Co-financed by the Connecting Europe Facility of the European Union

EALING

European flagship Action for coLd IronING in ports

The Project

In December 2019, the European Commission presented the European Green Deal strategy, in which it was stressed, inter alia, the need to accelerate the shift to sustainable and smart mobility, as transport accounts for a quarter of the EU's greenhouse gas emissions and still growing, being maritime transport responsible for 3-4%[1] of the total CO_2 emissions in the EU.

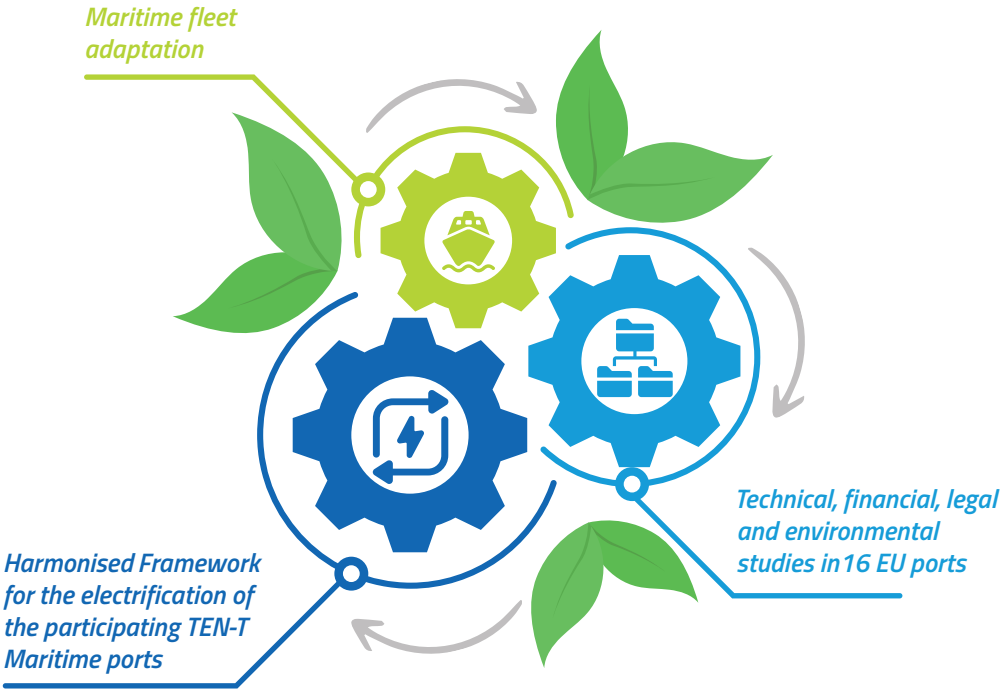
Within the EU port and maritime sector, one effective solution to reduce emissions in ports is the installation of Onshore Power Supply (OPS) or, in a broader definition, Shore-Side Electricity (SSE) systems. However, although the technology is available and fully mature, European ports currently face difficulties in implementing these facilities due to the lack of a harmonised framework on shore-side electricity at EU level.

EALING (European flagship action for cold ironing in ports) is a 42-month action co-funded by the Connecting Europe Facility (CEF) Programme that has aimed to conduct all the technical, environmental, socio-economic and financial studies necessary to accelerate the preparation works for the implementation of shore power facilities in 16 EU ports, while working together towards a common harmonised and interoperable EU framework for their transition to SSE.

[1] European Commission, «Climate Action - Reducing emissions from the shipping sector» Available: https://climate.ec.europa.eu/eu-action/transport-emissions/reducing-emissions-shipping-sector_en.

The project has contributed to accelerate the deployment of SSE in European ports by:

- **Bringing forward a harmonised and interoperable common framework on SSE.**
- **Facilitating the port to vessel compatibility** in the TEN-T Maritime Network for vessels calling at the ports of the consortium.
- **Supporting the participating ports to meet the objectives set for 2030,** by carrying out the necessary technical, financial, legal and environmental studies to tender the works for their future SSE facilities.



