Provocarile aviatiei legate de atingerea NetZero Emisii de Carbon pina in 2050

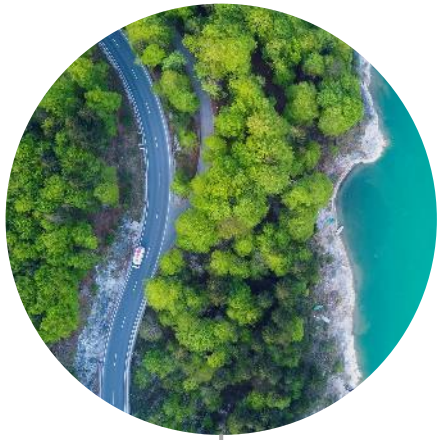
Aviation industry addressing climate change

Aviation produces around 2% of all CO2 emissions induced by humans

Four-pillar strategy to mitigate CO2 emissions

Developing new technology

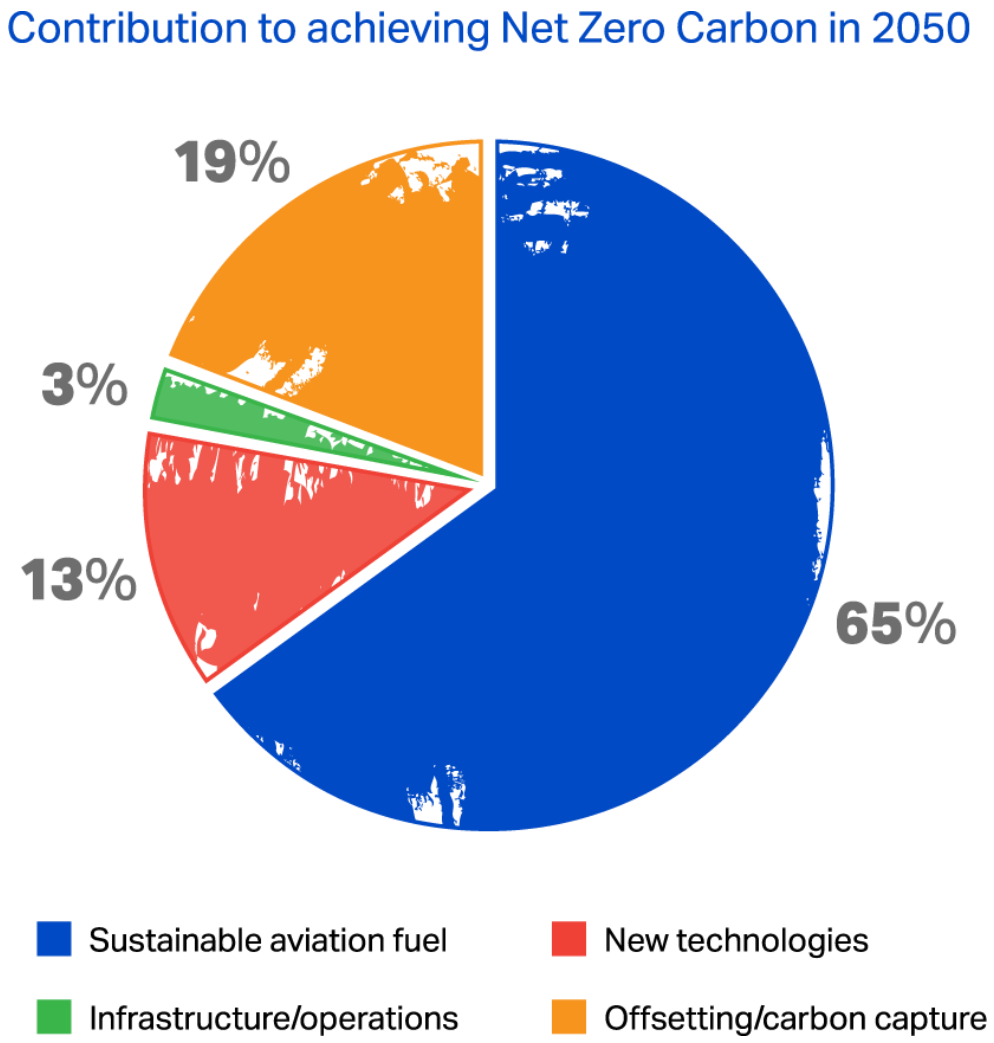
More efficient operations



Better use of infrastructure

Offsetting/carbon capture

The plan



Net Zero 2050 is achievable through:

Combination of measures

- Sustainable Aviation Fuel
- New technologies
- Operational and infrastructure improvements
- Offsetting/carbon capture

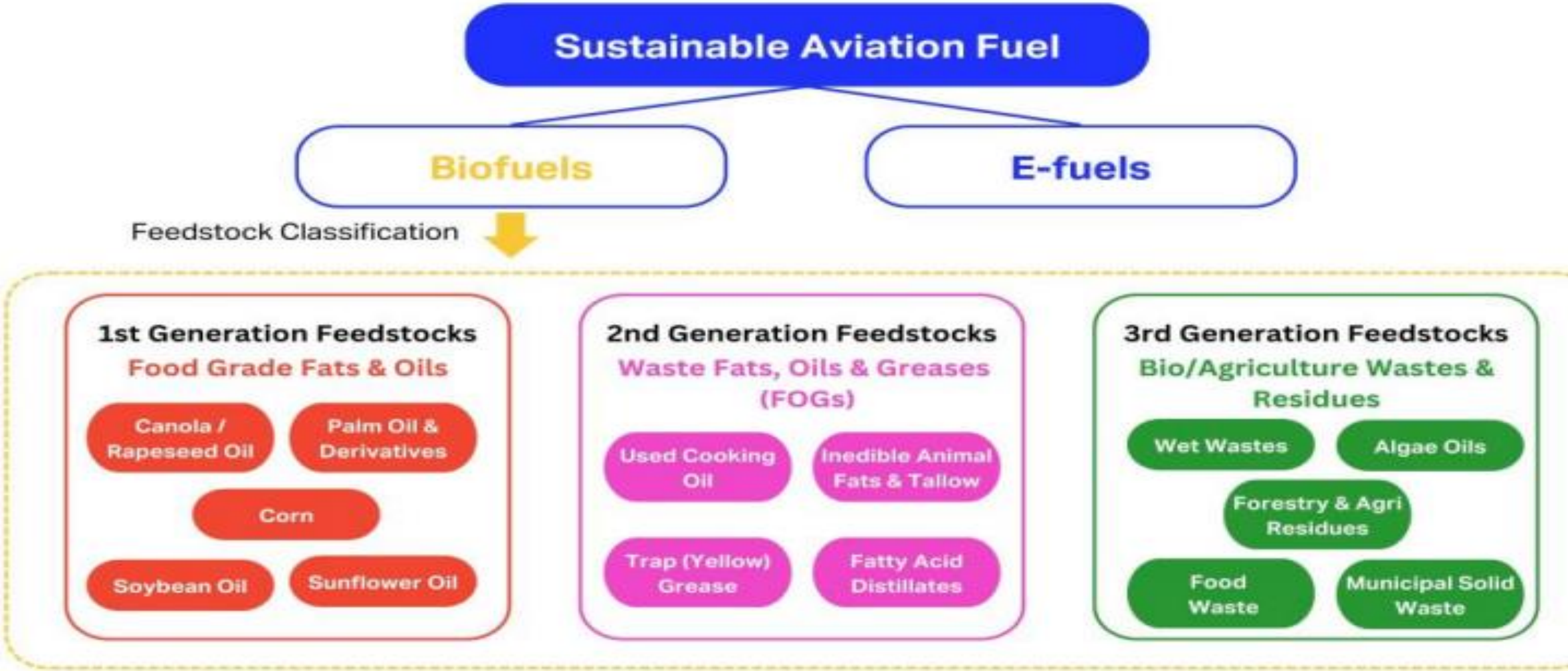
Collective effort

- of the entire industry together with governments, oil producers and investors.

