BOEING

Fact Sheet

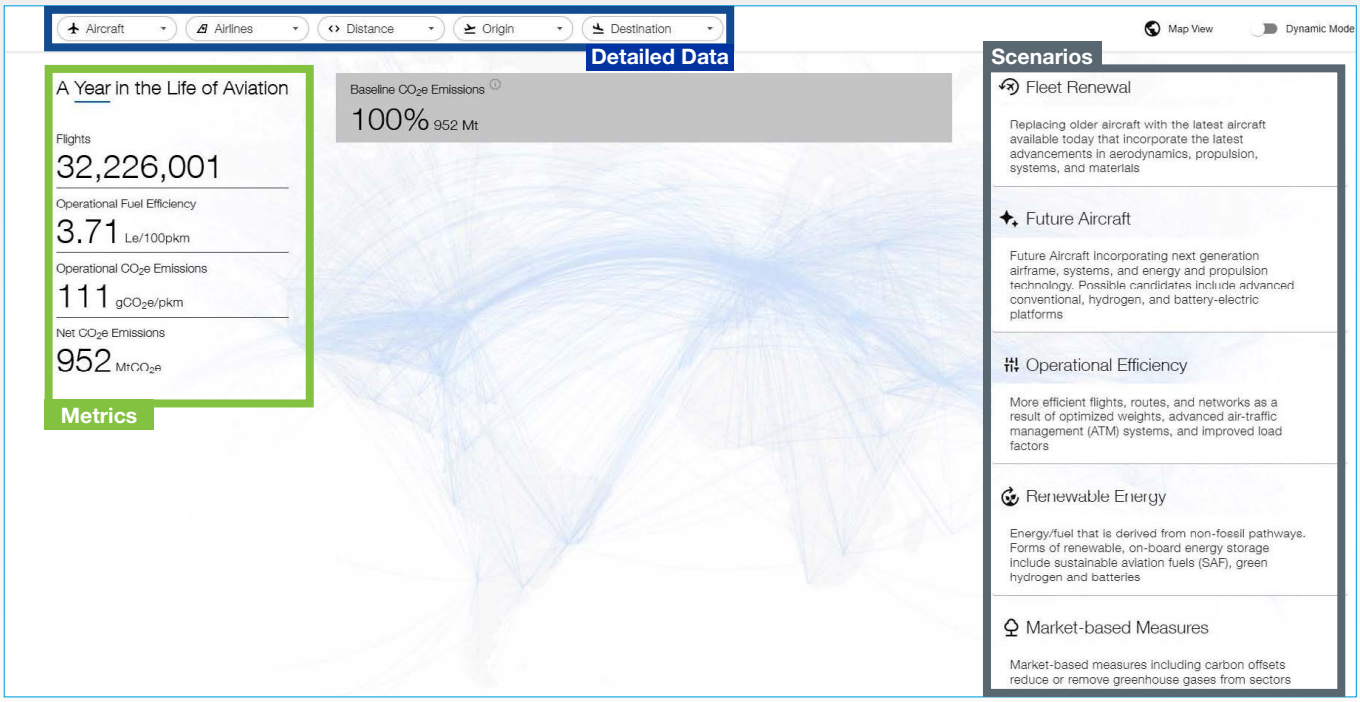
July 2022

Meet Cascade

Cascade is a data analytics and modeling tool that allows the user to visualize various decarbonization strategies on the pathway to net zero emissions. Using a variety of models and datasets, Cascade is able to compute overall climate impact through full life-cycle accounting of total climate effects.

Cascade is a data-driven tool utilizing a combination of historic flight traffic data, traffic forecasts from the Boeing Current Market Outlook, aircraft performance models and energy/resource forecasting models. Combined with a comprehensive data dashboard, you can review multiple potential scenarios and determine your preferred journey to decarbonizing aviation.

Individualized route to a zero carbon future



Metrics
Aggregated metrics are displayed based on your filter selection and include total flights, fuel efficiency, CO_2 emissions intensity and net emissions information.

Scenarios
Cascade allows the user to model various paths to decarbonization using user-selectable scenarios for the five core strategies:

- Airplane Fleet Renewal
- Future Aircraft/Advanced Technology
- Operational Efficiency Improvements
- Renewable Energy
- Market-Based Measures

Detailed Data
Starting from a dataset of yearly global commercial aviation data, the user can parse the data based on a combination of aircraft type, airline, flight distance and region. The ability to down-select results allows for more detailed analyses for specific use cases.

