جامعة الإسكندرية
ALEXANDRIA UNIVERSITY

SDG 7

Affordable and Clean Energy and Sanitation

2023-2024

7.2.1 University policy for ensuring all renovations / new builds are following energy efficiency standards

جامعة الإسكندرية
ALEXANDRIA UNIVERSITY

Policy on Energy and water sustainable use

Alexandria university is Committed to pursuing sustainable development within and through the university and to reassessing higher education and its role in the transition to more sustainable societies. This includes building synergies and collaboration in the search for effective and innovative approaches to solving today's as well as future sustainable development challenges.

The university ensures that all renovations and establishment of new buildings are following energy efficiency standards and water conservation strategies.

The university ensures divesting investments and purchases from Carbon-intensive energy industries particularly coal and oil.

The university through its faculties is committed to maximise water reuse across the university buildings and through all services provided in the process of education and research

The objective of this statement is Commitment to offering an open, interactive and collaborative forum for discussion and action, to raise awareness and advocate for changes needed changes in higher education to best serve the goals of sustainable development, (SDGs) as well as building international linkages and cooperation on the basis of core values of academic freedom, institutional autonomy and related local and global responsibilities to society.

Being uncompliant with the commitment to purse sustainable development issue will be regarded as interfering with personal development of the students, and the university administration will act accordingly

Policy created September 2019

Policy reviewed October 2022

Prof. Abdel Aziz Konsowa

University President

A. Konsowa

Alexandria University integrates solar cells, energy-efficient design, and advanced simulation and analysis methods to reduce carbon dioxide emissions and improve building performance. Through optimized renewable energy systems—including energy storage, wind power, and emerging hydrogen technologies—the University enhances energy conservation and environmental conditions across all new constructions and renovations. This integrated approach applies sustainable materials, efficient processes, and innovative technology to strengthen long-term sustainability and resource optimization on campus.

Green-building measures are implemented across the campus. LED lighting with occupancy/daylight controls is installed; BMS-based scheduling and monitoring-based commissioning with sub-metering are applied; VFDs are fitted on major fans and pumps and AHU motors are upgraded; exterior lighting curfews with photocells are applied; rooftop/carport solar PV is deployed; heat-island reduction is addressed with cool roofs, shade trees, light/permeable paving, and PV canopies; rainwater harvesting and AC-condensate recovery are used for irrigation and flushing; smart irrigation and drip systems with drought-tolerant planting are in place; water-efficient fittings, leak detection, and water sub-metering are implemented; low-emitting, EPD/recycled-content materials are specified under a sustainable purchasing policy, and sustainably sourced timber is required; waste segregation for paper/card, plastics/metals, glass, e-waste, and organics is provided; ventilation and IAQ controls (CO_2 monitoring, filtration, ETS control, IAQ testing) are implemented; daylighting and glare control and acoustic comfort measures are provided; integrated pest and landscape management with erosion control is practiced; refrigerants with zero ODP and low GWP are specified with leak detection and recovery; safety programs and Building User Manuals are maintained; monthly KPIs (BEI, kWh saved, IAQ, faults closed) are reported; and innovation pilots (analytics/FDD, circular labs, low-carbon materials) are underway, while heat-recovery solutions for hot water/reheat are planned.

LED Lighting

Green building implementation through the use of sun breakers in the SSP building at the Faculty of Engineering

Elements of Green Building Implementation as Reflected in all new construction and renovation policies:

Green building implementation in new construction and renovation policies focuses on several key elements designed to enhance sustainability, reduce environmental impact, and promote energy efficiency. These elements are typically reflected in guidelines and frameworks, such as LEED (Leadership in Energy and Environmental Design) or other local and international standards.

1. **Energy Efficiency**
   - Integrating solar and wind energy sources into building design reduces reliance on non-renewable resources.
   - Installing systems that optimize ventilation with minimal energy consumption.
   - Automated lighting systems that respond to occupancy or time of day.
   - As for energy, all the buildings have solar energy generation cells to provide part of the building's needs, which are estimated at about 45%, in addition to using energy-saving lamps (LED).
   - The public site lighting poles are powered by solar energy.

2. **Sustainable Materials:** Incorporating materials like recycled steel, concrete, or reclaimed wood.

3. **Indoor Environmental Quality**
   - Maximizing the use of daylight to reduce artificial lighting and improve occupant well-being.
   - Ensuring adequate ventilation and using non-toxic building materials to maintain clean indoor air.
   - Designing spaces to maintain comfortable temperatures naturally through insulation and proper orientation.

4. **Site Selection and Sustainable Landscaping:** The area of the project is 160 acres (667,730.988 m^2), a general site for educational buildings, and 120 acres are complementary activities. The percentage of green areas and lake is about 52% in addition to 25% streets and lanes.

5. **Water Efficiency and Reduction**

- Water-saving plots are used, which will reduce water consumption by about 30%. The sewage water will be treatedand reused in the irrigation of green areas in the project.
- Rainwater is collected in the main lake and used for irrigation.
- The use of plants with few water rationed plants to reduce irrigation needs in addition to absorbing quantities ofrainwater to reduce the severity of rain spells.
- Air conditioning water collection and reuse unit in Faculty of Engineering.
- Wastewater treatment unit at the Faculty of Engineering.
- Reusing wastewater from sinks, showers, and laundry for irrigation or flushing toilets.
- Using drip irrigation and other systems that minimize water use.

6. **Sustainable Transportation:** Proximity to Public Transport: Locating buildings near public transit hubs to reduce theneed for private vehicle use.

Smart Building in Alexandria University

No.	Name	Place	automation		safety				energy		water		Indoor environment				lighting				Building Area (m^2)
			B1	B2	S1	S2	S3	S4	E1	E2	A1	A2	I1	I2	I3	I4	L1	L2	L3	L4	
1	University Alexandria; Abis Campus, Buildings 1-11	Alexandria, Egypt			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	667,730.988
2	University administration building	Alexandria, Egypt		x		x	x		x	x	x	x	x	x	x	x	x	x	x	x	1940
3	Faculty of Physical Education for Boys	Alexandria, Egypt		x		x	x		x	x	x	x	x	x		x	x	x	x	x	113311.93
4	Faculty of Physical Education for Girls	Alexandria, Egypt		x		x	x		x	x	x	x	x	x		x	x	x	x	x	2891
5	The medical complex	Alexandria, Egypt		x		x	x		x	x	x	x	x	x		x	x	x	x	x	91216
6	Faculty of Science in Horia Street	Alexandria, Egypt		x		x	x		x	x	x	x	x	x		x	x	x	x	x	22197
7	Faculty of Science in Moharram Bek	Alexandria, Egypt		x		x	x		x	x	x	x	x	x		x	x	x	x	x	5485
8	Faculty of Engineering	Alexandria, Egypt		x		x	x		x	x	x	x	x	x		x	x	x	x	x	111034
9	Campus of Humanities and Social Sciences	Alexandria, Egypt		x		x	x		x	x	x	x	x	x		x	x	x	x	x	80707

10	Faculty of fine Arts	Alexandria, Egypt		x		x	x		x	x	x	x	x	x		x	x	x	x	x	2569
11	Faculty of Specific Education	Alexandria, Egypt		x		x	x		x	x	x	x	x	x		x	x	x	x	x	1194
12	Faculty of Early Childhood Education	Alexandria, Egypt		x		x	x		x	x	x	x	x	x		x	x	x	x	x	1407
13	Medical Research Institute (Horia Street - Smouha)	Alexandria, Egypt		x		x	x		x	x	x	x	x	x		x	x	x	x	x	2500

14	Higher Institute of Public Profession	Alexandria, Egypt		x		x	x		x	x	x	x	x	x		x	x	x	x	x	700
15	University land in Smouha (College of Nursing - Children's Hospital - Faculty members residences)	Alexandria, Egypt		x		x	x		x	x	x	x	x	x		x	x	x	x	x	105218.22
16	Land of Mouwasat Hospital	Alexandria, Egypt		x		x	x		x	x	x	x	x	x		x	x	x	x	x	20234.27
17	Institute of Graduate Studies and Research	Alexandria, Egypt		x		x	x		x	x	x	x	x	x		x	x	x	x	x	2764
18	Faculty of Agriculture Saba Pasha	Alexandria, Egypt		x		x	x		x	x	x	x	x	x		x	x	x	x	x	144200.934
	Total																				1,377,300.34

Applying green building concepts in the Faculty of Engineering.

The buildings of the Faculty of Engineering - Alexandria University were chosen to be the nucleus from which to implement green building concepts regarding the general vision for applying environmentally friendly green building requirements to the Faculty of Engineering buildings (Report is attached in evidence file 2.3).

In the report, the faculty buildings were studied, and the summary of the report was as follows:

1. Mechanical Engineering Building: Complies with green building requirements (LEED) with the silver category.
2. Preparatory building: conforms to green building requirements (LEED) with the silver category.
3. Administration building: It does not currently comply with green building requirements (LEED), but it is possible withsimple modifications to adopt it.
4. Electrical Engineering Building: It does not currently comply with green building requirements (LEED), but it is possibleto adopt it with simple modifications.

After evaluating the Faculty of Engineering buildings, the elements of Green Building Implementation was considered in all building's maintenance activity and in the construction of new buildings.

The European Union project to convert several buildings of Alexandria University into green buildings by reducing energy consumption in addition to establishing solar-powered power stations

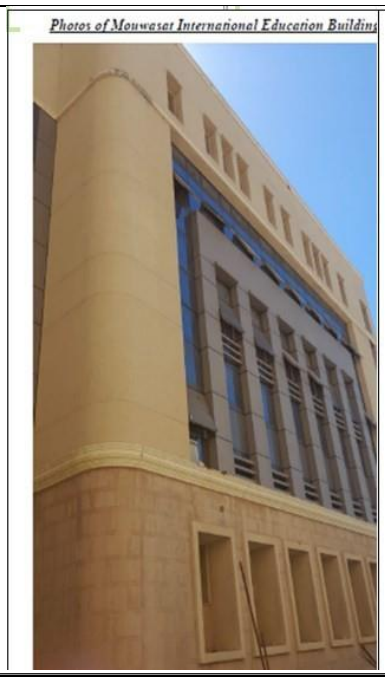
- In light of the keenness to rationalize energy consumption in university buildings and the general trend to increase the percentage of reliance on new and renewable sources in electricity production, and in cooperation with the European Union, the European Union funding was accepted for a project to transform some buildings of Alexandria University into green buildings by reducing energy consumption in addition to constructing Electrical power stations powered by

solar energy on the roofs of some qualified faculty and institute buildings suitable for this purpose.

- Accordingly, three buildings belonging to the university's faculties were chosen as a first stage to study the feasibility of applying the project to them in terms of the building's ability to bear the weight of solar stations to produce electricity, as well as studying the spaces available for building these stations and the extent of those spaces' exposure to solar radiation throughout the day. The opportunities available to reduce reliance on usual energy sources were also studied in terms of using more efficient lighting, increasing reliance on natural lighting during the day, and reducing the building's air conditioning loads.
- After research and review, the specialized scientific programs will be developed in the Faculty of Engineering, the Faculty of Education building within the Literary faculties Complex, and the Manchester Building in the Faculty of Medicine, which were chosen due to the recent construction of these buildings and their ability to accommodate the proposed development in terms of the electrical load network and the development of air conditioning systems and water heating systems used in laboratories and bathrooms.
- These buildings were visited and their suitability for the project was evaluated. The current electricity consumption and the possibility of covering these loads with electricity generated from solar energy were studied. The roof areas facing south and suitable for establishing solar stations were inspected and raised. The available roof area in the Specialized Scientific Programs Building at the Faculty of Engineering, Alexandria University, was 2,400 square meters. It can be used to create a solar station with an area of 1,000 square meters with a capacity of **120 kilowatts**, so that the station will be able to generate **360 megawatt hours** of electricity annually. As for the Faculty of Education building, the total area of the building was 4,000 square meters, and the appropriate spaces for building the station accommodate 1,000 square meters of solar cells with a capacity of **120 kilowatts**, so that the station is capable of generating **360 megawatt hours** of electricity annually, and for the Manchester building at the Faculty of Medicine, 1,200 square meters is capable of accommodating a solar power station with an area of 800 square meters. With a capacity of **96 kilowatts**, the station is capable of generating **288 megawatt hours** of electricity annually. These stations also contribute to reducing carbon dioxide emissions by a total of approximately 214 tons annually. The total expected cost of the project is about 300,000 euros.
- The time to recover the capital was estimated through providing the electricity consumed in the three buildings for approximately seven years from the date the stations entered service at full capacity, considering the periodic maintenance necessary to continue the station's operation with the greatest possible efficiency. Detailed reports were also prepared for each building and submitted to the general coordinator of the project, for review and to take the necessary steps to start this vital project, which is an important step in strengthening the efforts of the Egyptian state towards switching to renewable energy and reducing dependence on fossil fuels that have a negative impact on the environment.

New European Union Project for Renewable energy production (Solar panels)

No	Location	Production (in kWh)
1	Faculty of Engineering	360,000
2	Faculty of Education	360,000
3	Faculty of Medicine	288,000
	Total	1,008,000



The European Union project to convert several buildings of Alexandria University into green buildings by reducing energy consumption in addition to establishing solar-powered power stations: the Specialized Scientific Programs Building at the Faculty of Engineering, the Faculty of Education Building within the Literary Colleges Complex, and the Manchester Building at the Faculty of Medicine.

7.2.2 University plans to upgrade existing buildings to higher energy efficiency

Alexandria University is upgrading existing buildings through an integrated energy efficiency strategy that enhances solar energy conversion, optimizes battery and energy storage systems, and improves overall performance under varying temperature and operating conditions. Using advanced models, simulation, and analysis, the university evaluates loads, current, and electric potential to reduce carbon dioxide emissions and increase system stability. The plan applies innovative materials, thin films, solar cells, and wind power technologies, combined with smart control systems to ensure efficient energy utilization and long-term sustainable development. This approach supports the modernization of campus infrastructure through improved structure, process optimization, and enhanced renewable energy integration.

Alexandria University has achieved a continuous and substantial reduction in its institutional carbon footprint. Decreasing emissions is a result of systematic decarbonization strategies, including energy efficiency upgrades in campus infrastructure, increased and procurement of renewable electricity. The consistent downward trajectory aligns with the emission reduction pathways recommended by the Intergovernmental Panel on Climate Change for limiting global warming to 1.5 °C. It supports Egypt's updated Nationally Determined Contributions under the Paris Agreement. By embedding these measures into core operational planning, the university demonstrates a replicable model of science-based climate governance within the higher education sector.

Alexandria University is advancing a dual-track sustainability initiative comprising a rooftop photovoltaic installation and a Fab Lab for circular economy innovation. The solar component, targeting approximately 200 m² of suitable roof space (net usable area: 196 m² after accounting for 3% service access), will deploy a 1.5-ton system generating an estimated 37,700 kWh annually under Alexandria's mean global horizontal irradiance of 5.2 kWh/m²/day, factoring in 20% panel efficiency and a 0.75 performance ratio to account for system losses.

Alexandria University significantly advanced its digital transformation as a core pillar of its sustainability and operational efficiency strategy, by deploying smart digital infrastructure, including IoT-based irrigation systems, building Management Systems (BMS) with real-time energy dashboards, and motion-sensor lighting, digital tools, such as the Green Cycle carpooling app and e-learning platforms for renewable energy courses, as well as centralized digital monitoring for utilities, further reinforced resource efficiency. This comprehensive digitization effort not only supports the university's goal of reducing its carbon footprint but also aligns with Egypt's Vision 2030 and global sustainability commitments by enhancing educational quality, institutional resilience, and environmental stewardship.

Energy Efficient Appliances Usage

- Alexandria University intends to realize further energy savings by paying close attention to energy management. All the faculties and institutes of the university realize their own energy-saving potential by means of LED lighting and the deployment of sustainable technology.

- Motion-Activated Lighting with PIR Sensors
  PIR sensors have been installed in select faculties to enable motion-activated lighting by detecting changes in heat signatures. Gradual implementation of PIR sensors across all faculties and institutes of the university, as a future phase.
- Automated Lighting Systems
  Install lighting systems that automatically adjust based on occupancy or time of day to enhance energy efficiency.

Energy Efficient Appliances Usage: Use of LED lighting and lamps (New Abbes Campus, Alexandria University)

Alexandria University Program to reduce Electricity consumption from Air Conditioners and electric devices such as Computers, printers, photocopiers, surveillance cameras.

1. All newly purchased AC are inverter AC to reduce the electricity consumption
2. The new electric devices such as Computers, printers, photocopiers, and surveillance cameras are energy efficient devices.
3. All electronic devises must be shut down at night, when not used.
4. Passive Infrared (PIR) Sensors were implemented in some Faculties for motion-activated lighting to detect changes in heat signatures when someone or something moves within the sensor's range. These sensors will beimplemented in phases in for all faculties and institutes of the university.
5. Regular Maintenance of all devices.
6. The thermostats of the air conditioner are set at 25°C, and direct sunlight is avoided by using sun protection curtains.

Energy Efficiency

- Integrating solar and wind energy sources into building design reduces reliance on non-renewable resources.
- Installing systems that optimize ventilation with minimal energy consumption.
- Automated lighting systems that respond to occupancy or time of day.
- As for energy, all the buildings have solar energy generation cells to provide part of the building’s needs, which are estimated at about 45%, in addition to using energy-saving lamps (LED).
- The public site lighting poles are powered by solar energy.

7.2.3 Process for carbon management and reducing carbon dioxide emissions

Alexandria University implements an integrated carbon management process focused on reducing carbon dioxide emissions through energy-efficient operations, renewable energy expansion, and sustainable resource use. The University applies advanced monitoring, analysis, and performance evaluation systems to track emissions and improve environmental stability across campus. Through optimized processes, innovative technologies, and compliance with national and international environmental standards, Alexandria University continually enhances its climate action efforts. This comprehensive approach supports long-term sustainable development, aligns with Egypt's Vision 2030, and strengthens the University's leadership in low-carbon transformation.

