

25 November 2021

**CLINSH Final conference**

# **Main results from the CCNR study on the financing of the IWT energy transition**

**Laure Roux, Administrator for economic affairs, CCNR  
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## In the Mannheim declaration (2018) Ministers in charge of transport of the CCNR Member States:

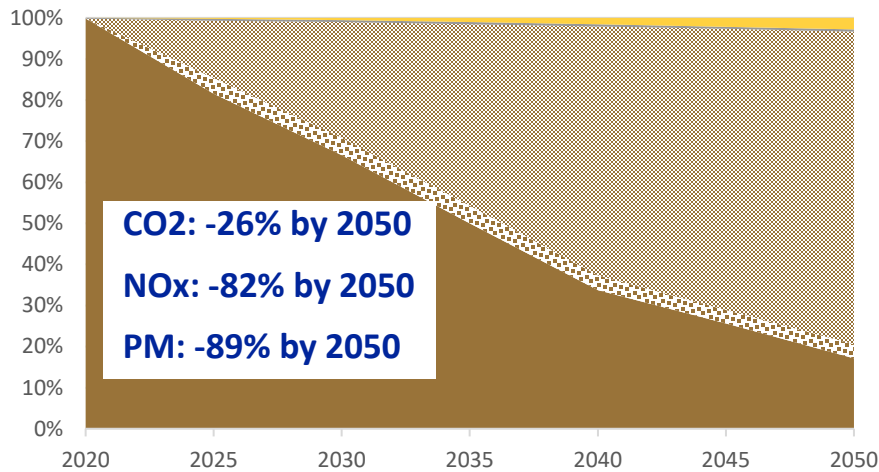


- tasked CCNR to develop a **roadmap** in order to
    - reduce greenhouse gas emissions by 35% compared with 2015 by 2035
    - reduce pollutant emissions by at least 35% compared with 2015 by 2035
    - **largely eliminate greenhouse gases and other pollutants by 2050**  
*(To be adopted in December 2021!)*
- ==> CCNR and EU share the **same long-term vision** with “a zero greenhouse gas emissions inland navigation sector by 2050”
- underlined the **need for new financial instruments** to achieve these environmental objectives and entrusted CCNR to lead this development
- **CCNR** launched in 2019 a study project on **financing the energy transition towards a zero-emission IWT (financial + technological aspects) on a European scale**. Several research questions have been addressed.
- Intense collaborating with CLINSH regarding the existing funding opportunities at national level
- Final results published! : <https://www.ccr-zkr.org/12080000-en.html>.

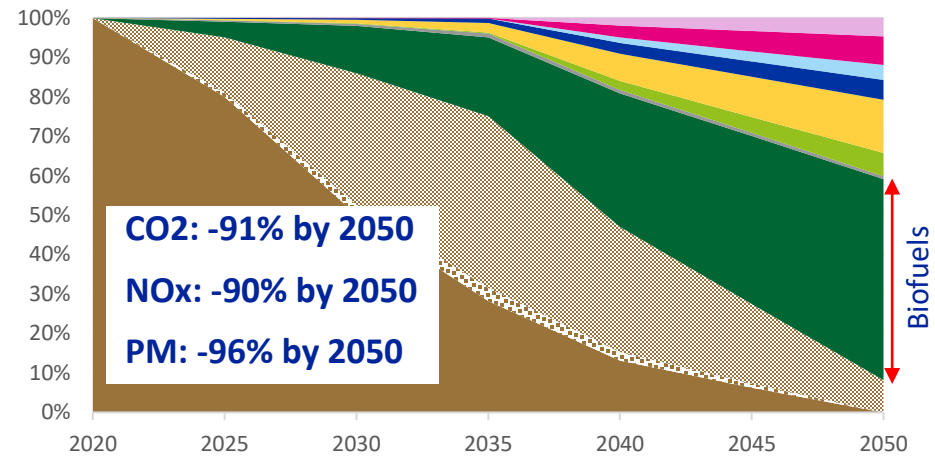
# Possible pathways and BAU scenario as starting point



