

# 2 0 2 2 SUSTAINABILITY REPORT



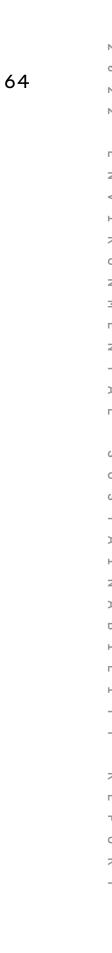
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**LOOKING AHEAD** 



# INTRODUCTION



# LETTER FROM THE FOUNDER AND CEO

LOOKING AHEAD

Our world is filled with opportunities and problems to solve—yet too often opportunities appear invisible and the most obvious problems go unsolved. People may assume the problem is either impossible to solve or that someone else is already working on it (equivalent to the "bystander effect").

At Boom, we seek to solve the hard problems and to do big things that matter. As we build Overture and transform commercial air travel, we continue to pioneer and push the limits of what others once considered impossible.

2022 was a year hallmarked by progress and continuing to prove what's possible at the frontier of sustainable supersonic flight. The year was characterized by company growth and program-defining milestones. We welcomed new customers and partners and began planning and constructing multiple new facilities, including our final assembly line. The year was punctuated by the announcement of Symphony, the Boomled propulsion system that will power Overture.

With Symphony, we've reimagined traditional approaches to propulsion. By owning and innovating on a new engine lifecycle design and business model, we're maximizing value for our customers, taking responsibility for the entire program, and importantly, ensuring we develop the most sustainable solution possible. As with Overture, sustainability was built into the program from day one; sustainability remains core to all we do.

In our inaugural 2021 sustainability report, we set an ambitious commitment to achieving net zero carbon by 2025. We outlined our priorities and principles for reporting and established a baseline and benchmarks to yardstick against along our path to decarbonization. If 2021 was a year for defining our goals, 2022 was a year for progress, as we actualized and moved our commitments forward.

We signed our first large-scale net zero carbon SAF offtake agreement with AIR COMPANY and participated in the first aggregated SAF certificate purchase through the Sustainable Aviation Buyers Alliance (SABA). Even while Boom grew its workforce

and expanded its programs, we continued to achieve year-over-year emissions reductions, as measured by headcount intensity—achieving a total 48% reduction per employee since we began carbon emissions accounting in 2019.

We achieved carbon neutrality for the second year in a row, and committed to a nearterm science-based target that was validated by the Science-Based Targets initiative (SBTi). In addition, we announced an eight-year commitment for carbon removal through Frontier, an advance market commitment focused on accelerating permanent carbon removal.

We held our second annual Net Good Summit, allying leaders and bridging perspectives from across the global travel industry that will shape the future of sustainable travel. We published "Scaling SAF," a white paper documenting the research and findings that demonstrate the potential and opportunities for SAF to meet industry demand. With safety a top priority at Boom, we strengthened our safety culture through new and improved initiatives that are the foundation for our Safety Management System.

At Boom, we strive to go beyond our own ambitious goals and commitments to drive systemic change in aerospace and across the global travel ecosystem. Throughout, we hold ourselves accountable to the highest standards in our industry. While we voluntarily publish our progress and environmental impact in annual sustainability reports, we remain anchored in integrity and transparency.

Throughout, we recognize and appreciate the pivotal role our partners play in our success and making sustainable supersonic flight a reality, and for sharing and collaborating on our priority of sustainability.

Hale Geholl

**BLAKE SCHOLL** FOUNDER AND CEO





LOOKING AHEAD

# **ABOUT BOOM SUPERSONIC**

# **OUR MISSION**

To make the world dramatically more accessible

# **OUR CORE DESIGN PRINCIPLES**

Speed, safety, and sustainability

# **OUR FACILITIES**

Company Headquarters: Denver, CO Overture Superfactory: Greensboro, NC XB-1 Flight Test Hangar: Mojave, CA

The Iron Bird: Denver, CO Global Policy Center: Washington, D.C.

# **OUR PROGRAMS**



# PURPOSE

History's first independently developed supersonic jet

PROGRAM DETAIL

1 PILOT



### PURPOSE

The world's fastest airliner — optimized for speed, safety, and sustainability

PROGRAM DETAIL

64-80 PASSENGERS + CREW

# PURPOSE

The Boom-developed engine for Overture

SYMPHONY

### PROGRAM DETAIL

THE SUSTAINABLE AND COST-**EFFICIENT ENGINE FOR OVERTURE** 

Conceptual render



## **CLEAR HEAD START AND STRONG MOMENTUM**

Boom is the leader in supersonic as the only manufacturer targeting supersonic commercial aircraft for government and commercial applications.

Overture's order book currently stands at 130 aircraft, totaling \$26 billion in orders and pre-orders. Boom has secured multiple nonrefundable deposits associated with firm orders, as well as options for additional aircraft, from American Airlines, United Airlines, and Japan Airlines. We are working with Northrop Grumman for government and defense applications of Overture. Boom continues to have strong funding from A-list investors, including Bessemer Venture Partners, Prime Movers Lab, Emerson Collective, and American Express Ventures, as well as secured more than \$232 million in government contracts and incentives.













**Bessemer** Venture



# WORLD-CLASS PARTNERS AND TALENT

Our world-class team includes engineering and commercial leaders from aerospace majors, Fortune 500 companies, and breakthrough startups. Our governance includes an experienced and engaged Board of Directors and hands-on Advisory Council.

Our global network of top-tier suppliers and development partners includes Amazon Web Services, AIT, Collins Aerospace, Eaton, FlightSafety International, Florida Turbine Technologies (FTT), a business unit of Kratos Defense & Security Solutions, Inc., Safran Landing Systems, StandardAero, and the United States Air Force.



















# UNRELENTING FOCUS ON SAFETY AND SUSTAINABILITY

As the first aircraft manufacturer to sign The Climate Pledge (TCP), Boom strives to be an industry leader in setting ambitious targets and acting on those commitments. Boom aims to achieve net zero carbon by 2025 and net zero emissions by 2040. In developing a new aircraft and engine, Boom is able to integrate sustainability from day one—designing Overture and Symphony to operate on 100% SAF and accommodate future, more environmentally-friendly SAF which enables net zero carbon operations. Overture's entire flight test program will be powered by net zero carbon SAF from partners like AIR COMPANY.

Boom has prioritized building a safety-first culture since the start, embedding safety across our facilities, operations, and programs, aiming to raise the bar and go beyond compliance.



AIR COMPANY 🛦





LOOKING AHEAD

# **OUR COMMITMENT**

Net zero carbon by 2025

# **OUR APPROACH**

Boom strives to be an industry leader by setting ambitious sustainability goals and aggressive climate targets, diligently acting on those commitments, and reporting on our progress with transparency and integrity.

# **OUR SUSTAINABILITY PILLARS**

Achieving Net Zero Carbon | Accelerating and Advancing SAF | Addressing Non-CO, Impacts | Prioritizing Communities

# **OUR VISION**

At Boom, we strive to go beyond our own commitments to drive systemic change in sustainable travel.

We are engaging, mobilizing, and collaborating with strategic partners and stakeholders to develop scalable sustainability solutions, set new standards for travel, and synergize impact at scale in aviation and across the global travel ecosystem.



# 2022 SUSTAINABILITY HIGHLIGHTS

# ANNOUNCED NET ZERO CARBON SAF OFFTAKE WITH AIR COMPANY

To enable Overture's net zero carbon operations, Boom signed an offtake agreement with AIR COMPANY to purchase up to five million gallons of AIRMADE™ sustainable aviation fuel (SAF) per year over the duration of the Overture flight test program.

LOOKING AHEAD

# ACHIEVED CARBON NEUTRALITY

Boom achieved carbon neutrality for the second year in a row—since beginning carbon emissions accounting in 2021. Beyond initiatives to proactively reduce greenhouse gas (GHG) emissions, Boom addressed the remaining emissions (7,984 metric tons of CO<sub>3</sub>) through high-impact, high-quality carbon offset and removal solutions.

