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Sustainable Flow

INTERREG CENTRAL BALTIC SUSTAINABLE FLOW

SUSTAINABLE FLOW OF GOODS AND DECREASED EMISSION OF TRANSPORTATION

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ESTONIAN MARITIME ACADEMY

ESTABLISHED 2022



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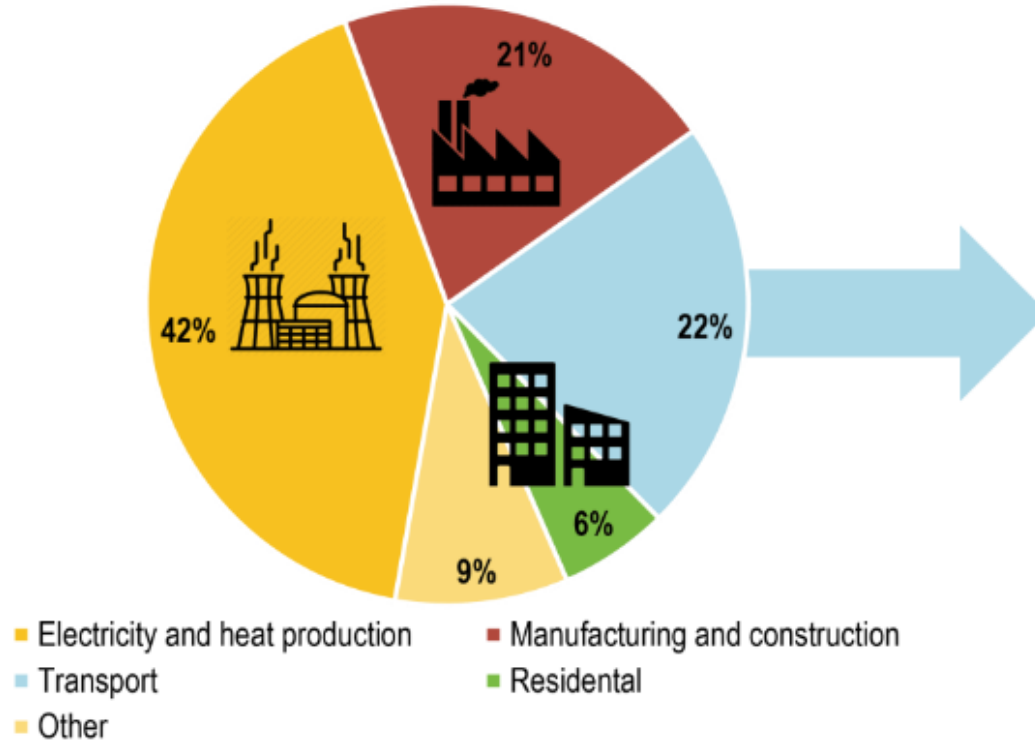
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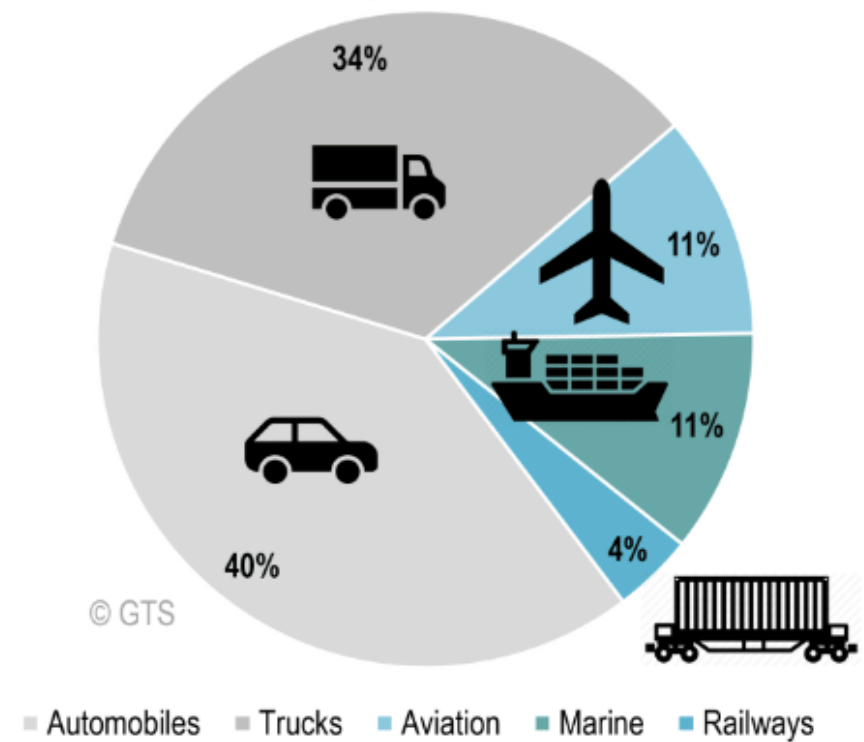
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SHIPPING EMISSIONS

