

UNITED

Roadmap to Net Zero GHGs by 2050

October 2023



Emerging expectations are influencing climate actions and disclosures



United's ambition is to play a key role in making air travel more sustainable.

~3%

of global greenhouse gas (GHG) emissions come from aviation

~98%

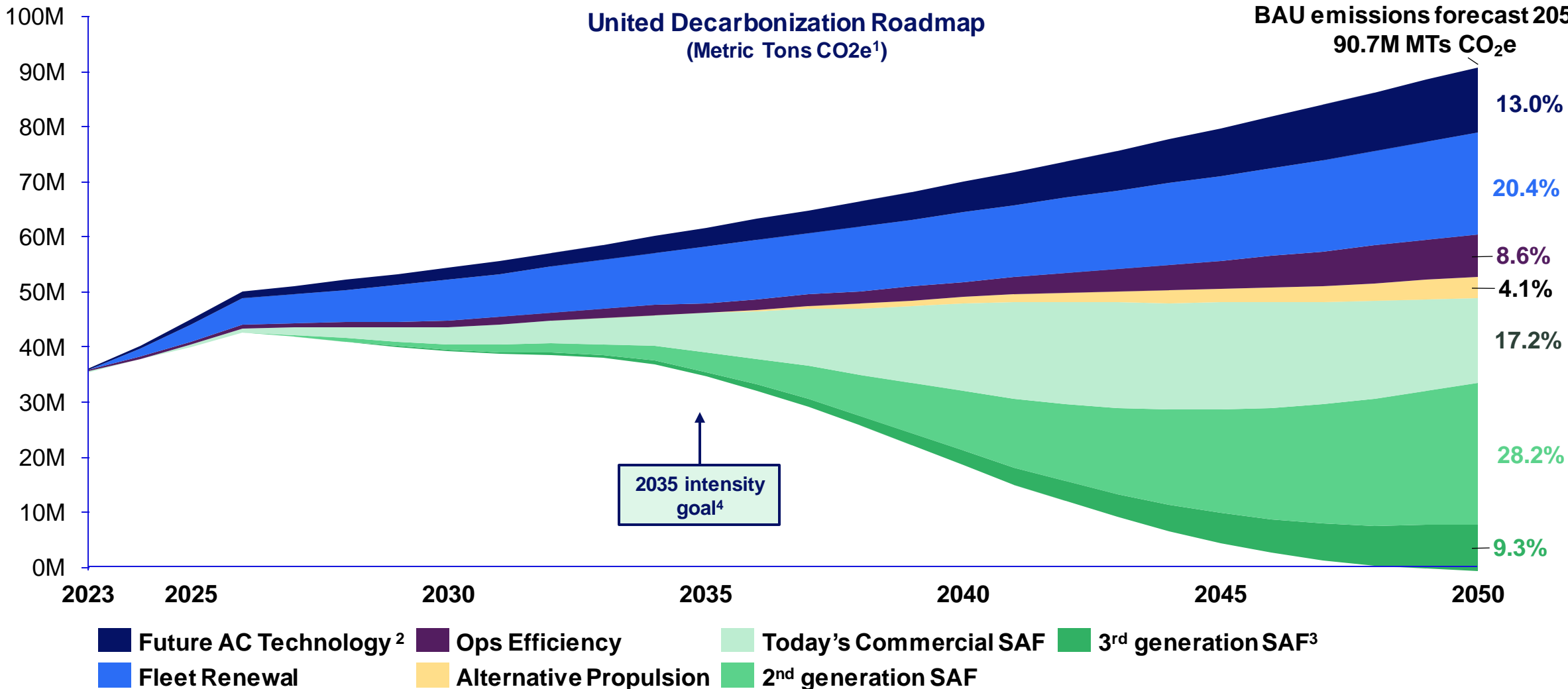
of United's GHG emissions from jet fuel

100%

We pledge to reduce our GHG emissions by 100% by 2050 without relying on traditional carbon offsets



