

DOCKS



 **SICILY**

“The strategies identified for the ports of Milazzo and Messina can be replicated in other ports with similar features on Sicily and on mainland”



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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.



Development Of Consistent Key strategy of the Strait Port System

ABOUT THE PROJECT

**Project
Promoter**

Autorità di Sistema Portuale dello Stretto (AdSP)



Stakeholders

Region Siciliana
Aeolian Islands

Municipalities of Messina, Milazzo, Pace del Mela and S. Filippo del Mela
National energy and environment agency (ENEA) Confindustria



Country Italy



Sector Ports



PROJECT VALUE 127,200,000 €

DESCRIPTION

The project consists in elaborating the Environmental Energy Planning Document of Port Systems (DEASP) for the ports of Messina, Milazzo and Tremestieri, in Sicily, which belong to the Port System Authority of the Strait (AdSP).

AIM OF THE PROJECT

The DEASP defines strategic guidelines for the implementation of specific measures, in order to improve energy efficiency, promote the use of renewable energy in the port area and introduce measures that have environmental benefits for the citizens of the neighbouring territories and for the port users.

FUTURE STEPS

The elaboration of energy-environment planning documents for Italian ports is a legislative requirement. The document drawn up in cooperation with NESOI can be a reference for all other future structural interventions that will have to take environmental impact into account. The breakwater to protect the port will also have to be built for wave energy production or with vertical axis wind turbines.

HOW THE EU ISLANDS FACILITY NESOI SUPPORTS THE PROJECT

- 1 Socio-economic, territorial and environmental analysis.
- 2 Analysis of the local RES potential
- 3 Definition of the energy balance and preparation of the Baseline Emissions Inventory
- 4 Climate change risk analysis and vulnerability assessment
- 5 Analysis and mapping of regional, national and European planning tools framework
- 6 Support in the drafting of the SECAP
- 7 Action plan and monitoring system, allocation of responsibilities for its implementation
- 8 Preparation of technical and supporting documentation
- 9 Setting up of planning frameworks for the elaboration of the DEASP





INTERVIEW WITH

Mario Mega, President of Autorità di Sistema Portuale dello Stretto

Q: How was the project initially designed?

A: The project was designed to analyze the environmental footprint of port activities and find implementable solutions for the energy transition. It was also necessary for us to expand the technical team that was already involved in order to increase the effectiveness of our actions. NESOI's assistance made it possible to add a broader vision to our specific strategy.

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

A: First, this is a general challenge: the reduction of CO₂ emissions in ports both by the port infrastructure manager and by the operators who have activities in ports. NESOI contributes to the activities of persuading private operators to reduce the CO₂ emissions linked to their activities; they would also benefit in terms of performance and greater possibility for accessing incentives from Port Authorities. The second major challenge is the creation of energy communities by bringing together the public, private and other entities from the surrounding areas.

Q: How does the project impact citizens locally? How are they involved?

A: Our organization is used to involve citizens in the planning of activities, but to date it is still premature in this project. As a first step, we need to know the real environmental footprint. The biggest beneficiaries are the local citizens, for example in relation to the impact of CO₂ and nitrogen emissions. Air quality is very poor around ports: there is a ship operation every 5 minutes in August. The emergence of an energy community around the port would represent a more modern energy management, also integrating apartment buildings into the port's smart grid and thinking about other future integrations, for instance related to tidal power and the use of hydrogen. The benefits of the port's energy self-sufficiency would also accrue to citizens. The strategy could be to envisage a specific agreement with the national grid that would also bring benefits to local communities.

THE IMPACT ON LOCAL COMMUNITY



1 Local Economy

The construction of new plants will lead to the creation of new jobs for construction, management and maintenance, to the improvement of environmental conditions, in particular air quality, with consequent improvement in the quality of life.

2 Social Acceptance

The authorities and stakeholders involved in the participatory processes will be the Region Siciliana, the Municipalities of Messina, Milazzo, Pace del Mela and S. Filippo del Mela, the Aeolian Islands, National energy and environment agency, Port Authorities, Chamber of Commerce, Confindustria, Trade unions, environmental associations, large shipowners and port companies. A series of meetings are being organized with all of them.

Development Of Consistent Key strategy of the Strait Port System– Technical Data

FOCUS ON

AIR QUALITY IN PORT AREA

Around big ports, air quality is usually poor due to the ships' running systems and to the use of shore-side facilities. In Italy, such issues are addressed by the elaboration of Environmental Energy Planning Documents of Port Systems (DEASP).

Within the D.O.C.K.S. project, the DEASP defines strategic guidelines for the implementation of specific measures for the ports of Messina, Milazzo and Tremestieri, in Sicily.

Such measures include the electrification of the docks and the creation of a coastal LNG (liquefied natural gas) platform. This power supply system is encouraged by Directive 2014/94/EU on the deployment of alternative fuels infrastructure.

Transitioning from traditional fuel oil to LNG for larger vessels can reduce NOx by 80%, SOx by 90%, and fine particles by 95%.

For the smaller vessels stationing in the ports, fuel oil or diesel power supply will be replaced by electric power, supplied by the port infrastructures and produced by renewable energy sources (solar and tidal).



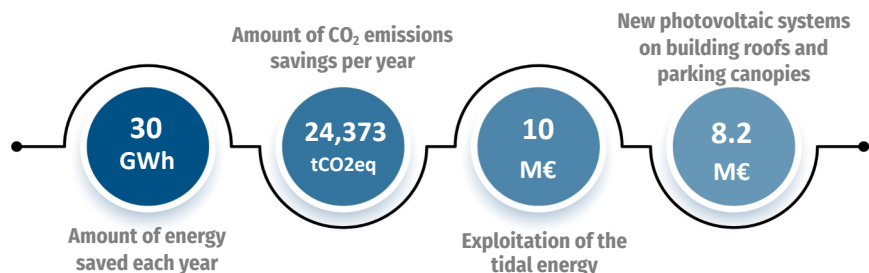
Aerial view of the Port of Messina

EXPECTED ENVIRONMENTAL IMPACTS

Shifting to LNG-powered vessels from can reduce NOx over 80%, Sox by over 90%, and PM by over 95% as reported in the Science for Environment Policy: European Commission DG Environment News Alert Service, edited by SCU, The University of the West of England, Bristol, 2016.

Similar reductions are reported for road transport: 3,9% on CO₂, 49,4% on NOx and 93,4% on PM10.

KEY NUMBERS OF THE PROJECT



REPLICABILITY IN OTHER ISLANDS

The strategies identified for the ports of Milazzo and Messina can be replicated in other Sicilian ports, being similar the predominant types of traffic (fast vehicles for passengers, roll-on/roll-off, cruises, commercial lift-on/lift-off), operators and stakeholders involved. In this way, the DEASP drafting methodology, the mechanisms of comparison and partnership with stakeholders and the social acceptance strategies in similar contexts will be taken as reference point to be replicated.