



# CO<sub>2</sub> Removals - Buyer's Perspective

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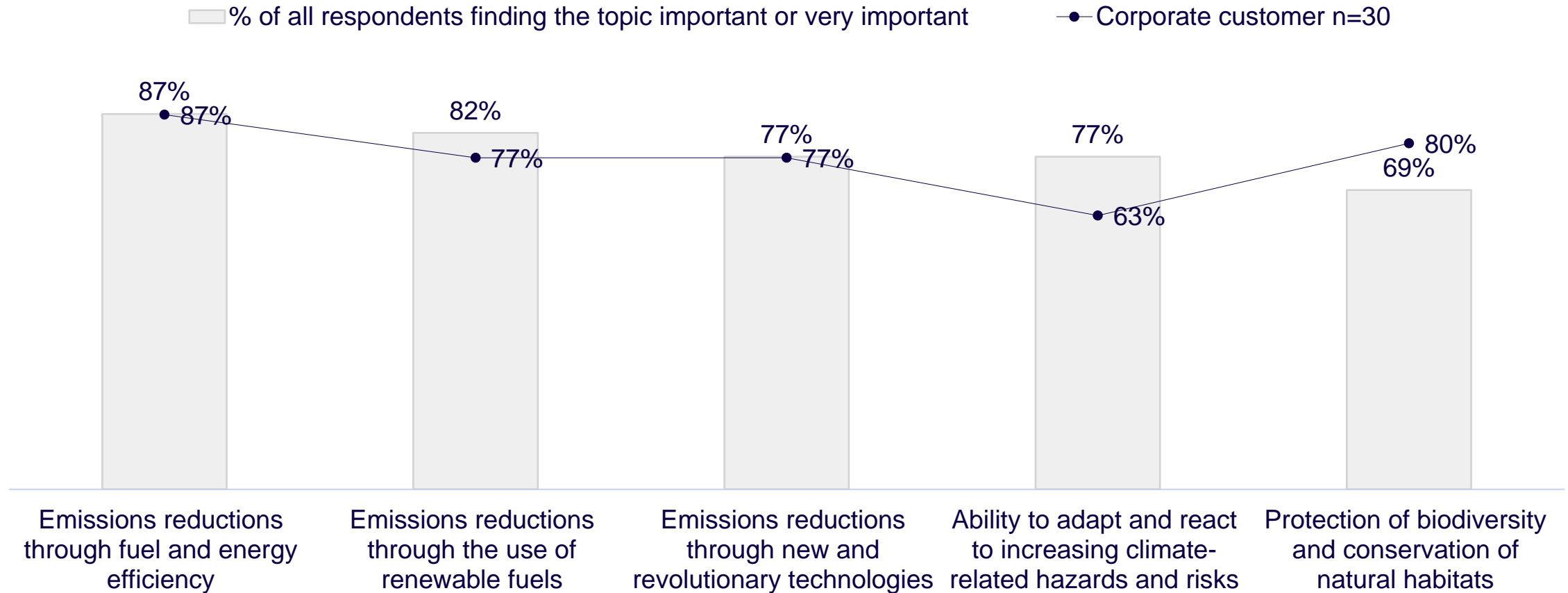
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# Agenda

- Customer expectations
- Demand for CDR in aviation
- CCS vs. CCU
- What about the cost?



