



| ICAO

STOCKTAKING 2021



Geert Decock,
Electricity and Energy Manager,
International Coalition for Sustainable
Aviation (ICSA), Transport & Environment

Geert Decock

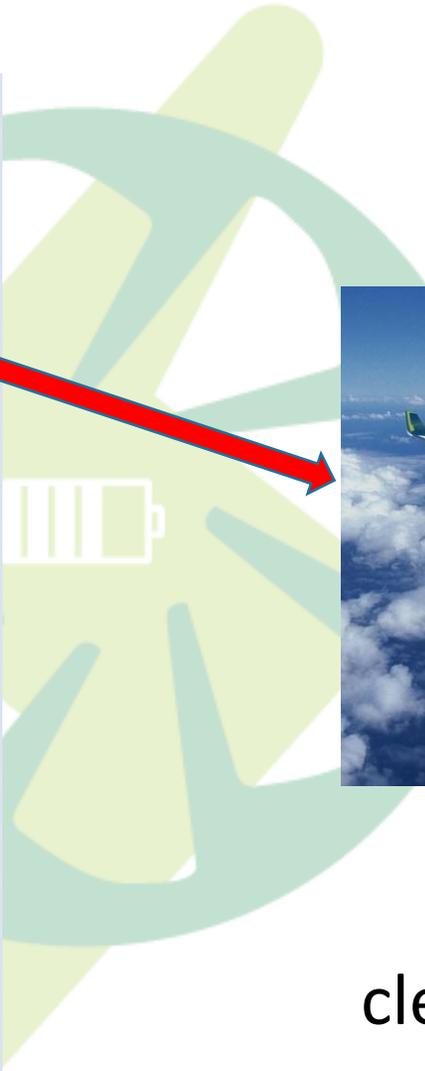
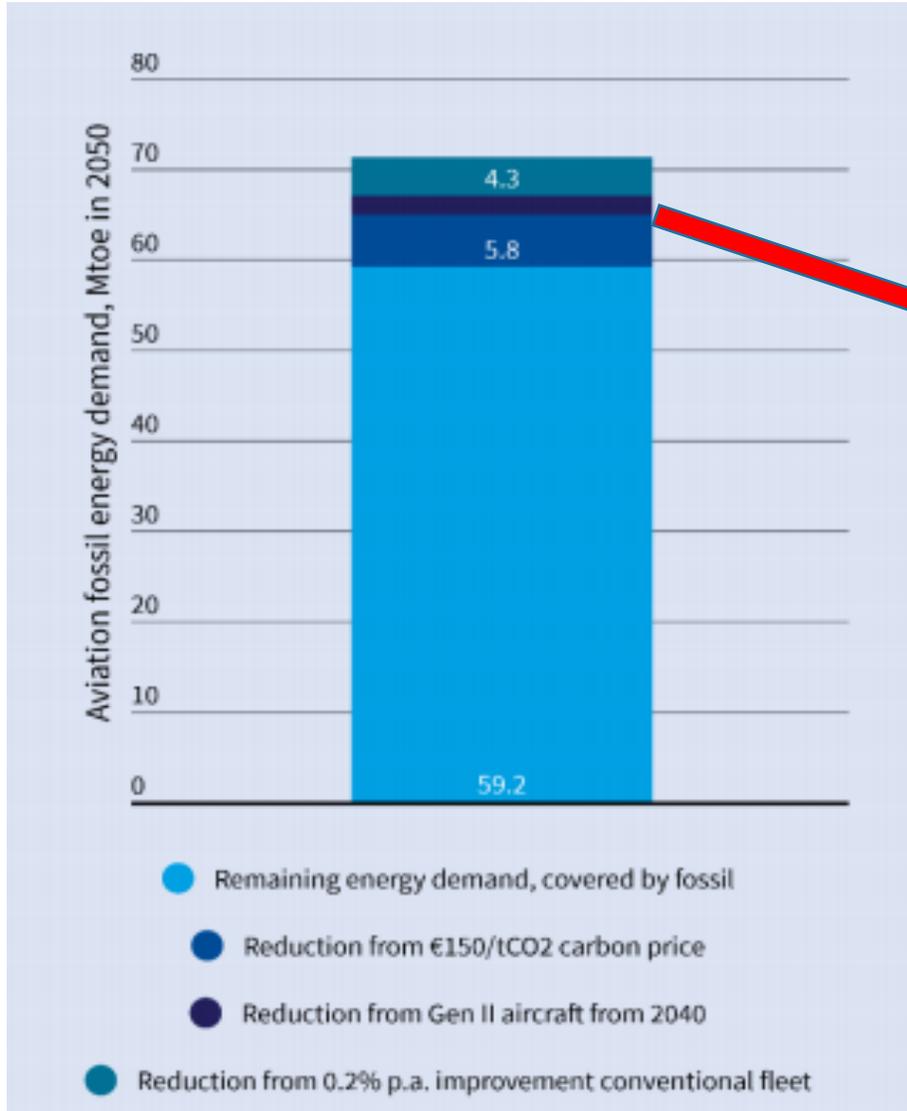
Electricity & Energy Manager

