28th September 2021

Intergroup SEArica meeting

“Energy transition & financing of future-proof inland waterway transport in Europe”

CCNR study on the financing of the energy transition of the IWT sector towards zero emission

Bruno Georges
Secretary General

CCNR
CENTRAL COMMISSION
FOR THE NAVIGATION OF THE RHINE

The organisation and Rhine navigation

CCNR

- Governs navigation on the Rhine
- Oldest international organisation in activity (200 years) based on Mannheim Convention (150 years)
- 5 Member States, 11 observer states and various observing international organisations
- Intense participation of industry via numerous recognized international associations
- Guaranteeing freedom of navigation and promoting navigation on the Rhine
- Binding regulations from Basel to the Sea (police/operational rules, vessel technical requirements, crew qualification and manning)
- Political, organisational, technical and social innovator
- Strategy (sustainable inland navigation, vision of zero emissions, cooperation with EU …)
- Some two thirds of IWT goods transport in Europe takes place on the **Rhine**

Particularities of inland navigation

- Navigation in confined surroundings, transiting of locks, fluctuating water levels + bridge clearances, vessel manoeuvrability

  ⇒ very different from those of maritime navigation

- **Inland navigation not regulated by IMO**

  ⇒ National, European and international framework (ships design + equipment; crew qualifications; ship operation; information technology)

  ⇒ **CCNR** regulations as pioneer

    ⇒ the first in the world to introduce emission limits in inland navigation and rules regarding LNG

    ⇒ The first to define international definition of levels of automation in inland navigation

  ⇒ **CESNI** for common technical standards

    ⇒ Application of standards through referral in complementary EU and CCNR legislations

Strategic objectives

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**

*(*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**

→ Final results have just been published! : https://www.ccr-zkr.org/12080000-en.html.

CCNR Study – identify possible transition pathways as starting point

A long and complex transition towards zero emission in 2050: pathways must be promptly identified to provide best suited support

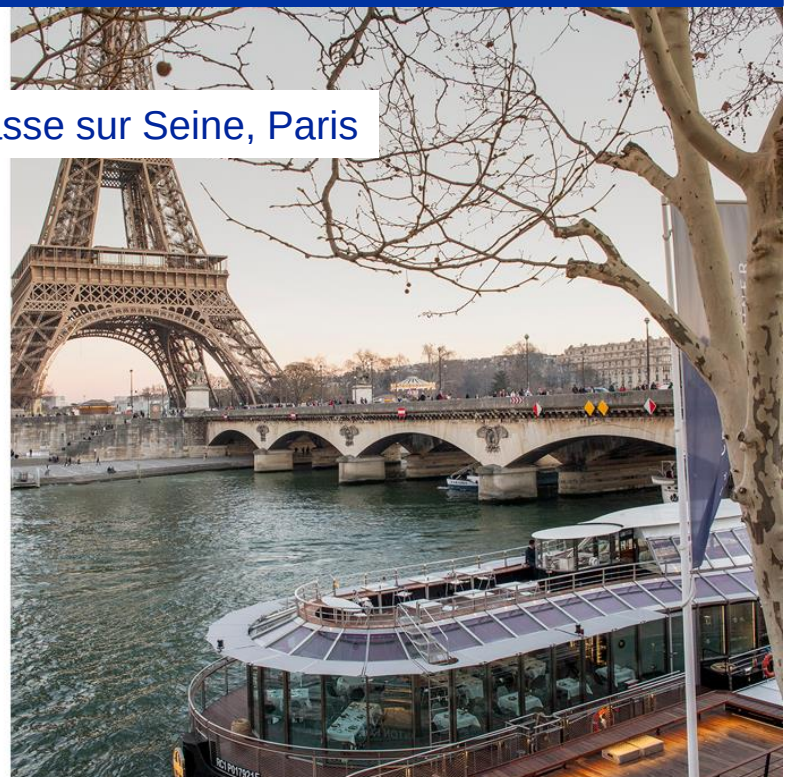
→ **Proposals for two transition pathways:**