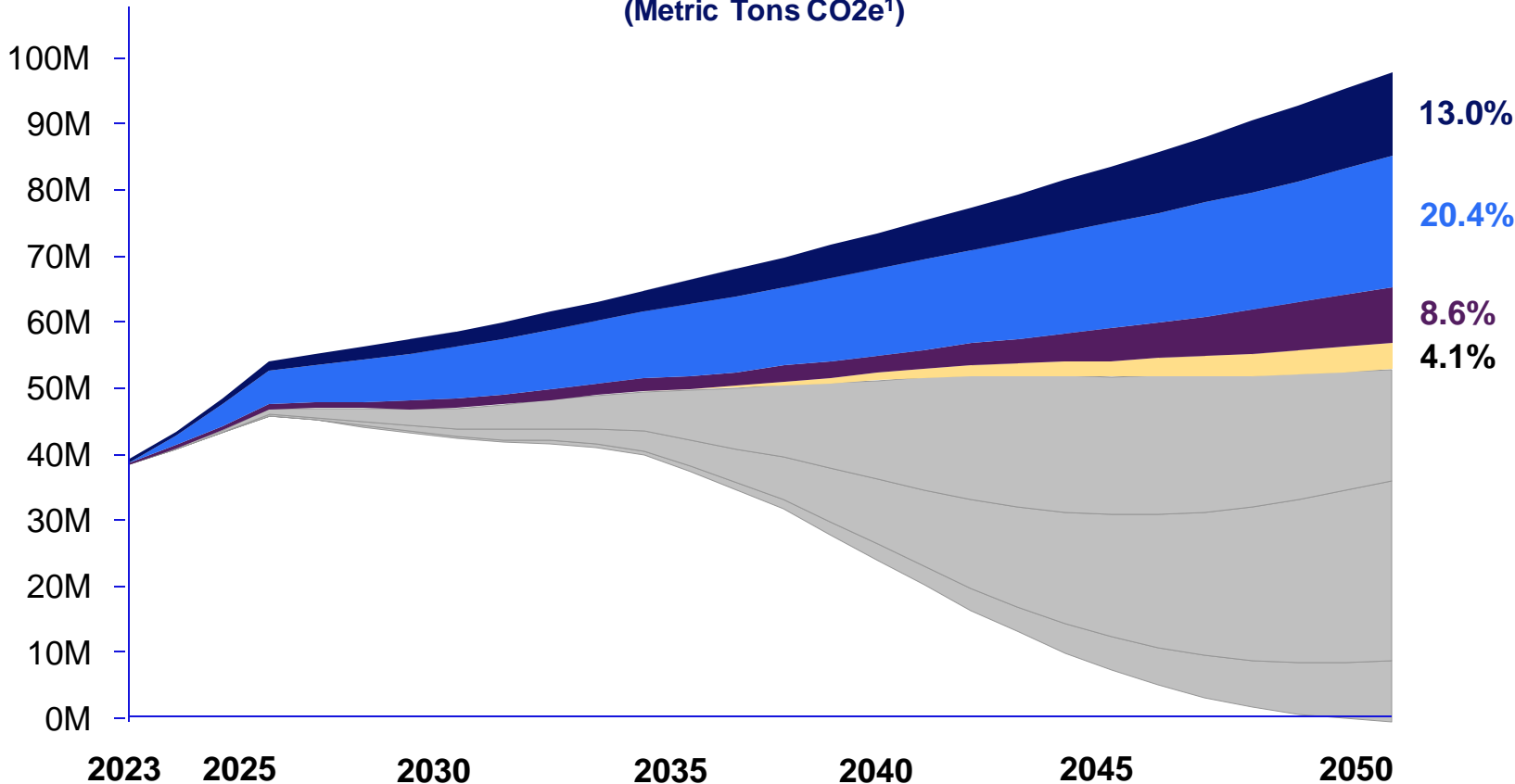
United's roadmap to net zero GHG emissions by 2050 requires fuel reduction and replacement of conventional fuel



¹Emissions from aircraft jet fuel combustion (tank-to-wake), other Scope 1 emissions, and Scope 2 emissions. ²Future Gen: New AC yet to be developed e.g. Future LNB ³Includes SAF dependent on carbon removals
⁴Goal validated by Science Based Targets initiative (SBTi): 50% reduction in carbon intensity by 2035 compared to 2019 baseline

Our fuel reduction includes four key measures that reduce emissions ~45% by 2050

United Decarbonization Roadmap
(Metric Tons CO₂e¹)



- 
Future aircraft technology
 Advancements in aircraft design and engine
- 
Fleet renewal
 Continuation of **United Next** through replacement of older aircraft with newer, more fuel-efficient models
- 
Operational efficiency
 Operational measures to ensure we are flying the most efficient and direct routes
- 
Alternative propulsion
 Primarily shorter-haul distance, regional aircraft using battery electric or hydrogen propulsion

Future AC Technology
 Ops Efficiency
 Today's Commercial SAF
 3rd generation SAF
 Fleet Renewal
 Alternative Propulsion
 2nd generation SAF



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²Goal validated by Science Based Targets initiative (SBTi): 50% reduction in carbon intensity by 2035 compared to 2019 baseline

United Next, the largest order by a U.S. carrier in commercial airline history, directly contributes to our climate ambitions



Nearly 800 new narrowbody and widebody aircraft between 2023 and the end of 2032:

- Larger overhead bins
- Entertainment & WiFi for everyone
- Upgraded clubs
- And 20-25% improvement in fuel efficiency and lower carbon emissions per seat compared with the airplanes it replaces¹