SAF (Sustainable aviation fuel)

- Liquid fuel which reduces CO2 emissions by up to 80%;
- Production: several sources (feedstock) including waste oil and fats, green and municipal waste and non-food crops; produced synthetically via a process that captures carbon directly from the air;
- It is ‘sustainable’ because the raw feedstock does not compete with food crops or water supplies or is responsible for forest degradation;
- SAF recycles the CO2 which has been absorbed by the biomass used in the feedstock during the course of its life.

Broad SAF Classifications

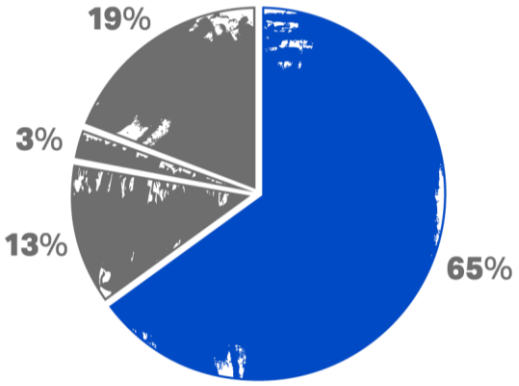


Sustainable aviation fuel

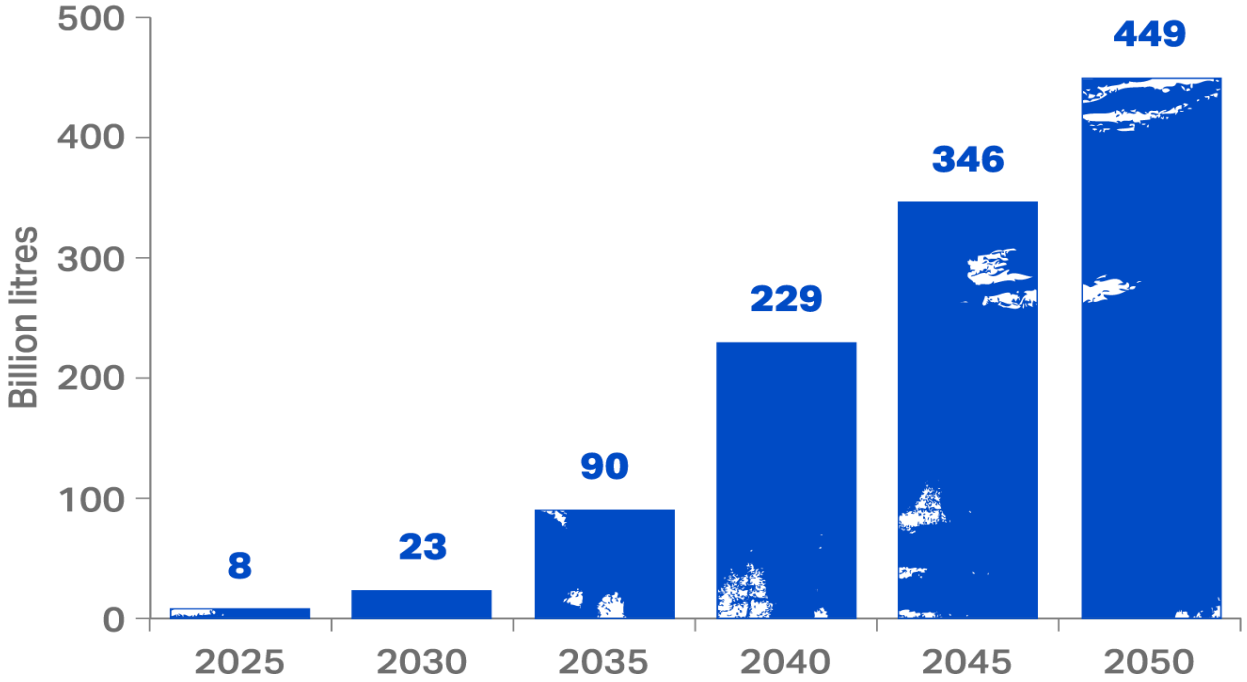
Big reliance on ramping up SAF production

