

SDG 13 – Climate Action

Assiut University Report 2024-2025

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Prepared by : Prof. : Prof.Fatma Mohamed Abdelmaksoud

Revised by: International Ranking Office

Our Aim in 2024–2025

During the 2023–2024 academic year, Assiut University strengthened its role as a leading public university in Upper Egypt committed to climate resilience, low-carbon development, and sustainability integration. Through renewable energy expansion, community engagement, environmental research, and climate-focused education, the university aligned its strategic actions with SDG 13: Climate Action, prioritizing carbon-reduction pathways and climate adaptation strategy.

1. Measuring and Increasing Low-Carbon Energy Use:

Assiut University tracks its total and low-carbon energy consumption across all campuses.

Energy Performance Indicators (2024–2025)

- Total Energy Consumption: 182,124 GJ
- Low-Carbon Energy Consumption: 112,508 GJ (18%)

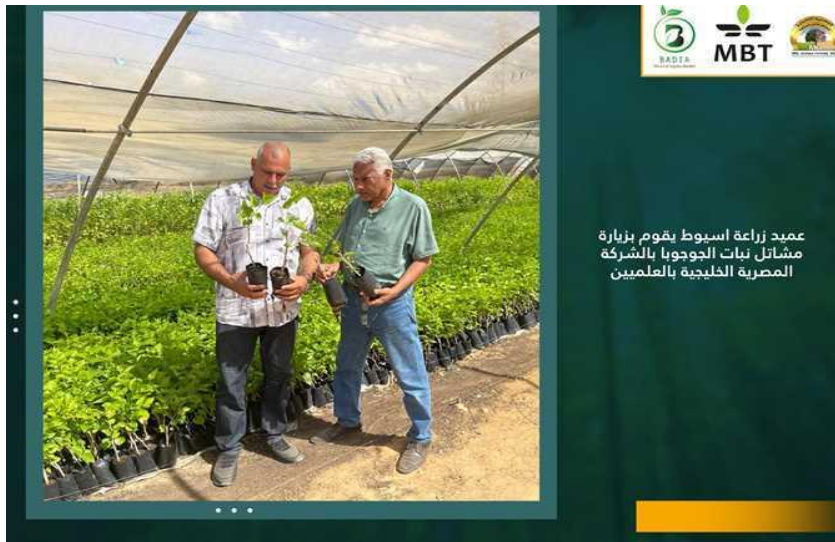
Electricity Usage & Renewable Energy Progress

Year	Total Electricity Consumption (kWh)	Renewable Energy Production (kWh)	Renewable Share
2023	42,130,000	535,000	1.27%
2024	35,000,000	1,600,000	4.57%

This demonstrates notable progress in both energy efficiency and renewable energy generation, mainly through solar photovoltaic expansion.

Related Initiatives

- = Hosting of the Environmental Seminar on the Carbon Footprint during the First Student Green Dream Conference (Nov 2023).
- = Cultivation of Jojoba for clean-energy bio-oil production, managed by the Faculty of Agriculture.



2. Energy Efficiency & Smart Campus implementation.

Assiut University has adopted a comprehensive energy efficiency strategy, replacing conventional systems with modern, low-energy technologies.

Major action:

- **LED Lighting Conversion:** >50% of fixtures replaced by LEDs
- **Smart Lighting Systems** (motion sensors, daylight detection)
- **Energy-Efficient HVAC:** inverter and VRF systems in new buildings
- **Energy Star Office & Lab Equipment**
- **Solar-Powered Outdoor Lighting** (limited but expanding)
- **Annual Energy Audits** to track performance

Energy-Efficient Appliances Snapshot

Appliance Type	Total Units	Efficient Units	% Efficient
LED Lamps	214,000	124,120	58%
Ceiling Fans	7,350	2,793	38%
Inverter Air Conditioners	5,822	3,319	57%
Refrigerators	1,730	900	52%
Office Equipment	2,200	1,500	68%

Average efficiency across systems: 54%.



