

Net Zero – 2050 and the role of SAF



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October 2021: Aviation industry commits to net zero emissions 2050

AIR TRANSPORT

IATA Ups Industry's Environmental Target to Net-zero Emissions by 2050

by Cathy Buyck - October 4, 2021, 4:10 PM



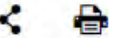
IATA's annual general meeting voted to step up plans to eliminate carbon dioxide emissions from the airline industry. (Photo: IATA)



International Air Transport Association (IATA) members on Monday voted to strengthen the airline industry's environmental ambition and set a target to achieve net-zero carbon emissions by 2050, up from a previous target to half CO2 emissions on 2005 levels by 2050. The new target was expected and approved at the IATA annual general meeting in Boston in spite of requests by Chinese airlines to delay the timeframe to 2060, in line with China's carbon neutrality pledge by 2060.

Press Release No: 66

Date: 4 October 2021



Net-Zero Carbon Emissions by 2050



Translation:

[Cero emisiones netas de CO2 en 2050 \(pdf\)](#)

[国际航协：2050年实现净零碳排放 \(pdf\)](#)

Boston - The International Air Transport Association (IATA) 77th Annual General Meeting approved a resolution for the global air transport industry to achieve net-zero carbon emissions by 2050. This commitment will align with the Paris Agreement goal for global warming not to exceed 1.5°C.

"The world's airlines have taken a momentous decision to ensure that flying is sustainable. The post-COVID-19 re-connect will be on a clear path towards net zero. That will ensure the freedom of future generations to sustainably explore, learn, trade, build markets, appreciate cultures and connect with people the world over. With the collective efforts of the entire value chain and supportive government policies, aviation will achieve net zero emissions by 2050," said Willie Walsh, IATA's Director General.

Achieving net zero emissions will be a huge challenge. The aviation industry must progressively reduce its emissions while accommodating the growing demand of a world that is eager to fly. To be able to serve the needs of the ten billion people expected to fly in 2050, at least 1.8 gigatons of carbon must be abated in that year. Moreover, the net zero commitment implies that a cumulative total of 21.2 gigatons of carbon will be abated between now and 2050.

Achieving decarbonization goals since 2009

Air transport established sector-wide climate goals in 2009, updated in 2021.

Waypoint 2050 provides details of the pathway to meeting the long-term goal.

Key takeaways:

- Net-zero carbon from aviation in 2050 is achievable, but a significant challenge
- Will need to use all available pillars including new technologies; operational improvements; sustainable aviation fuel and carbon removals of residual emissions.

