

VANZETTI ENGINEERING

Fueling Tomorrow 2024

ORGANIZZATO DA



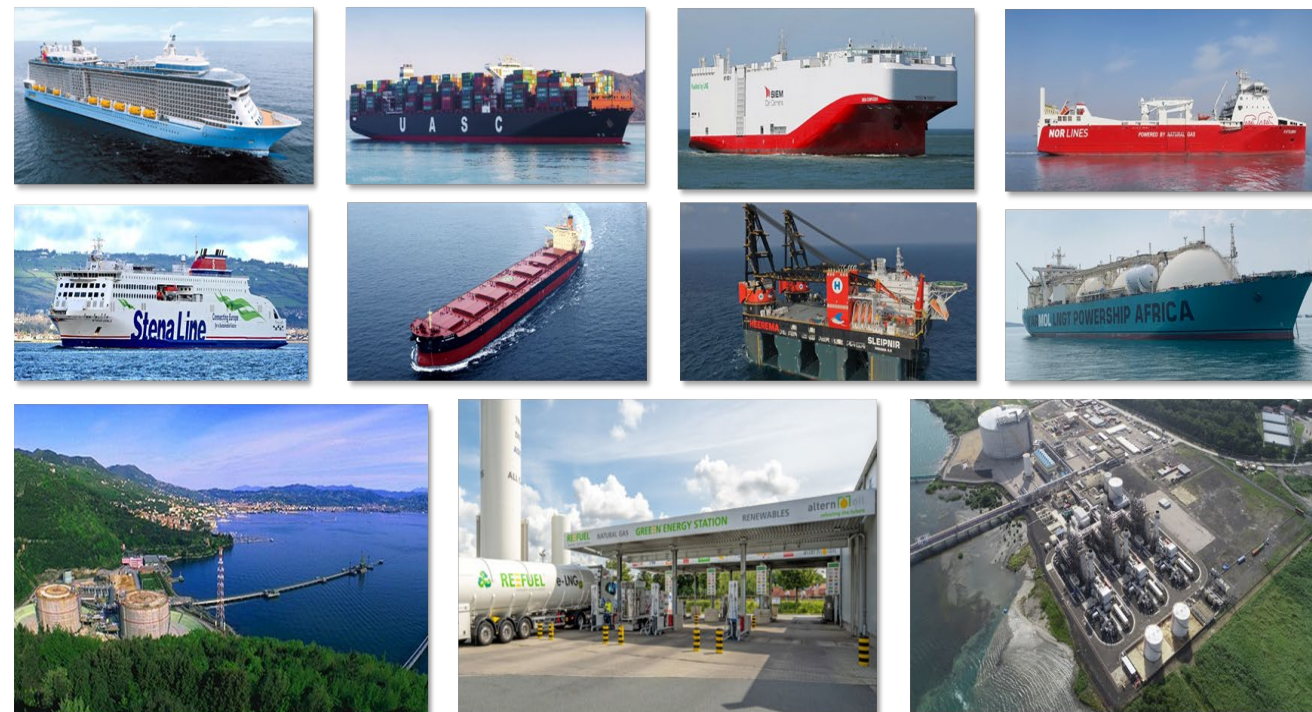
BolognaFiere, 01 ottobre 2024

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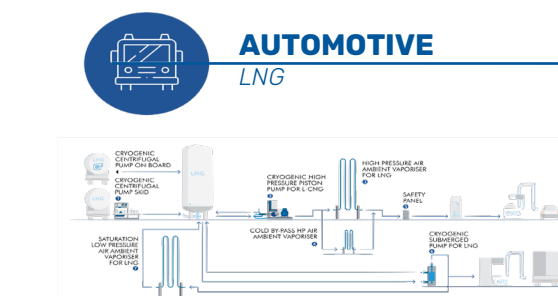
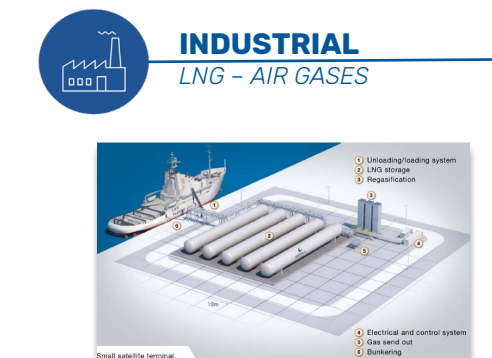
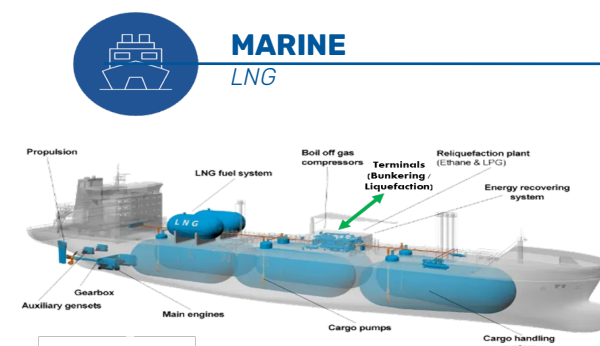


