

# RENEWME



**CRETE**



***“The municipality of Malevizi is perfectly suited for becoming a vivid model example of best energy practices for other municipalities located in Crete or other islands in the Aegean ”***



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The European Islands Facility NESOI aims to unlock the potential of EU islands to become the locomotives of European Energy Transition. To do so, NESOI aims to mobilize more than €100 Million of investment in sustainable energy projects to give EU islands the opportunity to implement energy technologies and innovative approaches, in a cost-competitive way. NESOI has selected 56 such projects across the European Union and provide them with financial resources and technical support.



## Renewable Malevizi Energy Future

### ABOUT THE PROJECT

RenewME facilitates the realization of goals included in the Sustainable Energy Action Plan (SEAP) of the Municipality of Malevizi in Crete.



#### Project Promoters:

EDIFICE G.P. and Municipality of Malevizi



Country GREECE



Sector Energy  
Community



PROJECT VALUE 1,676,000 €

#### DESCRIPTION

RenewME will establish a local energy community by way of clean energy production through renewables, electrification of transportation fleet, energy efficiency in public lighting systems and energy efficiency in Malevizi Town Hall. All these projects have guaranteed funding and they comprise parts of Malevizi's SEAP, while the expected impact of their implementation would be a major step towards an Energy efficient and Green Municipality.

#### AIM OF THE PROJECT

RenewME aims to perform a technical-feasibility study for the procurement of an electric mini-bus and bicycles for selected intra-municipality routes, and technical studies for the installation of a 1 MW photovoltaic park, the procurement of efficient street lighting for a selected main avenue, and the energy efficient renovation of the Town Hall, i.e. an iconic public building that will serve as an "energy efficiency lighthouse" for the Municipality.

#### FUTURE STEPS

The proposed PV plant will directly reduce Malevizi's energy production footprint, while the proposed energy efficiency actions will indirectly reduce the environmental footprint. The expected impacts of the technical interventions would be a major step towards "Green Malevizi". A significant part of Municipality's energy requirements will be covered from renewable sources and the promotion via the Energy Community of efficient use of electricity in public sectors will further reduce energy demands.

## HOW THE EU ISLANDS FACILITY NESOI SUPPORTS THE PROJECT

- 1 Identification of suitable technological options given existing project sizing requirements
- 2 Cost Benefit analysis and socio economic and environmental impact evaluation
- 3 Definition of the required environmental permitting procedures
- 4 Assessment of the key project sizing drivers
- 5 Definition of the technical, economic and financial, fiscal project inputs
- 6 Risk analysis and identification of available mitigation strategies
- 7 Assessment of existing procurement options (e.g., tender, PPP, etc.)
- 8 Financial modelling and identification of target scenario
- 9 Identification of financing/funding options
- 10 Regulatory analysis and governance recommendations on energy community





## INTERVIEW WITH Petros Asmargiannakis, CEO of Edifice

**Q: How was the project initially designed? Why choosing this specific sector?**

A: The project was designed to support the Malevizi Municipality's energy transformation, in accordance with the Sustainable Energy Action Plan of the Municipality and the recently adopted National Climate Law. The project started through the cooperation of the Municipality with the company Edifice. The technologies chosen (PV, electric cars, LED lamps, etc.), are the modern solutions for saving energy and eliminating fossil fuels. Finally, the creation of an Energy Community is a way of transitioning to an Energy Democracy.

**Q: What were the challenges? How did NESOI help overcome them?**

A: The project requires a series of technological pre-studies and NESOI contributes to the best preparation for the selection of the optimal solution. A series of legal and licensing issues, as well as tender announcement issues, were clarified and the foundations were laid for a more efficient organization of the overall project.

**Q: How does the project affect citizens at the local level, as well as businesses and other stakeholders?**

A: The project will be an example for citizens to develop similar actions: PV on roofs, electrification, participation in Energy Communities. Many bodies and companies will have the possibility to participate in the Energy Community that will be established. Therefore, they will have access to cheaper electricity, the price of which will even be zero after the initial payback period of the investment. Local businesses will also have the opportunity to participate in the relevant tenders for the supply and maintenance of the various project actions (PV, municipal lighting, electrification, City Hall upgrade).