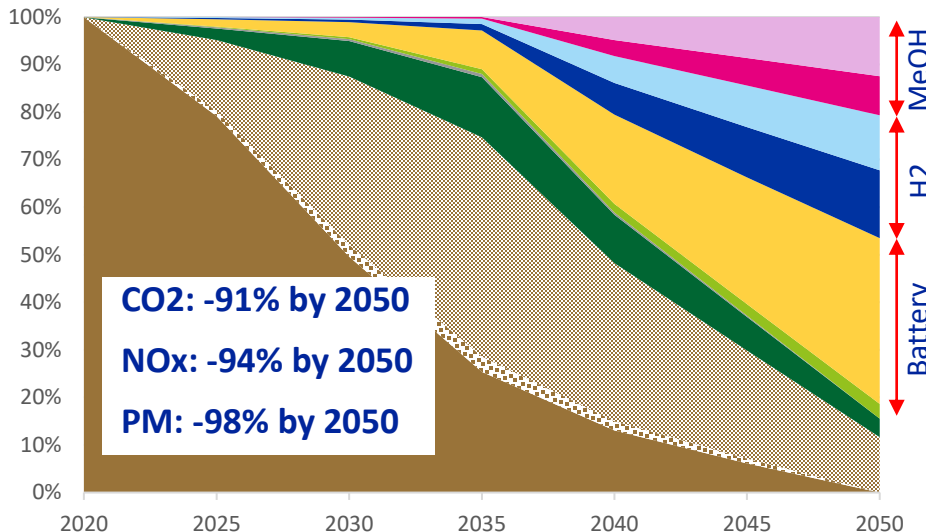
Development of fuel share towards 2050 in the “Business-as-usual” scenario



Development of fuel share towards 2050 in the “conservative” pathway



Development of fuel share towards 2050 in the “innovative” pathway



→ “Business-as-usual scenario”: evolution of technologies without any intervention & current legislative framework,

→ “conservative” pathway: fuels & techniques easy to implement, cost efficient in short-term, quite mature & already available on the market.

→ “innovative” pathway: fuels & techniques still in their infancy stage, more expensive, more promising in terms of emission reduction potential, business case may become more attractive on the long run.

→ In practice: reality in the middle

■ CCNR2 and below ■ CCNR2+SCR ■ StageV, Diesel ■ StageV,HVO ■ LNG ■ LBM ■ Battery ■ H2FC ■ H2ICE ■ MeOHFC ■ MeOHICE

\*HVO = Hydrotreated Vegetable Oil; \*LNG = Liquefied Natural Gas; \*LBM = Liquefied Bio Methane; \*H2 or MeOH FC+ICE = Hydrogen or Methanol in fuel cell or combustion engine



## Key considerations regarding the most promising technological solutions

- **Many solutions available:** Bio-Hydrogen, Bio-Methanol, Batteries, Bio-fuels...
- Technology **neutral and open approach**
- No **“one-size-fits-all”** solution : suitability of technologies depends on vessel sailing profile
- Many **uncertainties** as to technology development: regular monitoring to update investment priorities
- **Pilot projects needed** to address such uncertainties.



First push boat with Hydrogen Fuel Cell (D)



Passenger ferry CNG-electric (CH)



Ducasse sur Seine 100% electric (F)

Port of Antwerp - European Fastwater (tugboat conversion to diesel-methanol propulsion) – (B)



First vessel with exchangeable ZES battery containers for propulsion (NL)



## An important financial gap to be bridged to realise this transition

### Conservative pathway

Total accumulated TCO (30 years) gap  
• €2.65 bn in the average price scenario

### Innovative pathway

Total accumulated TCO (30 years) gap:  
• €7.80 bn in the average price scenario

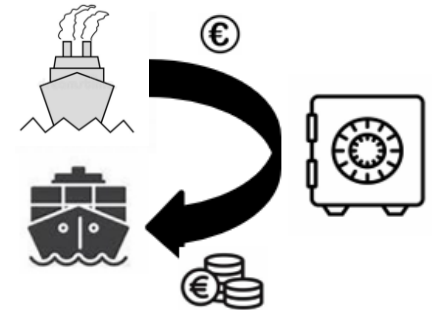
**Average of the two pathways, in the average price scenario: €5.22 bn**

- For both pathways, **higher financial gap from 2030-2035 onwards**: expected date for larger deployment of more expensive zero emission technologies
- What does it mean? **Highest amount of money to be disbursed from 2030-2035 onwards**

Learning from existing schemes, there could be potential for a polluter pays scheme for IWT

➤ **A differentiated and earmarked contribution from the sector:**

- based on emission profile of the vessel
- a label system as a basis for differentiation
- revenues flowing back to the sector (i.e. when accompanied by public grants).



