Green Inland Ports

Study on Enabling Sustainable Management and Development of Inland Ports

Danube Commission Expert Meeting on Development of Ports and Port operations
26 March 2025
Agenda item 2

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Agenda

1. Background & objective of **Green Inland Ports**
2. Snapshot overview of results for the first two years of this project
    1. Port Environmental Impact Calculator
    2. Roll-out potential for urban and short-range IWT
    3. Analysis of good practices
3. This year – development & pilot application of **Environmental & Sustainable Management Systems**
4. Stakeholder inputs, synergies & next steps
5. Questions

Our partners

ECORYS CE Delft Panteia DANUBE Erasmus University Rotterdam EICB

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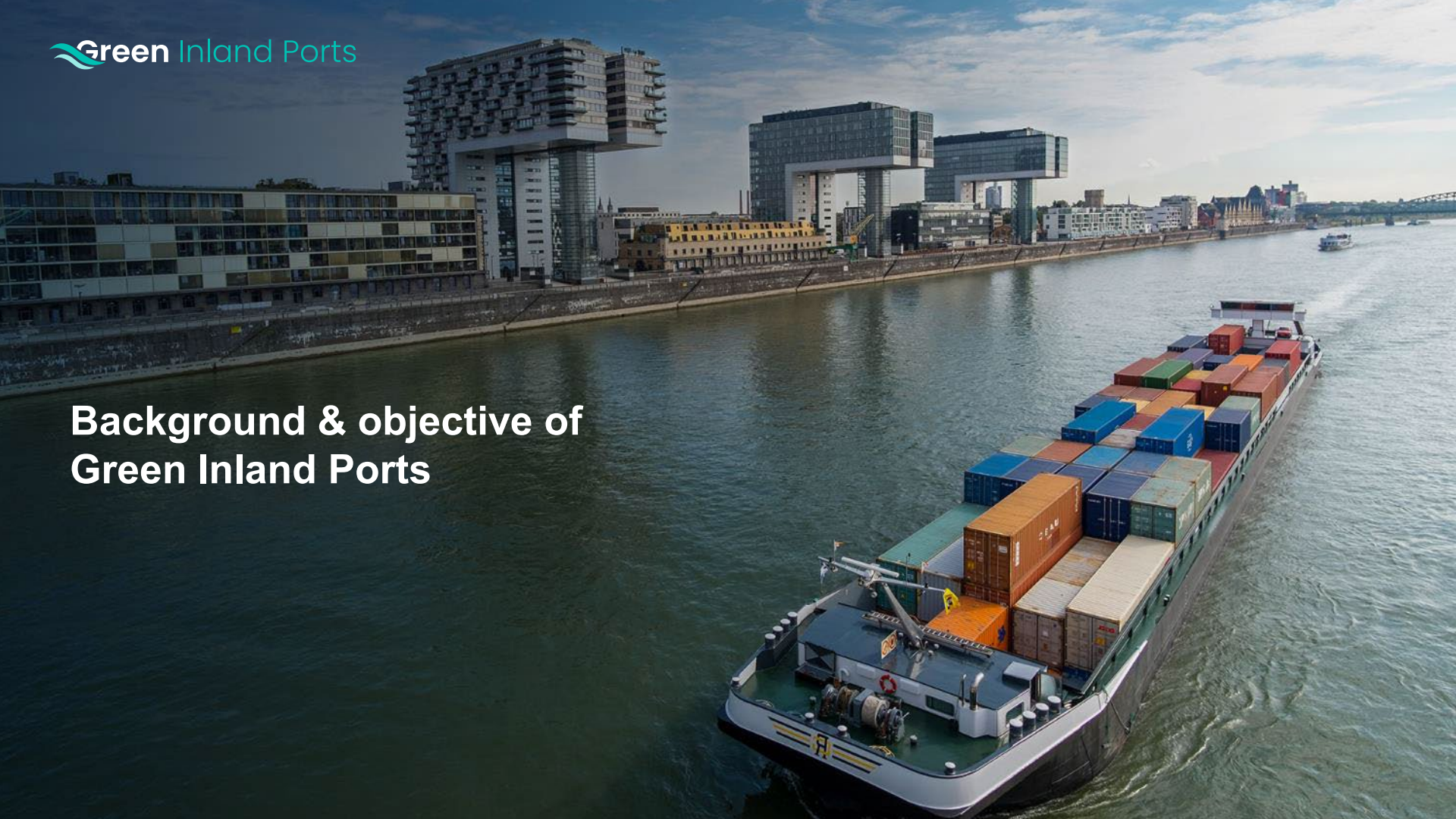
Background & objective of Green Inland Ports