# PURCHASED FIRST SAF **CERTIFICATES THROUGH SABA**

Boom participated in the first, aggregated SAF certificate purchase through the Sustainable Aviation Buyers Alliance (SABA), whose SAF certificate system is a significant advancement that dramatically improves the accessibility of SAF globally. Book-and-claim systems such as SABA's system allows entities to support the SAF industry while reducing their corporate travel emissions, even if they do not have direct access to procure SAF.

# 4

# CONTINUED YEAR-OVER-YEAR **EMISSIONS REDUCTIONS PER EMPLOYEE**

Boom achieved a 12% reduction in year-over-year net GHG emissions across scopes (2022 vs. 2021), as measured by headcount intensity —and a total 48% reduction since Boom began emissions accounting in 2019.

# 5

# COMMITTED AND VALIDATED **SCIENCE-BASED TARGET**

The Science-Based Targets Initiative (SBTi) approved Boom's near-term science-based emissions reduction targets: Boom commits to reduce scope 1 and scope 2 GHG emissions 42% by 2030 from a 2021 base year, and to measure and reduce its scope 3 emissions.

# 6

# **BRIDGING PERSPECTIVES** TO SHAPE THE FUTURE OF SUSTAINABLE TRAVEL

Boom hosted the second annual Net Good Summit in October 2022, allying industry leaders, sustainability experts, and creative thinkers from across the global travel spectrum to bridge perspectives and better align efforts around the promising innovations, ideas, and initiatives that will shape the future of sustainable travel.

# CATALYZING THE GROWTH OF **CARBON REMOVAL SOLUTIONS**

Boom announced an eight-year commitment to buy carbon removal through Frontier, an advance market commitment focused on accelerating permanent carbon removal technologies that will store carbon for over 1,000 years. Frontier's founders are Stripe, Alphabet, Shopify, Meta, and McKinsey Sustainability.

# 8

# DEMONSTRATED THE POTENTIAL AND OPPORTUNITIES TO SUCCESSFULLY SCALE SAF

Boom published the white paper, "Scaling SAF," which documented the research and findings from a Boom-led study that demonstrated the potential, opportunities, and pathway to rapidly scale SAF to meet industry demand.



# 



CHAPTER

# **ACHIEVING NET ZERO CARBON**

Boom is committed to achieving net zero carbon emissions by 2025.

We strive to be an industry leader in setting ambitious carbon reduction targets and acting on those commitments, as well as reporting on our progress—voluntarily, annually, and transparently.

Our second annual sustainability report details the environmental impact, efforts, and progress made in 2022 along our journey to net zero, defined by three essential steps: measure, reduce, and offset remaining and unavoidable emissions.

# → MEASURE

Boom began comprehensively quantifying and reporting on all direct and indirect greenhouse gas emissions across our entire value chain in 2021, in accordance with the Greenhouse Gas (GHG) Protocol, the global standardized framework for measuring and managing emissions.

The GHG Protocol defines three scopes of direct and indirect greenhouse gas emissions. Scope 1 and 2 emissions are those owned or controlled by a company. Scope 3 emissions, also referred to as "value chain emissions," are the result of a company's "upstream" and "downstream" operations, and often represent the largest contribution of a company's footprint. Since scope 3 emissions occur from external sources a company does not own or directly control, they can be the most challenging to monitor and are often voluntary to report.

While Boom back-calculated emissions in 2019 and 2020, we designated 2021 as our base year, establishing a benchmark for comparison as we continue to measure and report on our emissions data as well as identify and execute on opportunities for reductions. Importantly, the completion of our first full greenhouse gas emissions inventory in 2021 set the stage for Boom to set a science-based target in 2022, an important milestone on our path to decarbonization.



In 2022, we continued our partnership with <u>Watershed</u>, the enterprise climate platform at the foundation of our measurement and corresponding reduction strategy. Watershed enables us to conduct granular, tip-to-tail carbon emissions accounting in compliance with the GHG Protocol and with a third-party-verified methodology.

We focus on continuous improvement in our emissions accounting approach: increasing the quality and fidelity of our emissions data, as well as improving and streamlining emissions data management organization-wide. In our second year of carbon emissions accounting, we identified opportunities to improve data capture, optimize processes for data collection, and better engage cross-functional teams throughout to increase efficiency in our processes.



ACHIEVING NET ZERO CARBON

The GHG Protocol defines three different scopes, or categories, of greenhouse gas emissions. The GHG Protocol delineates scopes by direct and indirect emissions sources and provides explicit guidance for their measurement and reporting.

# **BASIS OF REPORTING**

Greenhouse Gas (GHG) Protocol: Boom calculates emissions in accordance with the principles and methodologies defined by the GHG Protocol, which provides explicit guidance for the measurement and management of greenhouse gas emissions. Boom calculates and incorporates scope 1, 2, and 3 emissions within our emissions inventory.\*

Calculation Methodology: Through Watershed, we use the most recent and relevant emissions guidance available in our carbon emissions accounting. Watershed is the industry standard for corporate emissions accounting, using high-quality climate data and third-party verified methodologies. We use specific emissions factors where available, such as material-specific carbon intensities for supply chain emissions, as defined by the trade association International Aerospace Environmental Group (IAEG). While we quantify our emissions through a combination of activity data, supplier-specific data, and financial data, we prioritize utilizing activity data when possible (such as kilowatt hours of electricity or gallons of fuel consumed).

Reporting Frameworks: While emissions accounting is standardized through the GHG Protocol, there is no standard framework in place for reporting on emissions. Multiple voluntary frameworks exist for disclosing environmental, social, and governance (ESG) data, such as the CDP, the Task Force on Climate-related Financial Disclosures (TCFD), and the Sustainability Accounting Standards Board (SASB). However, metrics can differ substantively across frameworks and lack comparability across data. As such, Boom voluntarily discloses and reports on emissions with the intent to present a clear, accountable, and comprehensive snapshot of our emissions footprint. As climate-related disclosures and reporting guidance becomes standardized and regulated, Boom will adopt a standardized reporting framework.

\*Boom utilizes two methodologies for calculating scope 3.6 emissions: one is directly aligned with the GHG Protocol, and a second which recognizes sustainable aviation fuel certificates (SAFc) as eligible carbon emissions inventory reductions. More details on these methodologies and emissions inventory comparisons can be found in "Emissions Reductions vs Offsets."

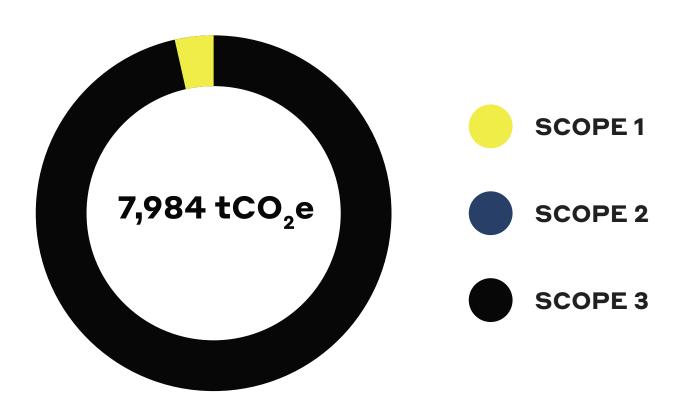


# **2022 EMISSIONS FOOTPRINT**

From January 31, 2022 to December 31, 2022, Boom emitted a net total of 7,984 metric tons of CO<sub>2</sub>e.<sup>1</sup>

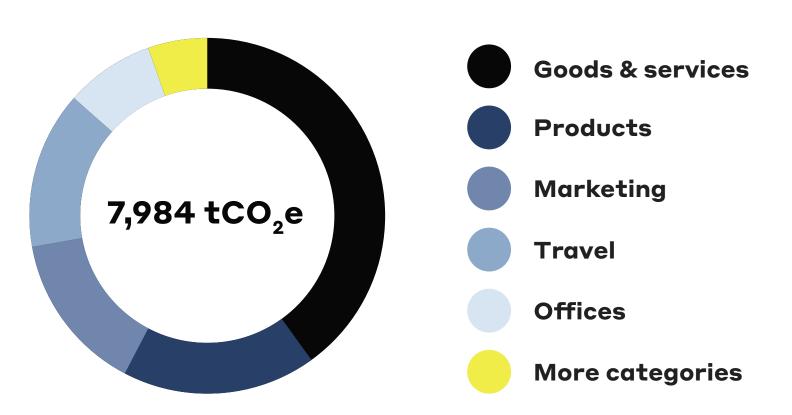
As measured by headcount intensity, Boom achieved a 12% reduction in year-over-year emissions (2022 vs. 2021) and a total 48% reduction since Boom began emissions accounting in 2019.