- Alexandria University has made significant academic and operational progress in sustainability over the past three years (2022–2024), aligning its institutional practices with Egypt's Vision 2030 and the United Nations Sustainable Development Goals (SDGs). The university's comprehensive 3R (Reduce, Reuse, Recycle) waste management framework is underpinned by a formal policy, defined institutional responsibilities, and quantifiable targets, which are monitored through annual reporting.
- In 2024, Alexandria University continued to advance its comprehensive sustainability agenda, focusing on waste minimization, recycling, and environmentally responsible practices across all faculties and campuses. Approximately 231 tons of waste were collected in collaboration with the Nahdet Misr Company, representing an integrated waste management system that includes source separation, recycling, and safe disposal. Organic waste accounted for about 55% (127 tons) of the total waste generated, all of which was recycled into organic compost. This 100% recycling achievement demonstrates the University's commitment to circular economy principles and the conversion of waste into valuable resources. Compared to the previous year 2023, organic waste generation decreased from 129 tons to 127 tons, marking a 1.6% reduction attributed to improved source segregation, stricter food waste management, and enhanced collection efficiency.
- Alexandria University's organic waste management program operates under a structured policy that prioritizes biological treatment and the high-value reuse of materials. Organic waste from cafeterias, gardens, and animal facilities undergoes controlled decomposition through a series of processes, including stirring, purification, fumigation, and filtration, which lasts 45 to 60 days. This process yields approximately 58 tons of nutrient-rich compost annually. The Faculty of Agriculture plays a central role in this process by utilizing agricultural residues to produce organic fertilizers, animal feed, and biochar, while also employing vermicomposting and black soldier fly bioconversion techniques to produce sustainable protein sources. The fertilizers produced are categorized as 14 mm fine organic compost for vegetables, 25 mm compost for trees, and 40 mm compost for newly planted areas, all of which are suitable for use in desert lands, thereby contributing to soil fertility and sustainable agriculture.
- Inorganic waste constitutes 45% of the total waste (104.5 tons), with 70% of it being recycled and 30% transferred to the Alexandria Governorate Hazardous Waste Management Facility (NASERIA) for final disposal. The University generated 109 tons of paper waste in 2024, which was collected under contract with El Amireia Printing Company and Matabea Moharram for processing at licensed recycling facilities. Overall, the University successfully managed 340.5 tons of non-toxic waste, comprising 127 tons of organic and 213.5 tons of inorganic materials. These efforts led to a 4.3% year-over-year reduction in inorganic waste, aligning with Alexandria University's broader waste reduction and carbon mitigation targets. Poor waste management is recognized as a significant environmental threat, and the University's approach, combining segregation, recycling, and

responsible disposal, aims to minimize pollution, reduce landfill dependency, and prevent contamination of air, water, and soil.

- The University also achieved significant progress in hazardous waste management. Toxic waste was reduced from 3.09 tons to 2.75 tons, representing an 11% annual decrease in volume. This improvement stems from strengthened oversight, safer handling practices, and strict compliance with Egyptian laws, specifically Law No. 6 of 2009 and Law No. 9 of 1982, on environmental protection. Hazardous and biomedical wastes are managed through a specialized contract with NASERIA, ensuring that all medical, biological, and chemical hazards are treated and disposed of safely. The Infection Control Unit at the Faculty of Medicine developed an innovative initiative to reuse empty jerry cans as safety boxes for disposing of sharp medical instruments, promoting sustainable reuse while ensuring safety and infection control. These efforts integrate waste recycling, infection prevention, and environmental stewardship, establishing Alexandria University as a national model in sustainable waste management.
- Recycling programs across faculties further contribute to resource efficiency and innovation. The University's central directive mandates the transfer of recyclable materials including metals, wood, electronic equipment, and laboratory instruments to the Abis Agricultural Research and Experiments Station for sorting and reuse. This centralized recycling initiative transforms solid waste into a valuable resource, reduces production and energy costs, and minimizes the environmental burden of virgin material extraction. Faculties such as Science have implemented practical recycling systems for tree waste, producing approximately five tons of organic compost valued at 250,000 EGP. These initiatives collectively enhance biodiversity, soil fertility, and sustainable resource use on campus.
- The Faculty of Science also leads in environmental innovation and safety. It manages chemical use and disposal through the Occupational Safety and Health Unit, which ensures proper classification, labeling, storage, and disposal of laboratory chemicals. Every faculty maintains a Temporary Hazardous Waste Storage (THWS) facility equipped with ventilation, secondary containment, and spill response tools. Trained technicians oversee the segregation, packaging, and documentation of hazardous materials in accordance with national regulations. Regular training sessions and awareness seminars are conducted for laboratory staff and students to promote a culture of safety and sustainability.
- Alexandria University's commitment to reducing paper and plastic use has been reinforced through the adoption of digital transformation initiatives. These include an electronic archiving system, e-exams, e-signatures, and digital communication protocols, significantly reducing paper consumption and associated emissions. Administrative decrees mandate the exclusive use of email for official correspondence, printing only when necessary, and using recycled paper for double-sided copies. Smart printing has been implemented across departments to minimize resource waste. The University aims to maintain a ratio of one shared printer for every 25 staff members to discourage excessive printing and foster sustainable office practices.
- Innovation and student engagement are central to Alexandria University's sustainability vision. Students have launched projects focused on converting used cooking oil into eco-friendly plasticizers, developing microbial systems for PET degradation, and creating art installations from recycled materials. The EFFCT team from Alexandria University earned second place in the prestigious Hult Prize International Competition in Paris in 2023 for their project on recycling textile industry waste, showcasing the University's leadership in social innovation and environmental entrepreneurship. Additionally, students from the Faculty of Sport Education in Abu Qir collaborated with the Ministry of Environment in a large-scale coastal cleanup of Alexandria's Eastern Harbour, reflecting the University's active role in community-based environmental stewardship.
- For more than fifteen years, the Faculty of Science has demonstrated a strong commitment to environmental sustainability through continuous efforts to trim infected palm trees, maintain the surrounding landscape, and

remove trees that pose potential risks to pedestrians. As part of its sustainability initiatives, the Faculty ensures that waste generated from palm tree pruning is recycled rather than discarded. Using the Palm Fronds and Plant Residues Shredding Machine, the Faculty processes palm fronds and other agricultural residues into reusable products such as animal feed and organic fertilizers. In addition, the Faculty has produced five tons of organic compost from tree waste collected in the botanical garden, with an estimated value of approximately 250,000 EGP. This initiative not only reduces waste but also enhances the sustainable use of natural resources and supports environmental conservation across the campus.

Recycling Program for University Waste (Alexandria University, Egypt)

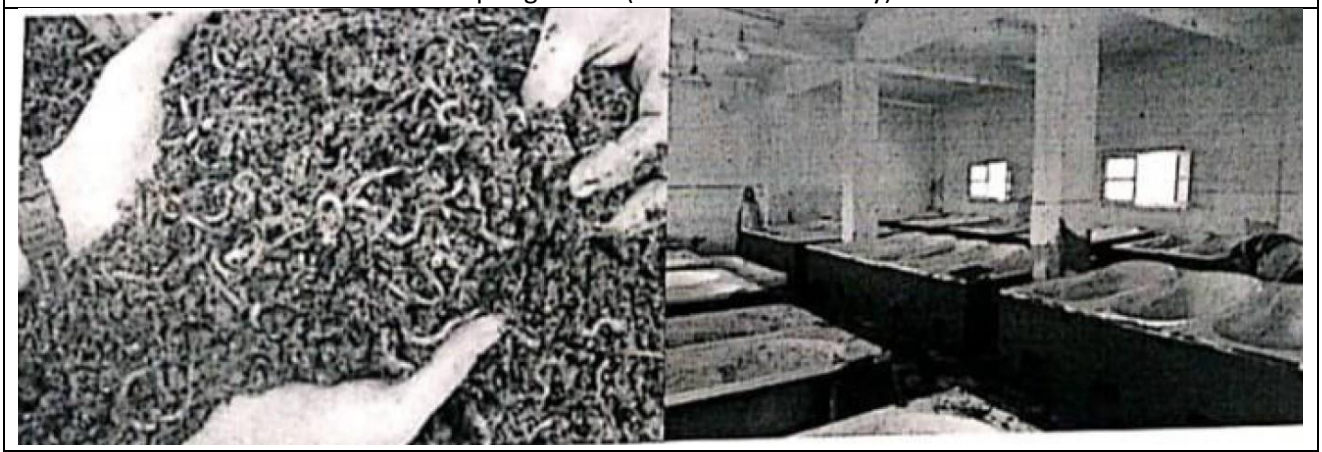
Program for separation of Paper (blue), Plastic (yellow), aluminum cans and glass (green) and organic waste (red) in Campus (Alexandria University, Egypt)

Separating waste into special containers for plastic, paper, glass and metal waste. Donation provided by the Rotary Club of Newaira (for condolences and to the College of Medicine and the Hospital).

Program for separation of Plastic (blue), Paper (green), Aluminum Cans (red) and General (black) in the Faculty of Pharmacy (Alexandria University, Egypt)

Recycling of plastic waste at the Faculty of Science (Alexandria University, Egypt)

Leaves and organic waste were treated for the vermi-compost to produce organic fertilizers to use in the Campus gardens (Alexandria University).



The Faculty of Agriculture recycles 100% of its organic waste (Alexandria University).

Waste reception hall in Nahdet Misr company for waste collection in Alexandria

Manual sorting hall in Nahdet Misr company for waste collection in Alexandria

Organic matter separation unit in Nahdet Misr company for wastes collection in Alexandria

Mixed plastic collected by Nahdet Misr company for wastes collection in Alexandria	Cans waste collected by Nahdet Misr company for wastes collection in Alexandria
	
Paper and carton baler in Nahdet Misr company for wastes collection in Alexandria	Cans press in Nahdet Misr company for wastes collection in Alexandria
	
Recycling Program for both materials and equipment with metals and derivatives (Alexandria University, Egypt)	

The biohazards and medical hazards, and toxic chemical compounds are handled by Alexandria Governorate Hazardous Waste Management (NASERIA), Alexandria University, Egypt

The water sewage of the Aquaculture of the Faculty of Agriculture (Alexandria University, Egypt) The irrigated water supplied to the fish farm at the Agriculture Experimental Research Station of the Faculty of Agriculture is recycled to irrigate the crops, vegetables, and fruits of the land farm.

Wastewater treatment unit at Faculty of Engineering

Grey water recycling system organized by Faculty of Pharmacy (Alexandria University, Egypt), and reused in rooftop cultivation.

Sustainable Management and Recycling of Palm Tree Waste at the Faculty of Science

- Under the Water Conservation Program, Alexandria University has implemented a wide range of high-efficiency fixtures, including sensor-activated faucets, low-flow toilets, and bidets, resulting in an estimated 50% reduction in potable water consumption across its faculties. A proactive leak detection and preventive maintenance program helps minimize losses associated with aging infrastructure. To further reduce demand, the University utilizes innovative irrigation technologies such as drip systems and soil moisture sensors across its landscaped areas, complemented by the introduction of drought-tolerant plant species. Comprehensive awareness campaigns, organized in collaboration with the *Alexandria Drinking Water Company* and the *Holding Company for Water and Wastewater*, engage students, faculty, and staff in adopting sustainable water-use practices.
- The *Water Recycling Program (*demonstrates significant progress in non-potable water reuse and resource recovery. Treated sewage effluent (TSE) from the *Campus*, totaling approximately 1.12 million m^3 annually, is utilized for landscape irrigation. At the *Faculty of Pharmacy*, a greywater pilot system treats hand-wash wastewater for toilet flushing, while air-conditioning condensate recovery systems in select buildings supply irrigation and flushing operations. Rainwater is harvested into a central retention lake, providing an additional source for green-area irrigation. The *Faculty of Agriculture's* aquaculture facility recycles nutrient-rich effluent from its eight-pond fish farm to irrigate adjacent crops, enhancing soil fertility and yield. The University also operates a 100 m^3/day solar-powered desalination unit at *Wadi El-Natroun*. It has developed an innovative renewable energy–driven multi-stage flash desalination system (RE-NF-MSF) with nanofiltration pre-treatment, demonstrating leadership in sustainable water technologies.
- Implementation of *Water-Efficient Appliances* has expanded substantially, with 80.1% of all fixtures on

campus now classified as water-saving devices. These include 90.97% of bathroom faucets, 50.48% of toilets, and 57.69% of urinals that have been retrofitted with flow-control mechanisms. The University enforces institutional policies mandating water-efficient design standards in all new buildings and major renovations. The *Abis Campus* exemplifies these efforts, with green infrastructure now covering 52% of its total site area, integrating sustainability principles into the built environment.

- In relation to *Treated Water Consumption*, Alexandria University channels the entirety of its wastewater 1,116,625.26 m^3 annually, through the *Alexandria Sanitation Company* for secondary and tertiary treatment. A substantial portion of this treated water supports Egypt's *New Delta* agricultural reclamation project, thereby contributing to the country's national food security objectives. Treated water is reused for irrigation, aquaculture, and experimental research, establishing a closed-loop water management model that exemplifies the University's commitment to sustainable resource utilization.
- Recent initiatives of the Center of Excellence for Water include student training in wastewater treatment operations, entrepreneurship bootcamps on water innovation, and workshops on EU-funded research opportunities. These activities have positioned Alexandria University as a national and regional leader in sustainable water governance, demonstrating how academic excellence, technological advancement, and environmental responsibility can be effectively integrated to address Egypt's water and climate challenges.


Adopting a mechanism to maintain water pipes to prevent waste resulting from leaks (Alexandria University, Egypt)



Supplying water taps with water conservation units (Alexandria University, Egypt)


Supplying water taps with water conservation units (Alexandria University, Egypt)


Air conditioning water collection and reuse unit - Faculty of Engineering

Wastewater treatment unit at the Faculty of Engineering

The sewage water will be treated and reused in the irrigation of green areas in the project (Alexandria University)

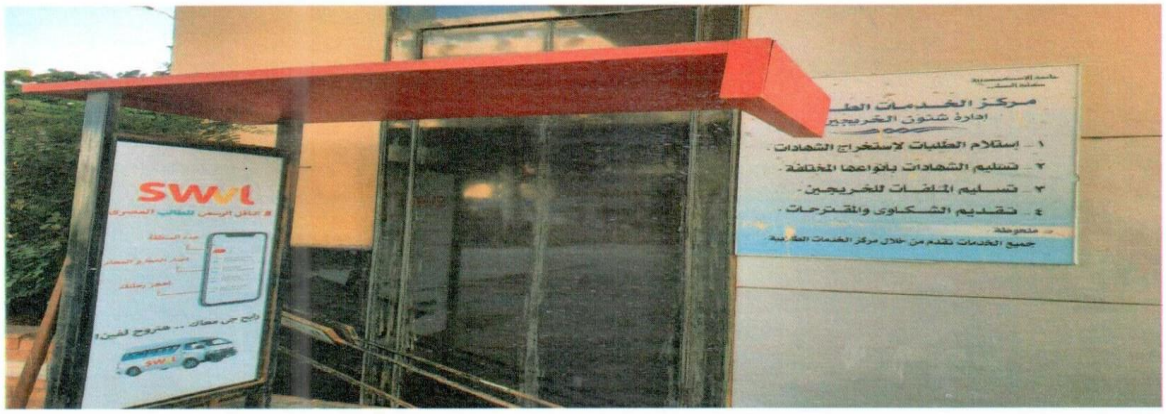
Innovative Renewable Energy RE-Multi-stage flash system (MSF) with salt precipitator and nanofiltration (NF-MSF) to pre-treat feedwater (RE-NF-MSF). Faculty of Agriculture, Alexandria University

A 100 m^3 desalination unit in Wadi Natroun (Faculty of Agriculture, Alexandria University)

- Alexandria University has established a comprehensive and integrated sustainable transportation system that aligns with *Egypt's Vision 2030* and the *United Nations Sustainable Development Goals (SDGs)*. Central to this strategy is a strong institutional commitment to reducing private vehicle dependency, minimizing the parking footprint, and promoting zero- and low-emission mobility across all campuses. The University operates a fleet of 35 modern shuttle buses, each with a capacity of 51 passengers, running twice daily on fixed routes to serve faculty, staff, and students. This system has significantly reduced on-campus traffic congestion and carbon emissions. Complementary partnerships with private transport providers and public minibuses further enhance accessibility, particularly for students commuting from distant areas such as Borg El Arab, where a dedicated evening shuttle departs daily at 8:30 PM from the Faculty of Commerce.
- To actively discourage private car use, Alexandria University enforces a strict policy minimizing parking. Since 2022, no new surface parking has been permitted within academic zones, and the total parking capacity across all campuses is capped at 1.425% of the total land area below the 1.5% sustainability benchmark. Student park their cars outside the University Campus, while surplus or underutilized parking areas are systematically repurposed into green spaces, pedestrian zones, and stormwater management sites. This "land return" strategy enhances biodiversity, improves thermal comfort, and supports the creation of more walkable, human-centered campus environments.
- The University actively promotes active and shared mobility through a range of targeted initiatives. It currently supports 1,960 bicycles, e-bikes, and e-scooters, including a student bicycle program that offers affordable monthly rentals through partnerships with national banks. Designated bicycle parking areas are located throughout the faculties to encourage daily use. Annual events, such as the "Running for Green" marathon and the "Our Health is in Our Planet" awareness run, as well as university-wide cycling festivals, promote physical activity and foster climate awareness among students and staff. The award-winning *"Green Cycle"* carpooling application, developed by the Faculty of Pharmacy, facilitates safe ride-sharing for staff and students and has received regional recognition for two consecutive years in green innovation competitions.

- In preparation for the transition to electric mobility, Alexandria University is piloting the installation of four electric vehicle (EV) charging stations in staff parking areas. It has adopted a procurement policy that prioritizes hybrid and electric light-duty vehicles. The existing fleet already includes buses powered by Compressed Natural Gas (CNG), which provide immediate reductions in greenhouse gas emissions and operational costs. Complementing these initiatives is a formal Pedestrian Path Policy, which ensures that all walkways across campus are safe, shaded, well-lit, and fully accessible, with ramps and smooth surfaces designed to accommodate individuals with disabilities.


Shuttle Services (Alexandria University)



Alexandria University Shuttle Service Station

Alexandria University Shuttle bus parking outside the Campus

Rabbit Mobility operates in Alexandria; they offer “Day Rentals” that deliver an e-scooter or and e-bikes to all districts in the city their application.

The Faculty of Commerce at Alexandria University has introduced a new public transport bus service to support students living outside the city. The service will provide direct transportation from the university campus to the Borg El Arab area, aiming to reduce travel time and ease the burden of commuting to student housing, particularly during late hours. With lectures concluding as late as 8:30 PM.

Carpooling application for smartphones - Green Cycle project in the Faculty of Pharmacy (Alexandria University, Egypt)

Support and encourage student participation in awareness initiatives that urge them to use environmentally friendly transportation on campus.

