

# RH<sub>2</sub>INE Global Project: Kickstart IWT

To reach market-readiness in 2030 for zero-emission **IWT**,  
the work on 5 ships has started in 2020



# RH<sub>2</sub>INE

Rhine Hydrogen Integration  
Network of Excellence

CCNR Workshop 20 April 2021  
ALTERNATIVE ENERGY SOURCES  
FOR ELECTRICAL PROPULSION SYSTEMS

# Agenda

1. **Introduction RH2INE**
2. **Timeline skippers in RH2INE & budgets**
3. **Learnings & recommendation**





# Introduction RH<sub>2</sub>INE

Klaas van Staalduine (province Zuid-Holland)



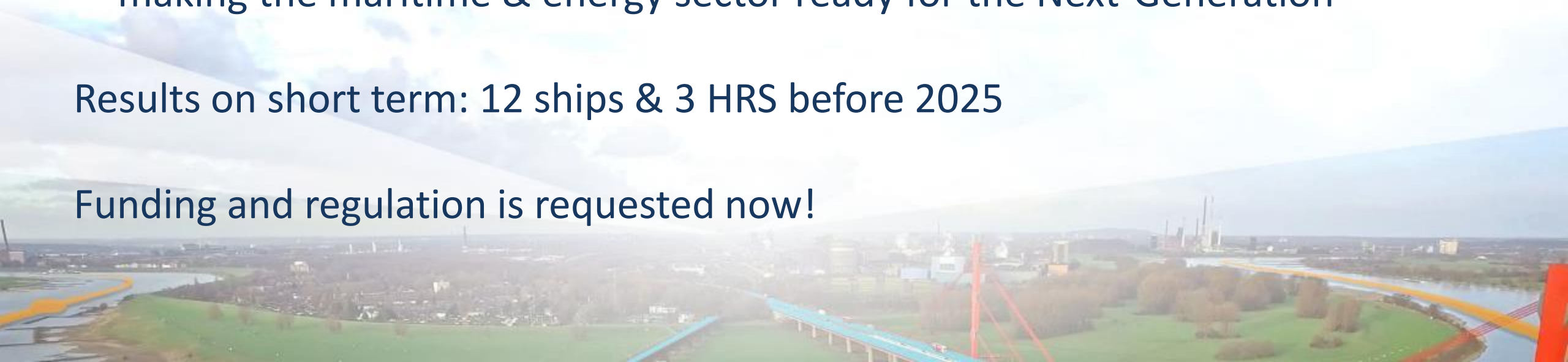
## RH2INE goals & ambitions

Aiming for: integrated system of guaranteed demand & supply of clean Hydrogen on the Rhine Alpine corridor.

- Systemchange by using a value-chain-approach,
- Stimulating innovation & standardisation, preparing for scale-up
- Kickstarting in IWT
- making the maritime & energy sector ready for the Next-Generation

Results on short term: 12 ships & 3 HRS before 2025

Funding and regulation is requested now!






# RH2INE: the Rhine Hydrogen Integration Network of Excellence



Die Landesregierung  
Nordrhein-Westfalen



# First Results | From ambition to project RH<sub>2</sub>INE Kickstart IWT

RH <sub>2</sub> INE IWT	Q1 2021 	Q2 2021	Q3 2021	2022
<b>Phasing</b>	Explore for IWT	Concept select per coalition	Investment decision	Execute
<b>Activities</b>	<ul style="list-style-type: none"> <li>• Research studies (CEF)</li> <li>• Financing program</li> <li>• Regulatory program</li> <li>• Center of Excellence</li> <li>• Lobbying</li> </ul>	<ul style="list-style-type: none"> <li>• Choice concept / technology</li> <li>• Business case</li> <li>• Agree on finance gap, need for subsidy</li> <li>• Apply for subsidies</li> <li>• Initiate required approval processes</li> </ul>	<ul style="list-style-type: none"> <li>• Detailed design</li> <li>• Arrange financing</li> <li>• Contract demand</li> <li>• Arrange required infrastructure</li> <li>• Decision making</li> </ul>	<ul style="list-style-type: none"> <li>• Order equipment</li> <li>• Record learnings</li> <li>• Continue innovation</li> </ul>
<b>Definition of success</b>	<ul style="list-style-type: none"> <li>• <i>Letter of Intent</i></li> <li>• <i>Operational coalition</i></li> <li>• <i>First view on feasibility</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Confirmed financing program</i></li> <li>• <i>MoU coalition(s)</i></li> <li>• <i>Technical standards</i></li> <li>• <i>Subsidy application</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Approvals granted</i></li> <li>• <i>Subsidy granted</i></li> <li>• <i>Go-decision</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Successful introduction</i></li> <li>• <i>Continuation program</i></li> </ul>

