



THE Impact Ranking 2023

University: Al-Mustaqbal University

Country: Iraq

Web Address: <https://uomus.edu.iq/en/default.aspx>

SDG 7.2: University measures towards affordable and clean energy

7.2.5 Does your university as a body undergo energy reviews to identify areas where energy wastage is highest?

Al-Mustaqbal university do conduct energy reviews or energy audits to identify areas where energy wastage is highest. Energy reviews are a common practice in the realm of sustainability and energy efficiency. These reviews involve a comprehensive assessment of the energy consumption patterns of a facility, including buildings, equipment, and systems. The goal is to identify inefficiencies, areas of high energy consumption, and opportunities for improvement.

Energy reviews typically include the following steps:

1. **Data Collection:** Gathering data on energy consumption, utility bills, occupancy patterns, and equipment usage.
2. **On-site Assessment:** Visiting the campus and facilities to assess energy-consuming systems such as lighting, HVAC (heating, ventilation, and air conditioning), appliances, and more.
3. **Analysis:** Analyzing the collected data to identify trends, patterns, and areas where energy usage is particularly high or inefficient.
4. **Recommendations:** Proposing specific recommendations for energy-saving measures, including upgrades, retrofits, behavioral changes, and the implementation of energy-efficient technologies.
5. **Cost-Benefit Analysis:** Evaluating the potential costs and benefits of implementing the recommended measures.
6. **Action Plan:** Developing a comprehensive action plan that outlines the steps to be taken, the timeline, responsible parties, and expected outcomes.
7. **Implementation:** Carrying out the energy-saving measures as outlined in the action plan.



- 8. Monitoring and Verification:** Continuously monitoring energy consumption and comparing it to pre-audit levels to ensure that the implemented measures are effective.

Energy reviews are crucial for the university aiming to reduce their environmental footprint, lower energy costs, and contribute to overall sustainability goals. They provide a data-driven foundation for making informed decisions about resource allocation and improvements.

Total electricity usage divided by total campus' population (kWh per person)

On the principal campus grounds of Al-Mustaqbal University, electricity serves as the cornerstone for various operations encompassing lighting, cooling, heating, and powering laboratory appliances. Figure 1 delineates the trajectory of electrical energy demand spanning the years 2019 to 2023, highlighting a discernible linear augmentation in electrical energy consumption from 2020 to 2023. This upward trend is attributable to the escalating enrollment figures at the university, culminating in a more pronounced utilization of laboratories and classrooms.

The data aggregated, as depicted in Figure 2, zeroes in on the consumption metrics during peak operational hours (08:00-16:00), a timeframe within which the bulk of consumption activities are conventionally observed. Figure 2 elucidates the interrelationship between energy consumption (demand) and the temporal progression across the months of the years 2020 to 2023. Noteworthy is the interval from January to 20 March 2020, within which a diminution of approximately 12% in electricity consumption was recorded. Subsequently, a more pronounced reduction of 78% was observed in the period stretching from 20 March to 1 September, attributable to the transition to remote engagement by the majority of staff and students amidst the prevailing circumstances. Post 1 September, with the university reinstating 25% of the staff to on-site operations, a slight resurgence in electricity usage was recorded. Figure 3, mapping the evolution of aggregate monthly electricity consumption throughout the examined period, underscores a discernible elevation in electricity consumption during 2021.

An examination of the 2021 data reveals a modest uptick in energy consumption, peaking at approximately 200,000 kWh. This increment is ostensibly underpinned by governmental directives aimed at curtailing the propagation of COVID-19.



A more granular analysis of the energy consumption for the entirety of 2021 unveils that January registered an electrical consumption of 22,000 kWh, which subsequently plummeted to 13,000 kWh, marking a reduction of 69%. It is of significance to highlight that April witnessed the zenith of electrical load, registering 31,000 kWh. The ensuing months exhibited a heterogeneous distribution of electrical usage, swayed by the scheduling of final examinations and holidays.

Lastly, as the restrictive measures necessitated by the COVID-19 pandemic began to ease, educational institutions including universities and schools reopened their portals, instigating a palpable upsurge in energy consumption over the last three years, especially with the dramatic influx of students and staff. This burgeoning populace precipitated a heightened energy demand in 2022. Moreover, a scrutiny of the monthly energy demand depicts a discernible fluctuation, albeit with a conspicuous ascension in electrical energy consumption through the year 2023 up until August, post which a decline is observed, coinciding with the spring break hiatus. Figure 3 adeptly encapsulates the dynamics of energy consumption throughout the months of 2023, with the apogee of electrical energy consumption being observed in the months of May and June.

