



Green inland ports: Enabling Sustainable Management and Development of inland ports

Expert Meeting on Development of Ports and Port Operations
12 March 2024

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Topics

- Introduction to the GRIP project
- Task 1 – Environmental impacts and Efficiency and Transition
- Task 2 – Urban mobility and Short-Range Inland Waterway Transport
- Task 3 – Digitalisation
- Task 4 – ESMS and pilot implementation in selected ports
- Task 5 – Outreach activities
- How to collaborate and next steps

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Introduction to the project



Objectives, scope and timeline

Objectives

- Identify and evaluate the factors affecting the sustainable development of inland ports
- Propose solutions for the implementation of green objectives paired with their economic development

Geographical scope

- All TEN-T inland ports
- Connecting seaports where inland waterway transport is concerned

Timeline

- November 2022 – November 2025
- 9 regional workshops and a final conference

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General methodology and approach: five key tasks

Task 1 – Environmental impacts and Efficiency and Transition

- Document environmental effects, related legislation, and measures to address the environmental effects (good practices).

Task 2 – Urban mobility and Short-Range Inland Waterway Transport

- Identify possibilities of adopting inland waterway transport for urban mobility and short-distance transport

Task 3 – Digitalisation

- Assess the role of digitalisation and propose solutions

Task 4 – ESMS and pilot implementation of ESMS in selected inland ports

- Develop Environmental and Sustainable Management Systems (ESMS) tools and organise pilot projects with inland ports for implementing of the ESMS

Task 5 – Outreach activities

- Knowledge sharing and identification of good practices

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Task 1 – Environmental Impacts, Energy Efficiency and Transition

Legal framework

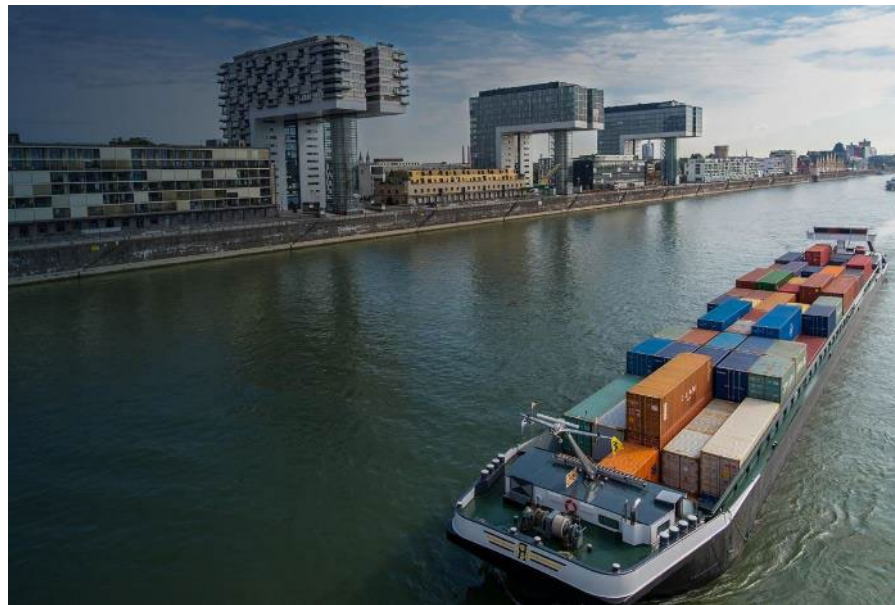


Objective and activities

Objective: create insight in environmental impact of inland ports, the role of legislation and possible measures to reduce emissions

Activities:

1. Environmental impacts of port activities
2. Review existing legislation and identification of gaps and obstacles
3. Challenges for implementation of environmental legislation and measures
4. Overview of good practices
5. Environmental performance mapping



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Port-owned vessels

Work boats, cleaning boats, tugs
(at berth, moving through harbour)

Cargo and passengers

Cargo (loading, unloading, transportation by
truck/train, storage)
Passengers (transport to/from/within harbour)

Commuting

Office and port employee
commuting (by car/train/bus/other)