FACTS & FIGURES:

- 40 years of experience
- About 44 M€ sales in 2024 with a CAGR of 20% YoY over last 5 years
- +80 people in constant growth
- Business Model focused on R&DIT with a local supply chain
- World Market Leader in Marine LNG Fuel Gas System (+20% mkt share)
- Full LP/HP pumps product range for Marine Fuel Gas System
- Submerged pump technology, with its own electrical motor and sump

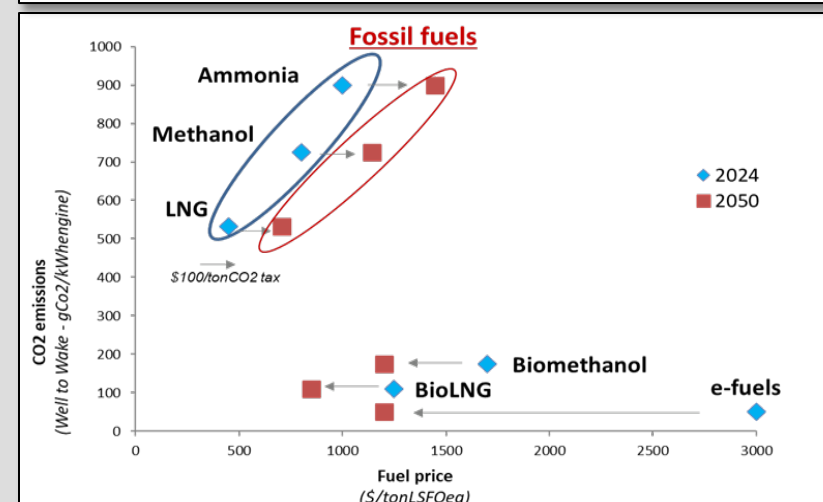
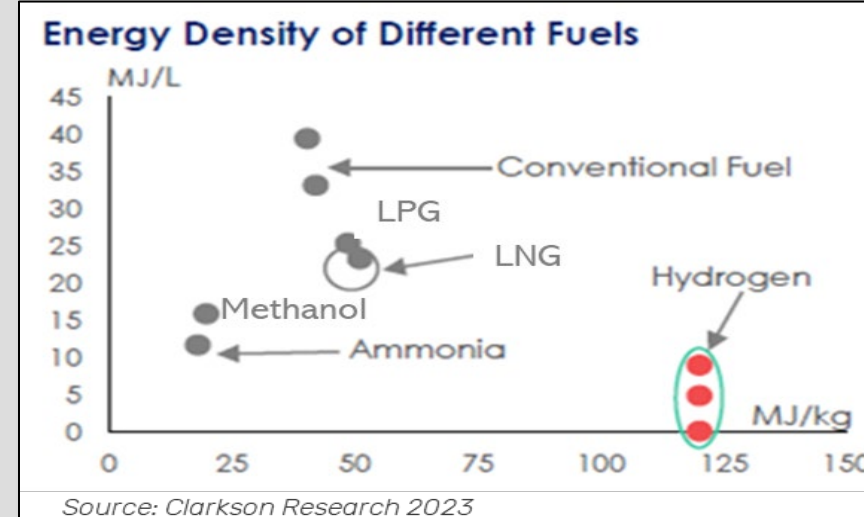


