


Panel discussion on fleet innovation towards energy transition

CCNR roadmap and promising technologies

**EBU Event Brussels on the role of IWT in the
framework of EU's mobility and supply policy**

17 November 2022

Lucia Luijten, Secretary-General of the CCNR,
l.luijten@ccr-zkr.org



Which technologies are the most promising to reach 2030 emission goals?

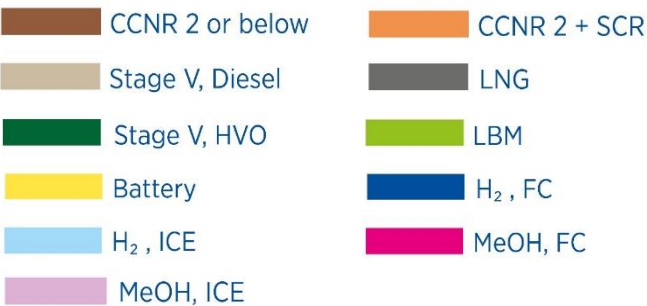
Answer based on the CCNR roadmap on reducing emissions in inland navigation



KEY CONCLUSIONS

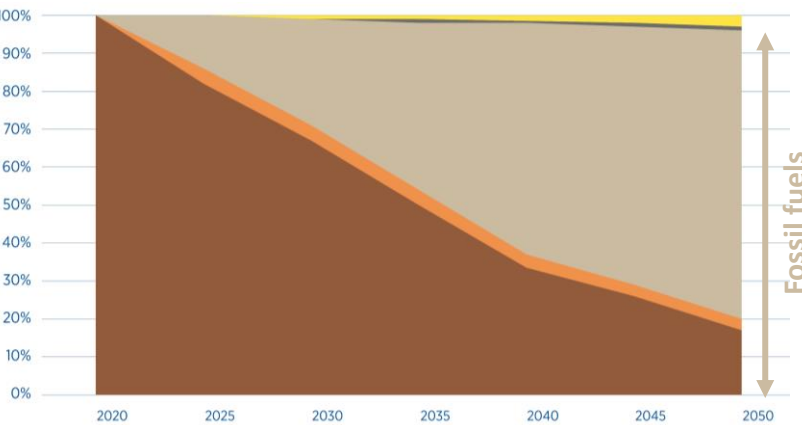
- » **Many technological solutions available** but with different levels of maturity
- » **No “one-size-fits-all” solution**
- » Many **uncertainties** as to technology development, prices, availability of fuels
- » Technology **neutral and open approach**
- » **Reality in the middle** of the two pathways

Transition pathways for IWT by 2035 and 2050



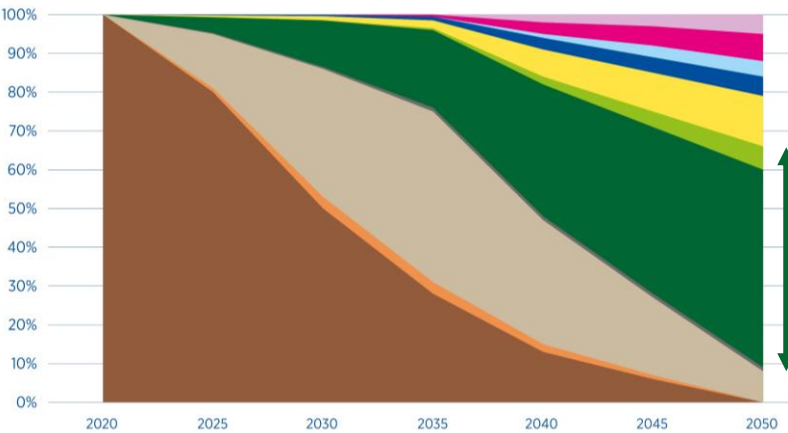
The graphs below describe the development of fuel share (in %) within the fleet (new and existing vessels) towards 2050...