In light of the criticality of energy consumption, a plethora of workshops, educational programs, and informative posters have been meticulously curated by our diligent cohort of students and staff, and disseminated within our community. This initiative aims at fostering a cognizance regarding the significance of energy conservation, thereby engendering a more sustainable energy consumption ethos within our society.

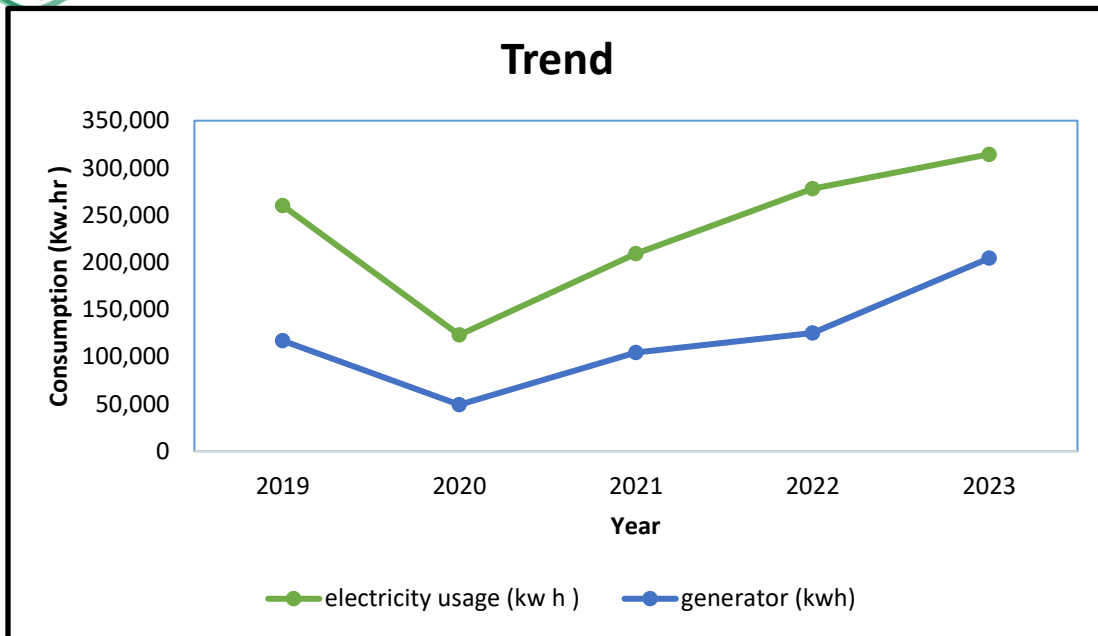


Figure 1: The trend evolution of electricity demand from (2019 to 2023)

