

Climate Change Initiatives (IATA and African Carriers)

Virtual Seminar of the ICAO Assistance Project with EU Funding Phase II

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Airlines will achieve carbon net zero by 2050

Meaning a **sustainable future** ensuring people have the freedom to explore, learn, trade, build markets, appreciate cultures and connect with others the world over.



We have a plan

To abate 21.2 Gt*
of CO₂ through:

- Sustainable aviation fuels
- New aircraft technology
- More efficient operations and infrastructure
- New zero-emissions energy sources such as electric and hydrogen power

*estimated cumulative total 2021-2050

July 2023

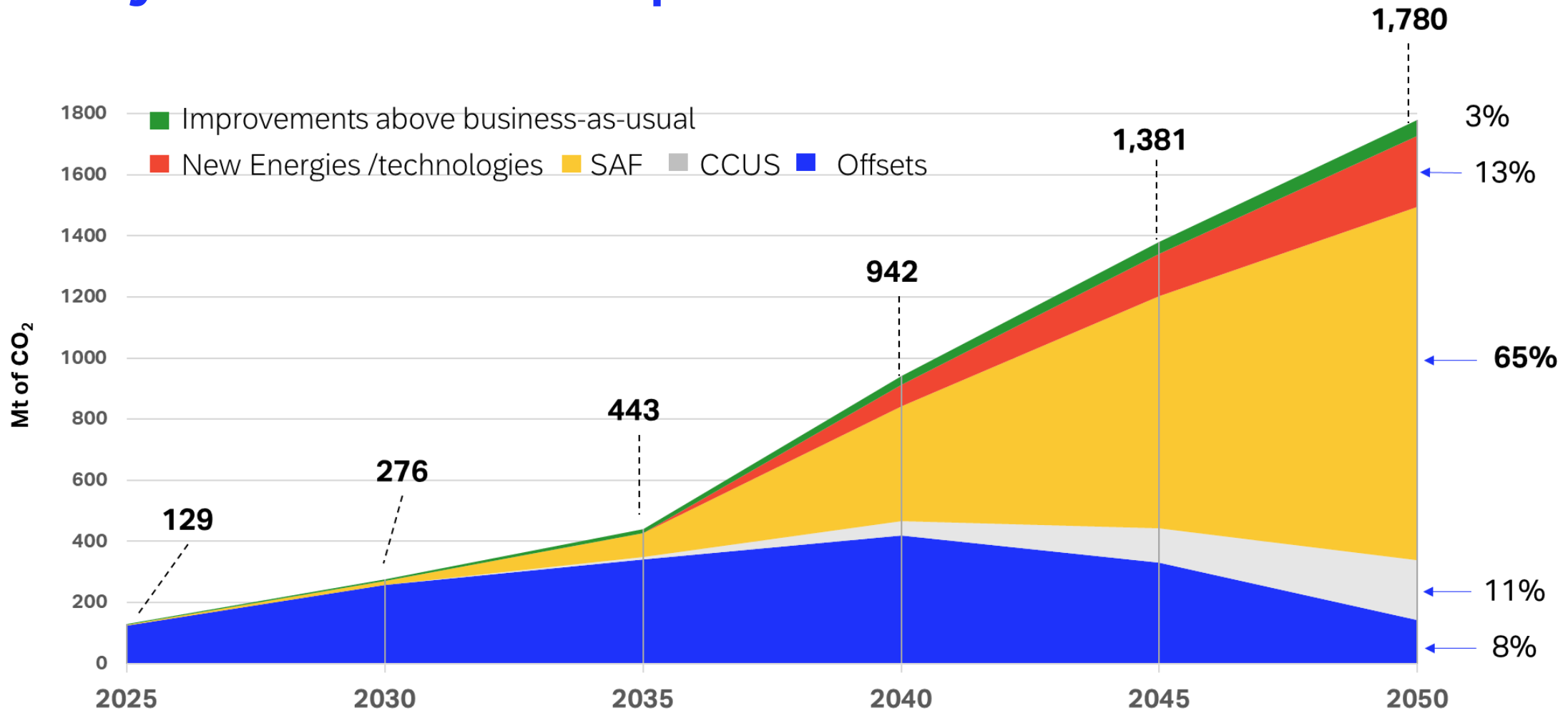


IATA Roadmaps:

Providing a strategic vision to achieve Net Zero CO₂ emissions by 2050



Why the Roadmaps?