# **2022 EMISSIONS BY SCOPE**



1 Reported emissions include emissions reductions from the procurement of SAF certificates (SAFc) and eligible renewable energy certificates (RECs). Specifically, a 500-ton reduction from SAFc was applied within scope 3.6, and a 1,407-ton reduction from RECs was applied across scope 2 and within scopes 3.3 and 3.7.

# **2022 EMISSIONS BY CATEGORY**



During 2022, Boom's largest drivers of emissions came from the goods and services purchased from vendors, followed by emissions from XB-1 testing and Overture development.

40%

reduction in air travel emissions

Boom participated in the first aggregated SAF certificate purchase through SABA, reducing or "insetting" 40% of all business air travel emissions in 2022.



12%

48%

reduction year-over-year

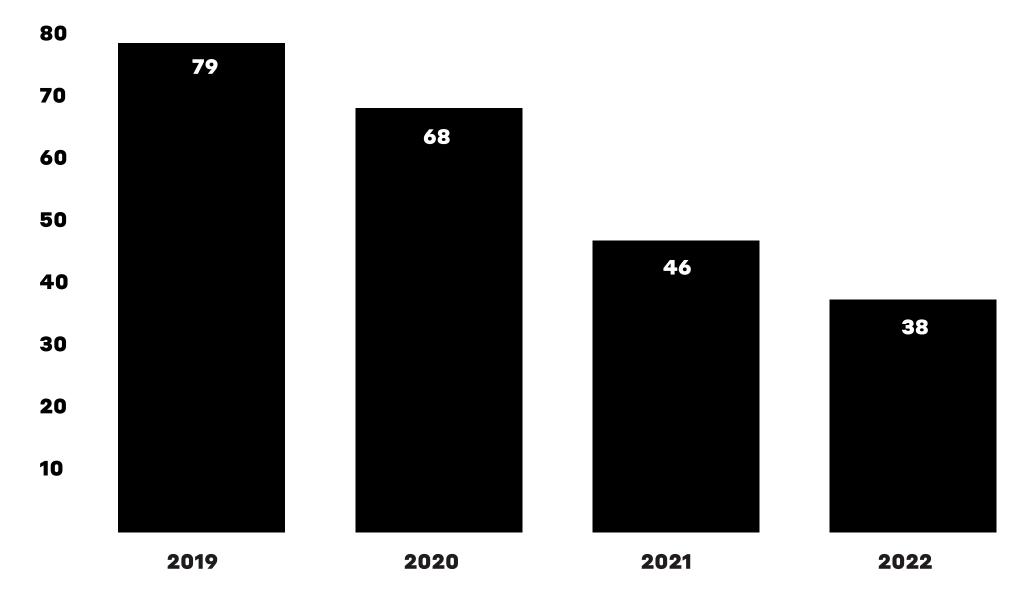
reduction since 2019

Boom achieved a 12% reduction in year-over-year emissions as measured by headcount intensity (2022 vs. 2021) —and a total 48% reduction since Boom began emissions accounting in 2019. This is largely attributed to our focus on emissions reductions, including insetting through RECs and SAFc.

LOOKING AHEAD

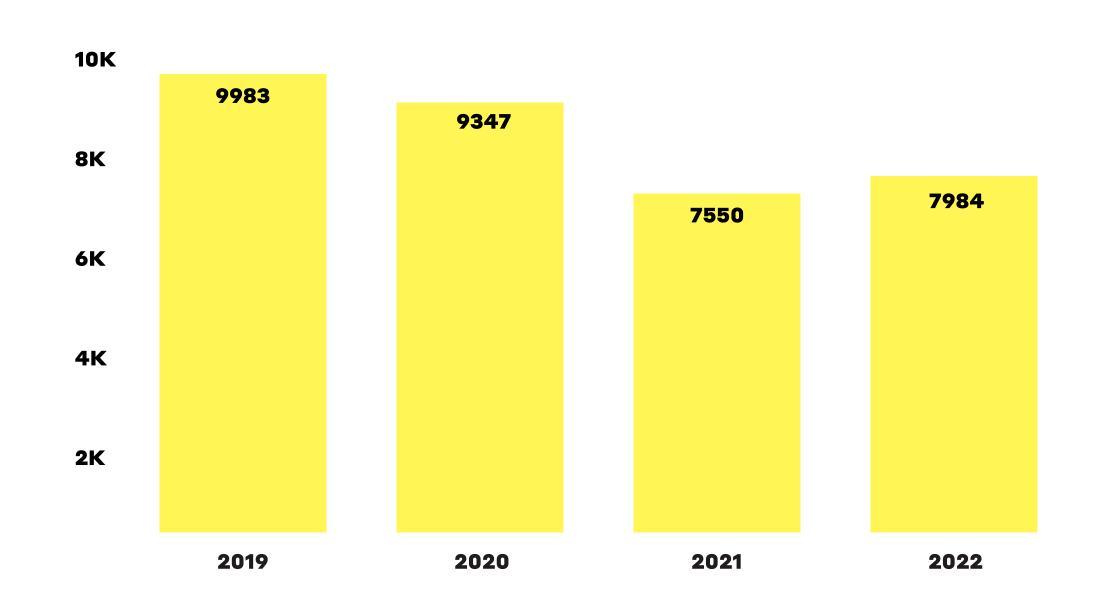
# 2022 EMISSIONS BY HEADCOUNT INTENSITY

(TCO<sub>2</sub>E PER EMPLOYEE)



# 2019-2022 EMISSIONS BY ABSOLUTE INTENSITY

(TOTAL TCO<sub>2</sub>E)





# **EMISSIONS REDUCTIONS VS. OFFSETS**

As Boom charts its path to net zero carbon, we prioritize reductions over offsets. This is seen in our commitment to reducing our corporate emissions as well as working with our value chain to reduce upstream and downstream emissions.

In some instances within difficult-to-abate emissions categories, Boom looks for opportunities to carbon "inset" rather than "offset." Insetting<sup>2</sup> is a form of in-sector emissions reductions, focused on "doing good" in the value chain as opposed to doing "less bad," as is the case with some carbon avoidance offsets.

For aviation, the most critical example of insetting is the use of SAF certificates for scope 3.6 business travel. This enables corporations to pay the premium for additional high-integrity SAF to be utilized by airlines, beyond what the airline would have chosen to use itself. Through robust systems that ensure additionality, traceability, and other sustainability criteria, SAF certificates drive demand for SAF and enable meaningful acceleration of SAF adoption.

Unfortunately, carbon insetting currently lacks standardization. In some cases, the GHG Protocol provides clear guidance for acceptable use of insetting, most notably in the case of scope 2 guidance for use of RECs. However, the use of SAF certificates as a form of carbon reduction remains to be standardized. Version 1.0 of the Science-Based Targets Initiative (SBTi) guidance for the aviation sector states "SAF can be used to address scope 3 targets if procured in line with SBTi principles," while the GHG Protocol does not currently include guidance on the use of SAF certificates for scope 3.6 business travel reduction.

