

Commitment to a Carbon-Neutral University by 2039

Our target, roadmap and actions to reach carbon neutrality across campus energy, buildings, water and transport

13.4.1

Commitment to a Carbon-Neutral University by 2039

Has the university committed to a target date by which it will become carbon neutral?

Our approach

Al-Mustaqbal University has committed to becoming a carbon-neutral university by 2039. Climate change is placing growing pressure on Iraq's energy and water supplies, and the University has adopted policies that require staff and students to take an active part in conserving electricity and water.

The commitment rests on a phased roadmap: cutting energy demand, replacing grid and generator electricity with on-site renewable energy, building and renovating to green standards, conserving and recycling water, and reducing emissions from travel to and around campus. Progress is monitored and the roadmap is reviewed as new projects come on line.

The evidence that follows sets out the University's target, its roadmap, and the actions already taken towards carbon neutrality.

Evidence at a glance

#	INITIATIVE	FOCUS
01	**Carbon-neutral target and roadmap**	Institutional commitment
02	**Green building and resource policy**	Energy, water, materials, transport
03	**Solar power across campus**	Rooftop PV on major buildings
04	**Solar thermal and applied research**	Solar water heating, collectors
05	**Wind energy and solar-assisted cooling**	Wind generators, solar HVAC
06	**Energy-sector partnerships**	Energy Research Centre, industry
07	**Low-carbon campus mobility**	Bicycles, scooters, green cover

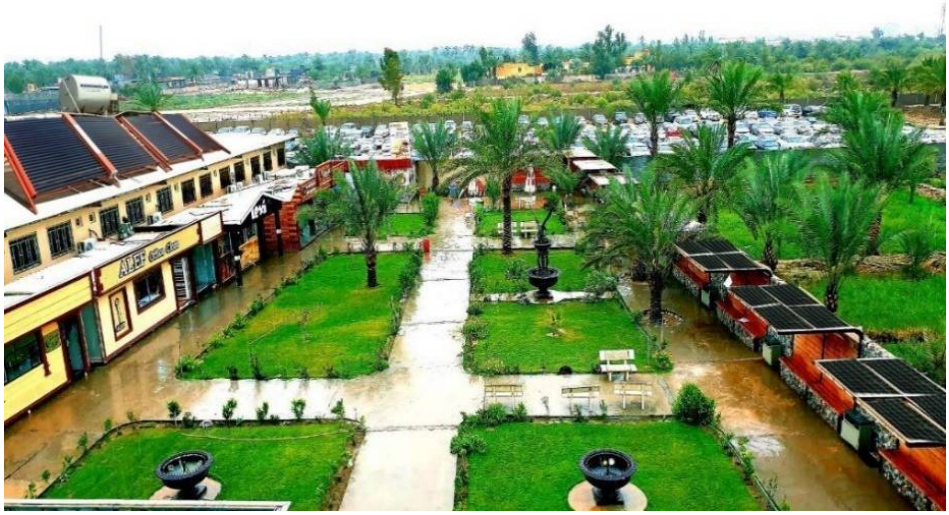
Al-Mustaqbal University

Our Target: Carbon Neutral by 2039

The University's roadmap sets out a clear sequence of milestones, from the first energy projects to full carbon neutrality. Each stage builds on the last, moving from planning and efficiency to large-scale renewable generation.

2022	Roadmap adopted; energy-saving projects proposed; first installations completed
2024	Remaining energy projects installed, principally rooftop solar panels
2025	Number and capacity of renewable energy sources increased
2027	Target: 30% reduction in energy consumption
2030–2039	Target: 80% reduction in energy consumption, reaching carbon neutrality by 2039

The roadmap is supported by a campus-wide policy that makes energy and water conservation the responsibility of every member of staff and every student, and by continual awareness programmes on energy management and climate change.



A Policy Framework for Low-Carbon Buildings and Resources

All new and existing buildings are planned, built and renovated under University policies that prioritise energy efficiency, sustainable and recycled materials, waste reduction and recycling, healthy indoor air, responsible site selection and renewable energy, with green building certification such as LEED encouraged. Long-term environmental performance is monitored, and buildings are designed to withstand the impacts of a hotter climate.