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Policy context

- Pilot project study proposed by the **European Parliament**
- Inland ports play a crucial role in reducing transport emissions and enable a modal shift, by providing access to maritime, rail, inland waterway and last mile road transport

Sustainable & Smart Mobility Strategy: Flagship 2

Creating zero-emission airports and ports

"Ports and airports are key for our international connectivity, for the European economy, and for their regions. In their transition to zero-emission nodes, the best practices followed by the most sustainable airports and ports must become the new normal and enable more sustainable forms of connectivity. Ports and airports should become multimodal mobility and transport hubs, linking all the relevant modes. This will improve air quality locally thereby contributing to improved health of nearby residents. Inland and sea ports have a great potential to become new clean energy hubs for integrated electricity systems, hydrogen and other low-carbon fuels, and testbeds for waste reuse and the circular economy."

NAIADES III (action plan for 2021 – 2027)

"'The Commission will launch a study on the impacts that the port activities of selected river and sea ports can have on the environment. The study will develop and implement specific tools, such as Environmental Management Systems, as well as port-specific action plans creating a nucleus for wide-scale roll-out of environmentally sustainable port management and operations."

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

Consortium & budget

- Partners: Ecorys, CE Delft, Panteia, Pro Danube, Erasmus University Rotterdam (School of Law), Planco & EICB
- Budget: EUR 1,532,150

Green inland ports project outcomes – Guidance and tools for inland ports

Green inland ports is developing solutions to support inland ports enabling the green transition from their critical role as zero-emission and multimodal hubs

Task 1 – Environmental impacts and Efficiency and Transition

- Port Environmental Impact Calculator - Calculation tool for environmental impacts

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

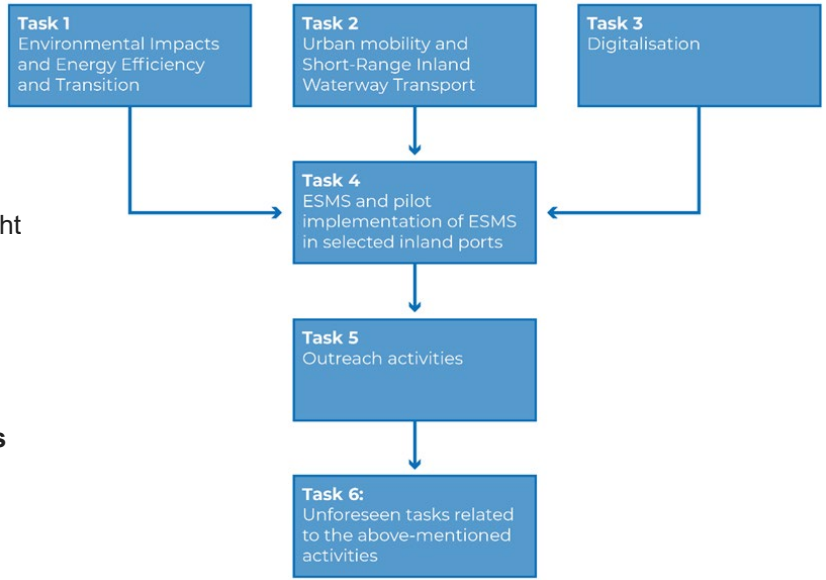
- Quantified estimation of the roll-out potential for urban and short-range freight IWT and potential impact from modal shift

Task 3 – Digitalisation

- Digital Maturity Assessment Tool – a tool to assess the digital maturity level laying the foundation for digitalisation guidelines