Previous IATA CO₂ Abatement Analysis



Roadmaps Scope

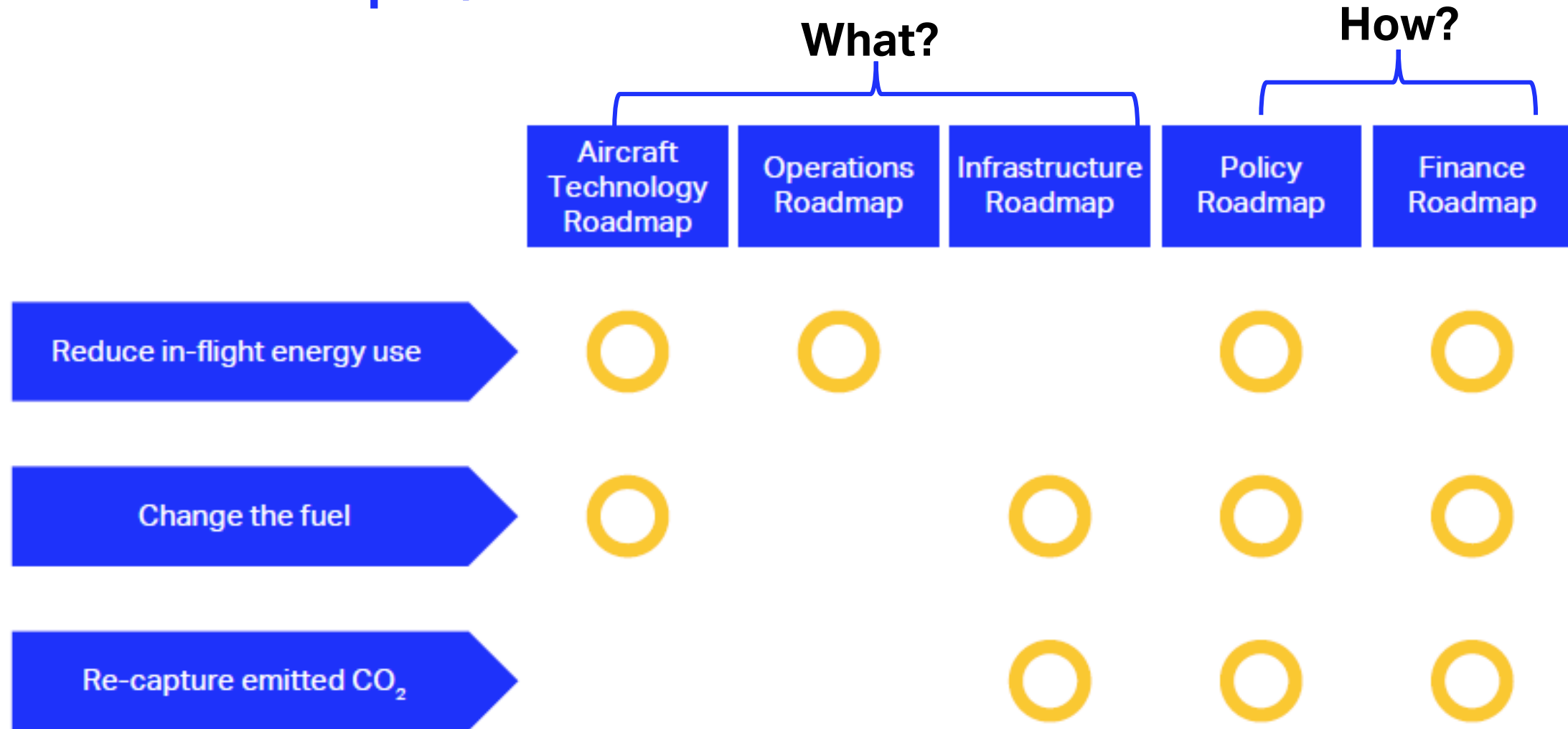
The roadmaps are

- **A strategic tool to unify direction and provide a sheet for common action**
- **A more tangible way to track progress**
- **5 steps to a comprehensive Net Zero roadmap**

The roadmaps are not

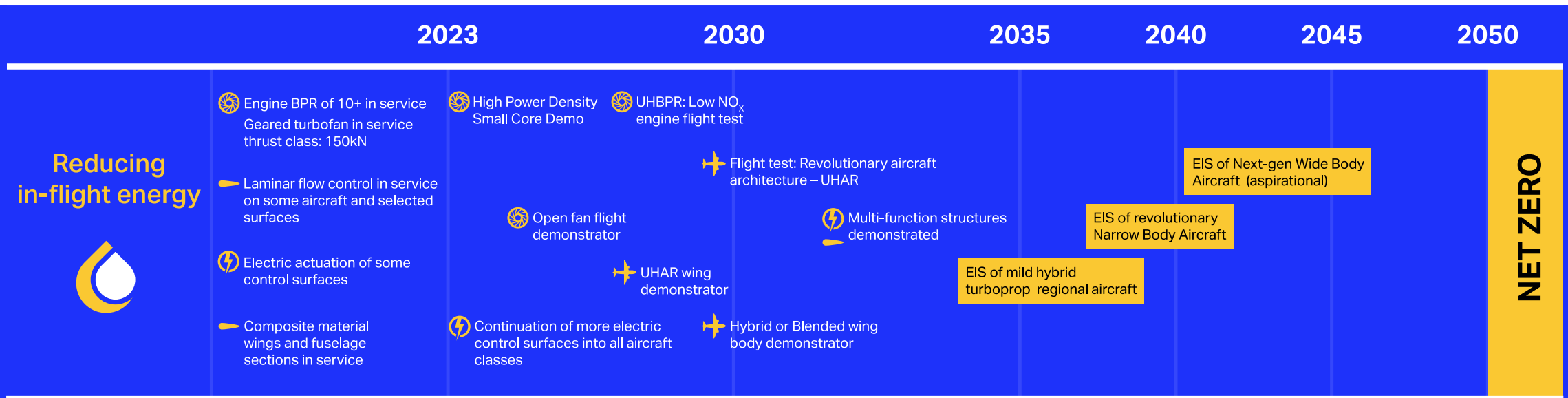
- **A recipe**