Ports participating in the EALING project


Ports of Açores


Port of Ancona

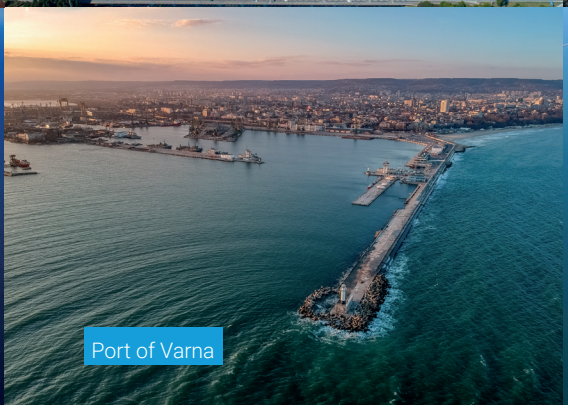

Port of Constanta


Port of Cork


Port of Koper


Port of Leixoes


Port of Valencia


Port of Varna

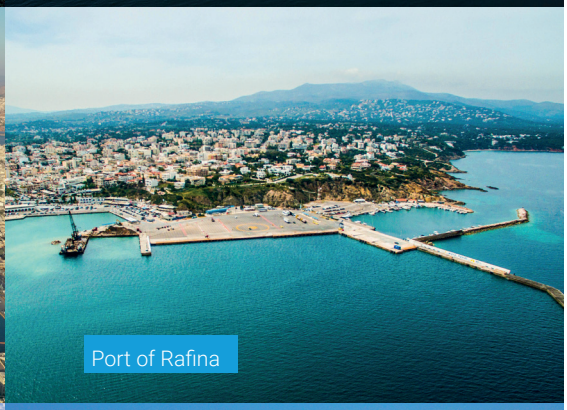

Port of Barcelona

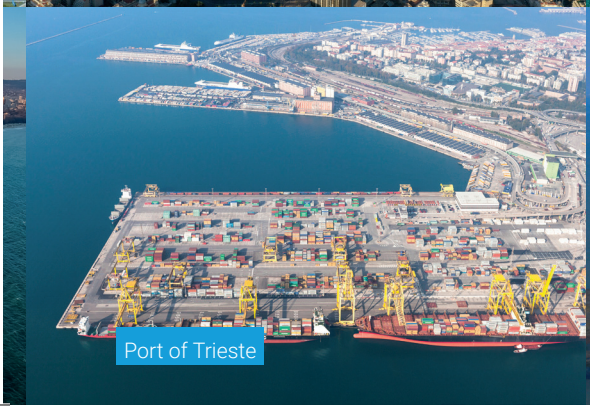

Port of Burgas


Port of Gijón


Port of Huelva


Port of Piraeus


Port of Rafina


Port of Trieste


Port of Venice – Chioggia

Harmonised Framework

The **Harmonised Framework for the electrification of the participating TEN-T maritime ports** activity aimed to analyse in detail the current technical, legal and regulatory framework affecting the implementation of SSE installations in the ports of the consortium, with the ultimate goal of proposing recommendations on how to overcome existing barriers and move towards a harmonised framework for its deployment.

To achieve this goal, the EALING consortium worked intensively with key stakeholders from the maritime and port sectors (shipping companies, ports, EU associations), the European Maritime Safety Agency (EMSA), SSE technology solution providers and energy suppliers - through literature/regulations review, workshops, conferences, interviews, and a specific questionnaire answered by 54 EU ports - , to identify the main obstacles faced by ports and shipping companies when planning and installing SSE systems.

Following these interactions, recommendations were proposed, broken down by key external factors (political and legal, technical, economic, environmental and social).

Maritime Fleet Adaptation

The **Maritime Fleet Adaptation** activity focused on facilitating the harmonisation between ports and vessels towards the SSE adaptation, by addressing the regulatory and technical considerations from the vessels' side.

To achieve the final goal, the consortium undertook the following steps:

Identify and study the relevant electrical standards *and general regulatory framework for both ports and vessels.*