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

- Implementation of Environmental and Sustainable Management Systems (ESMS):
  - Solutions to overcome environmental challenges and reduce environmental impacts
  - Pathways for sustainable & smart development of inland ports



Key observations from the first two years of the project

Observations from the first two years of the project in relation to Environmental and Sustainable Management Systems (ESMS)

- The study team sees a strong and growing interest for this study and for solutions to overcome environmental challenges
  - **Relevance** - Inland ports recognise the key role they have in the European TEN-T network & inland ports can play an enabling factor in the energy transition
  - **Cooperation** - Inland ports see the need for a harmonised approach & joint strategy for the development solutions to overcome environmental challenges and to promote sustainable development
  - **Legislation** - Inland ports have questions what they should do to comply with (new) legislative requirements
- Multiple **environmental standards, certification and quality management programmes** for the maritime industry and ports sector in Europe, such as
  - EcoPorts
  - Green Marine Europe
- Not many of these systems are applied or used by European inland ports on the TEN-T Network.
  - **Stakeholder engagement** – Most inland ports do not own or have access to data
  - **Financial and human resources** – Most inland ports are significant smaller in size than (large) seaports

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Snapshot overview of results for the first two years of this project

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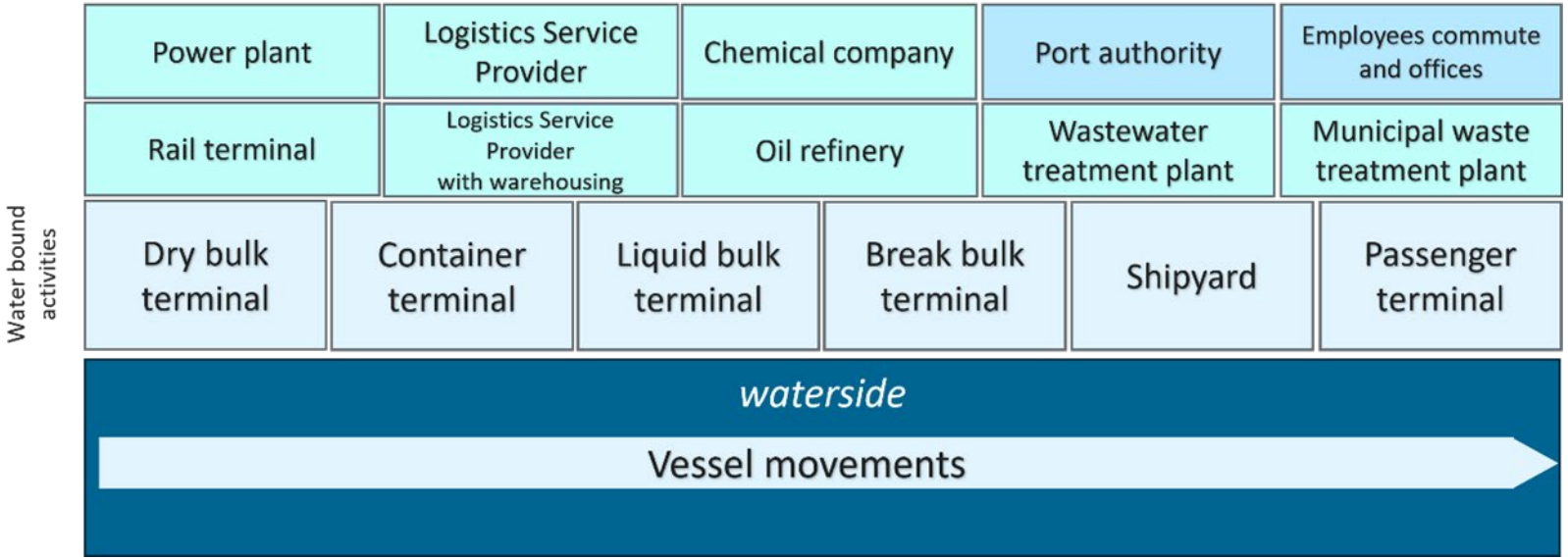
Port Environmental Impact Calculator – Every inland port is unique



