



CHALLENGE

ZERO-EMISSION AS A NO-REGRET INVESTMENT



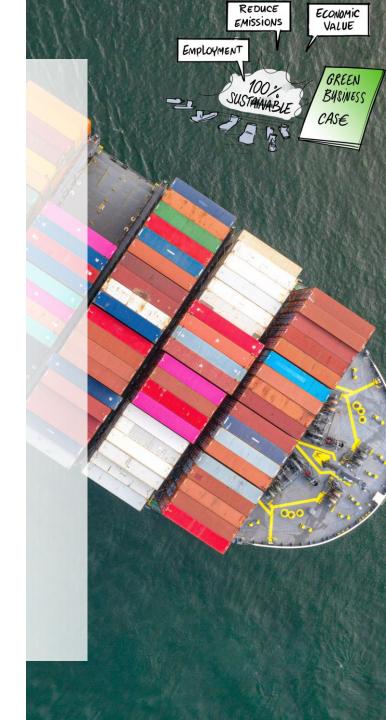
MOTIVE

-) Market Demand
-) Regulatory requirements



UNCERTAINTY

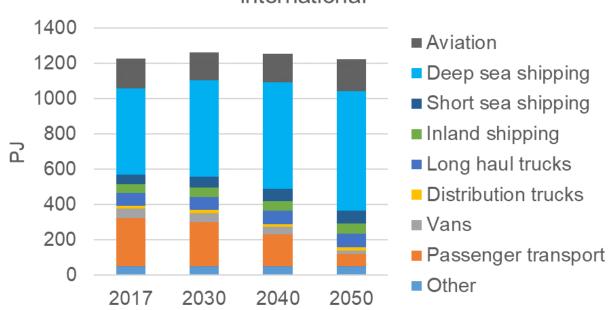
-) 'Right' Energy carrier availability
- Yer Technology availability and applicability
- Direction via strategic clarity



CHALLENGE

SUSTAINABLE ENERGY CARRIER AVAILABILITY

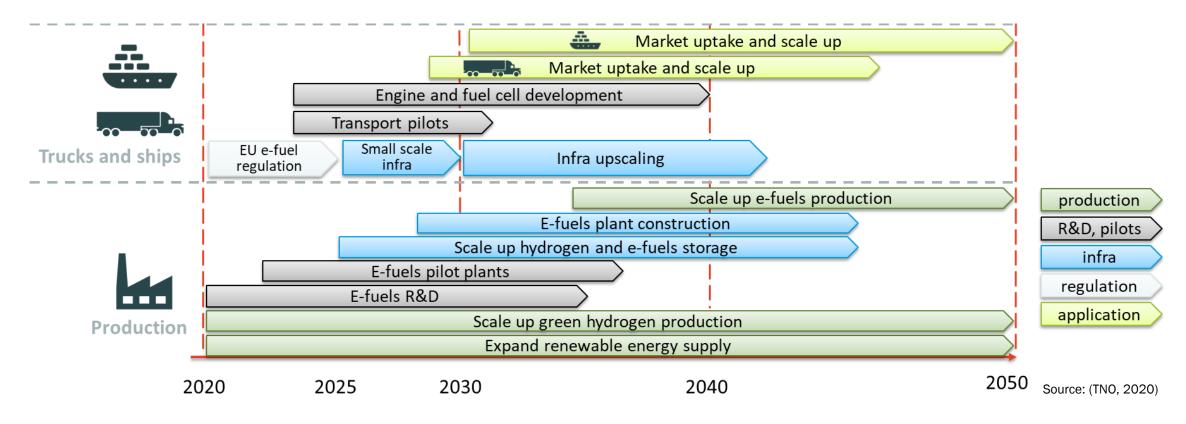




Source: E-FUELS: TOWARDS A MORE SUSTAINABLE FUTURE FOR TRUCK TRANSPORT, SHIPPING AND AVIATION (TNO, 2020)



INDICATIVE PATHWAY

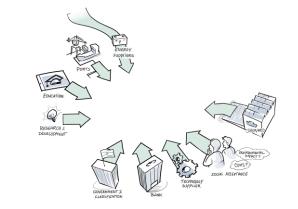


- > Structure of future 2030+ EU energy system is still very uncertain.
- Large scale market uptake of E-fuels is not to be expected before 2030+ as large quantities of sustainable electricity are needed.



