Developing hydrogen vessels and the art of multitasking

Brødrene Aa - MANCRAFT - Florø skyssbåt - Flora municipality
Norway

- 97% hydro power
- surplus energy
- export
- transmission loss

Green hydrogen
Regulations

- Coordinate regulation process with the development contract for a HFC car ferry from the Norwegian Road Authorities – ready for operation in 2021

- In general: Close dialogue between ship designers, builders, class and Norwegian Maritime Authority
Acceptance

• Local involvement – more likely to accept and adapt

• Communication is key
  - Acceptable risk
  - We are not alone
  - Reducing emissions
  - Solution for the future

• Transfer of knowledge is empowering
  - Local public administration
  - Operators, crew, maintenance
  - Schools and education system
Pilot vessel(s)

- We've done it before – and it started a revolution at sea
- Public procurement and funding schemes are key......
- Private customers
- Public–private partnerships and focus on local value chains can make it easier for the industry to plan ahead
  - Avoid the «valley of death»
  - Scalability and future markets
  - Recruitment and training
Customer for vessel

- Development contract for a HFC high speed passenger vessel from Trøndelag County Council – includes concept development, but not building and testing
Hydrogen delivery chain

Possible hydrogen tanking at Fjord Base, Florø
Incentives

• Higher pricing of CO2 emissions in general, revise the regime for reduced fees on maritime diesel
• Put a value on the HSE profile of vessels with ZE technology
• Reduce taxes and fees for hydrogen vessels (energy costs for hydrogen production, classing of ships, port fees etc)
• Compensation for regional authorities developing and using new technology (capex-opex)

The most important incentives for EV owners (Norway EV Association)
Incentives

Success funding
- per boat/year
- per route
Contact information

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