United expects that 75% of its fleet will be new-generation by 2030

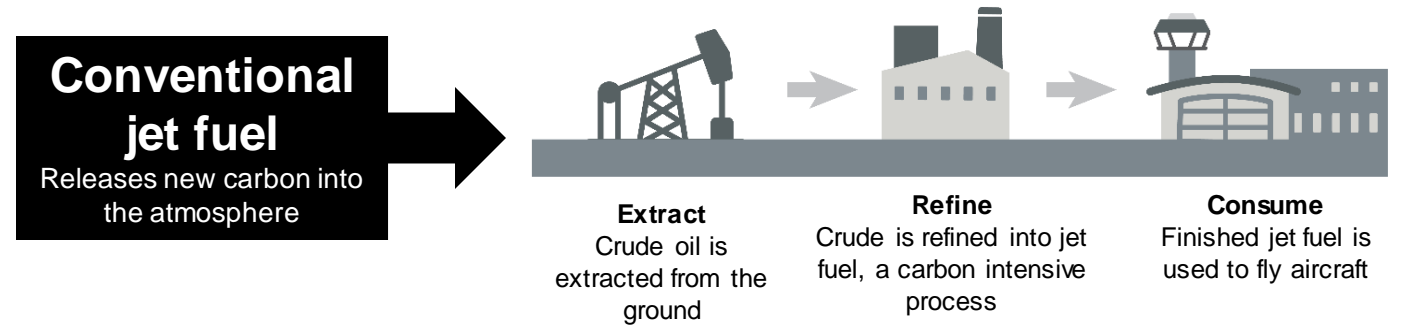


¹ According to Boeing, the 787 Dreamliner contributes up to a 25% improvement in fuel efficiency and lower carbon emissions per seat compared with the airplanes it replaces and according to Airbus, the A321neo brings a 50% noise reduction and more than 20% fuel savings and CO₂ reduction compared to previous generation single-aisle aircraft.