Transport & Environment

geert.dc@transportenvironment.org

ICSA

International Coalition for
Sustainable Aviation



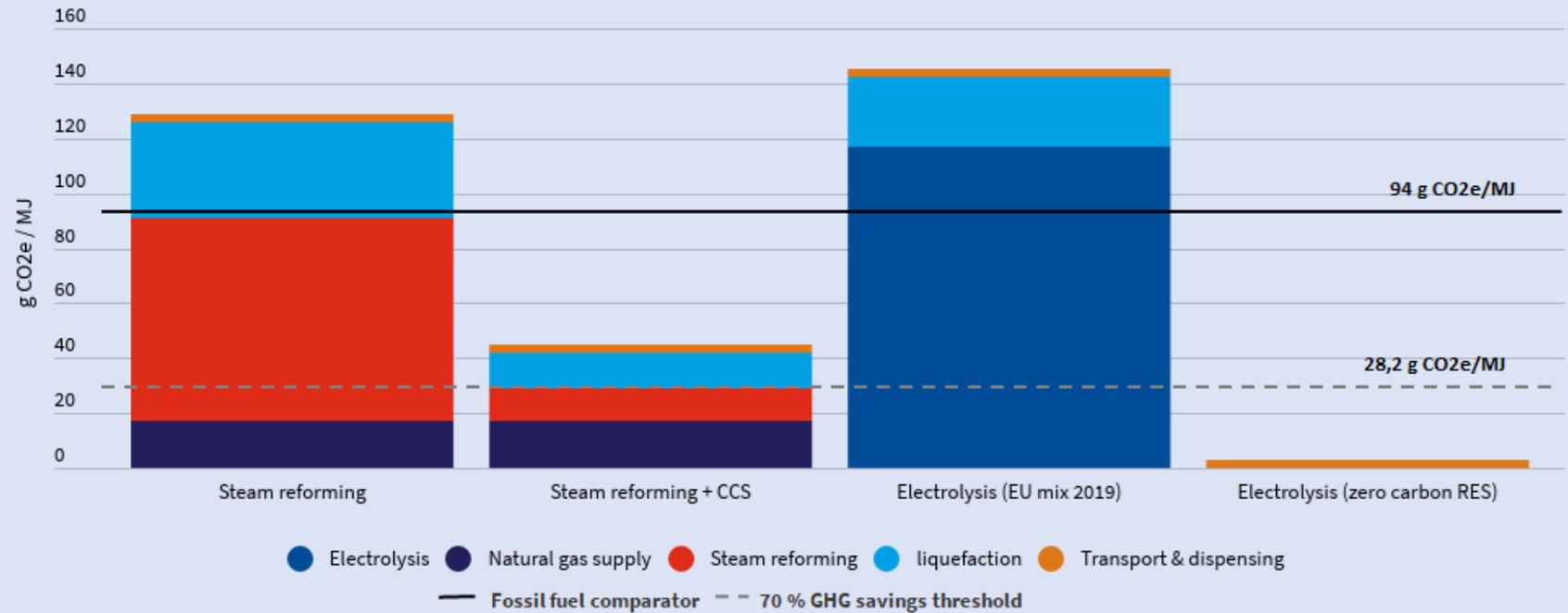
H2 aircraft, clearly no silver bullet!

T&E 2050 aviation roadmap

Hydrogen aircraft – major questions remain

- Before 2050, not available for long haul (< 2000 NM)?
- Development time/ certification, not before 2035? Existing fleet?
- Financing for development of new H2 aircraft?
- Need to develop entirely new H2 refuelling infrastructure? Onsite liquefaction? Competitive with blending ekerosene?
- What Sustainable Aviation Fuels policies needed?