GOAL
1

1.5% AVERAGE ANNUAL
FUEL EFFICIENCY
IMPROVEMENT
2009-2020

*Pre-Covid-19 tracking
above average at around
2% per annum*

GOAL
2

STABILISE NET AVIATION
CO₂ EMISSIONS THROUGH
CARBON-NEUTRAL
GROWTH

*To be delivered for
international aviation
through the UN (ICAO
CORSIA)*

GOAL
3

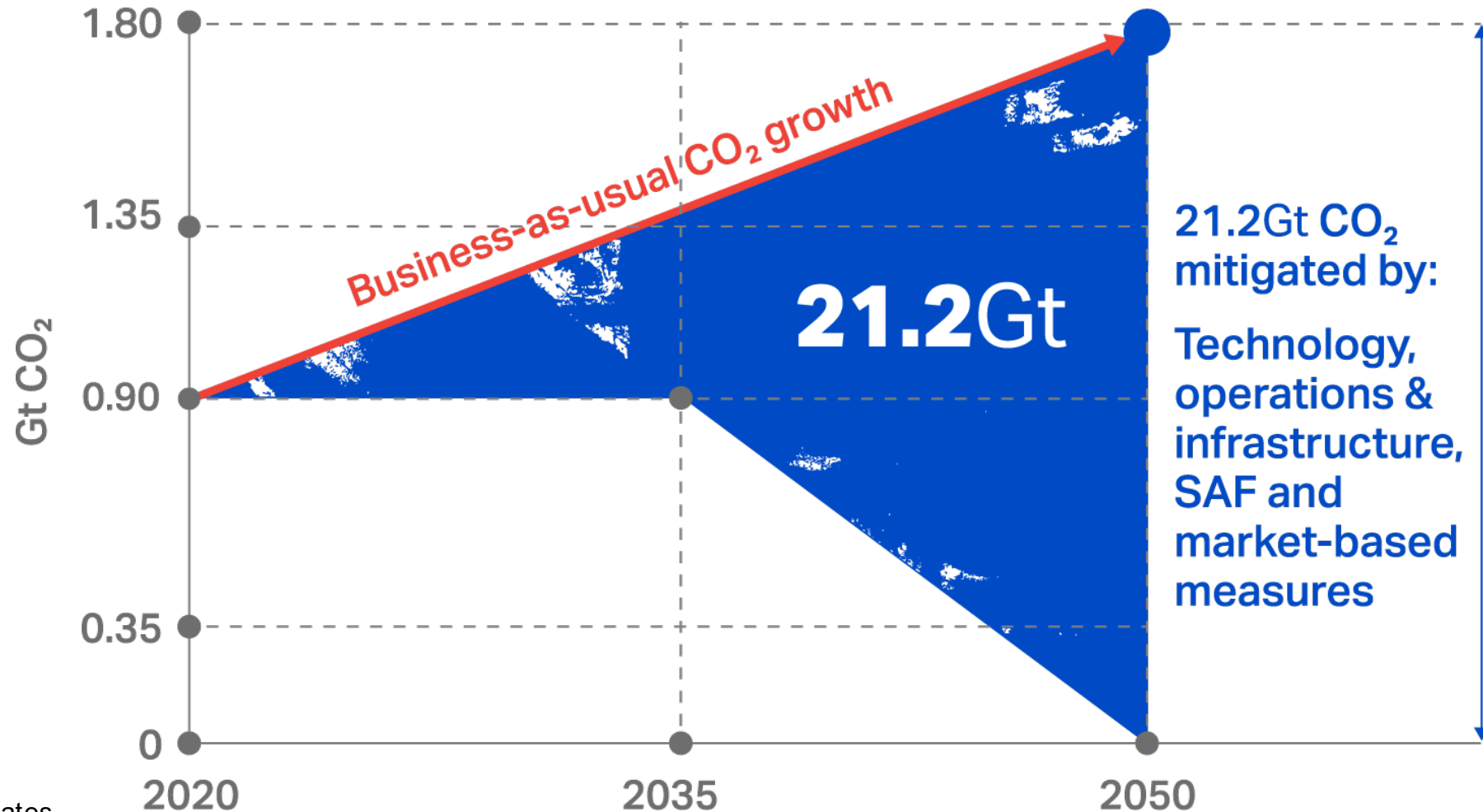
REACH
NET-ZERO CO₂
EMISSIONS BY
2050



Net Zero CO₂ Emissions in numbers

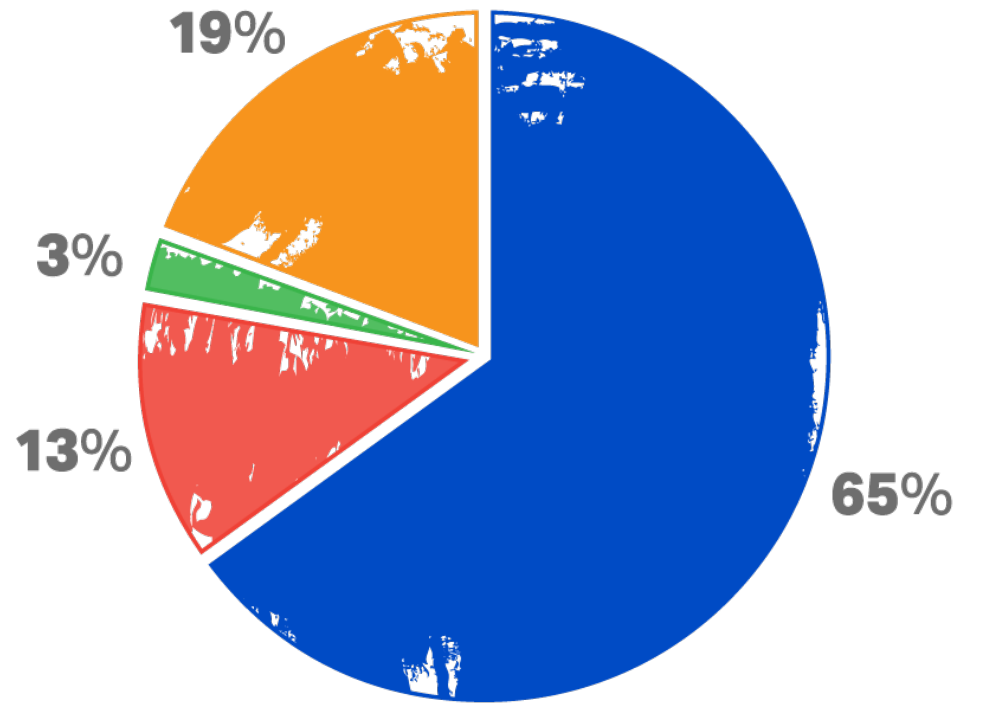
Aviation represents 2% of global emissions