- **Production needs to grow from 300 million liters today to at least 450 billion liters in 2050.**

- SAF will contribute around 65% of the emissions reductions needed in 2050



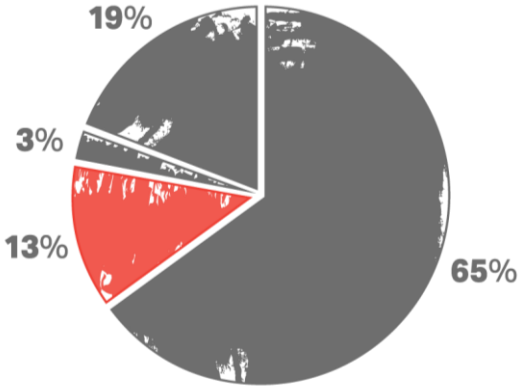
Expected SAF required for Net Zero 2050



New aircraft technology

- more efficient engines,
- better aerodynamics,
- reduced weight,
- use of composites instead of aluminum in the latest generation of planes has brought weight down, allowing engines to operate more efficiently.

New aircraft technology



- Electric, Hybrid, and Hydrogen propulsion will play a major role in the path to net-zero.
- New types of planes could come into service in the 2030s and 2040s.
- New aircraft technologies will contribute **around 13%** of the emissions reductions needed in 2050.

	~ 2025-30	~ 2035
Engine	Electric	Hydrogen
Seats	9 to 19	100 to150
Flight time	< 60’	Up to120’

New aircraft technology

Boeing Sonic Cruiser

Airbus MAVERIC

NASA and Boeing concept

Operations/infrastructure

Operations and infrastructure improvements can be implemented to deliver immediate emissions reductions

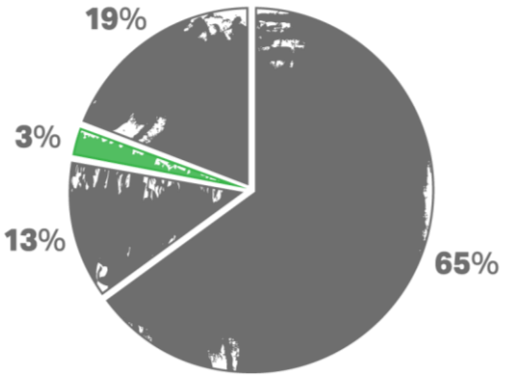
Examples:

- Retro-fitting winglets
- Light-weight seating
- Fuel efficiency management systems
- Reduced engine taxiing
- Air traffic management programs such as Single European Sky (SES) and NextGen can deliver significant savings

Operations and infrastructure can contribute

around 3%

of the emissions reductions needed in 2050.