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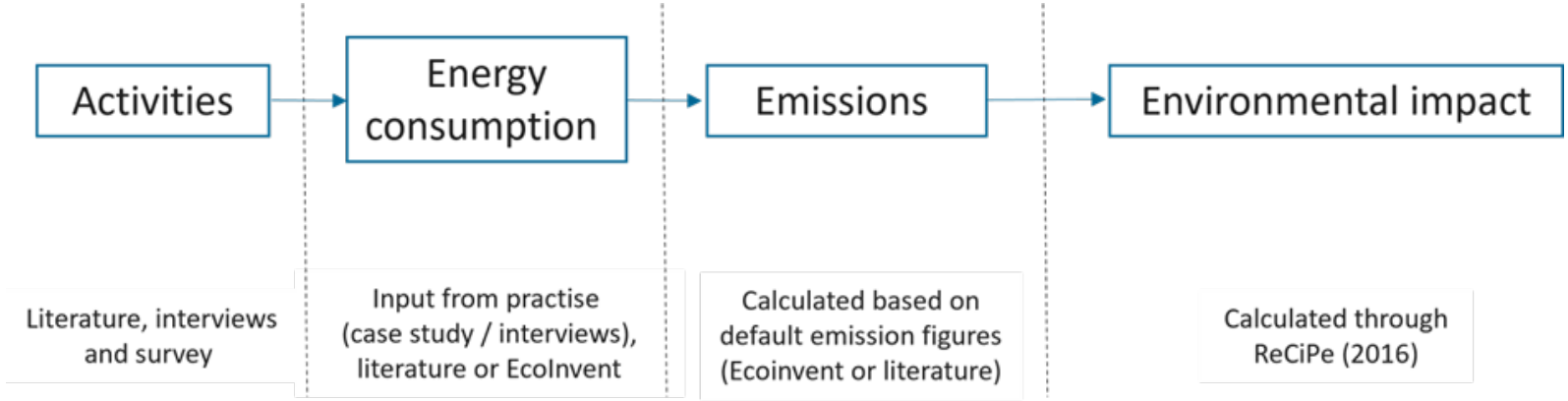
Port Environmental Impact Calculator– How we calculate environmental impact



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Port Environmental Impact Calculator – Added value of the tool & Challenges

Added value

1. Understanding of the environmental impact of the port
2. Which activities within the port create the largest impact?
3. What is the effect of possible changes?

Challenges

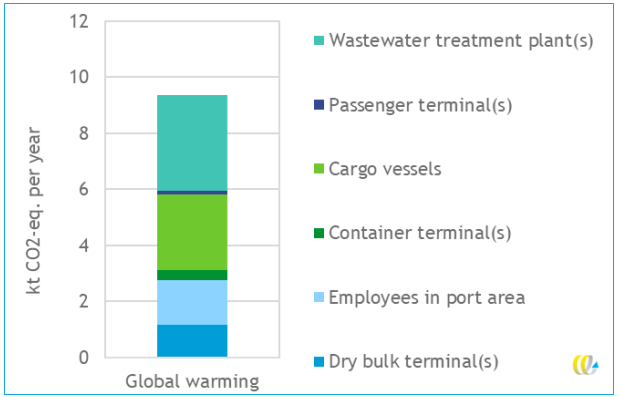
Inland port authority as key user

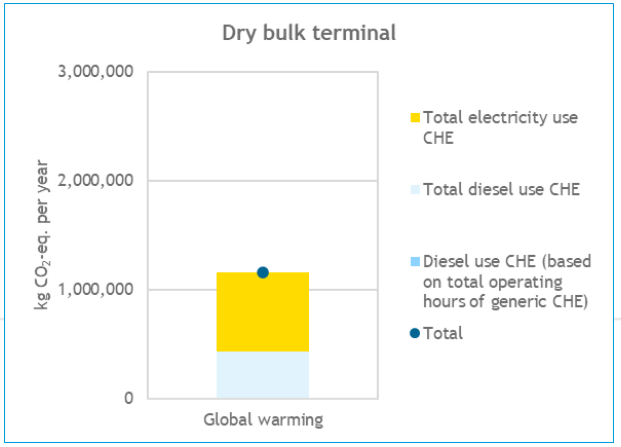
How to get all data about the activities?

