PLATINA4Action

1st Stage Event

6 November, 2024
Brussels
9:30 – 17:45

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650

Event Agenda

PLATINA4Action Project Overview
(09:40 - 10:00) - **Martin Quispel,** EICB, Project Coordinator

Keynote Addresses (10:00 - 10:30): Hugues Van Honacker, DG MOVE & **Christiaan Van Lancker**, European IWT President

Panel Discussion on the EU Transport Agenda (10:30 - 12:00)

Lunch Break (12:00 - 13:00)

Afternoon Sessions – Thematic Discussions (13:00 - 17:45):

Session 1: updates on NAIADES-III and the role of digital twins.

Session 2: European labelling system for inland vessels

Session 3: crafting an RD&I roadmap for the sector.

Coffee Break (15:30 – 16:00)

Session 4: Panel discussion on zero-emission solutions for IWT

Closing Remarks (17:30 - 17:45)

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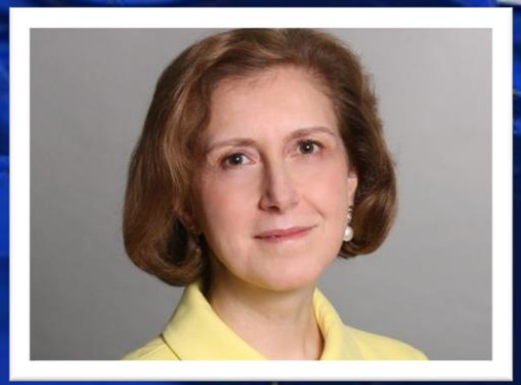
Welcome and introductory remarks By European IWT Platform

Janeta Toma, General Manager



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Project consortium

PLATINA4Action project overview

Martin Quispel, EICB

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PLATINA4Action project overview

Objectives, scope, progress and strategic framework

Stage Event Brussels
6 November 2024
Martin Quispel
SPB/EICB

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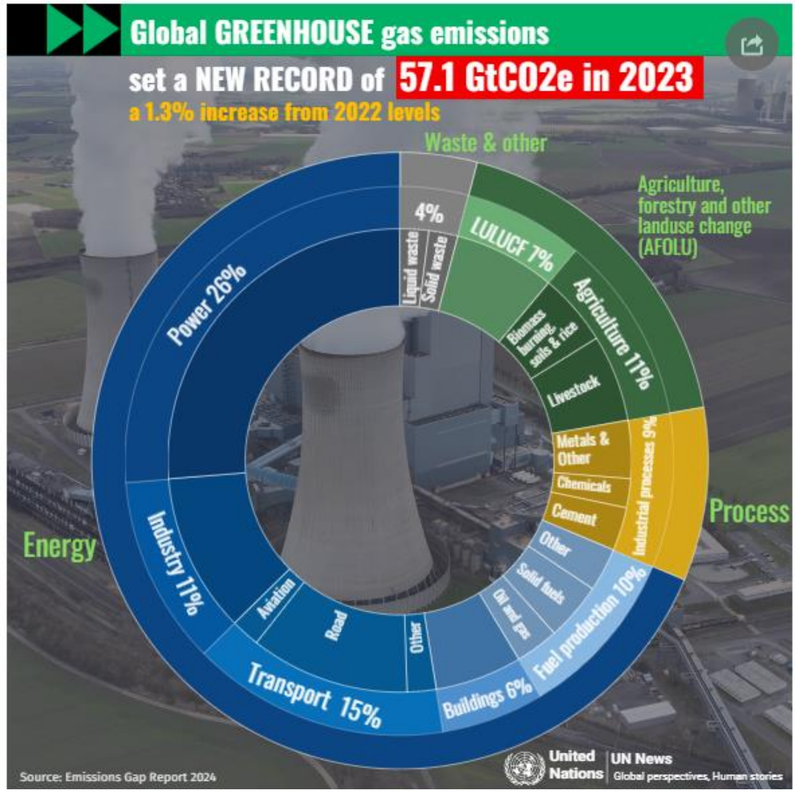
Why are we here today?

UN: A new record in greenhouse gas emissions reached in 2023…



Sources: https://news.un.org/en/story/2024/10/1156071 , https://press.un.org/en/2024/sgsm22422.doc.htm

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Main messages from UN Emissions GAP report

Without dramatic cuts to greenhouse gas emissions, the world could face an inevitable and catastrophic 3.1°C temperature rise, according to the report

“The emissions gap is not an abstract notion. Indeed, there is a direct link between increasing emissions and increasingly frequent and intense climate disasters.“

Today’s Emissions Gap report is clear: we’re playing with fire; but there can be no more playing for time. We’re out of time. Closing the emissions gap means closing the ambition gap, the implementation gap, and the finance gap. Starting at COP29.

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Affordable technologies can help

The COP29 UN Climate Change Conference commencing in Baku, Azerbaijan, in November should serve as a launchpad for a detailed discussion of such new ambitious national plans. The event "starts the clock for countries to deliver new national climate action plans by next year".

"Governments have agreed to align these plans. That means they must drive down all greenhouse gas emissions and cover the whole economy, pushing progress in every sector, he said, urging the largest economies – the G20 members responsible for around 80 per cent of all emissions – to lead in this process."

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Affordable technologies can help

“Today’s report shows affordable, existing technologies can achieve the emissions reductions we need to 2030 and 2035 to meet the 1.5°C limit, but only with a surge in ambition and support,” he said.

That means they must drive down all greenhouse gas emissions and cover the whole economy, pushing progress in every sector, he said, urging the largest economies – the G20 members responsible for around 80 per cent of all emissions – to lead in this process.

There is hope, the UN chief stressed.

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Clean energy can change trajectory

…Other effective strategies include enhancing energy efficiency, electrifying various sectors and transitioning from fossil fuels in buildings, transport and industry, according to the report.

However, the report stated that realising even a fraction of this potential will demand unprecedented international cooperation and a comprehensive approach from governments, focusing on maximising socioeconomic and environmental benefits while minimising trade-offs.

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Position of IWT

Road haulage will be under ETS2 and strong developments of zero-emission trucks.

Clients will be more and more pushed to low carbon solutions by means of CSRD and alike measures.

In order to safeguard the licence to operate, IWT needs a break-through towards zero-emission transport.

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Project summary PLATINA4Action

Title: ***PLAT****form for the* ***I****mplementation of the* ***N****avigation* ***A****ction programme* ***for Action***

Duration: 36 months: January 2024 – December 2026

Budget: 1.5 mln euro, 125 person months staff effort

Instrument: Horizon Europe Coordination and Support Action, Lump Sum

Response to Horizon Europe call (13 dec 2022- 20 April 2023)

Call topic: ***Towards the implementation of the inland navigation action programme with a focus on Green and Connected Inland Waterway Transport***

*The European Green Deal and NAIADES III challenges require a **breakthrough Action Plan** for the innovative system change from a holistic perspective to achieve drastic emission reduction and modal shift targets. These elements lead to:*

- *a change in the ownership structure and business models (e.g. energy as a service, leasing),*
- *intensive horizontal and vertical collaboration, vessels using (near) zero-emission technologies and energy carriers (e.g. batteries, fuel cell, synthetic fuels and clean combustion),*
- *standardised and modular hardware and ship design as well as advanced IT solutions for connected inland waterways transport,*
- *synchro-modal planning,*
- *safe and autonomous navigation and smart shipping.*

Also, the required infrastructure, regulations, incentives need to be addressed. Finally, end user buy-in and commitment will be key to facilitate these changes.

Full call text: https://cordis.europa.eu/programme/id/HORIZON_HORIZON-CL5-2023-D5-01-17/en

Programme: Clean, Safe and Accessible Transport and Mobility, Climate, Energy and Mobility, Industrial Competitiveness in Transport

Project summary PLATINA4Action

Platform for policy action to boost green and connected inland waterway transport

The platform will act as catalyst, bringing together expertise, stakeholders and research in the field of European Inland Waterway Transport, building on the PLATINA3 project funded under Horizon 2020.

Activities will focus on:

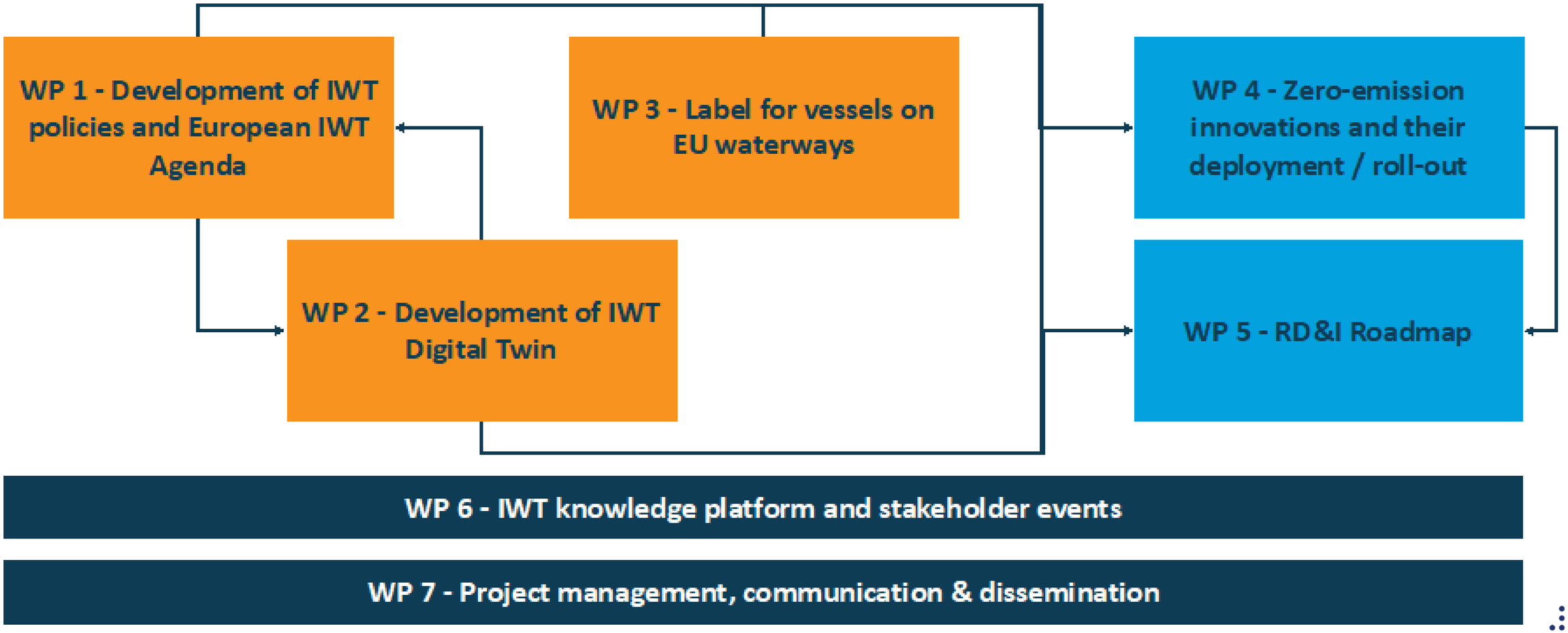
1) Supporting and coordinating research and innovation activities focussing on green and connected IWT to find synergies between parallel developments
2) Impact estimations of NAIADES III actions and supporting the policy discussions to achieve modal shift and zero-emission IWT
3) Updating of the Strategic Research and Innovation Agenda for IWT.

The consortium does work closely together with European Commission DG MOVE in view of the NAIADES Implementation Expert Group and DINA Expert Group. Furthermore, the consortium does involve and interact with IWT and logistic representatives and platforms, river commissions, ports and waterway managers, Member States and research institutes. An extensive Advisory Board was set-up in the beginning of the project, representing the above stakeholders and experts.

Project objectives

- **Assess the impact of the NAIADES III actions** on emission reduction and modal shift and **develop additional policy recommendations** to accelerate the transition to zero-emission and digital IWT and to support the modal shift.
- Develop and demonstrate a digital twin tool capable of **evaluating the impact** of the NAIADES III actions and additional policy recommendations.
- Develop and validate a **European labelling system for green IWT vessels on EU waterways** aiming at achieving energy and emission reduction and ultimately zero-emission transport.
- Identification and analysis of **barriers and opportunities for the development of zero-emission and smart technologies and pilot actions** for **deployment** of selected breakthrough concepts.
- Develop an **RD&I roadmap** for technologies and policies achieving accelerated zero-emission and smart IWT their deployment.
- **Initiate and continue interaction** between policy makers, technology providers, experts, researchers, and IWT end-users.

Project structure



Project consortium

WP1 objectives

- **Policy evaluation:** Monitoring the implementation status of the 35 NAIADES-III actions and identifying implementation gaps

- **Impact assessment:** additional policy actions on emission reduction and modal shift targets will be analysed by means of the tools developed in WP 2 (Digital Twin)

- **Policy development:** contributing to the implementation of green and digital, water protection and environmentally sound solutions

WP1 Tasks

- Task 1.1: Monitoring policy implementation
- Task 1.2: Policy evaluation and gap analysis
- Task 1.3: Agenda setting and policy formulation

WP2 Development of IWT Digital Twin

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

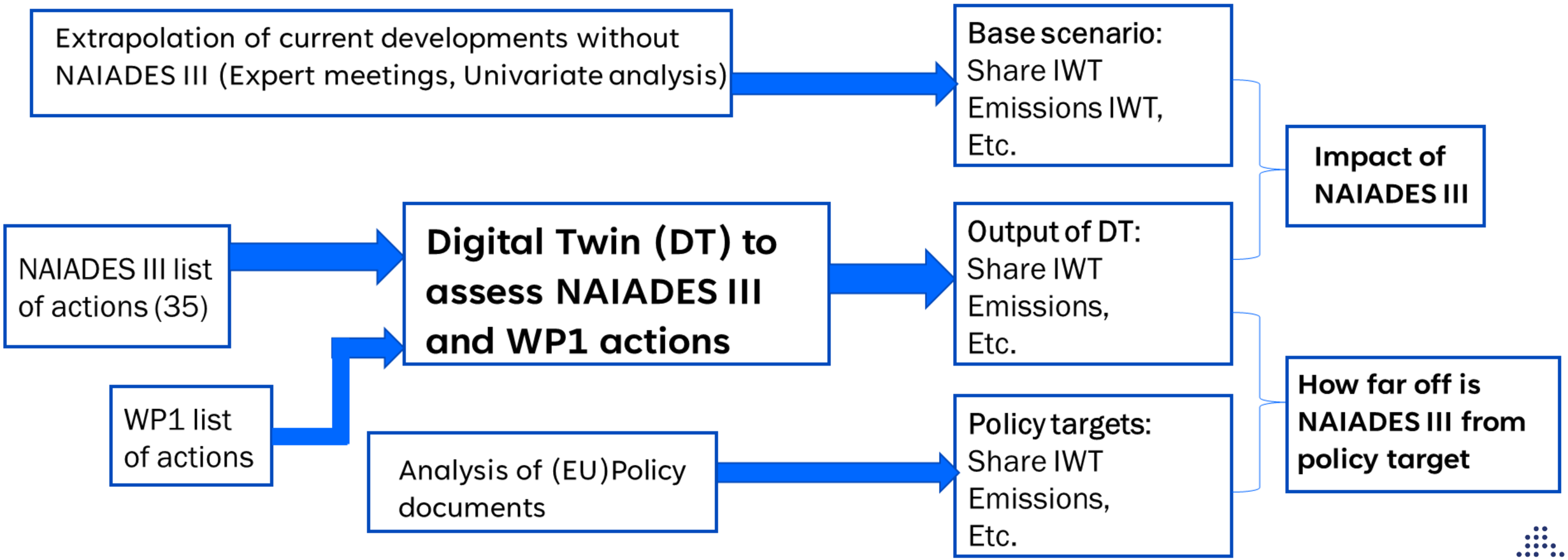
WP2 objectives

The Digital Twin (DT) enables **quantitatively simulating different policy scenarios and options** to assess the contributions on **modal share** by the NAIADES III measures and **emission reductions** and the **impacts for the various stakeholders** involved.

This WP will be developed in three stages:

- Development of KPIs that need to be quantified (along with the main scenarios that need to be analysed)
- The development of the DT
- DT will be used to make the policy analysis.

Overall structure of DT



WP2 Tasks

Task 2.1: Definition of KPIs of the DT and the different scenarios

Task 2.2: Building the DT

Task 2.3: Assessing impact of NAIADES III actions and policy actions provided by WP1

WP3 Label for vessels on EU Waterways

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

WP3 objectives

Work Package 3 aims at:

- An updated review of requirements and maritime and inland labelling systems, including EU policy and legislation to set the scene, the boundary conditions and the objectives.
- Development and assessment of options and evaluation of labelling concepts
- Selecting one concept and further development including its implementation
- Making implementation roadmap and raising commitment for implementation

WP3 Tasks

Task 3.1: Updating state-of-play

IMO measures, EU legislation, taxonomy, count emissions EU, CCNR working group, …

Task 3.2: Setting objectives and boundaries for the label

Costs, complexity, confidentiality, legal aspects, level playing field, …

Task 3.3: Developing options and evaluation

Feasibility, effectiveness… cooperation with DG MOVE, discussions with stakeholders

Task 3.4: Developing implementation roadmap

Task 3.5: Developing baseline data and examples for specific segments

WP4 Zero-emission innovations and their deployment / roll-out

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

WP4 objectives

Work Package 4 has the following specific objectives:

- Stocktaking and subsequent selection of cases, initiatives, and good practices, considering results from other projects
- TCO modelling and identification of financing requirements considering new business models and ownership models, including options for co-funding options.
- Identification and validation of barriers and possible actions to overcome them.
- Elaboration of actions and required framework conditions for implementation.
- Facilitating the development of a project proposal for deployment breakthrough making best use of existing financial instruments.

WP4 Tasks

Task 4.1: Stocktaking of good practices and initiatives

Task 4.2: TCO modelling and economic scenario analyses

Task 4.3: Assessment of requirements, barriers and opportunities for industry support and investing commitment

Task 4.4: Action plan for deployment of selected breakthrough concepts

Task 4.5: Pilot action for deployment of selected breakthrough concept

WP5 RD&I Roadmap

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This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

WP5 objectives

- To ensure that the RD&I and deployment needs of the IWT sector as well as those with an overlap with the maritime segment are defined in more detail. To address against the available funding opportunities, and that the possibilities to fund and/or roll-out the RD&I results are used.

- The WP 5 output will also include RD&I ideas that can be proposed for inclusion in the cPP ZEWT SRIA, but also in calls from other HEU areas and from other EU funding instruments (e.g., CEF, LIFE, Interreg, etc.). In addition, WP 5 activities will also look into the opportunities from the next MFF (2028-2035).

WP5 Tasks

Task 5.1: Identifying and proposing solutions for RD&I gaps and industry commitments

Task 5.2: A comprehensive RD&I Roadmap for IWT

WP6 IWT Knowledge platform and stakeholder events

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650

WP6 objectives

Work Package 6 aims to provide a platform for collaboration and engagement among relevant stakeholders interested in the transition to zero-emissions, smart IWT, and modal shift to IWW.

Objectives:

- Transfer and consolidate knowledge in the IWT sector
- Foster dialogue between key parties
- Seek input and feedback from stakeholders for relevant project activities throughout the project lifecycle.

Achievement Strategy:

- By organizing project events, workshops, and stakeholder consultations to facilitate information exchange with experts and stakeholders.
- By ensuring synergies with relevant projects to optimize resource use and enhance outcomes.

WP6 Tasks

Task 6.1 Synergies between European projects

Task 6.2 Technology transfer workshops for shippers and barge owners/operators for greening the fleet

Task 6.3 Organising Stage events

WP7 Project management, communication & dissemination

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650

WP7 Tasks

Task 7.1 Administrative and financial management

Task 7.2: Technical management, quality assurance and risk management

⇒Setting up advisory board

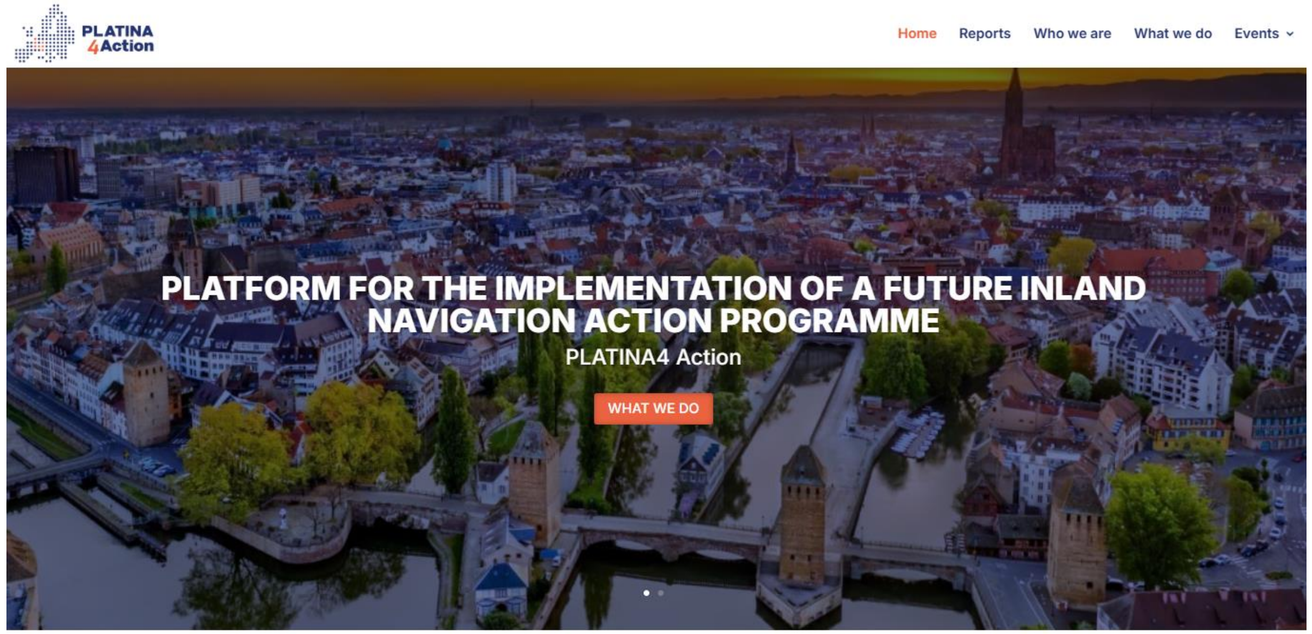
Task 7.3: Dissemination, exploitation & communication including stakeholder management

Task 7.4: Management of ethics requirements

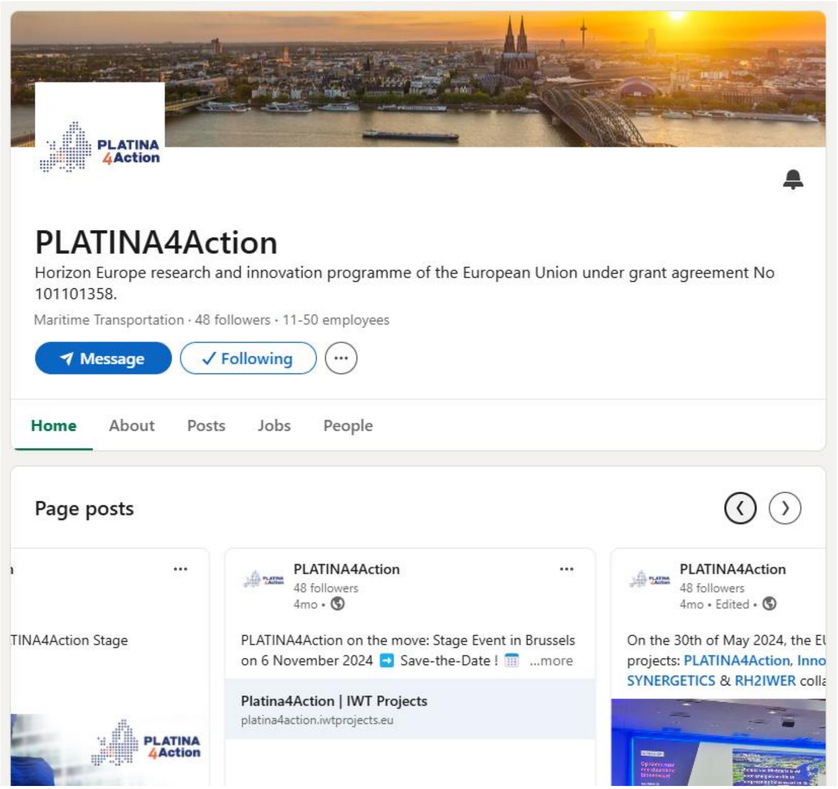
Get connected and stay tuned

Website: https://platina4action.iwtprojects.eu/

LinkedIn: https://www.linkedin.com/company/100895636



Platform for the implementation of the navigation action programme for action



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Thank you for your attention

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Keynote: Policy priorities for waterborne transport and inland navigation

Hugues Van Honacker

Team Leader Inland Navigation Policy European Commission DG MOVE

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Keynote: Policy requirements from the industry perspective and the need for collaboration

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Christiaan Van Lancker

President of European IWT Platform

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Addressing Challenges in the Transition of the IWT Sector

Zero-emission technologies and the digitalisation of the fleet

Overcoming labour shortages

Ensuring the resilience and reliability of our waterways

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Policy Requirements from the Industry Perspective

Decarbonization of the Fleet

- The use of advanced biofuels in inland vessels has already demonstrated a reduction in emissions, paving the way for cleaner transport on the Rhine.
- Electric propulsion systems installed on smaller vessels have shown promising results in emission reductions, indicating the potential for scaling up these technologies.
- Pilot projects focused on retrofitting vessels with hydrogen fuel cells are showing promising potential for reducing emissions on major waterways like the Rhine River.

Infrastructure Development and Resilience

Investment in Waterway Infrastructure

Policies must prioritize the maintenance and development of waterways to ensure good navigation status. This includes dredging, riverbed stabilization, and the modernization of locks and dams.

Adaptation to Climate Change

Implementing measures to manage low water levels, such as water retention systems and adaptive infrastructure, will enhance the resilience of our transport network.

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Digitalization and the 'Europe's Digital Decade'

Digital Inland Navigation (DINA) Strategy

- IWT can benefit from digitalization which needs to be brought to the next level. We therefore support the implementation of DINA to enhance real-time data exchange, optimize logistics, and improve safety. The successful deployment of advanced River Information Services (RIS) has already improved navigation efficiency. Enhancing the interoperability of RIS across member states will streamline navigation and logistics.

Cybersecurity Framework

- As we become more connected, robust cybersecurity measures must be in place to protect critical infrastructure

Sustainable and Smart Mobility Strategy

Modal Shift Targets

- Policies should incentivize shifting freight transport from road to inland waterways, which are more energy-efficient and have lower emissions per ton-kilometre.

Digitalization

- The Electronic freight transport information (eFTI) directive therefore needs to be implemented by the Member States to guarantee support of the sector in this field.

The Proposed Combined Transport Directive

- Should be extended in its scope to support multimodal transport. Member States should take up this proposal to fully tap the potential of a better integration of IWT in the multimodal transport chain

Research and Innovation under Horizon Europe

Funding for Innovation

- Continuous access to Horizon Europe funds can support R&D in sustainable technologies, automation, and digitalization specific to inland navigation. **Promising developments in autonomous vessel technology could revolutionize the industry.**

Workforce Development and the Just Transition

Skill Development Programs

- Policies should support training and reskilling programs to equip our workforce with the necessary skills for new technologies.

Attracting New Talent

- Initiatives to promote careers in inland navigation among young people, emphasizing diversity and gender balance, are essential. Programs like the 'Women in Inland Navigation' initiative have begun to make strides in this area.

The Need for Enhanced Collaboration

Engagement with EU Institutions:

- Maintaining dialogue with the European Commission and Parliament and relevant international institutions like the International River Commissions and UN ECE to ensure that the unique needs of the IWT sector are considered in policy formulations.

Public-Private Partnerships:

- Collaborations between governments, industry, and academia can accelerate infrastructure development and innovation.

Cross-Sector Cooperation:

- Working with other transport modes to create integrated, multimodal transport solutions will enhance overall efficiency and sustainability.

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Platina4Action: A Catalyst for Progress

The Platina4Action project represents the kind of collaborative effort required. Bringing together stakeholders from across Europe, serving as a platform to develop and implement strategies that align with EU policies.

Policy Implementation Support

- Platina4Action can help bridge the gap between policy and practice by facilitating pilot projects and sharing best practices.

Innovation and Research

- The project can coordinate research efforts, ensuring that innovations are scalable and applicable across the EU.