Energy infrastructure

Power plants,
incinerators

Incidents e.g. fires

3rd parties

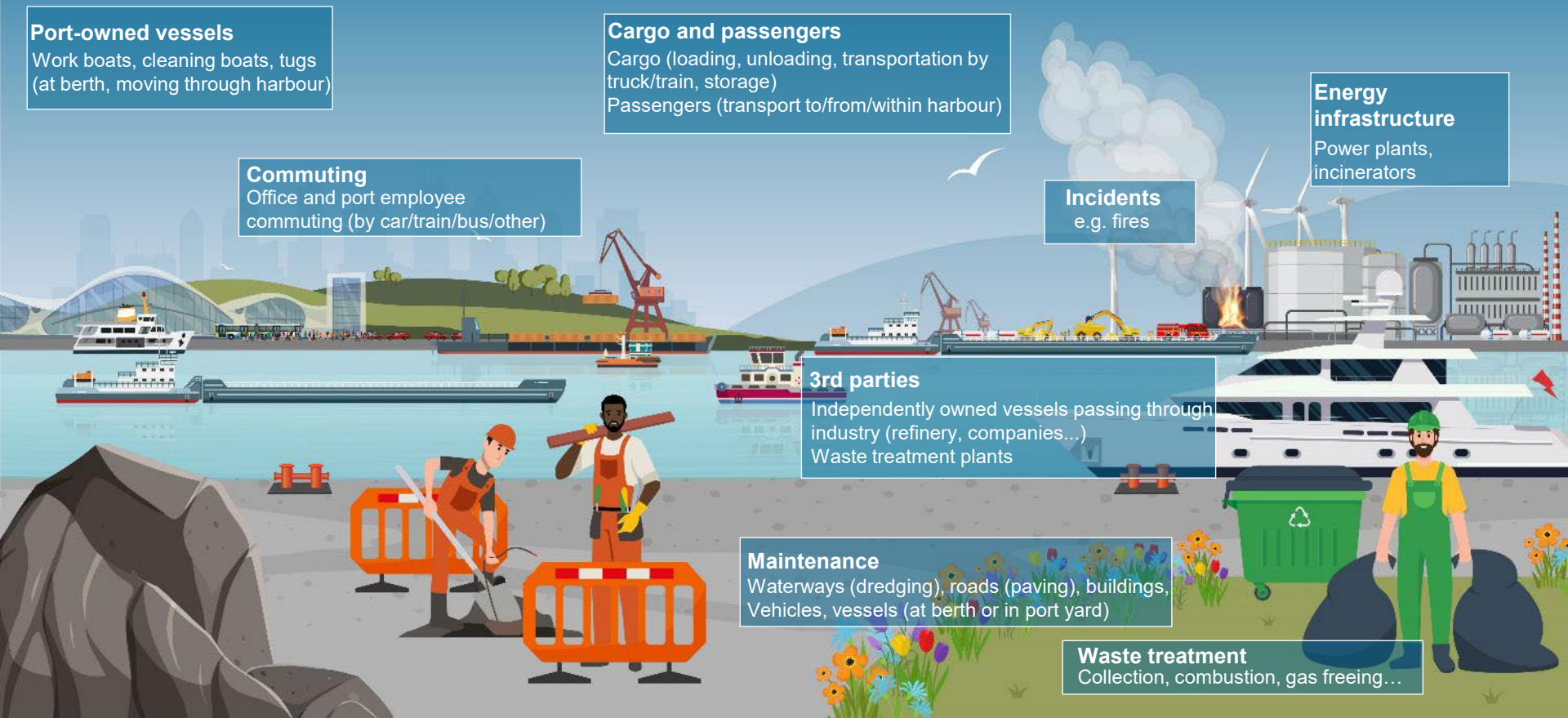
Independently owned vessels passing through
industry (refinery, companies...)
Waste treatment plants