- **A specific fixed scenario of what will happen**
- **A “fixed” static document**

5 roadmaps, 3 levers of action



Source: IATA Sustainability and Economics

Aircraft Technology Roadmap

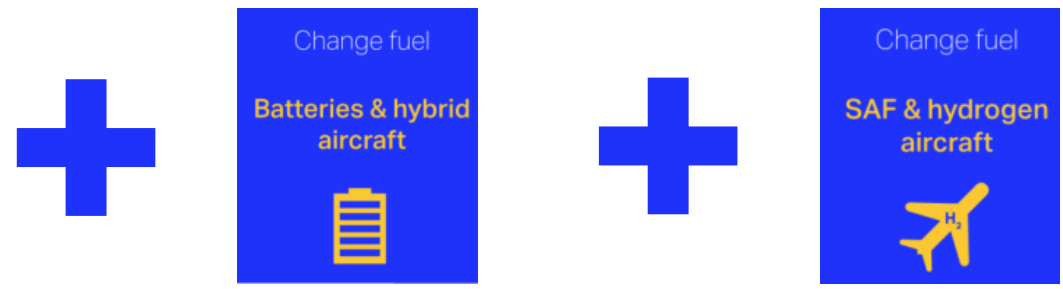


Propulsion **Flight demonstrator** **Decision point** **Acronyms** **a/c:** Aircraft **KPI:** Key Performance Indicator

