

AVIATION CO₂ REDUCTIONS



STOCKTAKING SEMINAR
TECHNOLOGY · OPERATIONS · SUSTAINABLE AVIATION FUELS



SAF competitiveness and scale-up

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Sustainable aviation fuel from MSW in the UK

Aviation Fuels

Feedstock type	Conversion process
Municipal Solid Waste (woody biomass also available)	Gasification / Fischer-Tropsch

Altalto project to build Europe's first commercial waste-to-fuels plant in Immingham, UK; to treat >500,000 tonnes black bag waste and produce >50 million litres of SAF per year



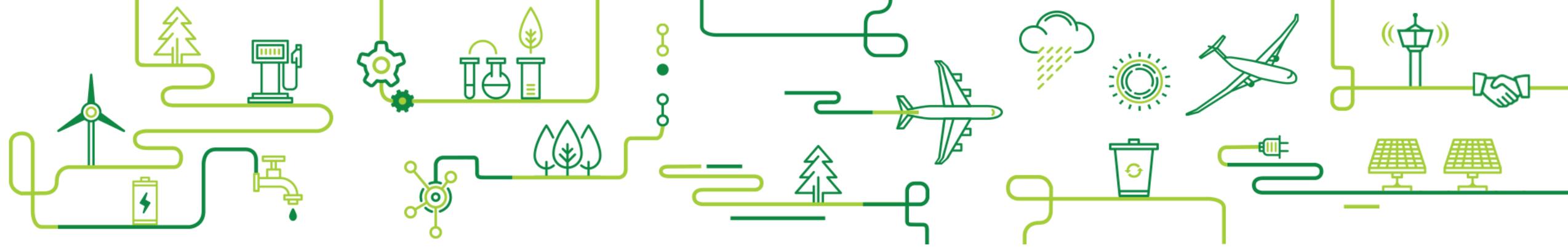
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CO₂ reductions per flight
70%¹
- 
Level of finance required
\$ hundreds of millions
- 
Timeframe
2025²
- 
Main challenges
Finance

¹ LCA for biogenic fraction of waste; could be >100% with CCS

² Commercial operation, subject to financial close in 2022



- Velocys FT technology demonstrated at full scale, Oklahoma City, 2017-18
- Over 5000 hours of cumulative operation across 2 reactors
- Feedstock: landfill gas
- Over 1.6 million litres of fuels and waxes produced
- Culmination of 17 years of testing and development



Altalto project status

- Planning consent granted June 2020
- Velocys leading project; co-investors British Airways and Shell
- \$10M invested to date, plus \$1M grant from UK Government under F4C (Future Fuels for Flight and Freight Competition)
- Economics rely on UK Renewable Transport Fuels Obligation plus waste gate fees
- Financing challenges: revenue surety, first-of-a-kind project

Thank You



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