... in the “business-as-usual” scenario



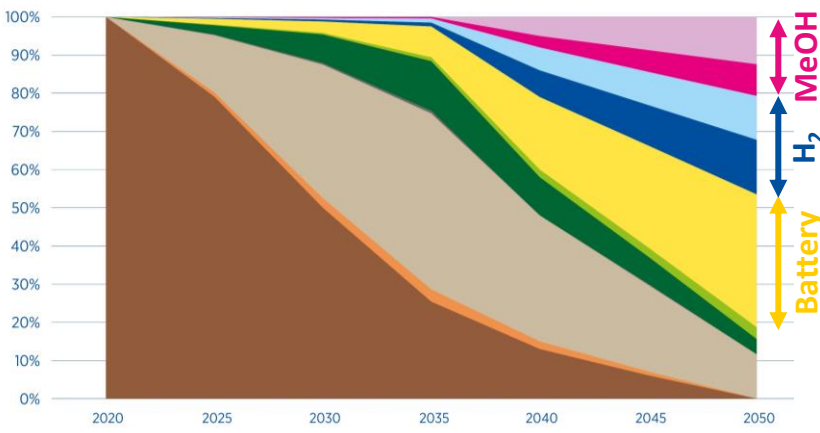
GHG: -22% by 2050
NOx: -76% by 2050
PM: -83% by 2050

... in the “conservative” pathway



GHG: -91% by 2050
NOx: -90% by 2050
PM: -96% by 2050

... in the “innovative” pathway



GHG: -91% by 2050
NOx: -94% by 2050
PM: -98% by 2050

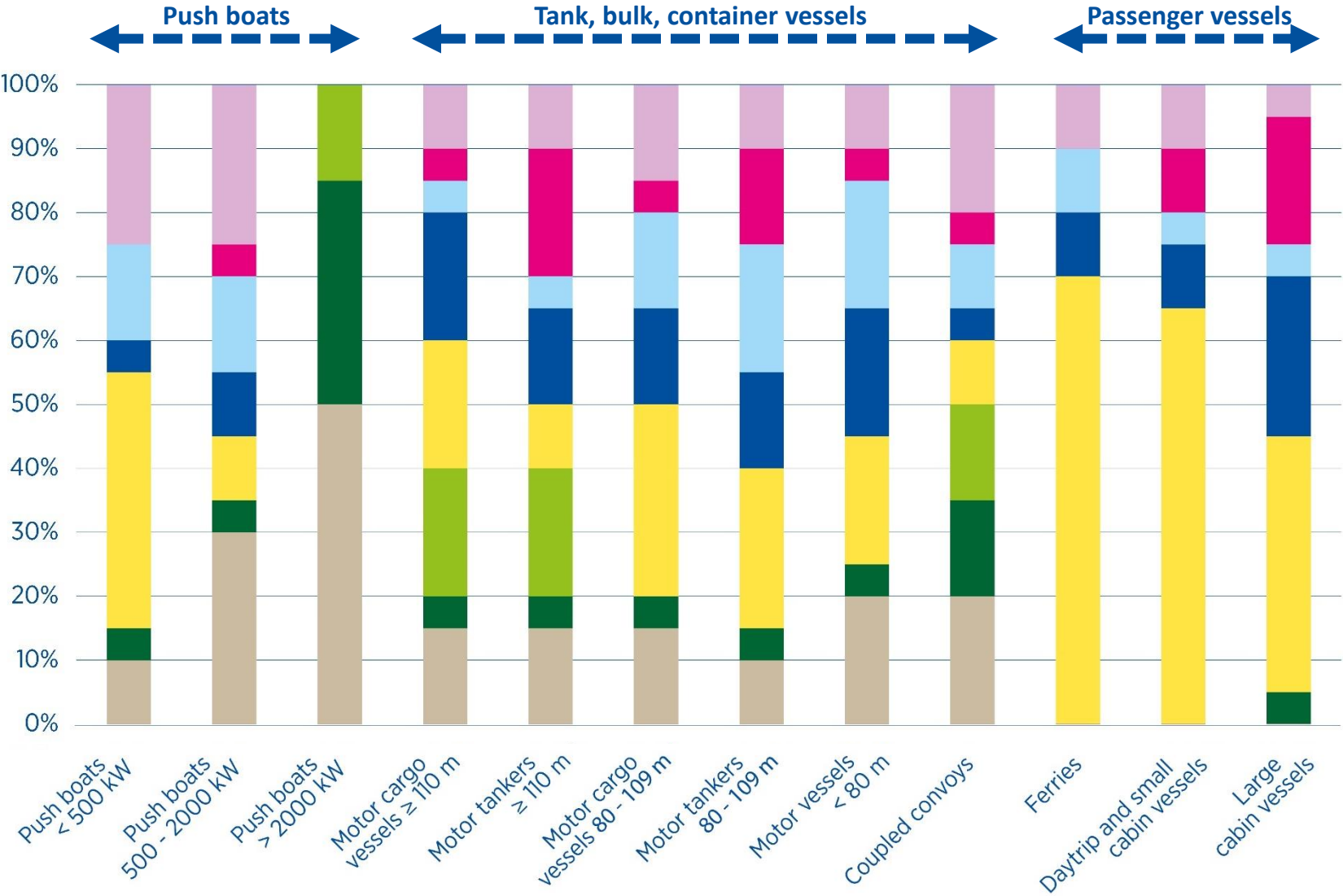
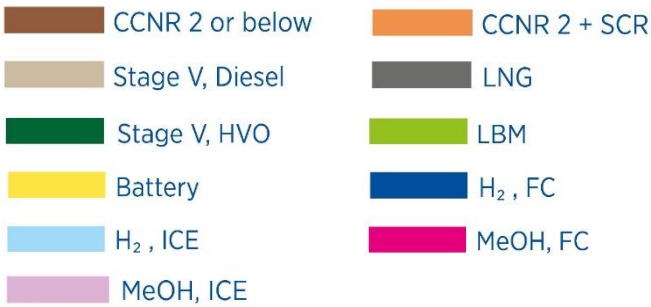
Transition pathways for IWT by 2035 and 2050



