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REGIONAL GREEN AIRPORTS SEMINAR

Hosted by the Ministry of Transport of the Republic of
Uzbekistan



Innovations in Sustainable Aviation:

Boeing Cascade Climate Impact Model

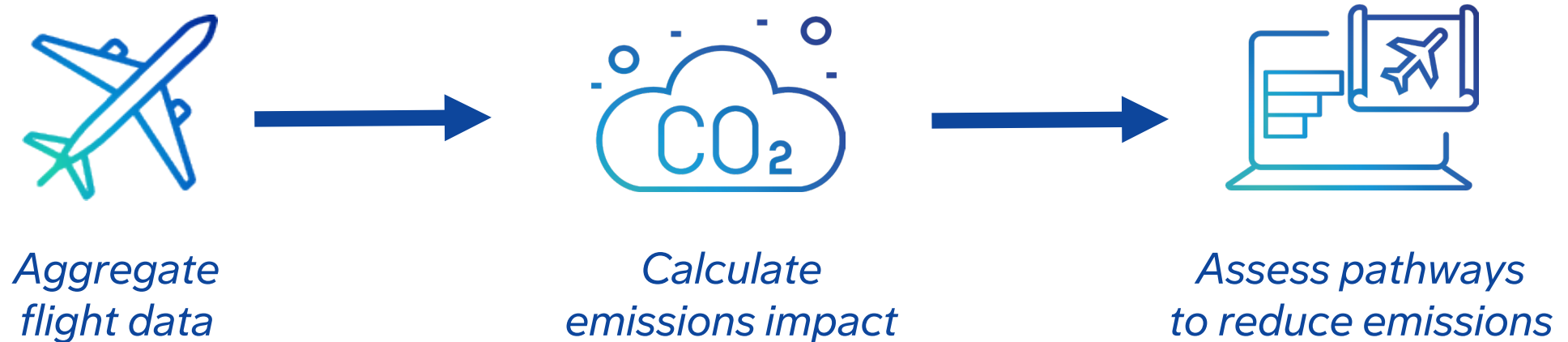
Mark Stolze - Regional Sustainability Lead, Europe





The Boeing Cascade Climate Impact Model

A dynamic modeling tool to analyze strategies & scenarios to reduce aviation's emissions through 2050





Vision

Be the trusted analytical platform for the aviation industry to **prioritize** and **implement the most effective climate solutions.**

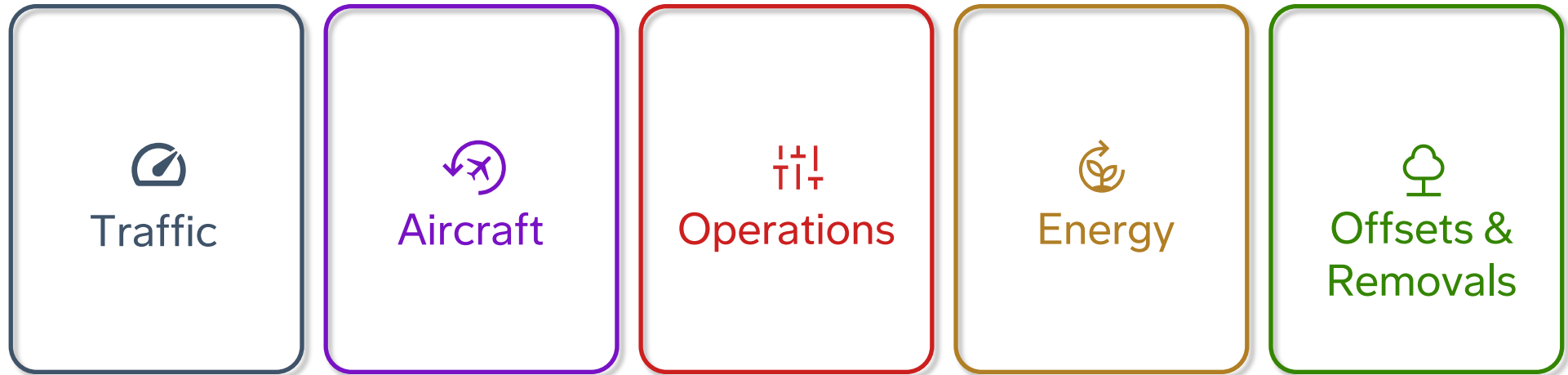
Mission

We exist to **inspire the transformation of aviation**, providing innovative thinking and possible pathways to achieve a low climate impact aviation sector.