Life cycle emissions of liquid hydrogen production



Sources: JEC WTT study (2014), Wachsmuth et al. (2019), and T & E LCA study (2020).

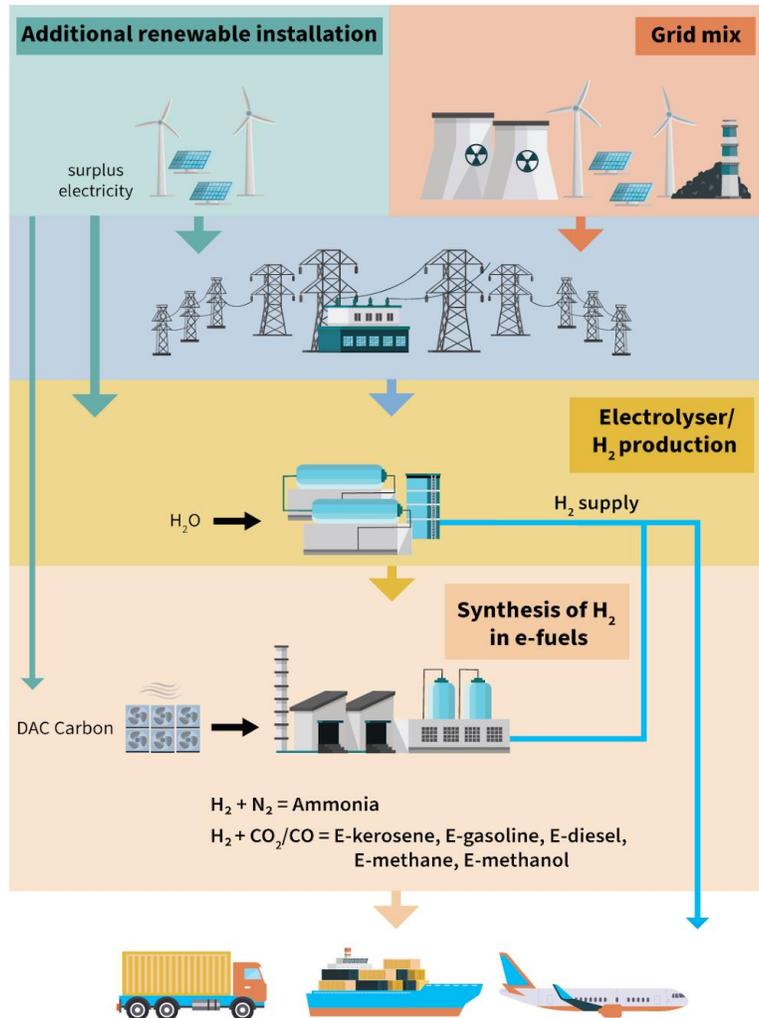


Current H2 production

99% SMR!