What if I don't get the data?

Timeline

- Webtool currently tested with inland ports
- Final version to go live on project website by June or July





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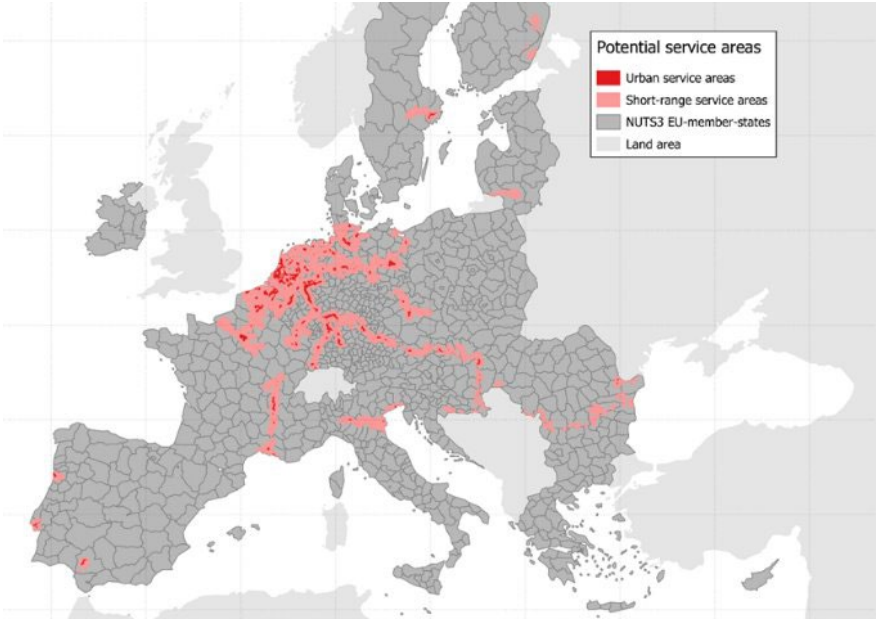
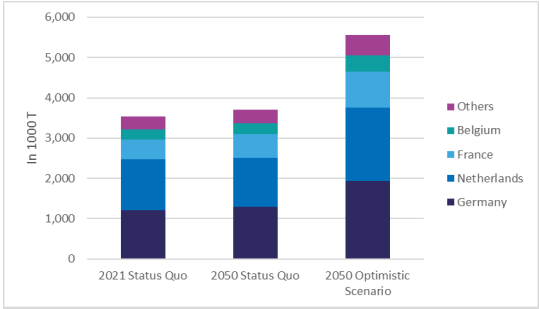
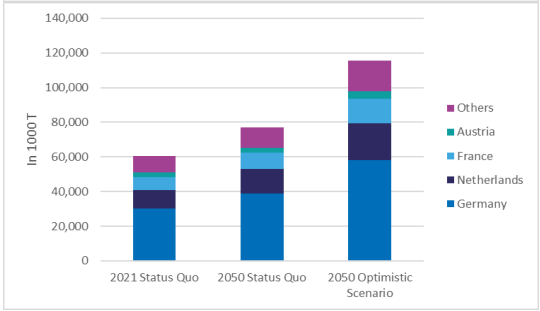
Urban and short range IWT – Roll-out potential