Concerted actions

From Policymakers

- We urge you to create supportive frameworks that enable our industry to thrive while meeting ambitious environmental goals.

From Industry

- Let us proactively adopt new technologies, invest in our workforce, and collaborate across sectors.

From Stakeholders

- Including financial institutions, to provide the necessary funding mechanisms for large-scale investments that are also accessible for SMEs.

Thank you for your attention

Christiaan Van Lancker

European IWT Platform President

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Panel Discussion:

EU Transport Agenda – Updated policy priorities and the role of Inland Waterway Transport

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Hugues Van Honacker,
EC –DG MOVE

Manfred Seitz,
Danube Commission

Karin De Schepper,
Inland Navigation Europe

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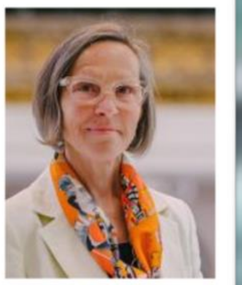
Theresia Hacksteiner,
European Barge Union



Christiaan Van Lancker,
European Skippers Organisation

Godfried Smit,
European Shippers Council

Jaap Gebrad,
Waterborne TP

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Panel Discussion:

EU Transport Agenda – Updated policy priorities and the role of Inland Waterway Transport

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Lunch Break

We will be back at 13:30

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Afternoon Sessions

In-depth focus on PLATINA4Action topics

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Setting the context for thematic sessions

Focus and objectives of the thematic sessions and the coordination platform for RD&I projects in IWT

Stage Event Brussels
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SPB/EICB

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Afternoon programme Stage Event

13:00 – 13:30	**Setting the context for the Thematic Sessions & Overview of RD&I at EU level for IWT**
	• Introduction to the focus and objectives of the thematic sessions and the cooperation platform for RD&I projects in IWT, Martin Quispel, EICB • RD&I for IWT within EU funding programmes, Gabriel Mialocq, European Climate, Infrastructure and Environment Executive Agency (CINEA)
13:30 – 14:25	**Thematic Session 1 – Evaluation and development of European IWT Policy**
	• Update on evaluating and enhancing the implementation of NAIADES-III Actions, Severin Fraundorfer, viadonau • The role and contribution of the digital twin in policy assessment and analysis, Prof. Edwin van Hassel, University of Antwerp
14:25 – 15:10	**Thematic Session 2 – Developing a comprehensive labelling system for inland vessels on European waterways**
	• Insights from existing emission labelling and indexing systems, Khalid Tachi, EICB • Defining the objectives and next steps for the European labelling system for inland vessels, Benjamin Friedhoff, Development Centre for Ship Technology and Transport Systems (DST)
15:10 – 15:30	**Thematic Session 3 – Crafting a comprehensive RD&I roadmap for IWT**
	• Analysis of the RD&I landscape in IWT and the approach of the PLATINA4Action project to develop an updated RD&I roadmap, Jaap Gebraad, Waterborne Technology Platform
15:30 – 16:00	**Coffee break**
16:00 – 17:30	**Thematic session 4 – Paving the way for roll-out of zero-emission solutions for IWT**
	• Stocktaking results on promising concepts and initiatives of zero-emission solutions, Khalid Tachi, EICB. • Panel discussion on deploying zero-emission solutions for IWT: Practical challenges, Funding and legal barriers and Recommendations **Panellists**: Marc Vanderhaegen (CINEA), Muhammed Elemenler (DG MOVE), Pieter Huyskens (DAMEN), Marnix Vos (Nedcargo), Almar van Herk (KOTUG), and Koen van Eig (Zero Emission Shipping). **Moderator:** Daisy Rycquart, EICB

1. Evaluation and prepation of EU policy

- Evaluation NAIADES III Action Plan
- Preparing for next policy period: 2028 – 2035
- More specific targets and how to reach them
- PLATINA4Action coordinates with DG MOVE and NAIADES EG
- Digital Twin to provide solid data and a sound basis for measures

2. Comprehensive labelling system

- A reference for supporting measures to promote green vessels to make them economically competitive compared to laggards in the market:
  - Climate change emission performance
  - Air pollutant emission performance
  - Energy efficiency performance
- Supporting data requirements from different angles, avoiding administrative burden and providing meaningful figures
- Bringing several initiatives together under a common framework, avoiding a patchwork of different national / regional systems.

3. Crafting a comprehensive RD&I roadmap

- Targeted recommendations from IWT for calls from instruments such as
  - Horizon Europe (ZEWT and other parts)
  - Connecting Europe Facility
  - Innovation Fund
- Facilitating an inclusive process to engage stakeholders to discuss the needs, progress and to develop the roadmap
- Taking into account ongoing and upcoming projects, planned calls and previous recommendations from PLATINA3 work.

4. Paving the way for roll-out of zero-emission solutions for IWT

- Path to zero-emission is a requirement to remain of added value, to safeguard the ‘modal shift’ rationale and public support for IWT investments.
- Economic feasibility of zero-emission innovations is a crucial element
- Current zero-emission projects do have difficulties to scale up
- What are barriers and how can they be overcome?
- What can be done with existing / upcoming funding instruments?
- What is needed in the next policy and funding period (2028-2035)?

Cooperation platform RD&I projects for IWT

- **The added value:**
  - **More impact** by means of consolidated / joint statements and recommendations, stronger signals regarding follow-up: RD&I needs (future calls) and policy measures to reduce barriers in market uptake
  - **Increased visibility** to the community and stakeholders, e.g. by means of an internet website and LinkedIn
  - **More efficient and effective execution of projects** in terms of impact, stakeholder engagement, dissemination
  - **Facilitating meetings and document exchange platform** to learning from each other to increase the knowledge base

- **Continuation** of the **“Joint EU Smart Shipping & Logistics Platform”** which was organised by the NOVIMOVE project until May 2024
- **Hosted by PLATINA4Action project** as agreed in Grant Agreement with CINEA to provide a secretariat function for the period June 2024 – December 2026

Objectives of the cooperation platform

- **Enabling synergies between projects regarding the technical content:**
  - Providing an up-to-date overview on the ongoing EU (funded) projects for Inland Waterway Transport
  - Mapping the projects
  - Facilitating specific thematic focus groups and information exchange
  - Providing feedback and learning from each other's project outcomes and recommendations

- **Enabling synergies between the projects in terms of event planning and stakeholder consultation:**
  - Supporting and structuring (joint) stakeholder involvement and consultations, by keeping an up-to-date list of stakeholders relevant for IWT available to all projects
  - Making and keeping an up-to-date events calendar

- **Boosting visibility, impact of dissemination and exploitation of projects:**
  - Joint dissemination and exploitation
  - Joint communication channels and media
  - Joint recommendations: RD&I themes and priorities, policy recommendations

Scope of the cooperation platform

- **The initial scope of projects concern the RD&I projects funded by the European programme Horizon Europe. Here the different areas / partnerships can be distinguished:**
  - Zero Emission Waterborne Transport (ZEWT)
  - Logistics, human resources and digitalisation
  - Joint Undertaking Clean Hydrogen
  - Batt4EU

- **Although Horizon Europe is the main instrument for RD&I, there are other EU funded projects which may have RD&I elements. It concerns projects which are supported by, for example, the following other EU Instruments:**
  - EU tenders for studies in the field of IWT (e.g. launched by DG MOVE)
  - Connecting Europe Facility (e.g. RIS projects)
  - Innovation Fund (e.g. projects focusing on energy transition in IWT)
  - INTERREG (regional IWT projects)
  - LIFE (reduction of air pollutant emissions by IWT)
  - ERASMUS+ (education and training projects)

- **Furthermore, national funded RD&I projects for inland navigation are in scope as well. Here we apply the criterium that these projects shall have a certain size and added value to Europe.**

Connected projects (status 31 October 2024, in alphabetic order)

Project acronym	Coordinating organisation	Link to CORDIS / project website
1s4iwt	STC Group	https://www.1s4iwt.eu/
AENEAS	FLANDERS MAKE	https://cordis.europa.eu/project/id/101095902
AUTOBARGE	University Leuven	https://cordis.europa.eu/project/id/955768
AUTOFLEX	SINTEF	https://cordis.europa.eu/project/id/101136257
AUTOSHIP	CIAOTECH Srl	https://cordis.europa.eu/project/id/815012
AVIS	GMV	https://avisproject.gmv.com/
CLEVER	PNO Spain	https://cordis.europa.eu/project/id/101146908
COMEX2	viadonau	https://www.viadonau.org/en/company/project-database/comex2-river-information-services-corridor-management-execution2
CRISTAL	Poznań Institute of Technology	https://cordis.europa.eu/project/id/101069838
FASTWATER	LUNDS University / BALANCE	https://cordis.europa.eu/project/id/860251
FLAGSHIPS	VTT	https://cordis.europa.eu/project/id/826215
FOREMAST	INLECOM	https://cordis.europa.eu/project/id/101138261
FOR-FREIGHT	CERTH	https://cordis.europa.eu/project/id/101069731
GRIP	Ecorys	https://green-inland-ports.eu/
InnoWaTr	Maritieme Academie Harlingen	https://www.interregnorthsea.eu/innowatr
ISTS	SINTEF	http://ists.mits-forum.org/
IWETT	RSOE	https://iwett.eu/
IW-NET	ISL	https://cordis.europa.eu/project/id/861377
LASTING	Waterborne TP	https://cordis.europa.eu/project/id/101006923
MAGPIE	Port of Rotterdam	https://cordis.europa.eu/project/id/101036594
MULTIRELOAD	Port of Duisburg	https://cordis.europa.eu/project/id/101069796
NOVIMOVE	TU Delft	https://cordis.europa.eu/project/id/858508
PATH2ZERO	TU Delft	https://path2zero.iwtprojects.eu/
PIONEERS	Port of Antwerp	https://cordis.europa.eu/project/id/101037564
PLATINA4Action	SPB/EICB	https://cordis.europa.eu/project/id/101137650
PLOTO	NETCOMPANY - INTRASOFT	https://cordis.europa.eu/project/id/101069941
ReNEW	IWT Platform	https://cordis.europa.eu/project/id/101069682
RESHIP	HYSILABS	https://cordis.europa.eu/project/id/101056815
RH2IWER	VTT	https://cordis.europa.eu/project/id/101101358
SEAMLESS	ETHNICON METSOVION POLYTECHNION	https://cordis.europa.eu/project/id/101096923
SETO	University of Dublin	https://cordis.europa.eu/project/id/101103695
SYNERGETICS	DST	https://cordis.europa.eu/project/id/101096809

Governance and structure of platform

- A **General Assembly**, in which projects can be represented during the duration of the project plus 12 months after the project is closed.

- **Thematic sub-groups** will be established with informal status to discuss technical contents and create internal synergies between projects.

- A **platform secretariat** is established and provided by PLATINA4Action
  - Communication and dissemination tools
  - Keeping the up-to-date overview on projects
  - Project reference data and analyses
  - Events calendar
  - Stakeholder list
  - Intake sessions and exit sessions with projects
  - Supporting development of joint RD&I recommendation and policy recommendations

Facilities and tools

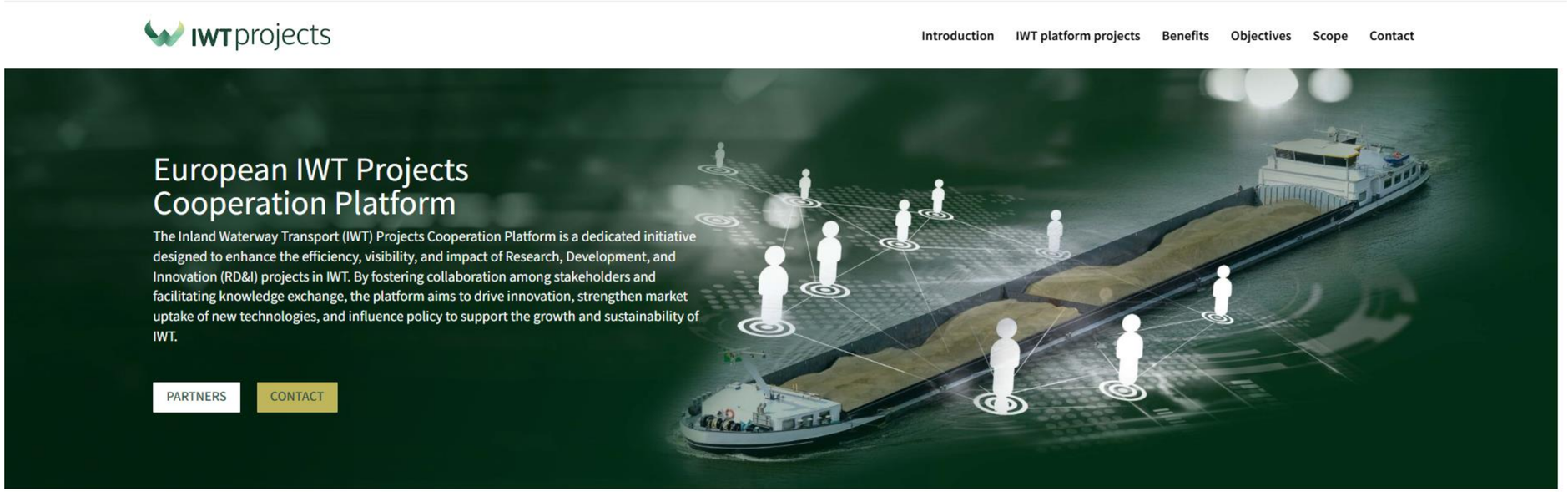
- **E-mail exchange between project representatives in the platform**

- **MS TEAMS Environment for members**

- **Platform Website**
  - Abstracts of projects, links to CORDIS and project websites
  - IWT events calendar
  - Infographics to map the projects
  - Publication of common documents (e.g. RD&I and policy recommendations)

- **LinkedIn channel**
  - Platform messages
  - Reposting messages from member project
  - (Joint) event announcements

Website: https://iwtprojects.eu/



IWT platform projects

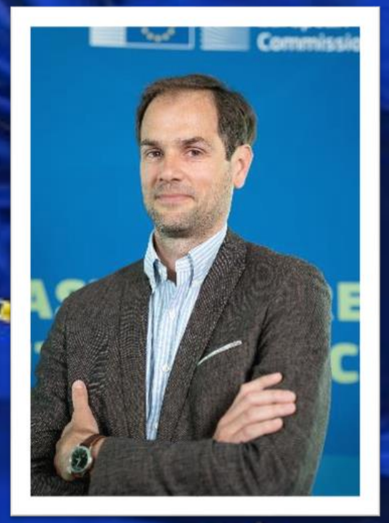
Thank you for your attention

Ir. Martin Quispel (MSc.)

Project coordinator
T. +31 10 798 98 30
M. +31 (0) 6 11 45 59 00
I: https://platina4action.iwtprojects.eu/

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

Gabriel Mialocq, CINEA



This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650

Horizon programme supporting Inland Waterway Transport Research and Innovation

Platina4action 1st Stage Event Brussels, 6 November 2024

Gabriel Mialocq

Head of Sector, Waterborne and Aviation R&I. CINEA

European Commission

CINEA- Making implementation happen

- CINEA - the Climate, Infrastructure and Environment Executive Agency started its operations in 2021
- Adding new 2021-2027 programmes
- Implementing EU funding for **transport, energy and mobility** to support **the European Green Deal** and achieve **climate neutrality by 2050**
- **10+ years of experience**: managing calls, financing/monitoring projects

European Commission

CINEA: Green Deal Programmes

HORIZON EUROPE R&I
- Climate, Energy and Mobility -
EUR 9.6 billion

CONNECTING EUROPE FACILITY 2 (CEF)
- Transport & Energy - Infrastructures
EUR 31.1 billion

LIFE
- Environment -
EUR 4.7 billion

INNOVATION FUND
with ETS revenues
(depending on carbon price)
EUR 7.7→38 billion

EUROPEAN CLIMATE, INFRASTRUCTURE AND ENVIRONMENT EXECUTIVE AGENCY

European Maritime Fisheries Fund. EUR 0.3 billion

Renewable Energy Financing Mechanism. EUR 0.5 billion

Just Transition Mechanism
EUR 1.5 billion

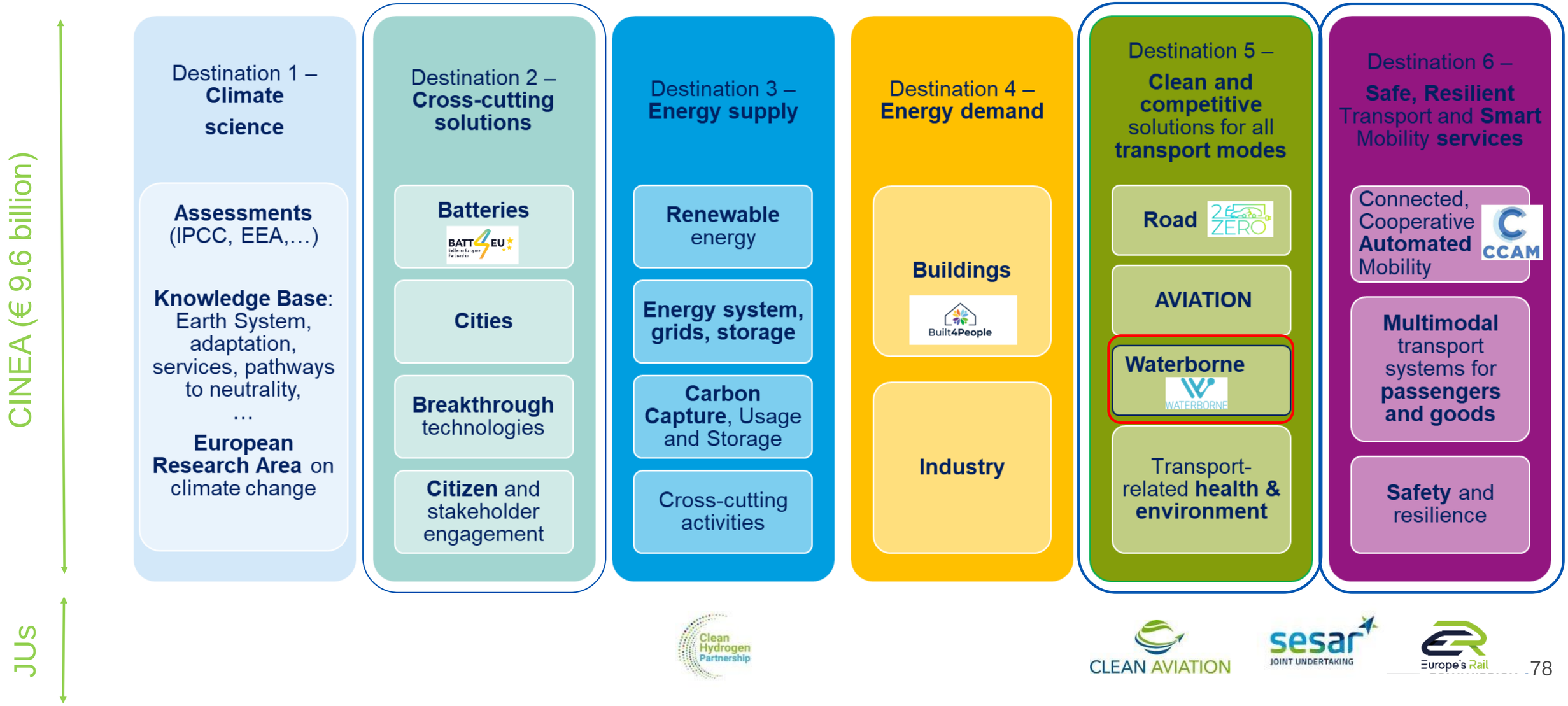
> 500 staff

From 2800+ projects managed in 2021 to > 4500 projects in 2027

> 55.4 billion (2021-2027)

77

2021- 2027 Horizon Europe R&I: Climate (1 € billion) + Energy (7 € billion) + Mobility (7 € billion)



Inland Waterway R&I in Horizon programme

Active and recently completed projects related to IWT:

Number of projects: 27
EU contribution: 185 M€

European Commission

Some prominent IWT projects

IW-NET

~ 8.3 M€

Developed a multimodal optimisation process to increase the modal share of IWT by increasing digitalisation, developing smart navigation

https://www.inlandwaterwaytransport.eu/iw-net-project/

AUTOSHIP

~ 20.1M€

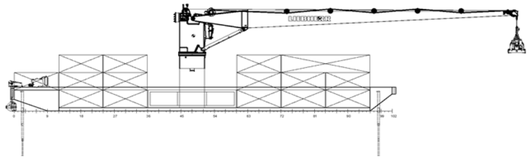
Built and operated 2 autonomous vessels and demonstrated operational autonomous shipping scenarios

https://www.autoship-project.eu/

NOVIMOVE

~ 8.9M€

Improve efficiency of cargo transport, cargo transfer and load factor, developing smart navigation



https://novimove.eu/

SEAMLESS

~ 15M€

Develops missing technology building blocks and key enabling technologies for a fully automated freight feeder service for SSS and IWT

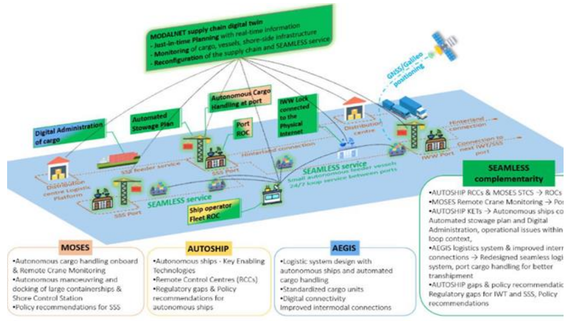


Figure 2: SEAMLESS concept and technology building blocks for seamless logistics

https://www.seamless-project.eu/

European Commission

Some prominent IWT projects

FASTWATER

~ 5 M€

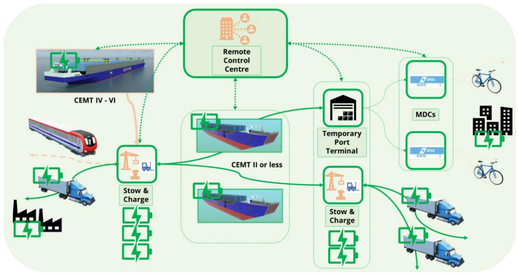
Develop and demonstrate vessel methanol technologies, demonstration on an harbor tugboat, a pilot boat, a coast guard vessel

https://www.fastwater.eu/

AUTOFLEX

~ 4.5M€

Develop small uncrewed automated zero-emission vessels with optimized design for minimal energy usage and autonomous navigation in small waterways



https://www.autoflex-vessel.eu

SYNERGETICS

~ 4.2M€

Demonstrating promising and mature retrofit technologies, hydrogen combustion, methanol combustion, hydrodynamic improvements, electrification of ships

https://www.synergetics-project.eu/

FOREMAST

~ 5.9M€

Aims to shift freight volumes from road to waterborne alternatives by integrating zero-emission technologies, automation, and innovative designs

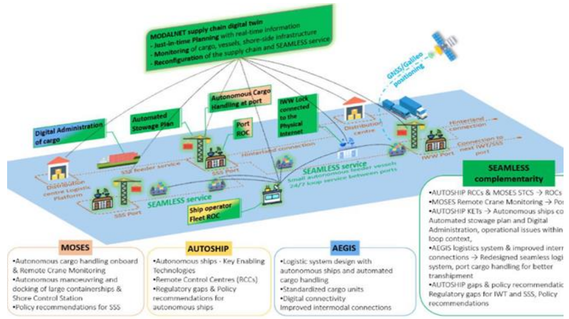


Figure 2: SEAMLESS concept and technology building blocks for seamless logistics

https://cordis.europa.eu/project/id/101138261/fr

European Commission

Other projects with relevant technologies for IWT

ZEAS: hydrogen fuel cell small ferry

Hypobatt: electrification and recharging

Hyekotank: PEM fuel cells for container vessel

AENEAS: batteries and electrification

NEMOSHIP: batteries and electrification

DT4GS: digital twins of ships

COPROPEL: new material for propellers

European Commission

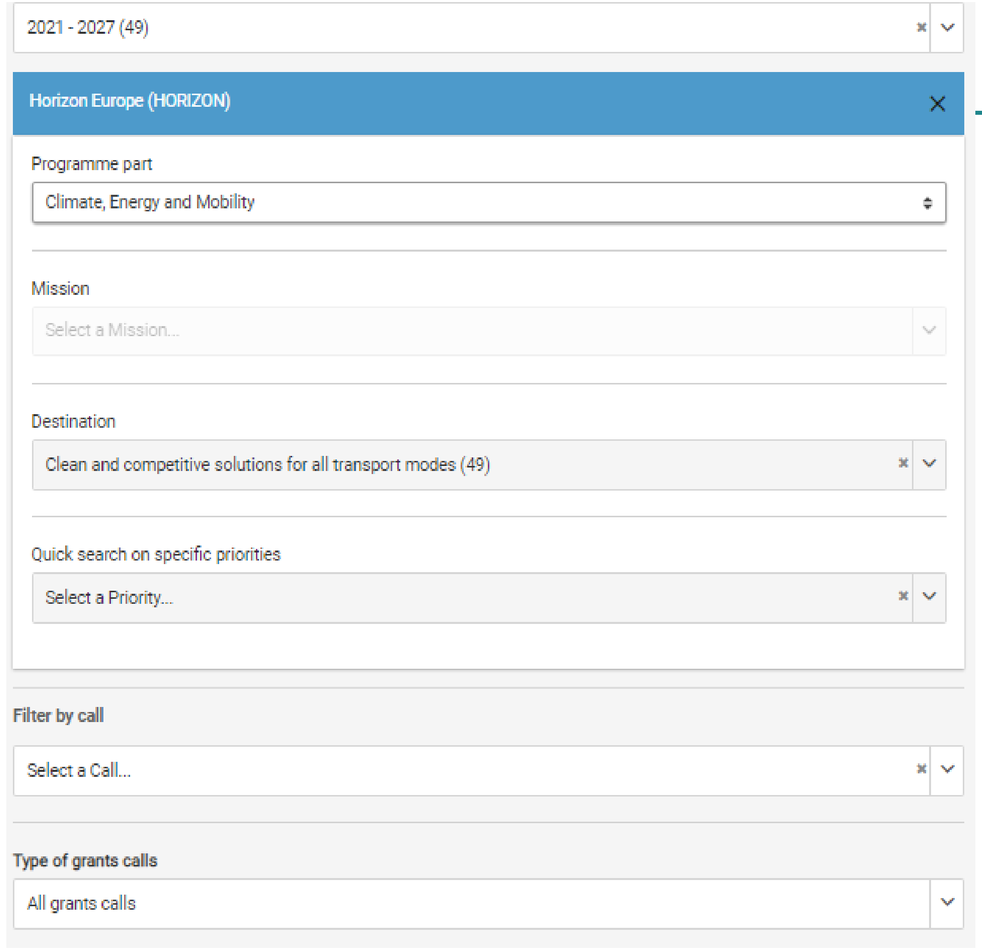
Horizon Europe future funding opportunities in 2025