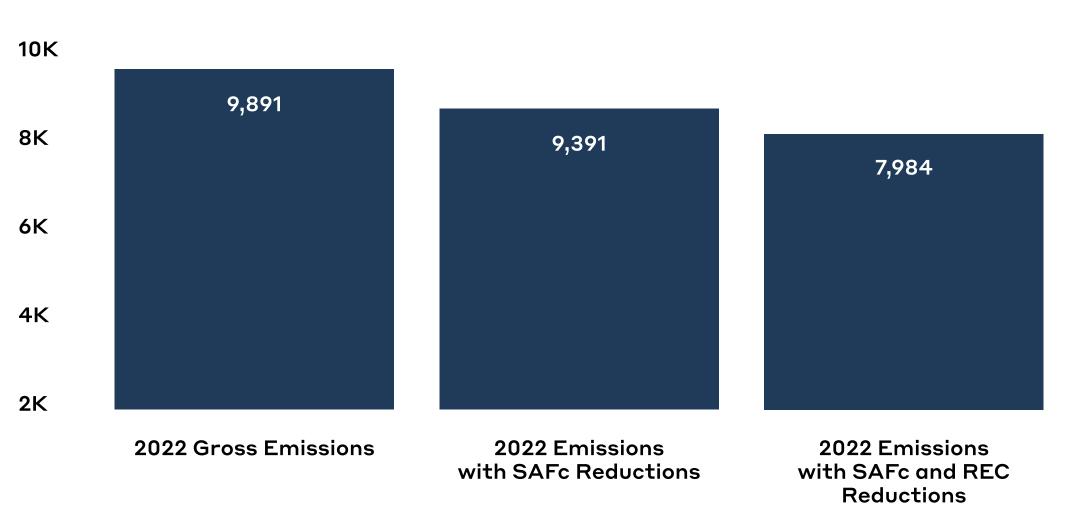
In line with supporting our mission to accelerate SAF, Boom strongly aligns with SBTi's guidance that SAF be used for scope 3 emissions reductions. We are actively working with various organizations, most notably the Sustainable Aviation Buyers Alliance (SABA) and the Roundtable on Sustainable Biomaterials (RSB), to help ensure standardization of robust mechanisms to ensure all sustainability criteria are met. We are also proud to have been a part of one of the first aggregated SAF certificate procurement efforts through SABA, purchasing high-integrity SAF equivalent to 500 metric tons of CO<sub>2</sub> emissions.

2 https://www.weforum.org/agenda/2022/03/carbon-insetting-vs-offsetting-an-explainer/

Because of the important role SAF certificates play in scaling SAF, we chose to include our purchase of tracable, high quality SAF certificates as scope 3.6 emissions reduction. This resulted in a roughly ⅓ reduction in our business air travel emissions. For transparency, below is a comparison of our 2022 footprint with and without these important emissions reduction mechanisms.

# **2022 Emissions Comparisons**

(TOTAL TCO<sub>2</sub>E)





# **OUR FOOTPRINT: PERFORMANCE AND PROGRESS**

At Boom, 2022 was a year characterized by growth—from new partners, customers, and suppliers, to expanding our teams, facilities, and talent. It was also a year for milestone achievements within our aircraft and engine programs, as we kicked off XB-1's test program, matured Overture's design, and introduced the Symphony propulsion system.

While Boom achieved a year-over-year reduction in emissions per employee (2022 vs. 2021), increases in gross absolute emissions were reflected in three main areas:

**TRAVEL**: Boom increased employee business travel and expenses from the attendance of industry events and government meetings and hearings in 2022. These emissions include the cost of hotels, meals, and ground transportation, as well as remaining air travel emissions after SAF certificate reductions.

**MARKETING**: Boom resumed participation and increased spend at industry trade shows and other events, such as the 2022 Farnborough International Air Show. Marketing emissions include the costs from market research, paid media, as well as agency and consulting expenses.

**OFFICES**: The growth of Boom's workforce necessitated an expansion in our facilities. In February 2022, Boom obtained occupancy of a new and considerably larger corporate headquarters in Denver, Colorado, and began renovations in preparation for the company's relocation in early 2023. While gross emissions increased year-over-year, office emissions reductions incorporating the use of 100% renewable energy and procurement of eligible RECs are reflected in our net emissions footprint. Office emissions include the costs from this expansion as well as utilities and asset expenditures across Boom facilities.

Beyond reductions from the use of renewable energy and the procurement of eligible certificates, Boom noted decreases in emissions in two categories: emissions from the development and manufacturing of XB-1 (or "Products") as well as emissions from the cost of professional services and goods purchased from suppliers (or "Goods & Services").



### **About Our Certificates**

A 500-ton reduction was applied within scope 3.6 from the procurement of SAFc from SABA. The procurement of RECs from Watershed also enabled the following electricity emissions reductions: 1,240-ton reduction across scope 2 emissions; 91-ton reduction applied to scope 3.3 (transmission and distribution of electricity); 75-ton reduction applied to scope 3.7 (work-from-home electricity consumption).



### **DOWNSTREAM**

Boom intends to work with airline customers to set an industry-leading example by facilitating net zero carbon operations of Overture within customer agreements.

When Overture enters service, Boom expects the majority of its emissions to fall under scope 3.11, "Use of Sold Products"—emissions from all fuel burned by our airline partners' scope 1 emissions. For Overture to achieve net zero carbon, the fleet must use SAF and/or purchase high-quality carbon removal credits. The financial responsibility for the SAF premium or credit purchase can be covered by anyone in the supply chain: the aircraft and engine manufacturer, airline, or a combination thereof.

### **UPSTREAM**

In 2022, Boom began integrating supply chain emissions accounting tools into its measurement strategy through Watershed Supply Chain, enabling enhanced calculation and tracking of scope 3 emissions. Boom piloted the tool within a subset of supplier relationships and will expand engagement across supply chain partnerships in the coming years. By working closely with our suppliers to gather and analyze data, as well as identify and collaborate on reduction opportunities, we are able to streamline data collection, enhance the accuracy of our scope 3 emissions, and strengthen supplier partnerships.



By integrating supply chain tools into our measurement strategy through Watershed Supply Chain, we're able to achieve an increased level of carbon data fidelity. Ultimately, this allows us to make clear and informed decisions around how we can action comprehensive decarbonization in lockstep with our suppliers to mutually enable emissions reductions across our supply chain.

- Ben Murphy, VP of Sustainability



ACHIEVING NET ZERO CARBON

# REDUCE

Boom aims to take a holistic lifecycle approach to sustainability. As Boom rapidly matures and grows, we will prioritize emissions reductions and take tangible steps to reduce our footprint across all phases of our operations and our aircraft and engine development programs.

# → DESIGN

- Optimized for efficiency
- Optimized for 100% SAF
- Optimized for noise reduction

# $\rightarrow$ BUILD

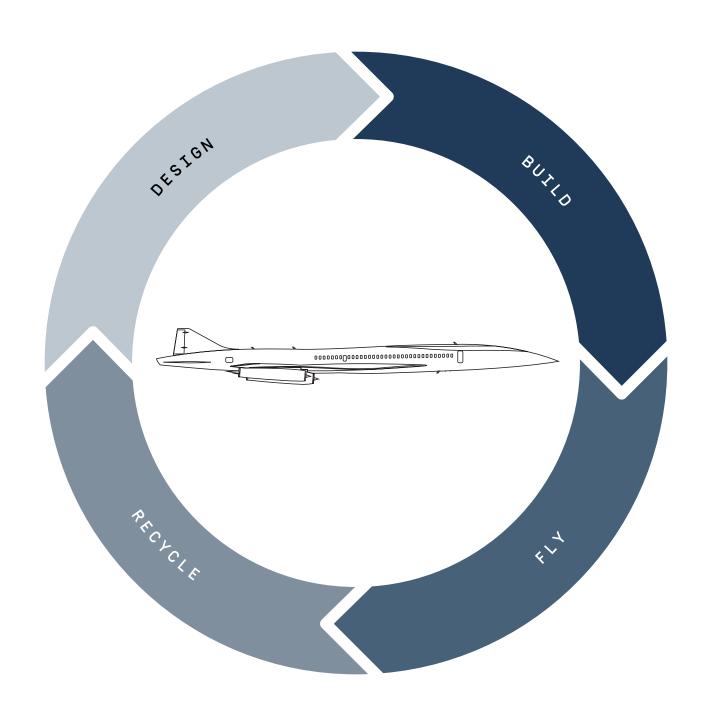
- Sustainability throughout our facilities
- Sustainability within our supply chain

# $\rightarrow$ FLY

- Enabling net zero carbon flight
- Facilitating net zero carbon operations

# $\rightarrow$ RECYCLE

- Circularity within our products
- Circularity within our operations



### **COMMITTING TO A SCIENCE-BASED TARGET**

In 2022, Boom submitted its application to commit to setting science-based targets to reduce greenhouse gas emissions, in line with the <u>Science-Based Targets Initiative (SBTi)</u>. In early 2023, Boom received approval on its targets after SBTi validation.