Energy Efficient Appliances Usage: Use of LED lighting and lamps with light detection

3. Environmental Education & Research

Assiut University integrates climate action into academic programs and research.

= Academic Contributions

- **312 undergraduate and 134 postgraduate courses** related to environmental sustainability.
- **8 new academic programs** promoting environmental sustainability.
- **6 new sustainability awareness courses** for university students.
- **127 books and publications + 770 climate-related research studies.**
- **123 study leaves, 29 joint supervisions, 58 missions, and 54 international scholarships** supporting sustainability research.

= Events & Educational Activities

- “The 12th International Conference on Development and Environment in the Arab World Sustainable Development and Confronting Environmental and Climate Changes... Challenges and Solutions (2024).

- Annual Sustainability & SDG Conferences



المؤتمر الدولي الثاني عشر للتنمية والبيئة في الوطن العربي



4. Collaboration with Government & Climate Action Planning

University Climate Action Plan

A formal Climate Action Plan (CAP) is in place and is shared with local authorities.

Smart Building Implementation

- Total smart building area: 11,450 m²
- Share of smart building systems over total area (807,093 m²): 1.4%
- Additional smart facilities area with renewable features: 75,629 m²

5. Climate Disaster Planning & ICT-Based Monitoring

The university uses ICT for:

- GIS mapping for renewable project siting
- Digital tracking of renewable energy output
- Smart meters monitoring electricity consumption
- Greenhouse Gas Protocol-based evaluation
- Early warning and climate risk awareness programs across 312+ courses

Key Climate Interventions

- 4,000 Jojoba trees planted
- 1,000 fruit trees (2024, under “100 Million Trees”)
- Waste reduction, energy efficiency, and eco-transport monitoring

6. Collaboration with NGOs on Climate Adaptation

NGO Partnerships

“Go Green” Initiative:

- 4,000 Jojoba trees with Egyptian-Gulf Agricultural Land Company
- 655 fruit trees + 612 non-fruit trees(2023–2022)
- 1,000 trees planted (2024 conference)

STEM Climate Innovation Projects (≈80% sustainability-related)

Examples include:

- Electric-generating staircase
- Plastic-to-diesel pyrolysis system
- Plastic-recycled tiles
- Solar-powered irrigation farm
- Electricity purification devices

International Achievements

- At Climathon Upper Egypt 2023:
- Second place: Eco-Fuel Innovators (biogas from agricultural waste)
- Fourth place: Blast-Tech (diesel from plastic pyrolysis)
- Assiut University also piloted the “Liquid Tree” project, converting CO₂ into oxygen via microalgae bioreactors.

Commitment to a Carbon-Neutral Campus

7. Evidence: Carbon Footprint Report

Although Assiut University has not yet set a specific target year for carbon neutrality, it has outlined a clear multi-phase plan based on the GHG Protocol:

Carbon Neutrality Strategy Components

1. Carbon Footprint Assessment
2. Renewable Energy Expansion
3. Green Buildings & Energy Efficiency
4. Sustainable Transportation
5. Waste Management & Recycling Systems
6. Tree-Planting Carbon Sinks
7. Continuous Monitoring & Reporting

Tree-Planting CO₂ Absorption Estimates

- = Pine: 21 kg CO₂/year
- = Eucalyptus: 25 kg CO₂/year
- = Oak: 15–20 kg CO₂/year
- = Beech: 20–30 kg CO₂/year
- = Cedar: 20–25 kg CO₂/year
- = Palm: 20 kg CO₂/year

These initiatives support long-term sequestration and climate resilience.

Finally, In the 2023–2024 academic year, Assiut University demonstrated strong and measurable progress toward SDG 13: Climate Action. Through renewable energy improvements, smart-campus expansion, academic integration of climate concepts, tree-planting programs, partnerships with government and NGOs, and student-driven environmental innovation, the

university continues to advance toward becoming a regional leader in climate adaptation and sustainability.

Assiut University's actions form a coherent climate strategy rooted in research, education, community engagement, and environmental stewardship—supporting the national objectives of Egypt Vision 2030 and the National Climate Change Strategy 2050.