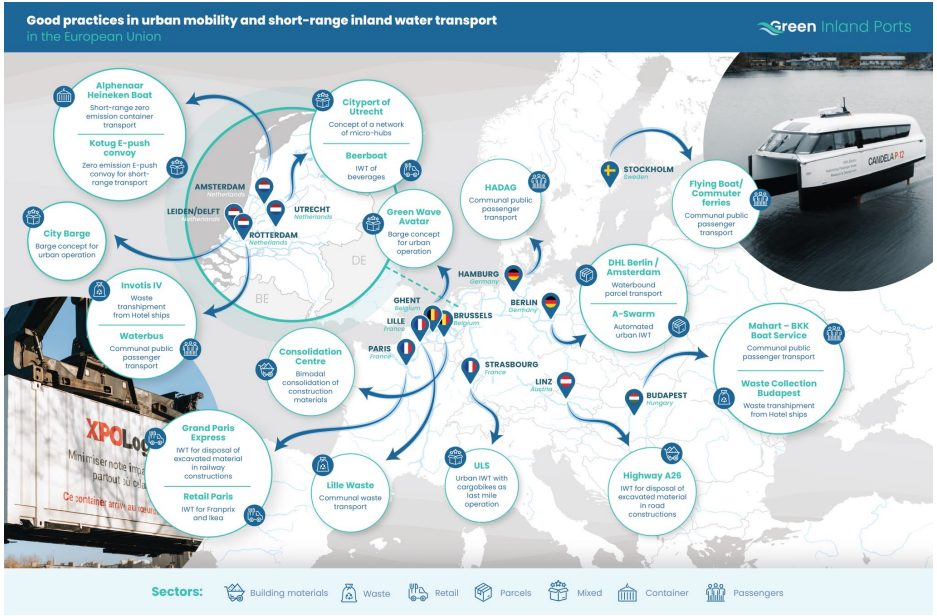


Urban IWT



Short-Range IWT

Analysis of good practices



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Analysis of good practices

Categorisation of good practice examples for the implementation of measures to reduce environmental impact. Good practice examples are analysed for the development & application of Environmental and Sustainable Management Systems & development of (policy) recommendations. **2 examples**:

- **Installation of onshore power supply**
  - **Background** – Alternative Fuels Infrastructure Regulation, obligation to deploy OPS installations to all TEN-T inland waterway ports
  - **Impact** – Reduced emissions at berth & reduction of noise
  - **Obstacles** – No obligations use of OPS, investments for retrofitting solutions high, lack of standards & lack of space (use of land) & connection to the energy grid
  - *Currently analysing possible actions/recommendations for private and public actors*
- **Waste reception facilities**
  - **Background** – CDNI bans disposal waste generated onboard ships, entered into force for BE, FR, DE, LU, NL & CH since 2009.
  - **Impact** – Collection of oil waste, cargo waste, degassing waste and other waste protects the environment and improves the water and air quality
  - **Obstacles** – Lack of space, further processing waste & is there a need for harmonisation?
  - *Currently analysing possible actions/recommendations for private and public actors*

Picture credit: © Danny Cornelissen

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Development & pilot application of Environmental & Sustainable Management Systems

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Environmental & Sustainable Management Systems