While Boom's internal goals are more aggressive, as part of our SBTi commitment, we plan to reduce absolute scope 1 and scope 2 GHG emissions 42% by 2030 from a 2021 base year, and to measure and reduce scope 3 emissions. This is in accordance with the most ambitious targets set in the 2015 Paris Climate Agreement, which sets the goal of limiting global warming to 1.5°C.

SBTi, a partnership between CDP, the UN Global Compact, World Resources Institute (WRI) and the World Wide Fund for Nature (WWF), defines and promotes best practice in setting science-based emission reductions targets and brings together a team of experts to provide independent assessment and validation of targets.

Boom commits to reduce absolute scope 1 and scope 2 GHG emissions 42% by 2030 from a 2021 base year, and to measure and reduce its scope 3 emissions.

Based on SBTi Criteria 5.0, following predefined near-term targets for Small and Medium-Sized Businesses (SMEs).



ACHIEVING NET ZERO CARBON

REDUCE

# **DESIGN**

### **OPTIMIZED FOR EFFICIENCY**

Overture features a number of engineering innovations to achieve optimal performance and fuel efficiency, while meeting stringent safety and sustainability requirements. The unique design parameters and constraints of supersonic aircraft require higher fidelity analysis and optimization than typical aircraft higher fidelity analysis and optimization early in the design process. Over several years of design, Boom leveraged state-of-the-art computational aerodynamic tools, allowing for rapid iteration and optimization of Overture's airframe for aerodynamic efficiency. Overture is the culmination of 26 million core-hours of simulated software designs, five wind tunnel tests, and the careful evaluation of 51 full design iterations.

Boom is also increasing fuel efficiency through innovations in fleet and route optimization. Overture will be optimized to reduce fuel burn en-route using a flight planning tool developed in-house at Boom. The smart routing tool calculates the most efficient distance- and time-minimizing routes, and is designed to implement constraints such as maintaining subsonic flight over land and impacting communities with sonic booms.

The new Symphony engine also provides opportunities for efficiency improvements when compared to a derivative engine. The collaborative approach employed for the engine gives Boom full control and ownership of the design, with the support and expertise of world-class partners and suppliers. When compared to derivative engine approaches, Symphony can be co-optimized with the vehicle to maximize performance, and the engine is expected to deliver a 25% increase in time on wing, reducing the environmental footprint of maintenance and overhaul.

# THE OVERTURE REVEAL

At the Farnborough Air Show in July 2022, Boom debuted Overture's production design, combining a number of engineering innovations in aerodynamics, noise reduction, and overall performance.

## **CONTOURED FUSELAGE**

Boom applied the principle of area-ruling in Overture's contoured fuselage, which has a larger diameter toward the front of the aircraft and a smaller diameter toward the rear, minimizing drag and maximizing fuel efficiency at supersonic speeds.

### **GULL WING DESIGN**

The aircraft's proprietary gull wing design was selected to optimize cruise and low-speed conditions.

This wing design allows air to flow smoothly over and around the aircraft while the compound modified delta planform takes full advantage of natural fluid dynamics to enhance supersonic performance while sustaining conventional sub- and transonic efficiency.

### **CARBON COMPOSITE CONSTRUCTION**

Overture will incorporate carbon composite materials into the majority of the build that are lighter, stronger, and more thermally stable than traditional metal construction. Carbon composites can also be manufactured with highly complex curvature, contributing to the aircraft's aerodynamic efficiency.

<u>Learn more about Overture.</u>



### **OPTIMIZED FOR 100% SAF**

Overture and Symphony are designed and optimized to run on 100% SAF as well as accommodate next generation, zero-aromatic 100% SAF. Today's airliners can accept at most a 50/50 blend of SAF and require aromatics in the fuel, limiting the potential for climate benefits and increasing costs. We are designing the fuel system and engine to accommodate next generation zero-aromatic SAF (e.g., Jet X), which requires use of certain seals and o-rings which are compatible with Jet X and Jet A. As a clean-sheet engine design, our approach with Symphony allows these technical elements to be built into the engine design from the start, rather than requiring expensive and time-consuming retrofits, allowing Overture to take full advantage of lower emission, higher performance SAF.

## **OPTIMIZED FOR NOISE REDUCTION**

Overture will employ the world's first automated noise reduction system. With no afterburners, Overture's takeoffs will blend in with existing long-haul fleets, meeting or exceeding current International Civil Aviation Organization (ICAO) noise levels for all subsonic aircraft (ICAO Chapter 14, also referred to as FAA Stage 5).

# **INTRODUCING SYMPHONY**

In December 2022, Boom debuted Symphony, a new propulsion system designed for Overture—and optimized from day one to run on 100% SAF. Overture will be powered by four wing-mounted Symphony engines that enable the airliner to cruise at Mach 1.7 over water and just under Mach 1 over land.

Boom will be teaming with three industry leaders to develop Symphony, including Florida Turbine Technologies (FTT) for engine design, GE Additive for additive technology design consulting, and StandardAero for maintenance.

Symphony will be a bespoke design leveraging proven technologies and materials to achieve optimal supersonic performance and efficiency. The medium-bypass turbofan engine will feature the same basic engine architecture that currently powers all modern commercial aircraft. Engine placement was selected to conform to the strictest passenger safety requirements. Overture will also employ the world's first automated noise reduction system for fixed-wing aircraft to reduce community noise impacts. Unlike subsonic turbofans, this new propulsion system will include a Boom-designed axisymmetric supersonic intake and a variable-geometry lownoise exhaust nozzle. Symphony will operate at net zero carbon and meet Chapter 14 noise levels.

<u>Learn more about Symphony.</u>



Developing a supersonic engine specifically for Overture offers by far the best value proposition for our customers. Through the Symphony program, we can provide our customers with an economically and environmentally sustainable supersonic airplane—a combination unattainable with the current constraints of derivative engines and industry norms.

– Blake Scholl, Founder and CEO



# **BUILD**

### SUSTAINABILITY THROUGHOUT OUR FACILITIES

In January 2022, Boom announced Piedmont Triad International Airport in Greensboro, North Carolina, as the site of its first full-scale manufacturing facility, the Overture Superfactory. The Superfactory will be LEED Certified and powered by 100% renewable energy.

LOOKING AHEAD

Boom projects that the Superfactory will be approximately 40% more energy efficient than other similar facilities, accomplished through high-efficiency heating and air conditioning, LED lighting, and improved insulation. We are also implementing other innovative sustainability measures, such as eliminating onsite combustion and leveraging zero waste products and processes when possible.

At our Colorado headquarters and other facilities, Boom continued key sustainability initiatives such as use of renewable energy (e.g., on-site solar at our new headquarters, in-state production through utilities such as Xcel's Energy's Windsource program, supplied entirely from wind farms in Colorado), onsite composting, and recycling.



It is both poetic and logical that Boom Supersonic would choose the state that's first in flight for its first manufacturing plant. Like the success of the Wright Brothers at Kitty Hawk, this innovative company will succeed by transforming passenger air travel with speed and sustainable energy.

- North Carolina Governor Roy Cooper, as quoted in a January 2022 <u>Boom press release</u> announcing Greensboro, North Carolina, as the site selected for the Overture Superfactory

### SUSTAINABILITY THROUGHOUT OUR SUPPLY CHAIN

Boom is committed to integrating sustainability throughout our supply chain. We work to select partners who prioritize sustainability and are committed to the development of sustainable technologies and product solutions.

Periodically, Boom reviews and updates its supplier expectations and supply chain policy to ensure robustness in to ensure robustness in their commitment to addressing CO2 emissions reductions towards a net zero goal. Our policy requires tier one suppliers to provide detailed information regarding emissions measurement, reduction, and reporting; ESG reporting mechanisms; and emissions reduction commitments, including commitments to set science-based targets through SBTi. We require all other suppliers to provide information regarding GHG emissions, environmental performance, and reduction targets and initiatives.







