



## University undergo energy reviews to identify areas where energy wastage is highest

Menoufia National University, as a newly established fourth-generation smart campus (est. 2022), has adopted an energy-management approach consistent with national environmental regulations (Law No. 4/1994) and international sustainability frameworks. Since 2023, the university has conducted structured **energy reviews** across all academic and administrative buildings to identify areas with the highest energy waste and opportunities for efficiency improvement.

### Electricity Consumption Review

Electricity consumption at Menoufia National University increased significantly between the academic years 2022–2023 and 2023–2024. The total electricity consumption rose from 110,307 kWh in 2022–2023 to 2,495,218.27 kWh in 2023–2024 as all campus buildings became fully operational.

This substantial increase triggered a detailed energy-wastage identification review, conducted by the Facilities and Energy Management Unit, to determine the sources of rising consumption and areas where energy waste was most evident

During the academic years 2022–2023 and 2023–2024, Menoufia National University recorded measurable carbon emissions resulting from electricity consumption across its academic and administrative buildings. The total carbon emissions increased from 1,245.34 metric tons of CO<sub>2</sub> in 2022–2023 to 2,099.63 metric tons of CO<sub>2</sub> in 2023–2024.

This increase correlates with the expansion of facilities, higher campus activity, and the operation of additional laboratories and academic spaces. The University is currently implementing an energy management plan to reduce this footprint through improved energy efficiency measures and the identification of major sources of energy waste.

### Key Findings from the Energy Review:

- Higher-than-expected electricity use in newly occupied academic buildings as laboratories, ventilation systems, and computers became fully functional.
- Extended operation of HVAC units during periods of low or no occupancy.
- Non-optimized scheduling of outdoor and corridor lighting in some buildings.
- Increased use of digital equipment (screens, projectors, and computer labs) without centralized control systems.
- Lack of sub-metering by building, limiting precise monitoring of consumption patterns.

### Corrective Actions Initiated:

- Standardizing HVAC temperature settings (24–25°C) to prevent excessive cooling.
- Implementing automatic lighting shutdown after working hours.



- Expanding LED lighting replacement (now covering 83% of campus lighting).
- Installing timers for external lighting.
- Launching awareness campaigns for staff and students to reduce unnecessary electricity use.
- Planning for solar energy installation in collaboration with the Arab Organization for Industrialization.