# Majority of Finnair's customers value climate actions as important or very important

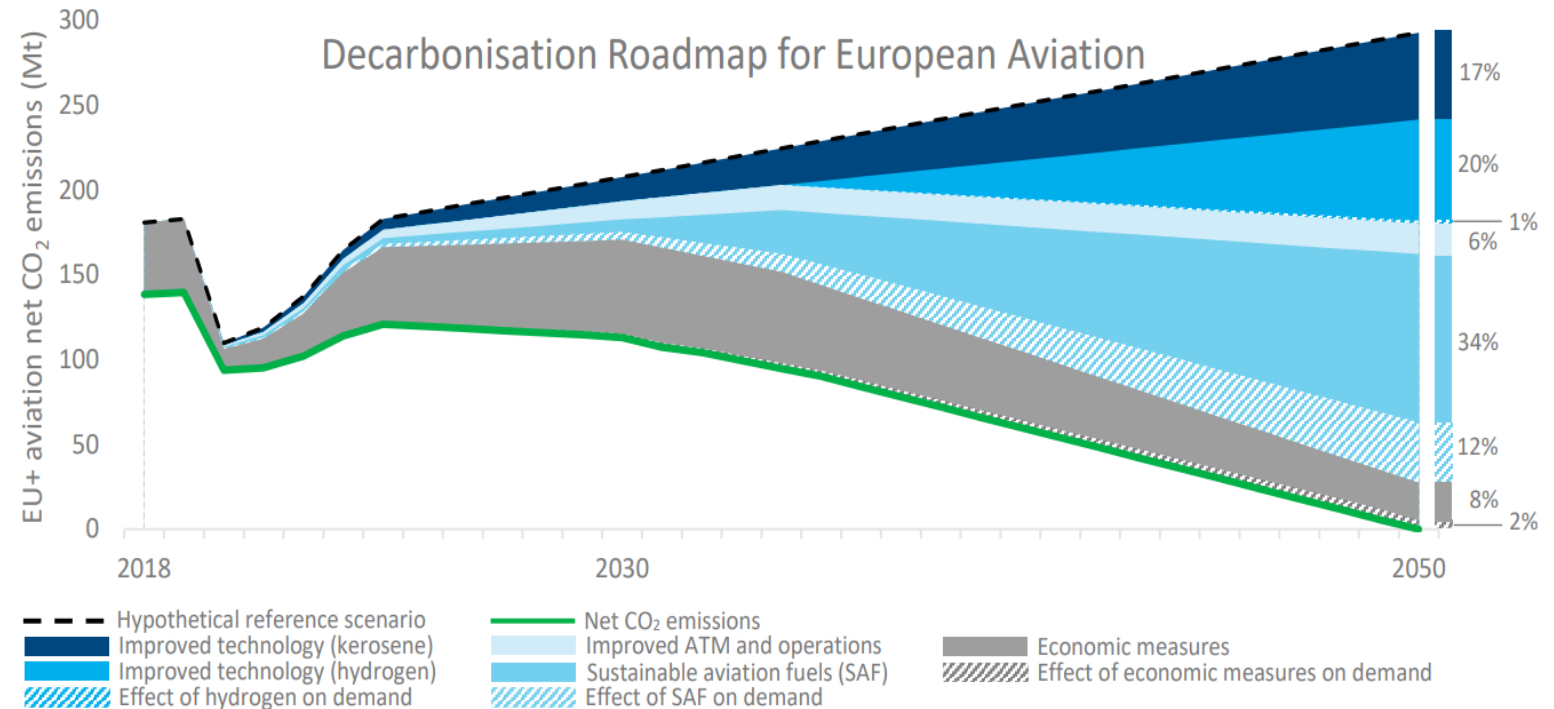


*Question asked: Please evaluate in your opinion the importance of the following sustainability topics for Finnair on a scale from 1 (no relevance / importance to Finnair) to 5 (very high importance).*

# CO<sub>2</sub> Removals are needed to enable carbon neutral pathway in aviation

According to Europe's aviation sector's Destination 2050:

- The gap after energy efficiency improvements is fulfilled mainly with the use of SAF:
  - >80% of fuel is replaced with SAF by 2050
- offsets will need to be used to make up any remaining shortfall in emissions above the goal (22 Mt of CO<sub>2</sub>)