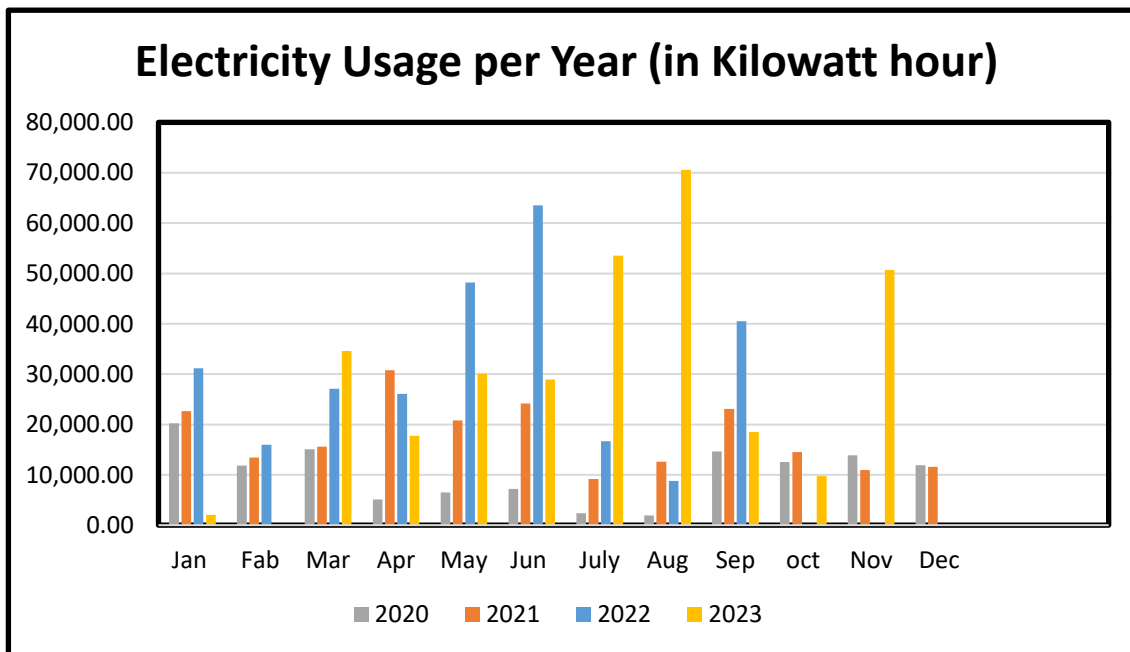


Figure 2: Comparison differences in electricity consumption between 2020 and 2023

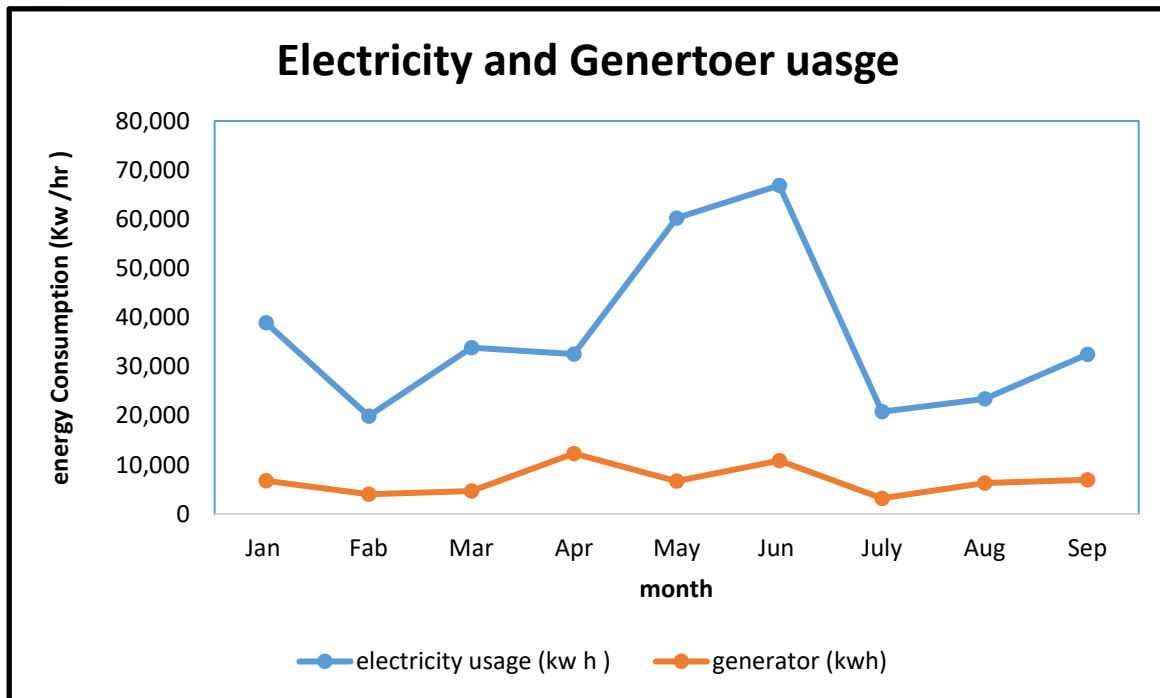


Figure 3: The total electricity and generator usage in all locations of MU in 2023

Additional evidence link:

- <https://uomus.edu.iq/NewDep.aspx?depid=2&newid=10350>
- <https://uomus.edu.iq/NewDep.aspx?depid=2&newid=6666>
- <https://uomus.edu.iq/NewDep.aspx?depid=2&newid=9293>
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- <https://uomus.edu.iq/En/EnNewDep.aspx?depid=2&newid=6271>