Maintenance

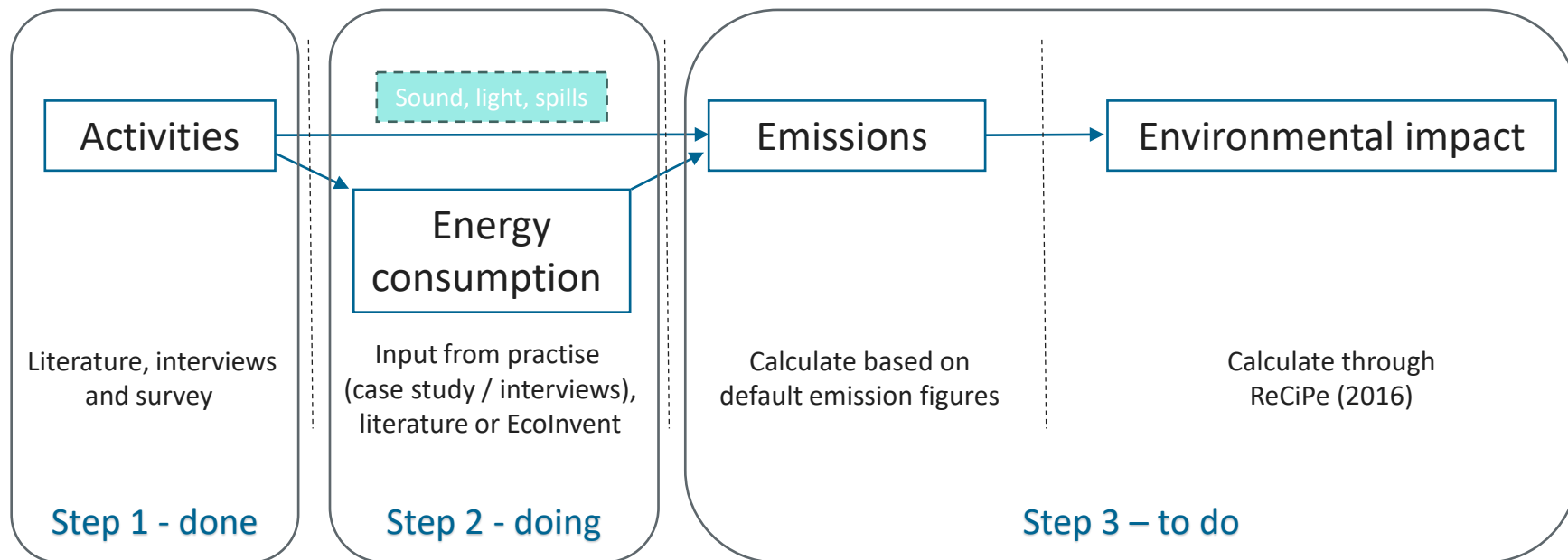
Waterways (dredging), roads (paving), buildings,
Vehicles, vessels (at berth or in port yard)

Waste treatment

Collection, combustion, gas freeing...



Approach to determine the environmental impact of inland ports



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Port-owned vessels

Good practice: Electrification, use of alternative fuels

Cargo and passengers

Good practice: Use of OPS at berth

Offices and employees

Good practice: Mobility plan for employees in port area

3rd parties

Good practice: Port management model by one 'company'

Good practices

- Over 40 good practices identified;
- Each practise will be outlined in a factsheet;
- Additional suggestions for good practices are welcome

Energy infrastructure

Good practice: Solar and wind power for clean energy generation

Incidents

Good practice: Monitoring and auditing of the incident investigation process, including application of lessons learned

Maintenance

Good practice: Elaborate requirements for underwater cleaning

Waste

Good practice: Waste collection system



Status update on legislation

Step 1: EU legislation

- Identify "gaps" (missing legislation) and "obstacles" (legislation holding back the ports) at the **EU level**

Step 2: National legislation

- How have Member States implemented the EU legislation?
- Do Member States have their own (environmental) legislation relevant to inland ports, *in addition to* the EU legislation?
- On-going – all input (national ministry, inland port legal department, ...) are welcome!