**Q: What are the next steps of the municipality towards clean energy transition?**

A: In each proposed action, the next step is to cover an increasing share of the energy usages by efficient technologies: LED lighting everywhere, electrification everywhere, building upgrade everywhere... And the corresponding energy generation should be from renewable sources.

## THE IMPACT ON LOCAL COMMUNITY



### 1 Local Economy

Local economy will benefit in many ways: - implementation of proposed actions will engage local companies and workforce - state-of-the-art technology will be implemented and disseminated to the community, the local service providers and the public in general. This will result in increased competitiveness of local companies. - Finally, reduction of GHG emissions will drastically improve living conditions in an area where the largest thermal power plants of Crete is located (Linoperamata area).

### 2 Social Acceptance

Some of the proposed projects (i.e. energy renovation of Town Hall, green vehicles) will be employed as vivid examples for citizens' engagement. The Municipality has an extended group of volunteers and plans to create a dedicated energy related group for the promotion of projects' activities. The Energy Community will widen the energy market, enabling cooperation between local communities, local firms and citizens' direct engagement. Furthermore, it will combat energy poverty at a local level.

## FOCUS ON

### THE CREATION OF AN INTEGRATED ENERGY COMMUNITY

Energy communities structure collective actions supporting the transition towards cleaner and citizen-driven energy supply services.

The Municipality of Malevizi in Crete is leading the creation of an energy community which will gather municipal organizations, local firms and citizens. This project is executed in the framework of the Sustainable Energy Action Plan (SEAP) of the Municipality of Malevizi.

The community would benefit from more than just the traditional solar installations.

A series of solutions are under evaluation:

1. 1 MW photovoltaic park installation
2. Electrification of transportation fleet
3. Energy efficiency in public lighting systems
4. Energy efficiency in public buildings

The project serves as a "proof of concept", live example, for the rest of the municipalities in the island of Crete and the Aegean archipelago in general.



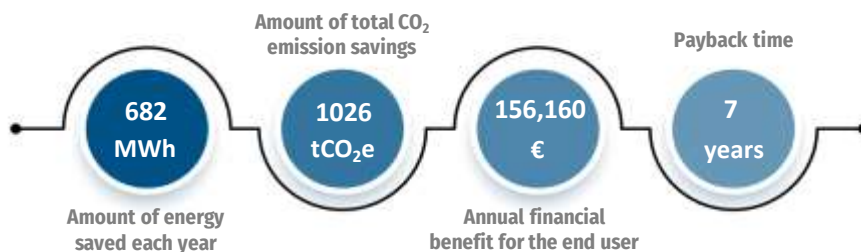
**Gazi, the municipality of Malevizi**  
(Source: Wikimedia Commons, C. Messie)

## EXPECTED

### ENERGY SAVINGS AND RENEWABLES SHARE

The 1MW PV plant will produce 1460MWh/year or 36500MWh for 25 years. The total annual GHG savings from the electrification of the transportation fleet are 58 tons CO<sub>2</sub> of oil equivalent. The energy savings from the energy upgrade of the Town Hall are expected to be 310 MWh annually. Substituting existing lighting (current capacity is 4 MW) with LED lamps will save 372 MWh annually. The installation of the proposed 1 MV photovoltaic park will be the first renewable installation owned by the Malevizi Municipality and operated by its Energy Community and thus it will increase its RES share by 100%.

## KEY NUMBERS OF THE PROJECT



## REPLICABILITY IN OTHER ISLANDS

Many islands of the Aegean Sea are at a similar situation with the Municipality of Malevizi (e.g., not interconnected to the main grid, very low renewable energy share and limited implementation of energy efficiency techniques). The feasibility of the proposed actions of renewME allows for easy replication to most islands in the Aegean Sea.