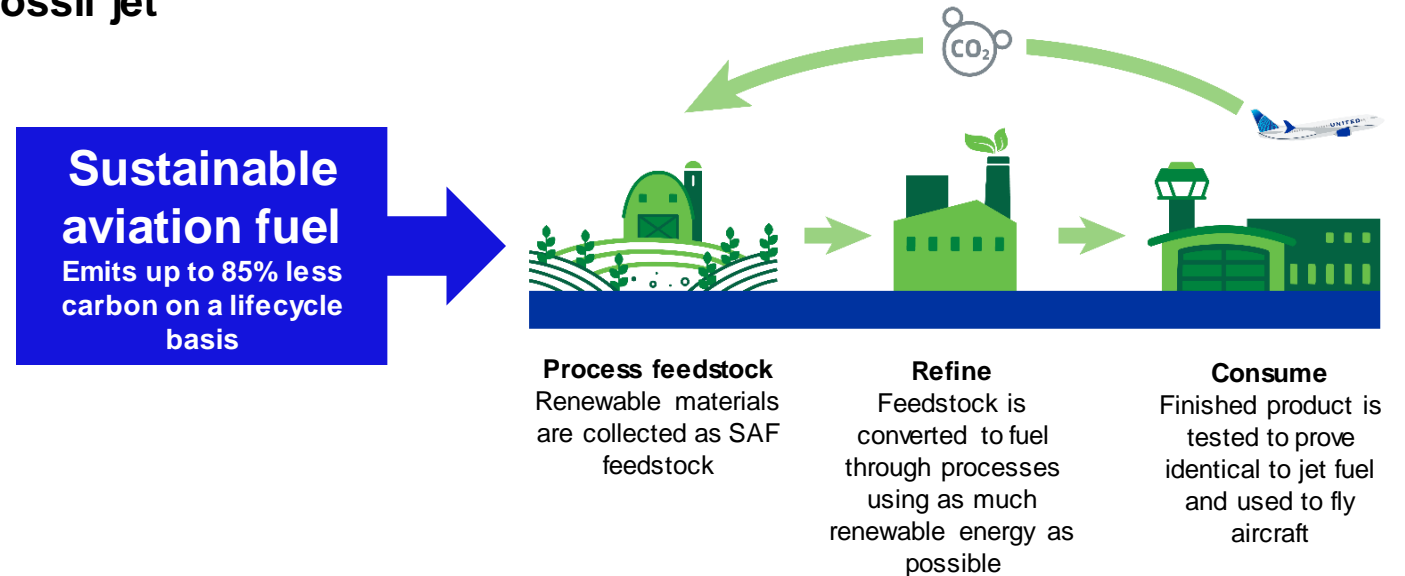
Sustainable aviation fuel



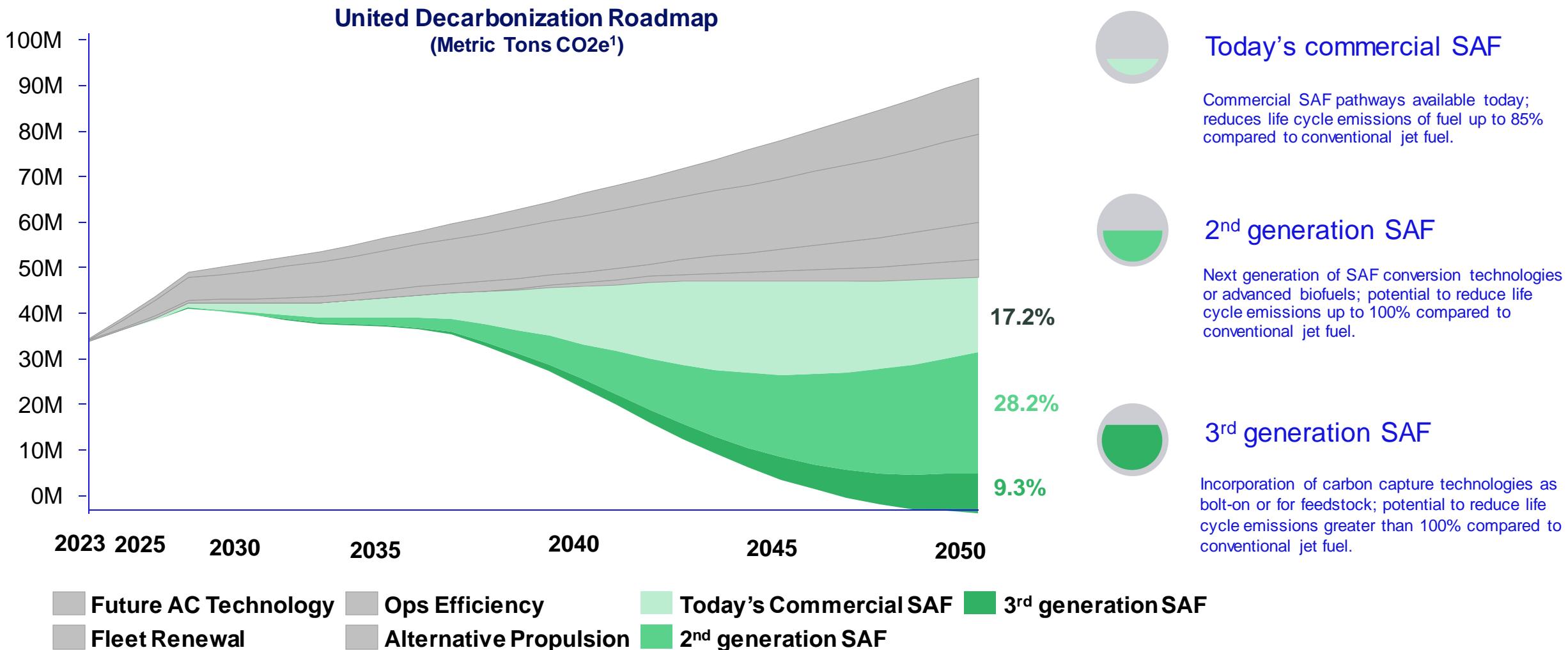
Sustainable aviation fuel (SAF) is a drop-in replacement for conventional jet fuel.



It can emit up to 85% less greenhouse gas emissions on a lifecycle basis than fossil jet



The most significant contribution – about 55% - to United’s 2050 net zero goal is SAF



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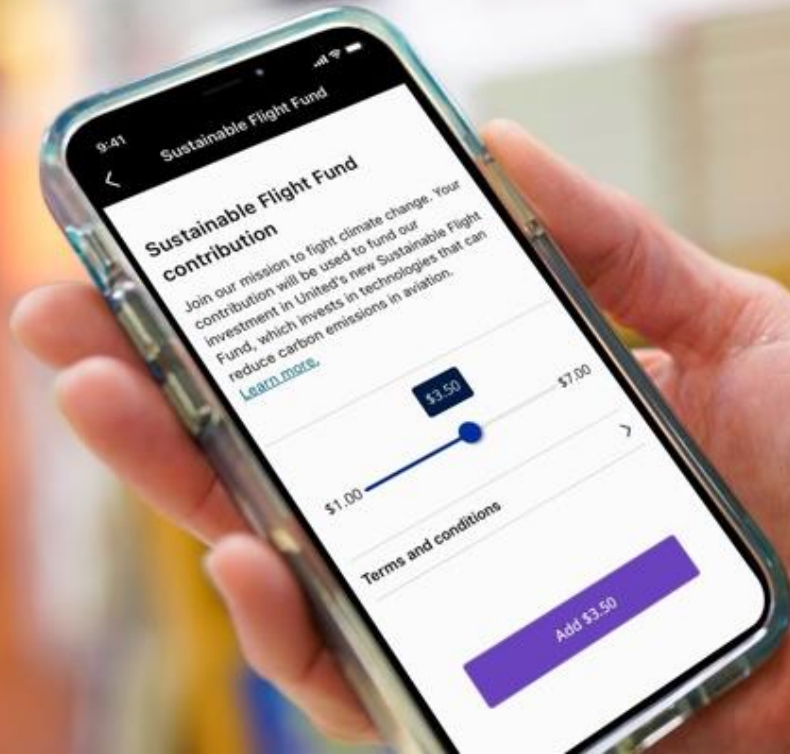
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United's Sustainable Flight Fund Grows to Nearly \$200 Million and Adds Strategic Partners

We are creatively financing the transition



Washington, DC, US (IAD) to Chicago, IL, US (ORD)

There are no available bundles for this segment.

WANT TO MAKE THE FUTURE OF FLYING MORE SUSTAINABLE?