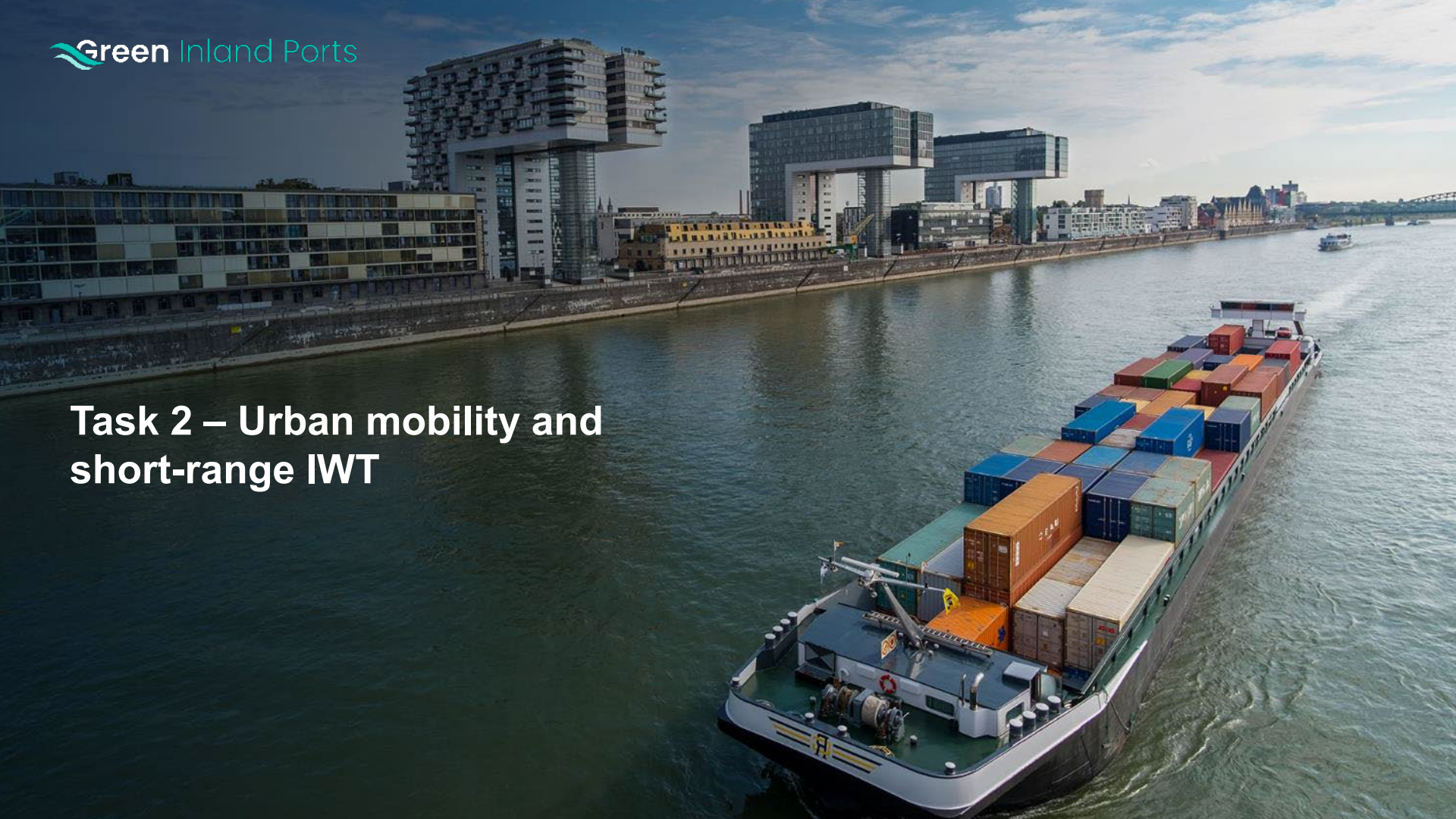
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Step 1: Existing EU legislation

Emission types	Further specification of the activity	Relevant legislation
Emissions to air	Vehicles and machinery used in ports	Regulation (EU) 2016/1628 on emission limits for non-road mobile machinery
		Regulation (EU) 2019/1242 setting emissions standards for heavy-duty vehicles
		Directive (EU) 2016/802 relating to the sulphur content of certain liquid fuels
	Industry established in the port area	Directive 94/63/EC on the control of volatile organic compound (VOC) emissions resulting from the storage of petrol and its distribution from terminals to service stations
		Directive 2010/75/EC on industrial emissions
		Directive (EU) 2015/2193 on emissions from medium combustion plants
	Air quality	Directive 2008/50/EC on ambient air quality
Directive (EU) 2016/2284 on the reduction commitments of national emissions		
Directive 2004/107/EC relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbon		
Emissions to water	Water quality	Water Framework Directive 2000/60/EC
		Marine Strategy Framework Directive 2008/56/EC
	Discharges and Pollution	Directive 2005/35/EC of 7 September 2005 on ship-source pollution and on the introduction of penalties, including criminal penalties, for pollution offences
		CDNI Convention
	Criminal liability	Directive 2005/35/EC of 7 September 2005 on ship-source pollution and on the introduction of penalties, including criminal penalties, for pollution offences
	Directive 2008/99/EC on the protection of the environment through criminal law	
Emissions to soil		Directive on Soil Monitoring and Resilience
Sounds, vibrations and light	Environmental noise	Directive 2002/49/EC
	Underwater noise	
	Light pollution	
Waste		Waste Framework Directive 2008/98/EC Regulation on Shipments of Waste
Use of land		Habitats and Birds Directives
		Nature Restoration Law (Regulation adopted 27 Feb 2024)

