

Develop feasibility studies to maximize the solar resource, in a context of smart grids and local energy communities

# POSIDON



"POSIDON aims to act as a catalyst to join the energy sector, ICT technologies and communities to achieve a significant environmental and social impact."



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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.

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**SUPPORTS THE PROJECT** 

- 1 Analysis of existing planning documentation, identification of the project boundaries.
- Analysis of the regulatory framework concerning the development of Energy Communities .
- Assessment of the key project sizing drivers.
- Identification of suitable technological options given existing project sizing requirements.
- <sup>5</sup> Definition of the required environmental permitting procedures.
- Cost-benefit analysis and socio-economic and environmental impact evaluation.
- Definition of the technical, economic and financial, fiscal project inputs.
  - Risk analysis and identification of available mitigation strategies.
- Action plan and identification of project monitoring procedures.



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## **INTERVIEW WITH**

Miquel García, Consell Insular de Menorca

#### Q: How was the project initially designed? Why choose this specific technology / sector?

A: The Menorca 2030 Strategy, which sets the roadmap to decarbonize the energy system of Menorca, focuses on putting citizens at the center of energy transition, with the POSIDON project funded by NESOI aiming to fill knowledge gaps and fund the development of feasibility studies for 4 different types of energy communities which are being developed. Aiguasol conducted studies on energy communities in the urban zone of Mahón, and in hotels like Hotel MarSenses. Cinesi's study on island shared mobility in Menorca Island found potential for electric vehicle communities. A solar PV plant energy community with citizen participation was halted due to grid connection difficulties and legal challenges.

#### Q: What are the challenges of the project?

A: POSIDON faced several challenges, including the lack of compatibility of the computer tools used by the Public Administration with the ones used by private contractors. Other important challenge is the lack of specialized technical personnel in Public Administrations. However, it can be remarked that the project has involved companies from Menorca, and has created some jobs for young Menorcan engineers.

#### Q: What are your next steps towards clean energy transition?

A: The Consell Insular de Menorca is implementing the RESET project, a LIFE project funded by the European Commission, to become a pilot island in energy transition in rural areas. The project connects Menorca with four similar European towns, empowering public administrations to support them to face the energy transition challenges. The project aims to improve the quality of life for inhabitants and promote energy transition at a legal level, focusing on social involvement and acceptance.

#### Q: Within your views, where could this project be replicated?

A: The POSIDON project involves the development of four energy communities based on solar PV energy and shared sustainable mobility. This project has large replicability potential. The project success in the European Union is easy, and the necessary regulatory framework does exist, but it is something innovative, and not very well known. So as to replicate this project, we would be very interested in being able to communicate the results of this project to other islands. We would like to participate in a platform which allows to talk to other islands, in the European Union and worldwide.





#### **1** Local Economic Conditions

POSIDON helps to establish energy sovereignty on the island, since it increases the implementation of self-managed alternatives that are developed by citizens for the citizens. More RES also increases competition and could lower the cost of energy.

#### 2 Social Acceptance and Impact

Citizen participation is empowered though the creation of an innovative ecosystem, where knowledge is shared, and good practices are awarded. POSIDON project will target indirectly energy poverty mitigation through the energy profiling of the population.





*Develop feasibility studies to maximize the solar resource, in a context of smart grids and local energy communities* – Technical Data

## FOCUS ON PLANNING OF ENERGY COMMUNITIES

Energy Communities are nowadays a major instrument for the promotion of the use of renewable energy sources though the empowerment of consumers. POSIDON has developed feasibility studies to design and validate a toolbox to implement energy communities with different approaches, the urban area of Mahón, the public-private Trepuconet solar PV plant in the town of Es Castell, and energy communities which use the solar PV plants of hotels, and focused on shared electric mobility. Furthermore, feasibility studies for energy communities and shared electric mobility in the Menorca Island were carried out.

The Mahón Energy Community is contextualized in urban environments with the purpose of reinforcing relationships between residential communities and public entities. The use of the distribution network for energy exchange is proposed, allowing these citizens which cannot invest in solar PV plants or access to them to use electricity from a solar PV plant.

Trepuconet is a solar PV plant that is planned to be pubic-private with citizen participation. In the development of this project, the possibilities of formalizing energy purchase-sale agreements between the promoter of the plant and the local administrations around Menorca are investigated. Also, the legal mechanism and framework that allows the creation of an energy community linked to the PV plant but co-participated by Menorca's population is investigated.



Satellite image of Trepoconet solar PV plant (POSIDON Interim report)

### EXPECTED ENERGY SAVINGS

Through the execution of the different measures, POSIDON intends to produce around 1.2 GWh of electricity to be used by Menorcan citizens, with a reduction in associated CO<sub>2</sub> emissions of 1,036 tons/year.



demographic, economic and social level.

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