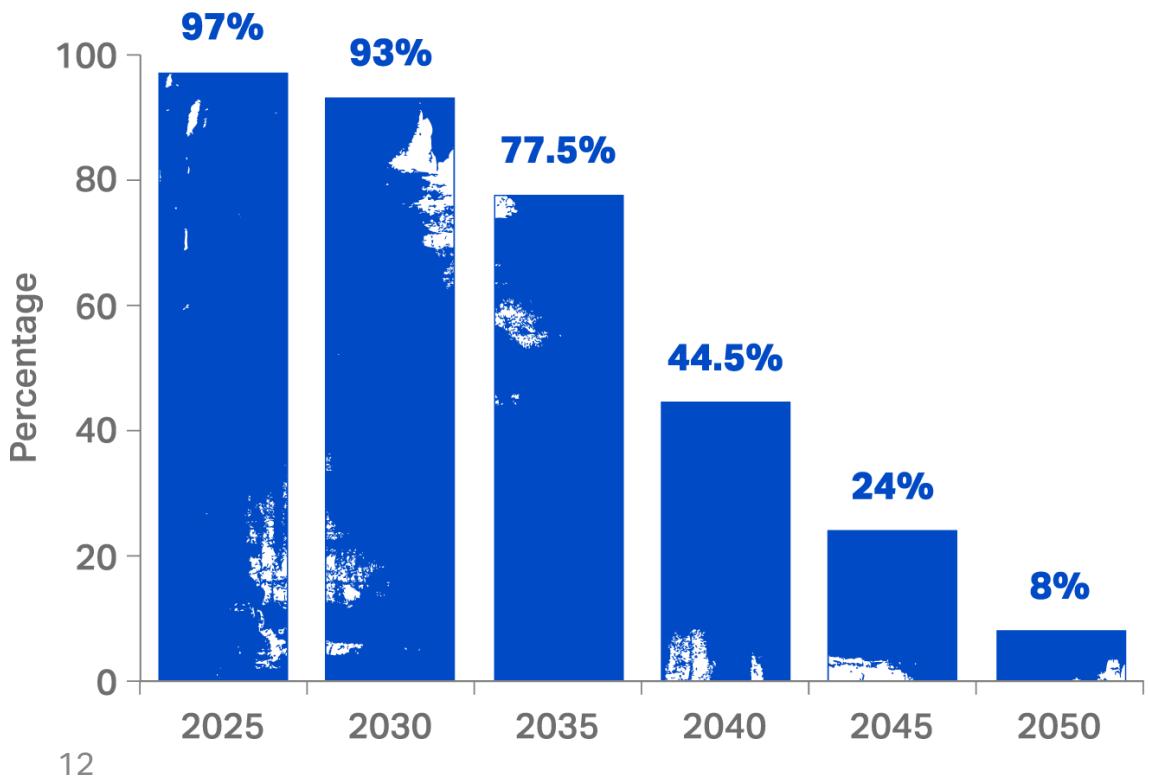


Offsetting/carbon capture

Offsetting will play a diminishing role in the industry strategy as other technologies develop.

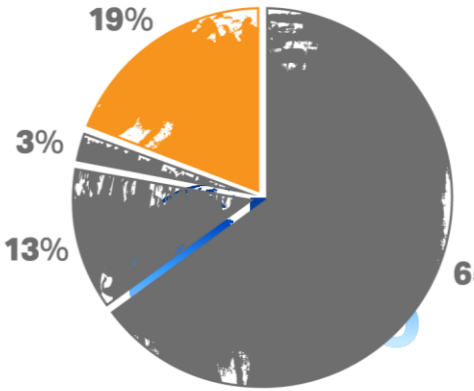
CCUS* removes carbon from the atmosphere and could be used for SAF production.

Estimated percentage reliance on offsets for industry CO_2 reduction



Offsetting and Carbon Capture can contribute **up to 19%** of the emissions reductions needed in 2050.

*Carbon Capture, Utilization and Storage



CORSIA

2.5b

tons of CO_2 will be mitigated by 2035

$40b

will be generated in climate finance by 2035

2019

Binding international standards since 1 January 2019

- Carbon Offsetting and Reduction Scheme for International Aviation
- In addition to reduce emissions, many offset projects bring social, environmental or economic benefits relevant to sustainable development.

Cooperation is the key

- **Fuel – producing companies**

- bringing large scale, cost-competitive sustainable aviation fuels (SAF) market

- **Aircraft and engine manufactures**

- producing radically more efficient airframe and propulsion technologies

- **Airport operators**

- providing the needed infrastructure to supply SAF cost-effectively

- **Governments and ANSPs**

- eliminating inefficiencies in air traffic management and space infrastructure;

Real measures for real needs

- Create incentive programs for airlines;
- Tax relief and tax exemptions;
- A coherent and balanced legal framework, based on economic and social realities and capabilities
- Public capital support and loan guarantees for production facilities
- Financial market policies such as preferential treatment of tailored financial instruments
- Accounting policies, including amortization schedules
- Research and development programs and support.

Aviația este dovada că, având voință, avem capacitatea de a realiza imposibilul

(~Aviation is proof that given, the will, we have the capacity to achieve the impossible ~)

Eddie Rickenbacker
"renumit aviator american și as din Primul Război Mondial"