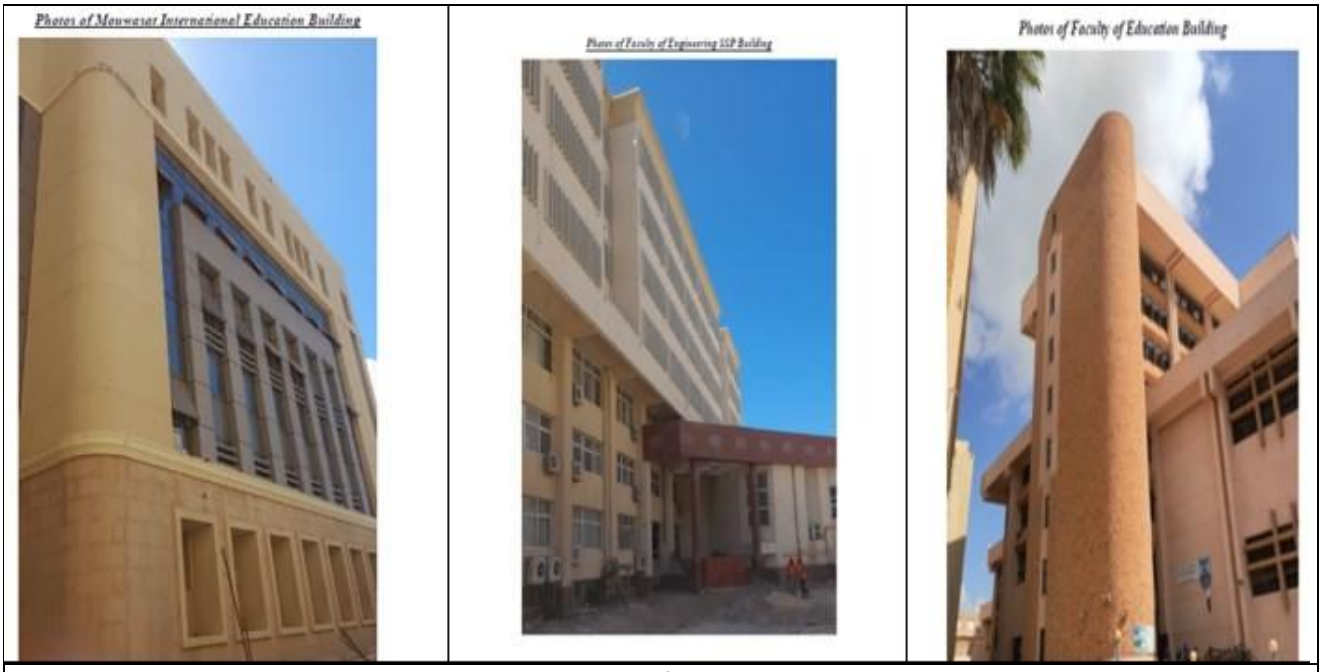
- Green-building measures are implemented across the campus. LED lighting with occupancy/daylight controls is installed; BMS-based scheduling and monitoring-based commissioning with sub-metering are applied; VFDs are fitted on major fans and pumps and AHU motors are upgraded; exterior lighting curfews with photocells are applied; rooftop/carport solar PV is deployed; heat-island reduction is addressed with cool roofs, shade trees, light/permeable paving, and PV canopies; rainwater harvesting and AC-condensate recovery are used for irrigation and flushing; smart irrigation and drip systems with drought-tolerant planting are in place; water-efficient fittings, leak detection, and water sub-metering are implemented; low-emitting, EPD/recycled-content materials are specified under a sustainable purchasing policy, and sustainably sourced timber is required; waste segregation for paper/card, plastics/metals, glass, e-waste, and organics is provided; ventilation and IAQ controls (CO_2 monitoring, filtration, ETS control, IAQ testing) are implemented; daylighting and glare control and acoustic comfort measures are provided; integrated pest and landscape management with erosion control is practiced; refrigerants with zero ODP and low GWP are specified with leak detection and recovery; safety programs and Building User Manuals are maintained; monthly KPIs (BEI, kWh saved, IAQ, faults closed) are reported; and innovation pilots (analytics/FDD, circular labs, low-carbon materials) are underway, while heat-recovery solutions for hot water/reheat are planned.

LED Lighting

Green building implementation through the use of sun breakers in the SSP building at the Faculty of Engineering

The European Union project to convert several buildings of Alexandria University into green buildings by reducing energyconsumption in addition to establishing solar-powered powerstations in 2023-2024

- After research and review, the specialized scientific programs will be developed in the Faculty of Engineering, the Faculty of Education building within the Literary faculties Complex, and the Manchester Building in the Faculty of Medicine, which were chosen due to the recent construction of these buildings and their ability to accommodate the proposed development in terms of the electrical load network and the development of air conditioning systems and water heating systems used in laboratories and bathrooms.
- These buildings were visited and their suitability for the project was evaluated. The current electricity consumption and the possibility of covering these loads with electricity generated from solar energy were studied. The roof areas facing south and suitable for establishing solar stations were inspected and raised. The available roof area in the Specialized Scientific Programs Building at the Faculty of Engineering, Alexandria University, was 2,400 square meters. It can be used to create a solar station with an area of 1,000 square meters with a capacity of **120 kilowatts**, so that the station will be able to generate **360 megawatt hours** of electricity annually. As for the Faculty of Education building, the total area of the building was 4,000 square meters, and the appropriate spaces for building the station accommodate 1,000 square meters of solar cells with a capacity of **120 kilowatts**, so that the station is capable of generating **360 megawatt hours** of electricity annually, and for the Manchester building at the Faculty of Medicine, 1,200 square meters is capable of accommodating a solar power station with an area of 800 square meters. With a capacity of **96 kilowatts**, the station is capable of generating **288 megawatt hours** of electricity annually. These stations also contribute to reducing carbon dioxide emissions by a total of approximately 214 tons annually. The total expected cost of the project is about 300,000 euros.
- **Alexandria University** has the lead and leadership in establishing the environmental sector and community service, and it has an effective role in preserving the environment in Alexandria and the neighboring governorates. The university, with its various colleges and institutes, is committed to implementing Law No. 4 of 1994 and its regulations. The university has environmental records for most colleges and institutes, and it also conducts environmental impact assessment studies for all its projects by consultants accredited by the Ministry of Environment.



The European Union project to convert several buildings of Alexandria University into green buildings by reducing energy consumption in addition to establishing solar-powered power stations: the Specialized Scientific Programs Building at the Faculty of Engineering, the Faculty of Education Building within the Literary Colleges Complex, and the Manchester Building at the Faculty of Medicine.

- The university is also environmentally friendly and disposes of waste in a safe manner, as it has contracts with transportation companies for hazardous, medical, non-hazardous, solid and liquid waste.
- The university also monitors greenhouse gases and suspended and inhaled solid particles. It is committed to preserving the environment from emissions that may lead to environmental pollution and then climate change. The monitoring is carried out by faculty members who hold consultant certificates for self-monitoring of facilities, as well as environmental measurements in laboratories accredited by the Environmental Affairs Agency.
- In 2024, Alexandria University significantly advanced its sustainability and climate action agenda, building on prior initiatives but achieving measurable progress in energy efficiency, renewable energy deployment, green infrastructure, and carbon reduction. The university reported a total electricity consumption of 4,228,995.91 kWh, representing a 6.42% decrease from 2023 to 2024, and a significant 70% reduction in natural gas usage, reflecting the successful implementation of energy-saving retrofits and transitions to cleaner energy systems. Renewable energy production reached 1,213,291.2 kWh/year, accounting for 28.69% of total electricity use, driven by the expansion of solar installations and hybrid systems across faculties.
- Alexandria University is advancing a dual-track sustainability initiative comprising a rooftop photovoltaic installation and a Fab Lab for circular economy innovation. The solar component, targeting approximately 200 m^2 of suitable roof space (net usable area: 196 m^2 after accounting for 3% service access), will deploy a 1.5-ton system generating an estimated 37,700 kWh annually under Alexandria's mean global horizontal irradiance of 5.2 kWh/m^2/day, factoring in 20% panel efficiency and a 0.75 performance ratio to account for system losses. Concurrently, the university hosts a trans-Mediterranean Fab Lab project, co-developed with Horizons Solidarités and the University of Corsica, to establish a low-tech innovation hub focused on the valorization of plastic waste. This initiative aligns with Egypt's COP27 legacy and the regional "Zero Plastic Waste" strategy endorsed by the IUCN Med. This initiative integrates environmental, educational, and socio-economic

dimensions through cross-sectoral collaboration involving Alexandria Governorate, the Alexandria Business Association (ABA), and Francophone academic partners, aiming to foster inclusive innovation, skill development, and scalable circular business models while embedding long-term monitoring frameworks to evaluate technical, financial, and social impact metrics.


Solar photovoltaic

- In the 2024, Alexandria University significantly advanced its digital transformation as a core pillar of its sustainability and operational efficiency strategy, transitioning toward a near-paperless campus through electronic archiving, digital communication, and e-administration, resulting in a 48.6% reduction in paper consumption since the 2020/21 academic year. The university implemented electronic exam halls across multiple faculties, established virtual labs offering 36 physics, 58 biology, and 92 chemistry remote experiments, and deployed smart digital infrastructure, including IoT-based irrigation systems, Building Management Systems (BMS) with real-time energy dashboards, and motion-sensor lighting. Digital tools, such as the Green Cycle carpooling app and e-learning platforms for renewable energy courses, as well as centralized digital monitoring for utilities, further reinforced resource efficiency. This comprehensive digitization effort not only supports the university's goal of reducing its carbon footprint but also aligns with Egypt's Vision 2030 and global sustainability commitments by enhancing educational quality, institutional resilience, and environmental stewardship.

7.2.4 An energy efficiency plan to reduce overall energy consumption

Alexandria University implements an integrated energy efficiency plan focused on reducing overall energy consumption through optimized systems, renewable solar and wind integration, and smart control and monitoring technologies. The University applies advanced analysis, performance evaluation, and energy conservation methods to enhance building efficiency, improve energy utilization, and lower carbon emissions. By expanding photovoltaic systems, deploying efficient equipment, and upgrading infrastructure through data-driven optimization, Alexandria University strengthens its transition toward renewable energy, sustainable development, and long-term environmental stability.

Alexandria University significantly advanced its sustainability and climate action agenda, building on prior initiatives but achieving measurable progress in energy efficiency, renewable energy deployment, green infrastructure, and carbon reduction. The university reported a total electricity consumption of 4,228,995.91 kWh, representing a 6.42% decrease from 2023 to 2024 reflecting the successful implementation of energy-saving retrofits and transitions to cleaner energy systems. Renewable energy production reached 1,213,291.2 kWh/year, accounting for 28.69% of total electricity use, driven by the expansion of solar installations and hybrid systems across faculties.

Alexandria University is advancing a dual-track sustainability initiative comprising a rooftop photovoltaic installation and a Fab Lab for circular economy innovation. The solar component, targeting approximately 200 m² of suitable roof space (net usable area: 196 m² after accounting for 3% service access), will deploy a 1.5-ton system generating an estimated 37,700 kWh annually under Alexandria's mean global horizontal irradiance of 5.2 kWh/m²/day, factoring in 20% panel efficiency and a 0.75 performance ratio to account for system losses.

Energy Efficient Appliances Usage

Alexandria University intends to realize further energy savings by paying close attention to energy management. All the faculties and institutes of the university realize their own energy-saving potential by means of LED lighting and the deployment of sustainable technology.

- Within the framework of the University's keenness to transform into a green, environmentally friendly university that works to enhance its resources and rationalize energy consumption, the Department of Community Service Development has launched a project for the total transformation of the used LED bulbs instead of the fluorescent ones.
- The light-emitting diode (LED) bulbs are more efficient, and energy-saving compared to fluorescent bulbs, with a relatively longer life span.

Energy Efficient Appliances Usage: Use of LED lighting and lamps (New Abbes Campus, Alexandria University)

Alexandria University Program to reduce Electricity consumption from Air Conditioners and electric devices such as Computers, printers, photocopiers, surveillance cameras.

1. All newly purchased AC are inverter AC to reduce the electricity consumption.
2. The new electric devices such as Computers, printers, photocopiers, and surveillance cameras are energy efficient devices.
3. All electronic devises must be shut down at night, when not used.
4. Passive Infrared (PIR) Sensors were implemented in some Faculties for motion-activated lighting to detect changes in heat signatures when someone or something moves within the sensor's range. These sensors will be implemented in phases in for all faculties and institutes of the university.
5. Regular Maintenance of all devices.
6. The thermostats of the air conditioner are set at 25°C, and direct sunlight is avoided by using sun protection curtains.

Advanced Solar Complex Design Project

The implementation of an advanced solar complex design project has been completed. The project aims to synthesize biofuel from agricultural and food industry waste and is located at the research and production farm of the Faculty of Agriculture, Saba Basha, Alexandria University. It is funded by the Science, Technology & Innovation Funding Authority (STDF) and executed through a collaboration between the Faculty of Engineering at Alexandria University and the Desert Research Institute at the City of Scientific Research and Technological Applications (SRTA-City), situated at the tenth village in Abis.

The solar complex area is 300 square meters and comprises a system of reflective mirrors that concentrate solar radiation onto a solar collector. Ambient air is introduced at a controlled velocity and heated from 25°C to approximately 500°C using the concentrated solar energy. The heated air is then directed to a heat exchanger to produce biochar from various types of agricultural waste. Additionally, the hot air is utilized in a solar dryer for dehydrating a wide range of agricultural products, including vegetables, fruits, and fodder.

This solar complex serves as a green hub at the Saba Basha agricultural farm, harnessing clean solar energy

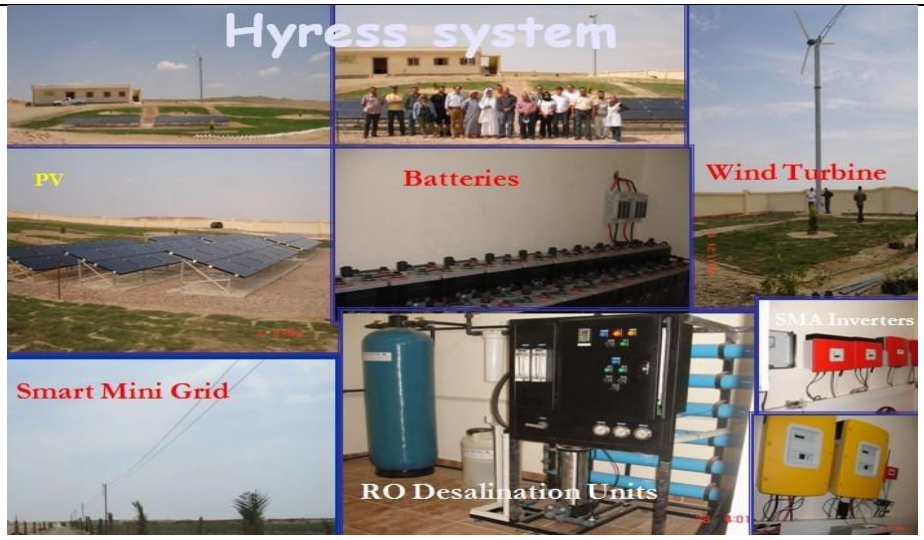
for biofuel production and drying processes without reliance on electrical power. Consequently, it contributes to environmental preservation and the reduction of carbon dioxide emissions. The solar dryer also holds future potential for seawater desalination and clean electricity generation, representing a developmental pathway for optimal utilization of the system.

Renewable Energy Sources in Campus

The Faculty of Agriculture has 2 renewable energy centers and on center at the main building of the University.

1) The renewable Energy Center in Wadi El-Natroon. There are two units from the network:
   - 7 kw hybrid unit for photovoltaic cells and 5 kw for air turbine.
   - 50 kw hybrid unit for photovoltaic cells and 50 kw for air turbines (under maintenance). They are all used in student training and research for graduate students and faculty members.
2) The renewable Energy Center at the Agriculture Research and Experiments Station in Abis Campus.
   - The capacity of the center is 130 kw/h connected to the electricity grid.
3) The renewable Energy Center at the main building of the University.
   - The capacity of the center is 20 kw/h connected to the electricity grid.

Solar Energy Center at the Faculty of Agriculture (Alexandria University)



Solar Energy Center at the Faculty of Agriculture (Alexandria University)

The Faculty of Science:

Research Project: Development and implementation of decentralized solar-energy-related innovative technologies for public buildings, in the Mediterranean Basin.

Environmental Benefits

University administration building

The project of "supplying, installing and operating the photovoltaic solar plant with a capacity of 20.1 kW above the administration building of Alexandria University in Shatby was launched by the Arab Renewable

BIPV façade brise-soleil	120	17.28	26350
BIPV garden pergola	90	8.1	23270
BIPV roof pergola	30	4.1	
	Total Power (kWh)		49,620

BIPV Façade Brise-Soleil System

Solar Energy Project at the Faculty of Science (Alexandria University)

System Application	Number of modules	kWp	(kWh)

Energy Company, on 2/14/2020. The capacity of the station per month is 20.1 kW, while the capacity consumed from the building is 255 kW / month, meaning that the station provides within 8% of the total monthly consumption. Total Solar energy per year =**241.2 KWh**

Higher Institute of Public Profession

The Institute has two initiatives to exploit solar energy at the Institute through two units of photovoltaic cells (50 watts each) that are currently installed and are exploited to provide the electrical energy necessary to operate the Ultra- Filtration unit located in one of the laboratories of the Department of Materials Science for educational purpose.

Moreover, five units of photovoltaic cells (260 watts each) were installed to operate the discussion room at the Institute and to provide it with sufficient energy for lighting purposes and to operate its display device. Total Solar energy per year = **360 KWh**.

The Faculty of Engineering

The implantation of the new Solar Station is completed. The implementation of the solar photovoltaic panels was performed in December 2022 with a capacity of **220** kilowatts on the 2000 m^2 roof top of the building of the Mechanical Engineering Department at the Faculty of Engineering.

Alexandria University have generalized this initiative in some of the faculties of Alexandria University in gradual stages.

Solar photovoltaic with a capacity of 220 kilowatts on the 2000 m^2 roof top of the building of the Mechanical Engineering Department at the Faculty of Engineering

Green building implementation through the use of sun breakers in the SSP building at the Faculty of Engineering

Renewable energy production per year

No	Renewable Energy	Production (in kWh)
1	Solar panel	57,150 + 49,620 + 241.2 + 360 + 220 = 107,591.2
2	Windmill	55,000
	Total	162,591.2

The European Union project to convert several buildings of Alexandria University into green buildings by reducing energy consumption in addition to establishing solar-powered powerstations in 2023-2024

- In light of the keenness to rationalize energy consumption in university buildings and the general trend to increase the percentage of reliance on new and renewable sources in electricity production, and in cooperation with the European Union, the European Union funding was accepted for a project to transform some buildings of Alexandria University into green buildings by reducing energy consumption in addition to constructing Electrical power stations powered by solar energy on the roofs of some qualified faculty and institute buildings suitable for this purpose.
- Accordingly, three buildings belonging to the university's faculties were chosen as a first stage to study the

feasibility of applying the project to them in terms of the building's ability to bear the weight of solar stations to produce electricity, as well as studying the spaces available for building these stations and the extent of those spaces' exposure to solar radiation throughout the day. The opportunities available to reduce reliance on usual energy sources were also studied in terms of using more efficient lighting, increasing reliance on natural lighting during the day, and reducing the building's air conditioning loads.

