

Strategic Plan of the Sustainability, Climate and Energy Center 2026

Institutional Transformation toward a Sustainable Campus and a Circular Green Economy

Misr University for Science and Technology (MUST)

Official strategic document prepared for approval and periodic operation

2026



Vision, Mission, and Governing Values

Vision: Misr University for Science and Technology seeks to become a globally leading institution and a benchmark model in environmental innovation and comprehensive sustainability, as well as a distinguished regional hub linking academic research with industrial and community application to support sustainable development and a circular green economy.

Mission: The Center is committed to mainstreaming sustainability practices and climate action by developing campus infrastructure, providing innovative energy solutions, building human capacities, establishing effective strategic partnerships with governmental and industrial sectors, and stimulating applied scientific research to create lasting positive environmental and economic impact.

Environmental responsibility: an absolute commitment to protecting natural resources and reducing carbon emissions.

Innovation and leadership: encouraging creative ideas and unconventional green technology solutions.

Governance and transparency: measuring environmental and institutional performance clearly and issuing published periodic reports.

Integration and participation: activating the role of every student, researcher, and administrator in the sustainability journey.

Cross-sector partnership: bridging the gap between advanced academic research and actual industrial market applications.

Historical Pathway and Strategic Rationale for Transformation

Since its establishment in 1996 as the first private university in Egypt, under the wise vision of the founder Dr. Souad Kafafi, Misr University for Science and Technology has been committed to providing high-quality academic education coupled with scientific research and public service, with the aim of shaping enlightened students and critical thinkers.

With the evolution of contemporary environmental and climate challenges, and in alignment with Egypt Vision 2030 and the National Climate Change Strategy 2050, the University accelerated its institutional efforts to shift from traditional frameworks to advanced sustainability models.

This journey began with the establishment of the Sustainability Office in 2023, which laid the foundation for environmental awareness and baseline indicator measurement. In view of the expansion of activities, the growth of the university community to more than 20,000 students, and the necessity of institutionalizing climate action, the former individual structure was upgraded into the Sustainability, Climate and Energy Center. The Center is a comprehensive strategic entity composed of seven specialized units to ensure asset management, energy efficiency, industrial partnerships, carbon footprint accounting, and human capacity development in line with international standards.

Message from the President of Misr University for Science and Technology

Every nation has fundamental pillars upon which its renaissance and achievements are built. At Misr University for Science and Technology (MUST), we believe that youth are the pillar of the future and the real wealth that drives development and prosperity in our beloved Egypt.

The targeted transformation does not happen overnight. It requires strong will, unwavering determination, and, above all, sustainable high-quality education that responds to the requirements of the digital and green era.

We aim to provide the optimal academic environment for our students, enabling them to harness their full potential and become effective leaders equipped with globally competitive skills. Based on our national responsibility toward future generations, we have been keen to integrate the Sustainable Development Goals (SDGs) into our educational, operational, and community strategies.

This ten-year strategic plan for the Sustainability, Climate and Energy Center translates our vision into tangible action, contributes to national and global efforts to combat climate change and protect the environment, and declares the University's full commitment to achieving carbon neutrality by 2050.

Prof. Hala Salem El Monoufi, President of Misr University for Science and Technology and Chair of the Board of the Sustainability, Climate and Energy Center.

Administrative and Organizational Structure of the Sustainability Center

The University has adopted a modern organizational structure based on clear distribution of responsibilities and technical specialization to ensure effective performance, swift implementation, and periodic follow-up.

Organizational / Leadership Position	Current Name and Academic / Institutional Position	Role within the Sustainability Center
Senior Leadership	Prof. Hala Salem El Monoufi, University President	Chair of the Board and ultimate authority for approving the Center's strategic policies
Senior Leadership	Prof. Emad Khalil Helmy, Vice President for Environmental Development and Community Service	Vice Chair of the Board and senior organizational supervisor of environmental initiatives
General Supervision	Prof. Maged Ezzat Georgy, Dean of the Faculty of Engineering	Technical and academic general supervisor, linking engineering faculties with the Center
Executive Management	Dr. Wael Salah Eldin Bahloul	Executive Director and direct lead for all administrative and technical activities and reports
Unit Coordination	Eng. Khaled Riyad Abdel-Bary, Advisor to the Chair of the Board of Trustees for Engineering Affairs	Coordinator of the Asset Operations, Water and Waste Management Unit

Unit Coordination	Dr. Wael Salah Eldin Bahloul	Coordinator of the Partnerships and Community Service Unit in addition to his role as Executive Director
Unit Coordination	Prof. Tahseen Mansour Menshawwy Shaala, Professor and Chair of Environmental Biotechnology	Coordinator of Climate Change, Natural Resource Management and Smart Sustainable Agriculture Unit
Unit Coordination	Dr. Noha Fathi Elgamal	Coordinator of Sustainable Construction, Green Building and Smart Cities Unit
Unit Coordination	Dr. Yasmin Elsayed Kotb	Coordinator of New and Renewable Energy and Energy Efficiency Unit
Unit Coordination	Dr. Ramy Abdelrehim Ali	Coordinator of Capacity Development and Training Unit
Unit Coordination	Distinguished faculty member from engineering departments, under selection	Coordinator of Carbon Footprint and Emissions Reduction Reporting Unit

Structural Composition of the Advisory Board

To align the strategic plan with national and international directions and provide high-level advisory and field expertise, the Center includes a distinguished external and internal advisory board.

