H2 in shipping
6 October 2020

Geert De Cock
Electricity & Energy Manager

TRANSPORT & ENVIRONMENT



WHO WE ARE

T&E:

26 Countries

63 Members

6 National experts



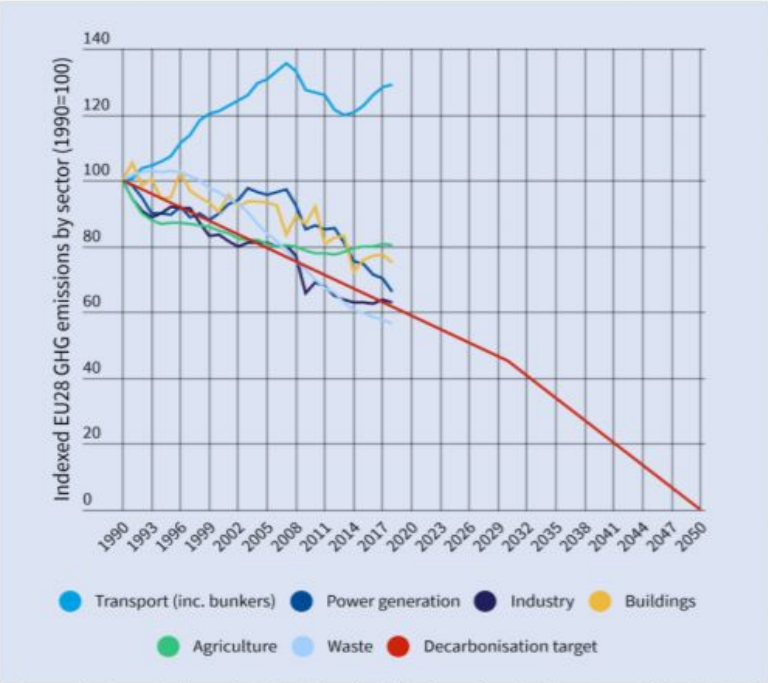
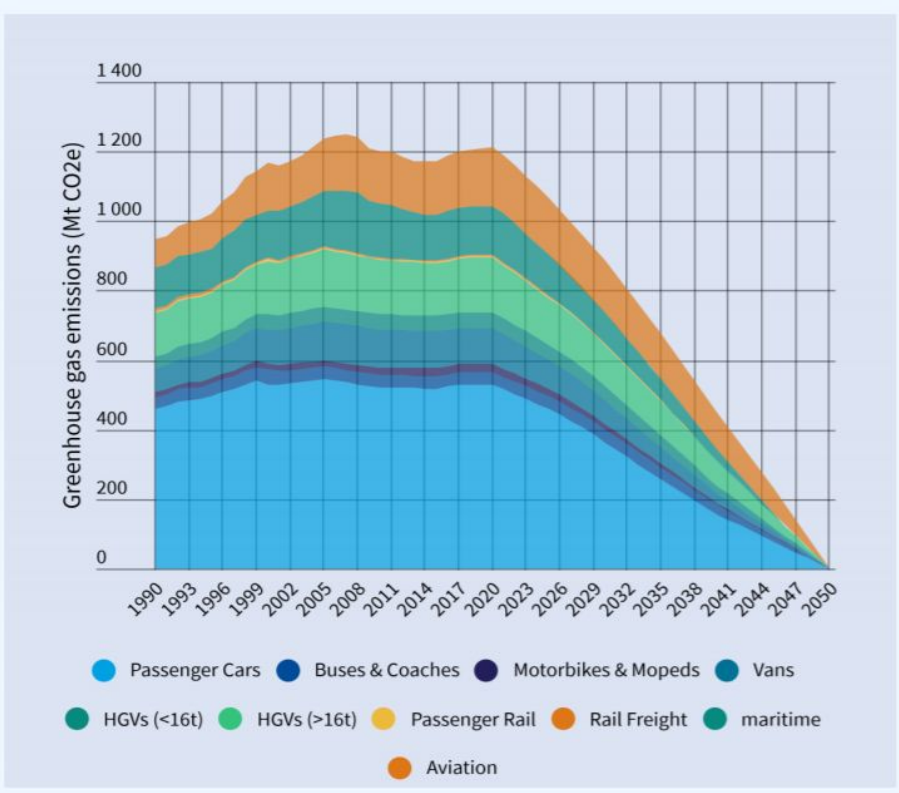