- After research and review, the specialized scientific programs will be developed in the Faculty of Engineering, the Faculty of Education building within the Literary faculties Complex, and the Manchester Building in the Faculty of Medicine, which were chosen due to the recent construction of these buildings and their ability to accommodate the proposed development in terms of the electrical load network and the development of air conditioning systems and water heating systems used in laboratories and bathrooms.
- These buildings were visited and their suitability for the project was evaluated. The current electricity consumption and the possibility of covering these loads with electricity generated from solar energy were studied. The roof areas facing south and suitable for establishing solar stations were inspected and raised. The available roof area in the Specialized Scientific Programs Building at the Faculty of Engineering, Alexandria University, was 2,400 square meters. It can be used to create a solar station with an area of 1,000 square meters with a capacity of **120 kilowatts**, so that the station will be able to generate **360 megawatt hours** of electricity annually. As for the Faculty of Education building, the total area of the building was 4,000 square meters, and the appropriate spaces for building the station accommodate 1,000 square meters of solar cells with a capacity of **120 kilowatts**, so that the station is capable of generating **360 megawatt hours** of electricity annually, and for the Manchester building at the Faculty of Medicine, 1,200 square meters is capable of accommodating a solar power station with an area of 800 square meters. With a capacity of **96 kilowatts**, the station is capable of generating **288 megawatt hours** of electricity annually. These stations also contribute to reducing carbon dioxide emissions by a total of approximately 214 tons annually. The total expected cost of the project is about 300,000 euros.
- The time to recover the capital was estimated through providing the electricity consumed in the three buildings for approximately seven years from the date the stations entered service at full capacity, considering the periodic maintenance necessary to continue the station's operation with the greatest possible efficiency. Detailed reports were also prepared for each building and submitted to the general coordinator of the project, for review and to take the necessary steps to start this vital project, which is an important step in strengthening the efforts of the Egyptian state towards switching to renewable energy and reducing dependence on fossil fuels that have a negative impact on the environment

New European Union Project for Renewable energy production (Solar panels)

No	Location	Production (in kWh)
1	Faculty of Engineering	360,000
2	Faculty of Education	360,000
3	Faculty of Medicine	288,000
	Total	1,008,000

The total Renewable energy production per year in Alexandria University after the implementation of the European Union project to convert several buildings of AlexandriaUniversity into green buildings

No	Renewable Energy	Production (in kWh)

The European Union project to convert several buildings of Alexandria University into green buildings by reducing energy consumption in addition to establishing solar-powered power stations: the Specialized Scientific Programs Building at the Faculty of Engineering, the Faculty of Education Building within the Literary Colleges Complex, and the Manchester Building at the Faculty of Medicine.

1	**Solar panel**	**57,150 + 49,620 + 241.2 + 360 + 220 = 107,591.2**
2	**Windmill**	**55,000**
3	**New Solar panels in 2023-2024**	**360,000 + 360,000 + 288,000**
	Total	**1,170,591.2**

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

Alexandria University conducts systematic energy reviews to identify areas of highest energy wastage and improve overall efficiency across its faculties and institutes. Through accredited environmental assessments, digital monitoring, and expert-led energy audits, the university evaluates building performance, analyzes energy use, and ensures compliance with national environmental regulations. These reviews support informed decision-making, reduce carbon emissions, and strengthen the university's leadership in sustainable development aligned with Egypt's Vision 2030 and global climate goals.

- Alexandria University has the lead and leadership in establishing the environmental sector and community service, and it has an effective role in preserving the environment in Alexandria and the neighboring governorates. The university, with its various colleges and institutes, is committed to implementing Law No. 4 of 1994 and its regulations. The university has environmental records for most colleges and institutes, and it also conducts environmental impact assessment studies for all its projects by consultants accredited by the Ministry of Environment.
- Alexandria University has made significant academic and operational progress in sustainability over the past three years (2022–2025), aligning its institutional practices with Egypt's Vision 2030 and the United Nations Sustainable Development Goals (SDGs). The university's comprehensive 3R (Reduce, Reuse, Recycle) waste management framework is underpinned by a formal policy, defined institutional responsibilities, and quantifiable targets, which are monitored through annual reporting.
- Green-building measures are implemented across the campus. LED lighting with occupancy/daylight controls is installed; BMS-based scheduling and monitoring-based commissioning with sub-metering are applied; VFDs are fitted on major fans and pumps and AHU motors are upgraded; exterior lighting curfews with photocells are applied; rooftop/carport solar PV is deployed; heat-island reduction is addressed with cool roofs, shade trees, light/permeable paving, and PV canopies; rainwater harvesting and AC-condensate recovery are used for irrigation and flushing; smart irrigation and drip systems with drought-tolerant planting are in place; water-efficient fittings, leak detection, and water sub-metering are implemented; low-emitting, EPD/recycled-content materials are specified under a sustainable purchasing policy, and sustainably sourced timber is required; waste segregation for paper/card, plastics/metals, glass, e-waste, and organics is provided; ventilation and IAQ controls (CO_2 monitoring, filtration, ETS control, IAQ testing) are implemented; daylighting and glare control and acoustic comfort measures are provided; integrated pest and landscape management with erosion control is practiced; refrigerants with zero ODP and low GWP are specified with leak detection and recovery; safety programs and Building User Manuals are maintained; monthly KPIs (BEI, kWh saved, IAQ, faults closed) are reported; and innovation pilots (analytics/FDD, circular labs, low-carbon materials) are underway, while heat-recovery solutions for hot water/reheat are planned.


LED Lighting

Green building implementation through the use of sun breakers in the SSP building at the Faculty of Engineering

- The university also monitors greenhouse gases and suspended and inhaled solid particles. It is committed to preserving the environment from emissions that may lead to environmental pollution and then climate change. The monitoring is carried out by faculty members who hold consultant certificates for self-monitoring of facilities, as well as environmental measurements in laboratories accredited by the Environmental Affairs Agency.
- Alexandria University began its serious efforts to develop processes in preparation for digitalization in 2017, when the Development, Monitoring, and Administrative Reform Committee was established to analyze processes, eliminate waste, and save the university's resources. The committee also reviewed the integration and unification of documents for the various processes at Alexandria University and its faculties.
- Alexandria University has took the first steps to work on reducing carbon emissions as one of the most important sources of greenhouse gases and has implemented a plan to monitor and calculate the “Carbon Footprint since the academic year 2018 / 2019” for all its faculties, institutes and its administrative buildings in order to aid in decision-making.

- **Energy Conservation Advisory Group in Center for Graduate Studies and Research – Institute of Graduate Studies and Research – Alexandria University**

  This group is concerned with reviewing energy in all its forms at all levels, such as measuring and analyzing exhaust gases in furnaces and boilers with the aim of improving combustion efficiency and reducing emissions, measuring and analyzing boiler water, in addition to tests of thermal insulation efficiency, lighting efficiency, electrical energy analysis, and compatibility with electrical loads. It also determines the power factor to increase efficiency. Rationalizing the energy used, reviewing energy use, radiation measurements and safety tests for radioactive sources. The group has a mobile laboratory that can visit sites and make environmental measurements related to energy as well as emissions and study energy consumption and the extent of thermal insulation in industrial sites.

7.2.6 A policy on divesting investments from carbon-intensive energy industries especially coal and oil

Alexandria University is committed to reducing its environmental impact by promoting responsible and sustainable financial practices. The university supports a divestment policy that discourages investments **in** carbon-intensive energy industries, particularly coal and oil, and encourages shifting funds toward renewable energy**,** green technology, and low-carbon innovation**.** This approach aligns with Egypt's Vision 2030, global climate commitments, and the university's long-term strategy for advancing environmental stewardship and sustainable development.

Policy on Energy and water sustainable use

Alexandria university is Committed to pursuing sustainable development within and through the university and to reassessing higher education and its role in the transition to more sustainable societies. This includes building synergies and collaboration in the search for effective and innovative approaches to solving today's as well as future sustainable development challenges.

The university ensures that all renovations and establishment of new buildings are following energy efficiency standards and water conservation strategies.

The university ensures divesting investments and purchases from Carbon-intensive energy industries particularly coal and oil.

The university through its faculties is committed to maximise water reuse across the university buildings and through all services provided in the process of education and research

The objective of this statement is Commitment to offering an open, interactive and collaborative forum for discussion and action, to raise awareness and advocate for changes needed changes in higher education to best serve the goals of sustainable development, (SDGs) as well as building international linkages and cooperation on the basis of core values of academic freedom, institutional autonomy and related local and global responsibilities to society.

Being uncompliant with the commitment to purse sustainable development issue will be regarded as interfering with personal development of the students, and the university administration will act accordingly

Policy created September 2019

Policy reviewed October 2022

Prof. Abdel Aziz Konsowa

University President

A. Konsowa

جامعة الإسكندرية
ALEXANDRIA
UNIVERSITY

Alexandria University Sustainable Investment policy.

A sustainable investment policy refers to the set of guidelines and principles that Alexandria University . The policy aims to align the organization's investment activities with its sustainability goals and values.

Implementing a sustainable investment policy align investments strategies of the university with sustainable development Goals, and promotes responsible investing practices, and contribute to the transition to a more sustainable and resilient economy. It also attracts socially and environmentally conscious investors and stakeholders who value sustainable investment practices.

Important elements include:

1. ESG Integration: The policy should emphasize the integration of ESG factors into the investment decision-making process. This involves considering environmental and social risks and opportunities, as well as governance practices of potential investments. ESG analysis can help identify companies or projects that demonstrate strong sustainability performance.
2. Sustainable objectives: The policy defines the university's sustainability objectives and priorities focusing on on specific ESG themes, such as climate change, renewable energy, social justice, or diversity and inclusion. Such objectives help guide investment strategies and ensure consistency with sustainability goals .
3. Engagement and Stewardship: The policy outlines the organization's commitment to active engagement with investee companies to encourage improved ESG practices. This includes voting on shareholder resolutions, engaging in dialogues, and exercising influence to promote positive change. Stewardship activities help drive sustainable behavior and align investee companies with sustainability goals.
4. Ongoing review and monitoring: The policy includes procedures for ongoing monitoring and review of investments to ensure they continue to meet sustainability criteria. Regular assessments of portfolio performance, ESG risks, and evolving sustainability trends help maintain alignment with the university's strategic objectives
5. Positive Impact investments: The policy ensures commitment to investing in projects that generate positive environmental and social impacts. This could include investing in renewable energy projects in new buildings of the universities and in the upgrade process taking place, , clean technologies in the use of energy and water, sustainable infrastructure with green areas .
6. Reporting and transparency: The policy encourages collaboration with the industry sector, and stakeholders to advance sustainable investment practices. This involves

sharing best practices, participating in initiatives, and supporting industry-wide efforts to promote sustainability.

Adopting this sustainable investment policy, the university contributes to positive social and environmental outcomes while generating financial returns. It demonstrates a commitment to responsible investing and can attract stakeholders who value sustainability.

Following this strategy, the university has established several investment projects e.g. technology park for incubation and acceleration, Alexandria National university, International university with two branches in Chad and south Sudan, as well as International Branch Campuses (IBC).

University president Endorsement

Prof. Abdel Aziz Konsowa

جامعة الإسكندرية
ALEXANDRIA
UNIVERSITY

Alexandria University Sustainable Procurement/purchasing policy.

A sustainable procurement or purchasing policy refers to the set of guidelines and principles that Alexandria University follows when procuring goods, services, or works in a sustainable and socially responsible manner. It aims to minimize the negative environmental, social, and economic impacts associated with the procurement process and promote sustainable practices throughout the supply chain.

Implementing a sustainable procurement and purchasing policy brings several benefits including reduced environmental impact, enhanced reputation, cost savings through efficiency improvements, and increased social responsibility. The element of the policy are used as guidelines that the university follows when making decisions with a focus on environmental, social and governance (ESG) factors and ensure consistency with sustainability goals.

Below is the set of key elements included in the policy:

1. Environmental Considerations: prioritization of environmentally friendly products and services that have a reduced carbon footprint, conserve resources, promote energy efficiency, and minimize waste generation. This includes the use of renewable materials, promote recycling and waste reduction, and specify environmentally preferable conditions and standards.
2. Social and Labor Standards: The policy require suppliers to comply with social and labor standards, including fair wages, safe working conditions, and respect for human rights. Such a policy promotes the use of suppliers who have fair trade or responsible sourcing certifications and encourage diversity and inclusion
3. Ethical Sourcing: The policy addresses issues such as conflict minerals, child labor, and corruption. It requires suppliers to provide evidences of responsible sourcing practices and ensure that they do not engage in unethical or illegal activities.
4. Screening and Exclusions: The policy includes criteria for screening and excluding certain investments based on negative ESG factors. For example, it may exclude investments in companies involved in fossil fuel extraction or those with poor labor practices. This approach aims to align investments with ethical and sustainable principles
5. Supplier Evaluation and Selection: The policy outlines criteria for evaluating and selecting suppliers based on their sustainability performance. It considers factors such as environmental management systems, social responsibility practices, and adherence

to relevant standards. The selection is based on companies or projects with strong ESG performance or those focused on sustainable solutions, such as renewable energy, clean technology, or social impact initiatives

6. Life Cycle Assessment: The policy may encourage the consideration of a product's life cycle impacts, including the extraction of raw materials, production processes, transportation, use, and disposal. This approach aims to select products that have a lower overall environmental impact throughout their life cycle.
7. Collaboration and Engagement: The policy emphasizes collaboration with suppliers, stakeholders, and industry groups to promote sustainability initiatives and innovation. It encourages wherever possible partnerships for knowledge sharing, and joint project.
8. Monitoring and Reporting: The policy establishes mechanisms to monitor and measure the effectiveness of sustainable procurement practices. Regular reporting is routinely carried out to track progress, identify areas for improvement, and communicate achievements.
9. Training and Awareness: The policy requires training programs as a must to educate staff and suppliers about sustainable procurement practices, and foster a culture of sustainability within the university

University president Endorsement

Prof. Abdel Aziz Konsowa

7.4.1 Programmes for local community to learn about importance of energy efficiency and clean energy

Alexandria University actively educates the local community about energy efficiency and clean energy through workshops, outreach activities, and sustainability events delivered across its faculties and centers. These programmes raise awareness of renewable energy, promote practical skills, and support Egypt's Vision 2030 by engaging students, schools, and the public in hands-on learning. Through the Center of Excellence for Water, the Solar Energy Center, and faculty-led initiatives such as Green Cycle and Fab Lab, the university provides training, innovation spaces, and community services that strengthen the transition to cleaner and more sustainable energy practices.

- Community engagement is deeply embedded in the university's mission. In 2024, it organized 392 sustainability-related events, including workshops, awareness campaigns, medical and veterinary convoys, literacy drives, and school outreach programs. The Faculty of Science alone hosted over 50 educational visits to its botanical garden, herbarium, and electron microscopy unit. Additionally, 46 sustainability-focused startups have emerged from university incubators, and 63,279 graduates over the last three years (55.37% of all graduates) are employed in green jobs, spanning renewable energy engineering, environmental law, sustainable tourism, and climate-smart agriculture.
- The university currently holds 118 fully active international agreements, with an additional 89 agreements pending final approval, spanning five global regions. These collaborations encompass dual and joint degree programs, Erasmus+ projects, academic exchanges, and collaborative research initiatives. All partnerships are strategically aligned with Egypt's Vision 2030 and the United Nations Sustainable Development Goals (SDGs), focusing on key priority areas such as climate action, the blue economy, sustainable agriculture, water security, and renewable energy.
- The Center of Excellence for Water at Alexandria University is pleased to announce the opening of applications for the fourth workshop entitled (The Relationship between Water - Energy - Food), which will be held at the American University in Cairo during the period from August 3-26, 2024. Applications are open until May 14, 2024.

USAID FROM THE AMERICAN PEOPLE

ALEXANDRIA UNIVERSITY

The American University in Cairo

Center of Excellence for Water

CALL FOR APPLICATION

FOURTH WATER-ENERGY-FOOD NEXUS SCHOOL 2024

DATE 3 – 26 AUGUST 2024

Call Launch Date: 24 April 2024

Submission Deadline: 14 May 2024 - 11:55 pm (Cairo Local Time)

Exchange, Training, and Scholarships Pillar activities are implemented in cooperation with:

TEMPLE UNIVERSITY

ASWAN UNIVERSITY

This document is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of The Center of Excellence for Water and do not necessarily reflect the views of USAID or the United States Government.

- Centre of Excellence for Water at Alexandria University Organizes Workshop on Relationship between Water, Energy and Food in Cooperation with the Arab Water Council in 15 august 2024. The workshop aimed to deepen the comprehensive understanding of the interrelationship between these three resources (water, energy and food), highlight the challenges they face, and propose sustainable solutions, and the latest developments in this field, exchanging creative ideas, and enhancing cooperation between industry and academic institutions.

- Faculty of Engineering, Alexandria University Hosts International Atomic Energy Agency Experts to Give Lectures on Nuclear Law during the period from the 28th until the 30th of November 2023.

- Alexandria University Wins First Place in Innovations & Patent Index Ranking and Silver Medal in New Energy Projects at 7th Cairo International Exhibition for Innovation Fair 2023.