CO2 Emissions by Economic Sector



CO2 Emissions by the Transport Sector



Global Greenhouse Gas Emissions by the Transportation Sector

International Energy Association. IEA and IPCC (2014) Summary for Policymakers.

- Rodrigue, J-P. (2023). The geography of transport systems.

SHIPPING EMISSIONS

Inventory of GHG Emissions from International Shipping 2012-2018

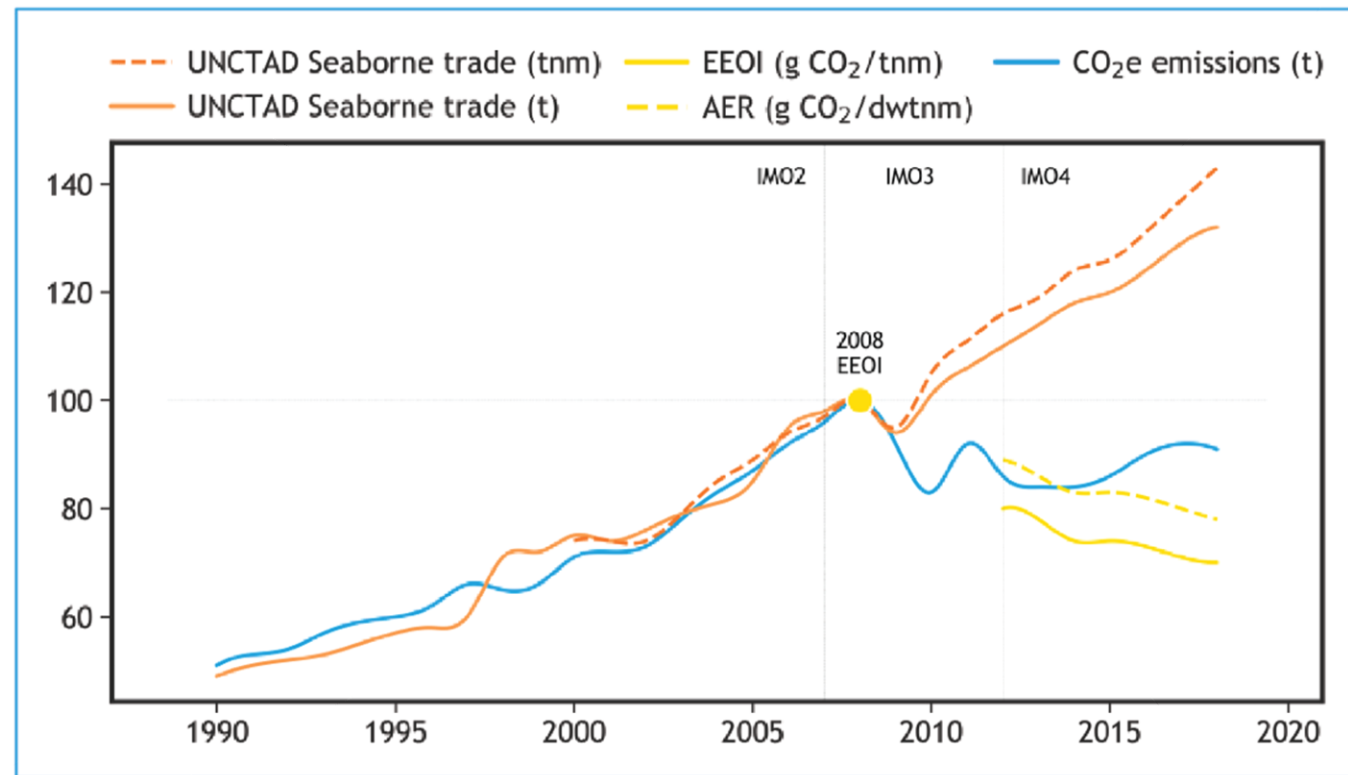
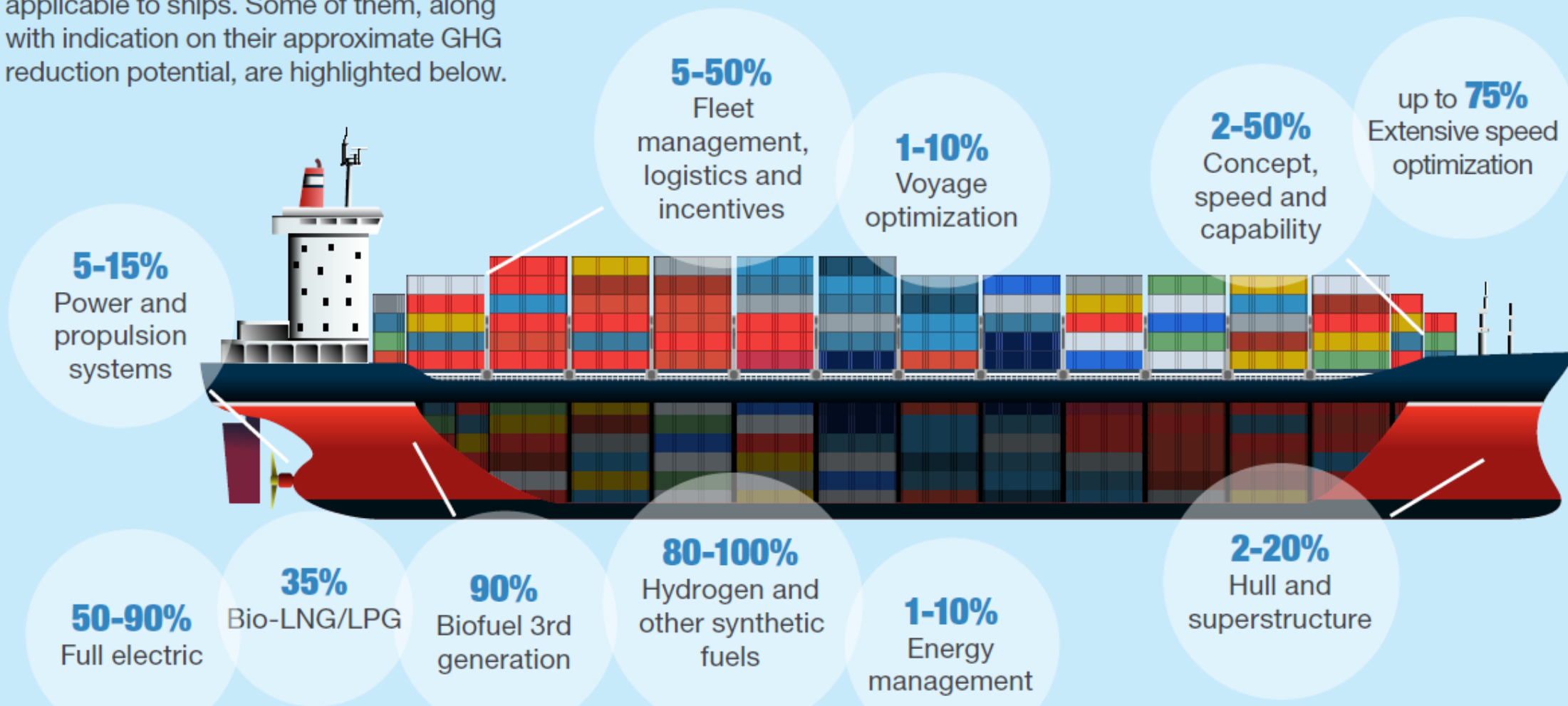


Figure 2 – International shipping emissions and trade metrics, indexed in 2008, for the period 1990-2018, according to the voyage-based allocation¹ of international emissions²

A wide variety of design, operational and economic solutions

Achieving the goals of the Initial IMO GHG Strategy will require a mix of technical, operational and innovative solutions applicable to ships. Some of them, along with indication on their approximate GHG reduction potential, are highlighted below.