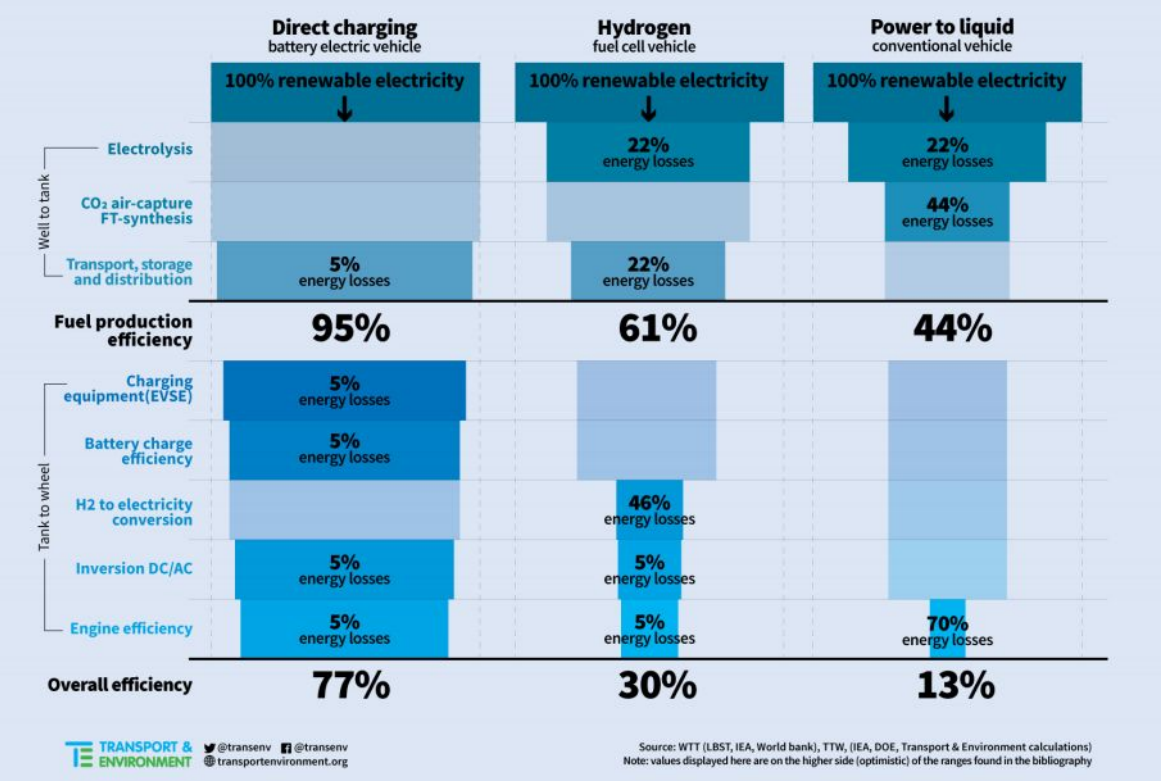
Figure 2: European Union emissions indexed at 1990 levels. The decarbonisation target line includes a 55% reduction in 2030 and assumes full decarbonisation by 2050. Transport (including international aviation and shipping) in 2018 was almost 30% above 1990 levels[viii].