Task 2 – Urban mobility and short-range IWT



Objective and activities

Objective: Identify possibilities of adopting inland waterway transport for urban mobility and short-distance transport

Activities:

1. **Structured analysis of urban and short-range services:** categorisation, quick-scan analysis, evaluation criteria (sub-task 2.1)
2. **Selection and analysis of 20 good practice cases:** identification of good practice cases, application of evaluation criteria, lessons learnt (sub-task 2.2)
3. **Perspectives for urban and short-range IWT:** (untapped) potential for market segment, market projections (sub-task 2.3)



Source: Port of Brussels

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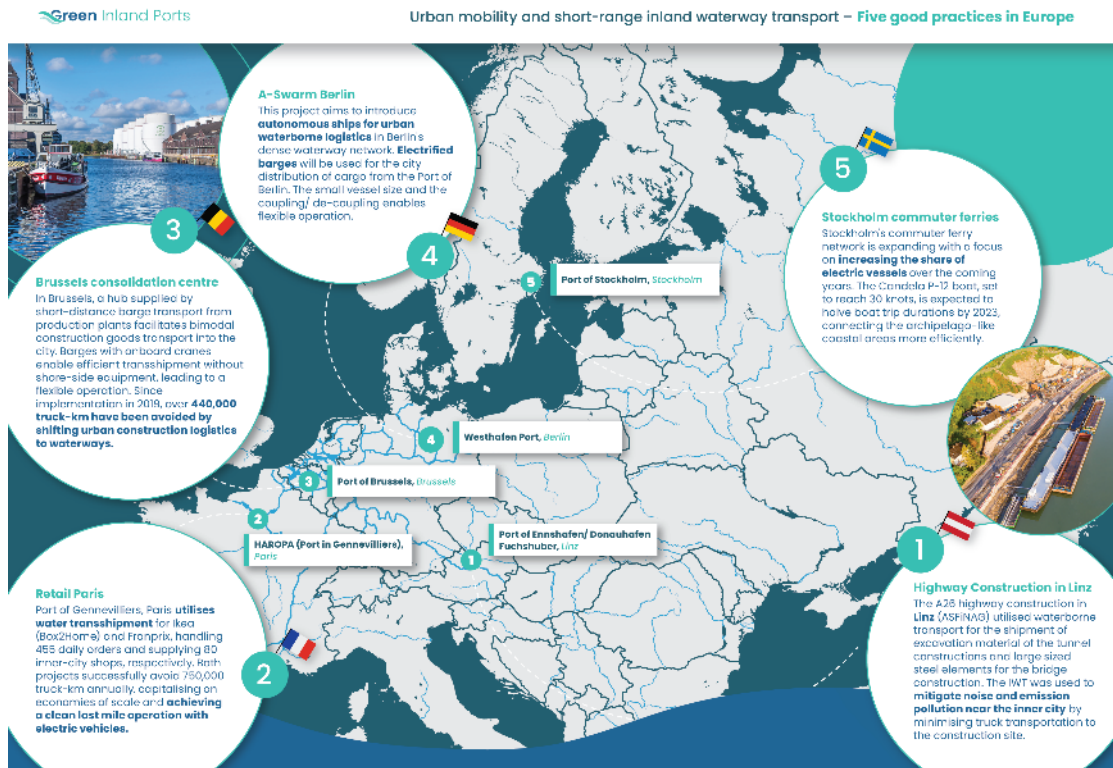
Status update

- **Sub task 2.1 has been completed.** A list of all available services was created for this purpose. Evaluation criteria were created on which the subsequent analysis in sub-task 2.2 will be based.
- **Sub-task 2.2 is currently in progress.** This means that 20 good practice cases are being analysed. This sub-task will be completed by the end of April. The following topics are being worked on:
 - Interviews are conducted with IWT service operators and other stakeholders on the respective good practice cases.
 - Based on the findings of the interviews, each case is analysed and recorded in a good practice case profile.
 - By the end of April, the 20 good practice case profiles will be summarised in a report with further additions and lessons learned.