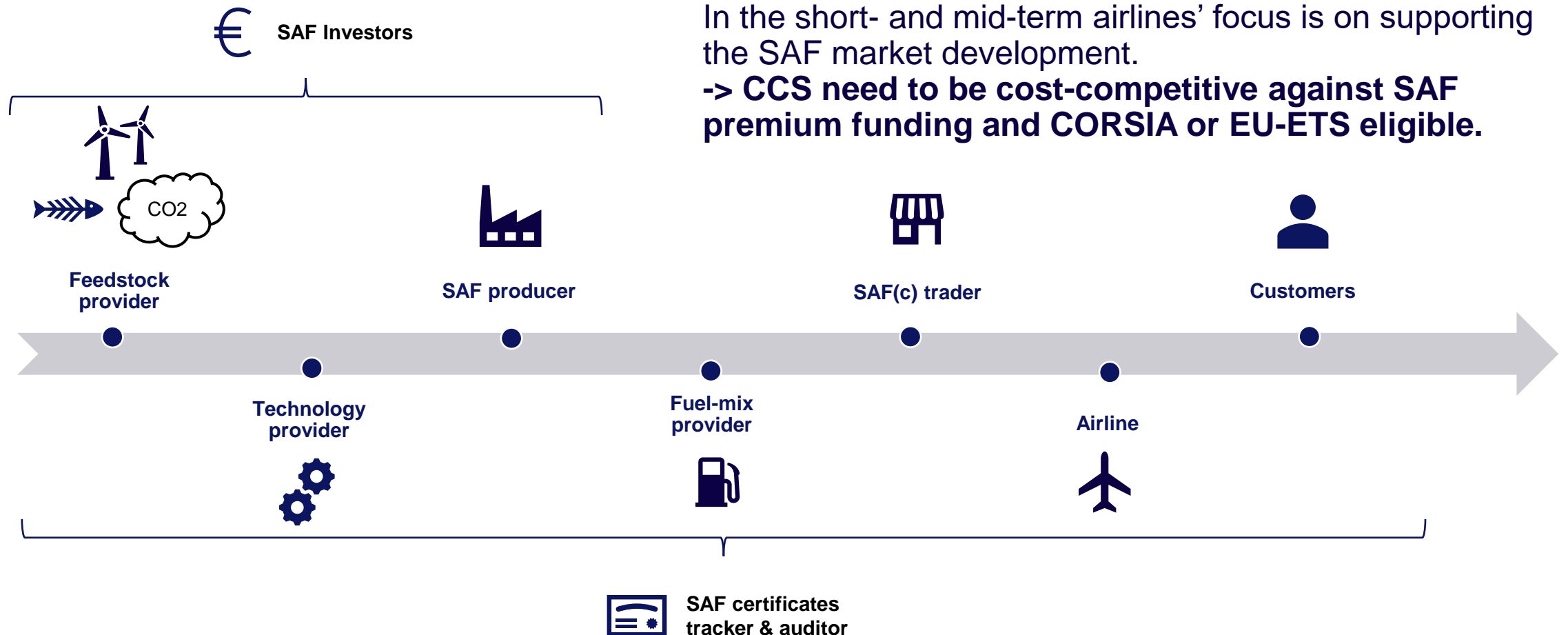
# Most of the technically captured carbon should be used in the production of SAF

2025-2035 will be acceleration period for new generation technologies.  
In aviation this means transition towards mass production of SAF and preparing for hydrogen flying.

ReFuelEu Aviation				vs.	CORSIA
Year	RFNBO sub-mandate (Vol-%)	EU PtL volume, Mt *	CO2 demand as PtL feedstock, Mt **		Offset / CCS, Mt ***
2025	0	0	0		
2030	1,2	0,5	7		57
2032	2	0,8	12		50
2035	5	2	30		43
2040	10	4	58		36
2045	15	7	105		29
2050	35	18	260		22

\* ReFuelEU Aviation mandate and Eurostat Database (2023); growth assumption aviation market 1.5% per annum (according to the ICAO, medium scenario)  
\*\* LUT P2X feasibility study:  
MTO-MOGD process (FT: Mobil's methanol to olefines + olefins to gasoline): 38 kt CO2 -> 44 kt syngas -> 25 kt MeOH -> 10 kt fuel (of which 30% JetA-1)  
\*\*\* Estimation based on IATA Waypoint 2050 and CORSIA requirement.