Transport - Europe's biggest transport problem

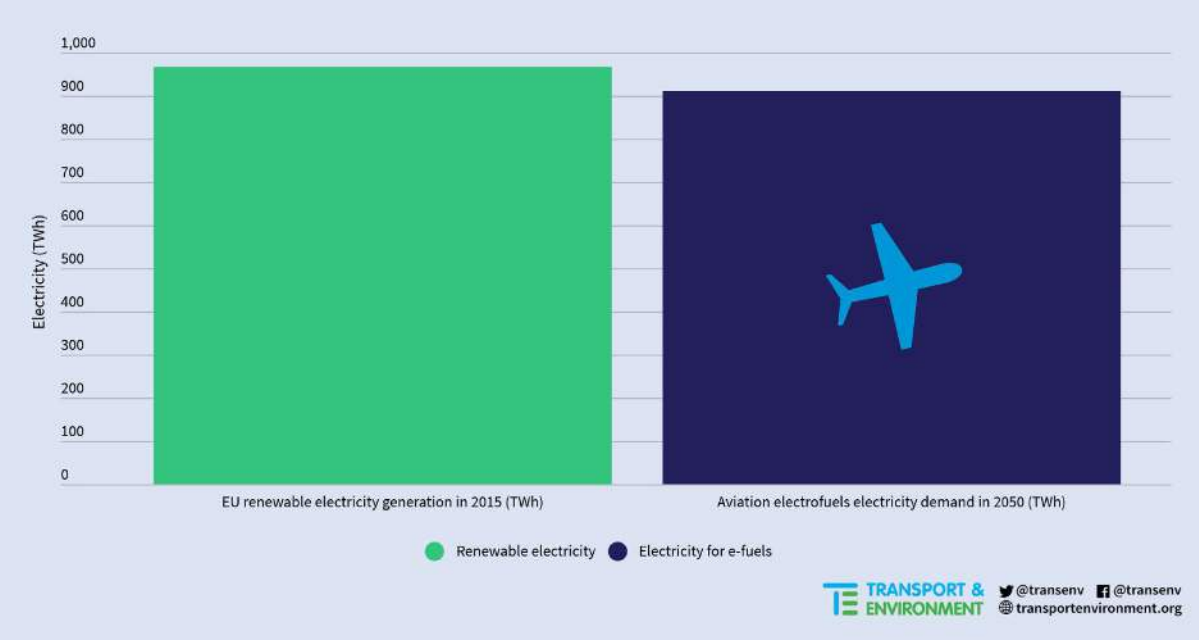


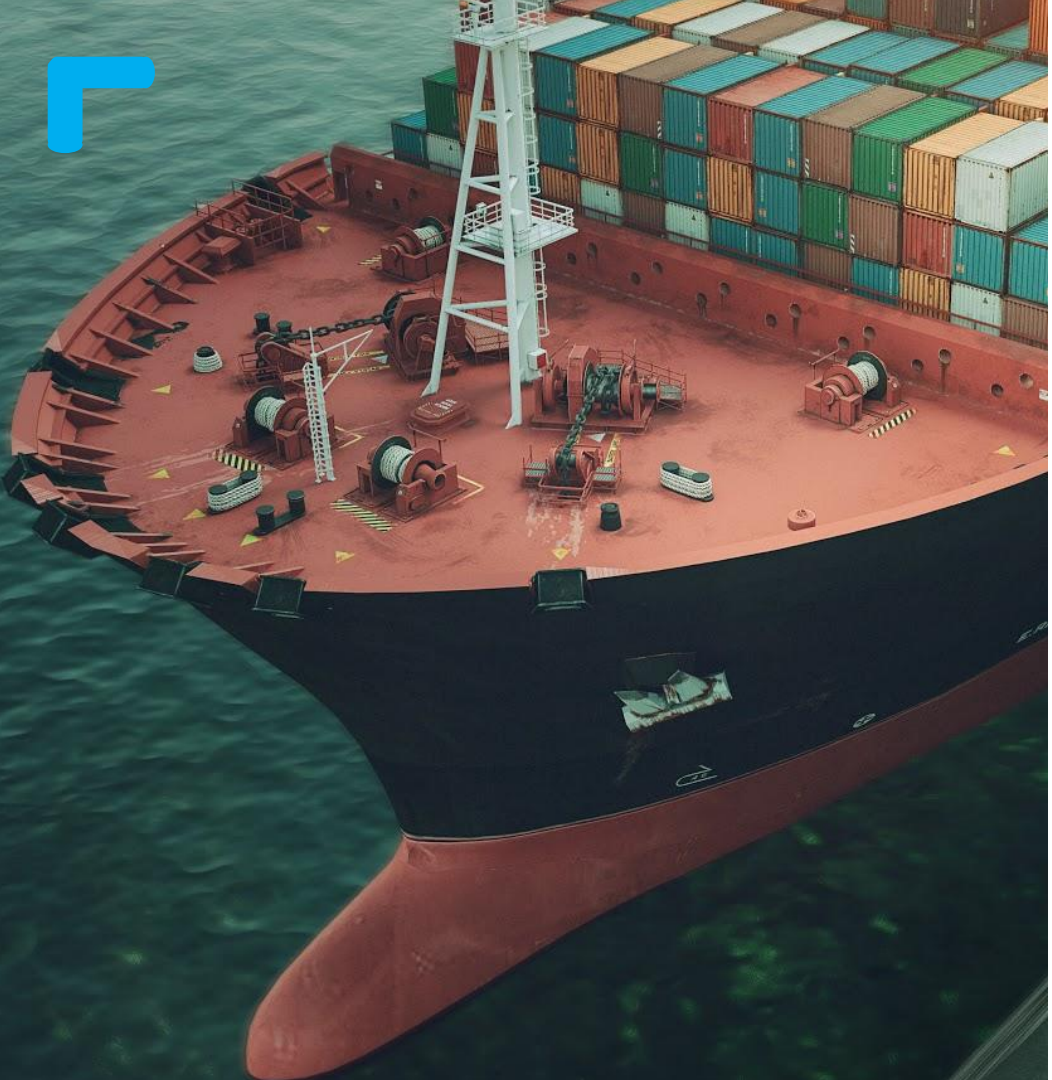
Immediate action needed on all transport modes, including shipping