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Selected cases

- A total of **20 good practice cases** were selected from **France, Belgium, the Netherlands, Germany, Austria, Hungary and Sweden**. The cases are spread across different market segments such as **Retail, Parcel, Waste, Construction and Passengers**.
- A map gives a snapshot overview of a selection for some good practice cases.





Task 3 – Digitalisation

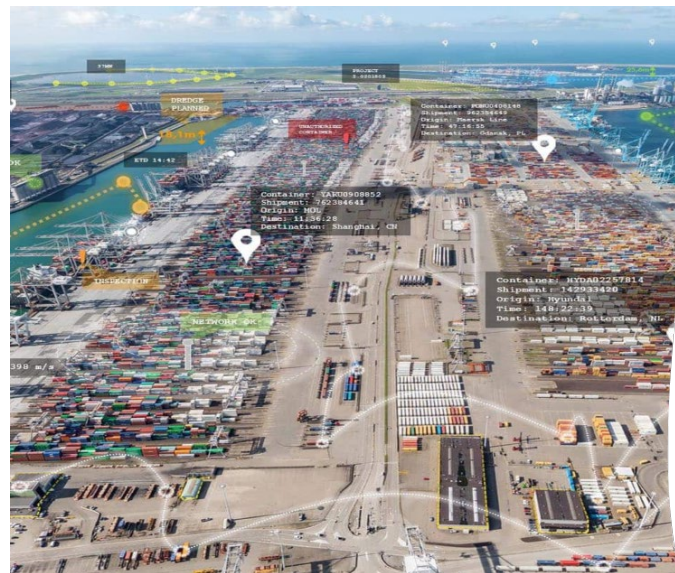


Objective and activities

Objective: assess the potential of digitalisation for greening port operations, for ensuring multimodality and for facilitating sustainable development of inland ports

Activities:

1. **Regulatory framework** addressing inland ports digitalisation
2. **Inventory** of port cooperation and collaboration systems
3. **Process optimisation** and **interoperability improvement**
4. Inventory of **good practices** at EU and international level
5. **Digitalisation Masterplan** for inland ports and terminals comprising of the lessons learned based on the above results, a gap analysis being rolled out currently and further interviews/inputs from stakeholders



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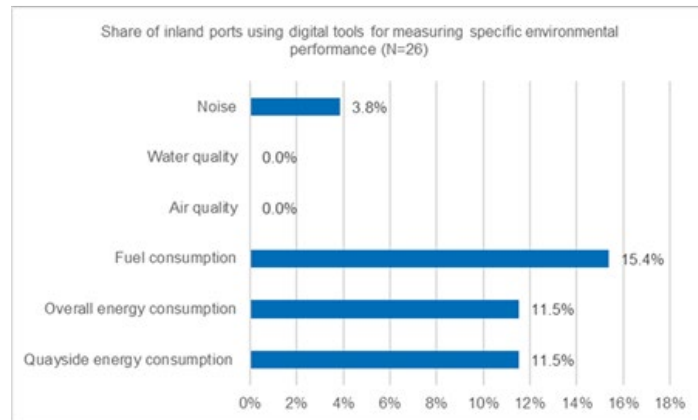
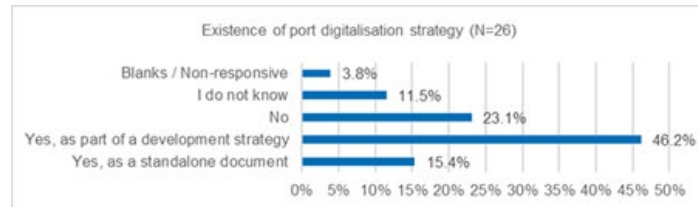
Regulatory framework addressing inland ports digitalisation

