



Sustain**able**

together  
we are

**able**

**AIRBUS**



# Our **purpose**

We pioneer sustainable aerospace  
for a safe and united world.

**AIRBUS**

# Airbus contribution

to the UN Sustainable Development Goals



Lead the journey  
towards clean  
aerospace



Respect human  
rights and foster  
inclusion



Build our business on  
the foundation of  
safety & quality



Exemplify  
business  
integrity





# Long term CO<sub>2</sub> targets

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# Net Zero: a growing ambition among airlines



290 airlines from IATA, representing >80% of the air traffic, have committed to net zero carbon emissions by 2050

# Sustainable growth

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## Progress since dawn of jet-age

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CO reduced by **50%**

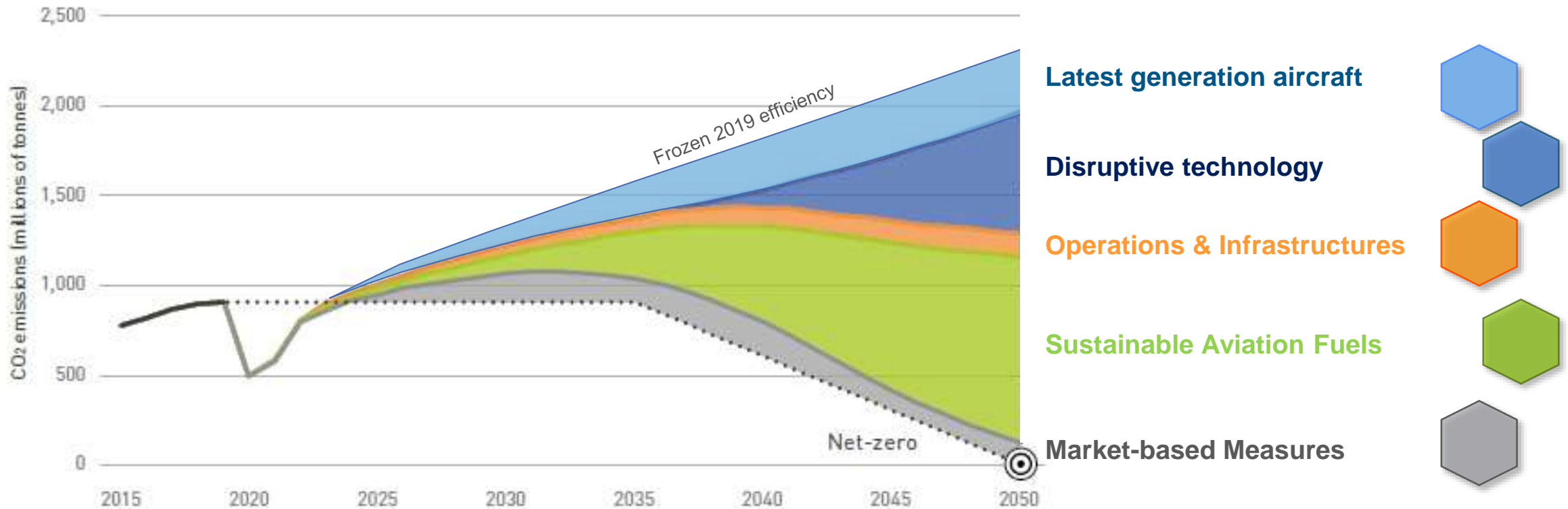
CO<sub>2</sub> reduced by **80%**

NO<sub>x</sub> reduced by **90%**

Noise reduced by **75%**

# Aviation CO<sub>2</sub> reduction roadmap

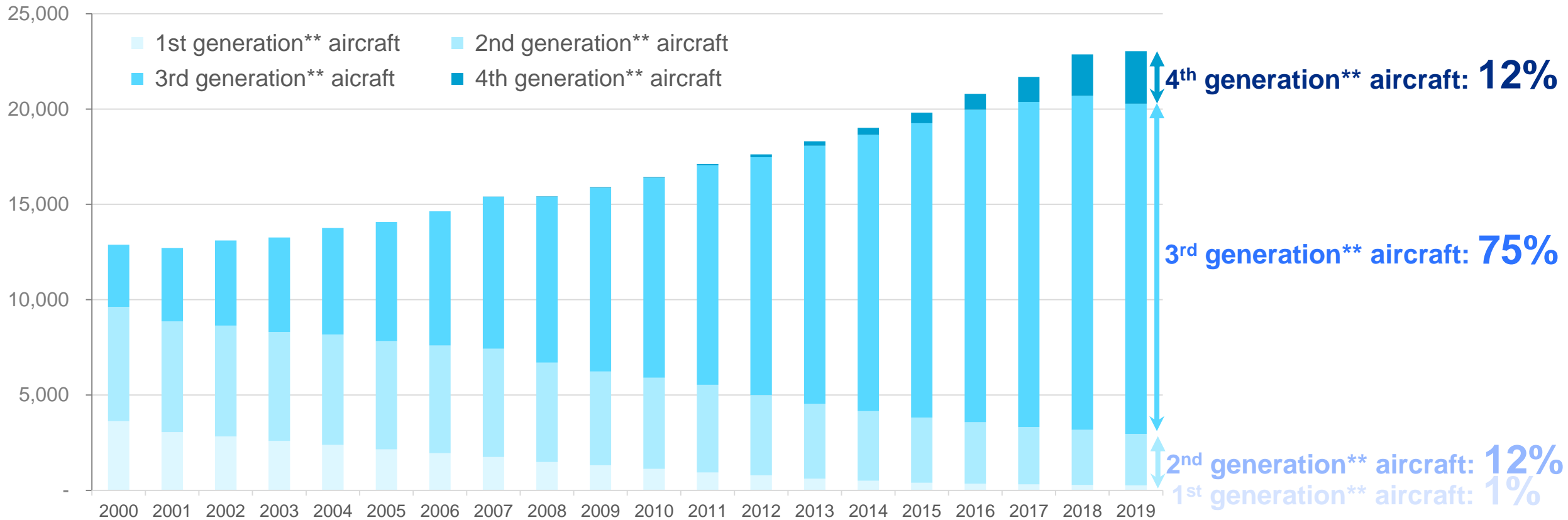
A multifaceted approach is required to achieve industry CO<sub>2</sub> ambitions