### PARTNERSHIPS ANCHORED IN SUSTAINABILITY

Boom is proud to partner with world-class suppliers who are dedicated to a safe and sustainable future for aviation.

In 2022, Boom announced new and expanded tier one partnerships for our aircraft and engine programs with suppliers who share our commitment to sustainability, including <u>Collins Aerospace</u>, <u>Eaton</u>, and <u>Safran Landing</u>.

<u>Systems</u>.

Safran Landing Systems is dedicated to building a more environmentally friendly future of aviation, and brings more than a century of aircraft equipment design and manufacturing expertise to the Overture program. Boom is partnering with Safran on key systems including aircraft braking and landing gear, with a focus on incorporating the latest technology to improve aircraft safety, optimize weight, and reduce aircraft noise.

An industry leader in fuel systems for both military and commercial aviation, Eaton has its eyes on the future of aviation when it comes to efficiency and aircraft safety. Eaton is contributing significant domain expertise to the Overture program on system analysis, including engine feed rates, refuel and jettison, venting, basic and emergency center of gravity control, and pump performance—advancing Overture's key tenants of speed, safety, and sustainability.









# **FLY**

## **ENABLING NET ZERO CARBON FLIGHT**

Overture and its propulsion system, Symphony, are designed and optimized to run on up to 100% SAF, as well as accommodate next generation future SAF specifications which feature improved aircraft performance and reduced environmental impacts.

In September 2022, Boom signed an offtake agreement with <u>AIR COMPANY</u> to purchase up to five million gallons of AIRMADE™ SAF on an annual basis over the duration of the Overture flight test program. Boom plans to collaborate with AIR COMPANY to advance 100% SAF as well as facilitate SAF supply for Boom airline customers.

Additionally, Boom is financially contributing to scaling SAF through the purchase of SAF certificates through SABA. Boom purchased 50,000 gallons of SAF delivered in 2022 through SAF certificates, reducing our scope 3.6 corporate travel emissions by 40% in 2022 by insetting 500 metric tons of CO<sub>2</sub>e. This procurement drives demand for SAF while covering the price premium to help advance SAF toward economic parity.



AIR COMPANY and Boom Supersonic are two companies making real strides towards a markedly different world of aviation. Working with Boom Supersonic to offer the first commercially available power-to-liquid SAF has been an incredible marriage of two forward-thinking companies, ready to improve the world in which we live and fly. We look forward to a long partnership and are excited to share more innovation as the relationship continues.

- Gregory Constantine, AIR COMPANY CEO, as quoted in a September Boom press release announcing the offtake agreement



# OUR FIRST SAF CERTIFICATE PURCHASE

2022 was a year marked by tangible action to invest in and advance SAF. In addition to our offtake agreement with AIR COMPANY, Boom participated in the first, aggregated SAF certificate purchase through <u>SABA</u>.

SABA's SAF certificate (SAFc) system is a significant advancement that dramatically improves the accessibility of SAF globally. SABA's SAFc system allows entities to support the SAF industry while reducing their corporate travel emissions, even if they do not have direct access to procure SAF. In this way, physical barriers for SAF accessibility are overcome, and organizations around the world can achieve their sustainability goals while at the same time sending strong demand signals and supporting high-integrity SAF producers through early SAF purchase commitments.



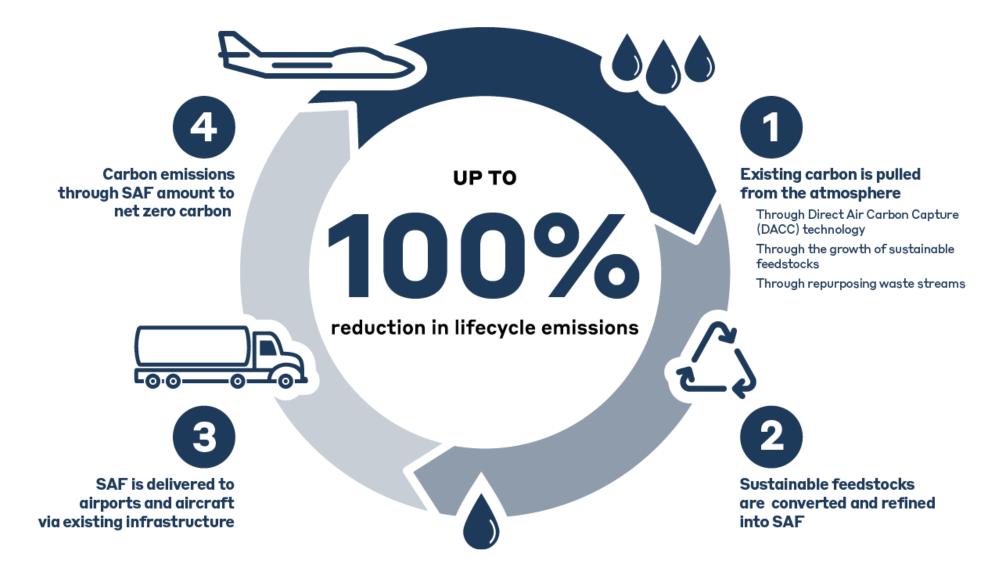
### **FACILITATING NET ZERO CARBON OPERATIONS**

Boom is prioritizing airline partners who intend to operate Overture at net zero carbon.

At Boom, we recognize the importance of continued research and development efforts to improve the fuel efficiency of Overture. We are actively engaged with federal agencies, national laboratories, and academic partners on research and development to advance supersonic aircraft technology in order to deliver Overture optimized for fuel efficiency, as well as realize continued improvements in fuel efficiency over time.

### SAF LIFECYCLE REDUCTION

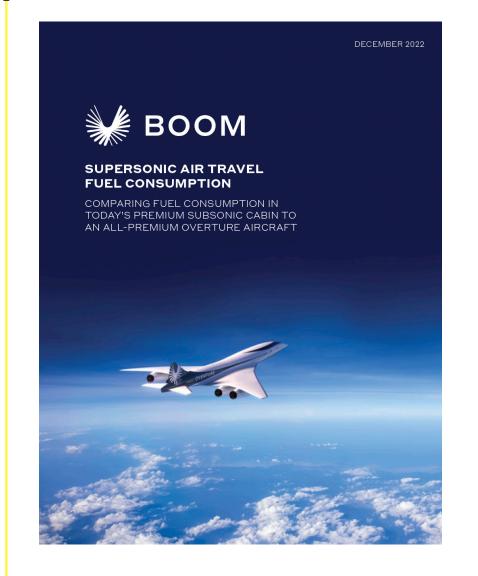
SAF has the potential to reduce lifecycle emissions by up to 100% compared to conventional jet fuel.





"As fuel stakeholders, Boom and our customers have a responsibility to help next-generation SAF scale. Early buy-in from future SAF users like us sends a critical signal to researchers, producers, and investors that the demand is there."

- Ben Murphy, VP of Sustainability



### CHARACTERIZING OVERTURE'S FUEL CONSUMPTION

In December 2022, Boom conducted a high-fidelity analysis on Overture's fuel consumption for representative supersonic routes using robust performance data for Overture, actual operational data for present-day aviation, and industry-standard methodologies. The results, published in the "Supersonic Air Travel Fuel Consumption" white paper, provide a transparent and accurate comparison of the fuel consumption intensity aboard Overture to that of an equivalent premium class seat on a subsonic aircraft. The study overcomes a number of limitations and discrepancies found in other estimates, serving as a true and robust resource for understanding the fuel intensity of supersonic travel.

The findings show that Overture will burn roughly two to three times the amount of fuel per seat than comparable premium

class subsonic travel, depending on the route traveled, as well as various fuel consumption assumptions related to the subsonic fleet.

This reality drives Boom's unrelenting focus on advancing SAF and other emissions reduction technologies.