No.	Name	Position and Advisory Capacity
1	Dr. Ali Abu Senna	Chief Executive Officer of the Egyptian Environmental Affairs Agency and Assistant Minister of Environment for Projects
2	Eng. Ehab Ismail	Chairman of the New and Renewable Energy Authority
3	Dr. Eng. Hend Farouh	Head of the Central Unit for Sustainable Cities at the New Urban Communities Authority
4	Dr. Eng. Khaled Sofy	Chairman of the Egyptian Organization for Standardization and Quality and President of the International Organization for Standardization (ISO)
5	Eng. Tarek El Molla	Member of the Senate and former Minister of Petroleum
6	Eng. Hisham El Gamal	Chairman of the Solar Energy Investors Association and CEO of Infinity Capital
7	Prof. Ahmed Awany	Former Director of the Central Laboratory for Agricultural Climate, Micro-climate Research
8	Prof. Tahseen Shaala	Professor and Chair of Environmental Biotechnology at the University, representing the internal academic body

Detailed Strategic Plans and Executive Pillars of the Seven Units

New and Renewable Energy and Energy Efficiency Unit

Vision and mission: to lead the sustainable energy transition within and beyond the University, becoming a scientific and applied platform for clean energy culture, innovation support, and the connection of research with field deployment.

SDG alignment: SDGs 4, 7, 9, 11, and 13.

Increasing renewable energy share: full expansion of solar photovoltaic systems on building rooftops and solar carports to cover 25% of total campus energy consumption by 2026 as an urgent first phase, gradually increasing to 50% by 2032.

Energy efficiency and conservation: full supervision of replacing all conventional lighting with highly efficient LED systems and modernizing central HVAC systems to reduce energy waste by 30%.

Smart grids and applied research: studying and building a pilot smart microgrid on campus to enable automated intelligent load control and energy storage.

Capacity Development and Training Unit

Vision and mission: to develop a distinguished generation of leaders capable of formulating and implementing green economy plans, while providing competency-based training programs that bridge skills and knowledge gaps in the labor market and academic/professional communities.

Faculty development and curriculum integration: intensive workshops enabling faculty members to integrate sustainable development concepts into existing courses and create accredited interdisciplinary courses.

Certified Green Skills Certifications: specialized professional courses covering energy efficiency, solar PV design, climate risk assessment, circular economy, and ESG governance.

Industry-academia sustainability fellowships: programs enabling trainees and students to work on real projects in energy companies, factories, ministries, and relevant authorities.

SME and local community empowerment: technical consultancy and subsidized intensive courses for startups and small factories on environmental compliance and green finance access.

Partnerships and Community Service Unit

Vision and mission: to be the strategic link and dynamic platform connecting the University's research and innovation capacities with civil society needs and industrial sector requirements to achieve sustainable environmental development.

Industrial partnership network: signing formal cooperation protocols and joint projects with industry leaders, particularly technical cooperation with Dr. Ehab El-Sakka, Head of the Waste Division at the Federation of Egyptian Industries, to support industrial and e-waste recycling, circular economy, and effective recycling.

Funding, grants, and consultancy: positioning the Center as an accredited environmental consultancy provider for environmental impact studies, creating self-generated income alongside systematic applications for local and international green research grants.

Sustainable quarterly timeline: Q1 establishment and opportunity mapping; Q2 partnership signing and communication channels; Q3 field implementation; Q4 comprehensive evaluation and reporting.

Asset Operations, Water and Waste Management Unit

Vision and operations: to manage the University's infrastructure and operational facilities intelligently and sustainably, preventing waste and maximizing the value of each resource.

Water management and rainwater harvesting: comprehensive transition of green-space irrigation to drip and smart irrigation linked to soil sensors, with studies for rainwater tanks and greywater recycling.

Integrated waste management and source separation: providing triple waste-separation bins for plastic, paper, and organic waste across all University buildings and contracting certified recycling companies to progress toward a zero-waste campus.

Climate Change, Natural Resources Management and Smart Sustainable Agriculture Unit

Vision and operations: to use environmental sciences and advanced biotechnology to innovate resilient and sustainable adaptation mechanisms for natural resources and agriculture in response to global warming and climate change.