Join our mission to fight climate change. Your contribution will be used to fund our investment in United's new Sustainable Flight Fund, which invests in technologies that can reduce carbon emissions in aviation. [Learn more.](#)
















\$3.50

\$1.00 \$7.00

Add \$3.50

Through the United Sustainable Flight Fund and United Airlines Ventures, we are investing in technologies aligned to our roadmap

We aim to invest in technologies that tie back to our roadmap

Operational Efficiency	 Natron Energy Ground equipment power delivery			
Alternative Propulsion	 ARCHER  EVE MOBILITY REIMAGINED eVTOL <i>Service not currently offered by UA</i>		 Heart Aerospace Battery powered aircraft	 ZEROAVIA Hydrogen powered aircraft
Today's Commercial SAF	 NEXT Renewable Fuels, Inc. Fats, oils, greases HEFA Refining	 viridos Captured CO ₂ Algae HEFA feedstock	 CEMVITA Captured CO ₂ , Hydrogen Microbial HEFA feedstock	
Second Gen SAF	 ALDER FUELS Biomass Pyrolysis	 Blue Blade Energy Ethanol Alcohol-to-Jet	 Fulcrum BIOENERGY Municipal Solid Waste Gasification	
Third Gen SAF	 DIMENSIONAL ENERGY Hydrogen, CO ₂ Power-to-Liquids	 OXCCU Hydrogen, CO ₂ Power-to-Liquids	 Svante Industrial Waste Gas Point source CO ₂ capture	 ELECTRIC HYDROGEN Electrolysis technology, H ₂ production



Eco-Skies Alliance is a first-of-its-kind program for corporations to advance SAF with United

➤ Eco-Skies Alliance sends an important and timely demand signal for SAF now

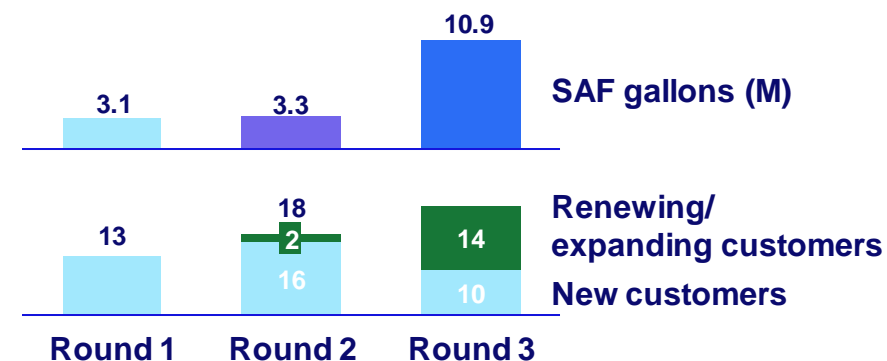
- SAF costs are ~2-4x's the cost of conventional fuel
- Supply from two SAF producers was delivered to LAX, SFO, AMS and LHR
- Eco-Skies Alliance customers fund the 'green premium' of SAF in exchange for Scope 3 reductions on United flights

➤ We have achieved industry-leading results

- Partnerships with 39 passenger and cargo customers
- Cross-sector representation with large and small corporations
- In 2023, planning use of 10M gallons of SAF –
 - 3x's more than 2022 and **10x's more than in 2019**
- Validated and third-party audited results