ATAG CO<sub>2</sub> Roadmap (most ambitious technology scenario & central traffic growth scenario: 3.1% CAGR 2019-2050)

# “Only” 12% of the world fleet in service at end 2019 were latest 4<sup>th</sup> generation aircraft

Number of aircraft in service\*



\* Western built passenger aircraft above 100 seats & western built freighter aircraft above 10 tonnes

\*\* 1<sup>st</sup> generation: A300, DC 9, DC10, 707, 727, 737, 747

3<sup>rd</sup> generation: A320 Fam., A330, A340, 717, 737NG, 747, 777

2<sup>nd</sup> generation: A310, MD11, MD80, MD90, 737, 747, 757, 767, F100

4<sup>th</sup> generation: A220, A320neo Fam., A330neo, A350, A380, E190E2, 737Max, 777X, 787



# In-service aircraft decarbonisation

Airbus solutions for operational improvements



## Upgrade services

Descent Profile Optimization (DPO)  
Air Management Function (AMF)  
Sharklet retrofit



## NAVBLUE

MONITOR solutions: help airlines to implement and monitor fuel savings  
OPTIMIZE solutions: focus on the aircraft performance optimization  
Fuel & Flight efficiency consulting & training



## Air Traffic Management

SESAR and NextGen research & development  
Continuous Descent Operations (CDO)  
Required Navigation Performance (RNP)  
Fello'Fly



## Core services

Green Operations Procedures (GOPs)  
Fuel efficiency & emissions reduction seminar and webinar  
CORSIA Skywise app



## Airports and ground operations

APU Off solutions  
Reduced Engine Taxi (RET) & Single Engine Taxiing without APU (SETWA)  
Engine Off solution: TaxiBot

Operations

Infrastructure

**AIRBUS**

# The Airbus Family

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\*noise margin to ICAO Chapter 4

**25%** less CO<sub>2</sub>  
**18** EPNdB\*



**25%** less CO<sub>2</sub>  
**20** EPNdB\*



**25%** less CO<sub>2</sub>  
**16** EPNdB\*



**25%** less CO<sub>2</sub>  
**21** EPNdB\*



## A complete family of eco-efficient aircraft

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CO<sub>2</sub> per seat:  
A220/A330/A350 compared to previous generation aircraft.



# What is Sustainable Aviation Fuel?

SAF is a “drop-in” fuel that can be blended with jet fuel and used in aircraft without any engine modification required.



Made of sustainable resources like:

- Municipal solid waste
- Used cooking oil
- Food waste/sugars
- CO<sub>2</sub> & green H<sub>2</sub>

Up to **80%**  
less CO<sub>2</sub> over its lifecycle  
compared to jet fuel

**+300,000\*** flights  
have run on SAF since 2011



**2011**

Launch of first series of A321 passenger flights using 50% blended biofuels (Lufthansa)

**2012**

North America's first "Perfect Flight" using 50% blended biofuels on A319 (Air Canada)

**2015**

First flight of A320 operating on 10% SAF blend

**2016**

First customer deliveries of SAF-enabled aircraft

**2019**

Launch of SAF use for Airbus Beluga operations

**2021**

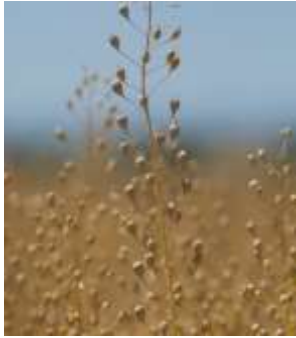
First flight of A350 operating on 100% SAF blend

Current most common options

Future



Waste oils



Oil and cellulosic crops



Wood processing and forestry waste  
Agricultural waste  
Municipal solid waste and industrial off-gasses



Power To Liquid (PtL) sources

Potential sources for SAFs

SAFs **DON'T** take their sources from:

Crops grown on high carbon stock land

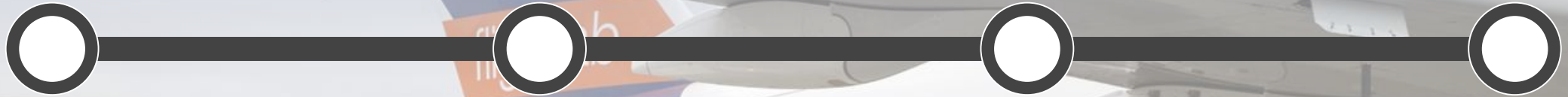


Feedstock that threatens food or water security





# En route to 100% SAF certification



## UNDERSTANDING

Solid basis of knowledge from years of research into SAF compatibility

## DEMONSTRATION

Flight test programmes to demonstrate performance and bolster understanding

## SPECIFICATION

Working with the whole industry to define the specification for 100% SAF

## CERTIFICATION

Certification of all Airbus platforms for 100% SAF between 2025 and 2030

## Key aircraft issues being tackled

Integrity and functionality of fuel gauging and fluid mechanical systems

Performance, operability and maintainability of engines and APU

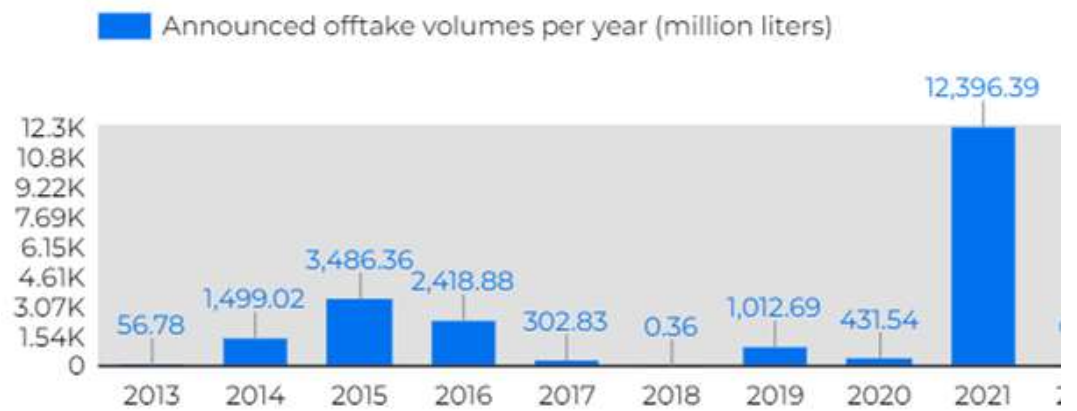
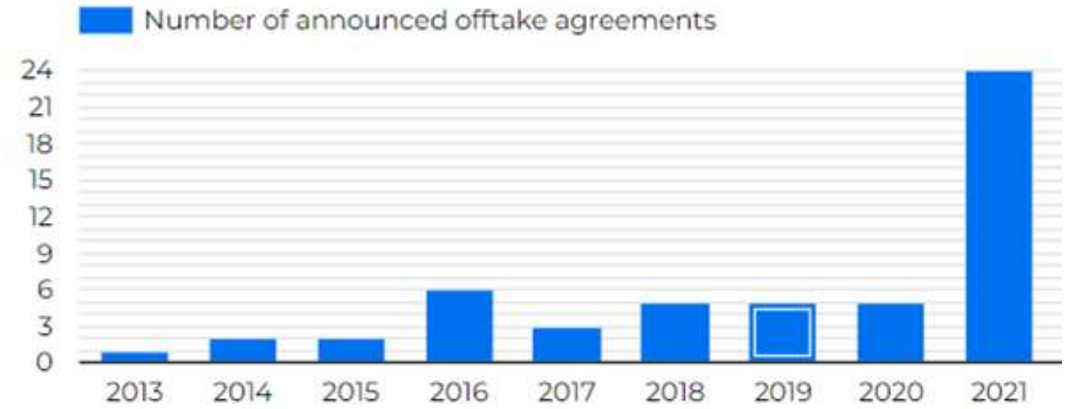
Compatibility of low-sulphur and low aromatics fuels with materials used in the airframe structure and systems

# Airline SAF offtake agreements accelerating

## Airline SAF offtake agreements 2021/22



Source: ICAO Global Framework for Aviation Alternative Fuels (GFAAF)



2021 saw a significant increase in SAF offtake agreements world wide:  
Incentives and mandates are starting to have an effect

# Airbus decarbonisation commitment

## Leading by example, starting with our own environmental impact

### Scope 1 and 2 targets

1.5°C trajectory

2021	2022	2030
-3%	-5%	-63%
vs 2020	vs 2021	vs 2015

Net Zero Scope  
1 & 2



Shifting to decarbonized electricity



Pioneering innovative solutions for our logistics

### Scope 3

Commitment to transparency

**2021**

Airbus 1st aircraft manufacturer to disclose its Scope 3 Use of Sold Product

**2022**

Airbus has officially engaged with SBTi to pursue full-scope target setting



Accelerating SAF usage in our operations

> Beluga transport scaling up to 50% SAF by 2030