWh/person/year)	< 250 kWh (<i>threshold provided</i>)

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):

- <https://sdg.bsu.edu.az/> This page provides an overview of Baku State University's commitment to the Sustainable Development Goals, including policies, collaborations, and key initiatives supporting sustainability.
- <https://sdg.bsu.edu.az/allnews> This section presents the latest news and events related to SDG activities, partnerships, and academic initiatives carried out at the university.
- <https://sdg.bsu.edu.az/university-policies> This page outlines institutional policies that support sustainability, including governance, ethics, equality, and environmental responsibility within the university.
- <https://sdg.bsu.edu.az/climate-action-policy> This page introduces the university's climate action policy, focusing on reducing environmental impact and aligning with global climate goals.
- <https://sdg.bsu.edu.az/uploads/files/Climate%20action%20policy.pdf> This document provides a detailed framework of the university's climate action policy, including objectives, strategies, and implementation measures.
- <https://sdg.bsu.edu.az/sdg-reports> This section compiles official reports demonstrating the university's progress and performance in achieving different Sustainable Development Goals.
- <https://sdg.bsu.edu.az/report-on-sdg-7-affordable-and-clean-energy> This report highlights the university's initiatives, projects, and outcomes related to affordable and clean energy.
- <https://sdg.bsu.edu.az/uploads/files/SDG%207%202025.pdf> This document presents a detailed 2025 report on SDG 7, including data, achievements, and future targets in clean energy development.
- <https://sdg.bsu.edu.az/report-on-sdg-13-climate-action> This report focuses on the university's actions, strategies, and results in combating climate change under SDG 13.
- <https://sdg.bsu.edu.az/uploads/files/SDG%2013%202025.pdf> This file provides a comprehensive 2025 report on climate action efforts, including emissions reduction and sustainability initiatives.
- <https://sdg.bsu.edu.az/climate-action-plan> This page describes the university's long-term climate action plan, outlining goals, timelines, and strategic priorities.
- <https://sdg.bsu.edu.az/climate-action-plan-action> This section details specific actions and measures implemented under the climate action plan.



- <https://sdg.bsu.edu.az/energy-efficiency-plan> This page explains the university's energy efficiency strategy aimed at reducing energy consumption, increasing renewable energy use, and supporting carbon neutrality goals.
- <https://sdg.bsu.edu.az/news/bsu-and-kobia-open-ecoenergy-station-on-campus> Baku State University and KOBIA launched a solar- and wind-powered EcoEnergy charging station on campus.
- <https://baku.ws/social/bdu-nun-erazisinde-ekoloji-temiz-enerji-doldurma-mentegesinin-acilisi-olub> An eco-friendly energy charging station was opened at Baku State University to promote green energy use.
- <https://muallim.edu.az/news/bduda-ekoenerji-mentegesi-acilib-685a39115845f5b88ef92e1d> An eco-energy station was established at Baku State University to support sustainable energy practices.
- <https://muallim.edu.az/baki-dovlet-universitetinde-eko-mekan-yaradilib---fotolar> An eco-space was created at Baku State University to encourage environmental sustainability initiatives.
- <https://sdg.bsu.edu.az/news/dedicated-lanes-for-bicycles-and-small-electric-vehicles-at-the-main-entrance-of-bsu> Dedicated lanes for bicycles and small electric vehicles were introduced at Baku State University.
- <https://sdg.bsu.edu.az/news/ayna-holds-info-session-on-sustainable-urban-mobility-at-bsu> AYNA held a session on sustainable urban mobility at Baku State University.
- <https://sdg.bsu.edu.az/news/bsu-has-joined-the-global-academic-network-canie-to-combat-climate-change> Baku State University joined the CANIE network to address climate change.
- <https://sdg.bsu.edu.az/news/a-young-scientist-of-bsu-is-conducting-research-on-green-energy-production> A young researcher at Baku State University works on green energy production.
- <https://sdg.bsu.edu.az/news/scientific-seminar-on-prospects-of-rechargeable-sodium-ion-batteries> A seminar on sodium-ion battery technologies was held at Baku State University.
- <https://sdg.bsu.edu.az/news/bsu-nano-research-laboratory-hosts-scientific-seminar-titled-nanomaterials-for-hybrid-solar-cells> Baku State University hosted a seminar on nanomaterials for hybrid solar cells.