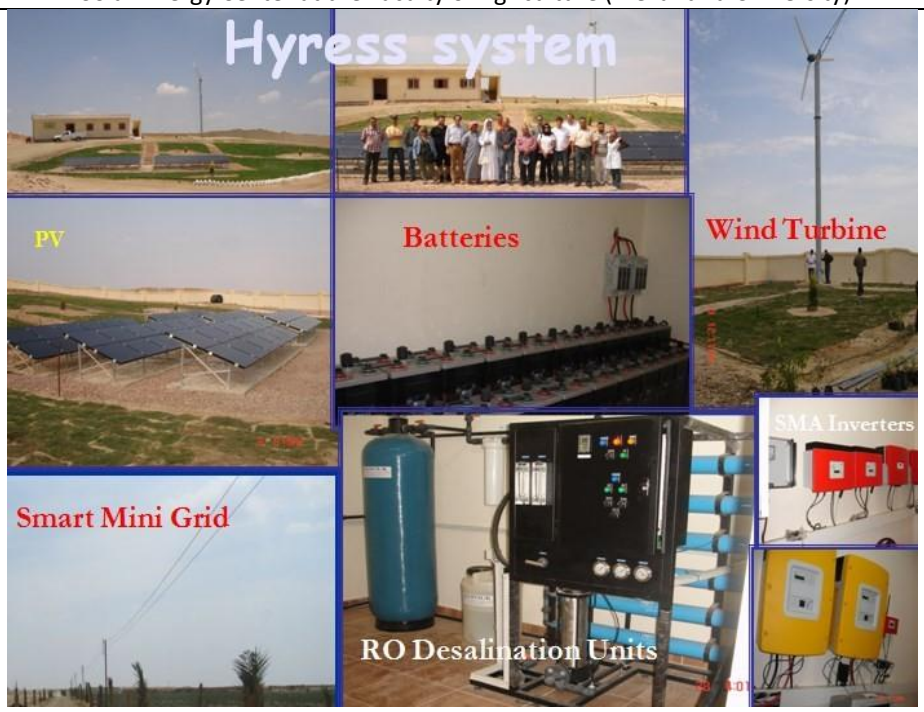
- The Faculty of Pharmacy won third place in the Alexandria Governorate for the 2024 National Initiative for Green Smart Projects with its 'Green Cycle' project, competing in the non-profit community initiatives category. This marks the project's second consecutive year of recognition, having previously secured first place last year.

The services provided by the Solar Energy Center at the Faculty of Agriculture (Alexandria University):

1) **Research and development**: Encouraging applied research on renewable energy at AU and through collaborations with other national and international universities. Development of hybrid systems in renewable energy and its uses in water pumping and water desalination and development of remote and desert areas. Development of research in energy from biomass and waste. Development of thermal uses of solar energy.
2) **Consultations:** Various consultations in renewable energy systems, especially hybrid systems, drying and solar heating.
3) **Education and Training:** Supporting the renewable energy education at AU. Developing and delivering courses, e-learning, workshops, training courses, and conferences on various renewable energy systems.
4) Serving the Egyptian community by providing all renewable energy information to the public.

The Center Goals are to:

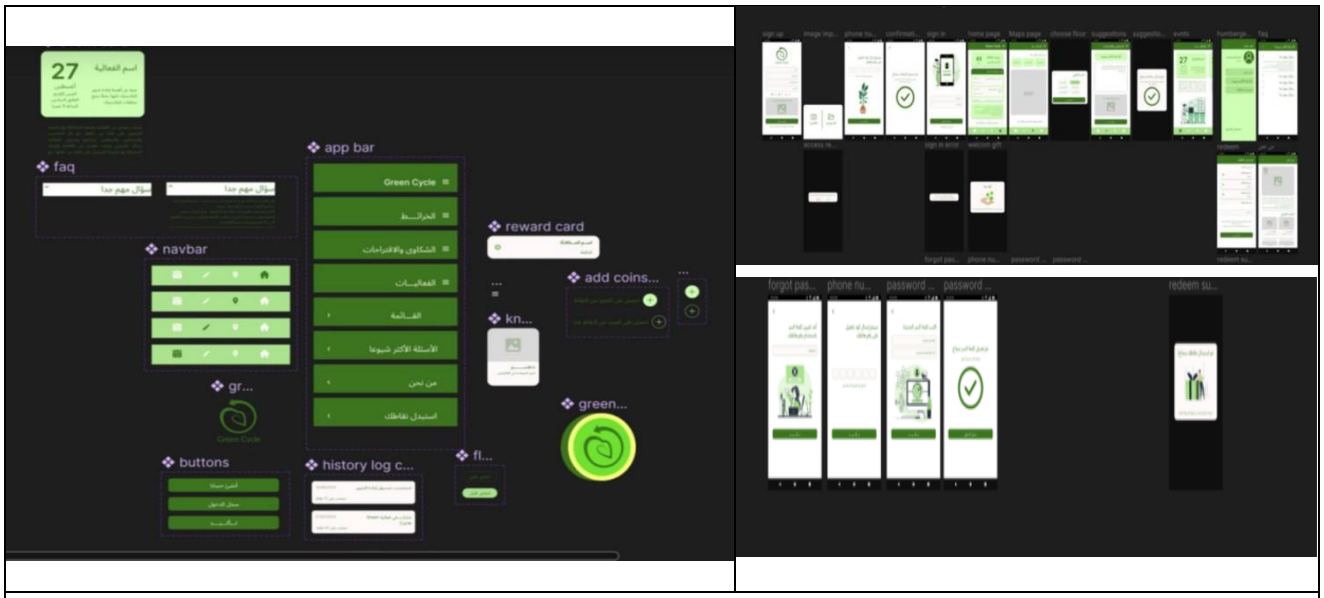
- Remove the knowledge barriers against the installation of RE systems in Egypt.
- Enhance the utilization of renewable energy.
- Develop educational and e-learning program about renewable energy.
- Educate students, graduates, public and key stakeholders in Egypt and the Arab world on the various sources of renewable energy and its successful applications.
- Build the infrastructure necessary to develop, install and maintain renewable energy applications.
- Present a show case or a model for the successful utilization of renewable energy in Egypt.
- Continue excellence in all of our educational programs.

Solar Energy Center at the Faculty of Agriculture (Alexandria University)

Solar Energy Center at the Faculty of Agriculture (Alexandria University)

Green Cycle project in the Faculty of Pharmacy - Alexandria University

Within the framework of the Faculty of Pharmacy's tireless endeavor to meet the needs of the community inside and outside the university and to contribute to solving contemporary health, social and economic problems, in line with the vision of Alexandria University, which is based on the principles of comprehensive quality and continuous and sustainable development, in harmony with the state's development plan "Sustainable Development Strategy: Egypt Vision 2030": The college is advancing the "Green Circle" project, which is a non-profit project that seeks to keep the environment clean and green in a sustainable way by growing plants to increase green spaces, as well as separating waste for recycling and establishing charitable markets to benefit from used clothes and use electricity-saving alternatives such as energy saving lamps.

The GHG sources are reduced by Ride Share using the University Shuttle and Carpool, by the decrease of burning of fuels. In addition, the use of bicycles reduces the GHG source. An application was developed for smart phones, by the students at the Faculty of Pharmacy- Alexandria University that enables faculty members to share cars for transportation in a safe manner (Green Cycle project). In addition, regular vehicle maintenance is performed to reduce greenhouse gas emissions.



An application, prepared for smart phones, specific to Green Cycle project enables college members to share cars (car pooling) for transportation (Alexandria University)

Innovation and Technology Development for the Investment in Green Technologies:

There are also many research projects to reduce greenhouse gas emissions, including, for example:

1. Monitoring pollutants using satellites (a project funded by the Academy of Scientific Research and Technology 2021).
2. Confronting rampant heat waves and climate change (World Bank financing 2023).
3. Confronting severe air pollution and black cloud episodes (World Bank financing 2023-2024).
4. the research project entitled: Utilizing alternative feed materials to maximize milk and meat productivity and reducemethane production in ruminants, funded by the Science and Technology Fund STDF-DDP No. 18575
5. The research project entitled Safe milk and meat production and greenhouse gas emissions from ruminants fed withthe addition of nano-silt, funded by the Science and Technology Fund STDF- Innovation in the period from 2020-2023.
6. Construction of a Self-Charging Unit for Collecting Wasted Mechanical Energy from Basic Human Motion, (2023- 2025).

Fab Lab Project in the Faculty of Engineering - Alexandria University

The overall goal of the project is to develop the circular and creative economy model by creating an innovation place equipped with machines Low Tech in Alexandria is hosted by Alexandria University. This place will play a role in creating local dynamism Transversal to become a crossroads between different audiences and actors from different backgrounds. To connect waste collection Plastic and its evaluation. Horizons Solidarités and the University of Corsica, in partnership with their peers in Alexandria, based on their experience in Fab Lab Corte, conduct experiments on recreating value for plastic in Alexandria. The goal is to connect all actors from assembly through training to development and dissemination.

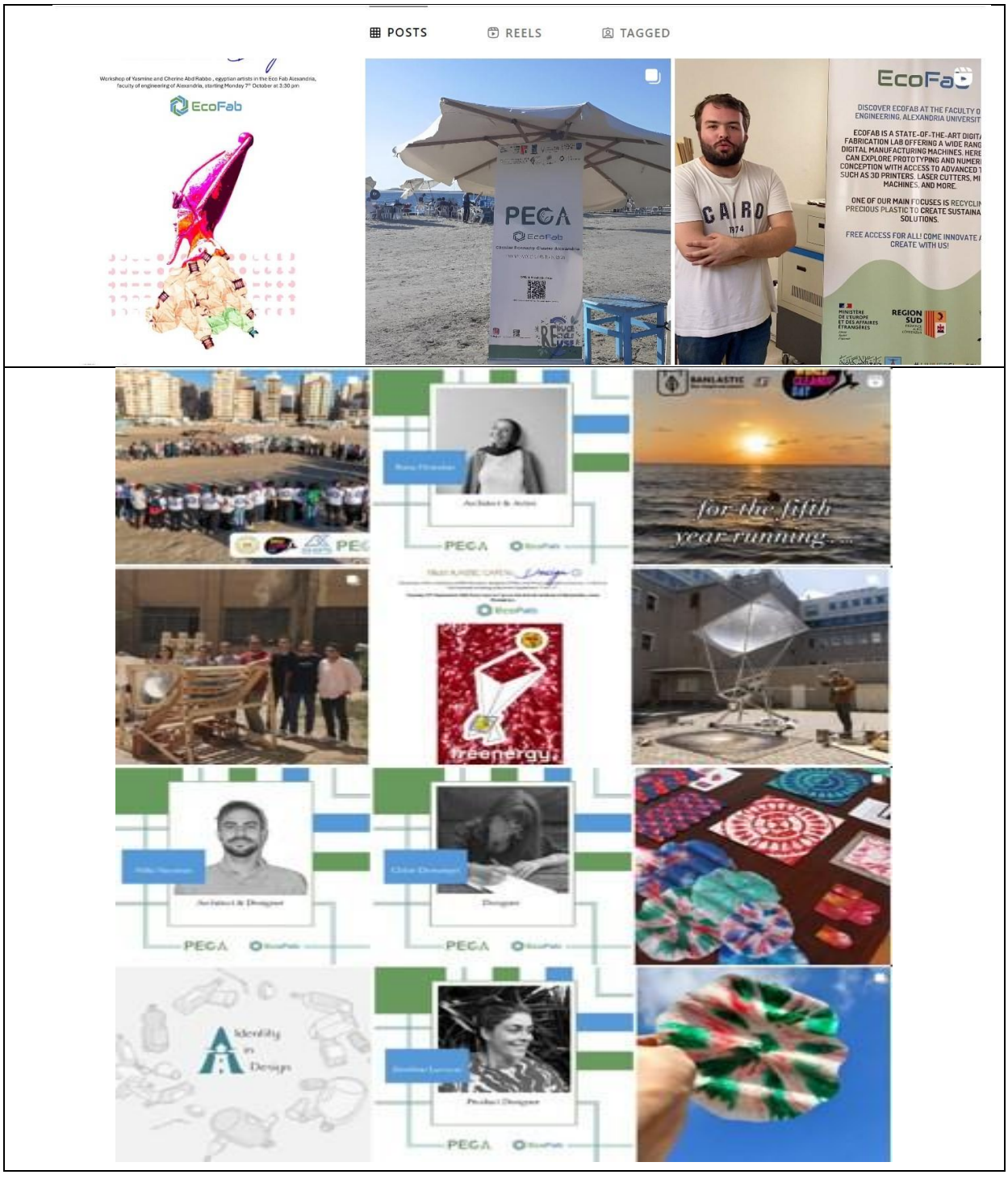
The scope of work in the project

1- Environment, climate, and energy

2- Education, social aspect, and research

These goals will be implemented through the establishment of a FabLab within Alexandria University, which is a space for innovation. Derives place this innovation is energized by a generation that has innovative ideas in the fields of environment, citizenship, and culture. This revival is embodied in women

and the men who are partners in the project. The high skills of Alexandria University and Senghor University, Francophone operator in Alexandria, ensures the long-term commitment of their students and the sustainability of the local dynamism. Implementation benefits from facilities Headquarters provided by Alexandria University Project Engine. VSI contributes to the unification of links between regions. Project depends on the Alexandria Business Association (ABA), a trade organization that invests in creating startups in the circular economy and selling finished products. A multi-representative consortium from both sides of the Mediterranean could be formed from these dynamics that will support the project over time.



Eco Fab Alexandria

The Eco Fab is a fab lab dedicated to plastic recycling in Alexandria, Egypt and part of PECA project (Circular economy hub in alexandria).

7.4.2 Public pledge toward 100% renewable energy (petitions, meetings, discussions, events) beyond the university

Alexandria University demonstrates its commitment to a clean-energy future through active public engagement beyond campus. The university participates in petitions, community meetings, awareness events, and multi-stakeholder discussions promoting a transition to 100% renewable energy. By collaborating with government bodies, civil society, and international partners, the university helps advance national awareness of clean energy solutions and supports Egypt's broader pathway toward a low-carbon, sustainable energy system.

Inauguration of First International Conference on Advances in Science for Sustainable Development (ICASSD 2024) May 18, 2024, the conference aims to harness science and technology to confront the challenges facing our world today. successive scientific developments have begun to play a pivotal role in finding solutions to pressing issues such as climate change, artificial intelligence, and environmental degradation.

Centre of Excellence for Water at Alexandria University Organizes Workshop on Relationship between Water, Energy and Food in Cooperation with the Arab Water Council in 15 august 2024. The workshop aimed to deepen the comprehensive understanding of the interrelationship between these three resources (water, energy and food), highlight the challenges they face, and propose sustainable solutions, and the latest developments in this field, exchanging creative ideas, and enhancing cooperation between industry and academic institutions.

The Faculty of Pharmacy won third place in the Alexandria Governorate for the 2024 National Initiative for Green Smart Projects with its 'Green Cycle' project, competing in the non-profit community initiatives category. This marks the project's second consecutive year of recognition, having previously secured first place last year.

The Center of Excellence for Water at Alexandria University is pleased to announce the opening of applications for the fourth workshop entitled (The Relationship between Water - Energy - Food), which will be held at the American University in Cairo during the period from August 3-26, 2024. Applications are open until May 14, 2024.

Alexandria University President Receives Australian Ambassador to Cairo and his accompanying delegation, to discuss enhancing the frameworks of joint cooperation between Alexandria University and Australian universities and academic institutions in linking scientific research to industry, especially in the fields of water, energy, and agriculture, through the activities and programs provided by the Water Excellence Centre at the university.

Faculty of Engineering, Alexandria University Hosts International Atomic Energy Agency Experts to Give Lectures on Nuclear Law during the period from the 28th until the 30th of November 2023.

Alexandria University Wins First Place in Innovations & Patent Index Ranking and Silver Medal in New Energy Projects at 7th Cairo International Exhibition for Innovation Fair 2023.

In the frame of the webinar series, the Center of Excellence for Water organized the twenty first webinar with California Santa Cruz University and Zagazig, entitled: "Water Energy Food Nexus and its connectivity to SDGs"

Discussing ways of cooperation between Alexandria University and the Vice President of the Climate Group at the University of Cambridge in Britain and the official for international cooperation in the COP26 university network on the issue of climate change and ways to enhance academic and research relations and aspects of joint cooperation in preparation for the COP27 conference. The attendees gave a presentation on Alexandria University's projects in the field of environmental sustainability in preparation for the COP27 climate conference, and included projects on the production of green and grey hydrogen, the design and manufacture of electric vehicles, the establishment of the Alexandria University Company for Energy and Water Services, and the establishment of an electronic components manufacturing center, in addition to preparing studies on diversifying energy sources. Egypt's role as a regional energy center and the contributions of the Suez Canal to reducing carbon emissions at the international level.

Alexandria University held a symposium on “Climate Change and Green Transformation: The Vision of Alexandria University with several universities and scientific bodies to participate in the COP27 climate conference. These projects include the use of green hydrogen and green ammonia in the fertilizer industry in cooperation with the Egyptian Chemical Industries Company (Kima), the establishment of the Alexandria University Company for Energy and Water Services, the localization of the electric car industry inside Egypt through the design and manufacture of the electric bus and the electric car, the role of the Suez Canal in reducing carbon emissions on the global level, the establishmentof the Alexandria University Centre for the blue-green economy, the role of Egypt as a regional centre for Energy, the production of green and grey hydrogen, the establishment of the Electronic Components Manufacturing Centre, in addition to the establishment of the Alexandria University Centre for Sustainable Development, with the aim of achieving sustainable development goals within the Alexandria University campus in order to turn it into a green university.

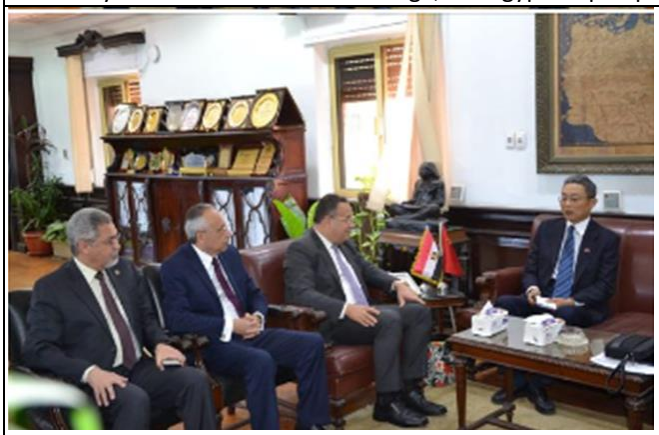
The first activity of the Greener Blue Economy Center at Alexandria University, a workshop held under the title "Sustainable Blue Economy Issues in the Mediterranean Basin Countries", in the Conference Hall at the Faculty of Commerce, generating electricity from water energy, mining activities in the seas and oceans, marine tourism, fishing activities, extracting raw materials from the sea, and other forms of economic activity mainly related water resources.

Faculty of Pharmacy, in cooperation with the students of the Scientific Society of Faculty of Pharmacy, organized a sports marathon for walking and cycling under the title "Running for Green" within the framework of the preparations of Faculty of Pharmacy and University of Alexandria for the Climate Change Conference COP27 which was held in Sharm el-Sheikh in November 2022.

