H2 in shipping 6 October 2020

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2020 World H2 Congress 12 2



WHO WE ARE

H2 in the Port of Civitavecchia 🔢 3



T&E: 26 Countries 63 **Members** National experts



Transport -Europe's biggest transport problem

Figure 2: European Union emissions indexed at 1990 levels. The decarbonisation target line includes a 55% reduction in 2030 and assumes full decarbonisation by 2050. Transport (including international aviation and shipping) in 2018 was almost 30% above 1990 levels^{viii}.



Immediate action needed on all transport modes, including shipping

Only use H2 and other electrofuels for transport modes where direct use of electricity is not technically feasible.



Aviation (and shipping!) will require huge rollout of renewable electricity for H2 and PTL





SHIPPING



Shipping needs a combination of energy efficiency and sustainable zero-carbon fuels

Souce: University College London, 2019

Efficiency measures

Some of the needed emissions reductions can be achieved immediately using technical and operational energy efficiency



½ of ship GHGcan be cutcost-effectivelyby energyefficiency alone



Fair & effective carbon	Green H2 & ammonia	30+% of ship GHG can
pricing as cornerstone	offer potential to	be reduced by energy
of climate action	eliminate ship GHG	efficiency alone
Include shipping in EU ETS under MRV scope, establish a Fund to deploy H2/Ammonia ships	FuelEU Maritime initiate should mandate a combined energy efficiency and low-carbon fuel standard for ships. It should also exclude biofuels from its scope.	

T&E response to EU consultation

7 Only green hydrogen is zero-carbon hydrogen



Carbon intensity of H2 as transport fuel

Life cycle emissions of liquid hydrogen production



Efuels only as clean as the electricity used





RED II & Renewable Fuels of Non-Biological Origin



RED II requires minus 70% GHG for RFNBOs. H2 as transport fuel must be almost completely produced with additional renewable energy (but not biomass).