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

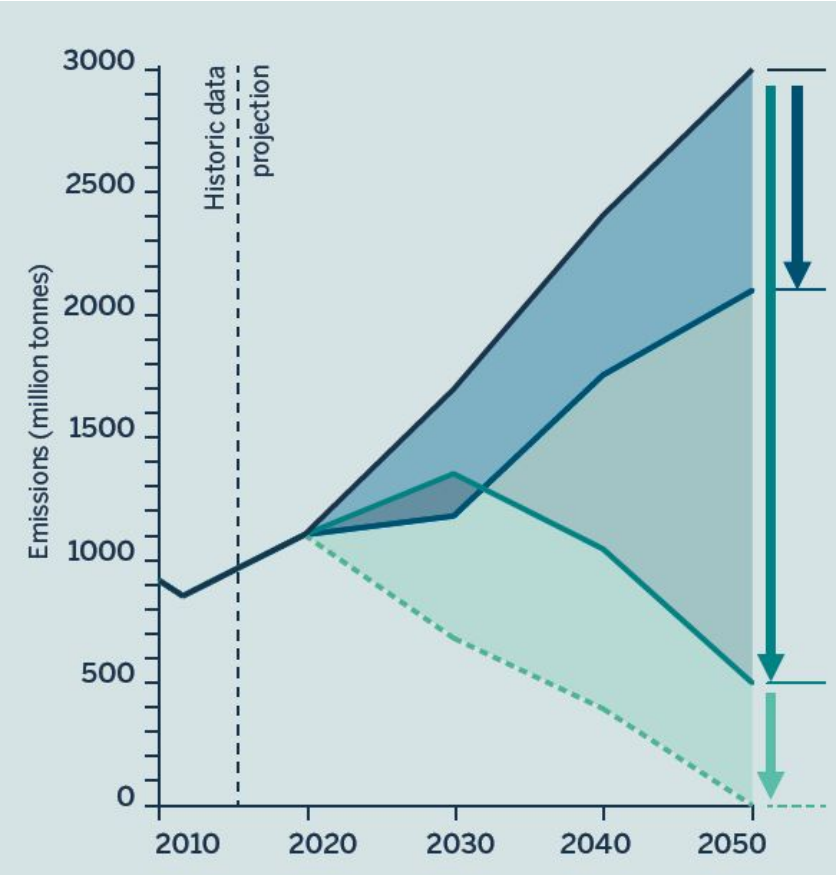


Aviation (and shipping!) will require huge rollout of renewable electricity for H2 and PTL