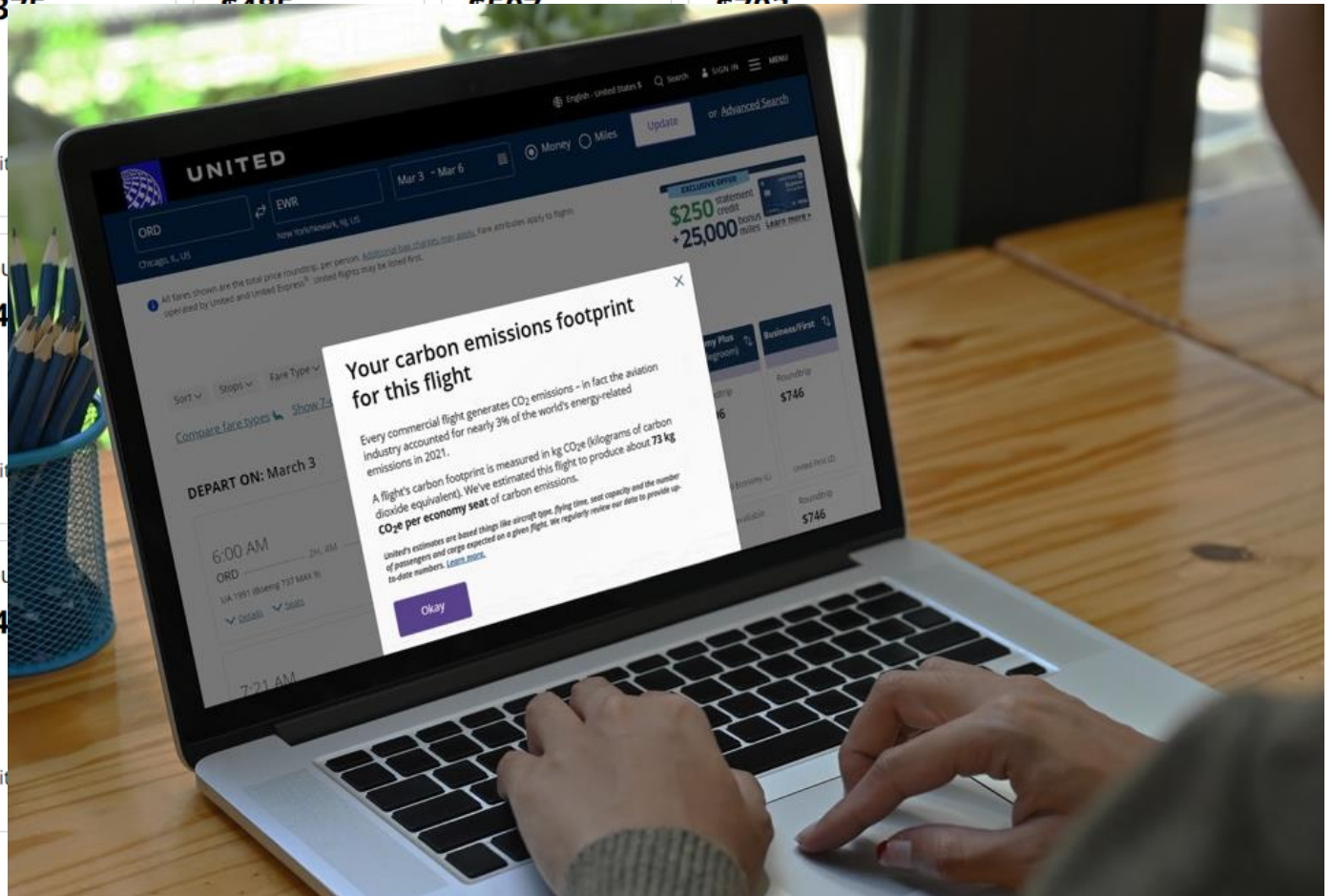


Rounds 1 through 3 comparison



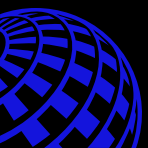
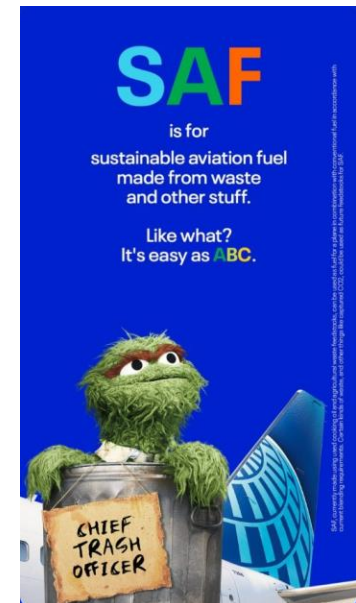
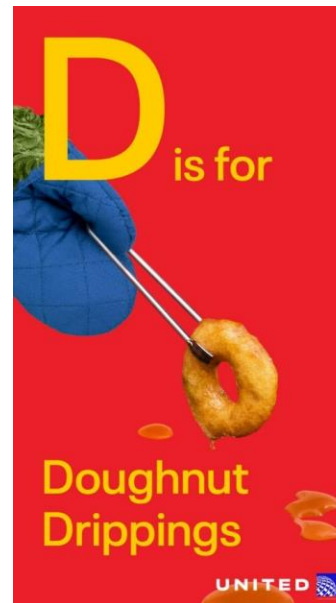
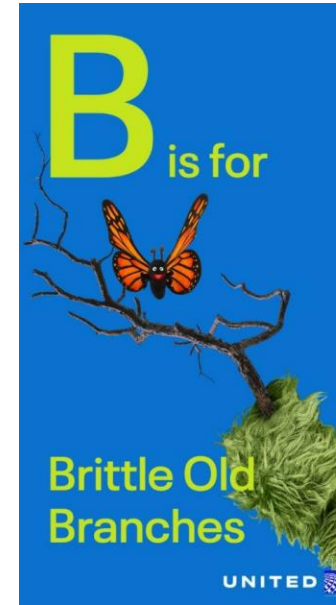
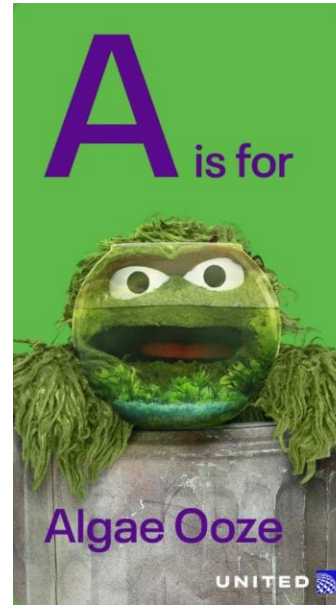
We are also empowering our travelers through transparency

DEPART ON: March 22		Basic Economy (most restrictive) ↑↓	Economy ↑↓	Economy (fully refundable) ↑↓	Economy Plus (extra legroom) ↑↓	Business/First
8:59 AM ORD 1H, 49M IAD UA 2496 (Airbus A320) ▼ Details ▼ Seats	11:48 AM 100 kg CO ₂ ?		\$375	\$485	\$507	\$700
1:30 PM ORD 1H, 47M IAD UA 326 (Boeing 737-900) ▼ Details ▼ Seats	NONSTOP 4:17 PM 86 kg CO ₂ ?	Not available	\$4			
5:50 PM ORD 1H, 47M IAD UA 1755 (Airbus A320) ▼ Details ▼ Seats	NONSTOP 8:37 PM 99 kg CO ₂ ?	Not available	\$4			

