

### **7.4.1 programmes for local community to learn about importance of energy efficiency and clean energy**

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

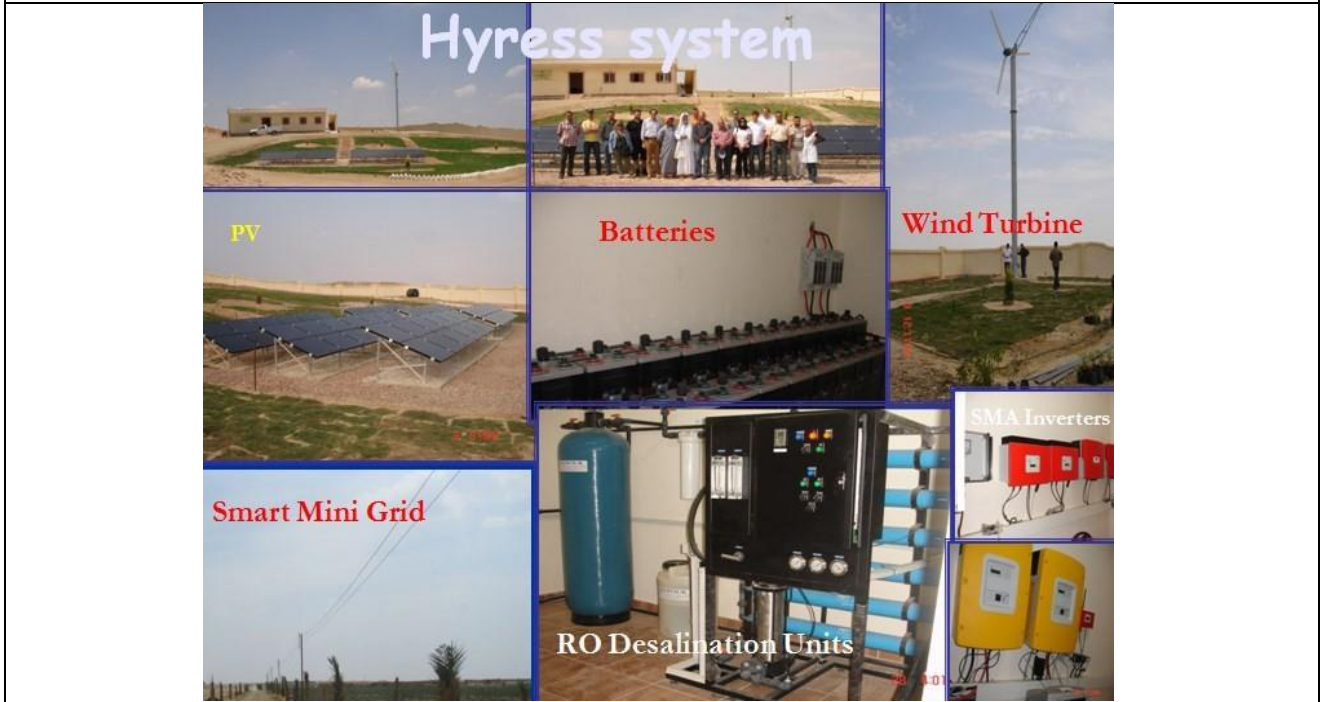
- 1) **Research and development:** Encouraging applied research on renewable energy at AU and through collaborations with other national and international universities. Development of hybrid systems in renewable energy and its uses in water pumping and water desalination and development of remote and 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)

