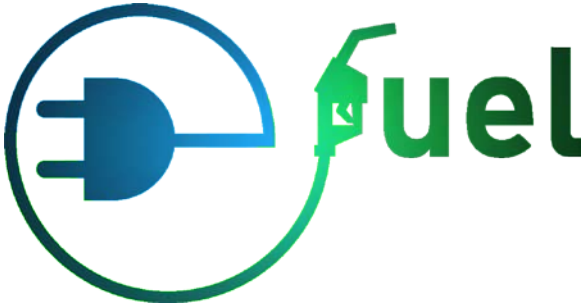


E-fuel usability (WP5)

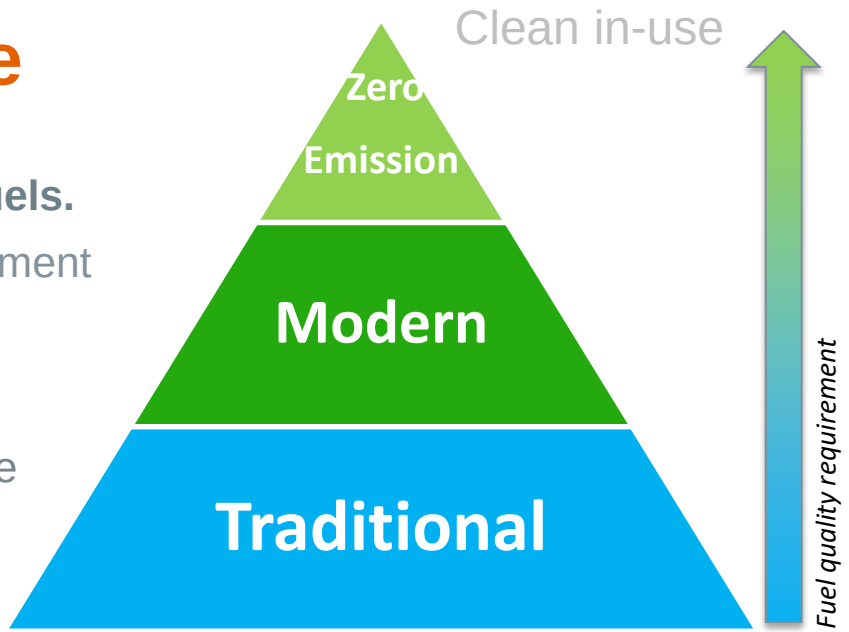
P Aakko-Saksa, A Järvinen 14.6.2022

E-Fuel mid-term workshop

Sustainable fuels' end-use

End-use set requirements on the quality of fuels.

- **Compatibility** of fuels with exhaust after-treatment systems and materials to support long-term durability.
- **Capability of fuels to provide low exhaust emissions** to avoid local pollution and adverse health effects.



***Road transport is a key contributor to air pollution**, which causes >400 000 premature deaths yearly in the EU (Roderiguez, et al., 2019). **Transport sector is a major source of the ground-level ozone precursors and PM emissions** (EEA, 2019).*

Emission standards are tightening

Proposal for **Euro 7 emission standards** is anticipated to be published by 20th July 2022.

Initiative to strict Euro 7 emissions standards for all cars, vans, lorries and buses to ensure cleanliness over their lifetime, emissions measured in real-time, is a part of Green Deal.
(European vehicle emissions standards – Euro 7 for cars, vans, lorries and buses (europa.eu)

The EU's Sustainable and Smart Mobility Strategy (COM(2020) 789), Flagship 1 (14): …Cars sold today emit significantly less pollutants than those in 2015. But more can be done: the upcoming proposal for more stringent air pollutant emissions standards for combustion engine vehicles (Euro 7) will ensure that only futureproof low-emission vehicles come to the market.

E-fuels in a zero emission policy in the EU

In the electrifying transport, combustion engines can be considered if exhaust (and other) emissions are

- Nearly negligible under all conditions of normal use
- Clean through their lifetime considering also the durability requirements

Not published yet.