1. Go to Funding& Tenders portal

Click on

2. Horizon Europe (HORIZON)

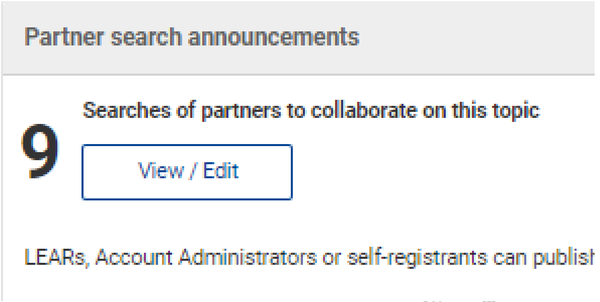
3. Select a call



4. Self register

+

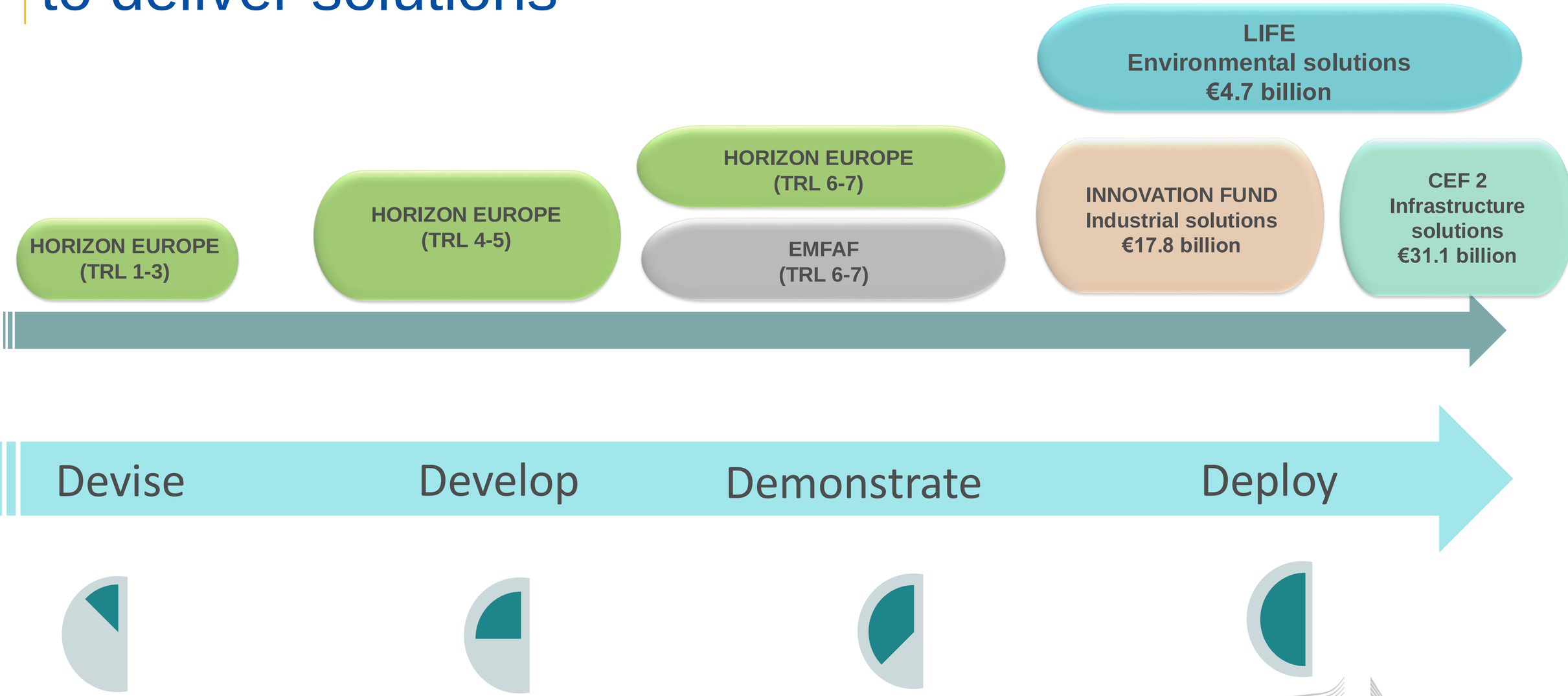
5. Search for a partner



https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/home

European Commission

Focus on synergies between EU programmes to deliver solutions



Examples: cinea.ec.europa.eu/system/files/2021-06/Exploitation_success_stories_H2020-2020_rev.pdf

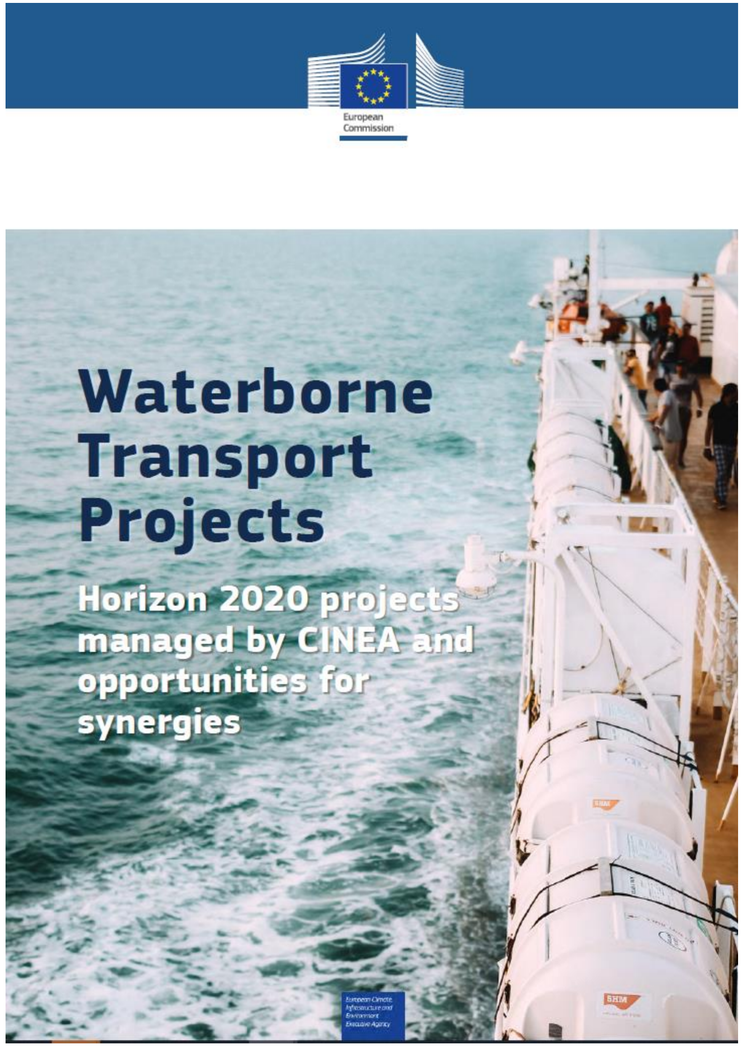
Conclusions

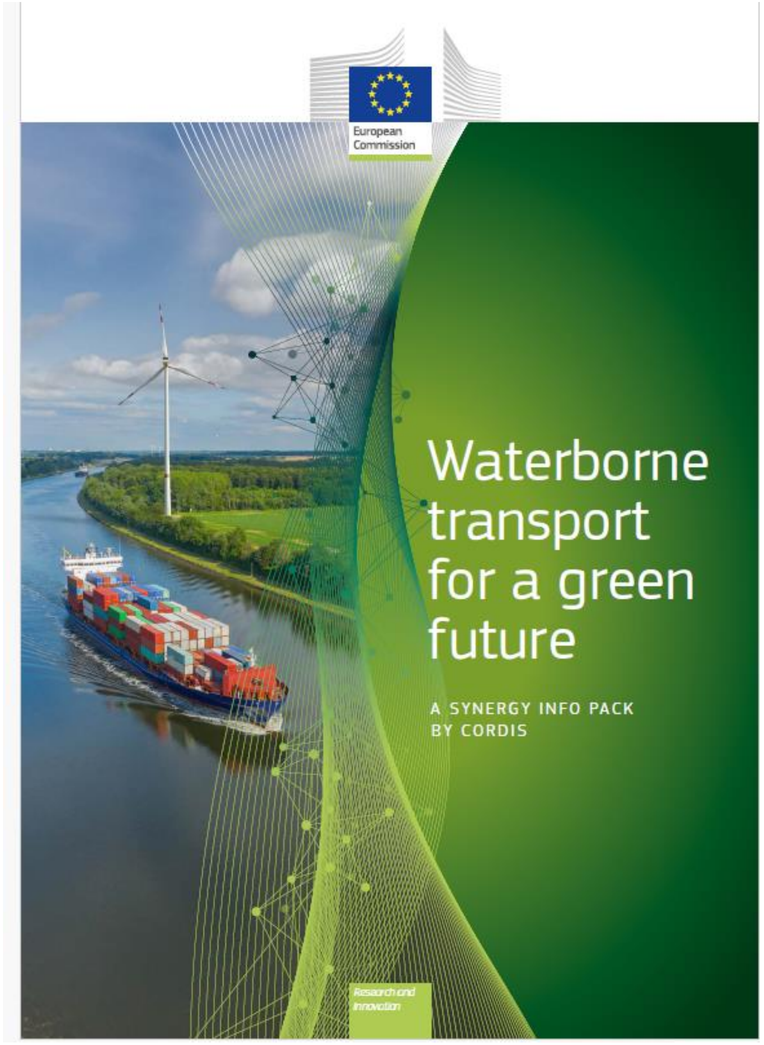
- CINEA stands by the side of the sector to implement projects helping to reach the green deal objectives.

- Stay tuned for the next work programme release in 2025. New opportunities for IWT R&I

- CINEA manages numerous programmes of relevance for the sector, so please don’t hesitate to contact us to explore the best funding opportunity for your project and build a pipeline of projects towards market deployment.

Our most recent brochure





Available online: europa.eu/!Fc9hHx

European Commission

Update on evaluating and enhancing The implementation of NAIADES-III Actions

Work Package 1

6th November 2024
Severin FRAUNDORFER
viadonau

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650

WP1 Objectives

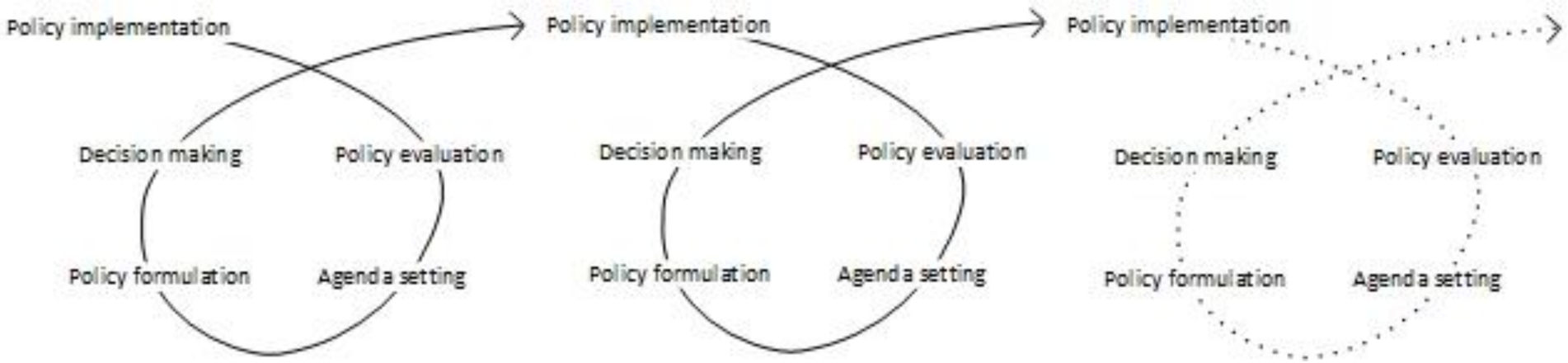
a) **Policy evaluation:** Monitoring the implementation status of the 35 NAIADES-III actions and identifying implementation gaps

b) **Impact assessment:** additional policy actions on emission reduction and modal shift targets will be analyzed by means of the tools developed in WP 2 (Digital Twin)

c) **Policy development:** contributing to the implementation of green and digital, water protection and environmentally sound solutions

WP1 Tasks

- WP1 takes the approach of an continous **policy making cycle** which shall consist of several iterations.



- The goal is to **define and propose** an effective set of **policy options** for the IWT sector that will lead to the achievement of overall policy objectives. Stakeholder involvement and consultation is ensured throughout the policy cycle.

WP1 Tasks

Task 1.1: Monitoring policy implementation [VIA, IWTP, SPB, DC]

- The NAIADES-III Implementation Matrix will be used to monitor the implementation status of the 35 NAIADES-III actions.

- VIA, IWTP, and SPB will coordinate technical inputs from different sources to keep the matrix up to date.

ACTION	ELAPSED TIME UNTIL DEADLINE OF ACTION	ACTUAL IMPLEMENTATION PROGRESS COMPARED TO TIMELINE	CRITICAL IMPLEMENTATION ISSUES	CRITICAL PERSONNEL RESSOURCES ISSUES	START	DEADLINE
SHIFTING FREIGHT	89%	61%	low risk	low risk		
Action 1 - Support innovative infrastructure HE/CEF	62%	40%	medium risk	low risk	Jan 2021	Dec 2025
Action 2 - Revision TEN-T Regulation	100%	90%	medium risk	low risk	Jan 2021	Dec 2021
Action 3 - Deployment cross-disciplinary information systems for waterway management	52%	25%	low risk	low risk	Jan 2022	Dec 2025
Action 4 - Transport crisis contingency plans	100%	100%	low risk	low risk	Jan 2022	Dec 2022
Action 5 - Review Combined Transport Directive	100%	75%	medium risk	low risk	Jan 2022	Dec 2022
Action 6 - Guidelines on carbon footprint information	100%	50%	medium risk	low risk	Jan 2023	Dec 2023
Action 7 - Review IWT market access legislation	100%	95%	low risk	low risk	Jan 2022	Dec 2022
Action 8 - Evaluation Directive (EU) 2016/1629	100%	10%	medium risk	low risk	Jan 2022	Dec 2022
ZERO-EMISSION	78%	58%	low risk	low risk		
Action 9 - Actions arising from Mission Healthy Oceans, Seas, Coastal and Inland Waters	62%	40%	medium risk	low risk	Jan 2021	Dec 2025
Action 10 - CEF Support zero-emission inland vessels	62%	40%	medium risk	low risk	Jan 2021	Dec 2025
Action 11 - EU energy index methodology IWT	100%	95%	medium risk	low risk	Jan 2022	Dec 2022
Action 12 - Evaluate derogations Directive (EU) 2016 /1629	100%	0%	medium risk	low risk	Jan 2023	Dec 2023

WP1 Tasks

- **Task 1.2: Policy evaluation and gap analysis** [VIA, IWTP, UA, SPB]

- The task focuses on **evaluating** the **impact of** existing and new policy **actions** on the policy objectives of NAIADES-III.

- The evaluation shall be **supported by the Digital Twin** (WP2) and shall also take place in different iterations.

- The task starts with an ex-post analysis of impacts of the initial 35 NAIADES-III actions and shall be concluded with a **gap analysis**, identifying which policy actions are expected to contribute to the overall policy goals

WP1 Tasks

- **Task 1.3: Agenda setting and policy formulation**
  [VIA, IWTP, UA, SPB]

- This task aims to **develop policy actions** to address implementation gaps that hinder the achievement of core policy objectives.

- The Expert Group and stakeholders will prioritize these gaps and develop alternative or additional policy actions.

- The Digital Twin will be used to formulate, validate, and assess the **expected impacts of these new policy actions**.

WP1 Deliverables

Deliverable	Number	Name	Lead Benefiviary	Type	Diss.level	Due date (month)
D1	D1.1	NAIADES-III policy monitoring and evaluation report	2 – VIA	R – Document Report	PU – Public	35
D2	D1.2	Inputs for future IWT policy agenda	1 – SPB	R – Document Report	PU – Public	35

Intermediate results so far

PLATINA 4Action

D1.1

POLICY IMPLEMENTATION MATRIX (NAIADES-III)

Today's Date: 04.11.2024

ACTION	ELAPSED TIME UNTIL DEADLINE OF ACTION	CRITICAL IMPLEMENTATION ISSUES	START (revised)	END (revised)	Original START	Original END
SHIFTING FREIGHT	85%	low risk				
Action 1 - Support innovative infrastructure HE/CEF	52%	low risk	Jun 2021	Dec 2027		
Action 2 - Revision TEN-T Regulation	100%	low risk	Jun 2021	Jun 2024		Dec 2021
Action 3 - Deployment cross-disciplinary information systems for waterway management	47%	low risk	Jan 2022	Dec 2027		
Action 4 - Transport crisis contingency plans	100%	low risk	Jan 2022	May 2022		Dec 2022
Action 5 - Review Combined Transport Directive	100%	medium risk	Jan 2022	Nov 2023		Dec 2022
Action 6 - Guidelines on carbon footprint information	100%	low risk	Jan 2023	Jul 2023		Dec 2023
Action 7 - Review IWT market access legislation	95%	low risk	Jan 2022	Dec 2024		Dec 2022
Action 8 - Evaluation Directive (EU) 2016/1629	83%	low risk	Jan 2022	May 2025		Dec 2022
ZERO-EMISSION	76%	low risk				
Action 9 - Actions arising from Mission Healthy Oceans, Seas, Coastal and Inland Waters	52%	medium risk	Jun 2021	Dec 2027		
Action 10 - CEF Support zero-emission inland vessels	52%	medium risk	Jun 2021	Dec 2027		
Action 11 - EU energy index methodology IWT	71%	medium risk	Jan 2022	Dec 2025		Dec 2022
Action 12 - Evaluate derogations Directive (EU) 2016 /1629 for zero-emission vessels	76%	medium risk	Jan 2023	May 2025		Dec 2023
Action 13 - Assess need promotion zero-emission vess	61%	low risk	Dec 2022	Dec 2025	Jan 2025	
Action 14 - Revision railways State-aid guidelines	74%	low risk	Jun 2021	Dec 2025		Dec 2023
Action 15 - Revision State-aid guideline environ. protecti	100%	low risk	Jun 2021	Jun 2023		Dec 2021
Action 16 - Technical guidance climate proofing	100%	low risk	Jun 2021	Sep 2021		Dec 2021
Action 17 - Study greening inland ports	74%	low risk	Jun 2021	Dec 2025		Dec 2021
Action 18 - Revision AFID	100%	low risk	Jun 2021	Sep 2023		Dec 2021
Action 19 - Harmonised standards for alt. fuel infrastruct	61%	low risk	Jun 2021	Dec 2026		Dec 2021
Action 20 - Support alt. fuels infrastructure through HE/I	52%	low risk	Jun 2021	Dec 2027		
Action 21 - Assess waste reception infrastructure	84%	medium risk	Jan 2024	Dec 2024		
Action 22 - Revision Del. Regulation (EU) 2017/1926	100%	low risk	Jan 2022	Nov 2023		Dec 2022
SMART IWT	75%	low risk				
Action 23 - Revision Directive 2005/44/EC (RIS)	100%	low risk	Jan 2022	Jan 2024		Dec 2022
Action 24 - TA for permanent operational structure RIS	92%	low risk	Jan 2024	Dec 2024		
Action 25 - Vision for digital transformation IWT sector	100%	low risk	Jan 2023	Dec 2023		
Action 26 - CEF TA public-private cooperation on digita	37%	low risk	Jan 2023	Dec 2027		Dec 2023
Action 27 - Facilitate Smart Shipping Concepts through	47%	low risk	Jan 2022	Dec 2027		
SUSTAINABLE JOBS	81%	low risk				
Action 28 - Labour market observatory	47%	low risk	Jan 2022	Dec 2027		
Action 29 - Evaluate social legislation in frame of market access fitness check	100%	low risk	Jan 2023	Dec 2023		
Action 30 - Digital tools for crew information	91%	low risk	Jan 2021	Mar 2025		Dec 2021
Action 31 - EU crewing requirements	68%	low risk	Jan 2024	Mar 2025		Dec 2024
Action 32 - Develop standards for skills for alt. fuel oper	100%	low risk	Jan 2022	Dec 2023		Dec 2022
FINANCING	28%	low risk				
Action 33 - Create fund complementing EU and nat. fund	28%	medium risk	Jan 2024	Dec 2026		Dec 2024
GOVERNANCE	47%	low risk				
Action 34 - CEF TA to support CESNI	47%	low risk	Jan 2022	Dec 2027		Dec 2022

Intermediate results so far

Deliverable title:

D1.1 NAIADES III Policy Monitoring and Evaluation Report

Grant Agreement No.	101137650
Start date of Project	01-01-2024
Duration of the Project	36 months
Deliverable Leader	viadonau
Dissemination level	Public
Deliverable number	1.1
Status	First intermediate report – prior to NAIADES EG 7 November 2024
Final submission date	December 31st 2026
Main authors	Severin Fraundorfer, via donau – Österreichische Wasserstraßen-G.m.b.H. severin.fraundorfer@viadonau.org Gert-Jan Muilerman, via donau – Österreichische Wasserstraßen-G.m.b.H. gert-jan.muilerman@viadonau.org
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This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650. The opinions expressed in this document reflect only the author's view and in no way reflect the European Commission's opinions. The European Commission is not responsible for any use that may be made of the information it contains.

1. Overview of NAIADES-III Actions

The European Commission tabled in June 2021 a 35-point action plan[2] to boost the role of inland waterway transport in our mobility and logistics systems. The core objectives are to shift more cargo over Europe's rivers and canals, and facilitate the transition to zero-emission barges by 2050. This is in line with the European Green Deal and the Sustainable and Smart Mobility Strategy, which set the goal of increasing transport by inland waterways and short sea shipping by 25% by 2030, and by 50% by 2050. The NAIADES III communication included specific actions differentiated to the following areas:

- Shifting more freight to inland waterways
- Transition to zero-emission inland waterway transport
- Smart inland waterway transport
- More attractive and sustainable jobs in inland waterway transport

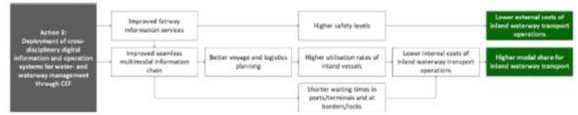
The following tables present the actions for the specific areas. These tables can be found in the Annex of the official NAIADES III communication document (source: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021DC0324).

SHIFTING MORE FREIGHT TRANSPORT TO INLAND WATERWAYS	
1. Continued support for innovative infrastructure and deployment through Horizon Europe and CEF	From 2021
2. Revision of the TEN-T Regulation – Inland waterway transport requirements and role of coordinators	2021
3. Deployment of cross-disciplinary digital information and operation systems for water- and waterway management through CEF	From 2022
4. Transport crisis contingency plan(s)	2022
5. Review of the regulatory framework for intermodal transport, including the Combined Transport Directive	2022
6. Issue guidelines for operators and platforms on informing users about the carbon footprint of their deliveries and on offering sustainable delivery choices	2023
7. Review the inland waterway transport market access legislation	2022
8. Evaluation of the Directive (EU) 2016/1629 on technical requirements for inland vessels	2022

[2] See for more information: https://transport.ec.europa.eu/transport-modes/inland-waterways/promotion-inland-waterway-transport/naiades-iii-action-plan_en

3.1.3 Action 3: Deployment of cross-disciplinary digital information and operation systems for water- and waterway management through CEF

Expected impacts of Action 3



Action 3 – Activity 1

What activity was initiated?	Funding opportunities for deployment of cross-disciplinary digital information and operation systems for water- and waterway management through CEF	
Duration of activity	Start Date	End Date
	2021	2027
Responsible for activity	CINEA	
(Intermediate) status of the activity	• Good Navigation Status (GNS): Requires smart infrastructure, operations, and maintenance systems to detect/predict bottlenecks and restore service levels with minimal physical intervention, reducing costs and environmental impacts. • Digital Information Base: Establishing a detailed digital 'cartography' of critical waterway locations is essential for effective waterway management. • CEF Support: The Connecting Europe Facility (CEF) will fund projects aimed at achieving GNS, including deploying cross-disciplinary digital information and operation systems for waterway management. • CEF Transport 2021 Call: Included funding for inland waterway transport infrastructure projects on the TEN-T Comprehensive Network. • Smart Applications for Transport: Projects supporting River Information Services (RIS) and inland port management systems are eligible for funding under RIS topics. • Example: DIGIWAVE Project: Funded by CEF in 2021, it focuses on developing smart, climate-neutral inland waterway transport. The project started in 2022 and runs until 2025. • CEF 2 Transport call opened on 24 September 2024 with attention to inland ports, improving transport infrastructure resilience, removing interoperability barriers, River Information Services[8], Inland waterway and ports	
Any implementation issues/problems		

[8] See: https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/CEF-T-2024-SIMORGEN-RIS-WORKS

Thank you for your attention

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

The role and contribution of the digital twin in policy assessment and Analysis

Work Package 2

06/11/2024

Edwin van Hassel, Edwin Verberght & Charis Christodoulou Raftis
Universiteit Antwerpen

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650

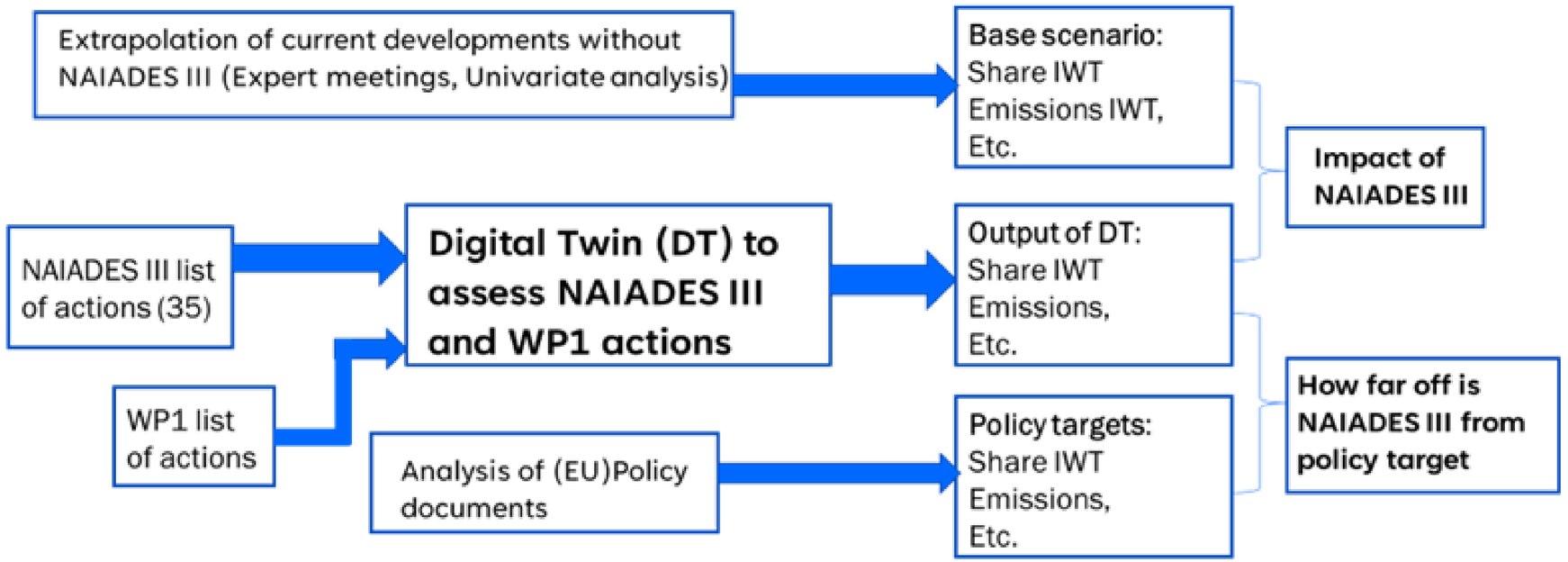
Objectives (1)

The Digital Twin (DT) enables quantitatively simulating different policy scenarios and options to assess the contributions on modal share by the NAIADES III measures and emission reductions and the impacts for the
various stakeholders involved.

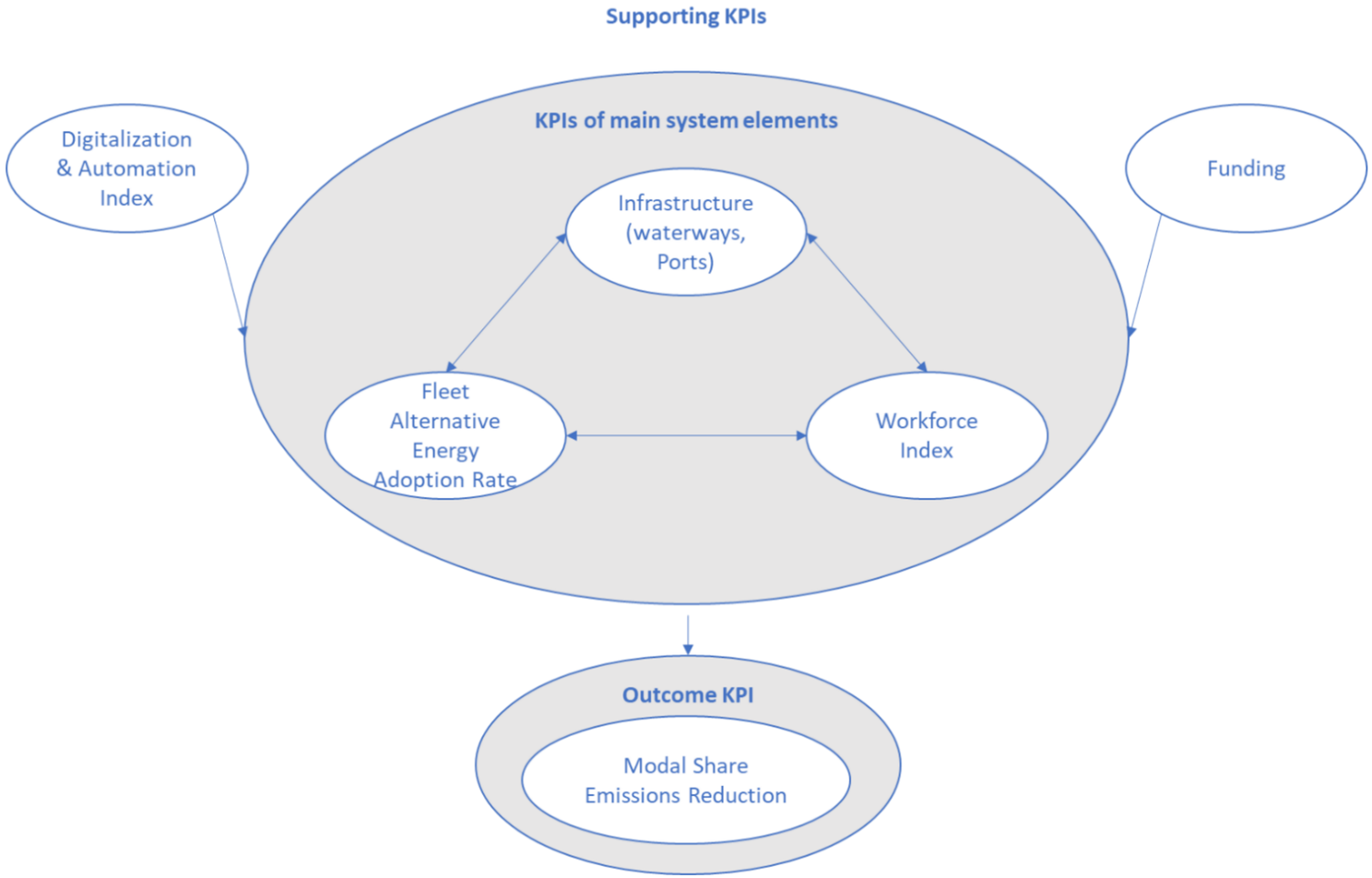
This WP will be developed in three stages:

- Development of KPIs that need to be quantified (along with the main scenarios that need to be analysed)
- The development of the DT
- DT will be used to make the policy analysis.

