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Our company and our industry recognize finding solutions to climate change as an urgent challenge of our time. We are united in our goal to ensure billions of passengers can continue to fly every year to connect with friends and family, discover new places and cultures, engage in commerce and care for those in need.

Achieving this objective requires a portfolio of innovative solutions and partnerships that allows our sector to decarbonize. We are focused on four key areas: fleet renewal, operational efficiency, renewable energy and advanced technology. In 2022 we set ambitious 2030 targets related to our products, and throughout this section we share progress toward those goals and essential partnerships that will help us achieve them.

More about the governance of this strategy can be found in the Approach & Governance Section on [Page 13](#) of this report.



Sharing Cascade at the opening of the Boeing Research & Technology Sustainability Research Center in Tokyo, CSO Chris Raymond explains how the modeling tool projects the multiple paths to net-zero carbon emissions for commercial aviation. (Boeing photo)

The Cascade effect

Boeing debuted The Boeing Cascade Climate Impact Model (Cascade) at the Farnborough International Airshow in 2022. This web application uses digital technical data pulled from across the world to visualize how introducing various sustainable aviation options would impact global emissions. Cascade uses life cycle modeling to accurately quantify how choices in the four key areas impact the atmospheric concentrations of carbon dioxide.

Cascade is a way to visualize the climate impact of global commercial aviation while creating scenarios to calculate what kind of positive impacts our levers to decarbonize aviation would have on carbon emissions: fleet renewal, operational efficiency, renewable energy and new aviation technologies like hybrid, electric or hydrogen airplanes.

Why it matters: It's a data-driven way for our stakeholders to make informed decisions about how to reach the commercial aviation industry's net-zero 2050 ambition.

[Learn more about Cascade](#)

“Cascade helps airline operators, industry partners and policymakers see when, where and how different energy carriers and life cycle emissions affect their sustainability goals. The tool shows how incremental changes can cut emissions in commercial aviation.”

Neil Titchener, program leader, Cascade



Neil Titchener, program leader, Cascade. (Boeing photo)