Specific contract No. SI2.815308

Implementing Framework Contract No. 688/PP/2018/FC

Study on post-EURO 6/VI emission standards in Europe - PART A and B

IAT emisia TU Graz FEV TNO innovation for life RICARDO VTT

Final Report of Part A and B Studies

WP5 on E-fuel usability

The eFuel project studies usability of e-fuels by testing these in real diesel engines. The main research questions and our activities are:

a) Will **aliphatic e-diesel** reduce engine-out exhaust emissions? The effect of blending **aliphatic e-diesel with oxygenated component** (oxymethylene ethers, OME)? Potential to form secondary aerosols in atmospheric reactions? Measurement campaign with AGCO 44HD engine in October 2022. VTT, Tampere University and Finnish Meteorological Institute.

b) Will e-diesel improve **durability and performance of diesel particulate filter (DPF)**? Durability, loading and performance of DPF is studied with conventional diesel and e-fuel.

c) How e-diesel performs in the **field test with tractor**? E-fuel will be in the field test by AGCO and emissions will be measured by PEMS system.

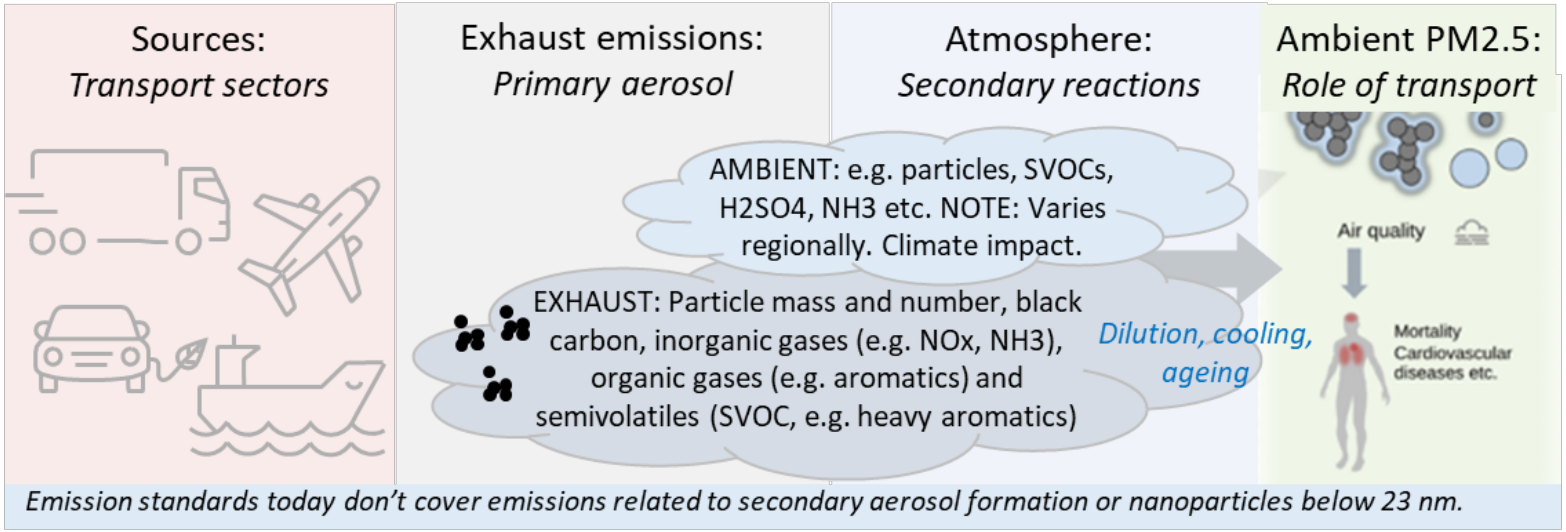
$CH_3O(CH_2O)_nCH_3$

oxymethylene ethers

AGCO 44HD Stage V engine

‘do no significant harm’ (DNSH)

Long-lasting solutions will consider current and the anticipated future legislation, and overall ‘do no significant harm’ principles of the EU Taxonomy Regulation.



Thank you

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