



2024 ABUAD Energy Conservation and Waste Management Report

In 2024, the Directorate of Works and Services conducted an energy audit, no significant increase in energy generation through the University Independent Power Project. This project utilizes renewable sources such as natural gas, hydro power, and solar energy, resulting in a total generation of 5.85 gigajoules.

In January 2024, the university reduced its energy consumption to 35% of the total energy generated (5.85 gigajoules), marking a sharp decrease compared to January 2023. In January 2023, energy consumption was high, at 31% of 5.85 gigajoules (equivalent to 1.8135 gigajoules). This was a significant improvement from nearly 100% consumption in January 2022 and 2023. The high consumption levels in 2021 and 2022 as well as low percentage in 2023 were mainly due to the use of energy-intensive bulbs, fluorescent lights, and the continuous use of electrical appliances by students and staff. Improper management of high-powered fans and air conditioners during non-class hours, along with the frequent use of energy-consuming devices during daylight, contributed to energy wastage and increased greenhouse gas emissions.

The successful implementation of the University's Energy Conservation Policy has led to a substantial reduction in energy waste. This policy mandates that existing buildings switch to LED lighting, which consumes less power and emits fewer pollutants, while new buildings are also required to use LED lighting. Furthermore, the adoption of energy control devices and awareness campaigns on energy conservation have significantly decreased energy waste. The percentage of energy reduction improved from 50% in December 2021 to approximately 78% in December 2022, an impressive 95% in December 2023 was totally reduced to almost 100% in 2024. This progress has created more opportunities to redirect energy resources to power neighboring local communities.

It is important to note that the primary source of energy waste has been the use of traditional bulbs and high-powered electrical devices. As of December 2021, these accounted for approximately 65% of energy waste.

This figure decreased to 20% in December 2022, dropped to just 5% in December 2023 and further reduced to 0.01% in 2024.

In 2024, the Directorate of Works and Services conducted an energy audit, revealing no significant increase in energy generation through the University Independent Power Project. This project utilizes renewable sources such as natural gas, hydro power, and solar energy, resulting in a total generation of 5.85 gigajoules.

In January 2024, the university reduced its energy consumption to 18% of the total energy generated (5.85 gigajoules), marking a sharp decrease compared to January 2023. In January 2024, energy consumption was high, at 17% of 5.85 gigajoules (equivalent to 0.9945 gigajoules). This was a significant improvement from nearly 100% consumption in January 2021. The high consumption levels in 2021 were mainly due to the use of energy-intensive bulbs, fluorescent lights, and the continuous use of electrical appliances by students and staff. Improper management of high-powered fans and air conditioners during non-class hours, along with the frequent use of energy-consuming devices during daylight, contributed to energy wastage and increased greenhouse gas emissions.

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Table 1: below shows ABUAD's energy sources in 2024 while Table 2: shows ABUAD's Total Energy usage and conservation (wastage management) in 2024. Figure 1. Shows a bar chart showing the relationship between Total Energy and its usage while Figure 2. Shows a Bar Chart showing ABUAD’s Total Energy about its usage and conservation from January 2024 to December 2024 via Energy Audit

Table 1: ABUAD Energy Sources	
Source	Energy (gigajoules)
A. Independent Power Project	
i. Renewable Natural Gas	2.90
ii. Hydro	0.68
B. Solar	2.27
Total Energy	5.85

Table 2: ABUAD Total Energy, Energy Usage, and Energy Conserve (Wastage Management) from January 2024 to December 2024

Month	Jan 2024	Feb 2024	Mar 2024	Apr 2024	May 2024	Jun 2024	Jul 2024	Aug 2024	Sep 2024	Oct 2024	Nov 2024	Dec 202
Total Energy (gigajoule)	5.85	5.85	5.85	5.85	5.85	5.85	5.85	5.85	5.85	5.85	5.85	5.85
Energy Usage By ABUAD (gigajoule)	1.05	1.04	1.04	1.03	1.03	1.03	1.02	1.01	1.01	1.01	1.01	1.00
Energy Conserved for Local Communities (gigajoule)	4.80	4.81	4.81	4.82	4.82	4.82	4.83	4.84	4.84	4.84	4.84	4.85