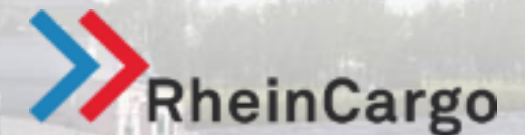


# RH<sub>2</sub>INE Kickstart Study

- First project within RH2INE Programme
- Co-financed by CEF Transport (>august 2021)
- Activities:
  - Scenario building: Bunker/Containment/Demand scenarios
  - Safety and regulatory aspects for H<sub>2</sub> bunkering
  - Design of H<sub>2</sub> bunkering locations (including costs and benefits)
  - Possible locations for H<sub>2</sub> bunkering in the 3 ports (Rotterdam, Duisburg, Neuss/Düsseldorf/Köln)



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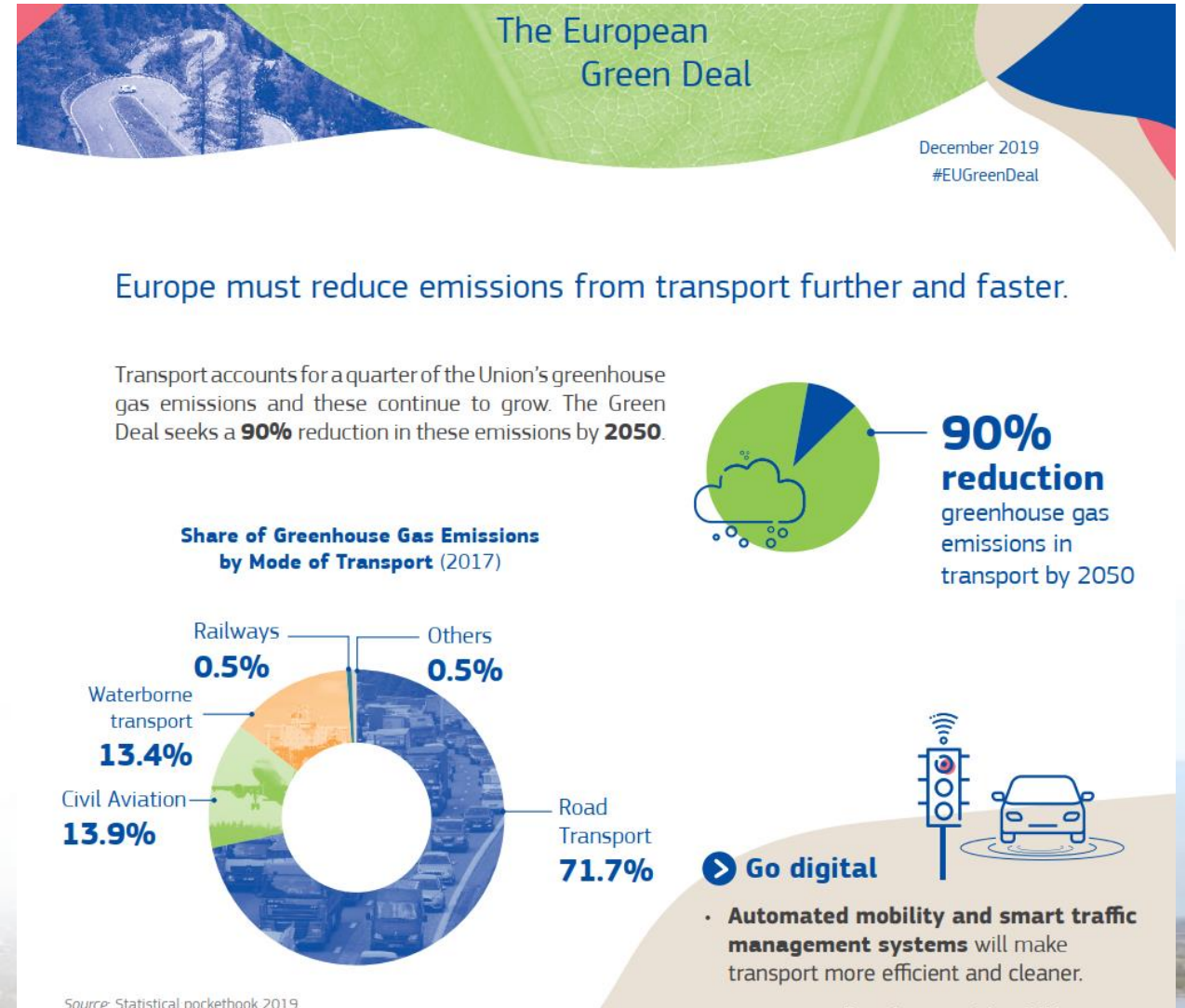