Objectives (2)



Different Levels for KPIs



PLATINA 4Action

Scenario Development

Three Distinct Scenarios	Three Key Outlook Periods
East-West Conflict	2030
Manageable Tensions	2040
International Cooperation	2050

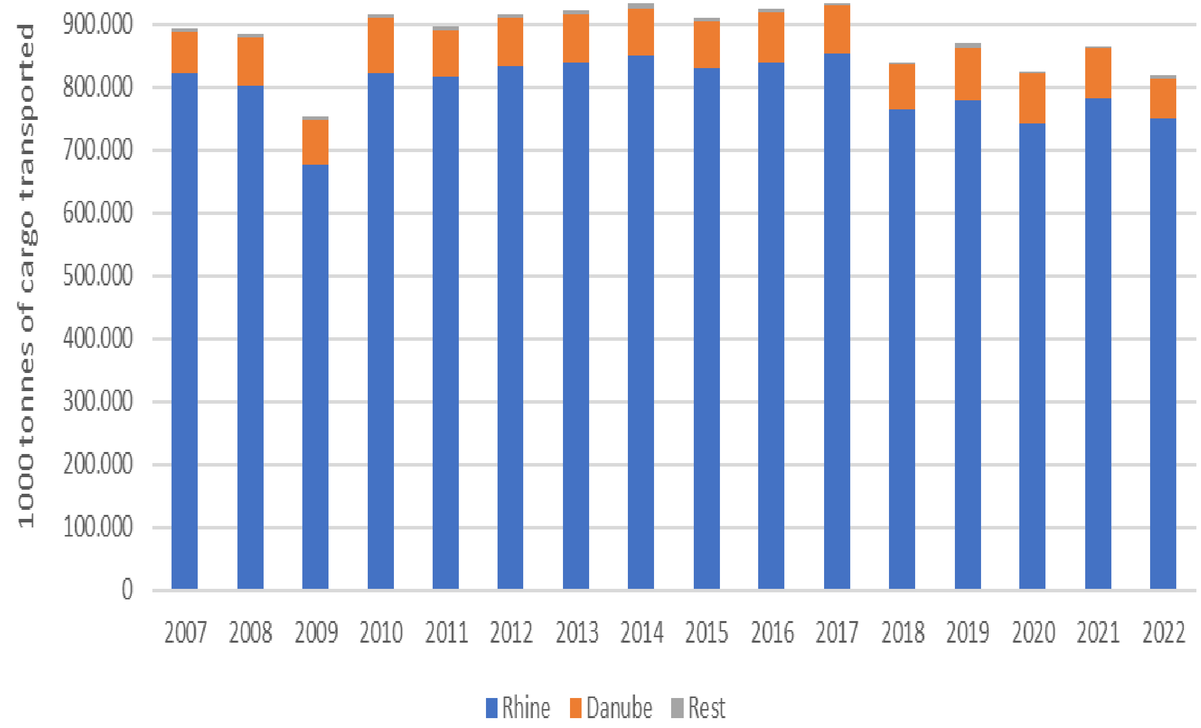
Policy targets

MAIN DT KPIs	EU policy targets derived from literature		
	2030	2040	2050
Fleet Alternative Fuels Energy Adoption Rate and resulting emissions	Achieving relatively at least 14.5% GHG reduction in terms of gram CO2e per MJ or 29% share of renewable energy in the mix	(not specified)	1. CCNR: largely eliminate GHG and other pollutants by 2050, EU: at least 90% GHG reduction compared to 1990 *2. Transitioning to zero-* ***greenhouse gas emissions for*** *inland waterway transport (NAIADESIII)*
Modal Share	Should increase (not specified)	Should increase (not specified)	Should increase (not specified)
Workforce Index	N/A	N/A	N/A
Digitalization and Automation Index	N/A	N/A	N/A
Funding	N/A	N/A	N/A
Infrastructure Quality Rate	N/A	N/A	N/A

Scope of the DT

Main focus on the two regions (98% of total IWT volumes):

- Rhine area
- Danube region



IWT volume in Europe (2007 - 2022) Source: EUROSTAT 2024[7]

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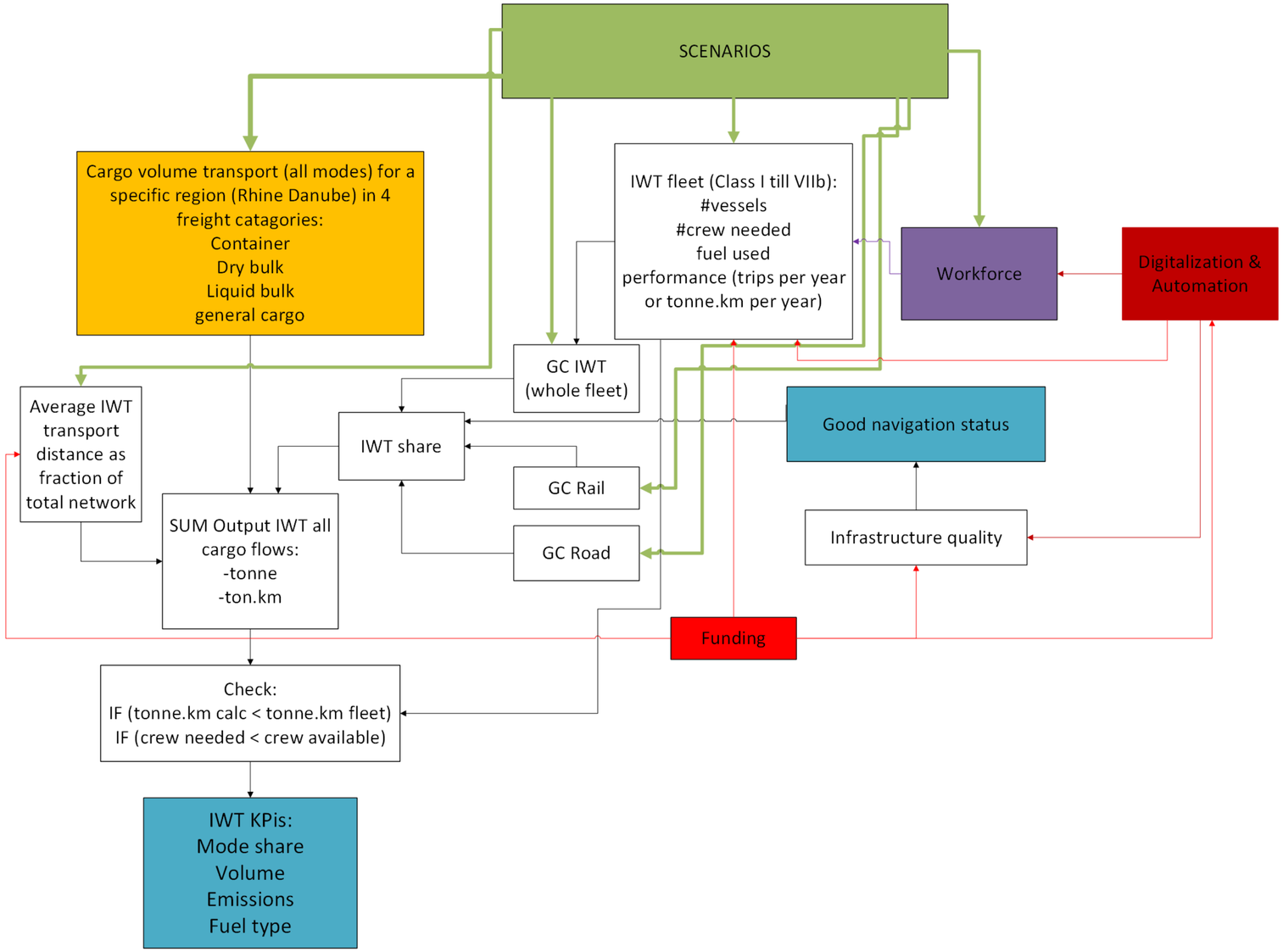
DT design (1)

- None green blocks are the defined KPIs
- All is linked to each other
- Every block will be a separate (transport) model



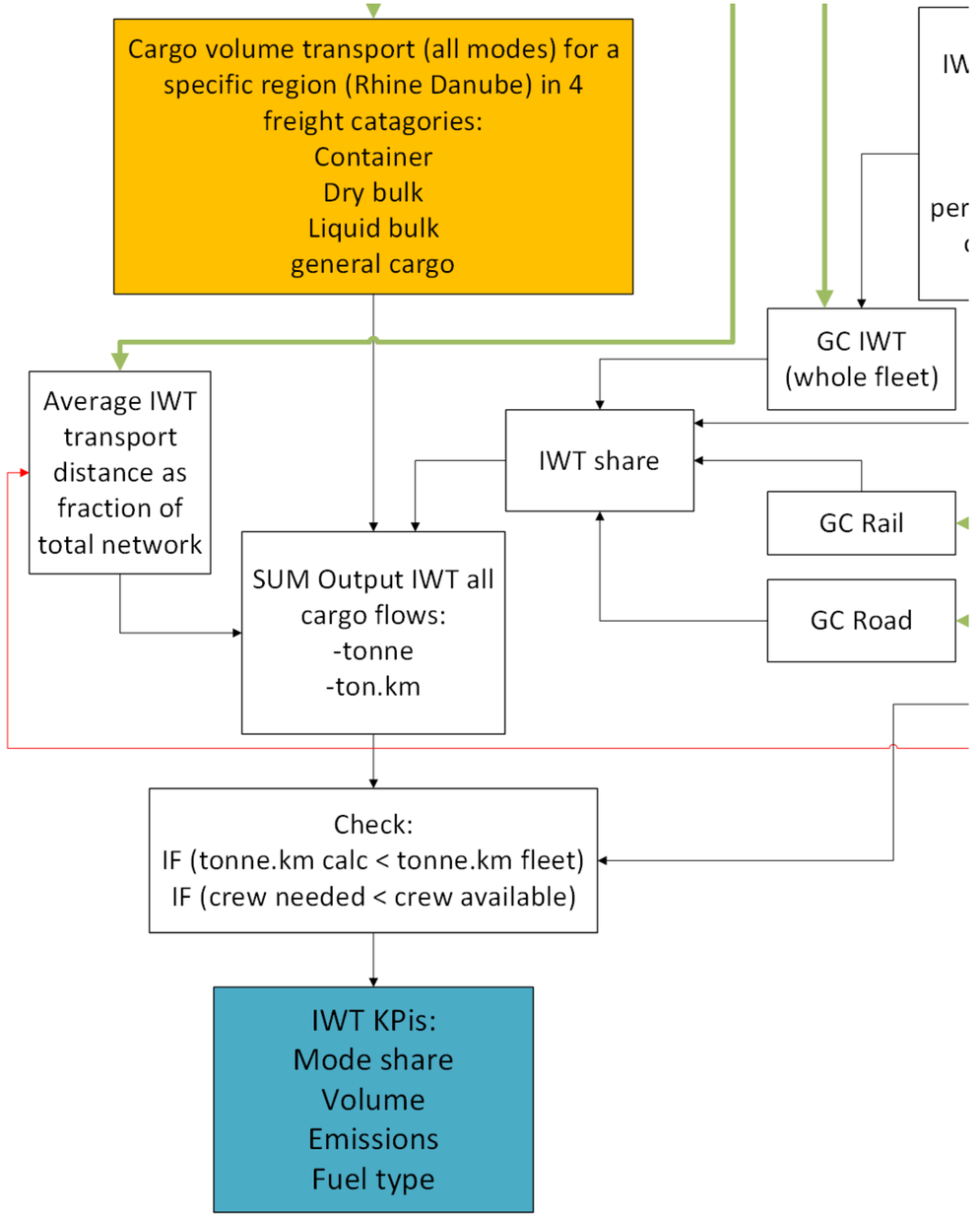
DT design (2)

Mode share calculation determined for IWT, road and rail.

For each transport market (4) the cost are calculated for the 3 transport modes (including the transport distance).

The calculated mode share of IWT is checked with:

- Number of vessels available
- Crew available



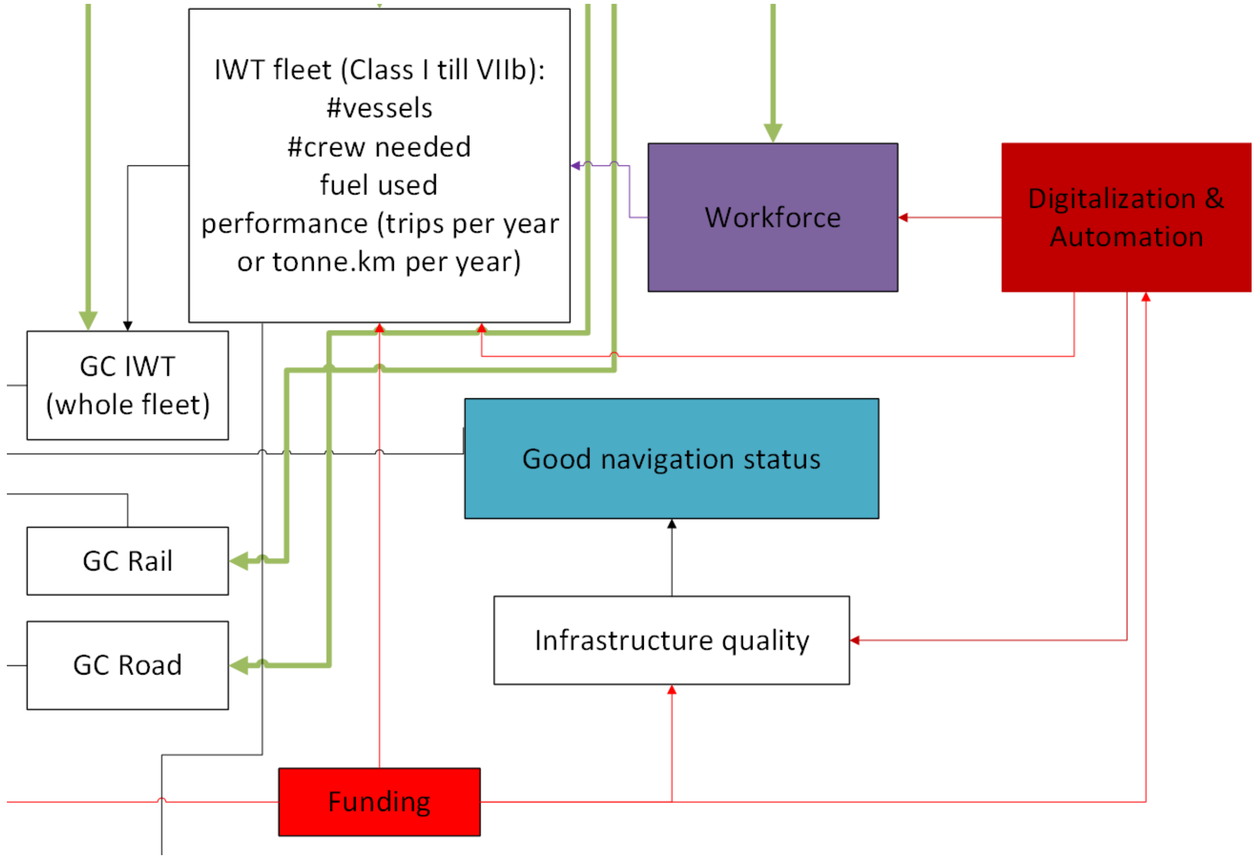
DT design (3)

Elements impacting the IWT cost
The IWT cost are impacted by:

- Vessel sizes and size distribution
- Crew cost
- Fuel cost
- Performance

All of this can be changed in function of different policy changes impacting:

- Workforce
- Funding
- Digitalization

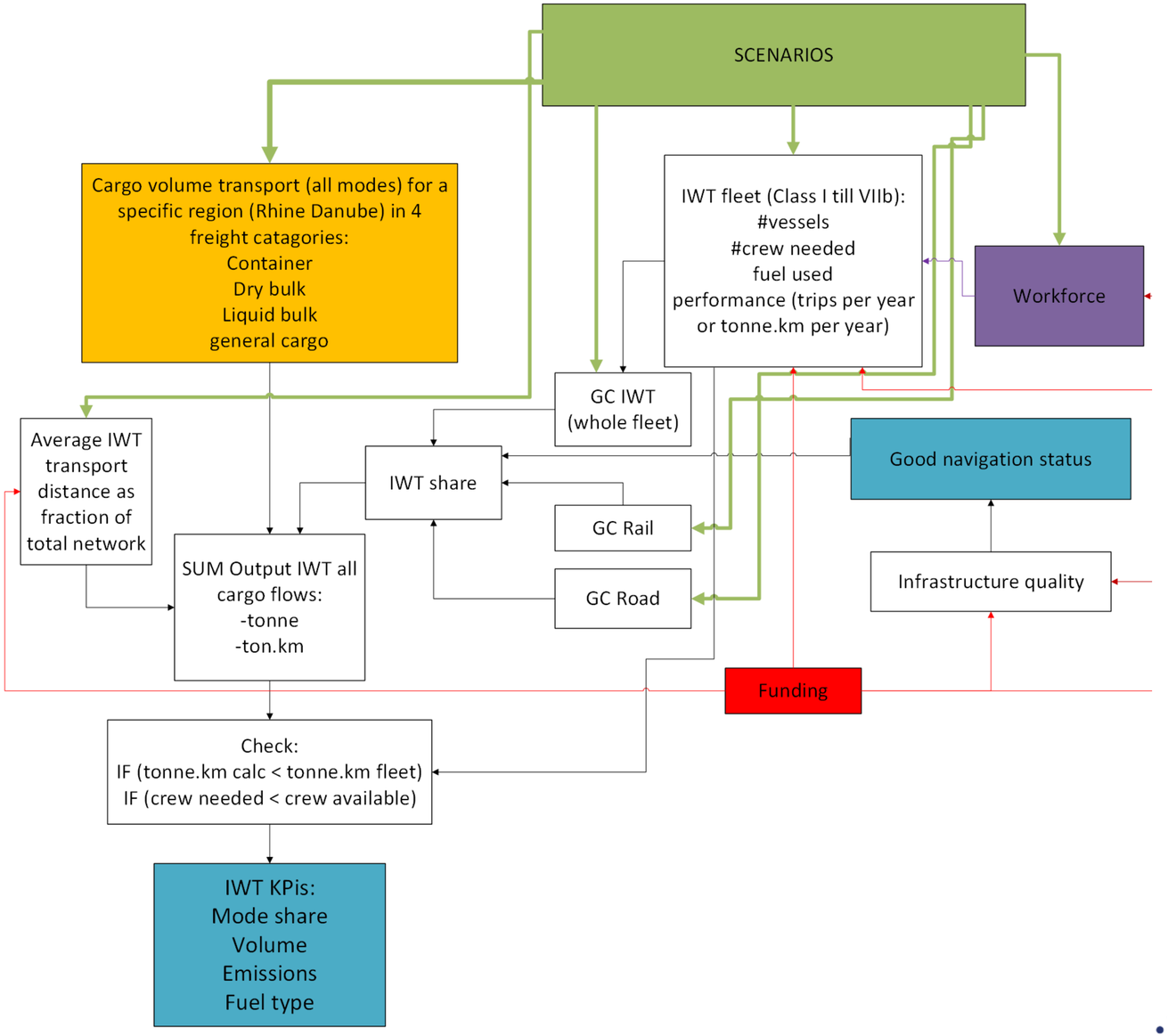


DT design (4)

Scenario impact

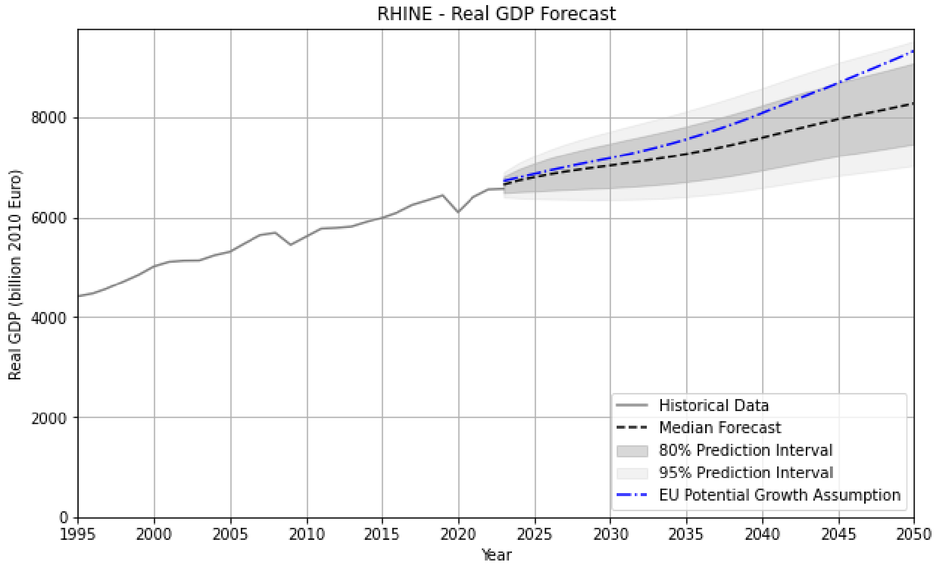
All base values in the model can impacted by different future scenarios (green line from the scenario block).

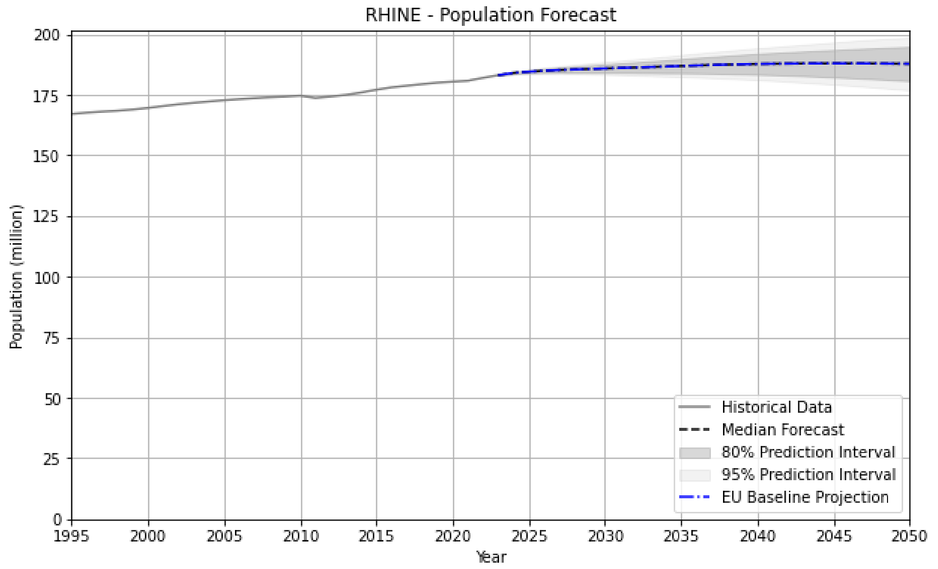
The policy changes might have different impact with respect to different future scenarios.