# To meet the growing demand in SAF there is a need for partnerships across the SAF value chain

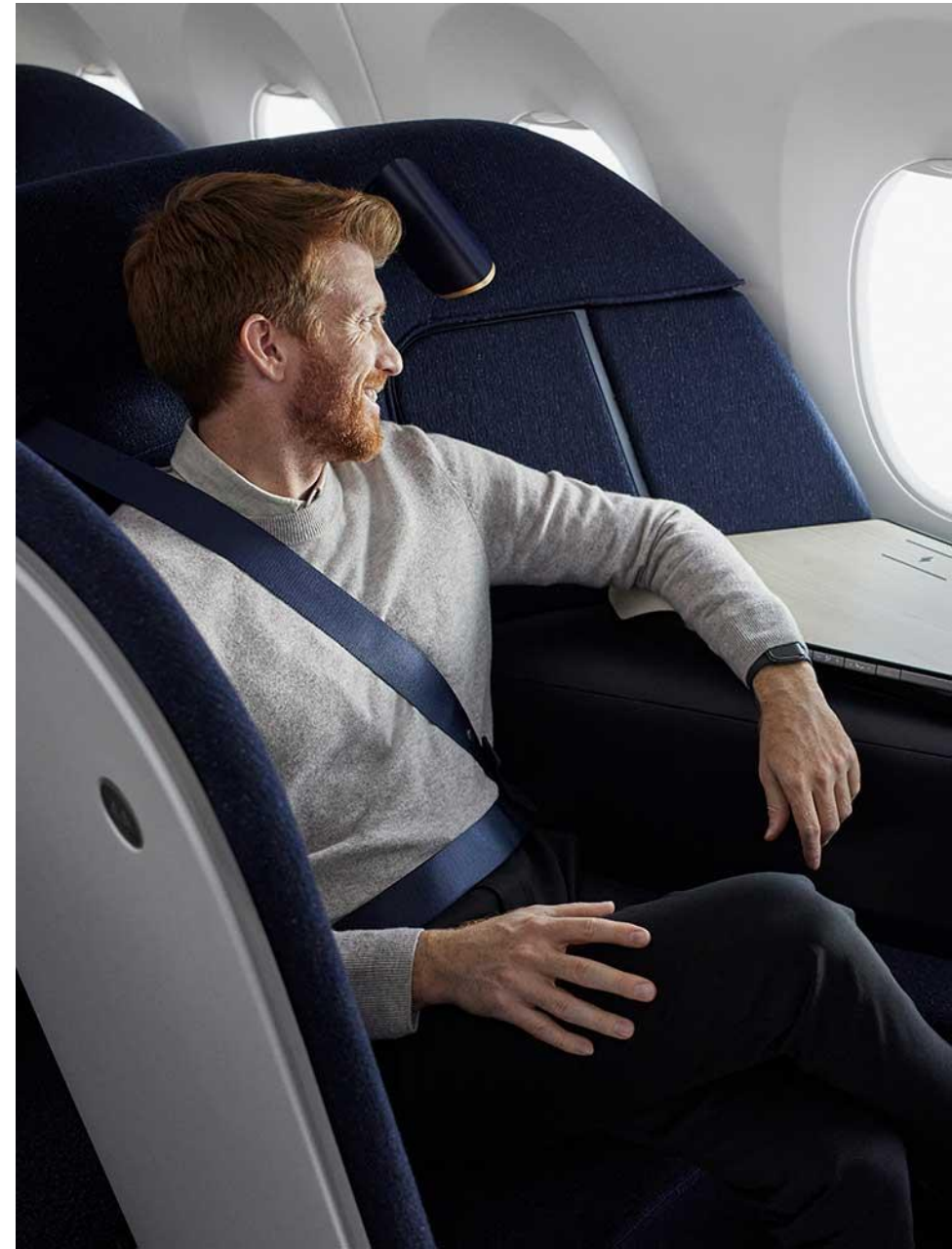






# **Welcome onboard on a journey to make the future of flying**

**We need end-to-end value chain co-operation  
to accelerate technological innovation  
and create economies of scale  
enabling large-scale GHG emissions reductions  
in the 2030's and 2040's.**



***FINNAIR***

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