A cooperation agreement between Alexandria University and the Egyptian Chamber of Commerce in Alexandria to establish a solar energy station at the Faculty of Engineering. Under this agreement, the Faculty of Engineering - Alexandria University operates the station with solar energy within the framework of the MAIA-TAQA and SOLE projects funded by the European Union, within the framework of the Mediterranean Basin Cross-Border Cooperation Program EU ENI CBC Med.

It is worth noting that the “SOL” project, funded by the European Union, supports the energy rehabilitation of public buildings in an effective and economical manner, and ensures the consumption of clean, low-cost energy.

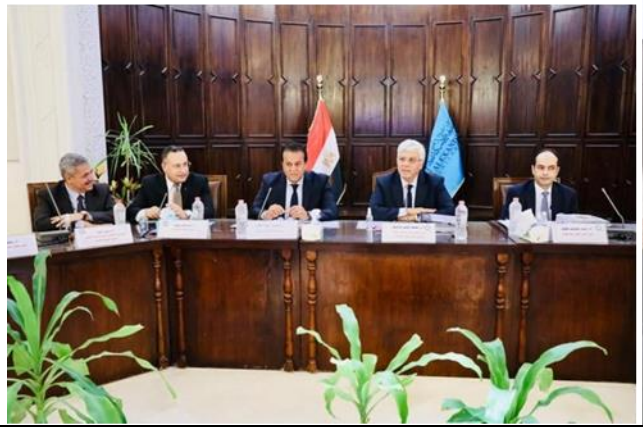
The preparatory webinar for the COP28 Climate Conference, which was organized by the International Committee for the Development of Dry Lands, the Regional Action for Climate Change Foundation in Japan, the “Nizami Ganjavi” International Centre, and the African Organization for Young Leaders, at the Conference Centre of the Faculty of Medicine. The webinar discussed many important topics, including climate change and dry lands, food security, biodiversity, energy and sustainable development, political will and human solidarity needed for change, adaptation, African youth's view of climate change, the Egyptian perspective on climate change, and funding requirements.



Professor Dr. Abdelaziz Konsowa, President of Alexandria University, met with Ambassador Yang Yi, the Chinese Consul General in Alexandria, to discuss enhancing cooperation between the university and Chinese institutions. The discussion, attended by various university officials, focused on establishing partnerships in areas such as clean energy, water desalination, artificial intelligence, and the study of Arabic and Chinese languages. Ambassador Yang proposed collaboration by sending Chinese professors to teach at the Faculty of Arts and facilitating student exchanges to study Chinese language and culture in China.

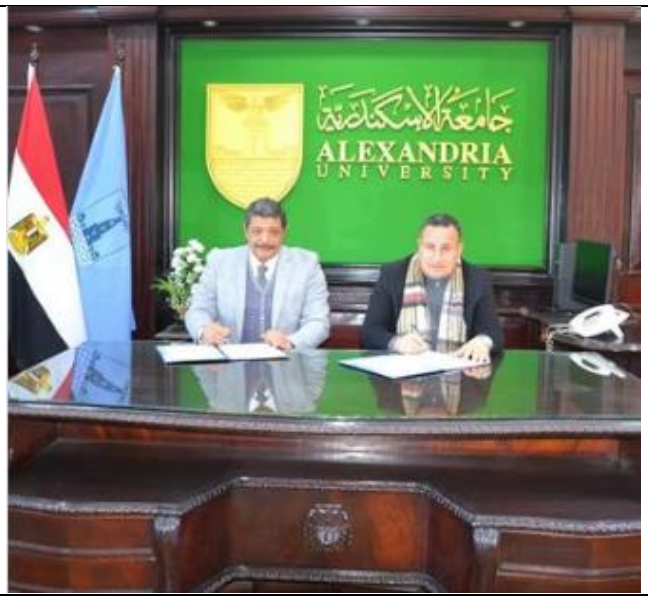
The European Union project to convert several buildings of Alexandria University into green buildings by reducing energy consumption in addition to establishing solar-powered power stations: the Specialized Scientific Programs Building at the Faculty of Engineering, the Faculty of Education Building within the Literary Colleges Complex, and the
Manchester Building at the Faculty of Medicine.

The Minister of Higher Education chairs the meeting of the Supreme Council of Universities at Alexandria University supporting the "**Egypt Digital Cubs" initiative organized by the Ministry of Communications and Information Technology, by allowing the use of electronic testing laboratories spread throughout all public universities**, to conduct admission tests for applicants, by activating a tripartite cooperation protocol between the Ministry of Higher Education and Scientific Research, the Ministry of Communications and Information Technology, and the presidents ofpublic universities**. The Ministry launched the green financing initiative for research, development and innovation to support applied projects that contribute to solving environmental problems, nature conservation, clean energy, waste recycling**, etc. They also reviewed the ongoing partnerships between the Ministry and various countries of the world, the Association of African Universities, and the Union of Arab Universities.



Faculty of Education Launches "Go Green" Initiative, part of Freshmen Activities to raise awareness of the importance of afforestation, waste recycling, and rationalization of food and energy consumption, to change the wrong behaviour, spread environmental awareness, and urge students to participate in preserving the environment, explaining that the students presented practical activities for some courses under the title "Go Green", where each student actively participated in planting trees in the faculty courtyard. The students actively took part in this initiative out of a sense of responsibility towards themselves, their faculty, their university, and the environment around them.

Alexandria University participated in the **Forum for Activities and Events of Egyptian Public Universities to Confront Climate Change 2022**, during the period from (September 22-23, 2022) at the Galala Tulip Hotel in Ain Sokhna with a group of research topics in the field of climate change and applied projects related to it included the uses of green hydrogen and green ammonia in the fertilizer industry, the establishment of an energy and water services company, the localization of the electric car industry within Egypt, the role of the Suez Canal in reducing carbon emissions at theglobal level, and the establishment of the Alexandria University Center. For the greener blue economy, Egypt's role asa regional energy center and the establishment of the Alexandria University Center for Sustainable Development



Cooperation Protocol between Alexandria University and Atomic Energy Authority the signing of a protocol comes in line with the tasks and objectives of the Atomic Energy Authority, which focus on providing advanced research and service capabilities and facilities necessary to support and expand the area of peaceful uses of atomic energy, technology transfer, development and preparation of qualified and trained cadres who are able to keep abreast of developments in the fields of peaceful use of atomic energy and research and development, in order to apply nuclear and radiological technology in various fields of development in accordance with Egypt's Vision 2030 and the goals of sustainable development. The protocol includes participation in awareness campaigns on the peaceful applications of atomic energy, and participation in organizing scientific events, including training courses, seminars, scientific conferences, and workshops.

Alexandria University obtaining the first place in the ranking of the index of innovation production and patents, and the second place and the silver medal in new and renewable energy projects on the green hydrogen and green ammonia production project, at the conclusion of the activities of the Cairo International Innovation Fair 2023 in its seventh edition.

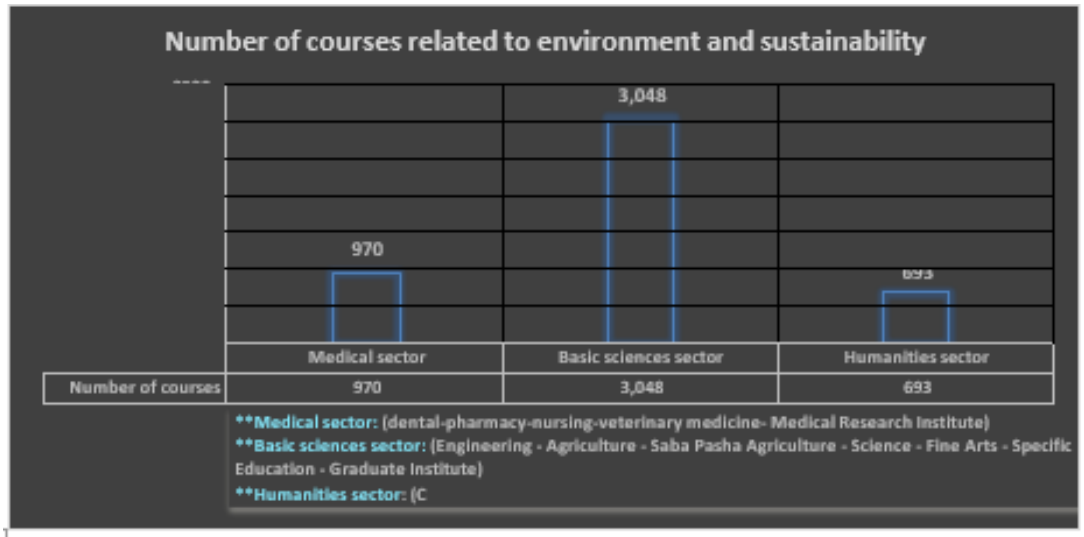
Saturday the 29th of October 2022, Alexandria University held a symposium on “Climate Change and Green Transformation: The Vision of Alexandria University” in Presence of Dr. Mahmoud MohieldinHigh-Level Climate Change Champion for the Egyptian Presidency to the United Nations Convention for Climate Change COP27 and the UN Special Envoy on Financing 2030 Sustainable Development Agenda. Dr. Konsowa also highlighted the cooperation between Alexandria University and many partners at the governmental, academic, and industrial levels regarding the issue of climate change, and he said that Alexandria University has prepared 9 projects in the field of environmental sustainability, in collaboration with several universities and scientific bodies to participate in the COP27 climate conference. These projects include the use of green hydrogen and green ammonia in the fertilizer industry in cooperation with the Egyptian Chemical Industries Company (Kima), the establishment of the Alexandria University Company for Energy and Water Services, the localization of the electric car industry inside Egypt through the design and manufacture of the electric bus and the electric car, the role of the Suez Canal in reducing carbon emissions on the global level, the establishment of the Alexandria University Centre for the blue-green economy, the role of Egypt as a regional centre for Energy, the production of green and grey hydrogen, the establishment of the Electronic Components Manufacturing Centre, in addition to the establishment of the Alexandria University Centre for Sustainable Development, with the aim of achieving sustainable development goals within the Alexandria University campus in order to turn it into a green university.

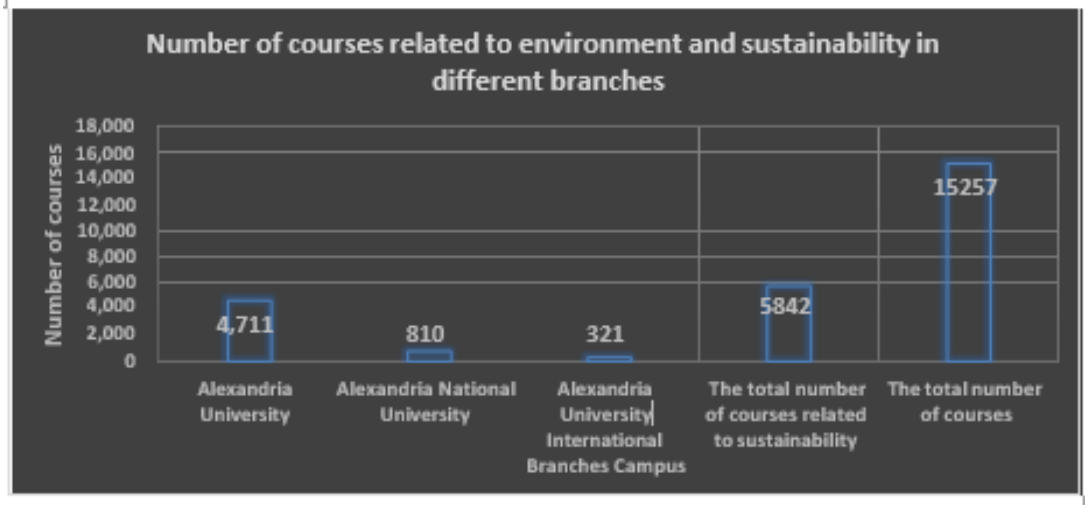
7.4.3 Direct services to local industry aimed at improving energy efficiency and clean energy (energy efficiency assessments, workshops, research renewable energy options)

Alexandria University supports local industry by providing energy-efficiency assessments, specialized workshops, and applied research on renewable energy solutions. Through its research centers, technology incubators, and renewable-energy laboratories, the university offers technical guidance, training, and innovative clean-energy models that help businesses reduce energy waste and adopt sustainable technologies. These outreach services strengthen industry–university collaboration and promote the transition to a more efficient, low-carbon industrial sector in Alexandria and beyond.

During 2024, the total number of undergraduate and graduate courses related to the environment and sustainability across various university sectors is 4,711 courses. Overall, 34% of the total 13,852 undergraduate and postgraduate courses were focused on environment and sustainability. A new International Dual Master Program was established at the Faculty of Science in this academic Year, titled: MSc: SUSTAINABLE BLUE ECONOMY AND MANAGEMENT OF COASTAL RESOURCES (SBEM) (Dual degree)

Across the various branches of the Alexandria University system, there is a notable variation in the number of courses focused on environmental sustainability. Alexandria University leads with 4,711 such courses, followed by Alexandria National University with 810, and the International Branches Campus offering 321. Together, these institutions account for a total of 5,842 courses dedicated explicitly to sustainability topics. This represents approximately 38.29% of all courses offered across the entire university system, which stands at 15,257. The data highlight that while sustainability-focused education is a significant component of the curriculum, it still accounts for less than half of the total academic offerings.



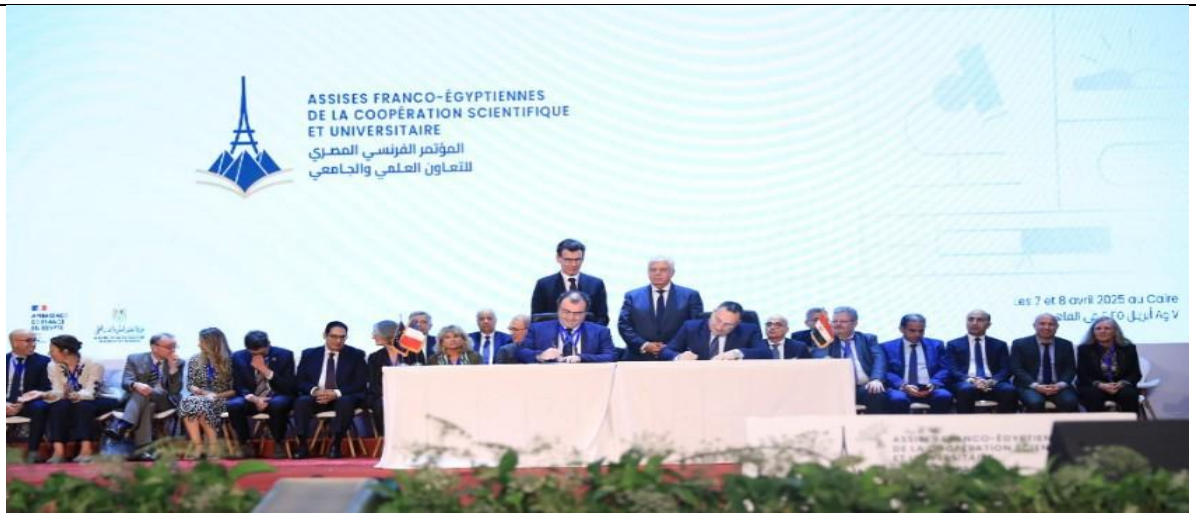


The university currently holds 118 fully active international agreements, with an additional 89 agreements pending final approval, spanning five global regions. These collaborations encompass dual and joint degree programs, Erasmus+ projects, academic exchanges, and collaborative research initiatives. All partnerships are strategically aligned with Egypt's Vision 2030 and the United Nations Sustainable Development Goals (SDGs), focusing on key priority areas such as climate action, the blue economy, sustainable agriculture, water security, and renewable energy.

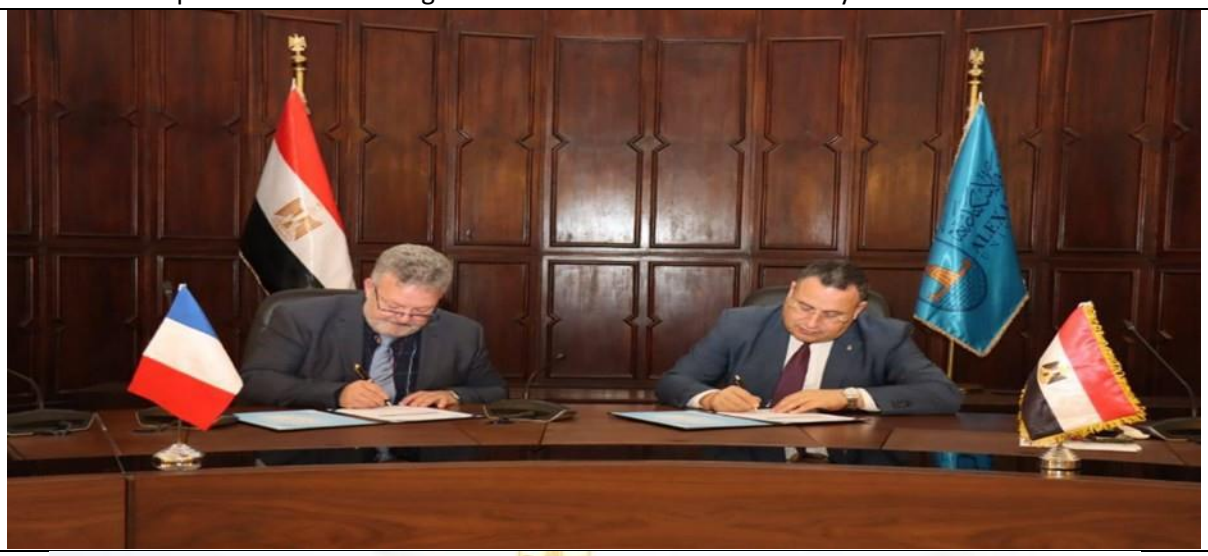
Among the most notable initiatives are the M.Sc. in Sustainable Blue Economy and Management of Coastal Resources (Université du Littoral Côte d'Opale, France), the M.Sc. in Smart Environmental Management of Climate Change (University of Catania, Italy), and the M.Sc. in Natural Resources Sustainability for Land Development (RWTH Aachen University, Germany). Additional high-impact collaborations include the joint Bachelor's programs in Medicine and Dentistry with the University of Manchester (UK), dual engineering degrees with the University of Louisville (USA), and new agreements signed during President Macron's April 2025 visit to Egypt with leading French universities.

Through structured curricula, mandatory international mobility, co-supervised theses, and applied research projects with government and industry partners, these programs not only prepare graduates for

sustainability oriented careers but also reinforce Alexandria University's leadership in advancing internationalized, sustainability-focused higher education across the region.