Net Zero: Aviation carbon emissions to be abated by 2050



2050 decarbonization: One potential achievement scenario

Contribution to achieving Net Zero Carbon in 2050



Net Zero 2050 is achievable through:

Combination of measures

Sustainable Aviation Fuel, new , technologies, operational and infrastructure improvements, and offsetting/carbon capture

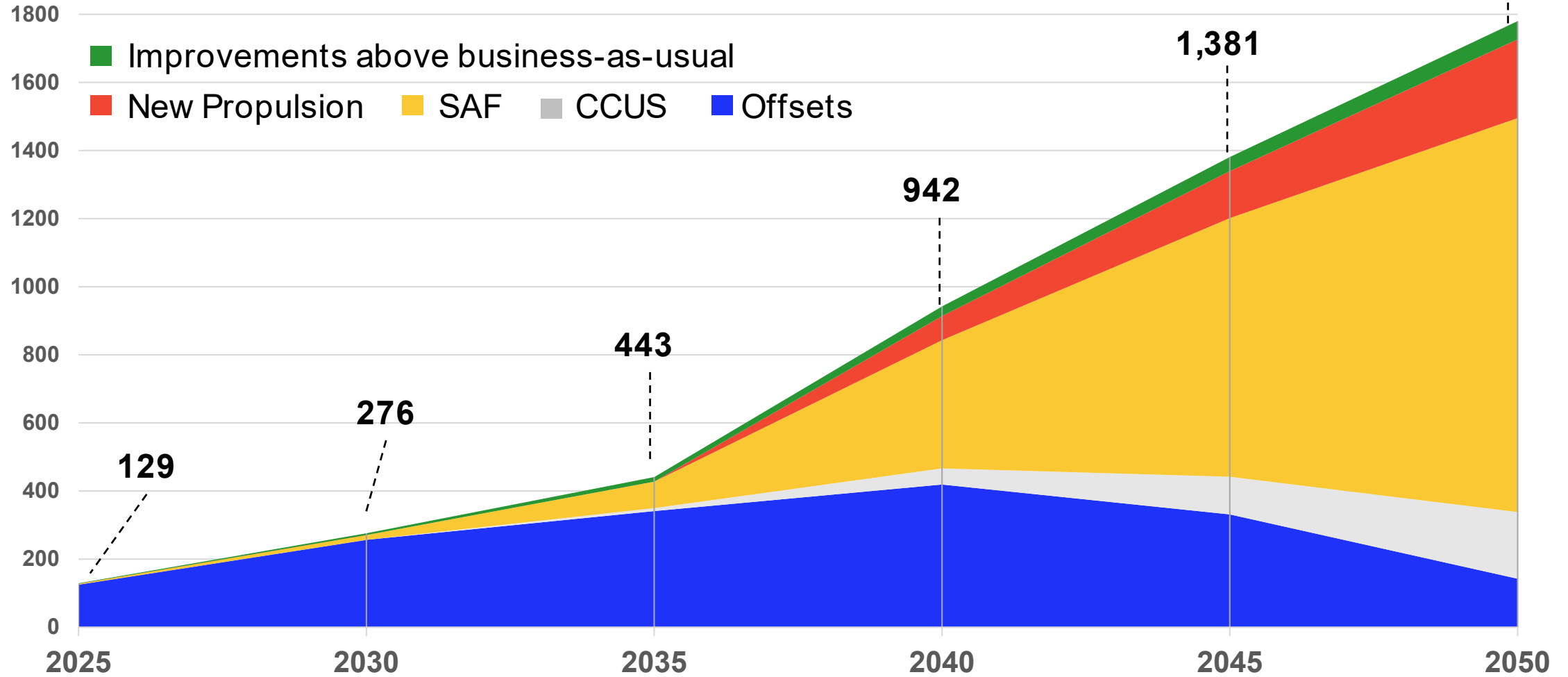
Collective effort

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



Expected CO₂ journey

