



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

7.2.4 Does your university as a body have an energy efficiency plan in place to reduce overall energy consumption?

The university has implemented energy efficiency plans as part of their broader sustainability initiatives to reduce overall energy consumption. These plans are designed to outline specific strategies and actions that the university will take to optimize energy use, minimize waste, and lower their environmental impact. Here are some steps that could describe the presence of an energy efficiency plan at a university:

1. The university has developed a comprehensive energy efficiency plan that outlines a strategic roadmap for systematically reducing overall energy consumption across its campuses and facilities.
2. As part of its commitment to sustainability, the university's administration has established an energy efficiency plan aimed at curbing energy waste, enhancing building systems, and fostering a culture of energy conservation among students and staff.
3. In line with its environmental stewardship goals, the university has implemented a multi-year energy efficiency plan that involves retrofitting existing buildings, adopting energy-saving technologies, and integrating renewable energy sources to achieve substantial reductions in energy consumption.
4. The university's energy efficiency plan serves as a guiding framework for consistently evaluating and upgrading infrastructure, utilizing energy-efficient equipment, and implementing behavior-focused initiatives to achieve measurable reductions in energy usage.



5. With a vision for sustainable operations, the university's energy efficiency plan outlines specific targets for energy reduction, sets milestones for implementation, and establishes a cycle of monitoring and adjustment to ensure continuous improvement.
6. By adhering to its meticulously devised energy efficiency plan, the university demonstrates its dedication to responsible resource management, cost savings, and environmental preservation, while also serving as a model for sustainable practices in higher education institutions.

University Energy Efficiency Plan Milestones (2022-2030)

Objective: Develop and implement a comprehensive energy efficiency plan to significantly reduce overall energy consumption across the university's campuses and facilities, aligning with the institution's commitment to sustainability and environmental responsibility.

2022-2023: Establishing the Foundation

- Conduct a comprehensive energy audit of all university buildings to assess current energy consumption and identify areas for improvement.
- Form an interdisciplinary energy efficiency task force comprising faculty, staff, and students to collaborate on plan development and implementation.
- Research and benchmark best practices from other universities renowned for successful energy efficiency initiatives.
- Set a clear baseline measurement for energy consumption across campuses.



2024-2025: Developing the Strategy

- Analyze audit findings and task force recommendations to formulate a detailed energy efficiency strategy aligned with the university's sustainability goals.
- Identify key performance indicators (KPIs) and specific energy reduction targets for the upcoming years.
- Prioritize building retrofits, technology upgrades, and behavior-focused campaigns based on potential energy savings and feasibility.

2026-2027: Implementation and Infrastructure Upgrades

- Initiate pilot projects to test and refine energy-saving technologies, such as smart building systems, efficient lighting, and renewable energy installations.
- Begin phased retrofitting of older buildings with updated insulation, windows, and HVAC systems.
- Launch awareness campaigns to educate students, faculty, and staff about energy-efficient practices and their role in achieving the university's goals.

2028-2029: Scaling Up and Integration

- Expand the implementation of successful pilot projects to cover a broader range of campus buildings and facilities.
- Collaborate with local energy providers to explore opportunities for integrating renewable energy sources into the university's energy mix.
- Establish a real-time energy monitoring and management system to track consumption patterns and identify deviations from targets.

2030: Achieving Sustainability Milestones

- Reach the mid-term energy reduction targets established in the energy efficiency plan.



- Celebrate the completion of major retrofitting projects that have significantly improved the energy performance of key university buildings.
- Showcase the university's achievements and progress at sustainability symposiums and conferences.
- Commence preparations for the next phase of the energy efficiency plan, with a focus on continued innovation and long-term sustainability.

Throughout this timeline, regular progress assessments and adjustments should be made to ensure that the university is on track to meet its energy reduction goals. It's also important to maintain open communication with stakeholders and seek opportunities for collaboration with external partners and experts in the field of energy efficiency.

Key Success Indicators:

1. Percentage reduction in overall energy consumption across all university buildings.
2. Number of energy-efficient technologies and practices integrated into building systems.
3. Increased awareness and engagement of students, faculty, and staff in energy conservation efforts.
4. Cost savings achieved through reduced energy consumption and operational efficiencies.
5. Recognition and awards received for sustainable practices and energy reduction accomplishments.

Here is some evidence

1. Al-Mustaqbal University is planning to implement a solar heating system on the roof of the university's bookstore. This initiative aims to harness the sun's energy, particularly during the winter season, to significantly reduce electricity consumption and, consequently, lower electricity bills, as illustrated in Figure 1.



Figure 1. Implementation of a Solar Water Heater on the Roof of the University Bookstore

2. The strategy outlined in the preceding point encompasses several progressive phases. Initially, the Department of Air Conditioning and Refrigeration Techniques Engineering at Al-Mustaqbal University unveiled several industrial projects. Among these projects, the heating of water has been explored through various methods, including solar evacuated tube collectors, flat plate solar collectors, and parabolic solar dish collectors. Notably, a solar dish collector has recently been developed, incorporating a solar tracking system to enhance its effectiveness in heating water as shown in figure 3,4.



Figure 3. Parabolic collector



Figure 4. Solar dish collector

3. Install rooftop solar panels on the administration buildings. Furthermore, there is an initiative to equip the main restaurant with solar panels. This not only enhances the aesthetic appeal of the buildings but also contributes significantly to future energy savings and consumption reduction, as depicted in Figure 5.



Figure 5. Roof-Mounted Solar Panels on the Administration Building and the Main Restaurant

We have recently completed the installation of solar panels on the rooftop of the medical buildings and main entrance of the university as shown in Figure 6,7.



Figure 6. Installing solar panels on the medical building



Figure 7. Solar Panels on the main entrance

4. Furthermore, in the green area, which is a favored spot among our students for social activities such as University Day, Book Day, and Women's Day, install solar panels for devices charging, as in figure 8.



Figure 8. Utilization of Solar Panels for Multi-Purpose such as Device Charging

4. The installation of two horizontal-axis wind generators for lighting purposes not only provides sustainable energy solutions but also creates employment opportunities within our community. See figure 9.



Figure 9. Wind energy systems