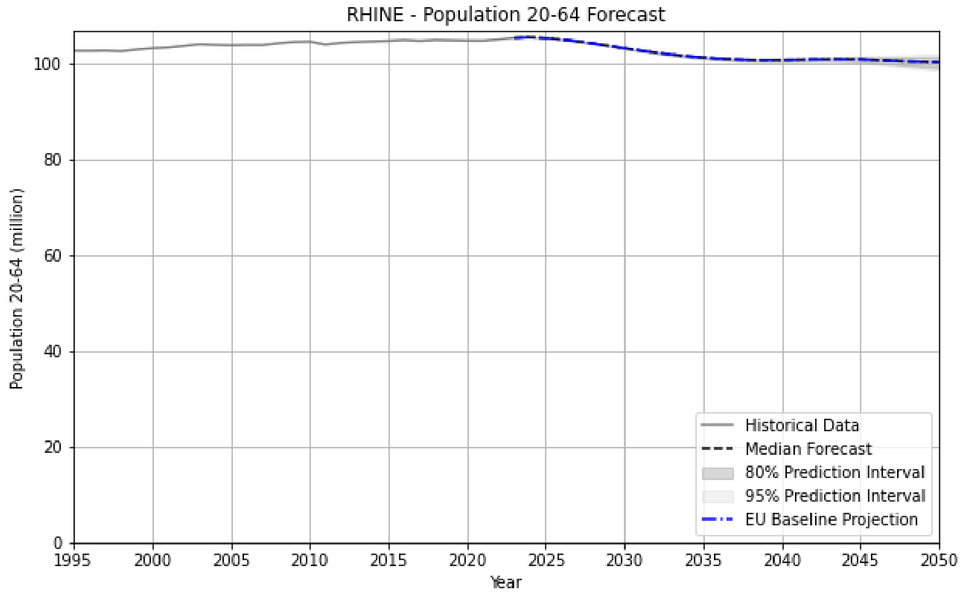


Scenario input

GDP and population forecasts for Rhine and Danube region

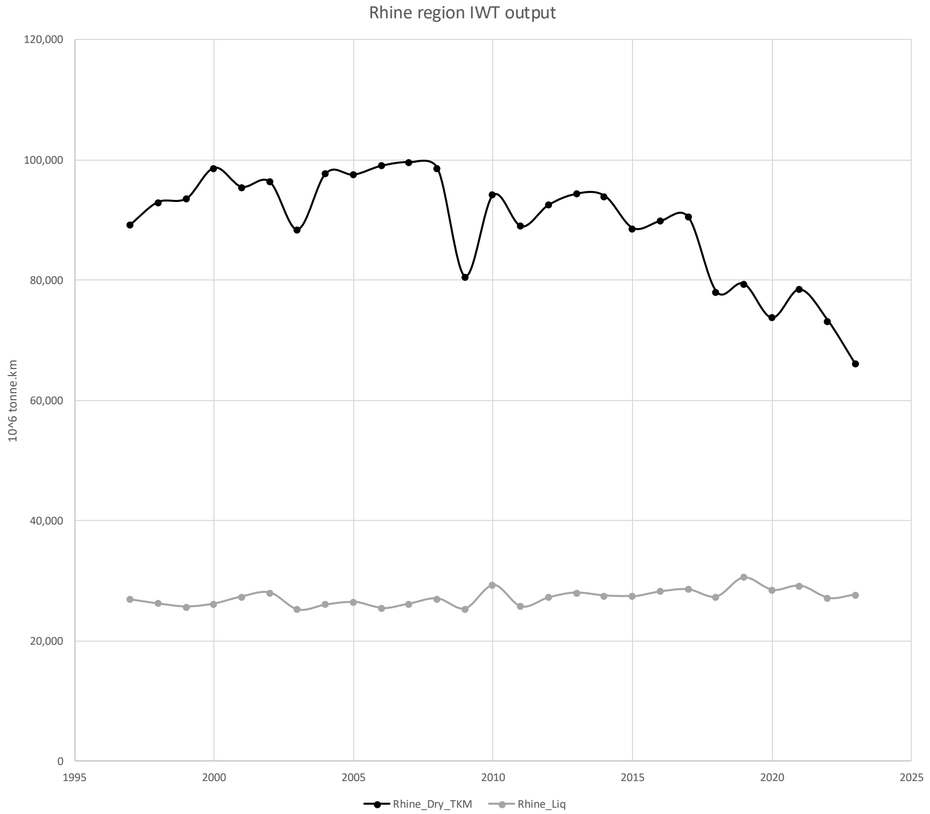


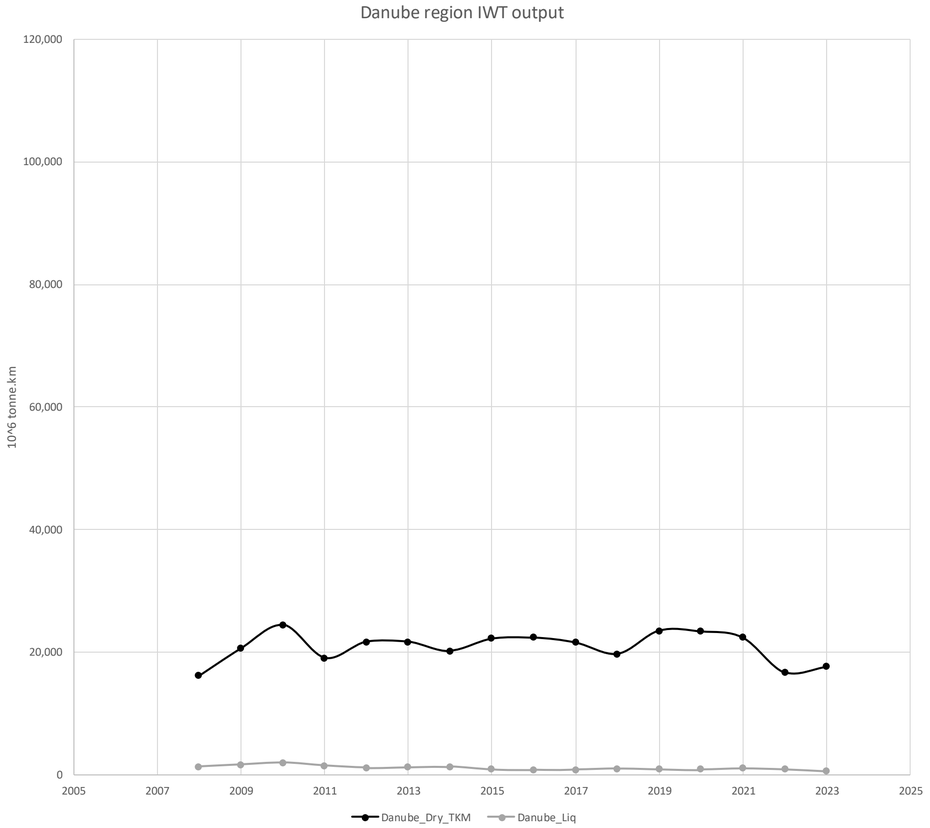




Baseline development Rhine & Danube (1)

Observed output of IWT in the Rhine region and Danube region (negative trend for dry cargo in Rhine region, stable trend for liquid)

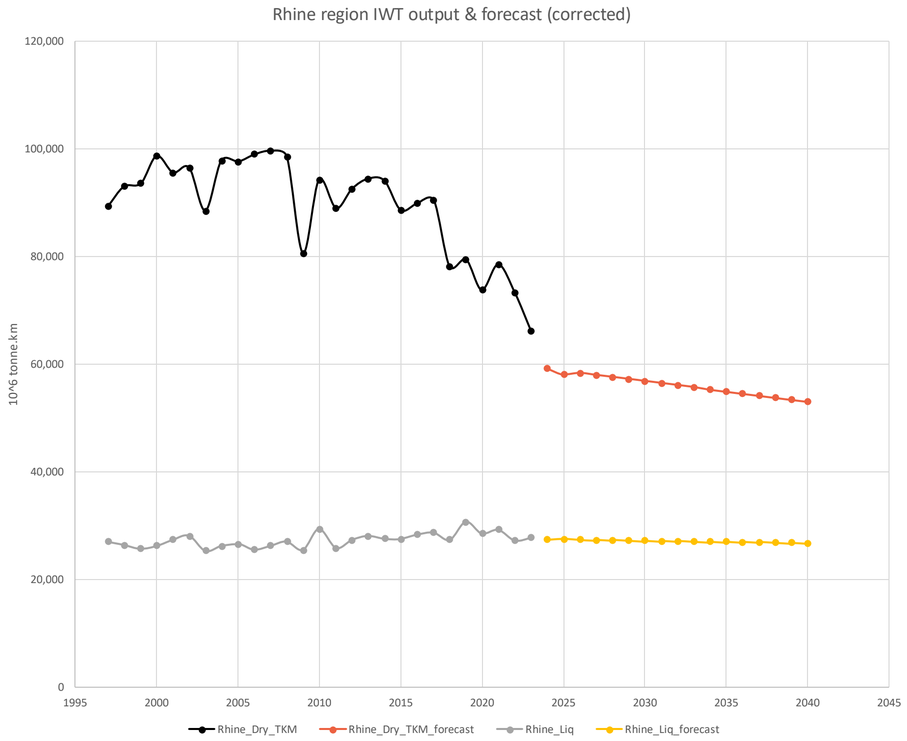


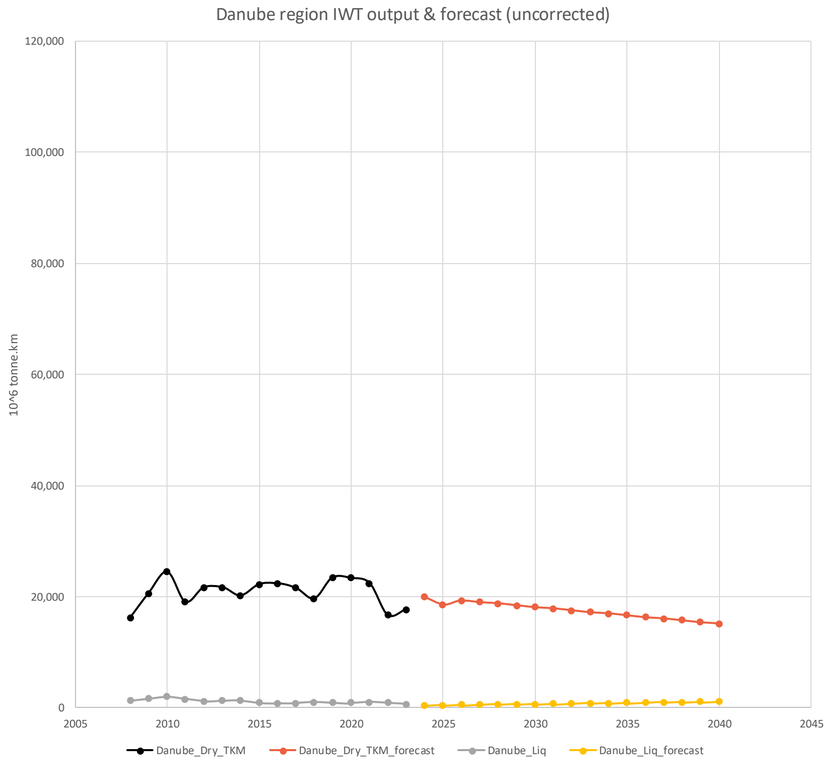


Eurostat (2024)

Baseline development Rhine & Danube (2)

ARIMA forecast (based on historical trend) → observed data too short to make useful projection → forecast made for NL, BE & GE (=92% of dry & 98% of liq output) summed and corrected for Lux and FR. Danube trend to be interpreted with caution (too short time series)





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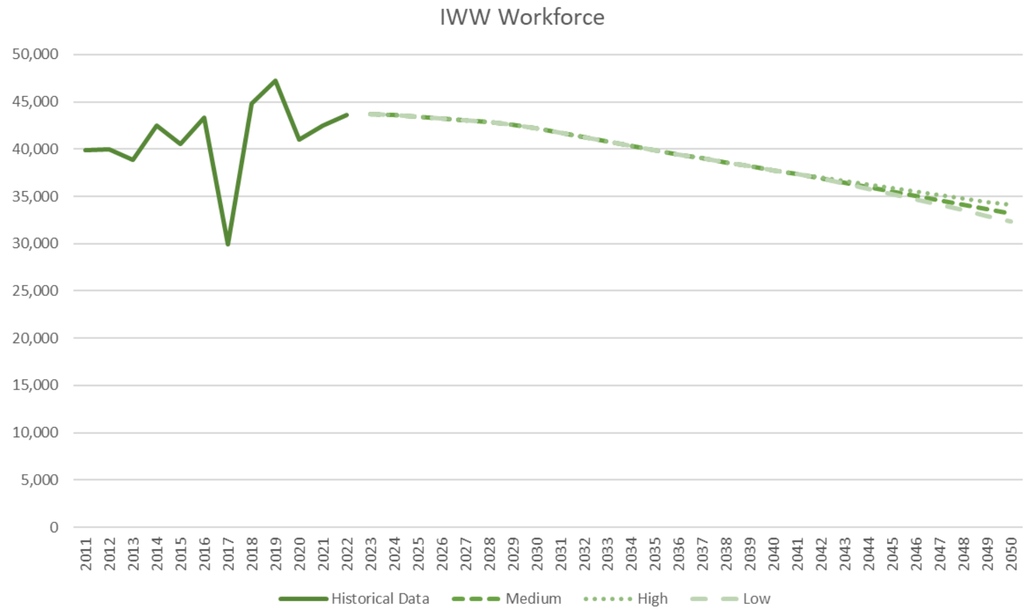
DT ongoing developments (1): Workforce & investments

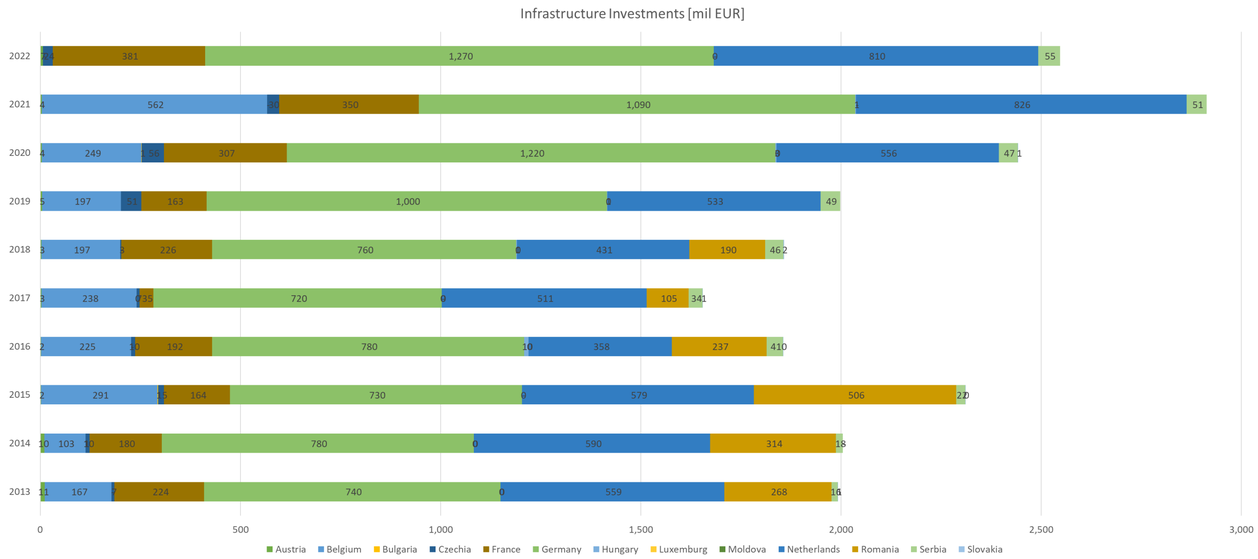
Elements impacting the IWW Workforce forecast:

- Working Population [18-65 years]
- UN Population Growth



Source: UN, Eurostat, Various Sources

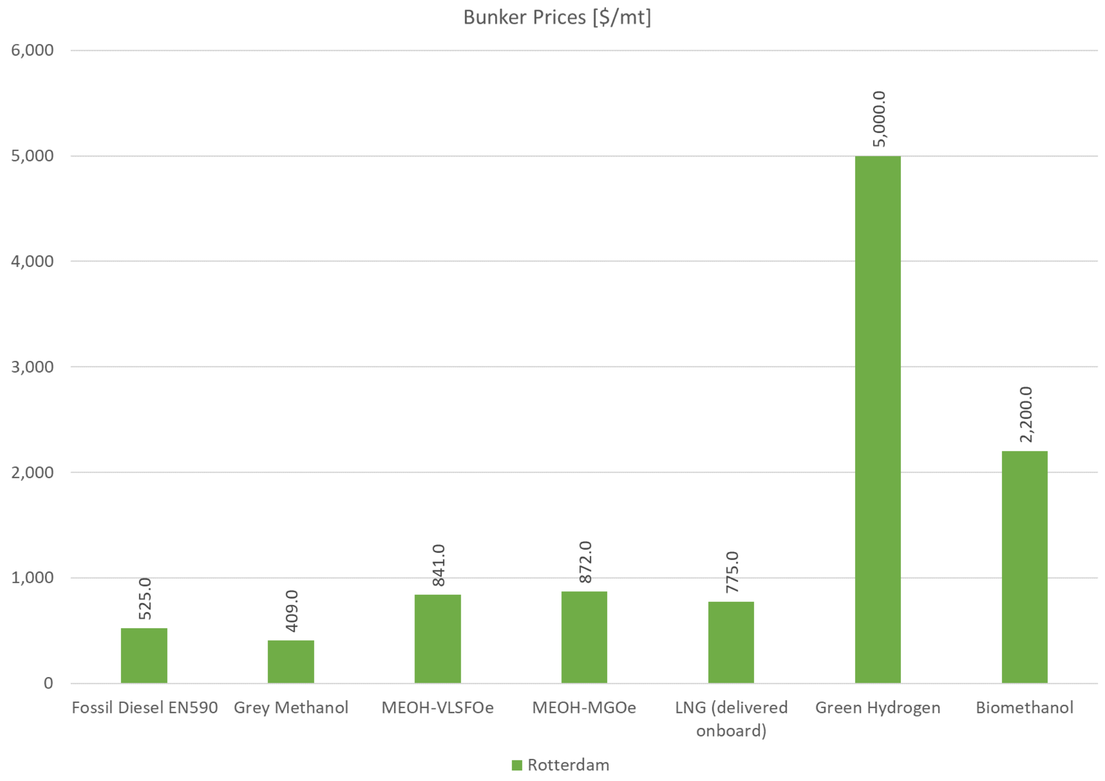
Infrastructure investments in IWT



Source: Eurostat, European Investment Bank

DT ongoing developments (2): Alternative fuels

- **Fossil Diesel EN590 –** *EN 590 is the current standard for all automotive diesel fuel sold in the European Union member states and other European countries*
- **Grey Methanol -** *Produced from natural gas using steam methane reforming*
- **MEOH-VLSFOe -** *The price for a quantity of methanol that delivers the same amount of energy as one metric tonne of VLSFO bunker fuel*
- **MEOH-MGOe -***The price for a quantity of methanol that delivers the same amount of energy as one metric tonne of MGO*
- **LNG -** *Liquified Natural Gas*
- **Green Hydrogen -** *Hydrogen produced by the electrolysis of water, using renewable electricity*
- **Biomethanol -** *Biomethanol refers to a type of alternative energy source that has a high-octane number and can be used in fuel cell-powered vehicles*



Source: Ship & Bunker, Personal communication

DT ongoing developments (3): Mode choice

NST-R	Mode	Total cost variation			Travel cost variation		
		Road	Rail	Water	Road	Rail	Water
Agricultural products	Road	−0.35	0.30	0.07	−0.27	0.12	0.06
	Rail	0.64	−0.69	0.07	0.49	−0.29	0.06
	Water	0.64	0.29	−0.92	0.48	0.12	−0.79
Food	Road	−0.01	0.00	0.01	−0.01	0.00	0.01
	Rail	0.99	−1.00	0.01	0.76	−0.64	0.01
	Water	0.99	0.00	−0.99	0.75	0.00	−0.84
Solid fuel	Road	−0.83	0.22	0.56	−0.66	0.13	0.49
	Rail	0.18	−0.75	0.52	0.15	−0.51	0.46
	Water	0.15	0.33	−0.39	0.11	0.24	−0.35
Petroleum products	Road	−0.72	0.13	0.54	−0.54	0.07	0.48
	Rail	0.30	−0.86	0.54	0.22	−0.50	0.48
	Water	0.50	0.12	−0.48	0.39	0.06	−0.42
Iron ore and scraps	Road	−0.82	0.23	0.61	−0.64	0.15	0.53
	Rail	0.18	−0.77	0.62	0.14	−0.51	0.54
	Water	0.18	0.26	−0.46	0.13	0.17	−0.41
Metallurgical products	Road	−0.52	0.44	0.09	−0.39	0.17	0.07
	Rail	0.46	−0.54	0.09	0.35	−0.21	0.07
	Water	0.48	0.45	−0.90	0.35	0.18	−0.75
Minerals and building products	Road	−0.24	0.19	0.06	−0.18	0.09	0.05
	Rail	0.75	−0.81	0.06	0.56	−0.41	0.05
	Water	0.74	0.19	−0.92	0.55	0.10	−0.78
Fertilizers	Road	−0.48	0.38	0.11	−0.38	0.25	0.09
	Rail	0.52	−0.61	0.11	0.41	−0.41	0.09
	Water	0.51	0.38	−0.87	0.40	0.25	−0.75
Chemical products	Road	−0.03	0.01	0.02	−0.02	0.01	0.02
	Rail	0.97	−0.99	0.02	0.75	−0.46	0.02
	Water	0.97	0.01	−0.97	0.72	0.01	−0.86
Diverse	Road	−0.02	0.01	0.01	−0.02	0.00	0.01
	Rail	0.98	−0.99	0.01	0.77	−0.42	0.01
	Water	0.98	0.01	−0.98	0.74	0.00	−0.84
Containers	Road	−0.42	0.12	0.31	−0.34	0.07	0.26
	Rail	0.58	−0.87	0.31	0.47	−0.49	0.26
	Water	0.57	0.12	−0.68	0.46	0.07	−0.57

Beuthe et al. (2014)

There are quite some source that provide elasticities regarding mode choice. → We lack details on the cargo flows → De Jong et al might be the best values to use.

Elasticiteit (-5% road transport cost)

Transport mode	ε
Road	-0.28
Rail -road	0.61
IWT -road	0.31

Jourquin et al. (2014)

	cost elasticities			time elasticities		
stimulus:	road	rail	IWW	road	rail	IWW
response:						
road	**-0.274**	0.009	0.084	**-0.099**	0.002	0.086
rail	0.434	**-0.882**	0.409	0.223	**-0.211**	0.600
IWW	0.657	0.070	**-0.258**	0.231	0.016	**-0.284**

De Jong et al. (2010)

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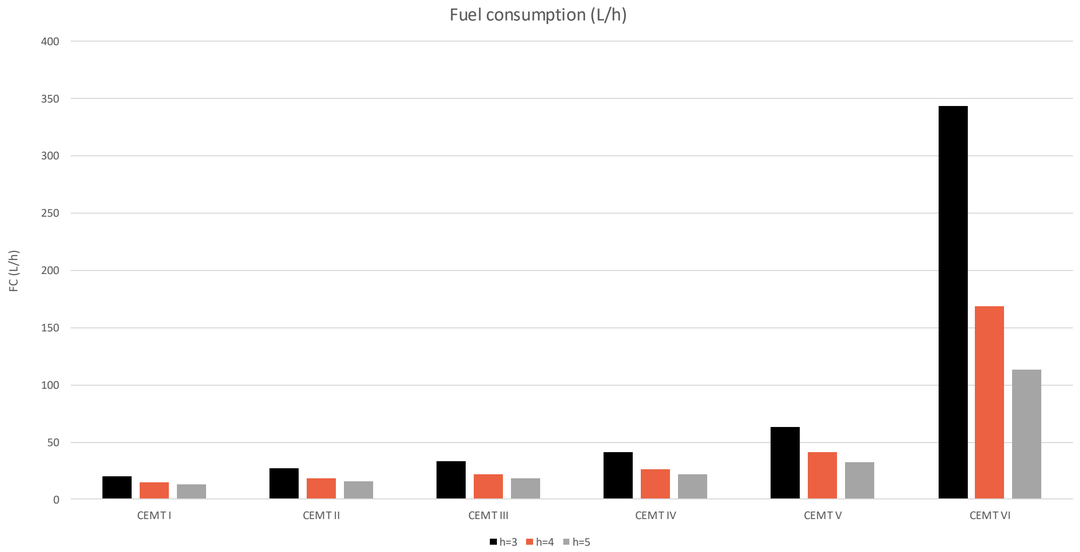
DT ongoing developments (2): emission factors

Two possible approaches to determine the CO_2 emissions for IWT:

Fleet split (% of sizes of vessels) → fuel consumption per vessel → emission factors per tonne of fuel consumed (lots of details required).



Source: Novimove (2024)

Emission factors IWT based on an aggregated approach (based on tonne.km performed) + scenario to reduce share diesel

Table 6.4: WtW emissions inland waterway transport

Gram CO_2e/tkm	2014	2015	2016	2017	2018	2019
Dry bulk including container						25.6
Tanker						53.7
Push Boat						24.2
Total	31.97	32.56	32.11	32.93	33.44	31.6

Source: own compilation.

Source: CD Delft (2020)

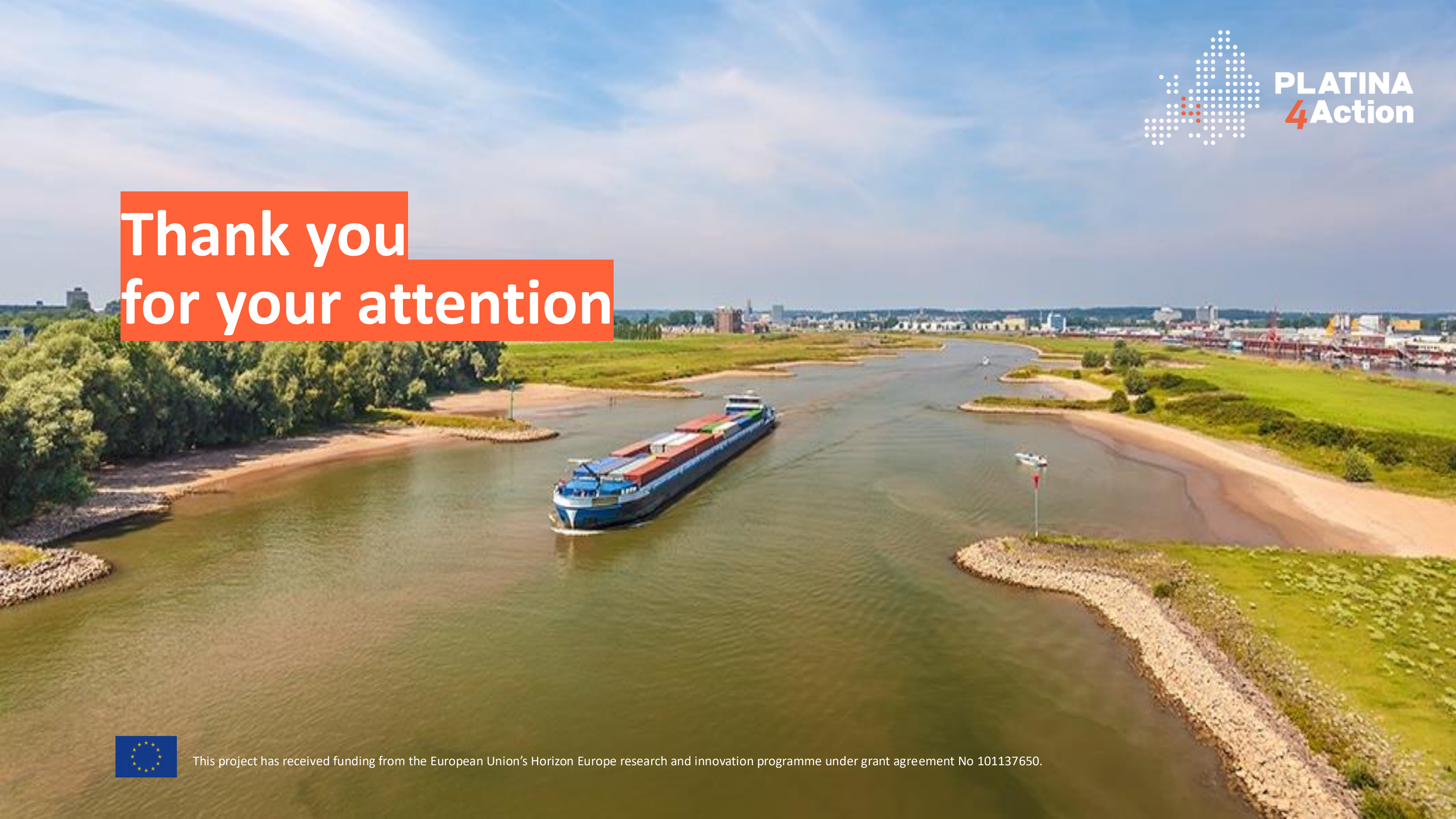
Preliminary conclusions/next steps

Preliminary conclusion:

- The base version of the DT is developed, and the main data sources are identified and collected.
- Decisions to be made on the level of detail of submodels in the DT (disaggregated [more data required] versus aggerated [less data required])
- Overall IWT output trend either status quo or declining (not a positive outlook to the future)

Next steps:

- In the next phase of the project the different building blocks of the model will be developed
- Most of the needed data is collected, but extra data will be collected
- A first assessment with the DT will be made by the end of April 2025



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Thank you for your attention

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

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Label for Inland Vessels on EU Waterways

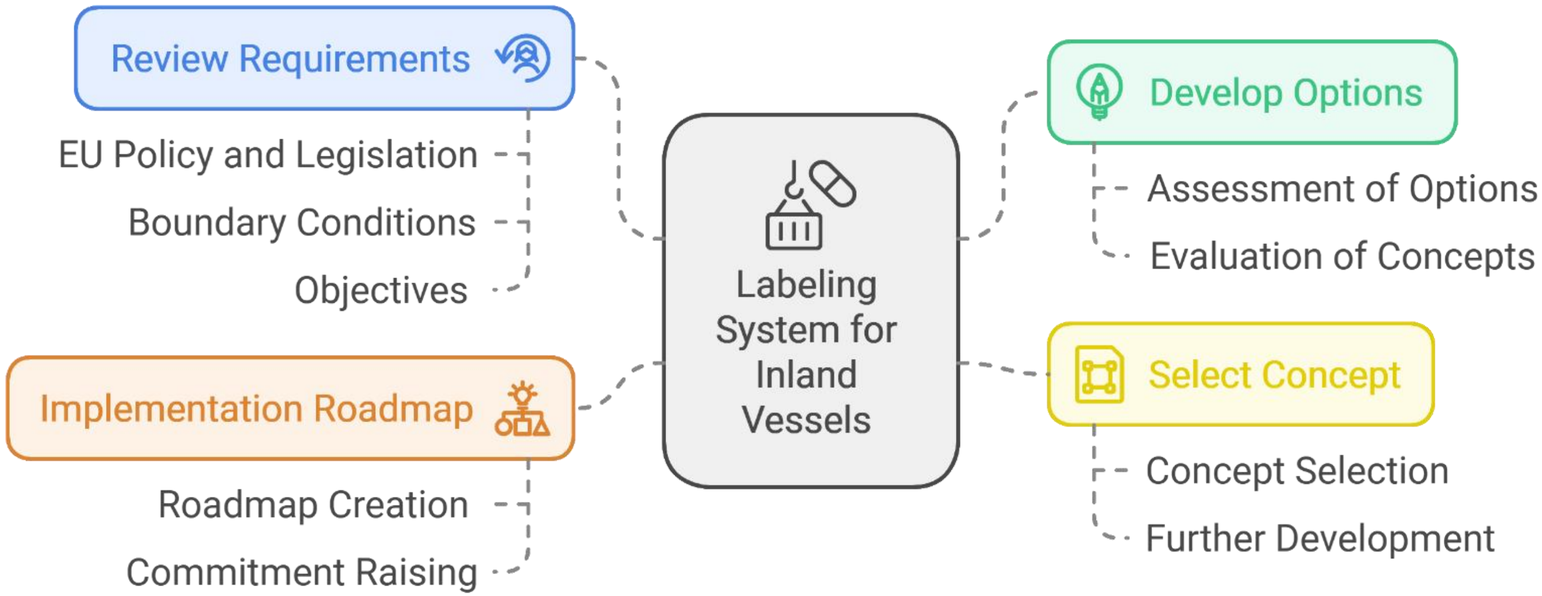
Work Package 3

06/11/2024
Khalid Tachi (EICB)
Benjamin Friedhoff (DST)