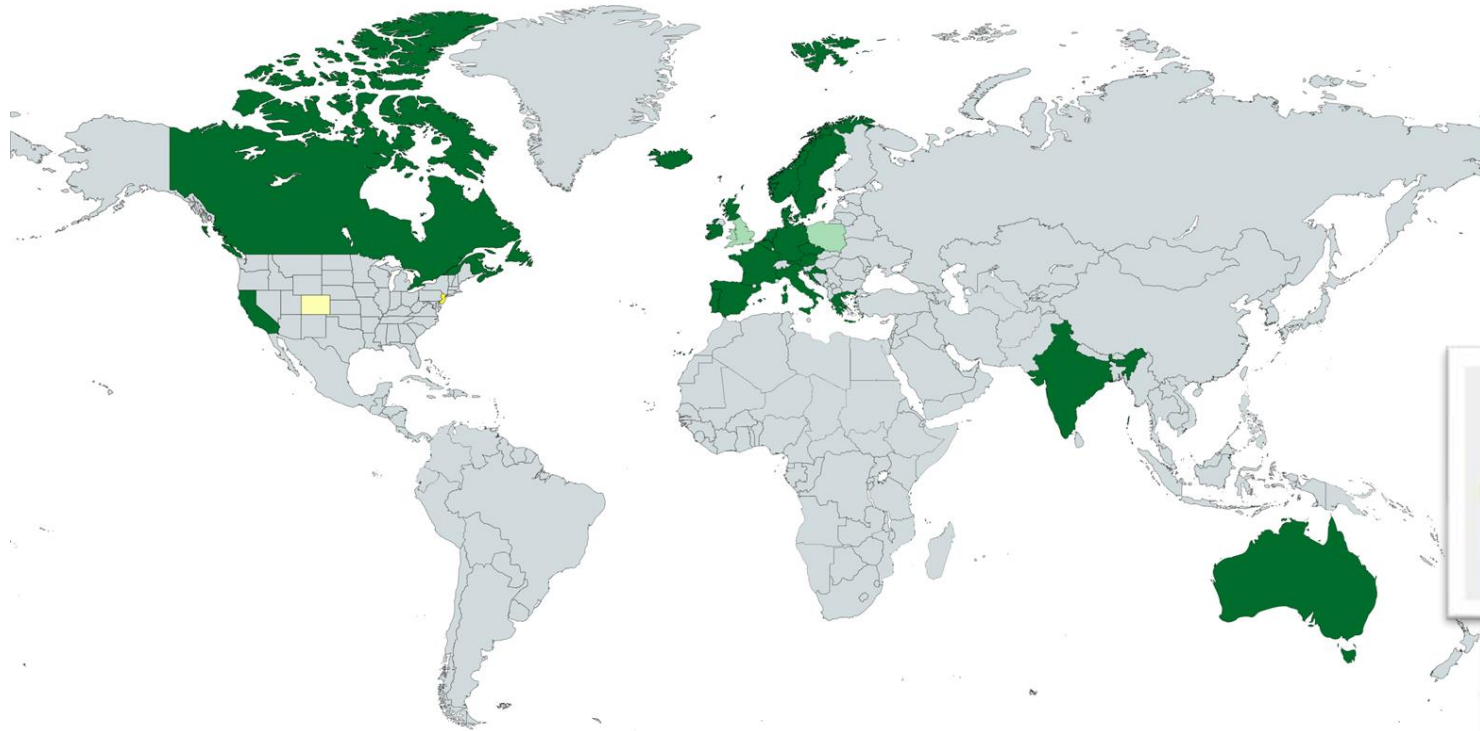


And we continue to focus on awareness and education about the importance of SAF

Paired with CTO educational campaign, customers are gaining confidence that SAF is the right solution to support