*R&DTI: Research, Design, Development, Integration and Testing

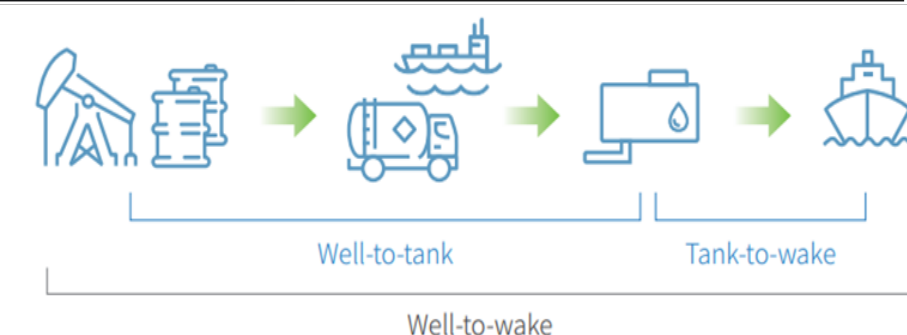


SHORT TERM (up to 2030): LNG

- Is LNG the best transition fuel in terms of Energy Density among the alternatives?
- Is LNG the best transition fuel in terms of Carbon Footprint (GHG WtW) ?
- Is LNG the best transition fuel in terms of Price ?



	W t T	T t W	W t W	GHG
HFO	13,5	78,2	91,7	100%
Hydrogen	132,0	0,0	132,0	144%
Ammonia	121,0	0,0	121,0	133%
Methanol	31,3	69,1	100,4	109%
LPG	7,8	74,6	82,4	90%
e-Diesel	0,0	76,4	76,4	83%
LNG	18,5	56,8	75,3	82%
HVO (Bio)	0,0	72,0	72,0	79%
Bio Diesel (Red II)	0,0	43,0	43,0	47%
Bio LNG	0,0	16,0	16,0	18%
e-Hydrogen	3,6	0,0	3,6	4%
e-Methanol	0,0	1,8	1,8	2%
e-Ammonia	0,0	0,0	0,0	0%



Source: Carbon Neutral Solution for Marine Panasia 2023 & Fuel Transition - Clarkson 2024

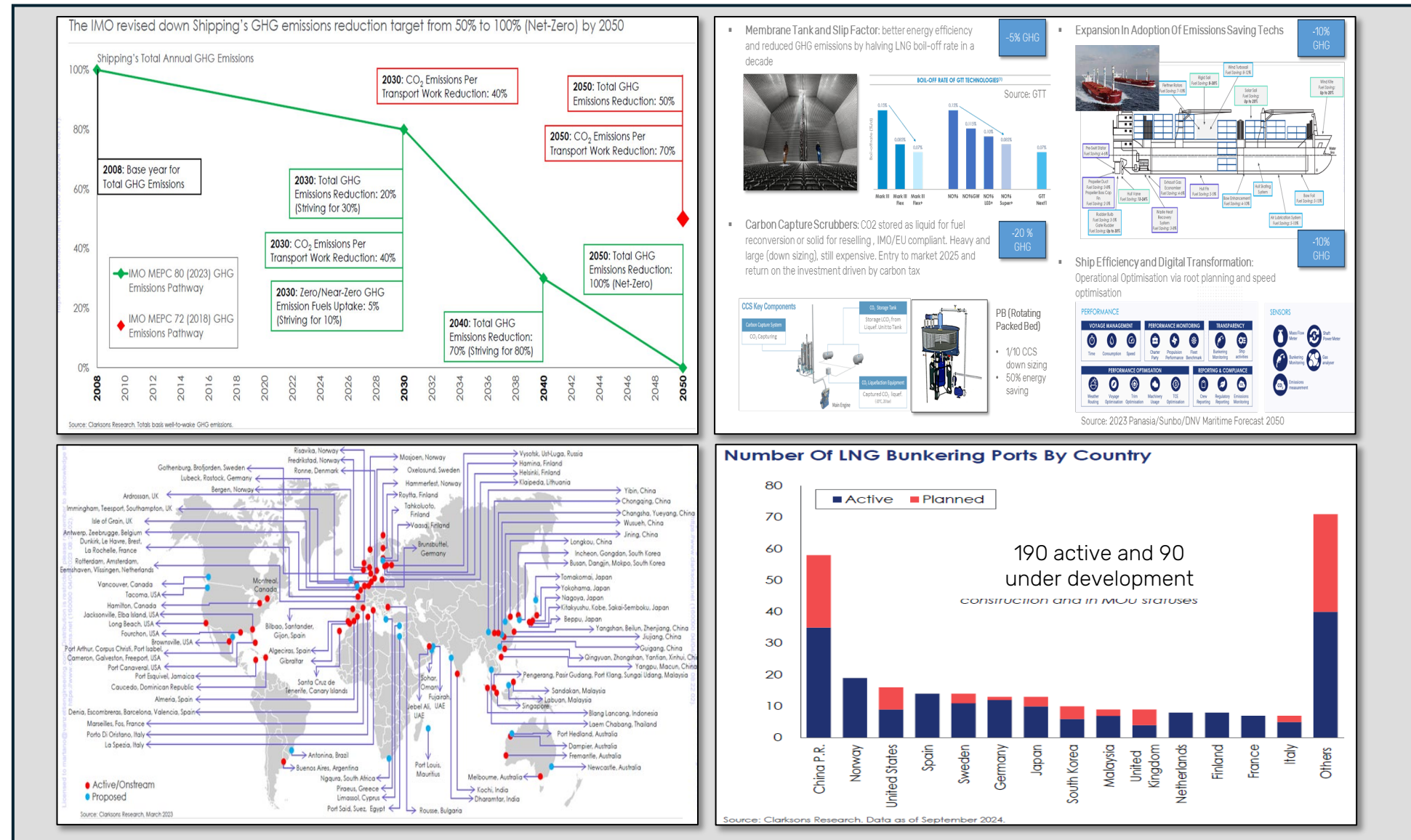
LNG is the best compromise among alternative fuels in terms of Performance, GHG (WtW) and Price above all if we consider future Bio-LNG and the lack of renewables