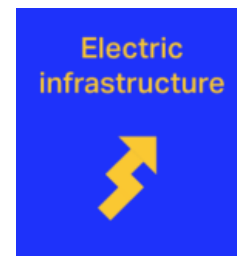
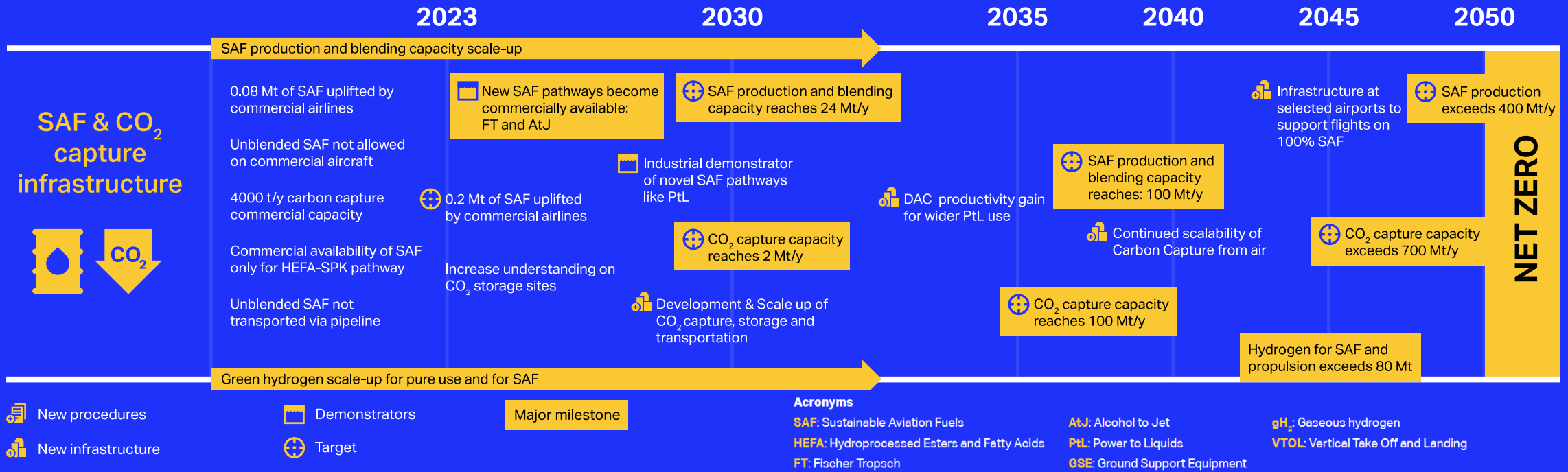
Aerodynamics and structures **Systems** **Major milestone** **UHBPR:** Ultra High By-Pass Ratio **UHAR:** Ultra High Aspect Ratio **GI:** Gravimetric Index

EIS: Entry Into Service **SAF:** Sustainable Aviation Fuels **NM:** Nautical Miles **LH₂:** Liquid Hydrogen