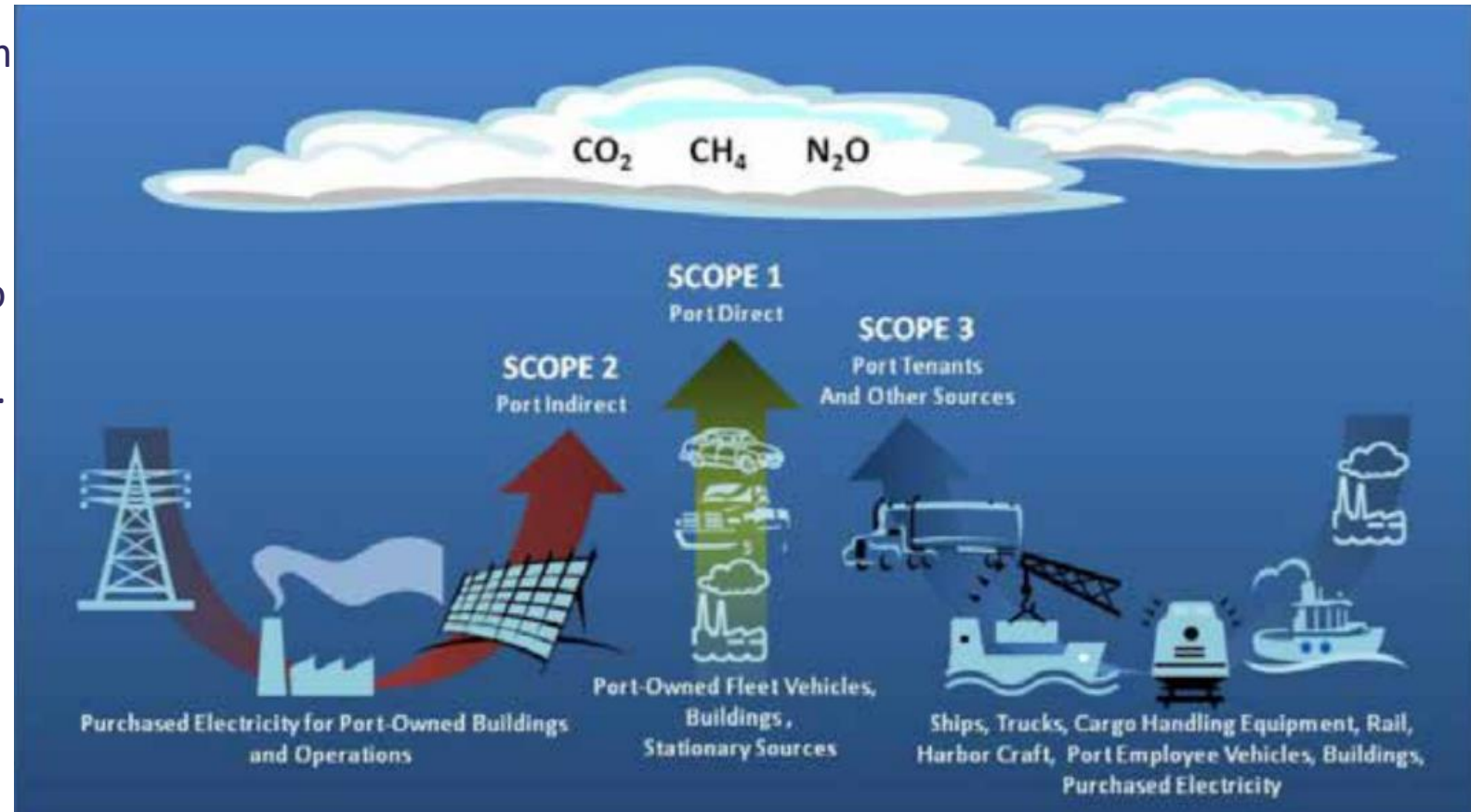


SIX STEPS TO PROMOTE SUSTAINABLE MOBILITY OF GOODS AND PEOPLE

1. Improve the energy efficiency in newbuildings.
2. Pilot various technical solutions to increase energy efficiency, e.g. rotor sails; smart IT- solutions to manage data for maintenance, bunker optimization and safety; air lubrication systems; use of batteries in ports and fairways; information for port arrivals, etc.
3. Reduce speed and improve port operations.
4. Be prepared for the new low or zero carbon fuels.
5. Shippers: evaluate alternative transport modes and operations.
6. Regulators: introduce rules and support mechanisms and carbon taxes to help shipping industry to move towards carbon-neutrality

SOURCE OF EMISSIONS OF PORTS

- Ships do not operate independently from shore-based entities. Port emission considerations must extend beyond the ships themselves to include all port-related emission sources including: seagoing vessels, domestic vessels, cargo handling equipment, heavy-duty vehicles, locomotives, and electrical grid.