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

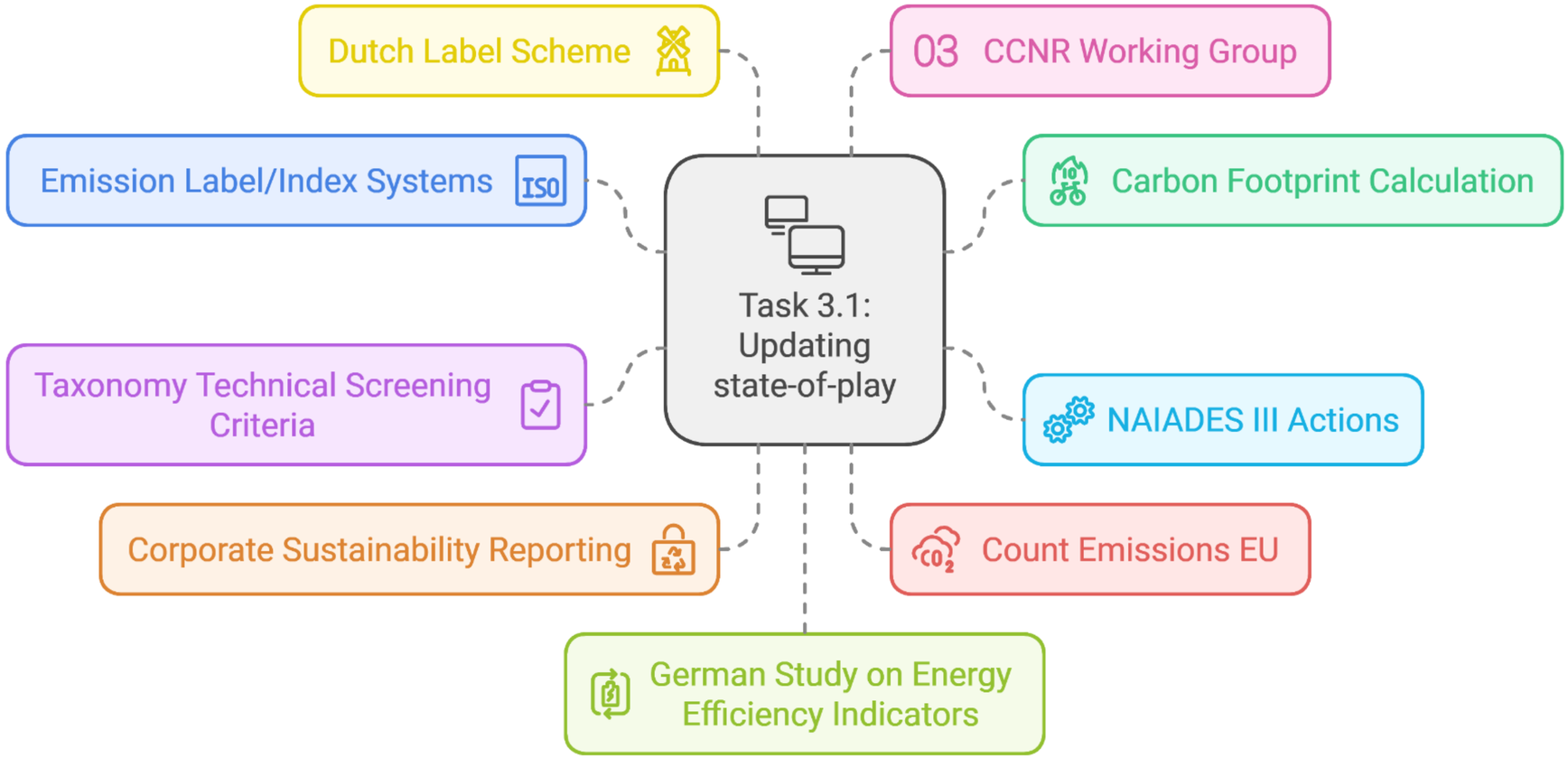
Label for Inland Vessels on EU Waterways (WP3)

Objectives of WP3



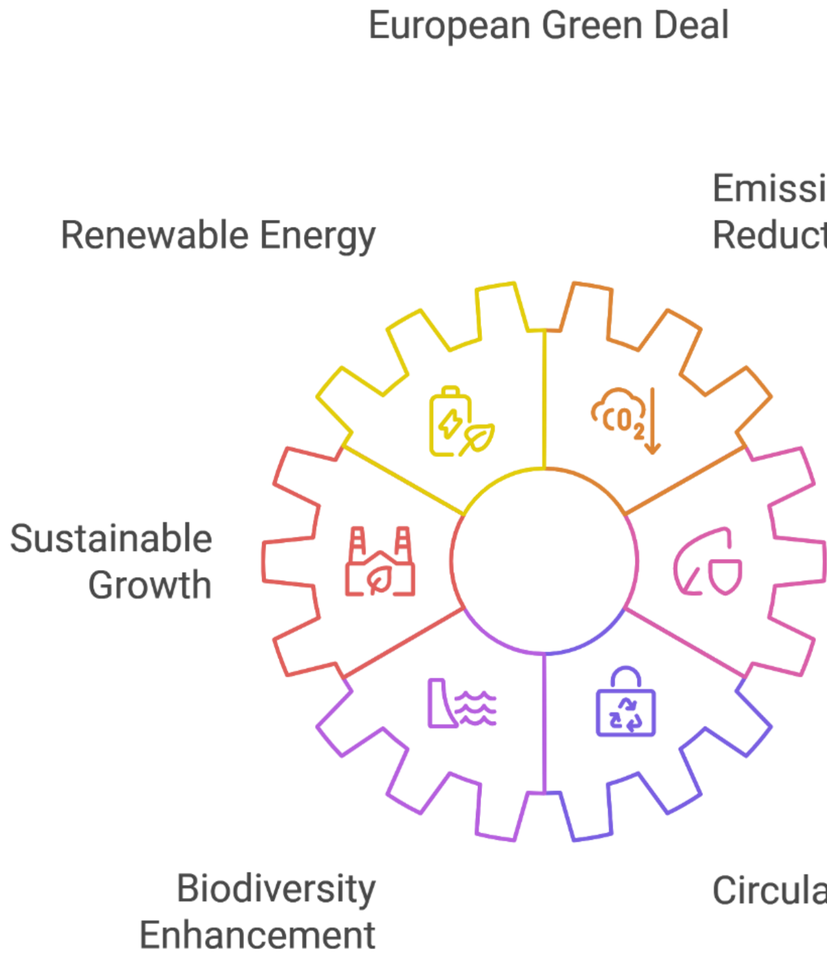
Label for Inland Vessels on EU Waterways (WP3)

Task 3.1: Updating state-of-play



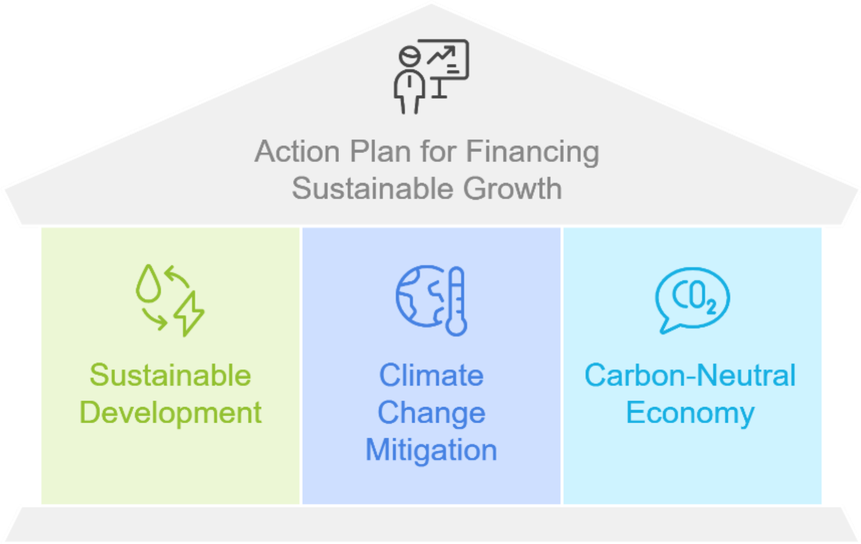
Label for Inland Vessels on EU Waterways (WP3)

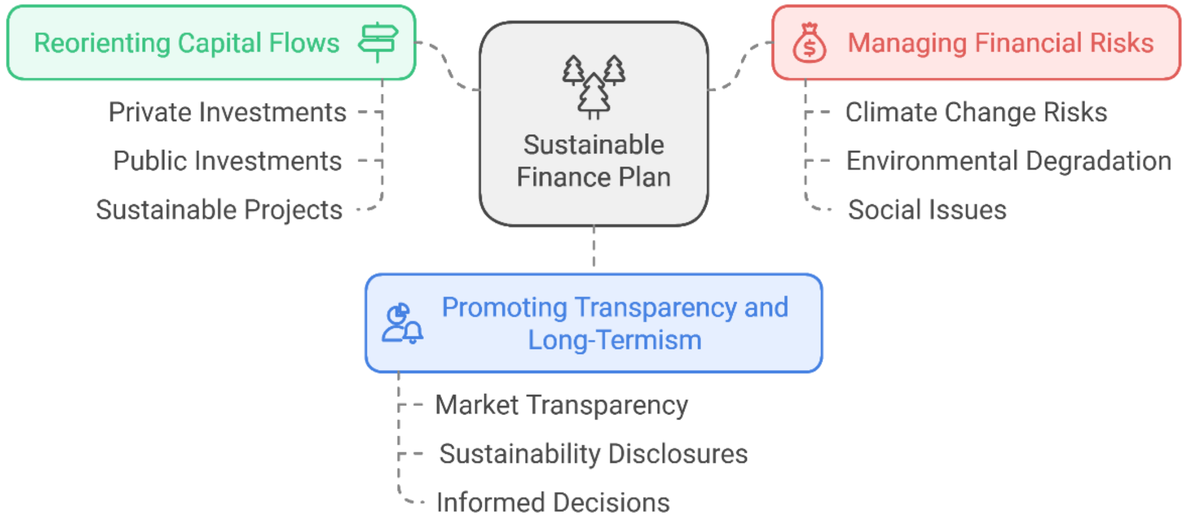
An updated review of EU policy and legislation to set the scene:



Label for Inland Vessels on EU Waterways (WP3)

The Action Plan for Financing Sustainable Growth is an EU initiative launched in 2018 to guide financial markets toward supporting sustainable development and addressing climate change





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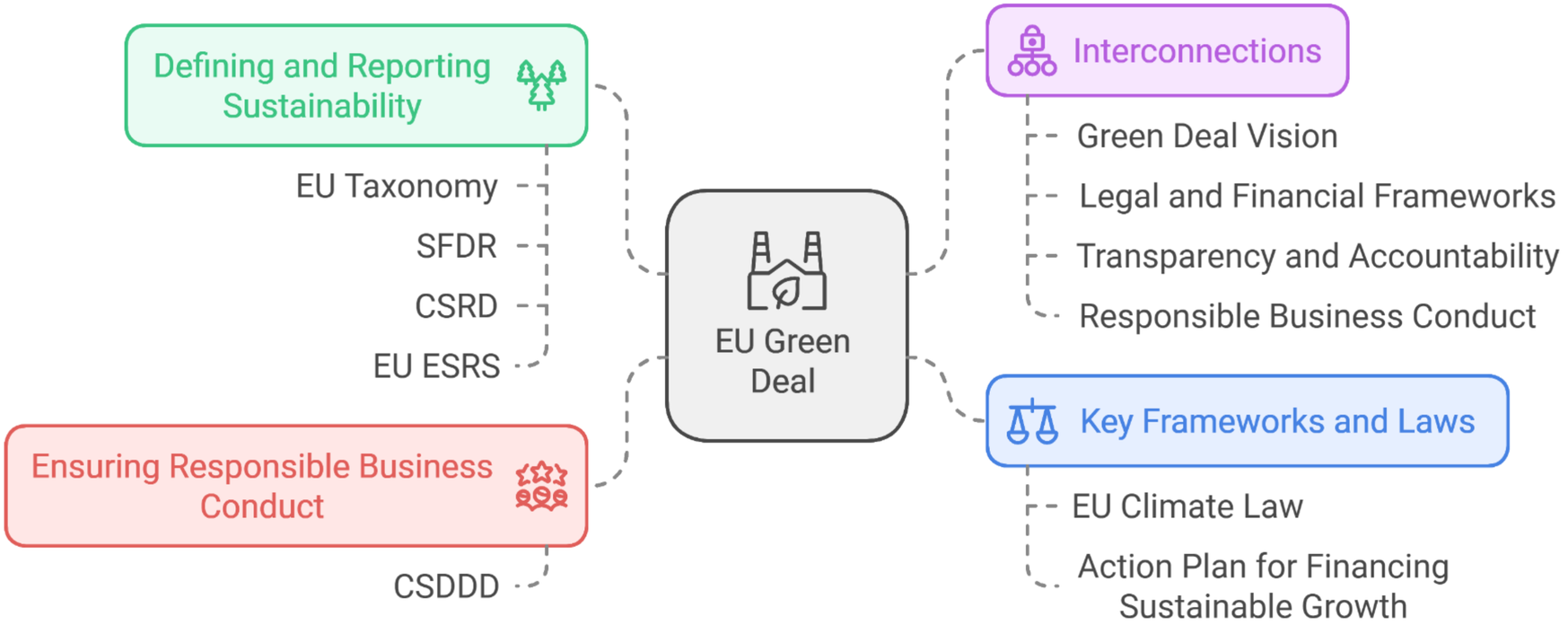
Label for Inland Vessels on EU Waterways (WP3)

Interlinking the EU regulations

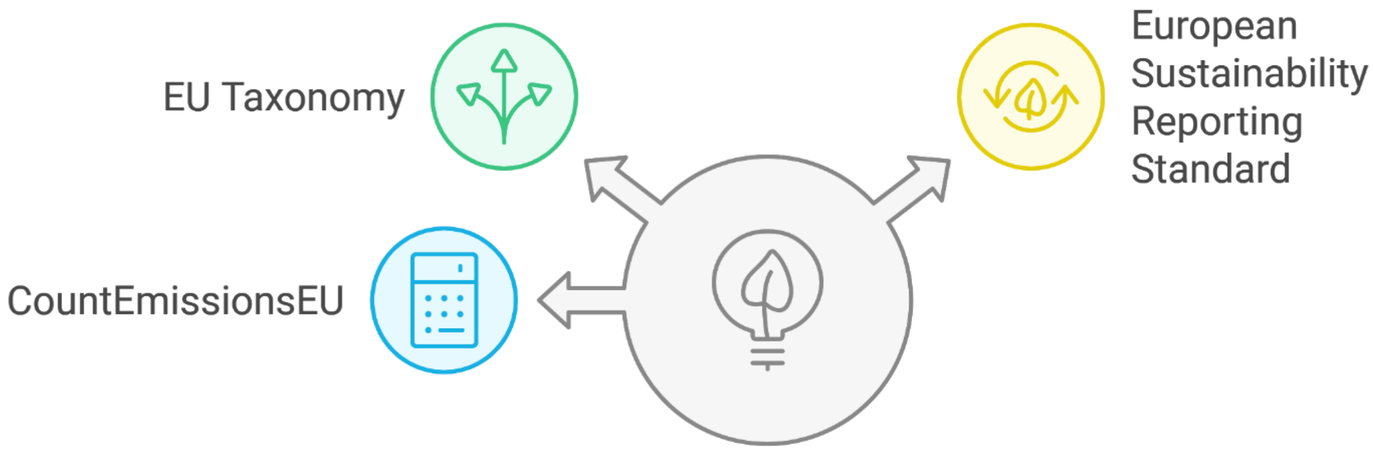


Label for Inland Vessels on EU Waterways (WP3)

Interlinking the EU regulations

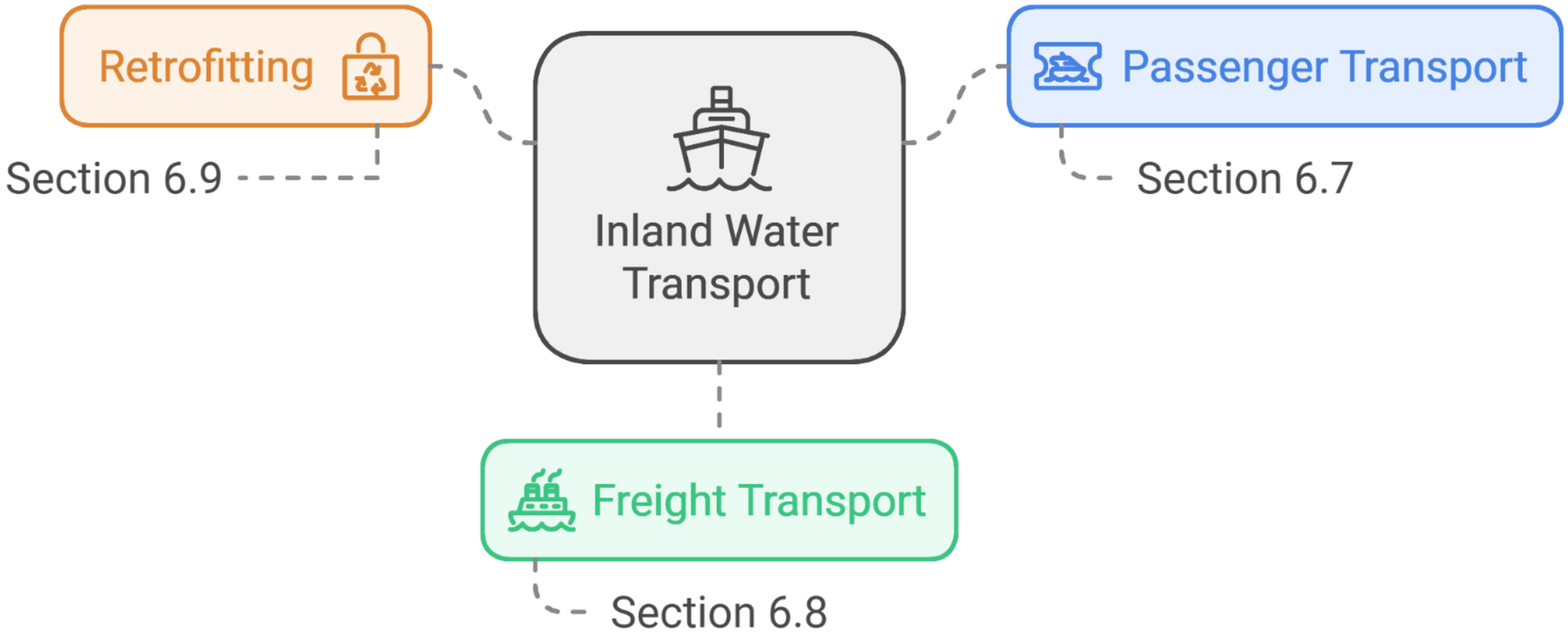
Focus on:

- EU TAXONOMY
- European Sustainability Reporting Standard
- CountEmissionsEU



Label for Inland Vessels on EU Waterways (WP3)

EU Taxonomy Technical Screening Criteria for IWT
Commission Delegated Regulation (EU) 2023/2485



Label for Inland Vessels on EU Waterways (WP3)

EU Taxonomy Technical Screening Criteria for IWT
Commission Delegated Regulation (EU) 2023/2485
INLAND PASSENGER

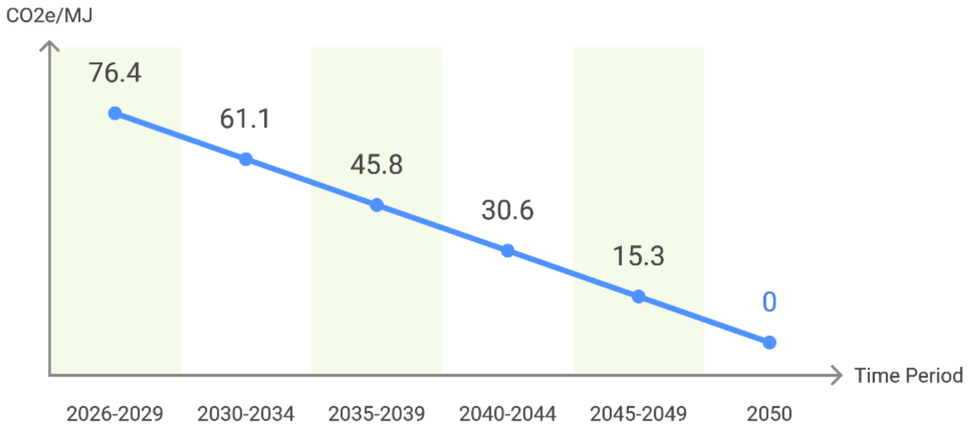
(B) Till 2025 Hybrid and Dual Fuel Energy Sources

Vessels use at least 50% zero-emission energy

(A) Zero Direct CO2 Emissions

Vessels must have no tailpipe emissions

Greenhouse Gas Intensity Limits for Inland Passenger Water Transport
(C)



50% Z.E.E in MJ

Tank-to-Wake

Well-to-Wake CO2e/MJ

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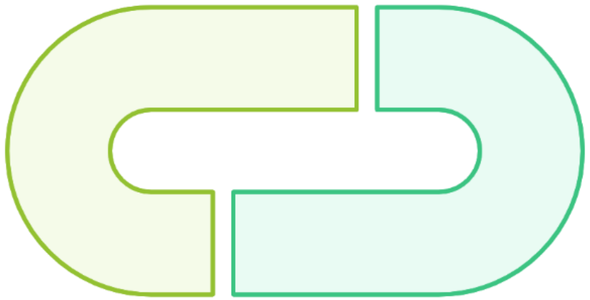
Label for Inland Vessels on EU Waterways (WP3)

EU Taxonomy Technical Screening Criteria for IWT
Commission Delegated Regulation (EU) 2023/2485
INLAND FREIGHT

(B) Till 2025 Emission Reduction Criteria

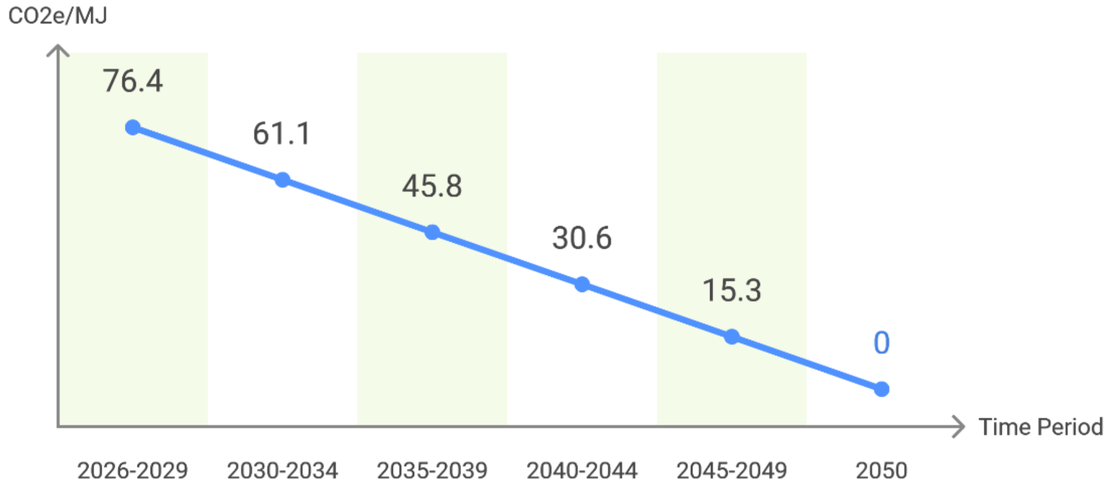
Vessels with reduced CO2 emissions per tonne-kilometre



(A) Zero Emissions Vessels

Vessels with no direct CO2 emissions

(C)



EEOI in g/tkm

Tank-to-Wake

Well-to-Wake CO2e/MJ

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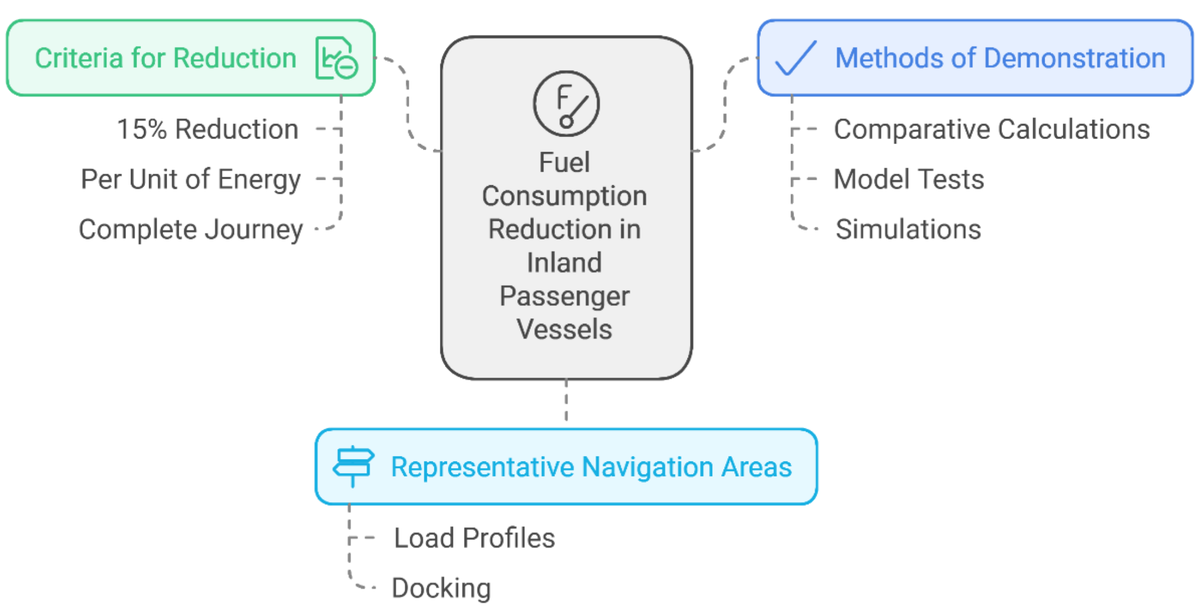
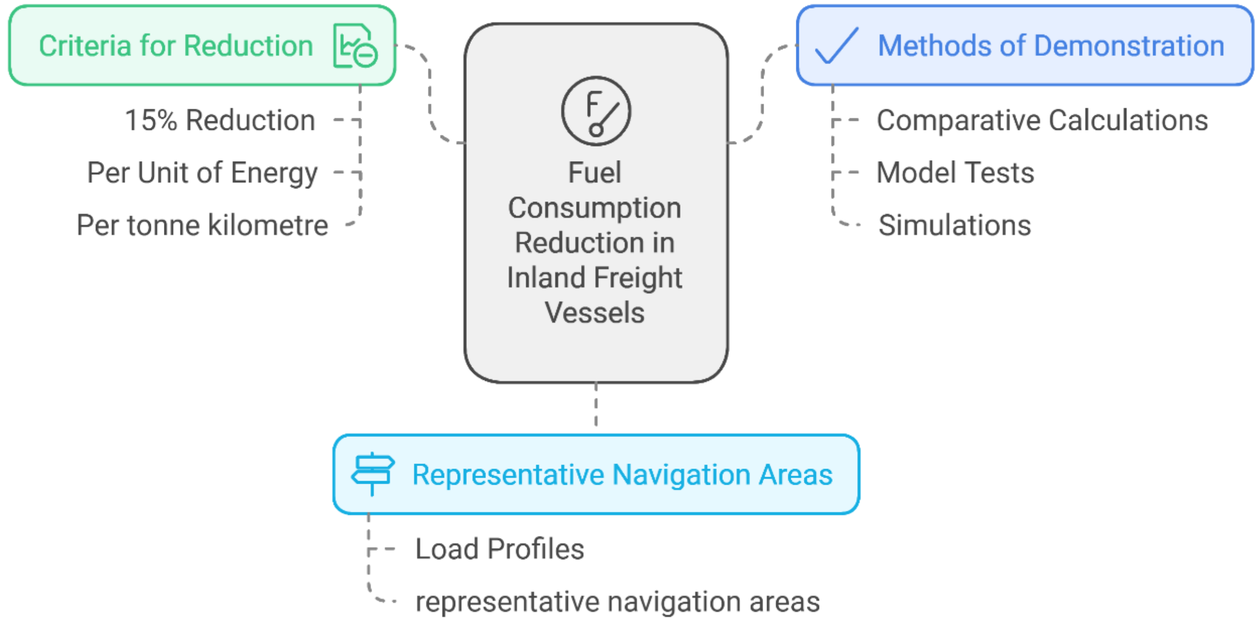
Label for Inland Vessels on EU Waterways (WP3)