→ **A conservative one:** fuels & techniques easy to implement, cost efficient in short-term, quite mature & already available on the market. ***i.e. advanced biofuels***

Advanced biofuels in combustion engines are for instance particularly suitable for vessels requiring high fuel consumption (i.e. pushed convoy between Rotterdam and Duisburg)

→ **An innovative one:** fuels & techniques still in their infancy stage, more expensive, more promising in terms of emission reduction potential. **i.e Hydrogen or methanol in fuel cells, batteries**

Batteries particularly suitable for vessels operating locally with a limited energy demand like ferries and day trip vessels (i.e. Ducasse sur Seine)



Ducasse sur Seine, Paris

CCNR Study – the financial challenge

The financial challenge: a considerable financial gap to realise the energy transition (several billions - 10 bn€ max price scenario) !

- Energy transition accompanied by technological uncertainties**, No "one-size-fits-all" solution!** Suitability depends on vessel sailing profile

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- **Sector cannot finance the energy transition by own means** (high costs and lack of capital)
- **Current framework conditions = no incentive for vessel owners to invest in "greening"** (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 address such challenges?

⇒ **A dedicated IWT European instrument, 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 by competent organisations
- 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).**

Cooperation with European Parliament

- Wish of **close cooperation with the European Parliament on those matters**
  - We remain available in case of any questions regarding IWT, or in case you are interested in a more in-depth presentation of the results
  - The CCNR Secretariat seat is in Strasbourg, in the Palais du Rhin, our door is open should you wish to visit the Palais du Rhin and learn more about us
- **Adoption of the EP report "Towards Future-proof inland waterway transport"**
  - CCNR pleased with the adoption by an overwhelming majority of this report by the European Parliament.
  - Important to always highlight inland waterway transport and differentiate it from maritime transport.
  - A dedicated European inland waterway fund highlighted in the report:
    - What is the vision of the European Parliament for this Fund?
    - How can the CCNR provide support?

THANK YOU FOR YOUR ATTENTION

Bruno Georges

b.georges@ccr-zkr.org

European waterways and fleet

- ***Some two thirds of IWT goods transport in Europe takes place on the Rhine***
- **More than 15,000 vessels** in European fleet & new buildings = 100 / year
- **But an ageing fleet both for the Danube and the Rhine**
- **Long lifetime of vessels** → those which enter the market today will operate in 2050

CCNR Study – a possible sector contribution?

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

A contribution to a European instrument dedicated to IWT could consist in earmarked "contributions" from the sector which are in turn used for greening the fleet when accompanied by public grants.

- **A label/energy index as a basis for a differentiated contribution**
- **Essential to engage in a discussion with the profession to identify:**
  - **The level of the contribution: 0,04 to 0,08 euros per litre of bunkered fuel proposed in the study**
  - **The modalities according to which such a contribution would be raised.**
- **However, having both a tax and a sector contribution in parallel would be a too high financial burden for the industry.**

Essential pre-requisite for setting up a sector contribution were identified, for instance

- **grants from public bodies** are demanded in parallel to fill the funding gap
- **Compatibility with international agreements must be ensured** (Mannheim and Belgrade Convention)

CCNR study – identify the financial gap to be bridged

Conservative pathway:

- Growing number of vessels has to finance the installed technologies
- TCO gap gradually increases over time

Total accumulated TCO (30 years) gap :

- **€2.65 bn in the average price scenario**

Innovative pathway:

- More investments in technologies such as H_2FC's and batteries
- TCO gap increases over time with a peak in 2045 compared to BAU