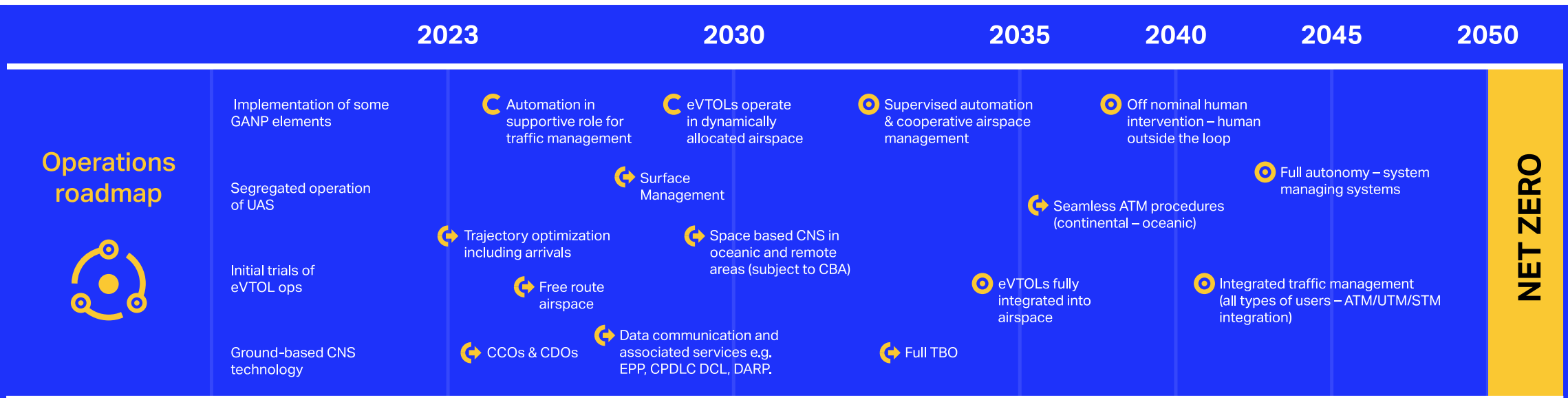
HFC: Hydrogen Fuel Cell **UAM:** Urban Air mobility



Energy & New Fuels Infrastructure Roadmap



Operations Roadmap



- Needs further implementation
- New System
- Developing concept

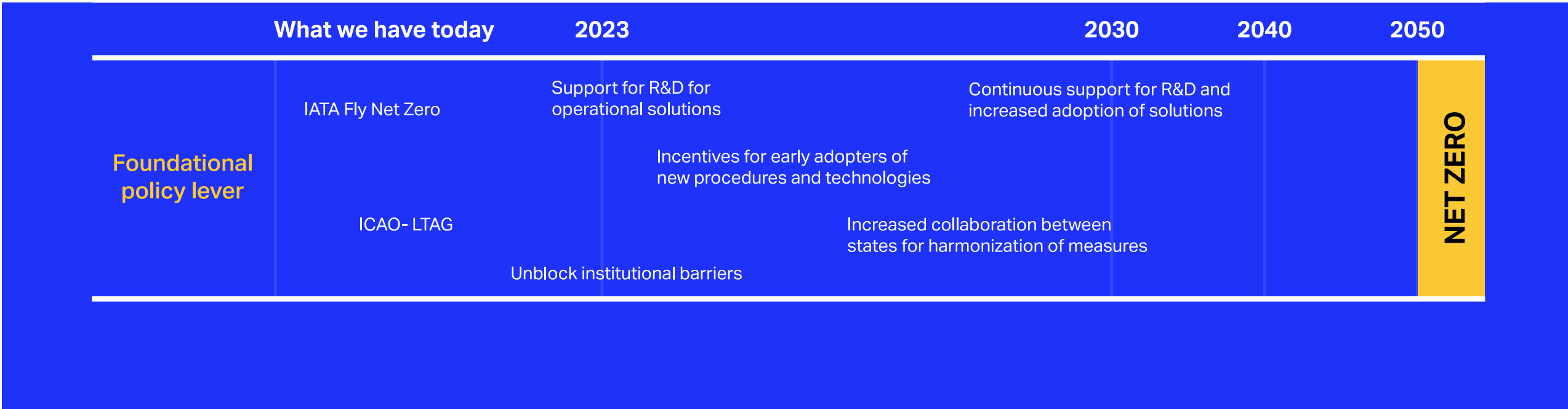
- Acronyms**
- CCO:** Continuous Climb Ops
 - CDO:** Continued Descent Ops
 - EPP:** Extended Projected Profile