EU Taxonomy Technical Screening Criteria for IWT
Commission Delegated Regulation (EU) 2023/2485
Retrofit





15% reduction in MJ/journey

15% reduction in MJ/tkm

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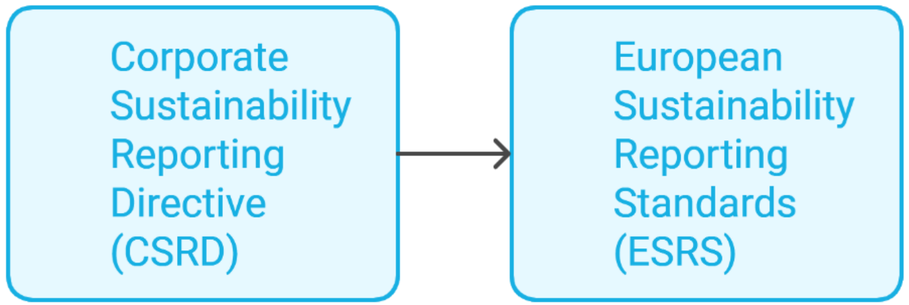
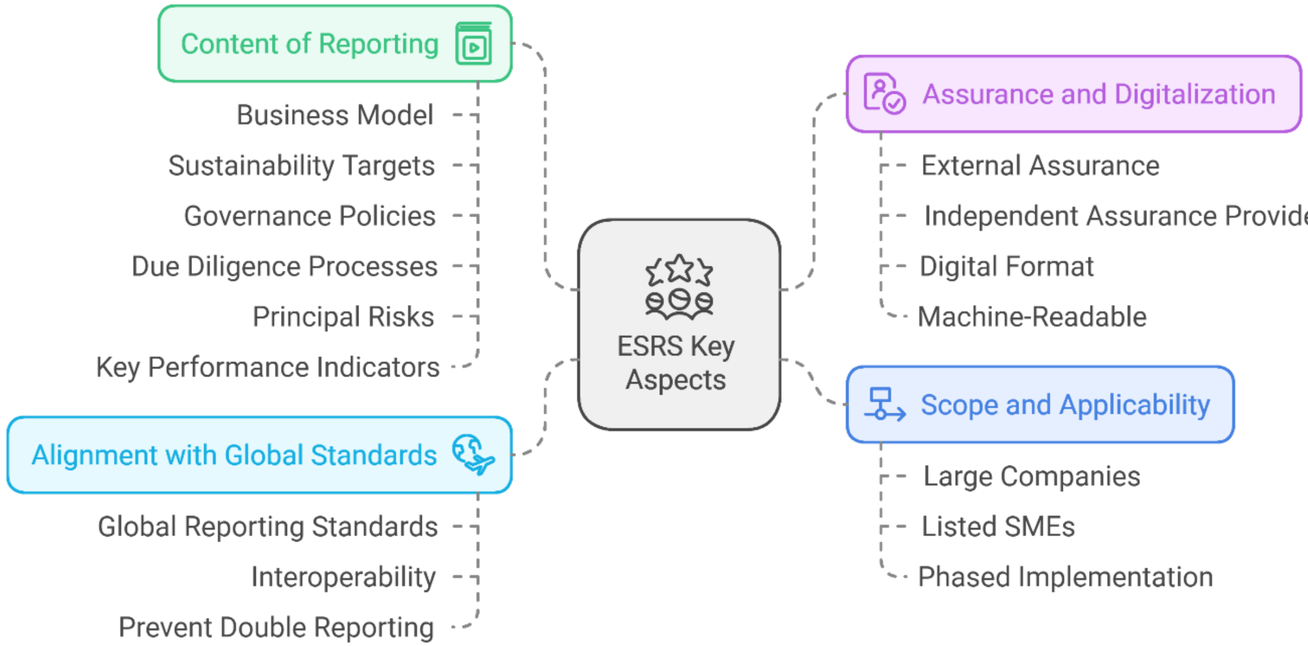
Label for Inland Vessels on EU Waterways (WP3)

European Sustainability Reporting Standards (ESRS)
COMMISSION DELEGATED REGULATION (EU) 2023/2772





Label for Inland Vessels on EU Waterways (WP3)

European Sustainability Reporting Standards (ESRS)
COMMISSION DELEGATED REGULATION (EU) 2023/2772

Disclosure Requirement E1-6 – **Gross** Scopes 1, 2, **3** and **Total GHG emissions**

The undertaking shall disclose in **metric tonnes of CO2eq** its :

(a) gross Scope 1 GHG emissions;

(b) gross Scope 2 GHG emissions;

(c) gross Scope 3 GHG emissions; and

(d) total GHG emissions.

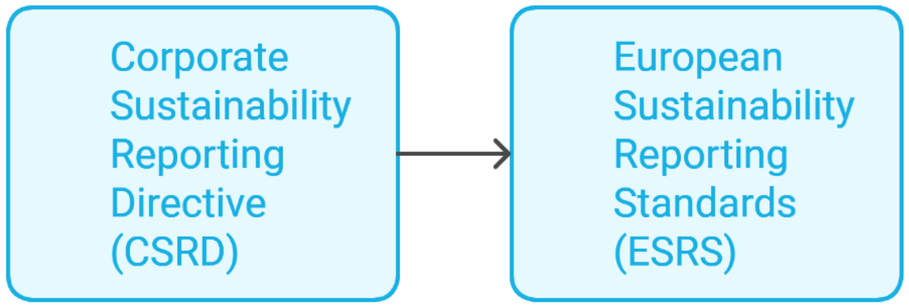
Disclose the extent to which the undertaking's **Scope 3 GHG emissions are measured using inputs from specific activities within the entity's upstream and downstream value chain**, and **disclose the percentage of emissions calculated using primary data** obtained from suppliers or other value chain partners.

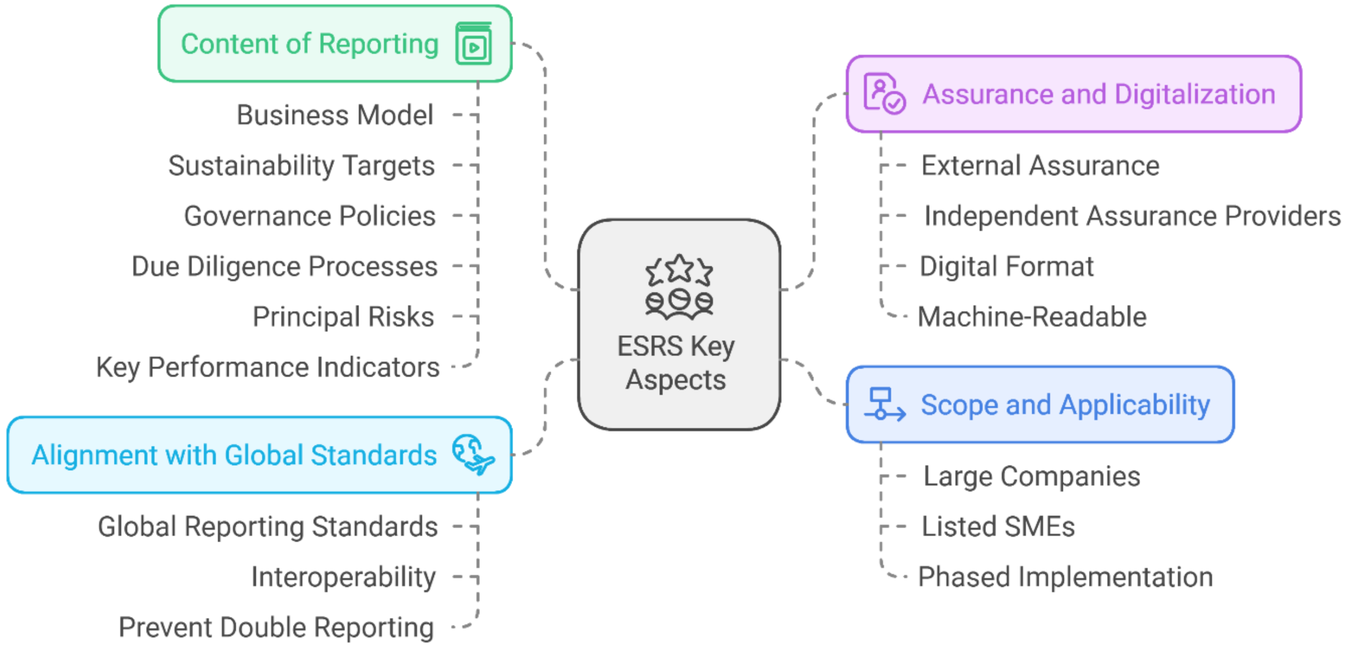
Disclose biogenic emissions of CO2 from the combustion or biodegradation of biomass that occur **in its upstream and downstream value chain separately from the gross Scope 3 GHG emissions**, and include emissions of other types of GHG (such as CH4 and N2O), and emissions of CO2 that occur in the life cycle of biomass other than from combustion or biodegradation (such as GHG emissions from processing or transporting biomass) in the calculation of Scope 3 GHG emissions.

Disclosure Requirement **E2- Pollution of air**, water and soil: The **volume of pollutants** shall be presented in appropriate **mass units**, for example tons.

Label for Inland Vessels on EU Waterways (WP3)

CountEmissionsEU

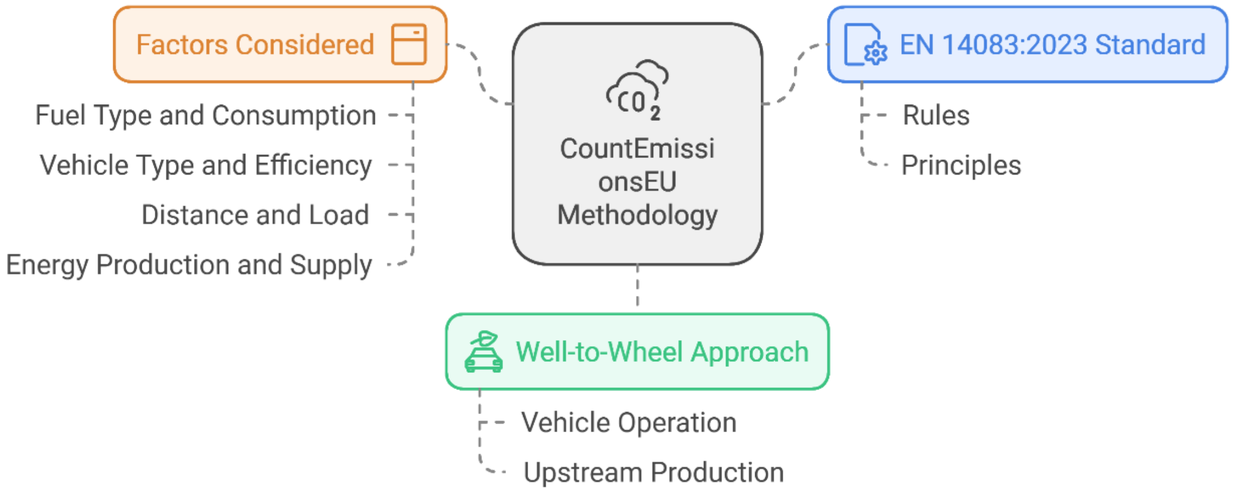




Label for Inland Vessels on EU Waterways (WP3)

CountEmissions EU(Proposal)

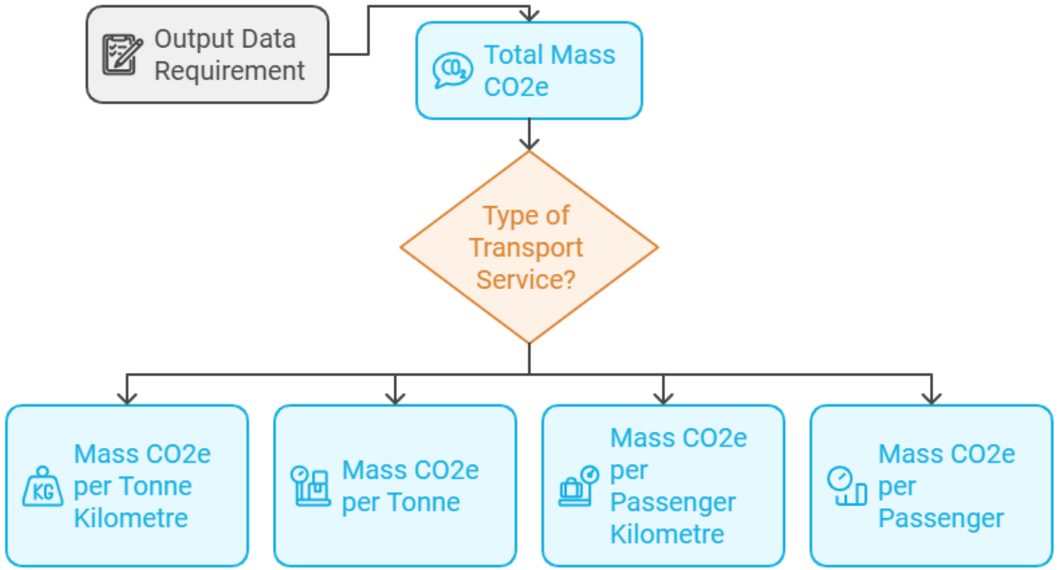
- **CountEmissions EU:** Aims to establish a **standardised** and reliable **methodology for calculating** and comparing the **greenhouse gas (GHG) emissions** of **transport services across all modes** (road, rail, **water**, and air).
- **Scope:** any entity that decides to calculate and disclose information on GHG emissions from transport services, will have to adhere to the CountEmissions EU rules.
- **Data:** CountEmissions EU will prioritise the use of primary data, that is data obtained during actual carrying out of a transport operation. However, primary data is often unavailable or too expensive to generate for certain stakeholders, especially for SME



Label for Inland Vessels on EU Waterways (WP3)

CountEmissions EU(Proposal)

- **The output data** as a **minimum** shall consist **total mass of carbon dioxide equivalent (CO2e) per transport service**, and, in relation to a type of transport service concerned, at least one of the following data metrics:
- (a) **mass CO2e per tonne kilometre**, or equivalent units, for freight transport;
- (b) **mass CO2e per tonne** or equivalent units, for freight hub throughput;
- (c) **mass CO2e per passenger kilometre**, or equivalent units, for passenger transport;
- (d) **mass CO2e per passenger** or equivalent units, for passenger hub throughput.



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Label for Inland Vessels on EU Waterways (WP3)

Dutch Emission Label Paspoort

Type schip	Motorvrachtschip droge lading
Lengte (m)	110
Breedte (m)	11.40
Laadvermogen (ton)	2500

Klimaat emissielabel	Luchtkwaliteit emissielabel
C	4

Indicatoren per kWh	
gemiddeld verbruik (gram brandstof per kWh)	208.5
gemiddelde CO2 uitstoot IPCC (gram per kWh)	464.1
gemiddelde NOx uitstoot (gram per kWh)	5.732
gemiddelde PM uitstoot (gram per kWh)	0.148

Indicatoren per tonkilometer	
CO2 uitstoot IPCC (gram per tonkm)	17.5
NOx uitstoot (gram per tonkm)	0.217
PM uitstoot (miligram per tonkm)	5.603

Indicatoren per afgelegde kilometer	
Mechanisch vermogen per kilometer (kWh)	42.5
Verbruik brandstof per kilometer (liter)	10.6
CO2 uitstoot per kilometer IPCC (kilogram)	19.7
NOx uitstoot per kilometer (gram)	243.8
PM uitstoot per kilometer (gram)	6.3

Indicatoren per vervoerde ton	
Mechanisch vermogen per ton (kWh)	8.39
Verbruik brandstof per ton (liters)	2.08
CO2 uitstoot per ton IPCC (kg)	3.90
NOx uitstoot per ton (gram)	48.11
PM uitstoot per ton (gram)	1.24

Jaartotalen	
Geleverd mechanish vermogen (kWh)	1,813,021
Totaal bruto verbruik brandstof (m3)	450
Vervoersprestatie (tonkms)	47,952,000
Afgelegde afstand (km)	42,624
Vervoerd gewicht (ton)	216,000
CO2 uitstoot per jaar conform IPCC (kg)	841,428
NOx uitstoot per jaar (kg)	10,391
PM uitstoot per jaar (kg)	269

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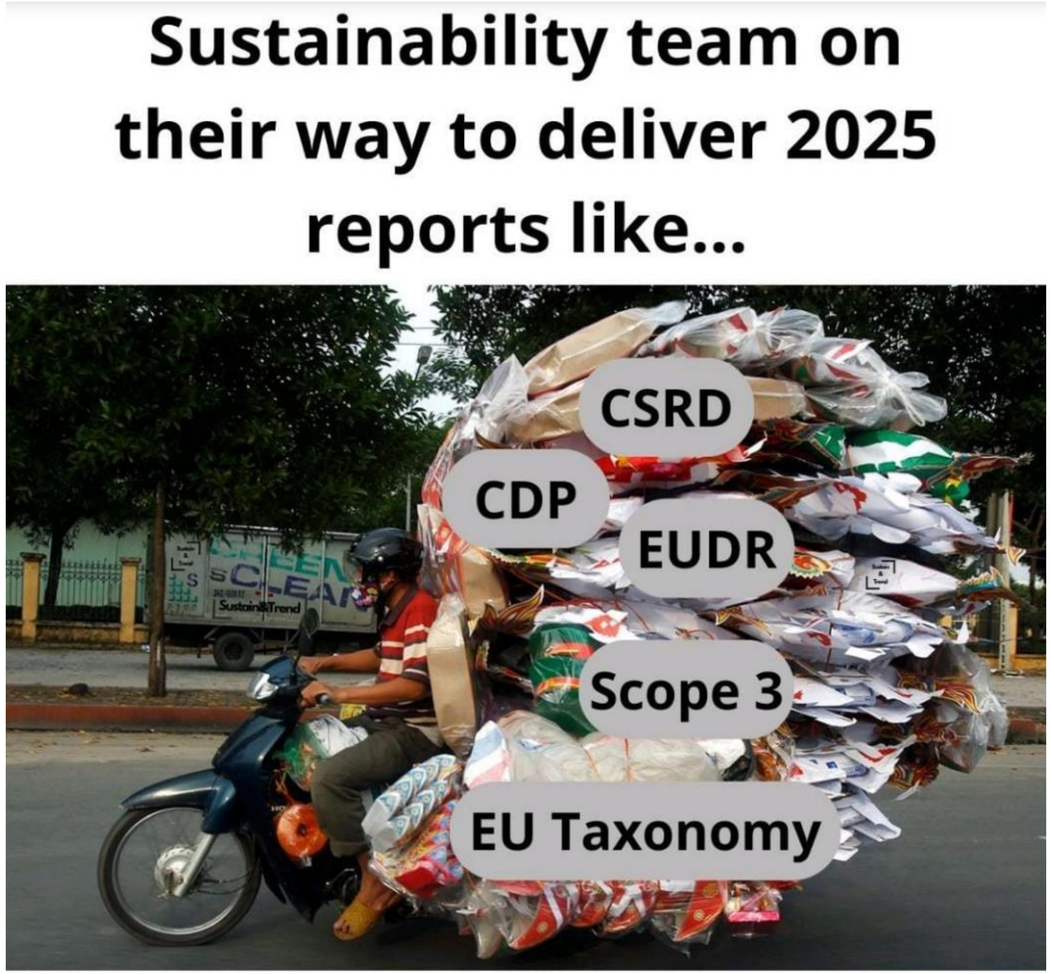
Label for Inland Vessels on EU Waterways (WP3)



Source: Zyad Hatquai on Linkedin

Label for Inland Vessels on EU Waterways (WP3)

Existing approaches in maritime shipping

- IMO’s Marine Environment Protection Committee (MEPC) developed measures to enhance efficiency and thereby reduce GHG emissions.
- EEDI (new ships since 2013; CO2-emissions per transport work in idealized conditions; 75% MCR)
- EEOI (ships in operation; includes operation and utilisation; voluntary)
- EEXI (existing ships >400 GT since 2023; like EEDI)
- SEEMP (Ship Energy Efficiency Management Plan)
- CII (Carbon Intensity Indicator; mandatory for ships >5,000 GT)

Label for Inland Vessels on EU Waterways (WP3)

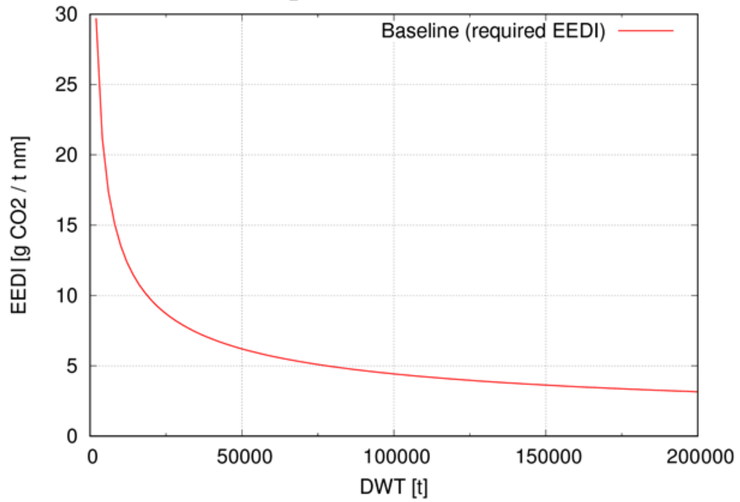
Required EEDI

$$(1 - x/100)\ a \cdot b^{-c}$$

Ship type	a	b	c
Bulk carriers	961.79	DWT	0.477
Gas carriers	1120.20	DWT	0.456
Tankers	1218.80	DWT	0.488
Container ships	174.22	DWT	0.201
General cargo ships	107.48	DWT	0.216
Refrigerated cargo ships	227.01	DWT	0.244
Combination carriers	1219.00	DWT	0.488
Vehicle / car carriers	(DWT/GT)-0.7 · 780.36 where DWT/GT < 0.3; (DWT/GT)-0.7 · 1812.63 where DWT/GT ≥ 0.3	DWT	0.471

Source: http://rules.dnvgl.com/docs/pdf/gl/maritimerules2016July/gl_vi-13-1_e.pdf

Example for Tankers



DWT: Deadweight
GT: Gross Tonnage

Reduction factors x (acc. to MARPOL Annex VI)

Ship Type	Size	Phase 0 1 Jan 2013 – 31 Dec 2014	Phase 1 1 Jan 2015 – 31 Dec 2019	Phase 2 1 Jan 2020 – 31 Mar 2022	Phase 2 1 Jan 2020 – 31 Dec 2024	Phase 3 1 Apr 2022 and onwards	Phase 3 1 Jan 2025 and onwards
Bulk carrier	20,000 DWT and above	0	10		20		30
	10,000 and above but less than 20,000 DWT	n/a	0-10*		0-20*		0-30*
	15,000 DWT and above	0	10	20		30	
	10,000 and						

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Label for Inland Vessels on EU Waterways (WP3)

Determination of Attained EEDI (simplified)

- Ship design
- Model tests at EEDI draft and at sea trial draft (witnessed)
- → V_{ref} at 75% MCR
- Ship construction
- Sea trials (double runs ≥10 min, deep water)
- Verification of EEDI or modification and resubmission

$$\text{Attained EEDI} = \frac{CF \cdot SFC \cdot P_{ME}}{f_i \cdot dw \cdot V_{ref}}$$

  - CF: correction factor for carbon intensity of fuel
    Tank-to-wake [g-CO2/g-Fuel] (3.206 for Gas Oil, 2.750 for LNG, 1.375 for Methanol)
  - SFC: specific fuel consumption (g/kWh)
  - f_i Correction factor for capacity

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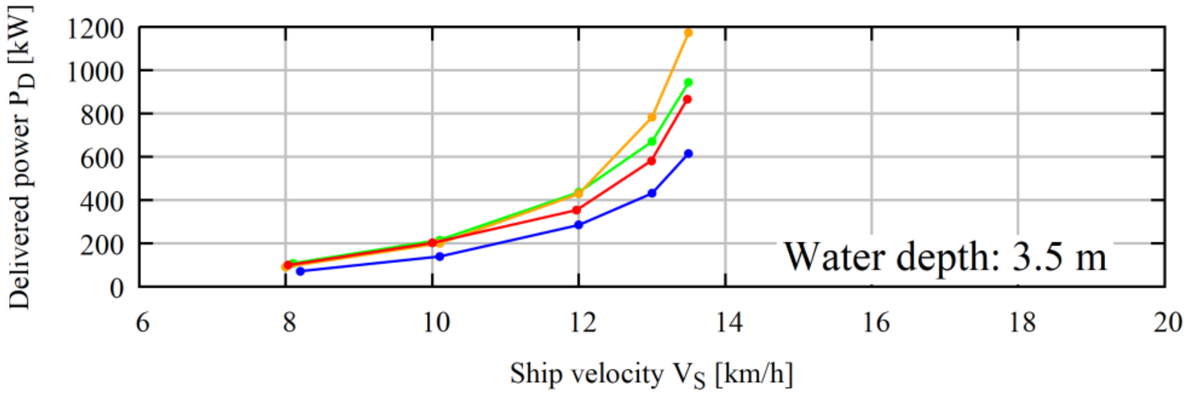
Label for Inland Vessels on EU Waterways (WP3)

Characteristics of IWT

- Confined waters / Rivers / Canals / Lakes
- Permits limiting access / speed
- Dense traffic
- Power reserve for safety and ease of navigation!
- Complex hydrodynamics
- Challenging low-water periods (resilient design)



Funded by:
Federal Ministry for Digital and Transport

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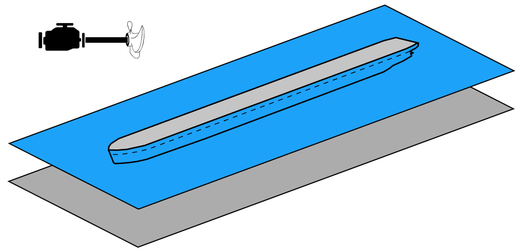
Label for Inland Vessels on EU Waterways (WP3)

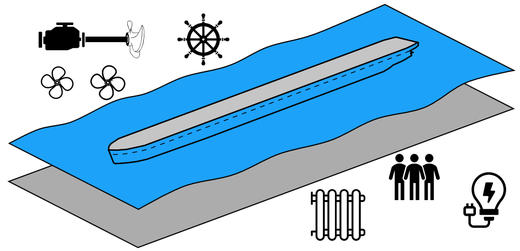
$EEDI_{Inland}$

- Greenhouse gas emissions per transport performance in g-CO2 / tkm (idealised)
- ≥ 70 % of tonnage
- Fuel + Energy converter + Hydrodynamics
- Three different types of waterways
- Pre-calculated power / consumption / speed



CII / EEOI / Count Emissions EU

- GHG emissions per transport performance of the ship in g-CO2 / tkm (averaged)
- All energy consumers
- All states of operation



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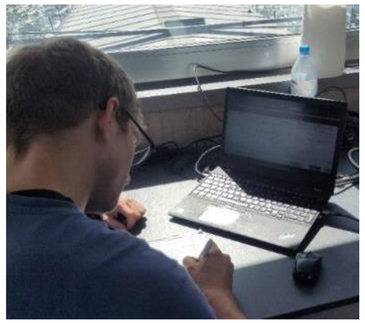
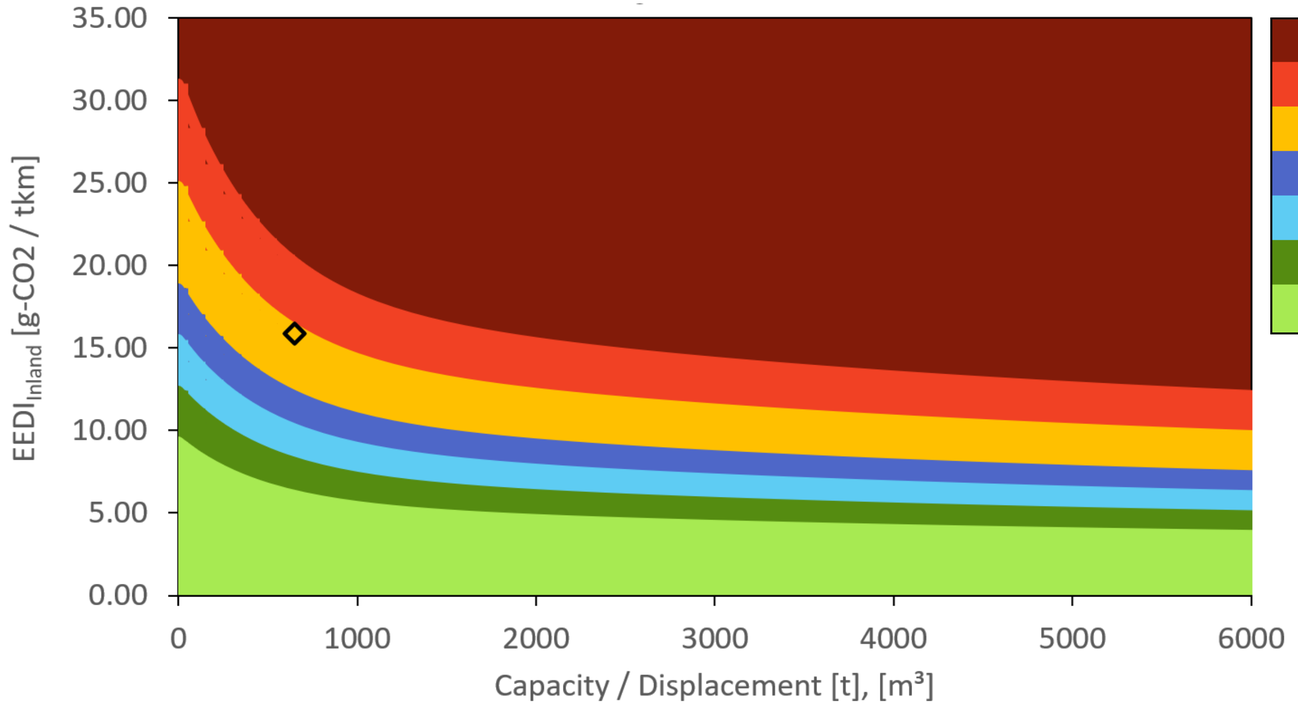
Exemplary Test and EEDI Result





> 1	II.G
1 bis > 0,8	II.F
0,8 bis > 0,6	II.E
0,6 bis > 0,5	II.D
0,5 bis > 0,4	II.C
0,4 bis > 0,3	II.B
≤ 0,3	II.A

Full study to be translated and published soon!