Water is managed with equal rigour: all new and ongoing construction must use water-efficient fixtures, the University aims to treat and recycle all greywater and half of its sewage by 2030, and rainwater harvesting supports its goal of water neutrality. Policies on public transport access, cycling and walkability address emissions from travel to campus.

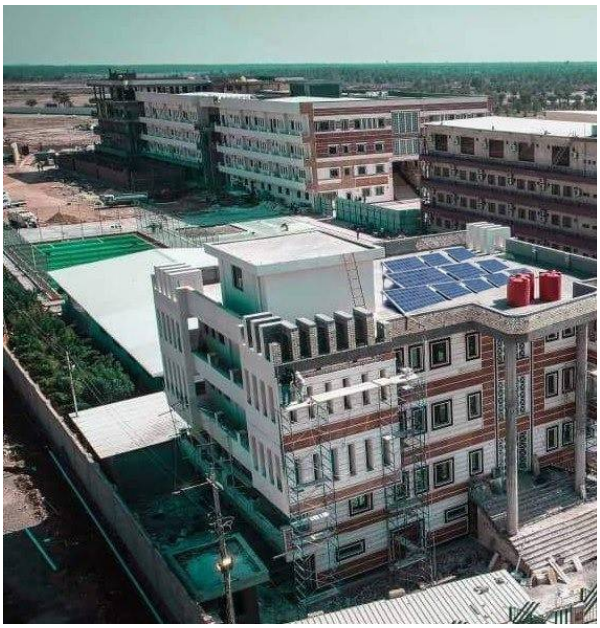




Solar Power across the Campus

Solar photovoltaic panels now supply electricity across the campus. Rooftop arrays have been installed on the medical buildings, the administration building and the main restaurant, and mounted panels light the main entrance. A smart solar building powers its lighting, split air-conditioning unit and absorption refrigerator from its own panels.

Panel cleaning and maintenance are built into operations, and the installations are themselves the subject of staff and student research on solar performance, creating skilled jobs alongside lower emissions.









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Solar Thermal Energy and Applied Research

The University's energy station operates ten solar thermal water heaters that supply hot water to most laboratory buildings in winter, and solar water heaters have been installed on the roof of the book centre, cutting electricity use in the coldest months.

The Department of Air Conditioning and Refrigeration Techniques Engineering develops and tests solar technologies on campus, including evacuated-tube collectors, flat-plate collectors, parabolic trough collectors and a parabolic dish collector with a solar tracking system, turning research directly into low-carbon heat.









Wind Energy and Solar-Assisted Cooling

Two horizontal-axis wind generators provide power for campus lighting. In Iraq's climate, air conditioning accounts for a large share of electricity demand, so the University has coupled solar energy with its heating, ventilation and air-conditioning systems, both to power the systems and to cut their emissions as far as possible.

Together with solar photovoltaic and thermal systems, these installations diversify the University's renewable energy supply and reduce its dependence on fossil-fuelled grid and generator power.





Partnerships for a Clean Energy Transition

The Director of the Al-Mustaqbal Energy Research Centre and the Head of Fuel and Energy Technology Engineering represented the University at Crown Company's first Solar Energy Products Conference in Babylon, reviewing the latest solar technologies and exploring co-operation with the energy industry.

These partnerships link the University's research and teaching with the solar sector, support its own transition to renewable energy, and prepare students and graduates for careers in clean energy.





Low-Carbon Mobility and a Greener Campus

On Earth Day the University promoted bicycles and scooters as everyday alternatives to car travel on campus, explicitly to reduce its carbon footprint, alongside tree and seedling planting that expands green cover and natural carbon storage.

Low-carbon transport, a growing tree canopy and the University's nature reserve and green spaces complement its energy measures, addressing emissions from travel and strengthening the campus's capacity to absorb carbon.





OUR COMMITMENT

Carbon neutrality by 2039 is a commitment that shapes how the University builds, powers and runs its campus. Through renewable energy, efficient buildings, careful use of water and cleaner travel, it will continue to cut its emissions year by year until that target is met.

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Towards a Sustainable University