Also an option to consider to provide an incentive according to CLINSH. Need for an emission labelling system also highlighted.

There are essential pre-requisite for setting up a sector contribution were identified

- Grants from public bodies available in parallel
- Must not be implemented in parallel to a tax
- Acceptance by the relevant actors
- Must be compatible with international convention.



While a contribution from the sector is necessary, it will not be enough on its own to bridge the financial gap towards a zero emission fleet in 2050!

## TCO Gap (average)

€5,22 billion

## Sector contribution (average)

€1,3 – €2,6 billion (*calculation based on 4-8 cents per litre of fuel*)  
= 25% -37% TCO gap (average)

## Reserve Fund

€26.8 million

= 0,5% TCO gap (average)

Remaining part to be covered by **public grants** to make the business case

## The financial challenge: a considerable financial gap to realise the energy transition (several billions) !

- **Sector cannot finance the energy transition by own means** (high costs and lack of investment capacity)
- **Current framework conditions = no incentive for vessel owners to invest in “greening”, no return on investment** (no business case)
- **Significant grants needed** to create a business case
- **No business case = no financing/access to loans** (even if low interest rates, guarantees... )



### A possible solution to address such challenges?

- ⇒ **A European instrument dedicated to IWT, based on mixed sources (public and private), including a sector contribution**, could play an important role!
  - **economic, technical, legal and practical feasibility questions** remain to be addressed
  - such an instrument should be **accessible to all vessel owners** from **Member States of the CCNR, the EU as well as of Danube riparian States connected to the European waterway network (level playing field)**.
- ⇒ **Regulatory actions will also be needed to enable a business case, some recommendations are provided in CLINSH!** Stage V requirement to apply to existing fleet by 2035; provide investment support up to 80% over price difference (BAU vs “greening”)





THANK YOU VERY MUCH FOR YOUR ATTENTION

Lauer Roux: [l.roux@ccr-zkr.org](mailto:l.roux@ccr-zkr.org)



## The sector cannot finance the energy transition on its own

- **high cost of the energy transition**
- **lack of investment capacity and access to commercial loans** (i.e. 70%-80% of the fleet already covered by a mortgage)
- State-guarantees and temporary grant schemes at European level or national/regional level already play a role today in supporting the transition
- In some cases only, financing for new powertrains organised entirely through own capital.
- **No return on investment.** Greening comes with additional costs and shippers not ready to pay “more” for greener ships