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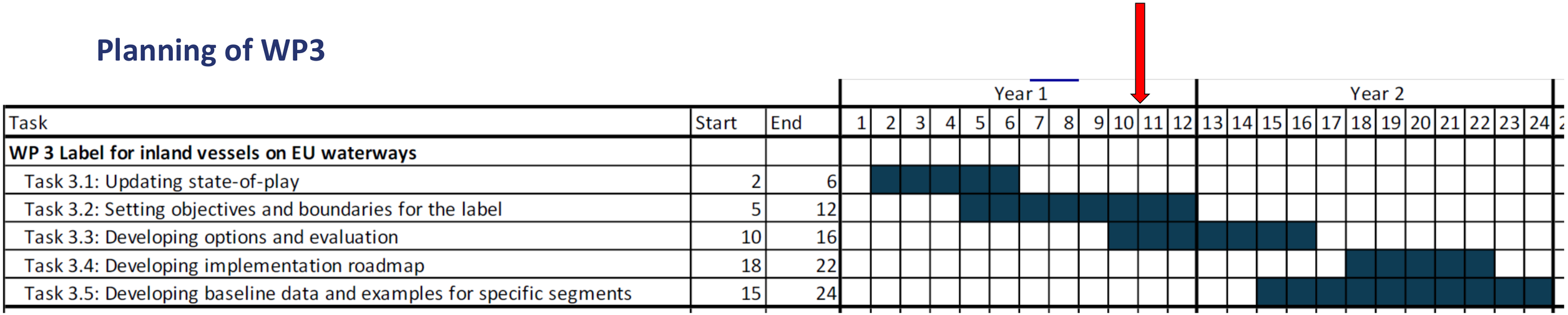
Label for Inland Vessels on EU Waterways (WP3)

Planning of WP3



Task	Start	End	Year 1												Year 2												
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
WP 3 Label for inland vessels on EU waterways																											
Task 3.1: Updating state-of-play	2	6																									
Task 3.2: Setting objectives and boundaries for the label	5	12																									
Task 3.3: Developing options and evaluation	10	16																									
Task 3.4: Developing implementation roadmap	18	22																									
Task 3.5: Developing baseline data and examples for specific segments	15	24																									

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Label for Inland Vessels on EU Waterways (WP3)

Objectives of the label

- Accelerated improvement of environmental performance of the IWT fleet (without jeopardising modal shift)
- Increased awareness of (and motivation to deploy) technological solutions
- Increased awareness of the relevance of (and motivation to improve) logistical and operational processes

Performance indicators for the label

- Moderate efforts and costs
- Integrability with reporting requirements
- Comparability with other modes
- Differentiation per fleet segment/vessel size
- Acceptance; robust against low water periods or changing freight structures

Performance indicators for ships

- GHG intensity of energy used on board [g / MJ]
- GHG intensity of transport performance [g / tkm]
- annual improvements

Label for Inland Vessels on EU Waterways (WP3)

Next steps

- Discussion in the NAIADES III implementation expert group
- Finalisation of the report D3.1
- Further workshops and stakeholder interviews
- Alignment with CCNR correspondence group
- Demanding decisions and instructions

→Proposal of an widely accepted approach compiled of several building blocks including an implementation and transition roadmap

→Data collection and trials

Thank you for your attention

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650

Thank you for your attention

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A comprehensive RD&I roadmap for IWT; Current and future work

Work Package 5

06.11.2024

Waterborne Technology Platform

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650

RD&I Roadmap - objectives

The green and digital transformation of the IWT sector.

- Overview of funding opportunities available for RD&I and deployment of innovations within the current MFF

- Concrete RD&I and deployment proposals to be taken up in the current MFF (mainly 2026 and 2027)

- Detailed RD&I and deployment roadmap for the next MFF (public-private)

RD&I Roadmap - tasks

- Identifying and proposing solutions for RD&I gaps and industry commitments.
  - Lack of information, financing, key technologies at too low TRL level or not yet ready for deployment, etc.
  - Investigate interest and resources of the different European stakeholders to invest in the RD&I and its deployment
  - Propose inclusion of topics in the Co-Programmed Partnership on Zero-Emission Waterborne Transport (2026 – 2027)
  - Other relevant topics, and possible funding instruments (current and new MFF)

RD&I Roadmap – deliverables

- Deliverable 5.1: Funding opportunities for RD&I and deployment activities at European level (final draft ready)

- Deliverable 5.2: The PLATINA4Action advice for the ZEWT Partnership SRIA

- Deliverable 5.3: A comprehensive RD&I roadmap for IWT (new MFF)

RD&I Roadmap – why?

- Environmental targets enshrined in European climate law
- Ambitions for new climate targets by 2040
- 2030 is yesterday, 2040 is tomorrow and 2050 is the day after tomorrow
- Sustainable prosperity and competitiveness will be key

RD&I Roadmap – how?

- A joint and coordinated approach
- The European waterborne transport sector is facing the same challenges and opportunities, from shipyards and equipment manufacturers to shipowners (both maritime and inland waterway transport) up to classification societies, sustainable alternative energy suppliers and the research community and need each other to achieve targets
- Public-private initiatives will be key

First step – the funding catalogue

Deliverable D5.1 provides a comprehensive overview of funding mechanisms for stakeholders in the inland waterway transport (IWT) sector, aimed at facilitating the transition to a zero-emission and smart IWT system in line with the European Green Deal and the Sustainable and Smart Mobility Strategy.

Targeted specifically on practical issues of the funding instruments 2021 - 2027

The usability of the report

The deliverable catalogues various funding opportunities, detailing application processes, eligibility criteria, and grant mechanisms, empowering IWT stakeholders to navigate the EU funding landscape effectively. By aligning with strategic EU goals, D5.1 serves as a vital resource for public authorities, private enterprises, research institutions, and NGOs, driving the transition toward a zero-emission and innovative IWT system and contributing to broader climate objectives.

Why does this report exist?

The European Union’s commitment to zero-emission and smart IWT is embodied through various funding programs that support RD&I and deployment. In line with the objectives of the EU Green Deal, the Sustainable and Smart Mobility Strategy, and the NAIADES III action program, this funding catalogue serves as a comprehensive resource for stakeholders in the IWT sector.

The catalogue aims to identify opportunities for securing financial support to facilitate the sector's transition to a sustainable, efficient, and digitally integrated transport system. It is designed to address the specific challenges facing the IWT sector, including the reduction of greenhouse gas emissions, the adoption of clean energy technologies, and the modernization of inland ports and logistics through digitalization.

Who does this help?

By providing a roadmap for accessing these diverse funding streams, the catalogue empowers IWT stakeholders—including public authorities, private enterprises, research institutions, and non-governmental organizations—to align their projects with EU priorities, thereby contributing to the overall goal of greening European transport systems. Through this targeted support, the European Union aims to decarbonize inland waterway transport, enhance its digital capabilities, and ensure that the sector plays a key role in Europe's climate-neutral future by 2050.

The funding opportunities

Horizon Europe

The EU's funding program backs collaborative projects and partnerships tackling global challenges like climate, energy, and mobility. Key for funding projects that drive technological innovation, sustainability, and efficiency.

Eligibility: Within EU or associated countries. Consortia of minimum 3 entities.

Funding: Grants cover up to 100% of research costs and 70% for innovation actions.

Connecting Europe Facility 2

CEF2 is part of the larger TEN-T policy. It supports projects that build, develop, or upgrade transport infrastructure. CEF Transport focuses on modernizing Europe's transport infrastructure, particularly for projects that support sustainable and efficient transport systems.

Eligibility: Within EU or associated countries. Demonstrative innovative technologies or solutions with substantial GHG emission reduction potential ready for deployment and capable to reach financial close.

Funding: up to 60% / +€7.5M: Large-scale deployment / -€7.5M: Early-stage technologies and smaller innovations.

Innovation Fund

The IF supports the commercialization of low-carbon technologies to reduce greenhouse gas emissions.

Eligibility: Within EU or associated countries. Projects must be mature enough to demonstrate applications and scalability. Technologies that include renewable energy, advanced biofuels, electrification, hydrogen applications, and digital innovations.

Funding: up to 60% / +€7.5M: Large-scale deployment / -€7.5M: Early-stage technologies and smaller innovations.

The funding opportunities

European Digital Innovation Hubs

EDIHs support industry digitalization by assisting companies, particularly SMEs, with adopting digital technologies. EDIHs offer technical expertise, experimentation, funding, and networking opportunities.

Eligibility: Within EU or associated countries - SMEs / providing regional support tailored to local needs on AI, cybersecurity, high-performance computing and advanced digital skills.

Funding: Large-scale deployment of digital technologies. They work in synergy with other programmes such as IF to scale up successful pilots and prototypes.

LIFE Programme

LIFE program supports projects within the EU or associated countries that promote sustainability, circular economy, energy efficiency, climate resilience, biodiversity protection, and ecosystem preservation.

Eligibility: Within EU or associated countries.

Funding: Available for various sub-programs focusing on different areas like circular economy, climate change mitigation, adaptation, and clean energy transition.

European Structural and Investment Funds

Relevant ESIF programmes include European Regional Development Fund (ERDF), the European Social Fund (ESF), the Cohesion Fund (CF), the European Agricultural Fund for Rural Development.

Eligibility: Within EU or associated countries.

Supporting innovation solutions for sustainable infrastructure, development of environmental stewardship and integration of sustainable practices.

Funding: ESIF funds issue calls through national and regional authorities.

The funding and financing opportunities

European Investment Bank

EIB finances projects that enhance sustainable development and infrastructure to facilitate the transition to a low-carbon economy by providing loans, guarantees, and equity.
Eligibility: Projects within EU or associated countries. Partnerships between public and private.
Funding: infrastructure development, environmental sustainability, and social inclusion, covering various project types and sizes in the IWT sector.

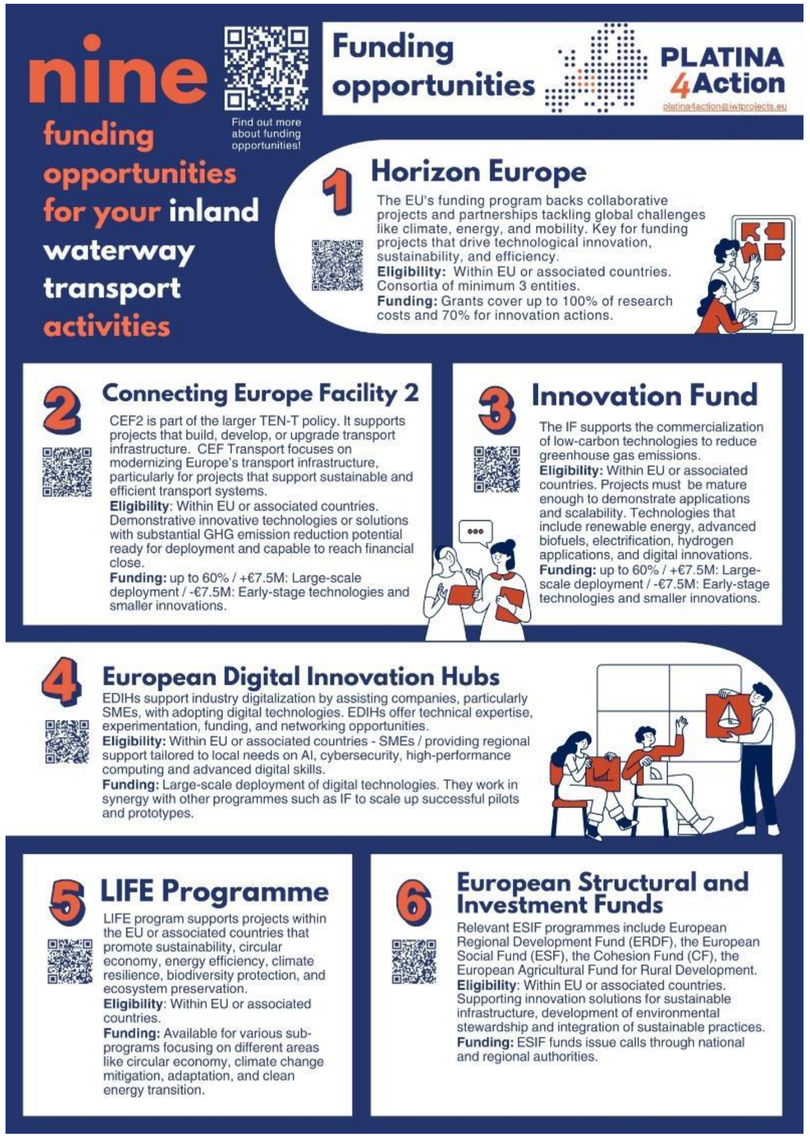
Just Transition Fund

JTF supports regions and communities transitioning to a green economy, by financing infrastructure upgrades for low-emission vessels and alternative fuel solutions, the JTF aims to create job opportunities and stimulate economic growth in areas affected by the decline of fossil fuel industries.
Eligibility: Within EU Member States or associated countries that heavily rely on fossil fuels or face significant economic challenges during the green transition. Collaboration among public authorities, private stakeholders, and local communities is essential.
Funding: The JTF provides a mix of grants and financial assistance.

InvestEU

Invest EU facilitates the transition to a greener economy by financing projects that reduce carbon emissions, improve transport efficiency, and enhance interconnectivity across Europe’s transport networks.
Eligibility: Within EU Member States or associated countries and align with EU sustainability goals.
Funding: Focusing on sustainable infrastructure development, low-emission technology innovations, and initiatives ensuring that all regions benefit from the green transition.

The ehanced usability of this report



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What is next

- RD&I and deployment priorities for 2026 – 2027

- The comprehensive RD&I roadmap (public-private initiative), detailing of task

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Thank you for your attention

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Thematic Session 4

Paving the way for roll-out of zero-emission solutions for IWT

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650

Zero-emission innovations and their deployment / rollout

Stocktaking of good practices and initiatives

Stage Event Brussels
6 November 2024
Khalid TACHI
SPB/EICB

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Khalid Tachi, EICB

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650

WP4 objectives

Work Package 4 has the following specific objectives:

- Stocktaking and subsequent selection of cases, initiatives, and good practices, considering results from other projects
- TCO modelling and identification of financing requirements considering new business models and ownership models, including options for co-funding options.
- Identification and validation of barriers and possible actions to overcome them.
- Elaboration of actions and required framework conditions for implementation.
- Facilitating the development of a project proposal for deployment breakthrough making best use of existing financial instruments.

WP4: Stocktaking of good practices and initiatives

The WP4 focus, aim, initiatives and role

Focus	Aim	Initiatives	Role
Zero-emission innovations and deployment across European inland waterways	Identify, validate, and facilitate the rollout of breakthrough technologies and business models to reduce emissions	Stocktaking of best practices, economic modelling, identification of financial and regulatory barriers to innovation	Ensure scalability and economic viability of zero-emission technologies in the sector, propel the industry towards a zero-emission future

WP4: Stocktaking of good practices and initiatives

Technologies and solutions in scope:

Technology	Description
Electric Propulsion Systems	Battery-powered Electric Vessels: Exploration of fully electric vessels powered by batteries, focusing on advancements in battery technology, such as increased energy density and faster charging capabilities.
Hybrid Electric Systems	Hybrid systems that combine clean combustion engines with electric propulsion to reduce emissions and improve fuel efficiency during transitional phases towards full electrification.
Hydrogen Fuel Cells	Assessment of fuel cell technologies that convert hydrogen into electricity, providing high efficiency and zero tailpipe emissions at the point of use. This includes evaluating the infrastructure for hydrogen production, storage, and refuelling.
Hydrogen Combustion Engines	Examination of internal combustion engines designed to run on hydrogen, analysing their potential to operate with zero carbon emissions and their adaptability to existing vessel designs.
Bio-LNG	20 vessels in inland waterway transport are using LNG as fuel. These vessels may use Bio-LNG produced from wet-manure as feedstock with a close digestate technological option.
HVO	Hydrotreated Vegetable Oil is a renewable type of diesel made from Used Cooking Oil (UCO). HVO100 can reach 87.4% GHG reduction WTW based on UCO as feedstock. HVO30 can be applied to comply with the EU Taxonomy threshold and is within the EN590 specification.
Modular Vessel Design	Adapting a modular approach to vessel design allows for the customization of ships according to specific cargo and route requirements. Modular vessels can be adjusted for size and function, making them more versatile and efficient across different types of waterway operations (such as KOTUG, ZULU).
Digital Solutions	Focus on digital solution which is crucial to make zero-emission vessels operational and competitive.

WP4: Stocktaking of good practices and initiatives

Standardised Evaluation Template for Zero-Emission Innovations:

- Technology description
- Application context
- Technology Readiness Level (TRL)
- Impact on energy and emissions reduction
- Potential for scalability
- Compliance and regulatory alignment
- Supporting criteria (Market, Regulatory, Stakeholder)
- SWOT Analyses
- Key success and fail factors

WP4: Stocktaking of good practices and initiatives

The selected cases for further investigation:

- Zero-Emission-Services
- KOTUG E-pusher
- Waterbus
- Hydrogen Fuel Cell applications for inland vessels (H2FC)
- ZULU
- Renewable HVO and clean combustion
- EcoBin: energy efficient navigation for hybrid drivetrains
- Coupled convoys with clean hybrid powertrain (Rhenus)

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

Panel discussion

Deploying zero-emission solutions for IWT

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650

Marc Vanderhaegen, CINEA

Muhammed Elemenler, European Commission

Pieter Huyskens, DAMEN

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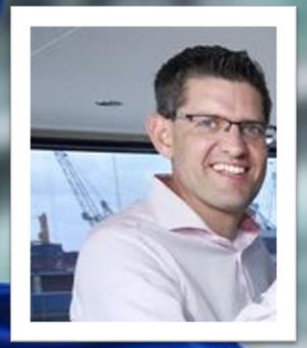
Marnix Vos,
Nedcargo



Almar van Herk,
KOTUG

Koen van Eig,
Zero Emission Shipping

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Daisy Rycquart, EICB Moderator

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650

Nedcargo
Wasteless Supply Chain

PROJECT: ZERO.0

Marnix Vos – Project Manager

DEN BOSCH MAX B.V.

- Full electric propulsion
- Swappable Battery Container
- Emission free transport

Project partners

INLAND TERMINALS GROUP

ZERO EMISSION SERVICES

Nedcargo

Innovation Fund

Funded by the EU Emissions Trading System

Deploying innovative net-zero technologies for climate neutrality

208 projects:
123 ongoing +
85 in preparation

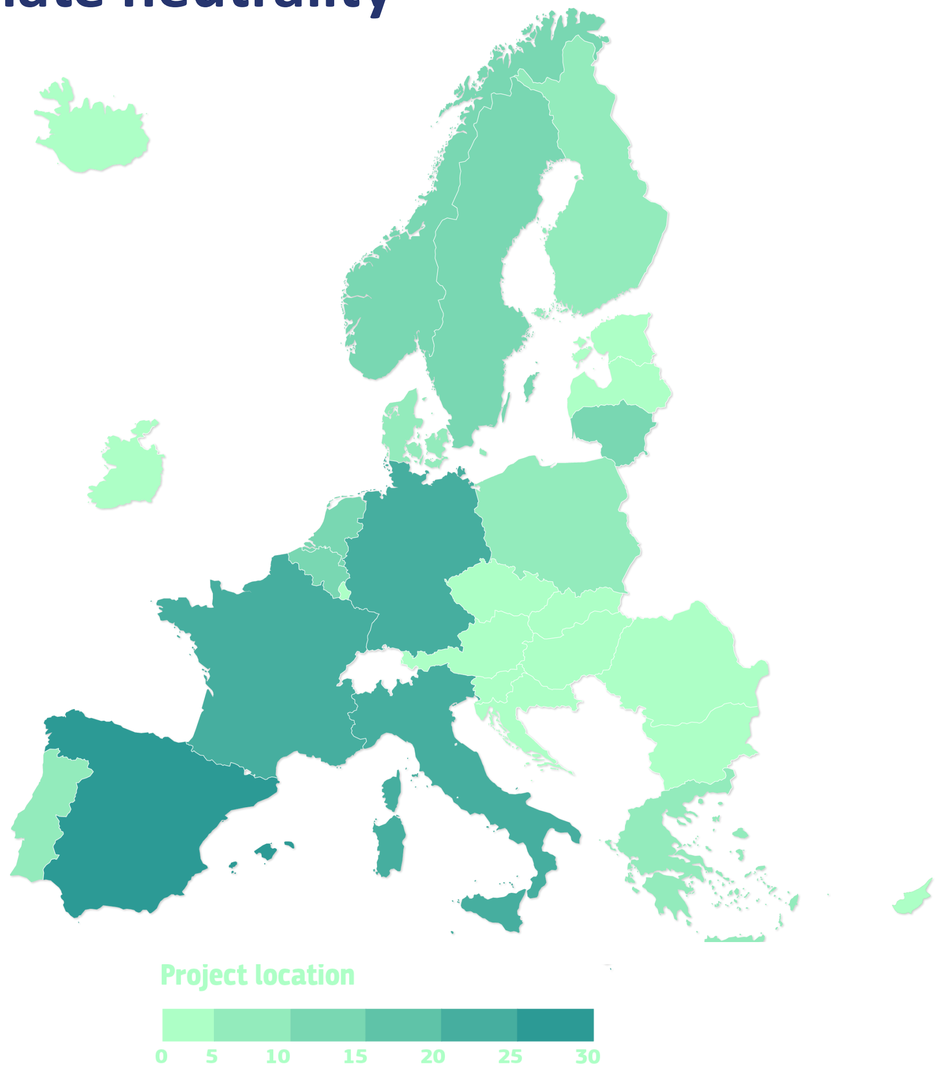
€ 12.04 Billion
allocated

~929 Mt CO_2 eq expected to be avoided

11 maritime projects

26 Countries

Upcoming funding opportunities



Marc VANDERHAEGEN – European Climate, Infrastructure and Environment Executive Agency (CINEA), Head of Unit

Summary of the day's discussion

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Closing Remarks

PLATINA4ACtion 1st Stage Event

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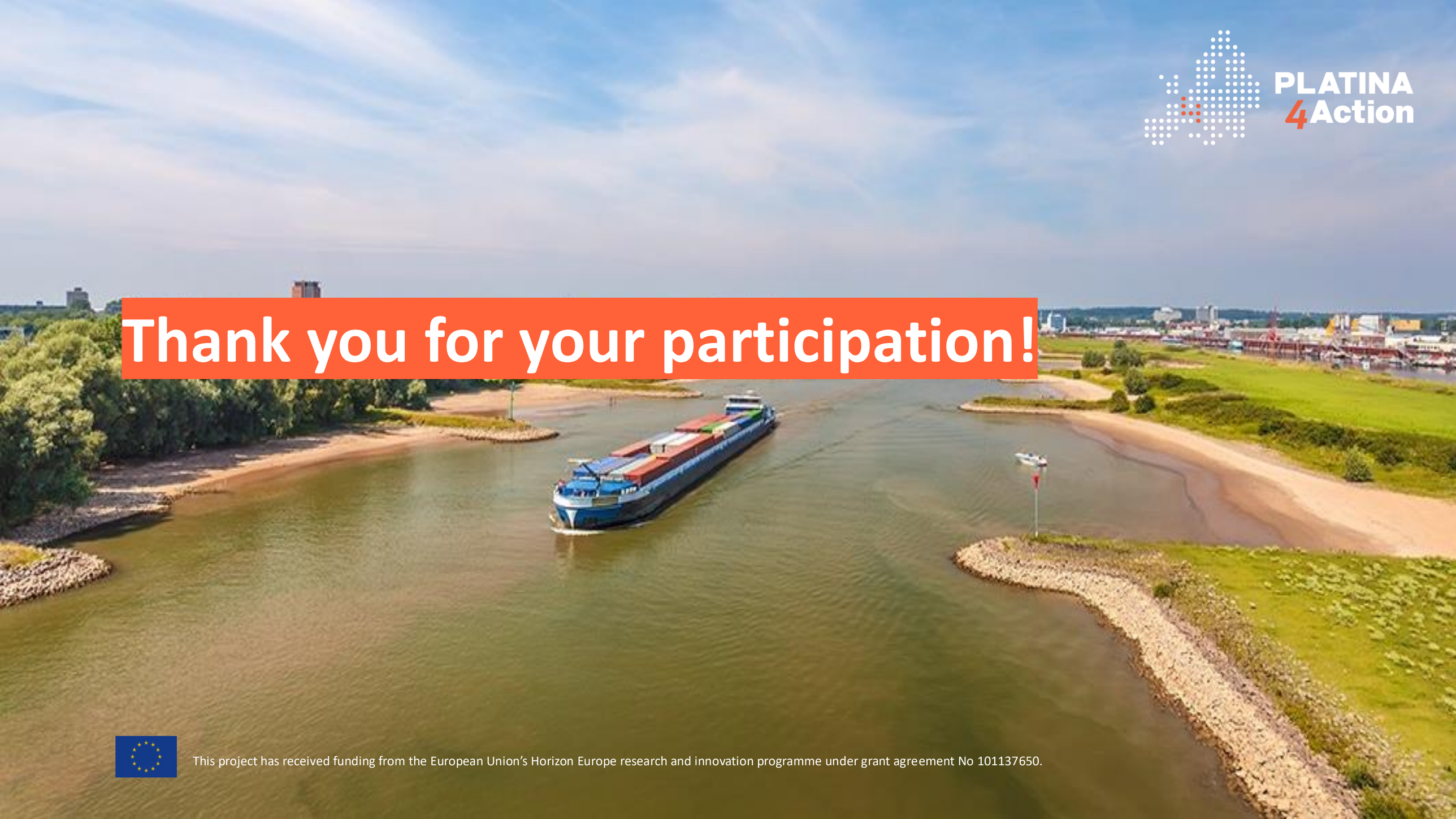

Thank you for your participation!

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.