We **stretch thinking and introduce new perspectives** by exploring assumptions, evaluating technology and policy interventions, and building integrated future scenarios.



In Cascade, you can leverage these strategies to reduce emissions



And they are all linked to each other

For example, an aircraft and its operations will determine how much energy will be required

CASCADE | Where'd you get the data?



The purpose of Cascade is to provide an industry tool for evaluating aviation decarbonization under different assumptions, not provide a “Boeing view” of the future

Partners

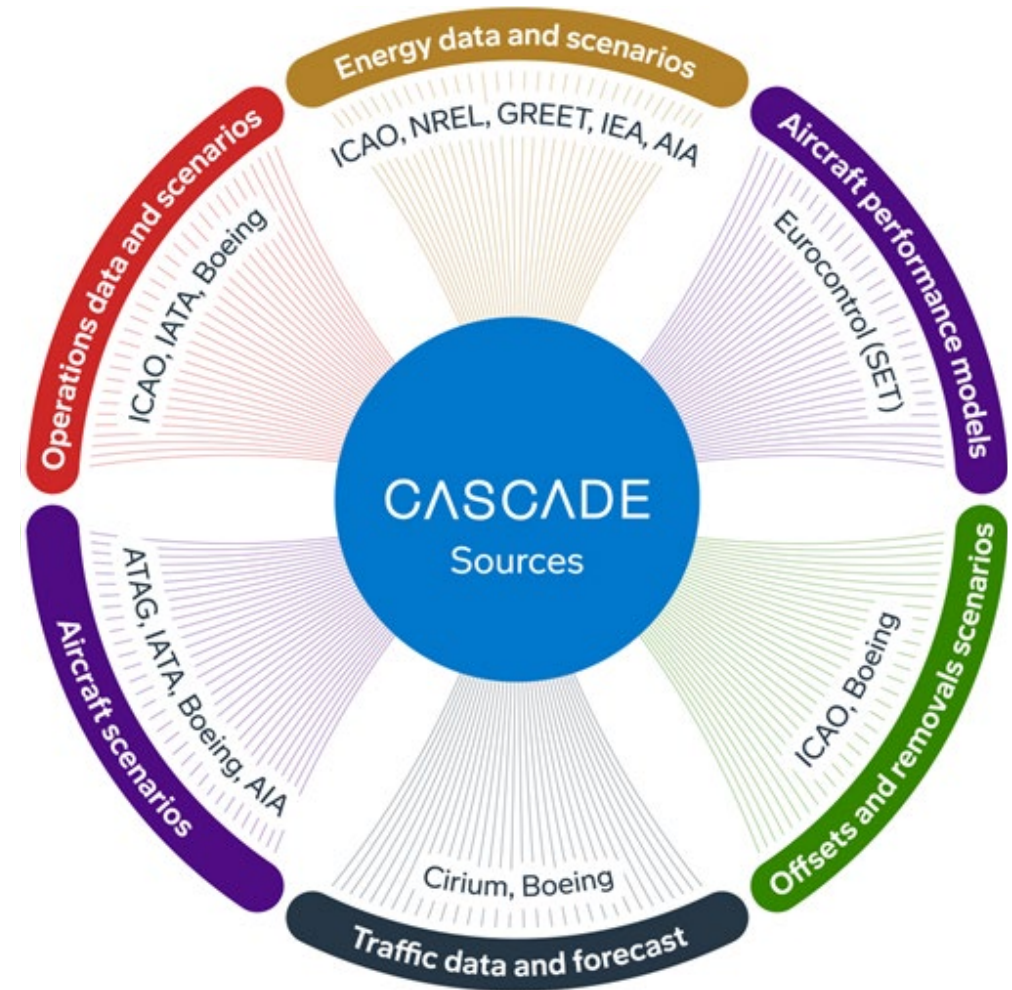


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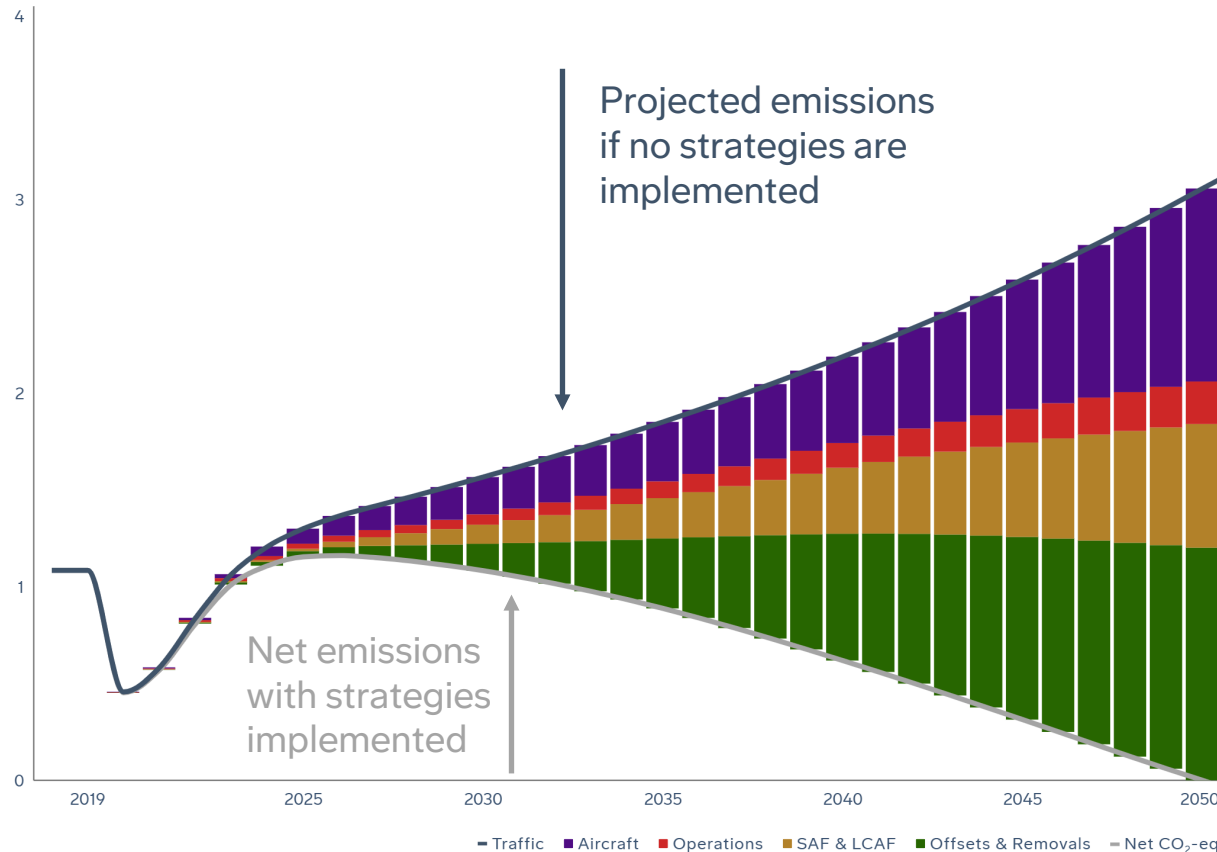
CASCADE | Visualizing each strategy



Reduction in aviation's net emissions

Decrease in emissions from decarbonization strategies, gigatonnes carbon dioxide equivalent emissions (GtCO₂-eq)

Emission Scope: Conventional Jet Fuel: *Well-to-wake* | Hydrogen: *Well-to-wake* | Electricity: *Well-to-wake*



Source: Boeing Cascade Climate Impact Model

Aircraft

Includes **Fleet Renewal** and **Future Aircraft** such as next-generation conventional, hydrogen and electric aircraft

Operations

More efficient flights and routes through weight optimization, advanced air traffic management, and improved load factors

Sustainable Aviation Fuel

Energy derived from non-fossil sources to power existing and future aircraft

Offsets & Removals

Mitigate remaining emissions with carbon offsets and removals from other sectors



Cascade can help mitigate the risks presented by climate change through...

- Policy advocacy and support for aviation
- Help direct technology investment support from government
- Engagement with academia and influence research direction
- Support airline net zero road mapping
- Support education on aviation decarbonization topics
- Help support internal decision making on products and services

CASCADE

<https://cascade.boeing.com>