Co-financed by the Connecting Europe  
Facility of the European Union



# IWT in Europe- EU Green Deal and Mobility Strategy

- “As outlined in the European Green Deal, the result will be a **90% cut in emissions by 2050**, delivered by a smart, competitive, safe, accessible and affordable transport system.”
- The Smart Mobility Strategy (SSMS) seeks to increase the share of Inland Waterway Transport (IWT) by 25 % by 2030 and by 50 % by 2050.
- “By 2030: **zero-emission marine vessels will be market-ready**”





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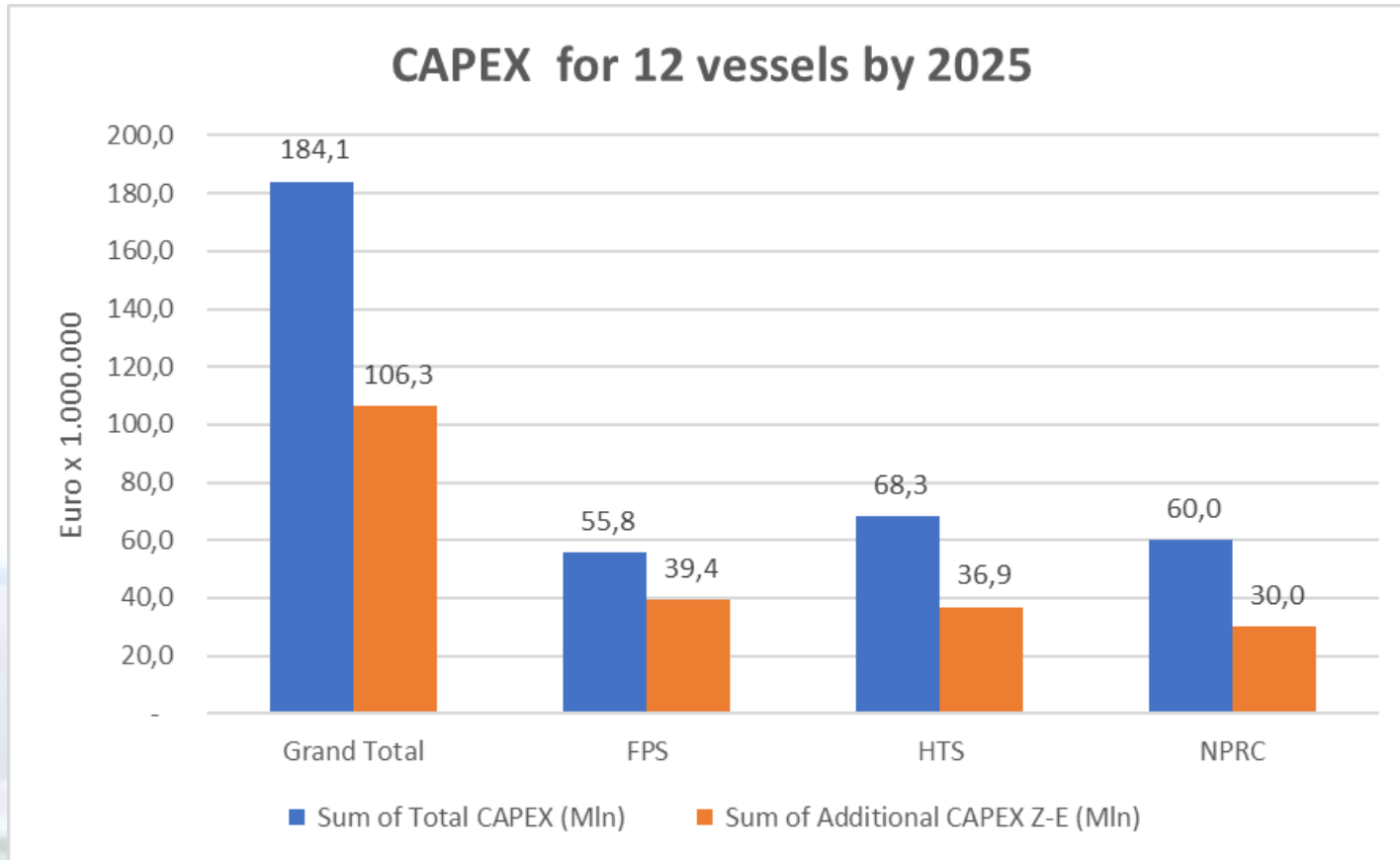