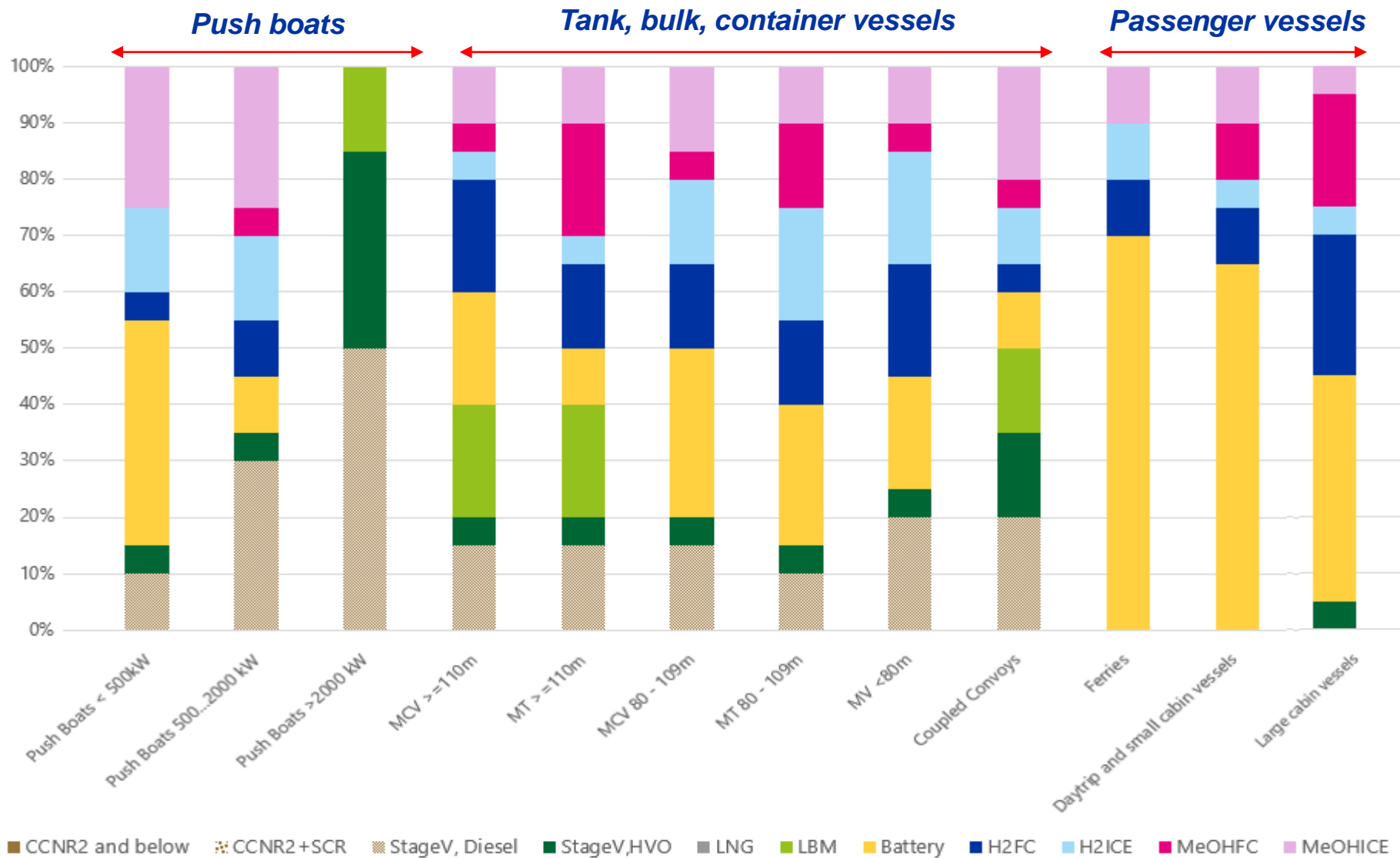
## Existing grant schemes however do not provide sufficient and stable stimulus to financially support the energy transition of the sector

- Current grant schemes **are not suitable for most of small individual vessel owners**
- **EU funding does not result in a large-scale uptake of greening techniques:**
  - programmes focus on few pilot vessels (& research activities).
  - Hardly any resources devoted to vessels (mostly infra).

# Research question C – example of transition pathways



**EXAMPLE: Innovative pathway - technology share for each fleet family in 2050 (newbuilt and existing fleet)**





### Regarding the financial aspects

- **Evaluation of study results within the CCNR ongoing**
- **PLATINA3** will aim at developing an action plan towards the development of such a European IWT instrument and attempt to refine the proposal. **Results of CLINSH can provide food for thought in this exercise!**
  - Before 2028 (next MFF): use existing funding programmes to build up a dedicated instrument (earmarking towards IWT) and preparing the grounds for the next MFF. Priority actions from the action plan to be addressed.
  - After 2028 (MFF 2028-2034): fully operational financial instrument dedicated to IWT energy transition

### Regarding the technical aspects

- **Adoption of CCNR roadmap towards a zero-emissions inland navigation sector by December 2021**
- **CCNR commits to regularly monitor the development of “greening” technologies.** CCNR to decide on the opportunity to revise the report relating to the economic and technical assessment of the technologies by 2025.