Climate-smart agriculture: applied research projects including productive green roofs and greenhouses using artificial intelligence and biotechnology to conserve water and resist heat stress.

Urban heat island mitigation: planned expansion of trees and dense vegetation across and around the campus to lower local temperatures and provide a healthier environment.

Sustainable Construction, Green Building and Smart Cities Unit

Vision and mission: to become a scientific reference and regional center of expertise leading innovation in the sustainable and smart built environment, producing and applying knowledge through an integrated system linking education, research, and consultancy, and turning the campus into a living laboratory for sustainability.

Strategic dimensions: academic excellence, research excellence and innovation, operational sustainability, and community leadership.

MUST Green Campus Initiative: transforming University facilities into a national low-carbon model through comprehensive energy and water efficiency and green building standards.

MUST Living Lab: converting buildings into open research laboratories using smart sensing systems to collect operational data and make it available for student applications.

MUST Net Zero 2040: preparing periodic carbon footprint inventories and a binding phased plan to reach net-zero emissions by 2040.

MUST Smart Campus: integrating IoT, artificial intelligence, and digital twins to manage and track predictive maintenance and facilities.

Green Innovation Hub: creating an environmental business incubator to help students and entrepreneurs transform research outputs into marketable startups and commercial products.

Carbon Footprint Unit

Vision and operations: to serve as the Center's monitoring and measurement arm through regular and comprehensive tracking, documentation, and analysis of all greenhouse gas emissions generated by campus activities, producing scientific guidance reports for senior management.

Annual GHG inventory and screening: measuring and classifying the University's carbon footprint according to international methodologies, including Scope 1 direct emissions, Scope 2 energy-related indirect emissions, and Scope 3 other indirect emissions from commuting and waste management.

Carbon reduction targets and reporting: creating binding annual carbon reduction curves for each sector and building, preparing official carbon reports for Board submission and public disclosure to enhance the University's standing in global green rankings such as GreenMetric.

Comprehensive Climate Action Roadmap toward Carbon Neutrality (2050)

The ultimate strategic target of the Sustainability, Climate and Energy Center at Misr University for Science and Technology is to achieve full carbon neutrality by 2050. The roadmap is divided into three integrated implementation phases:

Immediate and short-term phase, 2026-2030

Focus on rapid-impact actions: achieving 25% renewable energy, replacing all lighting with LED, eliminating single-use plastics entirely on campus, launching green skills training packages, and completing the first comprehensive carbon footprint inventory for all University faculties.

Medium-term phase, 2030-2040

Institutionalize smart cities and upgrade infrastructure: connect all buildings to a BMS, convert University transportation to fully sustainable electric buses and vehicles, raise renewable electricity generation to 60%, and deepen industrial partnerships to fund advanced environmental research chairs.

Long-term phase, 2040-2050

Reach full net-zero emissions: offset unavoidable residual emissions through major afforestation projects and carbon bond investments, rely 100% on clean energy and recycled water, and obtain full international green certification for all University facilities as the first fully carbon-neutral campus in the region.

Monitoring, Evaluation, and Key Performance Indicators (KPIs)

To ensure that this document becomes an active institutional practice rather than a static administrative plan, all Center objectives are linked to a strict monitoring and evaluation system based on quantitative and qualitative KPIs reviewed quarterly and annually.

KPI	Current Status (2026)	Target (2030)	Responsible Unit
Renewable energy share of total campus consumption	Less than 5%	25% or more	Renewable Energy Unit
Overall facility carbon footprint reduction	First standardized baseline	20% reduction	Carbon Footprint Unit
Number of academic curricula integrating sustainability	Very limited, mainly engineering courses	40% of University courses	Capacity Development and Training Unit
Waste diverted from landfills and recycled	Traditional informal collection and sales	60% sorted and recycled	Asset Operations and Waste Unit

Activated protocols and industrial partnerships	Under establishment and relationship building	15 major industrial partnerships	Partnerships and Community Service Unit
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Conclusion and Future Institutional Commitment

The ten-year Strategic Plan of the Sustainability, Climate and Energy Center (2026-2036) at Misr University for Science and Technology is not merely a routine administrative plan. It is a living national and environmental action document that reflects the identity of the modern University and its ethical and developmental commitment toward its students, nation, and the world. Through this enhanced organizational structure and comprehensive system, and with the full support of the Board of Directors and the distinguished Advisory Board, the University will work collectively to transform every environmental and climate challenge into a genuine opportunity for innovation, learning, and institutional development, so that MUST remains a permanent beacon of sustainable green science and knowledge that builds people and protects the planet.

**Executive Director of the Sustainability,
Climate and Energy Center**

Dr. Wael Bahloul

**General Supervisor of the Center
Dean of the Faculty of**

Engineering

Prof. Maged Ezzat Georgy