1% electrolysis

Producing H₂/efuels with grid-connected electrolyzers



H₂ & e-kerosene are as clean as the electricity used to produce them

- Renewable grid
- Direct connection

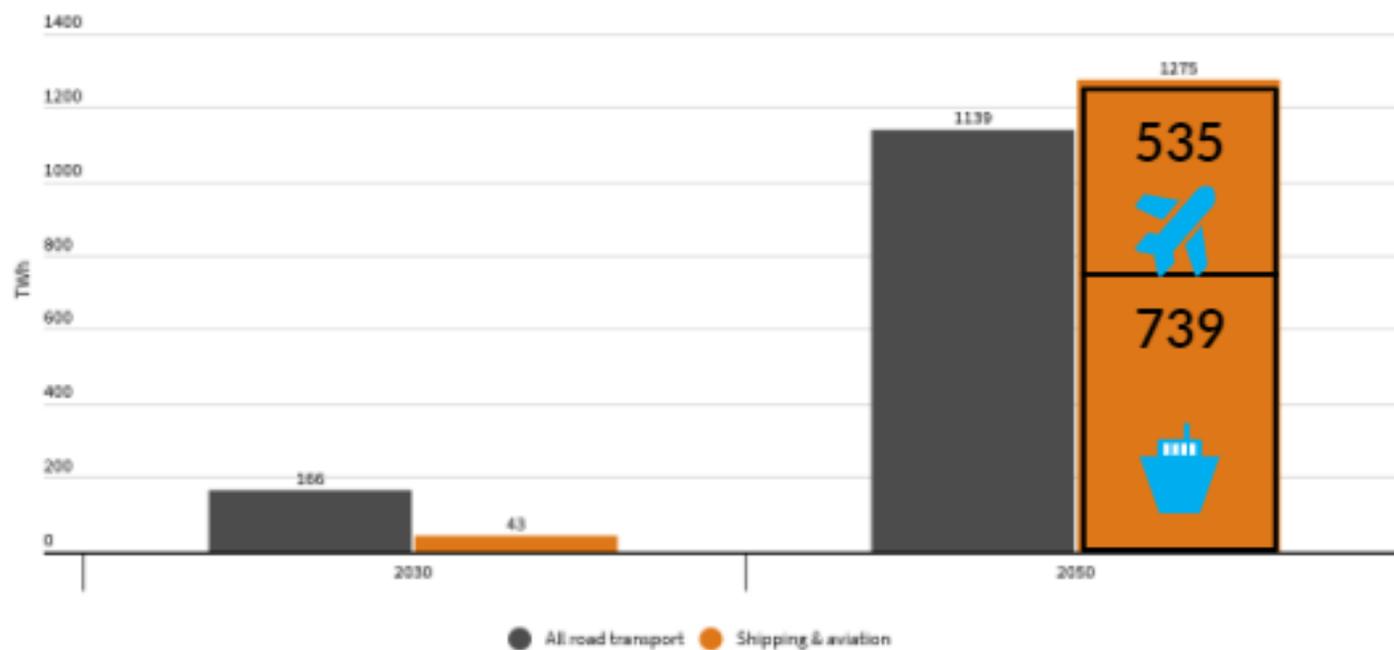
Additional renewables to be used, when reliant on grid.

- EU working on rules for Renewable Fuels of Non-Biological Origin (RFNBO)

T&E briefing: “Getting it right from the start”

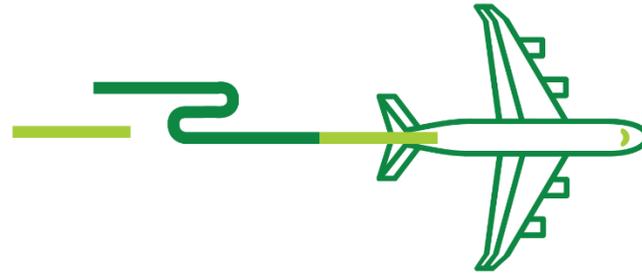
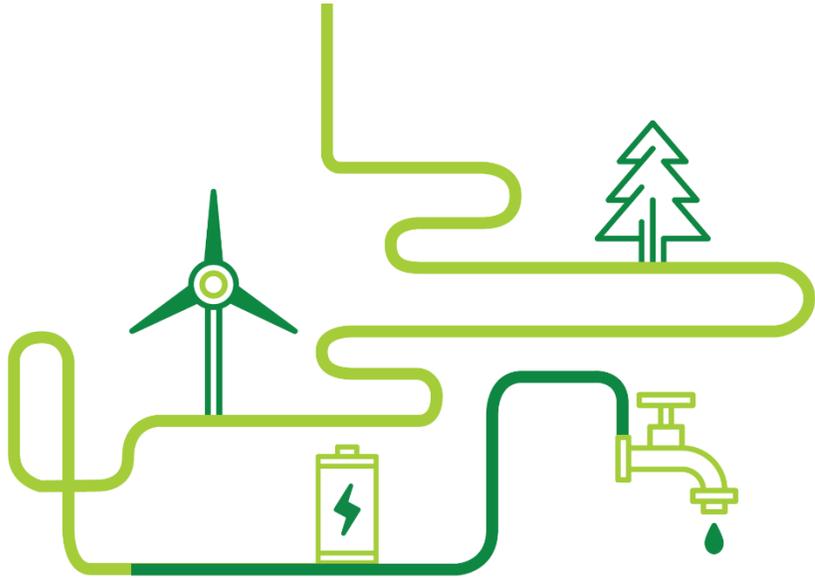
Renewables for transport, before and after 2030.

Comparison of electricity requirements for road transport with shipping plus aviation in EU27



⊗ Additional pre-2030 RES-E demand mostly from road, but grid impact limited

⊗ Rapid scale-up after 2030, road, but especially ships & planes



AVIATION CO₂ REDUCTIONS



PRE-STOCKTAKING WEBINARS

TECHNOLOGY · OPERATIONS · SUSTAINABLE AVIATION FUELS