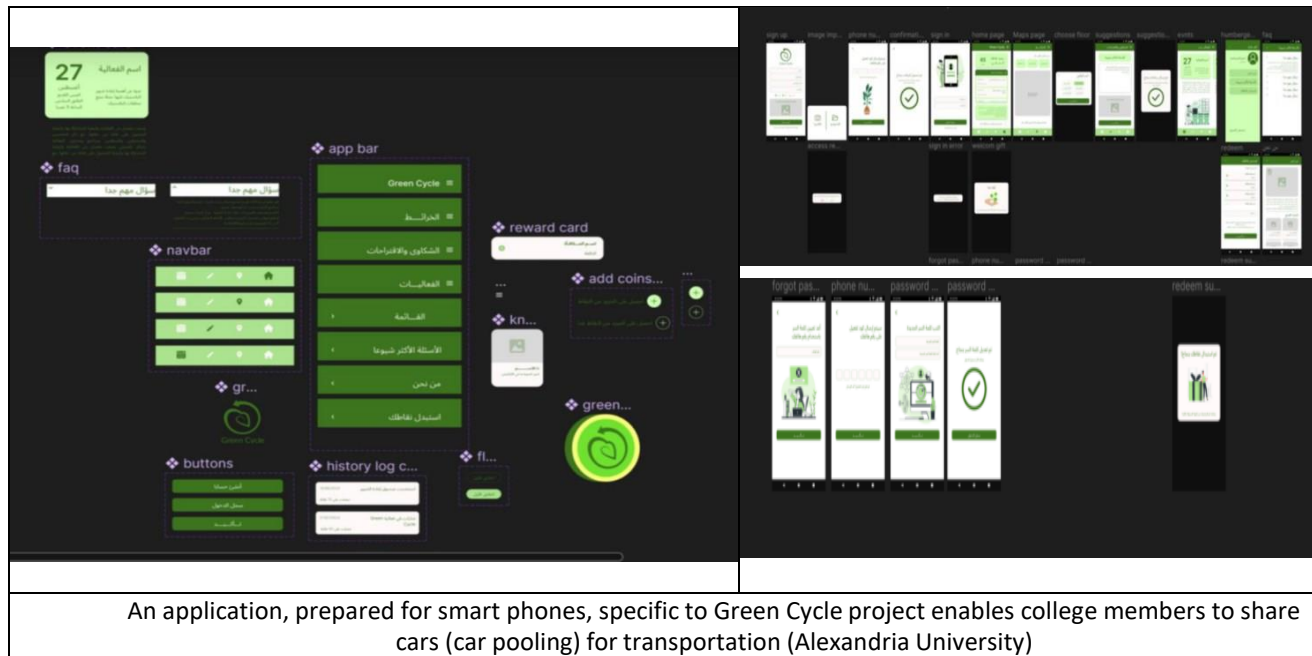


Solar Energy Center at the Faculty of Agriculture (Alexandria University)

## 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.



### 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 reduce methane 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 with the 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).

**A list of 126 projects which have an impact on the reduction of greenhouse emission and climate change are listed**

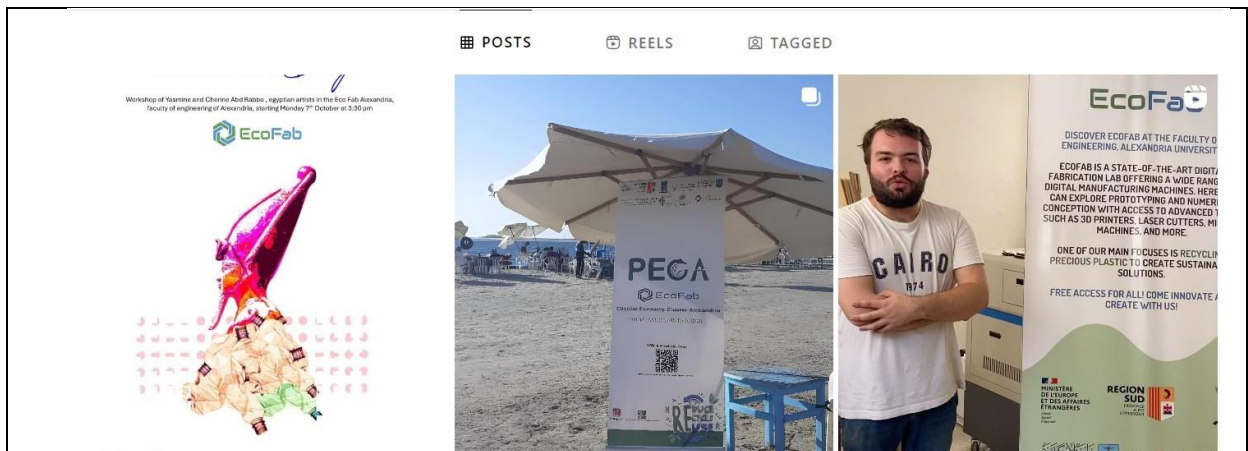
### **Fab Lab Project in the Faculty of Engineering - Alexandria University**

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.









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 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.



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.



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



**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.**

*Photos of Mouwasat International Education Building*



*Photos of Faculty of Engineering SSP Building*



*Photos of Faculty of Education Building*



**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 of public 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 the global level, and the establishment of the Alexandria University Center. For the greener blue economy, Egypt's role as a regional energy center and the establishment of the Alexandria University Center for Sustainable Development