- There is (currently) **no European or international legislation** that specifically deals with the digitalisation of ports
- The legal framework consists of **more general acts**, that also apply (or may apply) to digitalisation as it is put into practice in ports. This framework includes:
 - Privacy – GDPR
 - Data ownership
 - Liability for defective software
 - Liability of software users
 - Cybersecurity
- A **questionnaire** will follow in 2024 towards the Member States to complement the report with national aspects

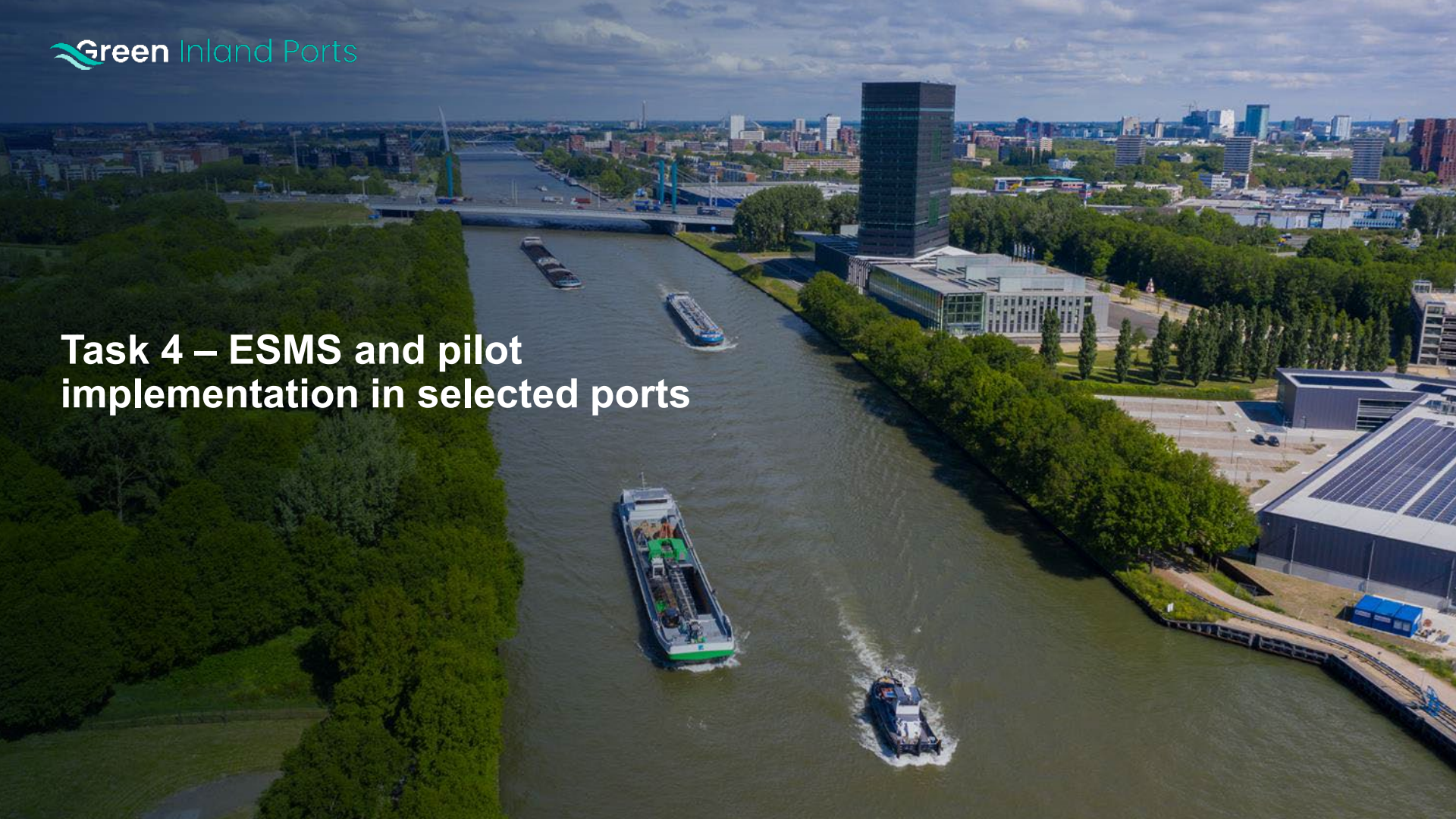
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Inventory of port cooperation and collaboration systems