EXAMPLE:

Innovative pathway –
technology share for
each fleet family in 2050

(new build and existing
vessels)





How to achieve intermediate targets?

Air pollutants: reduced to a large extent with combustion engine equipped with modern aftertreatment.

Reduction of GHG emissions is the most challenging part.

- » Where zero emission propulsions are available investments could be made before 2035.
- » Development of on-shore power supply.
- » Investment in Stage V combustion engines.
- » As much as possible, installation of electric drivetrains enabling a modular system approach with different energy sources.
- » Use of alternative drop-in fuels (i.e. HVO or bio-LNG) as far as they are produced from sustainable origins.





What are the main challenges?

Many challenges lie ahead: 3 perspectives



FINANCIAL

1 - important financial gap

2 - lack of incentives to trigger investment decision on the side of individual vessel owner

3 - lack of certainty that the investment made will be future proof.

COMMERCIAL

4 - lack of certainty regarding the demand for low/zero emission vessels.

TECHNOLOGICAL

Lack of certainty regarding

5 - the technologies which are the most adapted to my vessel

6 - the availability of alternative fuel infrastructure


7 - the availability of fuels (quantity and sustainable origin)

Current steps taken by CCNR and its Member States?

Regulations and standards provide for legal certainty, which in turn facilitates investments in new technologies.

Safe deployment as well as public support and confidence in the new technologies and energy carriers is critical.

- » **Appropriate regulatory framework** for the use of alternative fuels and batteries
- » Support to **pilot projects** and permission processes
- » **Funding programmes** to support the energy transition
- » A **labelling system** for inland navigation as an important tool to stimulate the transition
- » List of **innovative vessels**



THANK YOU
very much for your
attention!

Any questions?

For more information, check out our website:

www.roadmap.ccr-zkr.org

<https://www.ccr-zkr.org/>

<https://www.cesni.eu/>



CCNR

CENTRAL COMMISSION
FOR THE NAVIGATION OF THE RHINE