1,780



979Mt CO₂

1,703Mt CO₂

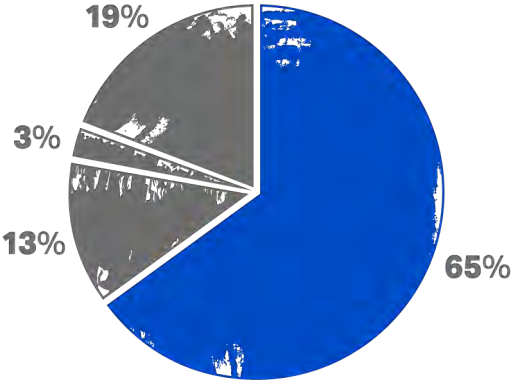
3,824Mt CO₂

6,153Mt CO₂

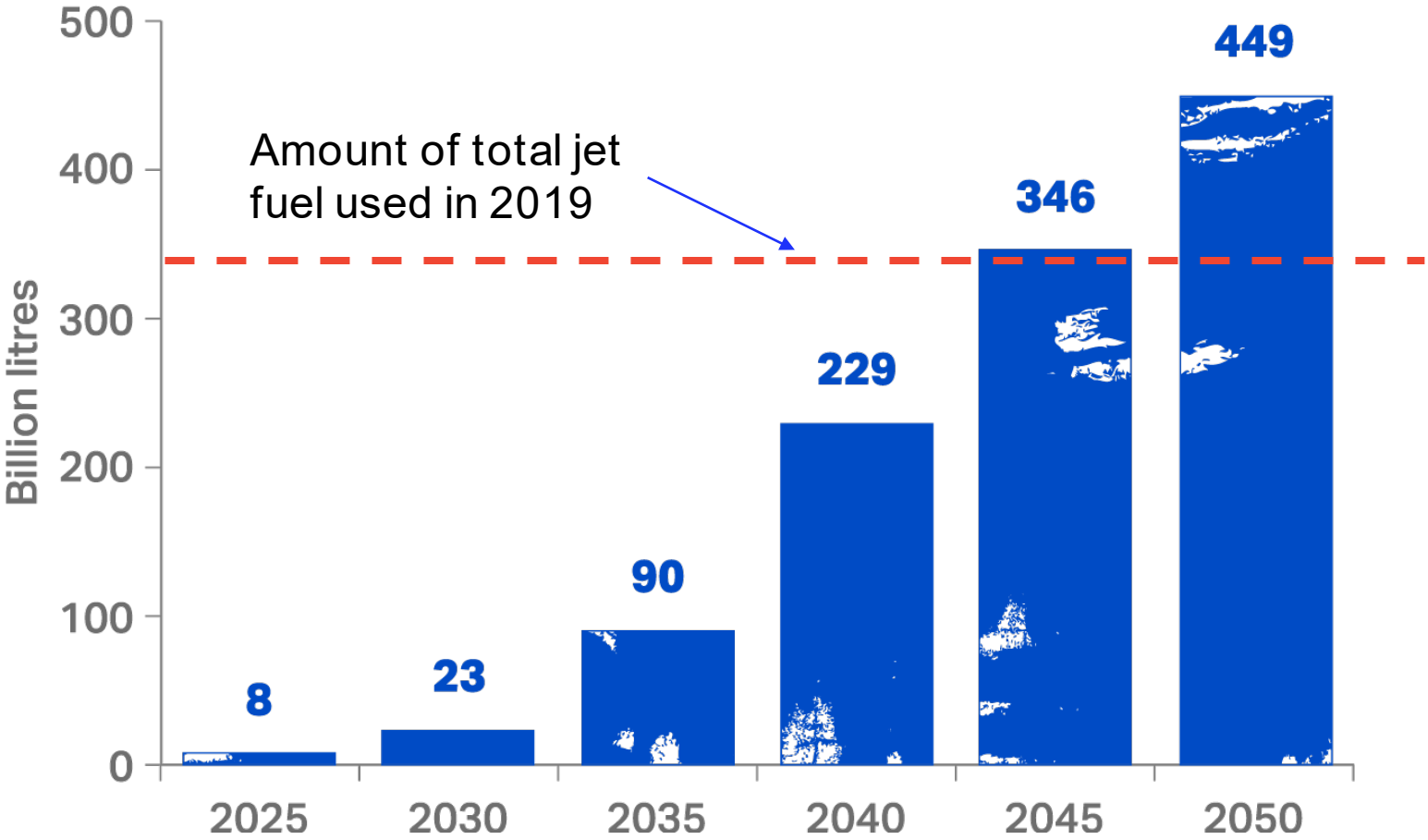
8,614Mt CO₂



SAF expected to do the heavy lifting



Expected SAF required for Net Zero 2050



Big reliance on ramping up SAF production

Production needs to go from 100 million liters today to at least 449 billion liters in 2050.

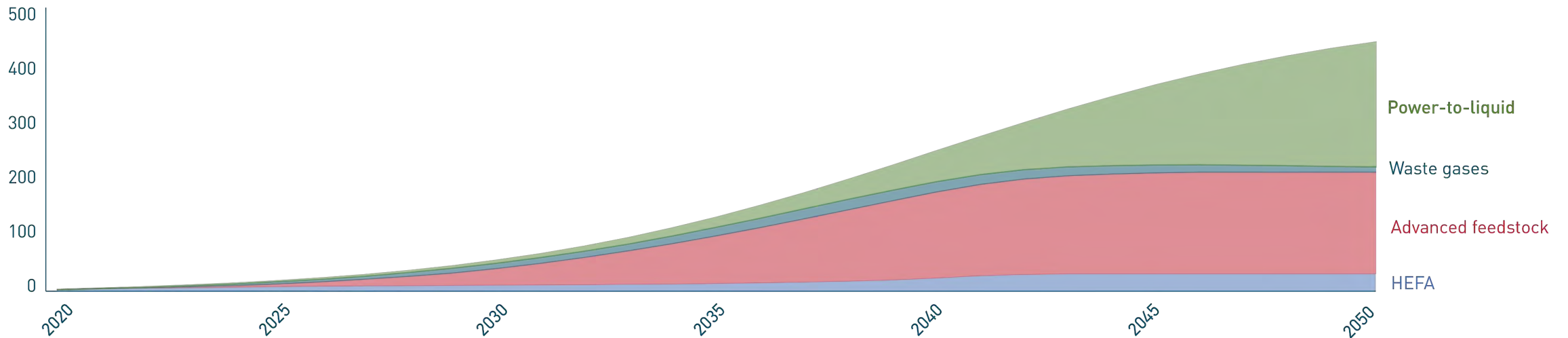
SAF should contribute around 65% of the emissions reductions needed in 2050.



