

# Barriers to the uptake of post fossil fuels - Aviation

Climate protection in aviation and maritime transport

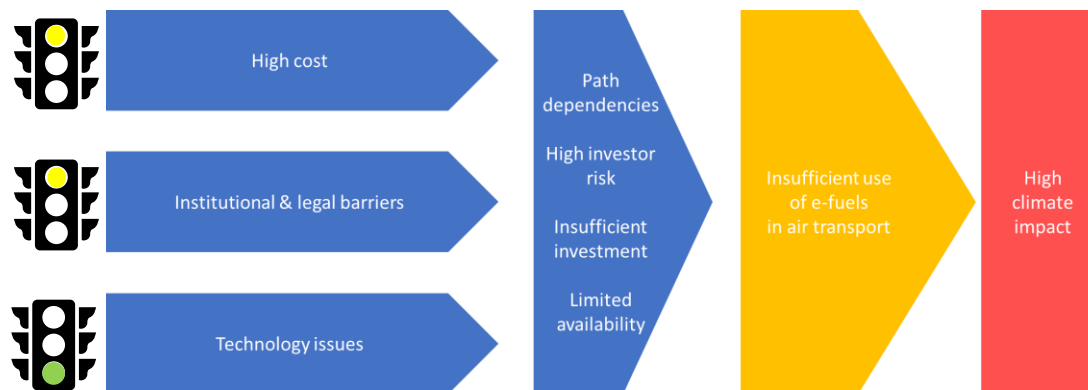
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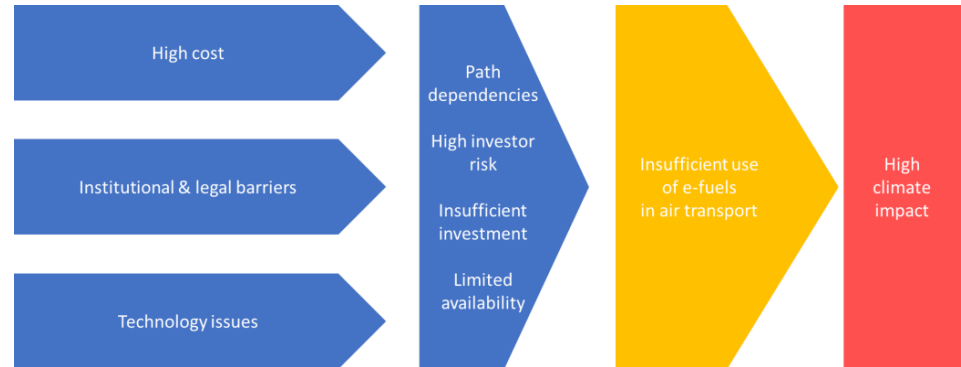
- **Technology:** Airport **infrastructure** and **aircraft technology** ready as ASTM D7566 and other standards currently allow for **immediate, up to 50% blending** of Fischer-Tropsch or HEFA Synthesized Paraffinic Kerosene with conventional jet fuel – 100% envisaged for the future
- Much **faster time to market** than, e.g., hydrogen-powered aircraft and **gradual transition** possible
- **Enough potential demand** for massive e-fuel in aviation – possibility to achieve high **economies of scale**
- **But there are some barriers to the use of e-fuels...**



# Barriers to the uptake of post fossil fuels - Aviation

## High cost

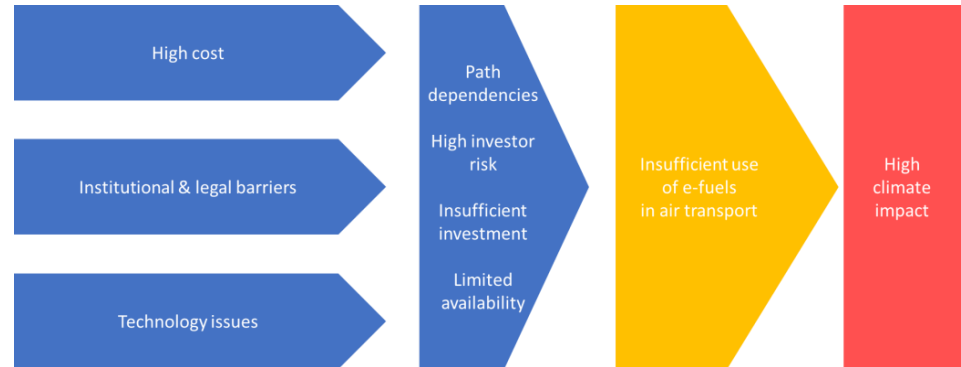
- **Fuel costs** ~ 35% of airline operating costs; low margins; high competition
- **e-fuel cost factor** compared to petroleum-based jet fuel: 3-6 today, >2 in 2050?
- **No incentive** to change fuel type as long as sustainable alternatives are more expensive
- **Future reduction of cost/price gap** if oil price and/or carbon cost increase



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## Institutional and legal barriers

- **Fuel supply in aviation:** well-attuned, running system characterized by **high path dependency**
- **No incentives** or regulation yet to raise e-fuel share



- **Blending quotas** could be introduced at the national levels (as technical specification) and/or at EU level (Fit for 55)
- **Possible measures:**
  - Direct: Mandatory blending shares, green certificates...
  - Indirect (-> e-fuels): R&D subsidies, investment aids...
  - Indirect (-> fossile fuels): carbon pricing, stricter MBM...
- **Lack of global, cross-sectoral strategies**

# Thanks for your attention!

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