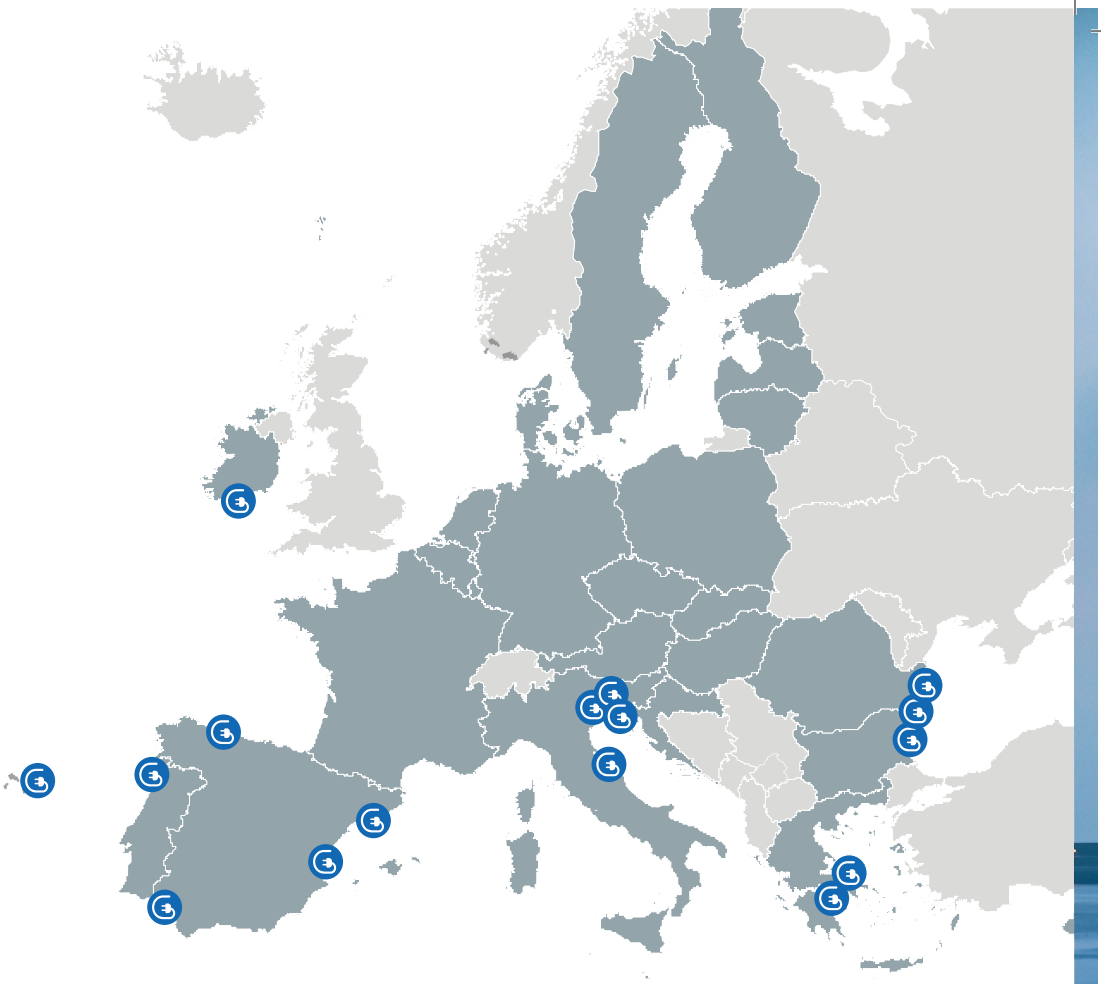
Choose appropriate vessel types *for case studies and study their spatial and electrical arrangements towards recommending best practices for required vessel retrofit.*

Provide regulatory and operational recommendations *for a harmonised technical, legal, and regulatory framework on fleet electrification adaptation*

Applying the same methodology as for the Harmonised Framework for the electrification of the participating TEN-T maritime ports activity, the information gathered through the EALING interactions with external SSE actors combined with the literature/regulations review and the engineering execution work led to the core outcomes of the activity: an analysis of the applicable standards and regulations and a set of final recommendations from a technical and regulatory point of view.

Check our Dissemination page to find all the EALING Documents!

- *Detailed analysis on the existing national/port regulations affecting shore side electricity.*
- *Final recommendations for a harmonised framework on shore side electricity in EU ports.*
- *Analysis of the standards relevant to shipside installation for shore side electricity supply for the vessels operating in the ports of the consortium.*
- *Identification of the relevant technical and regulatory elements to facilitate adaptation and connectivity of ships to shore side electricity.*



Technical Studies

The activity **Technical studies for the electrification infrastructure of the participating TEN-T maritime ports** has consisted in carrying out the front-end engineering design studies and other technical studies necessary for the definition of the future SSE installations to be executed by the 16 EU ports after the completion of the EALING project.

These studies will be part of the tenders to be launched by the ports for the execution of the future works.

Enviromental Studies

Environmental Studies have been carried out, the content and scope of which have depended on the final needs of each port.
In many cases, these studies are a fundamental part of the process of obtaining authorisations from the competent authorities for the construction of the future SSE facilities.

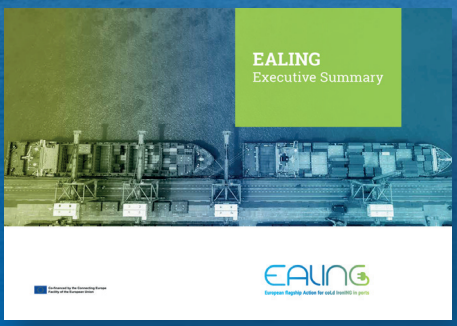
Clean Energy Plans and Tender documentation

Clean Energy Plans at port level have been developed or updated to ensure the integration of SSE as key part of the environmental strategy in each of the EALING ports.

Tender documentation for the construction works of the future SSE installations has been prepared by each port.