Together with its industry and academic partners, Boom continues to advance research and development into supersonic aircraft technology which is expected to deliver improvements both for Overture, the next generation of supersonic aircraft, and future iterations of commercial supersonic transport. Through continued development, our strategic focus on advancing and scaling SAF, and other actions, Boom is committed to delivering net zero carbon supersonic air travel, making sustainable aviation a reality for billions of passengers.



# RECYCLE

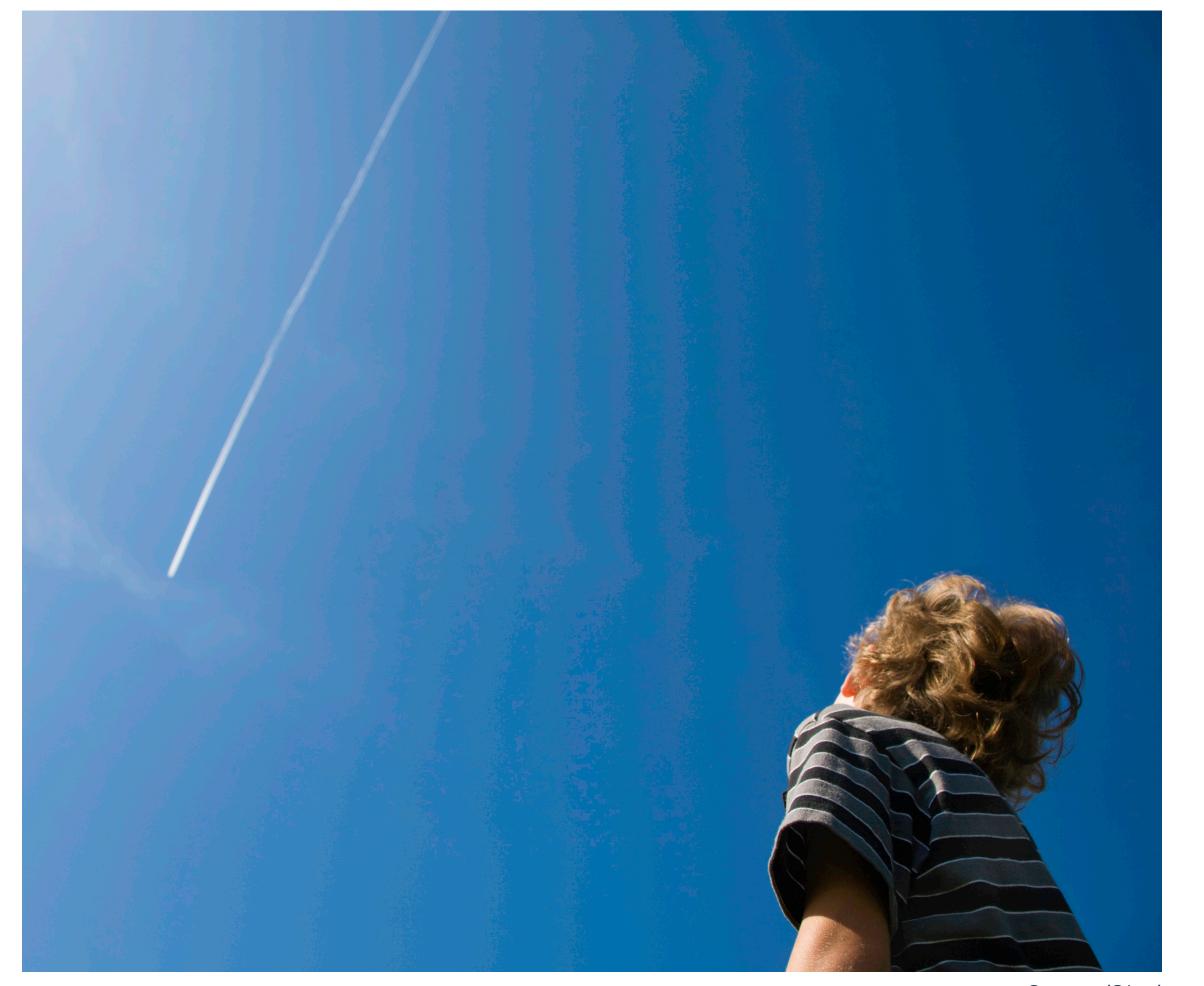
# **CIRCULARITY WITHIN OUR PRODUCTS**

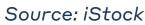
Boom employs circular economy principles and aims to eliminate waste through reusing, refurbishing, remanufacturing, and recycling products and materials within its aircraft and engine design and development program.

As a member of the Aircraft Fleet Recycling Association (AFRA), we aim to align with best practices for the sustainable management and circularity of end-of-life aircraft materials and components. AFRA represents companies from across the globe and throughout the supply-chain to develop, improve, and promote the sustainable management and circularity of end-of-life aircraft materials and components. We are designing Overture to enable reclamation of up to 95% of the aircraft's materials at end-of-life. Boom is also designing in-cabin technology to maximize circularity, given cabin interiors are often replaced several times over the course of an aircraft's life.

# **CIRCULARITY WITHIN OUR OPERATIONS**

Boom seeks to inspire a culture of sustainability, where employees are empowered and given the tools to make sustainable choices. Across our facilities, Boom employs composting programs and operational recycling, recycling metals, plastics, and other materials.







At Boom, we believe that decarbonization alone will be insufficient to keep global warming below 1.5°C, and the world needs to remove carbon dioxide already in the atmosphere to achieve this.3

Carbon offsets can be divided into two categories: (1) "carbon avoidance", which prevents the release of carbon from anthropogenic sources (e.g., fossil fuel combustion) or prevents deforestation, and (2) "carbon removal", which captures and sequesters carbon from the atmosphere. Boom's near term approach to carbon neutrality involves balancing high quality carbon avoidance offsets focused on advanced monitoring to ensure permanence with carbon removals—as we believe both approaches are necessary for the world to achieve net zero.

Boom is committed to high-quality, nature-based offsets which involve the protection, restoration, or management of forests, wetlands, and other ecosystems. These offsets are critical to reducing global warming in the short-term because they help protect and restore carbon-sequestering ecosystems, while also improving land management, supporting flood abatement, mitigating air pollution, and slowing declines in biodiversity.4 Simultaneously, these projects can contribute to communities' socio-economic development by enhancing public health, supporting livelihoods, protecting communities and infrastructure from flooding and erosion, and ensuring food security.<sup>5</sup>

With technology-based carbon removal still in nascent industrialization, we are investing in readily available, highquality, nature-based carbon avoidance offsets in the short term while also supporting emerging technologybased removals. Beginning in 2025, our roadmap to net zero carbon relies only on carbon removal solutions. Longterm net zero strategies do not utilize carbon avoidance offsets and leverage only carbon removal credits, such as reforestation and direct air carbon capture and sequestration. Boom is an active proponent of supporting technology-based carbon sequestration and storage initiatives, particularly now as the technology continues maturing to help drive down costs in the future.

While direct air capture and storage is currently more expensive than carbon removal through reforestation, Boom believes that paying a premium today to purchase direct air capture and storage credits is critical to create demand, help advance carbon capture technology, and make the technology more accessible over time. As such technology matures, affordability will allow for carbon capture and storage credits to become the bulk of Boom's net zero carbon portfolio.

3 https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC\_AR6\_WGIII\_FullReport.pdf 4 https://www.nature.com/articles/d41586-021-01241-2

5 https://www.nature.com/articles/s41558-021-01245-w



The Climeworks direct air capture technology runs exclusively on clean energy and the modular CO2 collectors can be stacked to build machines of any size. Source: Climeworks



# **OFFSET: CARBON REMOVAL AND AVOIDANCE**

# CATALYZING THE GROWTH OF CARBON REMOVAL SOLUTIONS

In late 2022, Boom built upon its commitment to invest in permanent carbon removal solutions.

Through our partnership with Watershed, Boom is participating in <u>Frontier</u>, an advance market commitment to accelerate climate-critical permanent carbon removal.

Frontier was founded by Stripe, Alphabet, Shopify, Meta, and McKinsey Sustainability. It looks for permanent carbon removal technologies that will store carbon for over 1,000 years. Frontier's supplier companies leverage biomass burial, direct air capture, enhanced weathering, and more. Frontier has a rigorous, science-backed vetting process for their suppliers. They control for length of carbon storage, physical footprint, cost, scalability and capacity, net carbon negativity, additionality (net new carbon removed, rather than removal that was already going to occur), scientific verifiability, environmental justice concerns, safety, and legality.

