



# Cross border seminar: Accelerating energy retrofitting investments in Mediterranean university buildings

## Local workshop - Palestine

### Workshop Report

Date: 17<sup>th</sup> June 2021



Med-EcoSuRe

## **DISCLAIMER**

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## Med-EcoSuRe Project

<b>Project Title</b>	Mediterranean University as Catalyst for Eco-Sustainable Renovation
<b>Project acronym</b>	Med-EcoSuRe
<b>Funding scheme</b>	European Union under the ENI CBC Mediterranean Sea Basin Programme 2014-2020
<b>Start date</b>	September 1st, 2019
<b>Duration</b>	36 months

Med-EcoSuRe is a project funded by the European Union, under the ENI CBC MED programme 2014-2020. The programme is managed by the Autonomous Region of Sardinia (Italy) and aims to promote cross-border cooperation in the Mediterranean region.

The main objective of the project is to propose and implement innovative and eco-sustainable energy renovation solutions for Mediterranean university buildings and introduce an active collaborating approach for decision support, among key actors involved, in the framework of a Living Laboratory: MED beX.Live (Live the eXperience of university building environment).

## Scope of the Event

In the framework of Med-EcoSuRe, a cross order seminar was organized with the aim to propose innovative financing schemes, business models, organizational structures and partnerships to accelerate the energy retrofitting of the university building stock in the Mediterranean.

The seminar included:

- **National workshops** organized to investigate opportunities, innovative tools and financing schemes in Tunisia, Palestine, Italy and Spain. These workshops targeted local and regional authorities, national energy agencies, ministries and fund managers, organisations providing training to cities and regions, banks and financing institutions.
- **A cross border conference** in which each partner of the project presented the outputs of the local workshops, with the aim to trigger a debate about local specificities on existing financing schemes and opportunities to accelerate the energy renovation of universities buildings.



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This report summarizes the outputs of the local workshop organized online on the 17<sup>th</sup> of June 2021, by An Najah National University.



## I. Addressed issues

- Brief overview on Med-EcoSuRe project (Objectives & achieved results)
- Financial barriers to carry out retrofit in public universities (high costs for energy audits...)
- SWOT Analysis and Renewable Energy Assessment in Palestine
- Financing schemes for the replicability of the project actions
- Existing financing schemes of Energy Efficiency (EE) & Renewable Energy (RE) in building for each local context (EPC, Grants, Fiscal incentives, etc...)
- Discussions on the assessment of local strategies & recommendations

## II. Executive summary

On Thursday, June 17, 2021, the Energy Research Centre (ERC) at An-Najah National University held an online workshop about the existing financing schemes and means of accelerating energy transition in Palestine. The workshop was organized for the representatives of local universities, students, energy agencies and companies operating in Renewable Energy and Energy Efficiency field.

The event aimed to investigate opportunities, innovative tools and financing schemes to foster energy retrofiting in the university buildings within the Med-EcoSuRe project activities.

During the workshop, the challenges and opportunities of financing schemes of renewable energies in Palestine were outlined. Also, the event included discussions about several topics, including SWOT analysis and renewable energy assessment in Palestine, the importance of financing schemes for the replicability of the project actions, barriers against diffusing renewable energies in the West Bank, and existing financing schemes of EE&RE in building for each local context (EPC, Grants, Fiscal incentives, etc...) in Palestine.

The workshop was finally concluded with an open discussion with the participants, who shared different ideas for future events.

A cross border conference will be held on 29 June, 2021 through which each partner country will present the results and best practices of the local workshops, with the aim of triggering a debate about local specificities on existing financing schemes and opportunities to accelerate the energy renovation of universities' buildings.



## III. Conclusion & Recommendations

- Raise awareness and dissemination of methods, tools, good practices: communication on EE and RE benefits shall be strengthened by addressing different targets, national and local decision-makers, private sector and civil society, including the simple citizens. The role of regional networks could be to develop strategies for better dissemination, awareness raising and communication on these dedicated topics providing guidelines, studies and tools.
- The implementation of EE and RE measures requires the creation of a market supply of materials, equipment and services as well as the creation of a demand by the general public, changing their behaviour and adapting to the shared need for the energy transition and climate mitigation. Overall, raising people's awareness of both EE and RE benefits should be one of the main goals for all sectors in Palestine since the lack of knowledge is a clear barrier to the dissemination of good practices.
- Capacity-building of public authorities, market players, energy managers, energy auditors, technicians in Palestine.
- Create more financial incentives. The lack of financial incentives is one of the main barriers to the dissemination of RE&EE technologies. The countries should, therefore, provide alternatives to invest in these technologies, such as low-interest loans and net-metering mechanisms, credit lines and fiscal benefits. Different types of incentives are more appropriate for certain economic sectors, and this should be taken into consideration.
- Establish an effective regulatory framework. As most of the countries have not in place effective regulatory frameworks to promote RE and private sector investments. The implementation of policies facilitates the dissemination of the use of new technologies.
- Invest in research and development. The countries should implement R&D programmes to ensure the existence of a competitive RE sector.
- Strengthen policy monitoring for decision making / Establish and improve data collection procedures. Data collection and its subsequent analysis are very important to evaluate the effectiveness of the implemented measures, allowing the monitoring and evaluation of the evolution of the energy sector in the country.
- Low energy educational buildings are becoming the standard for new buildings in European and Mediterranean countries.