Figure 1

ABUAD Total Energy and Energy Usage From January 2024 to December 2024

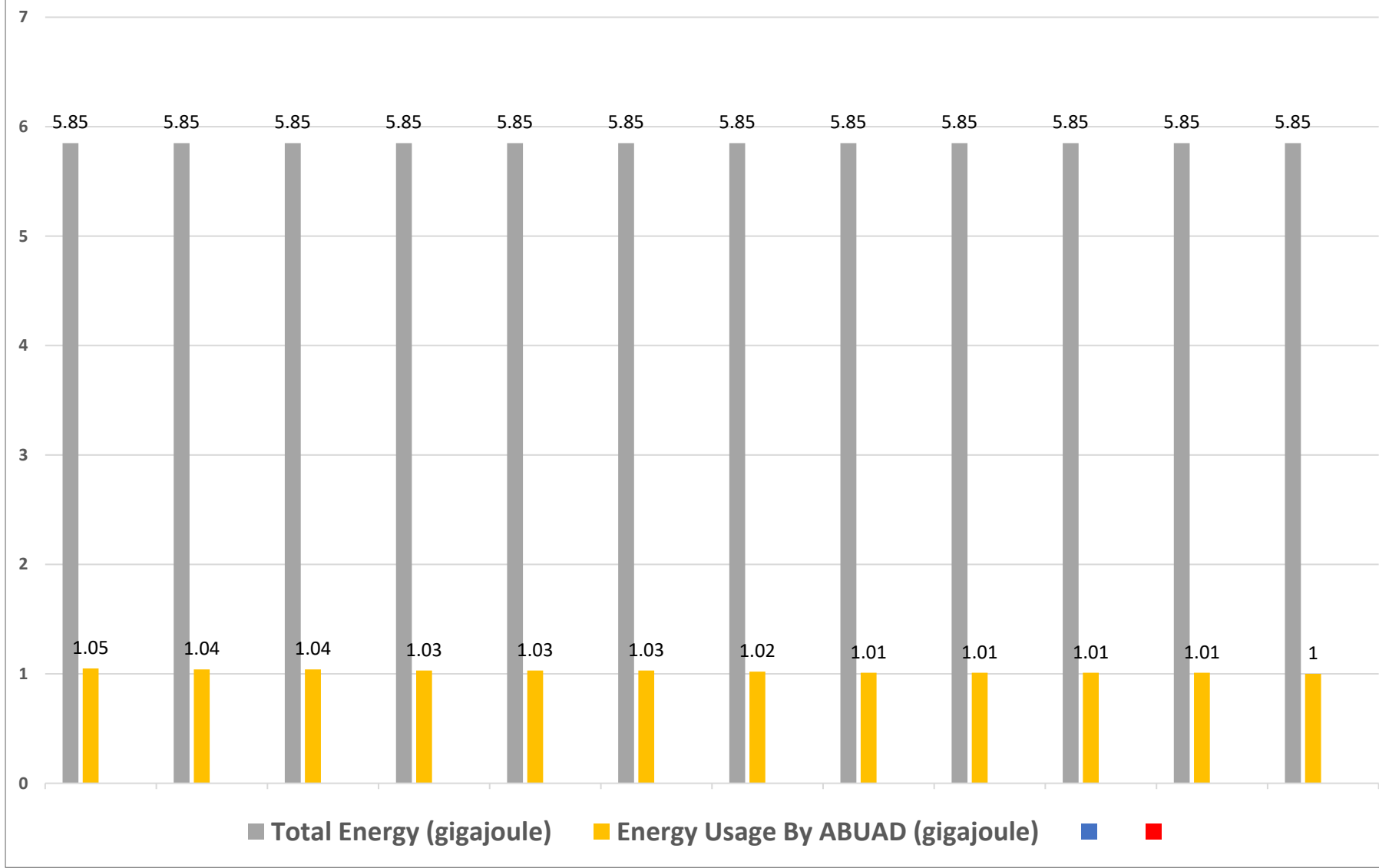


Figure 2