2 pillars

- Environmental Management Systems
- Smart & Sustainable Management Systems

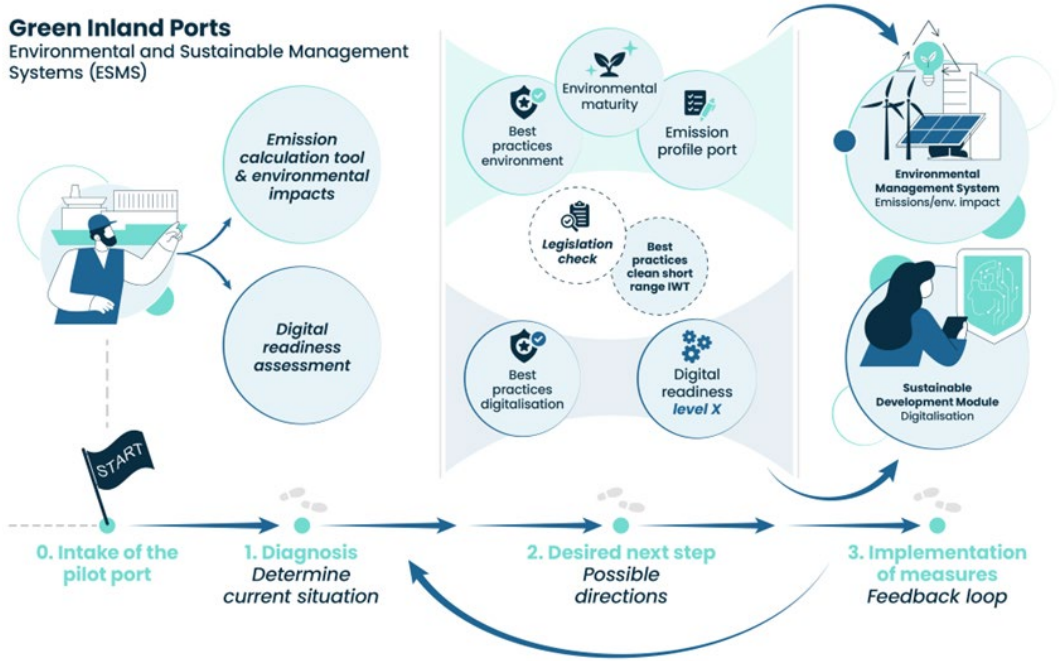
3 steps

- Diagnosis – create a benchmark
- Possible directions and next steps
- Implementation of measures

4 tools

- Emission port profile
- Environmental Maturity Assessment Tool
- Digital Maturity Assessment Tool
- Legislation check

Rob de Leeuw van Weenen will provide more details under agenda point 5



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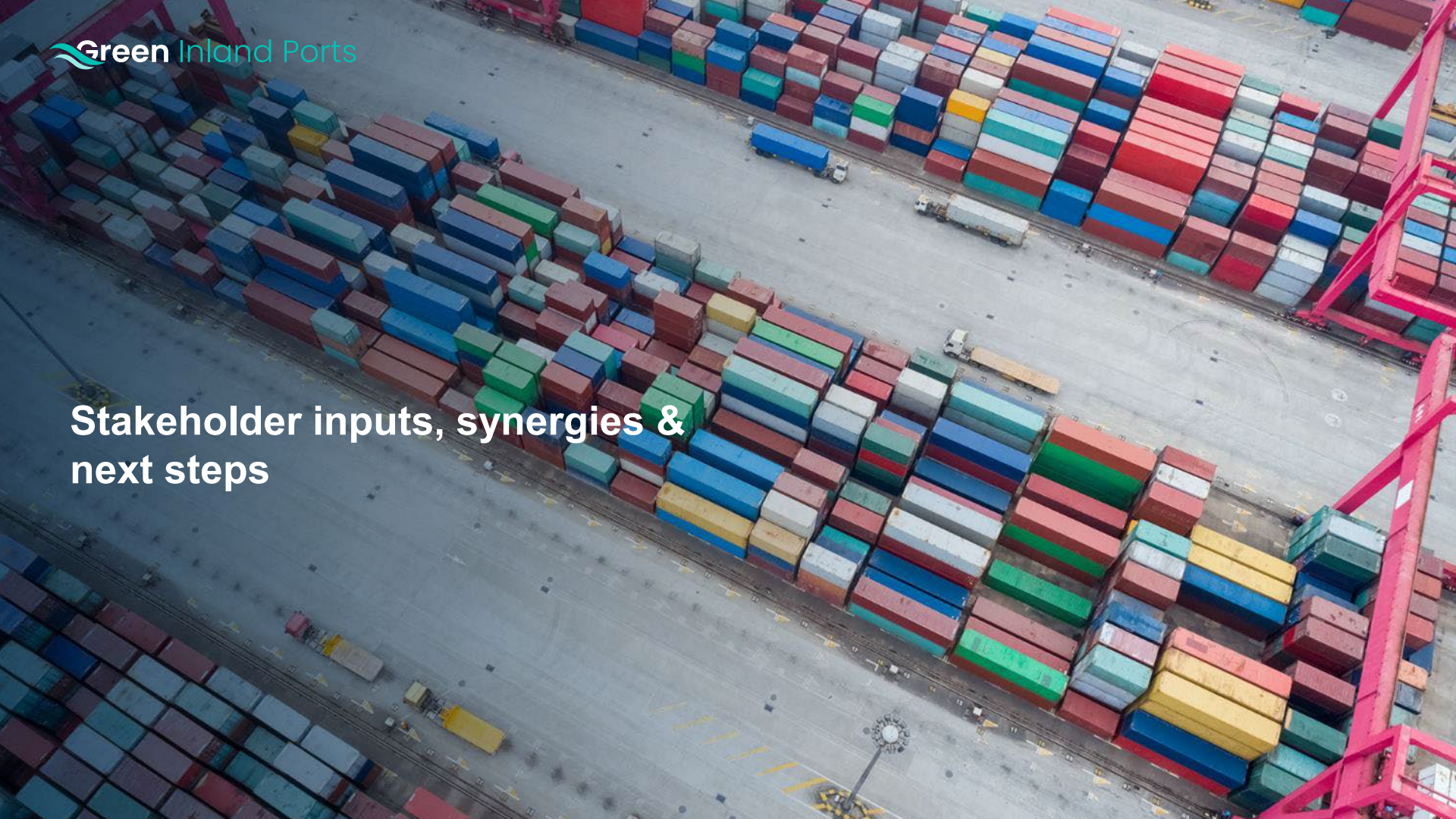
Stakeholder inputs, synergies & next steps