More >

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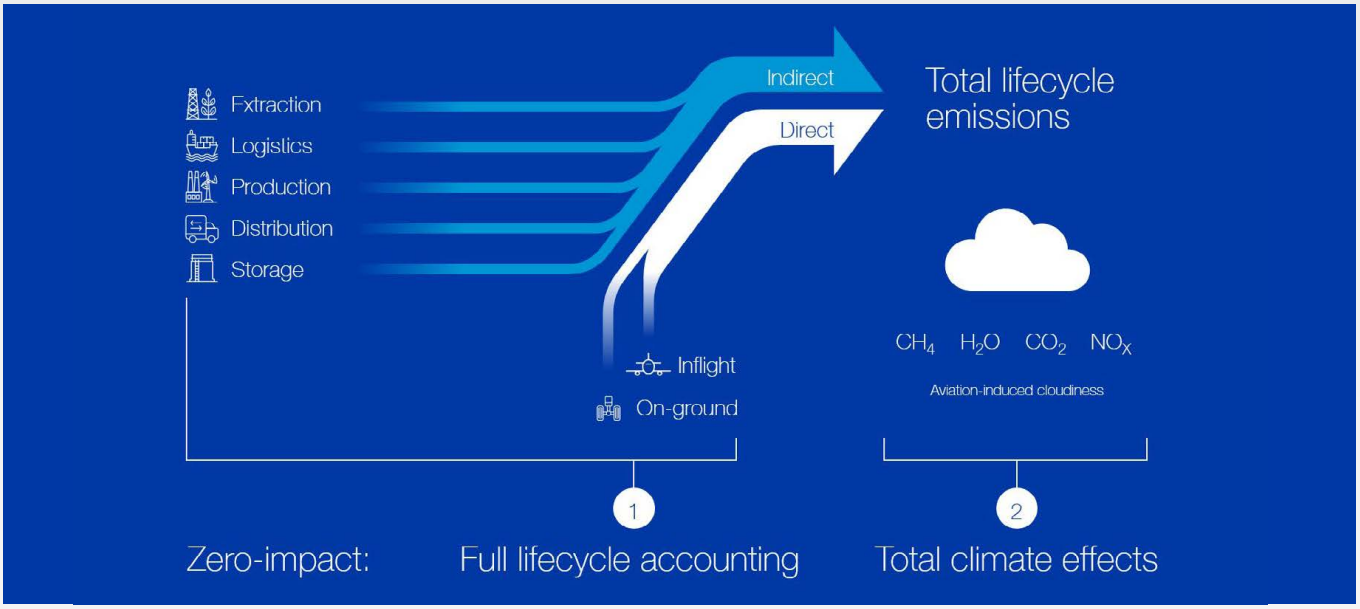
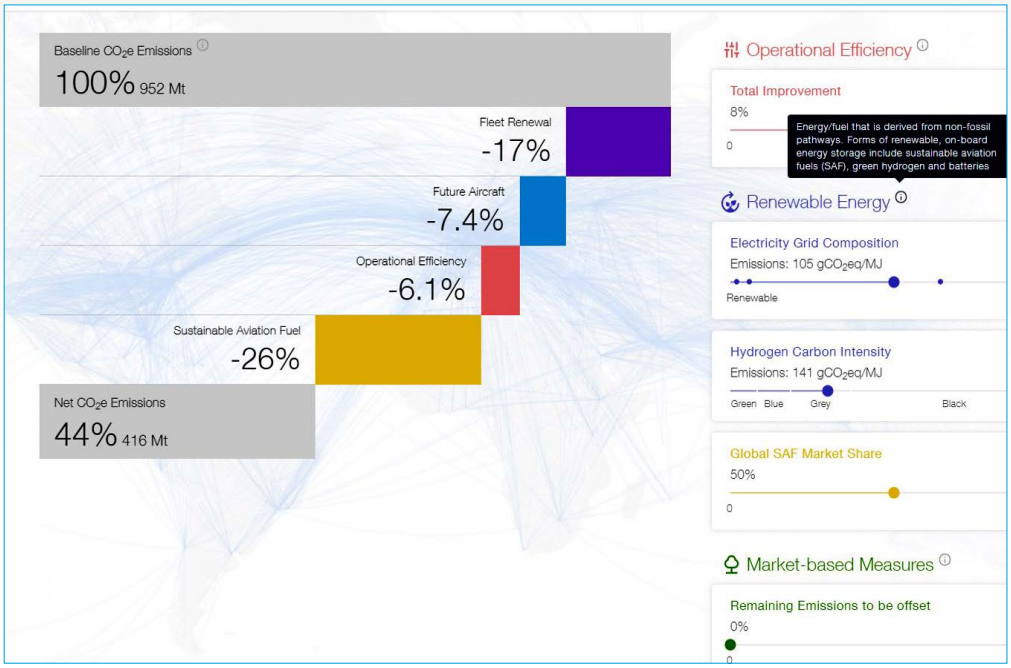
Boeing is focused on minimizing environmental impact, which involves total lifecycle accounting of all climate effects. This includes direct emissions from the aircraft during flight and on the ground, as well as emissions incurred during extraction, production, distribution and storage of conventional and alternative fuel sources.



Everything for Zero



Once a decarbonization strategy is activated by clicking, the user is provided with input options in the form of sliders that allow the user to vary that strategy within the aviation sector. In the renewable energy section, for example, users can run through scenarios where they identify portions of their fleet to be powered by hydrogen, electric or SAF in order to plan for future needs based on the total climate impact.