- IMO, Port emissions toolkit



31.5.2026



1.5.2023



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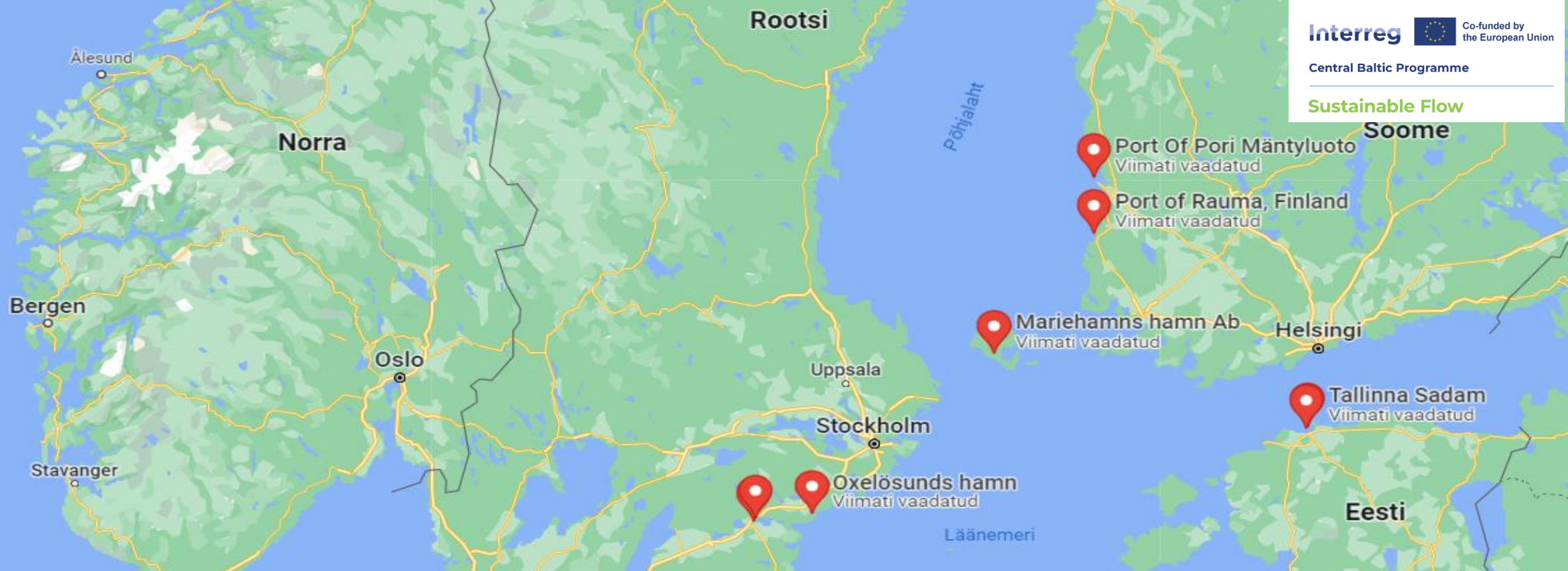
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AIM OF THE PROJECT

Development of practical solutions and a digital tool to support CO2 reduction and energy saving measures in transportation systems

A concept for energy savings and production of renewable energy in ports as hubs of multimodal operations



Port of Rauma

Port of Pori

Port of Norrköping

Port of Oxelösund

Port of Mariehamn

Port of Tallinn

Port of Riga





• PROJECT PARTNERS

- Satakunta University Of Applied Sciences (FI) – Lead Partner
- Swedish Maritime Administration (SE) – Project Partner
- Åland University Of Applied Sciences (AX) – Project Partner
- International Transport Development Association (LV) – Project Partner
- Tallinn Technical University (EE) – Project Partner
- Fintraffic VTS Ltd (FI) – Project Partner
- Swedish Confederation Of Transport Enterprises – Project Partner



Projects steps

- Analysing, surveying and benchmarking each seven pilot intermodal/multimodal transport systems and port operations as hubs to determine the current situation.
- Experience exchange activities for communications and stakeholder commitment.
- Development of a digital tool for reduction of CO2 emissions and a guidance tool for energy efficiency and renewable energy for companies in the maritime cluster.
- Carry out joint work on investments in ports to support CO2 reductions goals, following practical usability and renewable energy production.
- To support energy saving measures and rise of renewable energy in ports, development and implementation of:
 - a decision-making tool for target groups
 - a concept for energy saving measures.



SITE VISITS

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THANK YOU!