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- Technical solutions are continuously developed by universities for eco-sustainable building renovation, but there is still a gap between designed models and their actual application.
- Several barriers, such as the insufficient collaboration between key actors and the lack of efficient suitable tools from the public sector to develop solutions.
- Med-EcoSuRe project offers an innovative approach to the definition and diffusion of cost-effective energy renovation within university buildings, with the perspective of extending results to the whole public buildings sector in the long term.
- Med-EcoSuRe foreseen actions are in line with the proposed strategies in Palestine.
- Through the Med-EcoSuRe a photovoltaic power plants on the rooftop of the university buildings were implemented with a capacity 220 kW of solar panels and 55 kW is under construction.
- The total annual penetration factor of electricity delivered to the grid was found to be 72%.
- The annual average final yield was compared with other systems installed in different locations world-wide, the value in Palestine was found 1684 kWh/ kWp and the average annual performance ratio of the installation was found 84%.
- The average annual capacity factor for PV installations in Palestine was found 18.5%.
- The annual average module, system and inverter efficiencies were: 17.8 %, 14.7 % and 96.5 % respectively. Compared to other results from other regional systems, the PV system in Palestine has higher average daily final yield.
- These results will be useful in identifying solar PV technologies that are appropriate for Palestine and provided important information to policy makers and other universities about the performance and feasibility of installing grid-tied PV systems on the roof top of buildings in HEI s in Palestine.
- The value of the energy transition in Palestine is beyond technological change, but a road for independence. Moreover, the engagement of various multi-level actors raised attention towards the value of renewable energy as a solution for the persistent problems in the energy sector.
- Speeding up the process of establishing a legal framework for renewable energy with all stakeholders involved to ensure addressing concerns of all parties, particularly producers and small home/business consumers. The absence of a legal framework is a major obstacle to the development of this sector.



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- Motivating banks operating in Palestine to grant guaranteed credit facilities for renewable energy small investors.
- Promote the formation of cooperatives aimed at producing renewable energy for residents of blocks and neighborhoods.
- Municipalities and licensing authorities are advised to encourage the production of renewable energy by making the issuance of building permits conditional on providing architectural drawings for solar panels to be installed on roofs or walls or in open spaces.
- Encourage home owners to use roofs and open spaces to invest or lease them for electricity production.
- Launching consumer awareness campaigns on the economic/environmental benefits of solar energy and methods to reduce costs.
- Efforts should be made to overcome the obstacles imposed by Israel which controls the grid infrastructure in Areas A, B and C, which ultimately aborts Palestinian endeavors, particularly setting up power production plants in Area C. Any Israeli attempt to hinder the Palestinian efforts should be exposed before the international forums.
- Distribution companies should upgrade the grid and install new transformers so as to reduce power loss, with substantial amounts of money wasted annually and borne by the PA, providers and consumers.
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## Agenda



### **Financing schemes of EE&RE in buildings in Palestine workshop** "Existing financing schemes and means of accelerating energy transition"

The webinar will be hosted by the Energy Research Center-ANNU , partner of Med-EcoSuRe project, and is scheduled to take place virtually

Event Date: 17 June 2021 - 11-12:30 PM

#### **Agenda**

11-11:15	Brief overview on Med-EcoSuRe project (Objectives & achieved results) – <i>Eng. Fadia Hashaika</i>
	Survey results: focus on the financial barriers to carry out retrofit in public universities (high costs for energy audits...) – <i>Dr. Imad Ibrik</i>
11:15-11:30	SWOT Analysis and Renewable Energy Assessment in Palestine – <i>Dr. Imad Ibrik</i>
11:30-11:45	Highlighting the importance of financing schemes for the replicability of the project actions – <i>Eng. Tha'er Jaradat</i>
11:45-12:00	Existing financing schemes of EE&RE in building for each local context (EPC, Grants, Fiscal incentives, etc...) – <i>Eng. Ibrahim Karakous</i>
12:00-12:30	Discussions on the assessment of local strategies & recommendations