Climate impacts of advanced drop-in liquid biofuels for transport applications

Introduction

EU mitigation targets
55% reduction by 2030 *(EU Fit-for-55 package)*
90% reduction by 2050 *(EU net-zero Green deal)*

Difficult-to-abate transport applications
Aviation, Shipping, Road-freight transport need renewable drop-in fuels for mitigation

Advanced biofuels from forestry resources can offer more than 90% GHG reduction per MJ

Primary objective

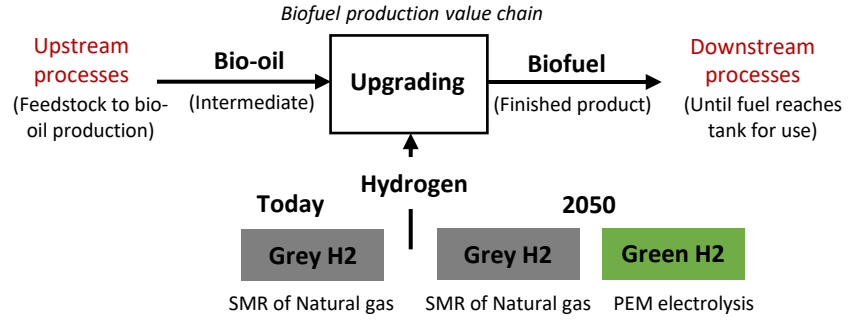
Identify emerging pathways for advanced biofuel production for climate mitigation in transport sector

Secondary objectives

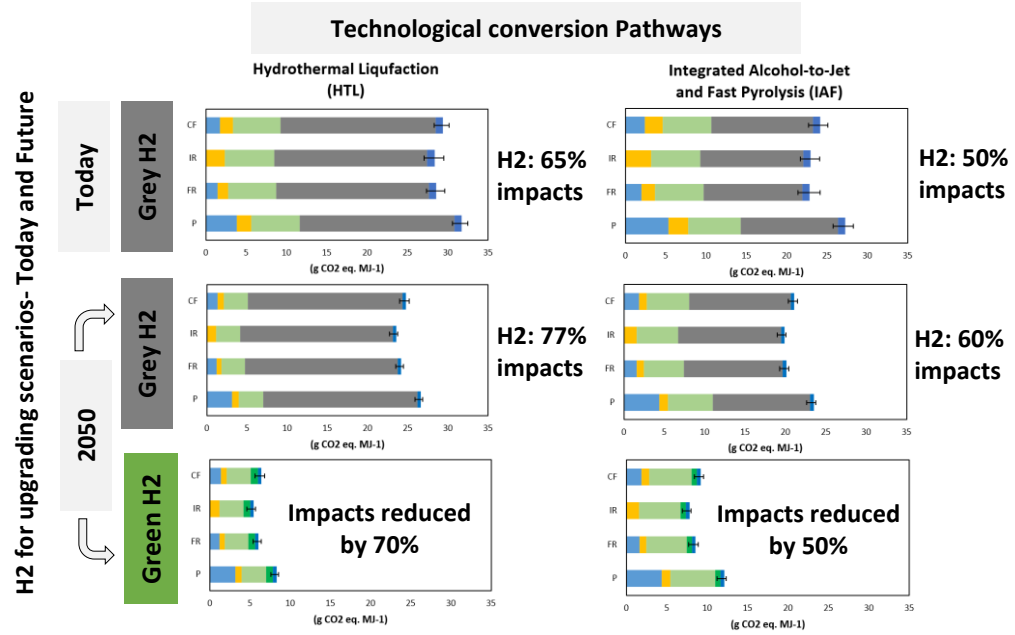
- Scenarios for H2 sources for upgrading
- Prospective climate impacts
- Lifecycle stage contribution analysis

Hydrogen for upgrading

Main driver for GWP100 life cycle climate impacts



GWP100 climate impacts of advanced biofuels



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Project: FME Bio4Fuels- Norwegian Centre for Sustainable Bio-based Fuels and Energy

I am studying emerging technological pathways to produce **advanced biofuels** and **e-fuels** for difficult-to-abate **transport applications** of aviation, shipping and road-freight in Norway and in Europe. This involves conducting **techno-economic** and **lifecycle assessments** for sustainability.

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Co-supervisor: Marcos Djun Barbosa Watanabe

Estimated progress of the PhD project:

Just started ...	< 50 %	> 50 %	Almost done ☺

Previous publication

***Climate change impacts** of **e-fuels** for **aviation** in Europe under present day conditions and future policy scenarios.*

NTNU Norwegian University of Science and Technology

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