Biomass to Aviation Fuel

B2A

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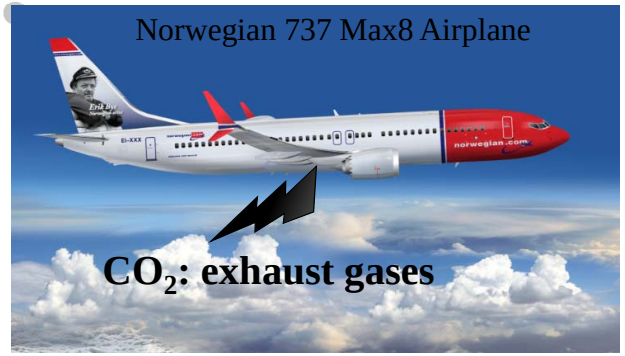
Renewable inclusion in aviation transport fuel

- **Aviation transport is irreplaceable for long distance travel**



Renewable H_2 produced fired fuel cell

- size of hydrogen tanks
- weight of the plane

Renewable produced Electric battery

- feasible for short distance travel

Nuclear fired airplane/ US air force

- Acute radiation syndrome
- safety, crush
- acceptance

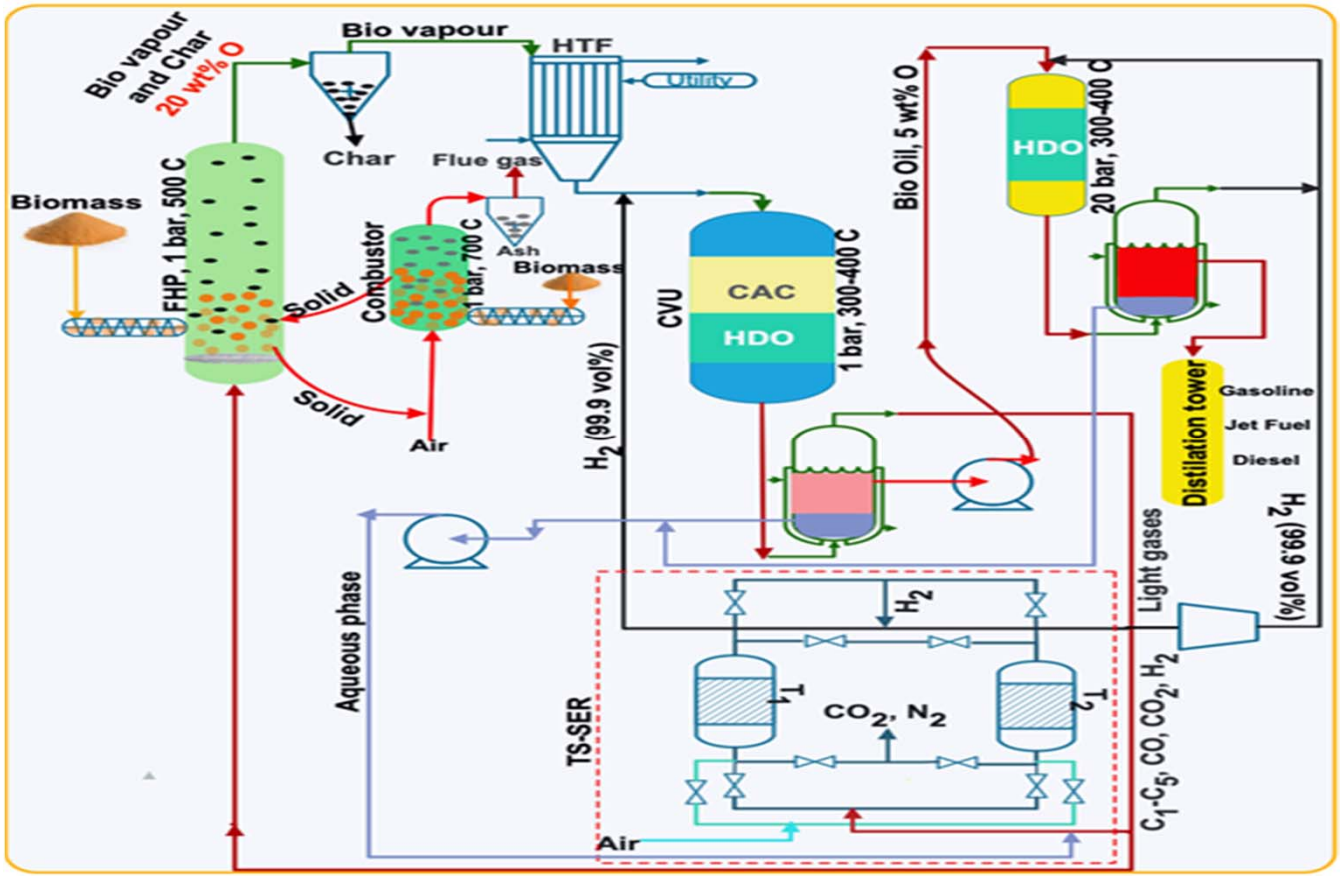
Liquids transport fuels (C_8-C_{16})