Cost-Benefit Analyses

Cost-Benefit Analyses have been performed to evaluate the future SSE installations in terms of financial and socio-economic performance.
A review and analysis of the available **financial and blending schemes** that can be used for the successful implementation of the proposed SSE infrastructures is also included.



Access the **EALING Executive Summary** using the first QR code, where you will find the main results and summary sheets of the studies carried out for each of the ports participating in the project!

Consortium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Ports of Trieste and Monfalcone


RAFINA
Port Authority S.A.


constantza port


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Ports of Pesaro, Falconara, Ancona, S. Benedetto, Pescara, Ortona, Vasto


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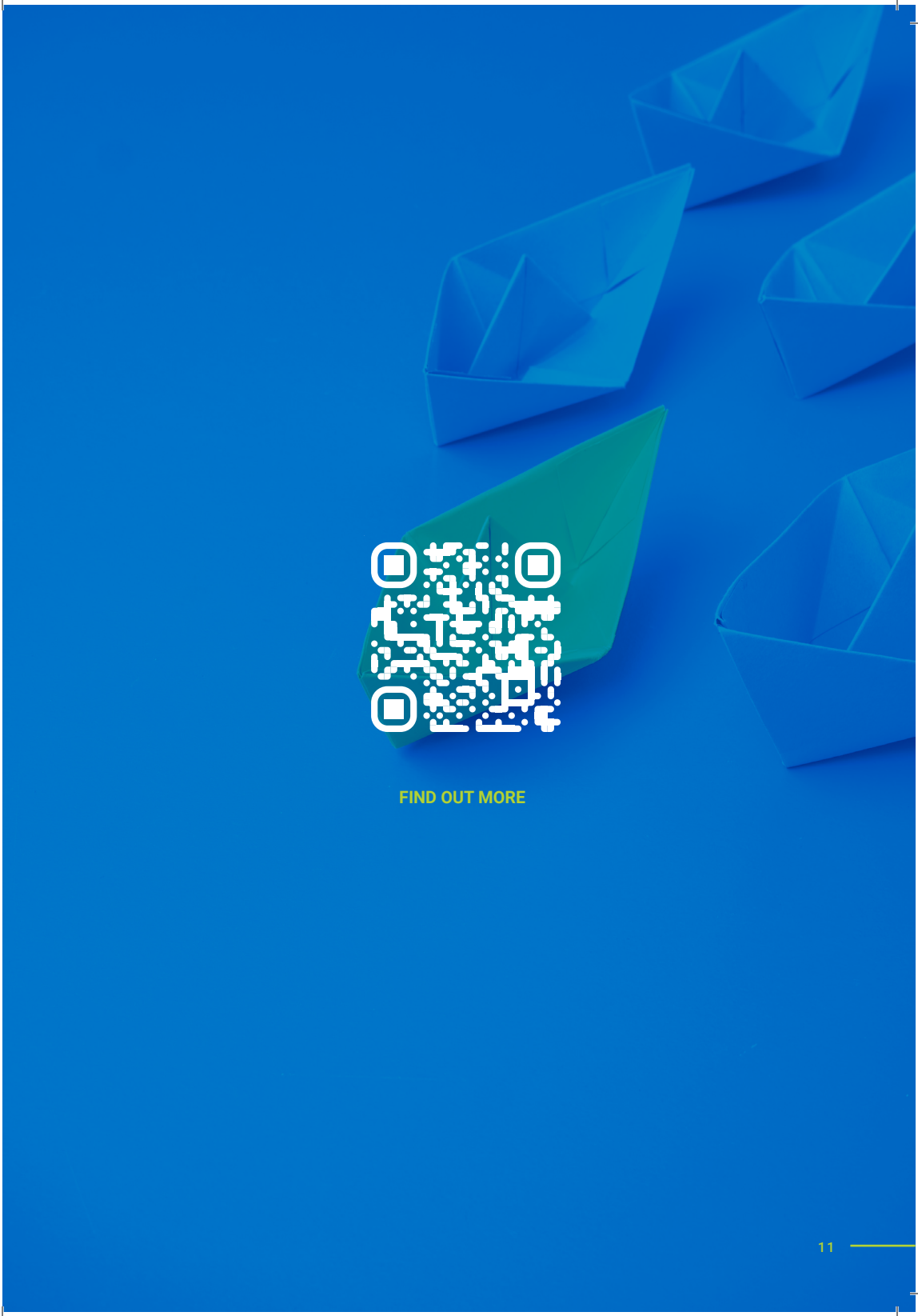
Puerto de Gijón


LUKA KOPER
Port of Koper


North Adriatic Sea
Port Authority
Ports of Venice and Chioggia



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