Stakeholder consultation

- Several one-to-one interviews (over 100 in total) and surveys
- Events in 2023
  - Workshop with the members of the European Federation of Inland Ports (EFIP) – Belgrade (RS)
  - Danube Ports Days, organised by Pro Danube, together with MultiRELOAD and SYNERGETICS – Vienna (AT)
- Events in 2024
  - Online workshop more than 40 participants
  - Workshop with the MAGPIE consortium & stakeholders – Wesel (DE)
  - Danube Ports Days, organised by Pro Danube, together with MultiRELOAD and SYNERGETICS – Budapest (HU)
- Events in 2025 (scheduled)
  - Danube Ports Days, in cooperation with the PIONEERS project – Constanța (RO) – 16 & 17 September
  - Workshop with the members of Nederlandse Vereniging Binnenhavens – Moerdijk (NL) - 2 October
  - Workshop with the members of Bundesverband Öffentlicher Binnenhäfen – Berlin (DE) – 8 October
  - Final conference – Vienna (AT) – 26 & 27 November
- Communication and dissemination activities:
  - Project website: Green Inland Ports & LinkedIn page: Green Inland Ports: Overview | LinkedIn

Cooperation with other projects and studies

Green Inland Ports is not implemented in isolation. Cooperation with other projects and studies.

- Inland Waterway Transport Projects Cooperation Platform
- Horizon Europe Innovation Actions, for instance:
  - MAGPIE - (H2020_LC-GD-5-1-2020)
  - PIONEERS (H2020_LC-GD-5-1-2020)
  - MULTIRELOAD (HORIZON-CL5-2021-D6-01-07)
- Other policy studies, for instance:
  - Greening of European Sea Ports - Final Report
  - CEF TA project on an Inland Waterway Transport Digitalisation Vision (yet to start)

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Next steps

- Development of **Environmental and Sustainable Management Systems** & testing and validation by pilot ports
- Workshops after summer
  - Speakers from the sector and from the pilot ports
  - How to overcome the **challenges in relation to data collection**
  - Emphasis on **scalability** and **transferability**
- **Final conference** in Vienna
  - Guidance and tools to enhance environmental performance and promote sustainable development
  - Lessons learned from frontrunner ports & transferability of these solutions
- **Final report** (end of this year)
  - Environmental and Sustainable Management Systems:
    - Overview of tools and feedback from inland ports
    - Solutions for the scalability and transferability of tools
  - Recommendations for further development and deployment of ESMS & future legislative framework
  - Role of the public and private stakeholders

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Thank you & Questions

Contact details:

jasper.tanis@ecorys.com
geert.smit@ecorys.com
greeninlandports@ecorys.com
s.jovanovic@ic-group.org
r.de.leeuw.van.weenen@panteia.nl