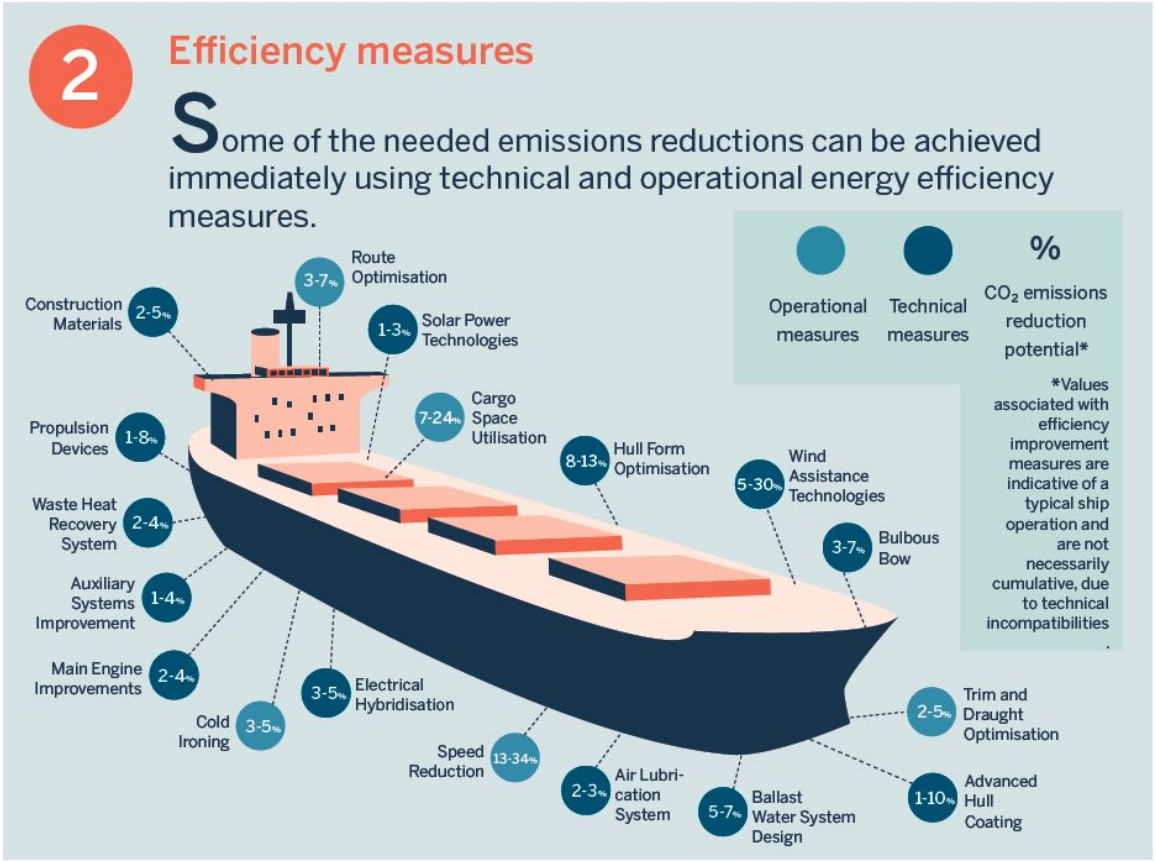


SHIPPING



Souce: University College London, 2019

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



Souce: University College London, 2019

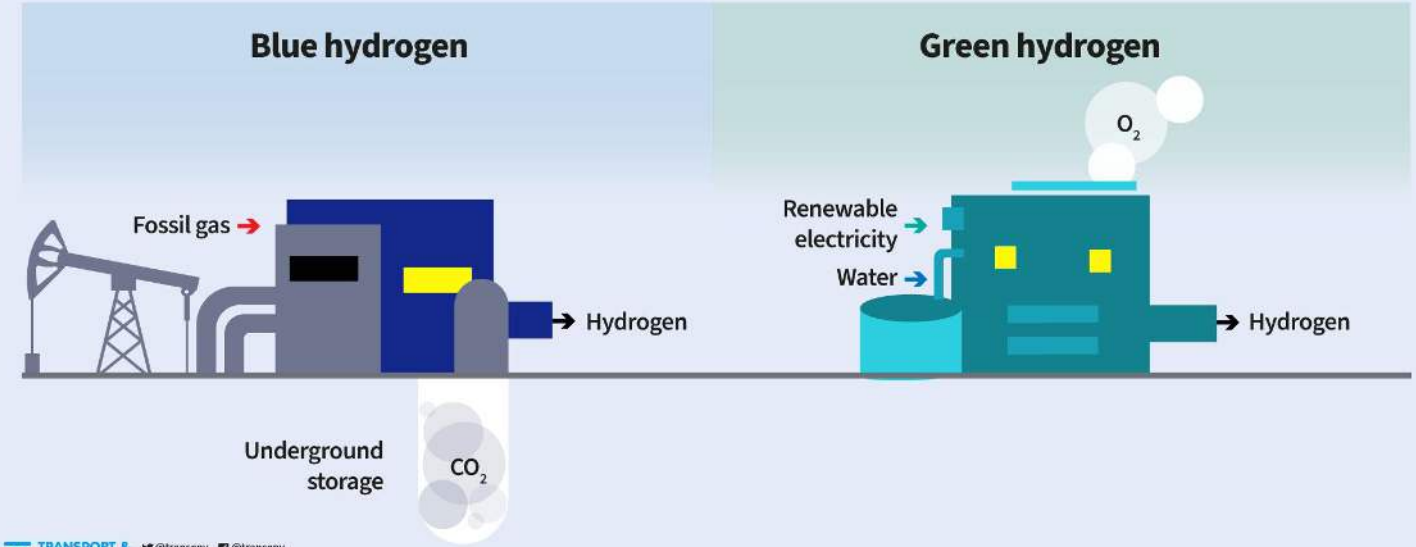
⅓ of ship GHG can be cut cost-effectively by energy efficiency alone