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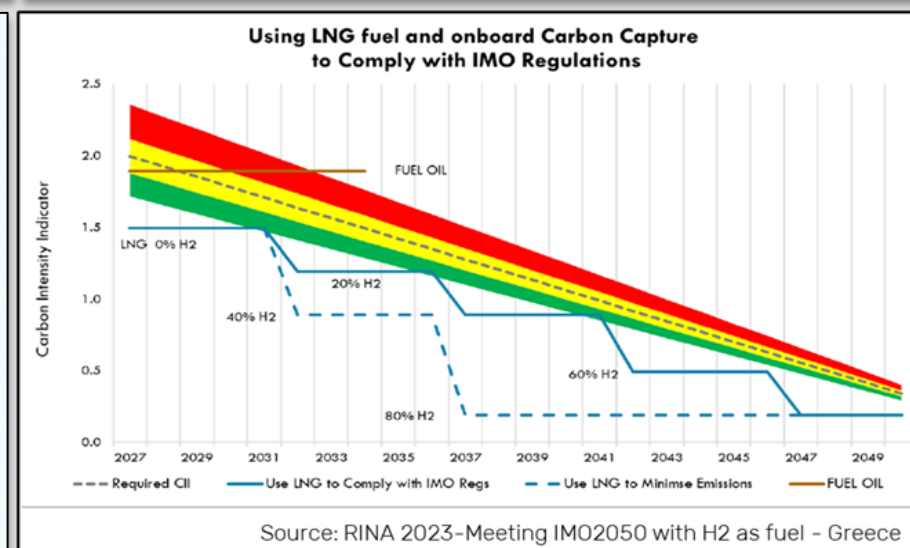
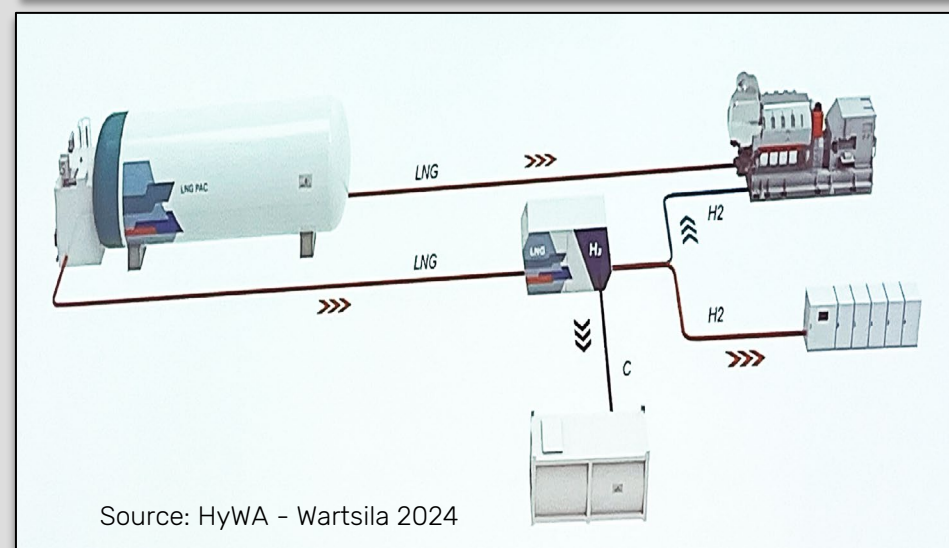
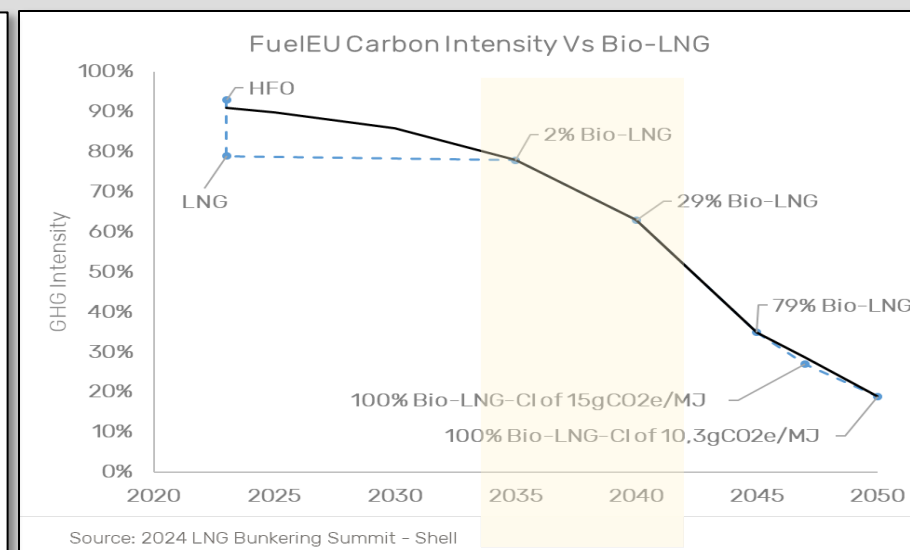
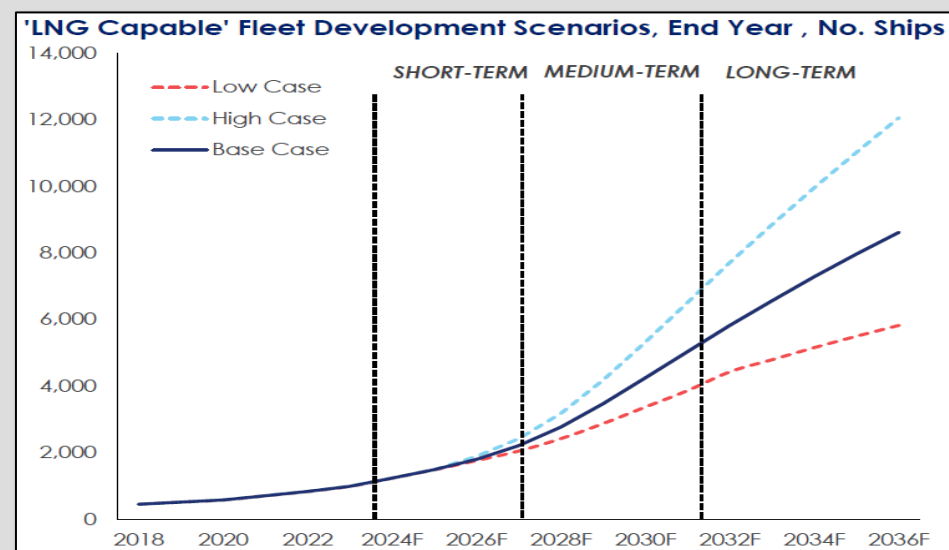
- Is LNG compliant with IMO/Policies (2030)?
- Is there any GHG reduction technologies that can complement LNG performances and extend LNG life in a systemic approach?
- Is LNG the best transition fuel in terms of existing Logistic Infrastructure?



LNG is compliant with IMO Policies in the short term (2030), has the wider bunkering logistic Infrastructure and LNG GHG reduction technology adoption can contribute to extend its life (eg. Shaft Generator)

LONG TERM (beyond 2035): Green LNG, e-LNG and Future Hybrid Propulsions (H2)

- a. How is market reacting?
- b. Bio-LNG blending introduction can extend LNG life up to 2040?
- c. Will blending of LH2 extend life of LNG / Bio LNG up to 2040?



LNG steam reforming / catalytic cracking on board not ready yet. Nevertheless 25% H2 blending will extend LNG life of few years (more with Bio-Gas blending) but with an increase of CAPEX/OPEX costs for CO2 Storage to be further assessed