- CPDLC:** Controller Pilot Data Link Communicatio
- DARP:** Dynamic Airborne Route Procedures
- DCL:** Departure Clearance
- CNS:** Communication, Navigation & Surveillance

- EVTOL:** Electric Vertical Take-Off and Landin
- TBO:** Trajectory Based Operations



Policy Roadmap



The aviation industry cannot decarbonize alone, and the support of regulators and policy makers on this journey is absolutely essential.

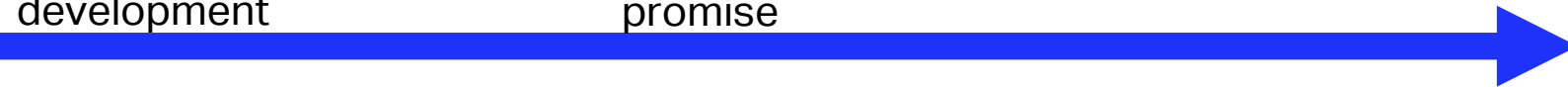


Finance Roadmap



Early stages of project development

Mature technologies show tangible commercial promise



The investment needed to bring about aviation's transition to net zero by 2050 could be as high as **USD 5 trillion** over the period to 2050. The annual investments required in that case would be close to **USD 180 billion**. This is not disproportionate to the annual investments in other industries



Focus Africa



Africa's opportunities

Africa is home to over 18% of the world's population, despite this Africa's presence in the aviation industry accounts for just 2.1% of air global passengers.



Growth potential in Africa's aviation sector is undeniable – 2035 projections



260+ million passengers by 2035

Challenges

- Infrastructure constraints
- High costs
- Lack of connectivity
- Safety
- Access to secure and cost-efficient financial services
- Blocked funds



Focus Africa Priority Areas

- **Safety:** Improve operational safety through a data driven, collaborative program to reduce safety incidents and accidents, in the air and on the ground.
- **Infrastructure:** Facilitate the growth of efficient, secure, and cost-effective aviation infrastructure.
- **Connectivity:** Promote the liberalization of intra-African market access through the Single African Air Transport Market (SAATM).
- **Finance and Distribution:** Accelerate the implementation of secure, effective and cost-efficient financial services and adoption of modern retailing standards.
- **Sustainability:** Assist Africa's air transport industry to achieve the "Net Zero by 2050" emissions targets agreed to by industry and the UN's International Civil Aviation Organisation (ICAO).
- **Future Skills:** Promote aviation-related career paths and ensure a steady supply of diverse and suitably skilled talent to meet the industry's future needs.

Sustainability

Level-up knowledge and resources on sustainability



- This initiative is designed to support airlines in Africa on their journey to net-zero, sustainable aviation.
- It provides unique access to resources and seeks to support airlines develop reduction programs in line with the industry's 2050 CO2 emissions strategy.

Encourage countries in Africa to increase SAF production and explore development opportunities



- This initiative aims to engage with a wide range of industry and policy stakeholders on all SAF topics and facilitate cooperation and promote partnerships between them.
- Focus areas include providing policy support for the commercialization of SAF and removing barriers to the realization of a cost competitive SAF.

