Enabling Cryogenic Hydrogen-Based CO₂-free Air Transport (ENABLEH2)

ENABLEH2 Strategic Importance

Disruptive propulsion, aircraft and electrical technologies to improve propulsive efficiency and overall airframe and engine integration

Disruptive propulsion core technologies for enhancing thermal efficiency and reducing NOx

LH₂ is a key ENABLER for many of these advanced aircraft, propulsion system and more electrical disruptive technologies

CO₂↓, CO↓, UHC↓, Soot↓, NOx↓, Environmental Impact ↓

The Need to Decarbonise Aviation

Household emissions in 1990, 2017 and 2050

Annual emissions, kilogrammes of CO₂

- Heating
- Transport
- Electricity
- Aviation
- Waste
- Diet / Agriculture

Source: Climate Change Committee/BEIS (2019)

1990: 14,752
2017: 8,798
2050: 1,160

80% emissions
Net zero emissions

Proposed Timeline for LH₂

Fuels used in civil aviation... meeting increasing aviation energy demands

- Gasoline
- Kerosene
- ‘Drop-in’ bio-Fuel
- LH₂
- LNG
- Batteries

Roadmap and Network

Roadmap to mature the two key enabling technologies and the integrated aircraft and propulsion systems to TRL 6 network to enhance ENABLEH2’s outcome and exploitation

Recommendations for (non-fundamental) changes required to airport infrastructure

Solutions for any potential hurdles for technology developments

Summary of order impact of ENABLEH2 research beyond aerospace

ENABLEH2 Network and Community

Project Consortium

Industry Advisory Board

For more information please contact: Enableh2-coordination@eurtd.com
Website: www.enableh2.eu Social Media: Twitter: @Enableh_2

This project is being funded by the EU Horizon 2020 research and innovation programme under GA n°769241