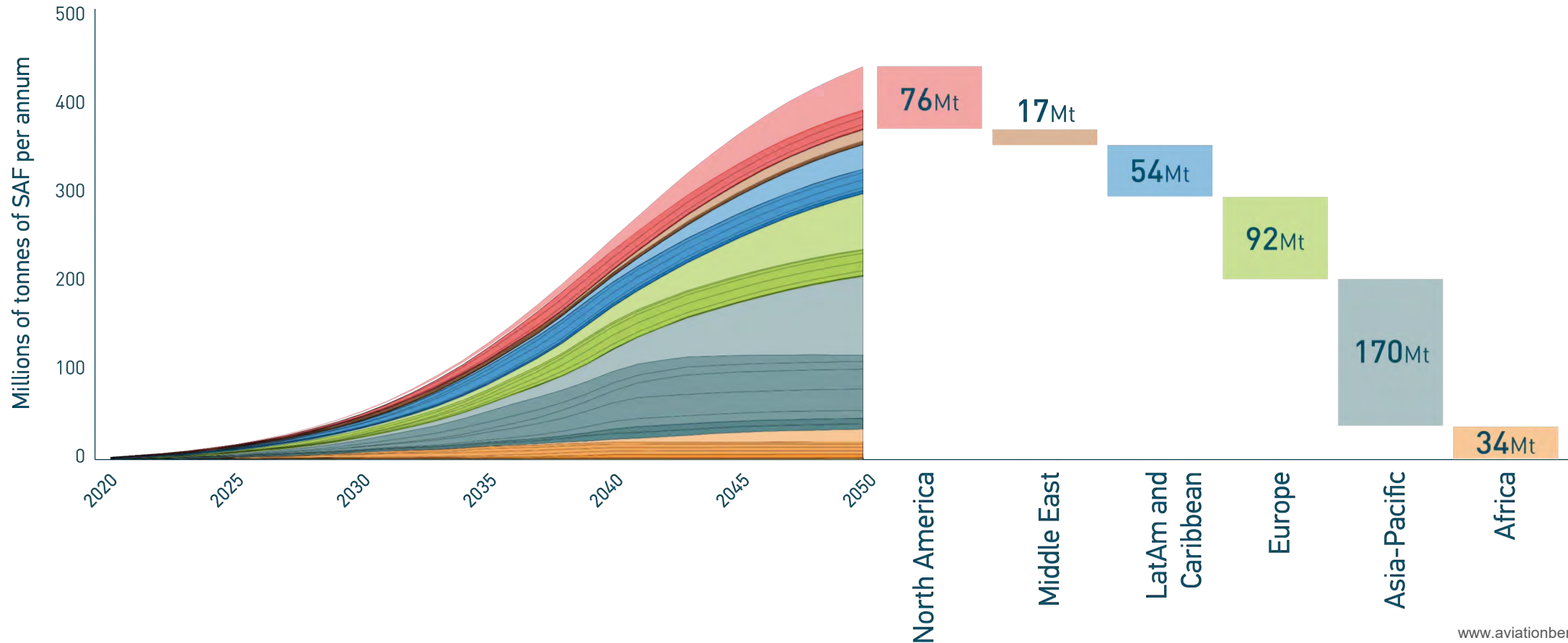
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Evolution of SAF will take place in three waves



SAF production evolution on a regional basis



Global progress on sustainability (under CORSIA)