Five Cooperation Protocols Signed Between Alexandria University and French Universities



AU and Université du Littoral Côte d'Opale (ULCO) – Dual Degree Cooperation Programs

Alexandria University's Faculty of Engineering Students win First Places in Annual Summer Training Competition at University of Louisville, USA. The summer training program comes within the framework of the distinguished partnership between Alexandria University and the University of Louisville, USA, over the past years, which includes the partnership in summer training in research laboratories at the University of Louisville, and the partnership in the 2+2 bachelor's programs to grant double degrees in computer science and engineering, and biomedical engineering majors. This year was the graduation of the first group that joined the University of Louisville through this partnership in the field of biomedical engineering, numbering five students.

Inauguration of First International Conference on Advances in Science for Sustainable Development (ICASSD 2024) May 18, 2024, the conference aims to harness science and technology to confront the challenges facing our world today. successive scientific developments have begun to play a pivotal role in finding solutions to pressing issues such as climate change, artificial intelligence, and environmental degradation.

Centre of Excellence for Water at Alexandria University Organizes Workshop on Relationship between Water, Energy and Food in Cooperation with the Arab Water Council in 15 august 2024. The workshop aimed to deepen the comprehensive understanding of the interrelationship between these three resources (water, energy and food), highlight the challenges they face, and propose sustainable solutions, and the latest developments in this field, exchanging creative ideas, and enhancing cooperation between industry and academic institutions.

The Faculty of Pharmacy won third place in the Alexandria Governorate for the 2024 National Initiative for Green Smart Projects with its 'Green Cycle' project, competing in the non-profit community initiatives category. This marks the project's second consecutive year of recognition, having previously secured first place last year.

The Center of Excellence for Water at Alexandria University is pleased to announce the opening of applications for the fourth workshop entitled (The Relationship between Water - Energy - Food), which will be held at the American University in Cairo during the period from August 3-26, 2024. Applications are open until May 14, 2024.

Alexandria University President Receives Australian Ambassador to Cairo and his accompanying delegation, to discuss enhancing the frameworks of joint cooperation between Alexandria University and Australian universities and academic institutions in linking scientific research to industry, especially in the fields of water, energy, and agriculture, through the activities and programs provided by the Water Excellence Centre at the university.

Faculty of Engineering, Alexandria University Hosts International Atomic Energy Agency Experts to Give Lectures on Nuclear Law during the period from the 28th until the 30th of November 2023.

Alexandria University Wins First Place in Innovations & Patent Index Ranking and Silver Medal in New Energy Projects at 7th Cairo International Exhibition for Innovation Fair 2023.

An academic team (Ph.D.) from the Faculty of Science at Alexandria University teaches a course titled 'Man and Environment' (University Elective Course – 2 Credits). The course addresses environmental problems, types of natural resources, pollution, environmental footprint, carbon footprint, waste management, recycling, climate change and global warming, biodiversity, and the Sustainable Development Goals (SDGs). It is offered to students from various faculties at Alexandria University, such as:

1) Faculty of Science
2) Faculty of Tourism
3) Faculty of Agriculture
4) Faculty of Sport Education
5) Faculty of Business
6) Faculty of Computers and Data Science
7) Faculty of Dentistry
8) Faculty of Economics and Political Science
9) Faculty of Arts
10) Faculty of Nursing

Also, this course is offered in some programs at Alexandria National University, including:

A. Computer and Data Sciences (CDS) Programs
B. Oral and Dental Surgery Program
C. Software and Multimedia Production Program (SIM)

The Industrial Microbiology and Applied Chemistry Program (IMAC) at Faculty Science of Alexandria University organized a scientific visit to El-Shafei Leather Tannery in the Al-Max area of Alexandria on March 26 and April 30, 2024. This visit was part of the program's applied teaching and learning methods and was included in the practical component of the 'Bioremediation of Pollutants' course (Code: Micb 472). During the visit, the students toured all departments of the company and received a comprehensive scientific explanation of the stages of natural leather production, as well as how to protect the leather from mold during manufacturing and how to manage leather industry waste.

Alexandria University Technology Incubator for Smart Systems (AUTISS)

Alexandria University Technology Incubator for Smart Systems (AUTISS) was accredited by the Ministry of Higher Education in 2020 to be established at Smart Critical Infrastructure (SmartCI) Research Center, Alexandria University (AlexU). AUTISS aims to nurture the culture of innovation at campus among the university community and to create value added services for researchers and entrepreneurs. AUTISS is mainly interested in using Smart systems and modern technology for the development of different infrastructure systems (e.g., education, transportation, healthcare…etc.).AUTISS aims to be a hub that fosters synergy between the academia and the industry to fuel entrepreneurial spirit among students to help them to be self-reliant and contribute to the economic development and nation building.

The Renewable Energy Center at Faculty of Agriculture Alexandria University.

- The center along with partner from Greece, Germany, Spain Morocco and Tunisia awarded a Six Framework project (FP6project) from the European commission to developed Hybrid renewable energy system to supply service for Mediterranean partner countries.
- The center representing AU and Las Palm University in Spain awarded a project from the Spanish cooperation Spanish Agency for International Co-Operation (AECE), in the area of water desalination by Renewable Energy.

- Recently with cooperation with the Faculty of Engineering, the center awarded an STDF project. The project title is "Development of hybrid renewable energy - RO desalination system and minigrids for remote and desert areas in Egypt(HAREDES)".

The Center Goals are to:

- Remove the knowledge barriers against the installation of RE systems in Egypt.
- Enhance the utilization of renewable energy.
- Develop educational and e-learning program about renewable energy.
- Educate students, graduates, public and key stakeholders in Egypt and the Arab world on the various sources ofrenewable energy and its successful applications.
- Build the infrastructure necessary to develop, install and maintain renewable energy applications.
- Present a show case or a model for the successful utilization of renewable energy in Egypt.
- Continue excellence in all of our educational programs.

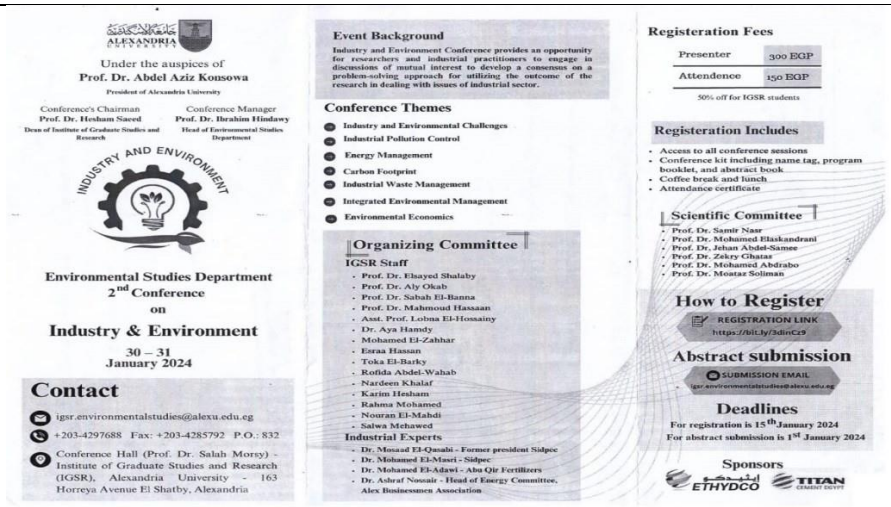
S**olar Energy Center at the Faculty of Agriculture (Alexandria University)**

Hybrid Renewable Energy Systems to Supply Services in Rural Settlements of Mediterranean Partner Countries.

The services provided by the center:

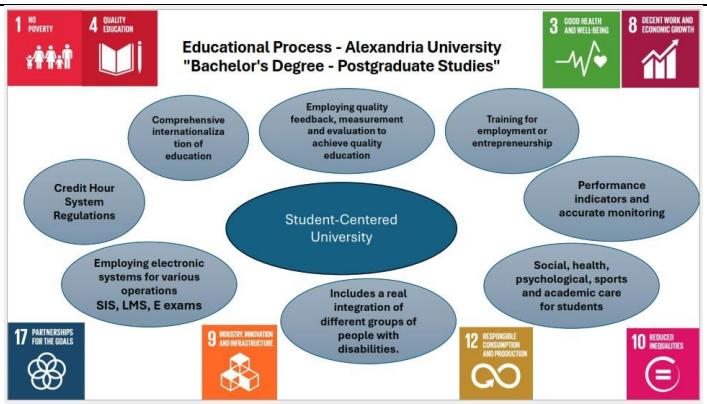
1) **Research and development**: Encouraging applied research on renewable energy at AU and through collaborationswith other national and international universities. Development of hybrid systems in renewable energy and its uses in water pumping and water desalination and development of remote and desert areas. Development of research in energy from biomass and waste. Development of thermal uses of solar energy.
2) **Consultations:** Various consultations in renewable energy systems, especially hybrid systems, drying and solar heating.
3) **Education and Training:** Supporting the renewable energy education at AU. Developing and delivering courses, e-learning, workshops, training courses, and conferences on various renewable energy systems.
4) Serving the Egyptian community by providing all renewable energy information to the public.

Alexandria University held a symposium on “Climate Change and Green Transformation: The Vision of Alexandria University with several universities and scientific bodies to participate in the COP27 climate conference. These projects include the use of green hydrogen and green ammonia in the fertilizer industry in cooperation with the Egyptian Chemical Industries Company (Kima), the establishment of the Alexandria University Company for Energy and Water Services, the localization of the electric car industry inside Egypt through the design and manufacture of the electric bus and the electric car, the role of the Suez Canal in reducing carbon emissions on the global level, the establishmentof the Alexandria University Centre for the blue-green economy, the role of Egypt as a regional centre for Energy, the production of green and grey hydrogen, the establishment of the Electronic Components Manufacturing Centre, in addition to the establishment of the Alexandria University Centre for Sustainable Development, with the aim of achieving sustainable development goals within the Alexandria University campus in order to turn it into a green university.



Industry and Environment Conference held by Institute of Graduate Studies and Research, Alexandria University (30-31 January 2024)

The EFFCT team from Alexandria University has won second place in the prestigious Hult Prize International Competition, held in Paris, France. Competing against over 10,000 teams from 110 countries, the team impressed the judges with their innovativestartup, which focuses on recycling waste from the textile industry. Their achievement highlights Alexandria University’s dedication to fostering student innovation and entrepreneurship on the global stage (November 2023).



Alexandria University offers a group of courses related to the environment and sustainability in various sectors, in line with the state's strategies to achieve sustainable development goals and to achieve the goals of linking science with industry and qualifying the graduate to find job opportunities commensurate with the field of specialization. The university works to qualify the graduate by providing various awareness and training programs during the study period. The university also provides a distinguished group of postgraduate programs that are compatible with their counterparts in international universities, as indicated by the indicator data for this standard.

Discussing ways of cooperation between Alexandria University and the Vice President of the Climate Group at the University of Cambridge in Britain and the official for international cooperation in the COP26 university network on the issue of climate change and ways to enhance academic and research relations and aspects of joint cooperation in preparation for the COP27 conference. The attendees gave a presentation on Alexandria University's projects in the field of environmental sustainability in preparation for the COP27 climate conference, and included projects on the production of green and grey hydrogen, the design and manufacture of electric vehicles, the establishment of the Alexandria University Company for Energy and Water Services, and the establishment of an electronic components manufacturing center, in addition to preparing studies on diversifying energy sources. Egypt's role as a regional energy center and the contributions of the Suez Canal to reducing carbon emissions at the international level.


The first activity of the Greener Blue Economy Center at Alexandria University, a workshop held under the title "Sustainable Blue Economy Issues in the Mediterranean Basin Countries", in the Conference Hall at the Faculty of Commerce, generating electricity from water energy, mining activities in the seas and oceans, marine tourism, fishing activities, extracting raw materials from the sea, and other forms of economic activity mainly related water resources.


The preparatory webinar for the COP28 Climate Conference, which was organized by the International Committee for the Development of Dry Lands, the Regional Action for Climate Change Foundation in Japan, the “Nizami Ganjavi” International Centre, and the African Organization for Young Leaders, at the Conference Centre of the Faculty of Medicine. The webinar discussed many important topics, including climate change and dry lands, food security, biodiversity, energy and sustainable development, political will and human solidarity needed for change, adaptation, African youth's view of climate change, the Egyptian perspective on climate change, and funding requirements.

7.4.4 University inform and support government in clean energy and energy-efficient technology policy development

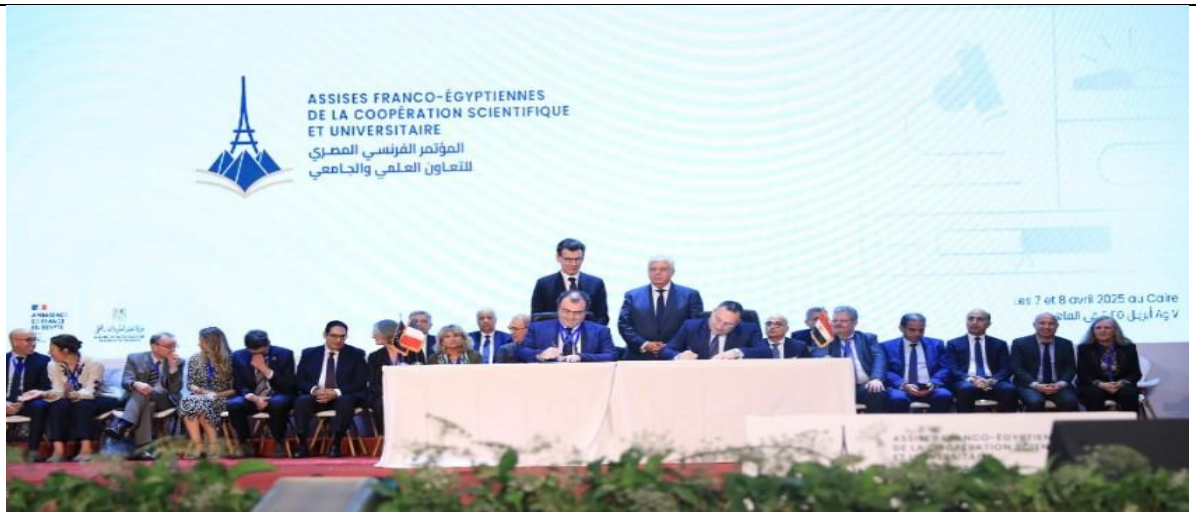
Alexandria University actively supports government efforts in clean energy and energy efficiency by providing research, data, and policy guidance. Through sustainability reports, applied research projects, digital monitoring tools, and international collaborations, the university shares insights on energy-efficient technologies and renewable energy solutions. It engages in joint initiatives with ministries, industry, and international partners, including training programs, workshops, and advisory services, to advance Egypt's Vision 2030 and the UN Sustainable Development Goals. By embedding science-based recommendations into national strategies, Alexandria University serves as a model for evidence-driven, sustainable energy governance.

- Alexandria University has published its annual Sustainability Report on its official website for the last three consecutive years (2022, 2023, and 2024). Each report details the university's environmental performance, sustainable infrastructure projects, academic initiatives aligned with the United Nations Sustainable Development Goals (SDGs), and community engagement efforts, all in support of Egypt's Vision 2030. The university actively implements formal institutional policies to advance the SDGs across all dimensions of campus life. These policies are publicly available and systematically integrated into planning and operations. The consistent annual publication of comprehensive sustainability reports demonstrates Alexandria University's ongoing commitment to transparency, accountability, and leadership in sustainable development.
- Digital tools, such as the Green Cycle carpooling app and e-learning platforms for renewable energy courses, as well as centralized digital monitoring for utilities, further reinforced resource efficiency. This comprehensive digitization effort not only supports the university's goal of reducing its carbon footprint but also aligns with Egypt's Vision 2030 and global sustainability commitments by enhancing educational quality, institutional resilience, and environmental stewardship.
- Alexandria University has established a comprehensive and integrated sustainable transportation system that aligns with *Egypt's Vision 2030* and the *United Nations Sustainable Development Goals (SDGs)*. Central to this strategy is a strong institutional commitment to reducing private vehicle dependency, minimizing the parking footprint, and promoting zero- and low-emission mobility across all campuses.
- Annual events, such as the "Running for Green" marathon and the "Our Health is in Our Planet" awareness run, as well as university-wide cycling festivals, promote physical activity and foster climate awareness among students and staff. The award-winning *"Green Cycle"* carpooling application, developed by the Faculty of Pharmacy, facilitates safe ride-sharing for staff and students and has received regional recognition for two consecutive years in green innovation competitions.
- The consistent downward trajectory aligns with the emission reduction pathways recommended by the Intergovernmental Panel on Climate Change for limiting global warming to 1.5 °C. It

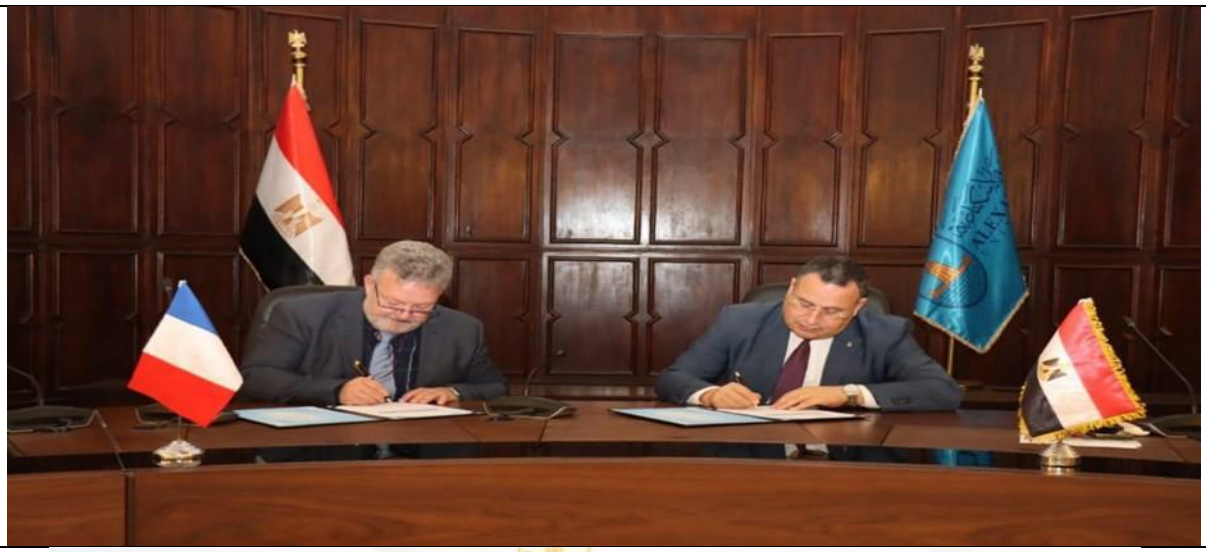
supports Egypt's updated Nationally Determined Contributions under the Paris Agreement. By embedding these measures into core operational planning, the university demonstrates a replicable model of science-based climate governance within the higher education sector.