## RH2INE: Timeline skippers

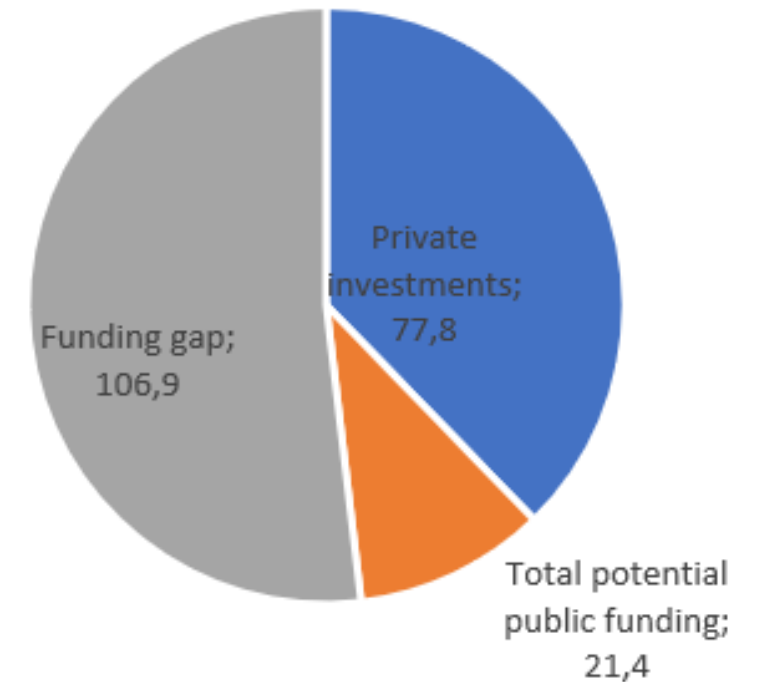
- > 12 ships before 2025 (Germany, Netherlands & Belgium)
- > Conditions: funding & regulation!



# RH2INE Budgets 2021-2024



### Current potential funding 12 vessels



Source date 01-03-2021, excl infra 20,1 million



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# Learnings & recommendation

Marjon Castelijns (Future Proof Shipping)





# Learnings & recommendation FPS - Maas

The exemption process for the FPS – Maas

- The early kick-off presentation about the upcoming project was positive and useful, at the start of an extensive process.
- The concept design (first info) shared should be sufficiently detailed. Questions of CCNR RVG working group members helped to improve the design safety.
- Simultaneous process HAZID- CCNR; allows for adjustments of the shipdesign in parallel process, shortening the total timeline.

## Recommendation

The RH2INE consortium offers the use of the information collected in the CEF-funded kickstart study as well as their consortiumpartners for the upcoming regulation process.





# All aboard?

For more information contact the RH<sub>2</sub>INE-team:

[contact@rh2ine.eu](mailto:contact@rh2ine.eu)



**RH<sub>2</sub>INE**

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