Recommendations: shipping

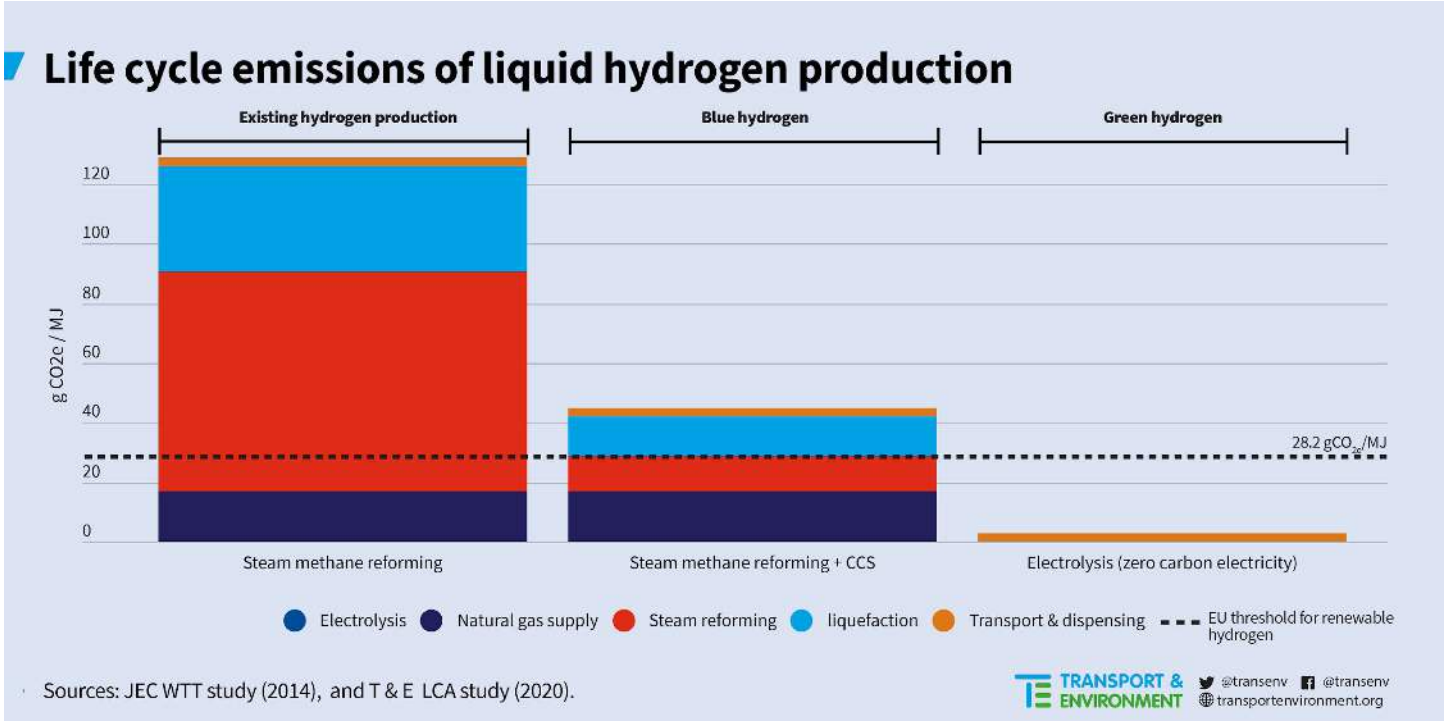
Fair & effective carbon pricing as cornerstone of climate action	Green H2 & ammonia offer potential to eliminate ship GHG	30+% of ship GHG can be reduced by energy efficiency alone
Include shipping in **EU ETS** under MRV scope, establish a **Fund** to deploy **H2/Ammonia ships**	**FuelEU Maritime** 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