- The university currently holds 118 fully active international agreements, with an additional 89 agreements pending final approval, spanning five global regions. These collaborations encompass dual and joint degree programs, Erasmus+ projects, academic exchanges, and collaborative research initiatives. All partnerships are strategically aligned with Egypt's Vision 2030 and the United Nations Sustainable Development Goals (SDGs), focusing on key priority areas such as climate action, the blue economy, sustainable agriculture, water security, and renewable energy.

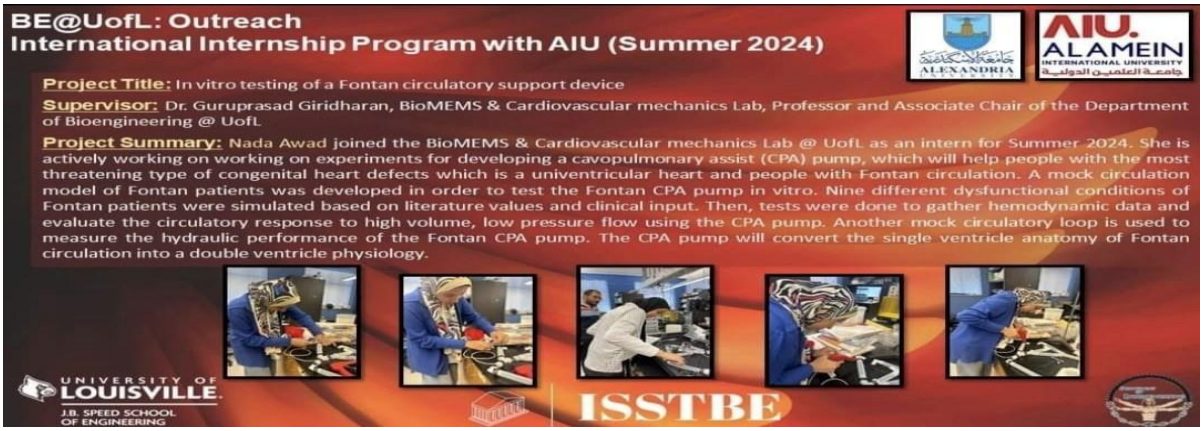
- Through structured curricula, mandatory international mobility, co-supervised theses, and applied research projects with government and industry partners, among the most notable initiatives are the M.Sc. in Sustainable Blue Economy and Management of Coastal Resources (Université du Littoral Côte d'Opale, France), the M.Sc. in Smart Environmental Management of Climate Change (University of Catania, Italy), and the M.Sc. in Natural Resources Sustainability for Land Development (RWTH Aachen University, Germany). Additional high-impact collaborations include the joint Bachelor's programs in Medicine and Dentistry with the University of Manchester (UK), dual engineering degrees with the University of Louisville (USA), and new agreements signed during President Macron's April 2025 visit to Egypt with leading French universities. These programs not only prepare graduates for sustainability-oriented careers but also reinforce Alexandria University's leadership in advancing internationalized, sustainability-focused higher education across the region.



Five Cooperation Protocols Signed Between Alexandria University and French Universities

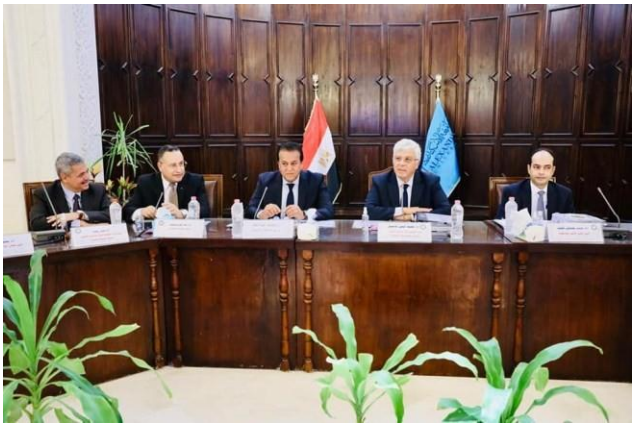


AU and Université du Littoral Côte d’Opale (ULCO) – Dual Degree Cooperation Programs

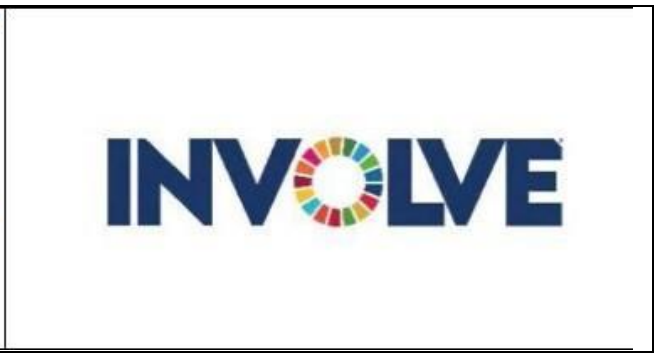


Alexandria University's Faculty of Engineering Students win First Places in Annual Summer Training Competition at University of Louisville, USA. The summer training program comes within the framework of the distinguished partnership between Alexandria University and the University of Louisville, USA, over the past years, which includes the partnership in summer training in research laboratories at the University of Louisville, and the partnership in the 2+2 bachelor's programs to grant double degrees in computer science and engineering, and biomedical engineering majors. This year was the graduation of the first group that joined the University of Louisville through this partnership in the field of biomedical engineering, numbering five students.

- The Minister of Higher Education chairs the meeting of the Supreme Council of Universities at Alexandria University supporting the “Egypt Digital Cubs” initiative organized by the Ministry of Communications and Information Technology, by allowing the use of electronic testing laboratories spread throughout all public universities, to conduct admission tests for applicants, by activating a tripartite cooperation protocol between the Ministry of Higher Education and Scientific Research, the Ministry of Communications and Information Technology, and the presidents ofpublic universities. The Ministry launched the green financing initiative for research, development and innovation to support applied projects that contribute to solving environmental problems, nature conservation, Energy Efficient Appliances Usage Alexandria University intends to realize further energy savings by paying close attention to energy management. All the faculties and institutes of the university realize their own energy-saving potential by means of LED lighting and the deployment of sustainable technology.



- Project “Integrating Sustainable Development Goals into Universities for Better Management of Climate Change,” which is funded by the European Union within the Erasmus Plus program (2021-2024)with a budget of 15 million pounds, via the electronic platform, and its work continued over two days. Alexandria University is leading the project, which includes 7 other partners, from the European Union, namely the University of Aveiro in Portugal, the University of Sassari in Italy, the University of Valencia in Spain, the Euro-Mediterranean University from Slovenia, and from Egypt the Arab Academy for Science, Technology and Maritime Transport, Zewail University, and Heliopolis University. The project aims to enhance the capabilities of Egyptian universities in terms of raising awareness of sustainable development goals for university members, integrating sustainable development goals into strategic plans and university policies, and transforming universities into environmentally sustainable universities.



جامعة الإسكندرية
ALEXANDRIA UNIVERSITY

Policy on Energy and water sustainable use

Alexandria university is Committed to pursuing sustainable development within and through the university and to reassessing higher education and its role in the transition to more sustainable societies. This includes building synergies and collaboration in the search for effective and innovative approaches to solving today's as well as future sustainable development challenges.

The university ensures that all renovations and establishment of new buildings are following energy efficiency standards and water conservation strategies.

The university ensures divesting investments and purchases from Carbon-intensive energy industries particularly coal and oil.

The university through its faculties is committed to maximise water reuse across the university buildings and through all services provided in the process of education and research

The objective of this statement is Commitment to offering an open, interactive and collaborative forum for discussion and action, to raise awareness and advocate for changes needed changes in higher education to best serve the goals of sustainable development, (SDGs) as well as building international linkages and cooperation on the basis of core values of academic freedom, institutional autonomy and related local and global responsibilities to society.

Being uncompliant with the commitment to purse sustainable development issue will be regarded as interfering with personal development of the students, and the university administration will act accordingly

Policy created September 2019

Policy reviewed October 2022

Prof. Abdel Aziz Konsowa

University President

A. Konsowa

جامعة الإسكندرية
ALEXANDRIA
UNIVERSITY

Alexandria University Sustainable Investment policy.

A sustainable investment policy refers to the set of guidelines and principles that Alexandria University . The policy aims to align the organization's investment activities with its sustainability goals and values.

Implementing a sustainable investment policy align investments strategies of the university with sustainable developement Goals, and promotes responsible investing practices, and contribute to the transition to a more sustainable and resilient economy. It also attracts socially and environmentally conscious investors and stakeholders who value sustainable investment practices.

Important elements include:

1. ESG Integration: The policy should emphasize the integration of ESG factors into the investment decision-making process. This involves considering environmental and social risks and opportunities, as well as governance practices of potential investments. ESG analysis can help identify companies or projects that demonstrate strong sustainability performance.
2. Sustainable objectives: The policy defines the university's sustainability objectives and priorities focusing on on specific ESG themes, such as climate change, renewable energy, social justice, or diversity and inclusion. Such objectives help guide investment strategies and ensure consistency with sustainability goals .
3. Engagement and Stewardship: The policy outlines the organization's commitment to active engagement with investee companies to encourage improved ESG practices. This includes voting on shareholder resolutions, engaging in dialogues, and exercising influence to promote positive change. Stewardship activities help drive sustainable behavior and align investee companies with sustainability goals.
4. Ongoing review and monitoring: The policy includes procedures for ongoing monitoring and review of investments to ensure they continue to meet sustainability criteria. Regular assessments of portfolio performance, ESG risks, and evolving sustainability trends help maintain alignment with the university's strategic objectives
5. Positive Impact investments: The policy ensures commitment to investing in projects that generate positive environmental and social impacts. This could include investing in renewable energy projects in new buildings of the universities and in the upgrade process taking place, , clean technologies in the use of energy and water, sustainable infrastructure with green areas .
6. Reporting and transparency: The policy encourages collaboration with the industry sector, and stakeholders to advance sustainable investment practices. This involves

sharing best practices, participating in initiatives, and supporting industry-wide efforts to promote sustainability.

Adopting this sustainable investment policy, the university contributes to positive social and environmental outcomes while generating financial returns. It demonstrates a commitment to responsible investing and can attract stakeholders who value sustainability.

Following this strategy, the university has established several investment projects e.g. technology park for incubation and acceleration, Alexandria National university, International university with two branches in Chad and south Sudan, as well as International Branch Campuses (IBC).

University president Endorsement

A. Konsowa

Prof. Abdel Aziz Konsowa

جامعة الإسكندرية
ALEXANDRIA
UNIVERSITY

Alexandria University Sustainable Procurement/purchasing policy.

A sustainable procurement or purchasing policy refers to the set of guidelines and principles that Alexandria University follows when procuring goods, services, or works in a sustainable and socially responsible manner. It aims to minimize the negative environmental, social, and economic impacts associated with the procurement process and promote sustainable practices throughout the supply chain.

Implementing a sustainable procurement and purchasing policy brings several benefits including reduced environmental impact, enhanced reputation, cost savings through efficiency improvements, and increased social responsibility. The element of the policy are used as guidelines that the university follows when making decisions with a focus on environmental, social and governance (ESG) factors and ensure consistency with sustainability goals.

Below is the set of key elements included in the policy:

1. Environmental Considerations: prioritization of environmentally friendly products and services that have a reduced carbon footprint, conserve resources, promote energy efficiency, and minimize waste generation. This includes the use of renewable materials, promote recycling and waste reduction, and specify environmentally preferable conditions and standards.
2. Social and Labor Standards: The policy require suppliers to comply with social and labor standards, including fair wages, safe working conditions, and respect for human rights. Such a policy promotes the use of suppliers who have fair trade or responsible sourcing certifications and encourage diversity and inclusion
3. Ethical Sourcing: The policy addresses issues such as conflict minerals, child labor, and corruption. It requires suppliers to provide evidences of responsible sourcing practices and ensure that they do not engage in unethical or illegal activities.
4. Screening and Exclusions: The policy includes criteria for screening and excluding certain investments based on negative ESG factors. For example, it may exclude investments in companies involved in fossil fuel extraction or those with poor labor practices. This approach aims to align investments with ethical and sustainable principles
5. Supplier Evaluation and Selection: The policy outlines criteria for evaluating and selecting suppliers based on their sustainability performance. It considers factors such as environmental management systems, social responsibility practices, and adherence

7.4.5 University provide assistance for start-ups that foster and support a low-carbon economy/technology

Alexandria University Technology Incubator for Smart Systems (AUTISS) nurtures innovation and entrepreneurship, linking university research with Egypt's Vision 2030 and the UN SDGs. It supports startups in smart systems, energy, agriculture, health, and education, providing technical, business, and commercialization guidance. The Energy Conservation Advisory Group assesses energy use and efficiency, while the Air Pollution Advisory Group monitors emissions and advises industries to improve air quality. Together, they advance sustainable technologies and environmental stewardship in Alexandria and beyond.

- Alexandria University is advancing a dual-track sustainability initiative comprising a rooftop photovoltaic installation and a Fab Lab for circular economy innovation. The solar component, targeting approximately 200 m² of suitable roof space (net usable area: 196 m² after accounting for 3% service access), will deploy a 1.5-ton system generating an estimated 37,700 kWh annually under Alexandria's mean global horizontal irradiance of 5.2 kWh/m²/day, factoring in 20% panel efficiency and a 0.75 performance ratio to account for system losses.

Solar photovoltaic

- **Alexandria University Technology Incubator for Smart Systems (AUTISS)**

About

Alexandria University Technology Incubator for Smart Systems (AUTISS) was accredited by the Ministry of Higher Education in 2020 to be established at Smart Critical Infrastructure (SmartCI) Research Center, Alexandria University (AlexU).

AUTISS aims to nurture the culture of innovation at campus among the university community and to create value addedservices for researchers and entrepreneurs.

AUTISS is mainly interested in using Smart systems and modern technology for the development of different infrastructure

systems (e.g., education, transportation, healthcare…etc.).

AUTISS Vision

AUTISS aims to be a hub that fosters synergy between the academia and the industry to fuel entrepreneurial spirit amongstudents to help them to be self-reliant and contribute to the economic development and nation building.

AUTISS Mission

- To build an ecosystem to incubate and support innovative ideas in Alexandria and the surrounding areas to enactwealth and employment action through successful startups.
- To create entrepreneurial opportunities for students, graduates, faculty members and researchers.
- To support emerging technologies that are useful to enter the market.
- To nurture technology and knowledge-based ventures through their start-up phase by providing the necessarysupport.
- To assist in commercialization of innovative ideas from students and researchers.

Areas of Interest

AUTISS supports entrepreneurship and provides a set of technical and business-related services to startups that deliver technological products or services for the development of the different infrastructure systems. Current topics of interest,based on the international trends and Egypt's 2030 strategy, includes but are not limited to:

- Digitization of different services
- Smart health services/products
- Fintech applications
- Smart business solutions
- Smart educational services/products
- Biomedical engineering
- New technologies in the field of Energy, Agriculture and Food industry

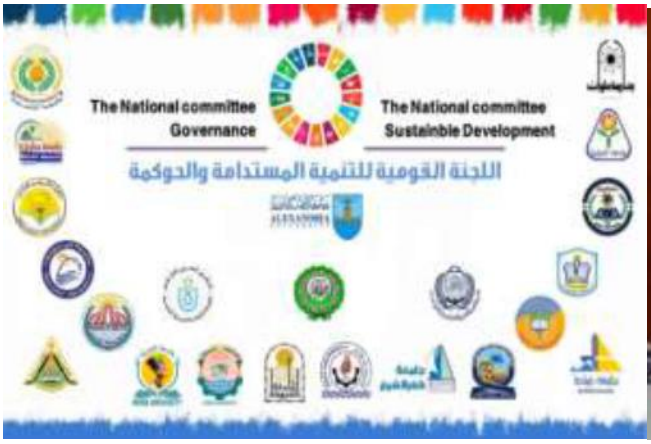
Alexandria University Technology Incubator for Smart Systems (AUTISS) Incubator (Faculty of Engineering, Alexandria University)

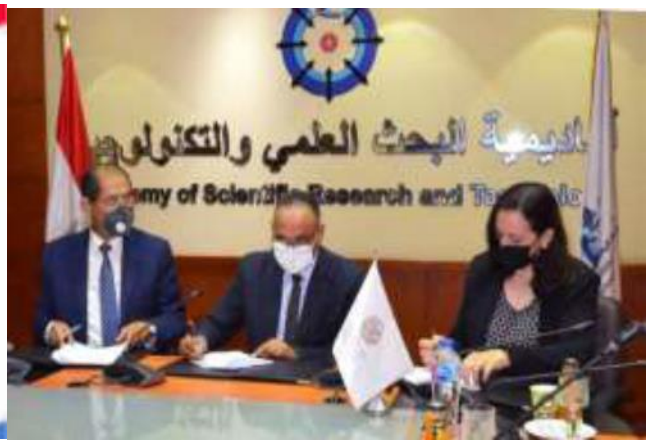
- **National Committee Sustainable Development**

Startup area in UI Greenmetric questionnaire (SI, EC, WS, WR, TR, ED)

Description: Proposed Mission: Striving to maximize the utilization of the outputs of education and scientific research with the sustainable development goals "Egypt Vision 2030", linking them with the United Nations goals for sustainable development together with developing a framework for the educational system governance aiming at achieving the well-being of society.

It includes green, sustainable development and innovative incubators.





- **Energy Conservation Advisory Group:**

This group is concerned with reviewing energy in all its forms at all levels, such as measuring and analyzing exhaust gases in furnaces and boilers with the aim of improving combustion efficiency and reducing emissions, measuring and analyzing boiler water, in addition to tests of thermal insulation efficiency, lighting efficiency, electrical energy analysis, and compatibility with electrical loads. It also determines the power factor to increase efficiency. Rationalizing the energy used, reviewing energy use, radiation measurements and safety tests for radioactive sources. The group has a mobile laboratory that can visit sites and make environmental measurements related to energy as well as emissions and study energy consumption and the extent of thermal insulation in industrial sites.

- **Air Pollution Advisory Group:**

The group is interested in monitoring organic and inorganic gaseous emissions to determine air quality in residential and traffic-intensive industrial areas. It manages the national network of air pollutant monitoring stations in Alexandria and the Delta. It also provides consulting services to factories and agencies to determine air quality inside and outside the work environment and also control air pollutants.