- The Deliverable dealing with the inventory is ready and will be published soon with the following content:
 - Introduction
 - Port digitalisation technologies and platforms and their potential use in greening
 - Cybersecurity aspects
 - Digitalisation of environmental management tools in ports
 - Selected digitalised Environmental Management Tools
 - Port digitalisation in practice – results of the 1st survey
 - Further digitalisation needs and potentials
 - Conclusions



Task 4 – ESMS and pilot implementation in selected ports



Objective and activities

Objective: is to develop and apply a set of ***Environmental and Sustainable Management Systems (ESMS)*** tools that will assist inland ports to enhance further their programs of environmental protection and sustainable development

Activities:

1. Definition of what is a **Smart Sustainable inland Port (SSP)**.
2. Development of self assesment environmental and sustainable management tools (**ESMS**).
3. Pilot application of the tools in **10 ports**.
4. Development of **training and implementation materials** for the ports.

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Status update

- First expression of interest for ports is out.
 - First ports have expressed their interest.
 - Consolidation of the input from the other tasks has started.
- **Next steps**
 - Development of a paper on the definition of SSP- review and comments on the paper are welcome
 - *First presentation of the paper in May 2024*
 - Engage more inland ports – Suggestions on which ports would be interesting pilots are welcome.
 - Start developing the self assesment tools.

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Task 5 – Outreach activities



Objective and activities

Objective: the objective of this task is focused on knowledge sharing and identification of best practices.

Activities:

1. Communication and Stakeholder Consultation **Strategy**
2. **Website** and **(social) media** coverage.
3. **Stakeholder consultation** activities carried out and reported, including reports on stakeholder consultation tools (interviews and surveys)
4. **Events** (9 regional workshops, final conference, various other meetings).



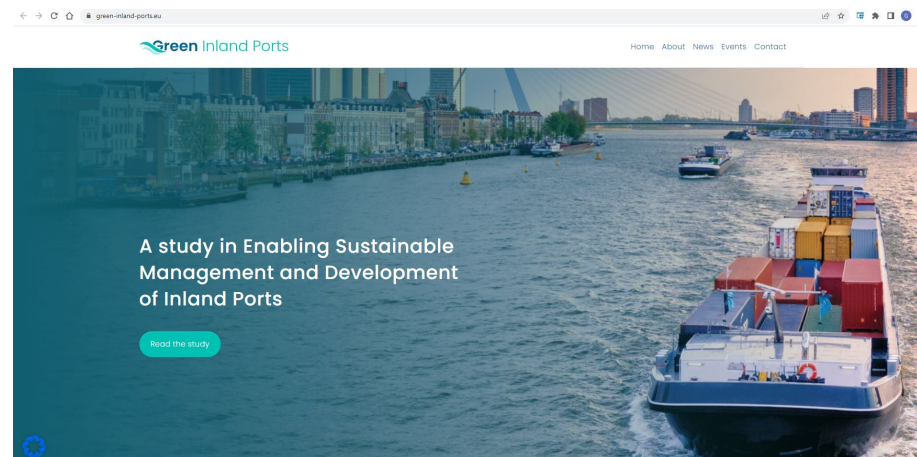
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Status update

Events: first stop Belgrade – with the EFIP Executive Committee meeting – followed by Danube Days.



Please visit our website: <https://green-inland-ports.eu/>



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How to collaborate and next steps

Collaboration and next steps

Collaboration:

- Please work with us, as good practice, pilot port or as someone who wants to be kept up to date
- Website: <https://green-inland-ports.eu/>
- LinkedIn: <https://www.linkedin.com/company/green-inland-ports/>
- Direct contacts:
 - greeninlandports@ecorys.com
 - Geert Smit: geert.smit@ecorys.com
 - Jasper Tanis: jasper.tanis@ecorys.com

Next steps:

- Continued work on Tasks 1-3 and taking results into Task 4 – development of the ESMS tools
- Regional workshops: Danube Port Days (Budapest) and joint event with MAGPIE (Wesel)
- Continued stakeholder consultation and project communication

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Thank you!