Regulations are emerging beyond SAF including Single Use Plastic (SUP) bans

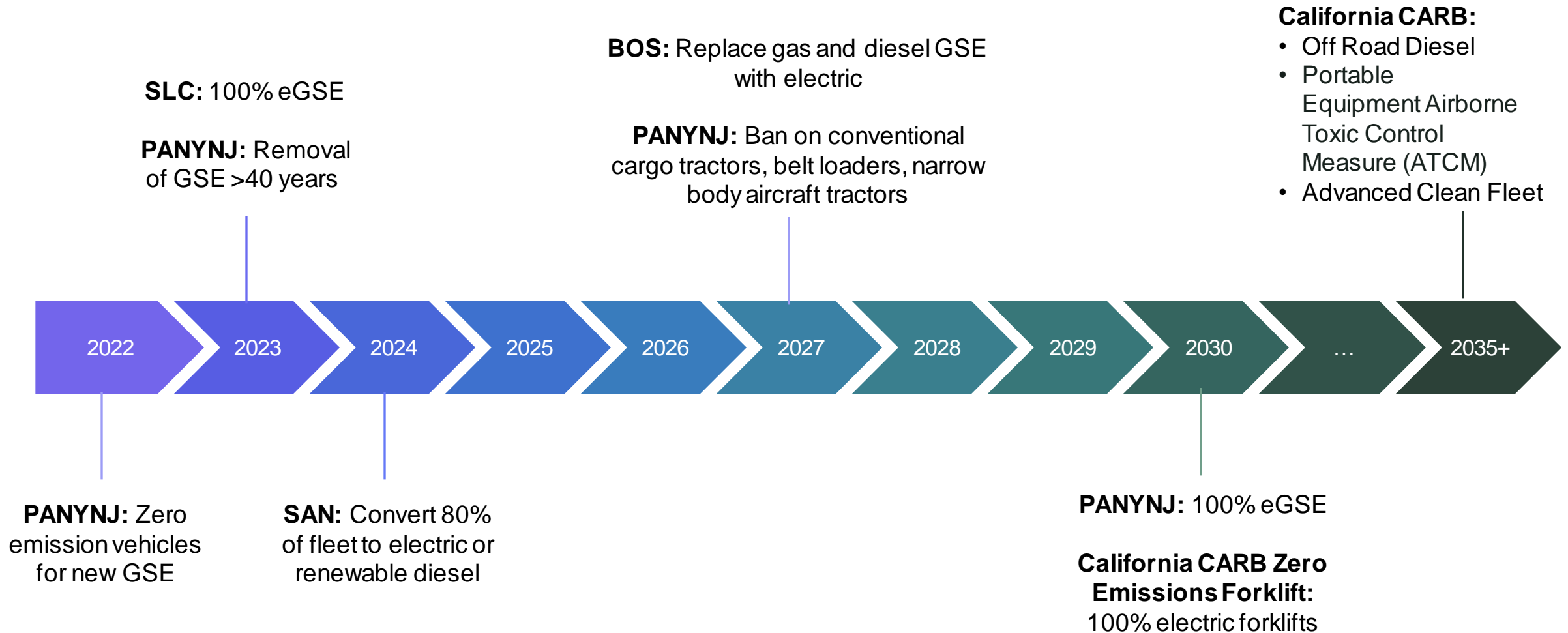


-  Comprehensive Ban on SUPs
-  Comprehensive Ban on SUPs to commence
-  Partial Ban on SUPs

Replacing onboard with sustainable alternatives addresses regulations while demonstrating integrity to customers



And airports and states are increasingly demanding electric GSE to reduce GHGs and improve air quality.

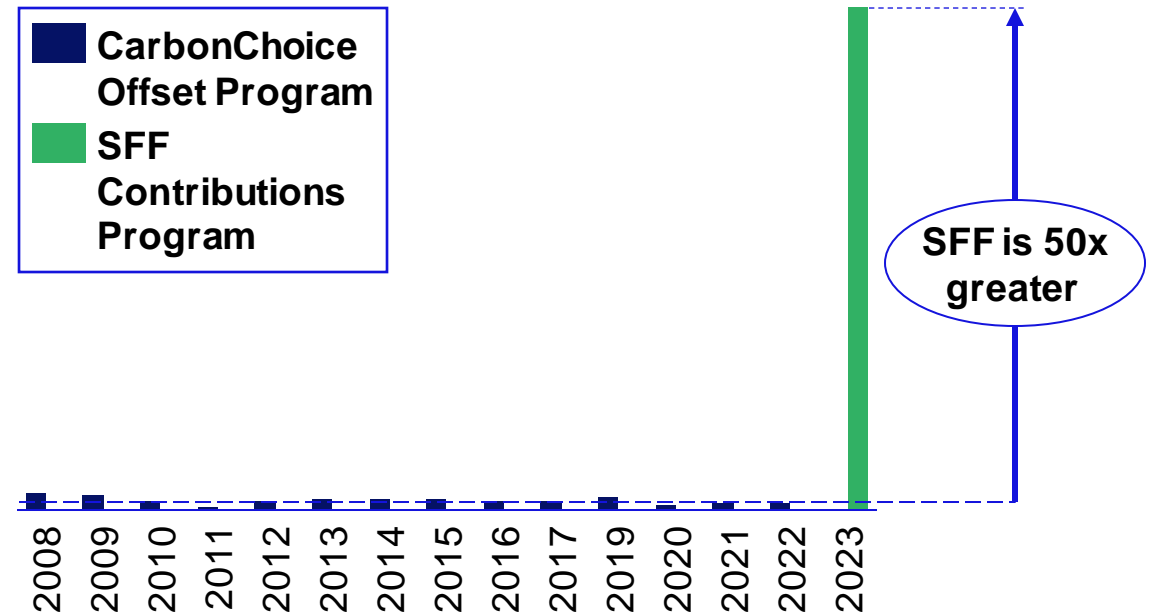


*State mandates in California include phaseouts of equipment at varying years based on equipment types or plans - only final compliance dates are shown

With effective education, user friendly experience, and demonstrated leadership, customers are showing a willingness to engage.



Average Contributors per Day¹





Good leads the way

Connecting people and
uniting the world,
more sustainably and
responsibly