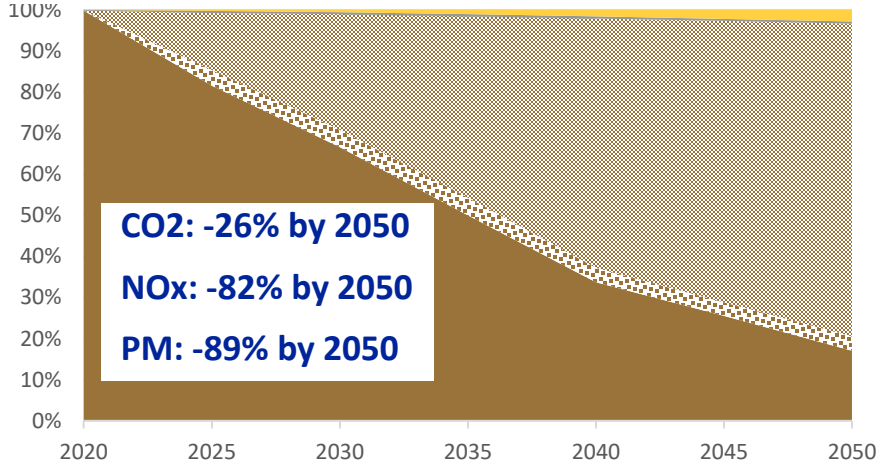
Total accumulated TCO (30 years) gap:

- **€7.80 bn in the average price scenario**

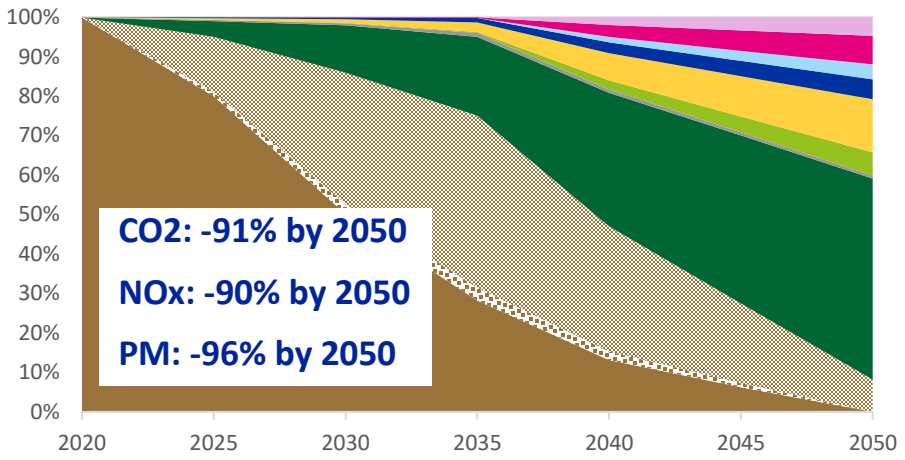
For both, from 2030 onwards, higher financial gap due to application of more expensive zero emission technologies.

CCNR Study – identify possible transition pathways as starting point

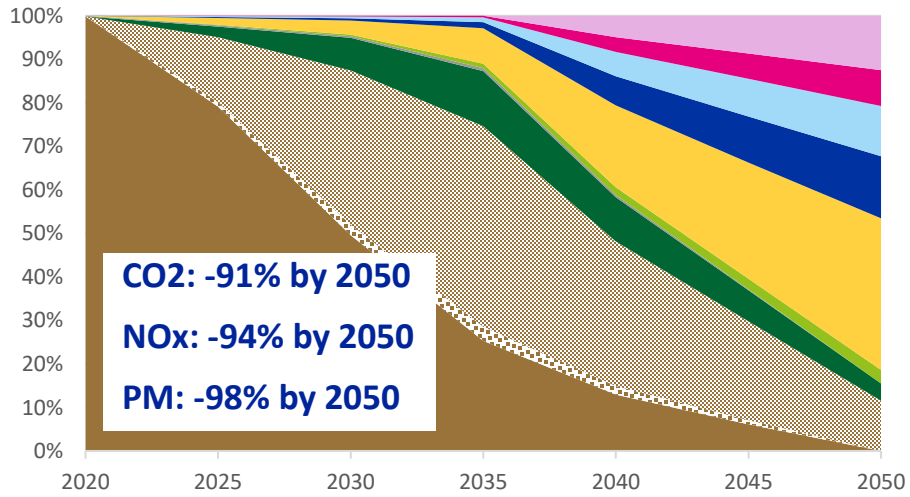
Development of fuel share towards 2050 in the "Business-as-usual" scenario



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

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