- Most reliable and sustainable
- Currently >90 % from Fossil sources
- Advanced biofuels

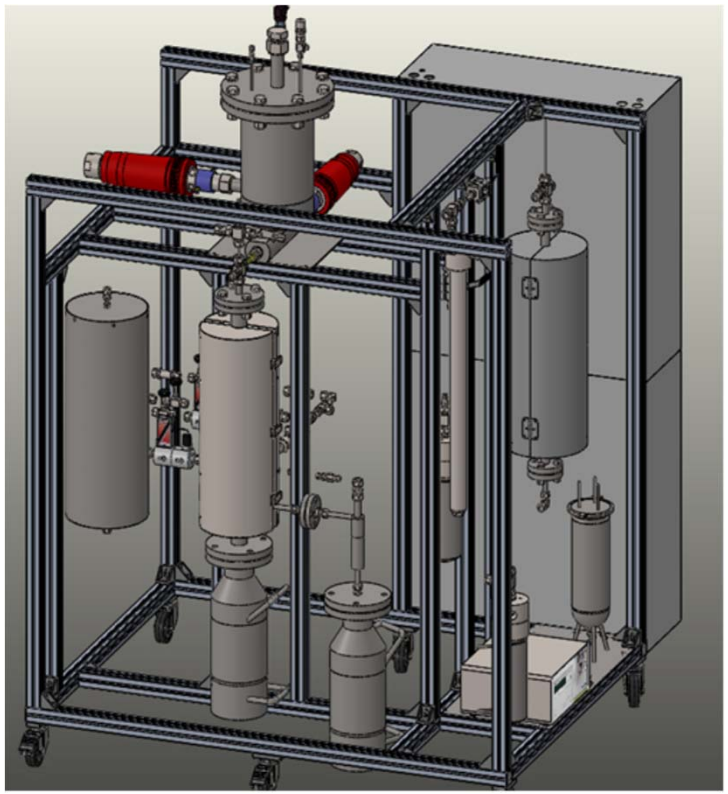
(conversion of used vegetable oil)

Patented *B2A* by NTNU/SINTEF

PCT/EP2020/050929, GB1900553.7



B2A mini-pilot plant specification



- Depending on the requirements, the pilot plant could work only with FHP and HDO reactors in dual/serial mode or just in serial mode.
- Solid biomass will be stored (up to 2 kg) in a 12 L hopper and then introduced at the top of the reactor under gravity through a screw feeder. Feed rate is covered from 90 to 800 g/h for biomass.
- The FHP reactor is a tubular type with approximate dimensions of 1.5'' ID 600 mm length and can operate maximum 600C.
- This HDO reactor is a tubular type with approximate dimensions of 1.0'' ID 600 mm length and can operate maximum 400C.
- The whole pilot plant can operate up to 20 bar pressure.
- The pilot plant has liquid level control unit, hence this system helps to study the catalyst activity as function of time.
- The pilot unit measures biogas and biofuel with time, so that carbon balance can be done in order to optimize the biochar/biofuel production.