Sustainability certification scheme attestation

National attestation

Voluntarily compliance

Theme 1-7

1. Minimum GHG reduction achievement
2. Carbon Stock
3. Water
4. Soil
5. Air
6. Conservation
7. Waste and Chemicals

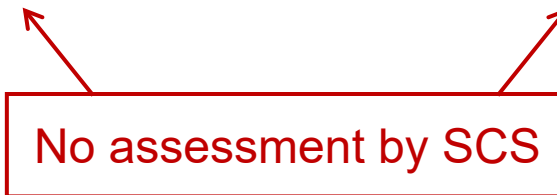
Theme 8-10

8. Human and labor rights
9. Land use rights and land use
10. Water use rights

Theme 11-12

11. Local and social development
12. Food Security

No assessment by SCS



Important for feedstock availability



Crops grown on high carbon stock land



Don't threaten food / water security

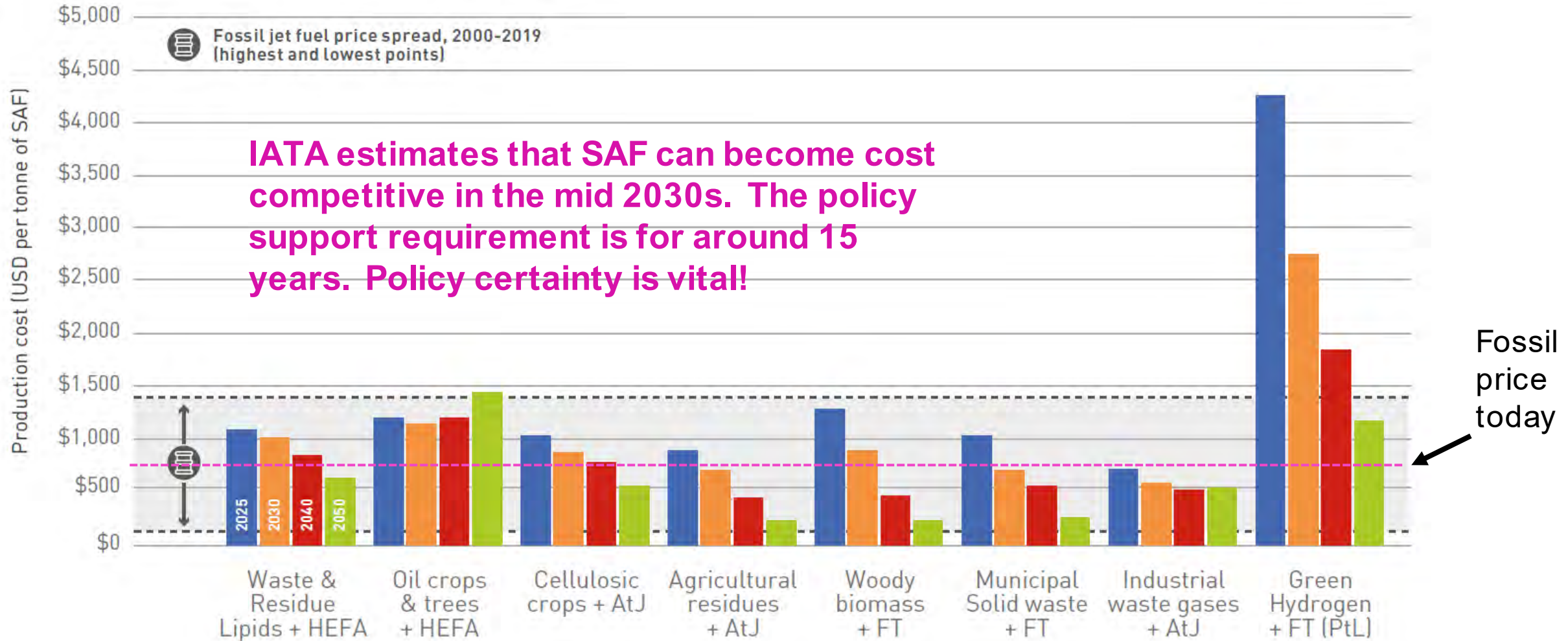


High carbon alternative sources

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SAF costs will come down as technology improves... This has interesting policy implications



Aviation energy transition creates opportunities



Building:

**5,000 – 7,000
production
facilities**

Improving energy security and
resilience

Creating opportunities in all countries
– 90% of current oil production is in
22 countries

Assumes small-scale production
close to feedstocks and airports –
likely opportunities for some
consolidation

Investment of:

\$1.0-1.45 trillion

~6% of annual fossil and gas
investment

Aviation currently uses ~7% of liquid
fuels

However, aviation will be a sector
more important to the energy industry
in the future as other transport shifts
to electric.

And will create:

**Up to 14 million
jobs**

With 90% across the supply chain

Supporting collection of feedstock
and construction of facilities

Helping to support a just transition
from fossil fuel jobs to clean energy

ICAO 40th Assembly

(24 Sep-4 Oct 2019 Montreal)

182 States, 55 Int'l Organizations, 2400+ attendees

CORSIA

“CORSIA is the only global market-based measure applying to CO2 emissions from international aviation so as to avoid a possible patchwork of duplicative State or regional MBMs, thus ensuring that international aviation CO2 emissions should be accounted for only once”.

ICAO 41ST Assembly

(26 Sep-7 Oct 2022 Montreal)

Long-term goal

A 2050 emissions goal will be discussed and likely agreed by States. Different to the industry goal this will become regulation in the Chicago Convention



IATA to ensure no airline is left behind

In the near term:

- SAF knowledge development and readiness for ALL airlines
- Champion global leadership, ensure all initiatives develop with the highest standards of SAF technical / sustainability and policy effectiveness
- Make innovative solutions available to all airlines that will accelerate the aviation energy transition in a globally harmonious way

Q & A

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