SOLUTION

LEARNING BY DOING IN CRITICAL ECOSYSTEMS



THERE ARE MANY QUESTIONS IN THE SECTOR:

-) What is the impact of alternative fuels on the ship design and operation?
-) How will the future power & energy systems look like and perform?
-) How can we compare solutions and make the right choices, technically and financially, in the early stages of ship design?
-) To start answering those questions several (inter)national research projects are initiated in the sector.



Everlong

MAGPIE



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GREEN MARITIME METHANOL

LEARNING BY DOING: SHIP DESIGN CASES



-) Safety guidelines for all stakeholders
-) Technical basis for short term (<3 years) launching customership



Trailing suction hopper dredger



Inland patrol vessel



Hydrographic Survey Vessel



Cable-laying vessel



Port patrol vessel



Container vessel

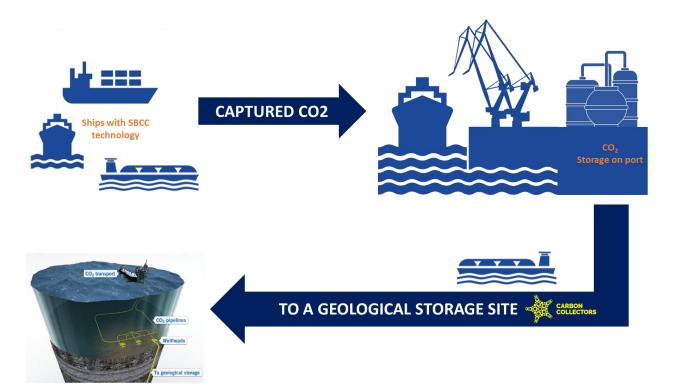




EVERLONG: LNG SHIP BASED CARBON CAPTURE

TOWARDS LNG ZERO

-) Safety guidelines for all stakeholders
-) Technical basis for short term (<3 years) launching customership</p>
-) €70,- CO2eq pricing for feasible business case for standardized LNG based SBCC



Partners



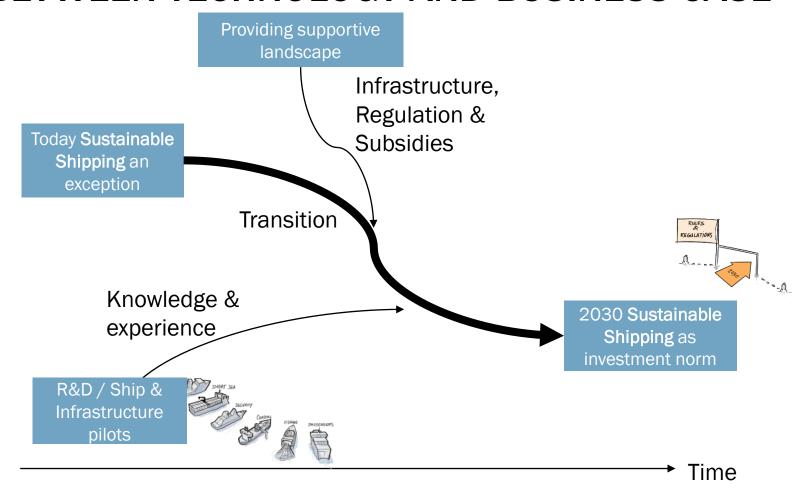
Advisory Board (open for new members)





VISION

SYNERGY BETWEEN TECHNOLOGY AND BUSINESS CASE



The rate of transition is dependent on the rate of the development 'sustainable business case'



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JURRIT BERGSMA

Tel: +31 6 11278934

E-mail: Jurrit.Bergsma@tno.nl