Work with partners to secure airlines' access to sustainable finance

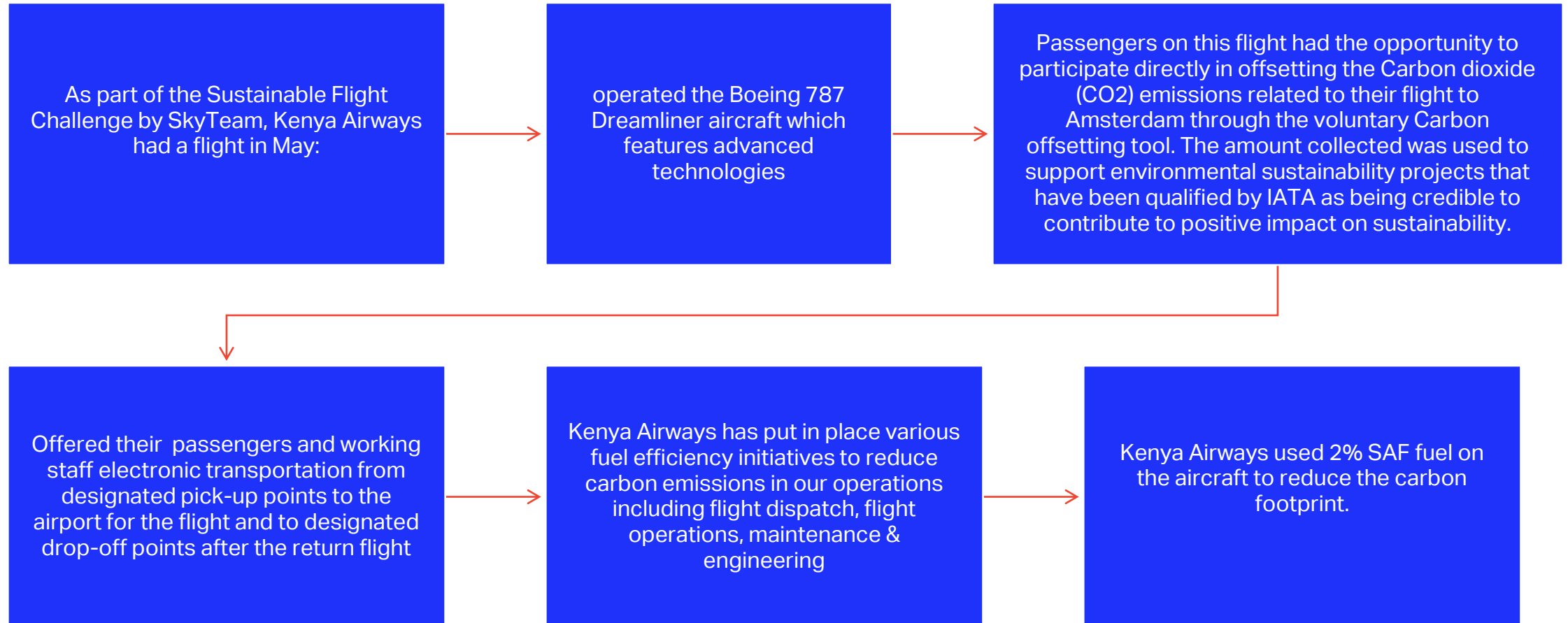


- The continued importance of sustainability for aviation will accelerate the requirement for capital to develop new technologies, infrastructure, and fuels.
- Green Finance will play a huge role in driving industry initiatives forward, ensuring that projects are properly financed, measured, and accounted for, and providing a supportive investment framework

African Airlines CO2 Reduction Initiatives



Kenya Airways – Sustainable Flight Challenge



Ethiopian Airlines A350-900 Delivery Powered by SAF

Ethiopian airlines took delivery of its 20th A350-900 aircraft from airbus on the 28th of April 2023. The delivery flight used 30% blend sustainable aviation fuel (SAF) thus reducing its carbon footprint and contributing to the ambition set by IATA, ATAG and ICAO to reach "net zero carbon emissions by 2050"

The airplane also carried 10 tonnes of humanitarian shipment into Ethiopia signifying Ethiopian airlines' commitment to discharge their social responsibility

South African Airlines Voluntary Offsetting

South African Airways offers its travelers a data-driven carbon offsetting scheme that can be selected during booking and costs just \$6/tCO₂e.

Its scheme provides efficient stoves to families in Ghana/Uganda allowing for cleaner heating and cooking.