Only green hydrogen is zero-carbon hydrogen



Carbon intensity of H2 as transport fuel



Efuels only as clean as the electricity used

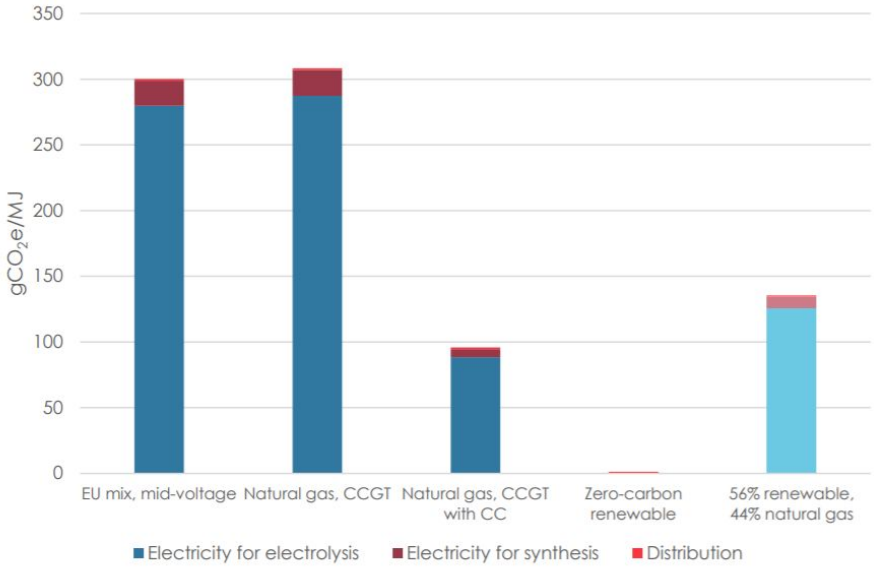
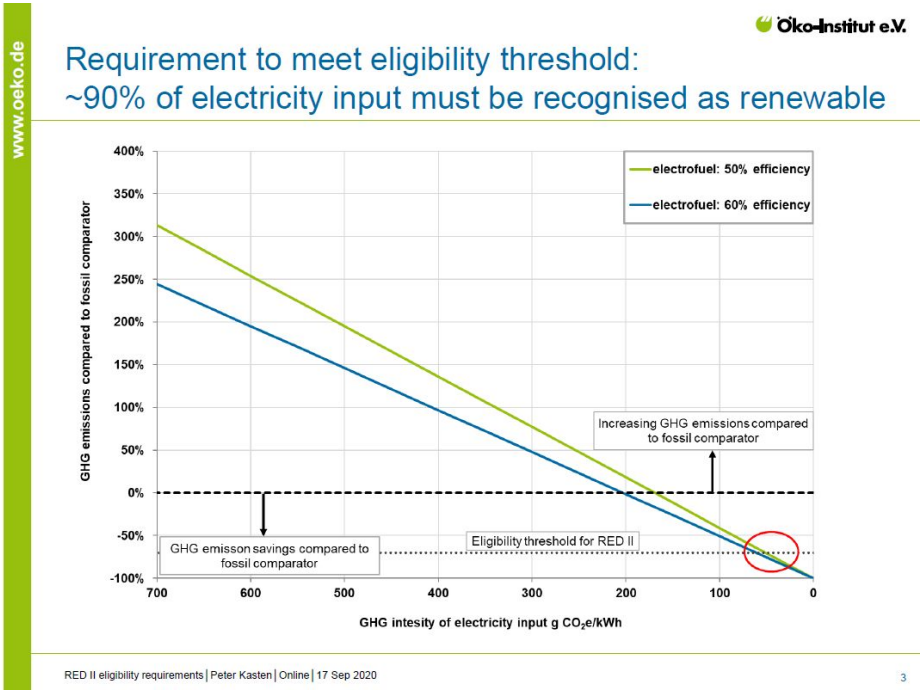


Figure 12. Lifecycle carbon intensity of electrodiesel produced from 56% renewable electricity, with comparators

RED II & Renewable Fuels of Non-Biological Origin



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