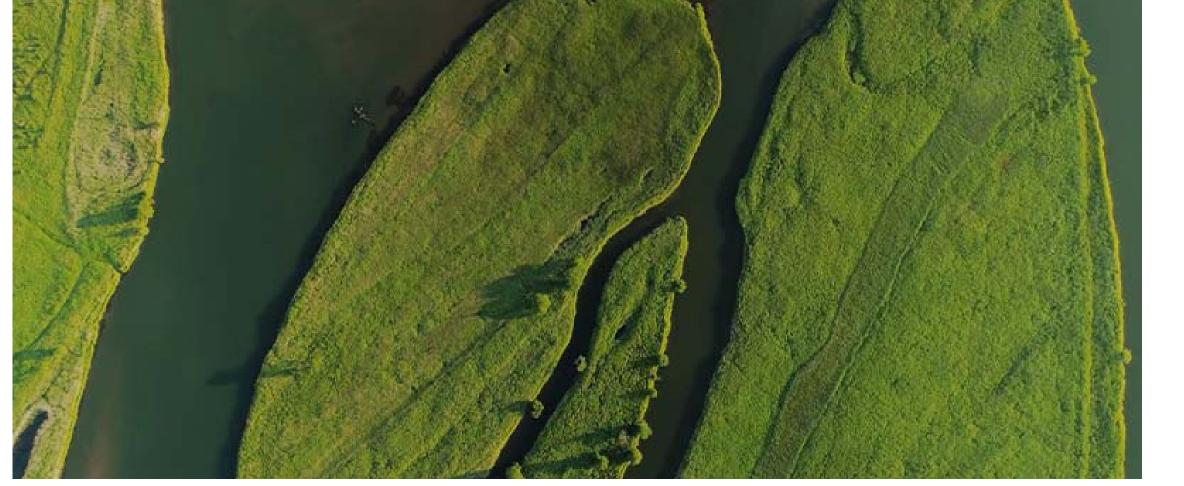
Boom joins Canva, SKIMS, and Zendesk as the first Watershed customers to participate in Frontier. Companies in many sectors will need to purchase CDR to meet global climate goals. The Watershed-led cohort includes companies at new scales (like Zendesk, a growing private tech company), in diverse geographies (like Canva, based in Australia), and across sectors including apparel (SKIMS) and aerospace (Boom). The participation of Watershed customers will set a new standard for ambitious climate action for companies across the economy.

This builds on Boom's 2021 ten-year offtake agreement with Climeworks, a leader in direct air capture (DAC) technology, which captures and removes carbon dioxide directly from the air. Climeworks' direct air capture and storage solution is a permanent, efficient, measurable, and safe carbon dioxide removal solution.



Boom Supersonic is operating in uncharted territory with their work to build the first commercially viable supersonic aircraft with net zero carbon emissions. We're energized by Boom's ongoing climate leadership in one of the most emissive sectors of the economy. Their participation in our partnership with Frontier is proof positive that permanent carbon removal is a necessity for ambitious companies across all industries.

- Christian Anderson, Watershed CEO and Co-Founder









# **OFFSET: CARBON REMOVAL AND AVOIDANCE**

# **ACHIEVING & MAINTAINING CARBON NEUTRALITY**

Boom achieved carbon neutrality for the second year in a row by purchasing a combination of carbon avoidance and carbon removal credits to offset residual scope 1 and scope 3 emissions.

When evaluating carbon offset and removal solutions, Boom supports and adheres to the International Civil Aviation Organization (ICAO) Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) mechanism, which sets a high bar as the minimum standard for offsets that aircraft operators are allowed to use. Boom ensures that its carbon offset purchases satisfy CORSIA environmental and social integrity criteria.

In 2022, Boom purchased high-quality, nature-based carbon credits from Pachama to offset remaining, unavoidable emissions. Pachama is a technology company on a mission to restore nature to solve climate change. Pachama utilizes the latest advancements in satellite imagery, remote sensing, and machine learning to rigorously evaluate the carbon stored in our forests and monitor forest growth over time. The forest conservation and restoration projects selected by Pachama must meet core quality criteria for accuracy, additionality, durability, net climate benefit (leakage), as well as offer additional biodiversity and community benefits beyond carbon. This approach elevates a subset of quality projects to ultimately advance a more transparent and high-integrity carbon market.







LOOKING AHEAD

### **OUR PROJECTS**

Through Pachama, Boom supported the following technology-verified projects in 2022 to offset 7,984 metric tons of remaining emissions. Boom also continued its commitment to forward offtakes in carbon removal solutions through its agreements with Climeweorks and Frontier.



Protecting irrecoverable carbon in one of the planet's largest remaining peat swamp forests Source: Pachama

### **BORNEO PEATLANDS, INDONESIA**

Avoided planned deforestation | Offset 4,694 metric tons of CO<sub>2</sub>

The Borneo Peatlands project is one of the largest intact peat swamp forests in Indonesia and can store up to 20 times more carbon than a typical forest.<sup>6</sup> This rare piece of land is at significant risk of conversion to industrial timber plantations, as well as illegal deforestation for pulpwood. The project seeks to collaborate with local communities to protect and restore this critical ecosystem through education, alternative livelihood financing, and robust monitoring regimes.

6 https://app.pachama.com/projects/borneo-peatlands/overview?alt=media#hero



Regenerating deforested cattle ranching land in the heart of the Amazon Source: Pachama

# FAZENDA SÃO NICOLAU, BRAZIL

Supported afforestation, reforestation, and revegetation | Offset 3,300 metric tons of CO<sub>2</sub>

Fazenda São Nicolau is located in the heart of the Brazilian Amazon rainforest. Much of the project area was heavily deforested in the late 1980s and 90s for both cattle ranching and coffee production. As the first Brazilian forestry project to be certified by Verified Carbon Standard (VCS), Fazenda São Nicolau has pledged extensive afforestation, reforestation, and revegetation to increase the forest's carbon stock, recover invaluable biodiversity, and engage local communities. The project is located on former cattle grazing areas and aims to restore forest cover as part of a wider program implemented on 10,000 ha of private land (including the Fazenda).



Sustainable aviation fuel (SAF) is the most promising, impactful, and near-term solution for decarbonizing aviation. Beyond SAF, there are other drivers that will play a role in achieving this goal, including aircraft efficiency improvements, new propulsion technologies, and infrastructure and operational improvements. Next-generation technologies like hydrogen- and electric-powered aircraft promise zero emissions, but they will be limited initially to smaller aircraft and shorter-range flights.

SAF is a replacement for fossil-based fuel that is chemically similar but made from renewable sources, ranging from municipal solid waste to carbon captured from the air. Further, a rapid transition to SAF is within reach for all aircraft, and ready to scale. SAF is projected to contribute between 53-71% of the CO2 emissions reductions needed from the aviation sector in support of the Paris Agreement.8

Currently, drop-in SAF that is fully compatible with existing aircraft and fueling infrastructure is in production, and has already fuelled more than 483,000 commercial flights. However, coordinated, immediate, and collective action is required from industry, government, and across the value chain to achieve a rapid scale-up of SAF production, deployment, and adoption.

7 https://www.icao.int/environmental-protection/CORSIA/Documents/ICAO\_Document\_09.pdf

8 https://aviationbenefits.org/media/167417/w2050\_v2021\_27sept\_full.pdf

9 https://aviationbenefits.org/environmental-efficiency/climate-action/sustainable-aviation-fuel

10 https://crsreports.congress.gov/product/pdf/R/R47171/2

### SAF PATHWAYS AND REDUCTION POTENTIAL

SAF is produced from organic and waste materials known as feedstocks, such as waste oils, algae, forest residues, municipal solid waste, and industrial gasses, as well as carbon captured from the atmosphere.

During flight when fossil jet fuel or SAF are combusted in an engine, they will produce the same amount of CO<sub>2</sub> emissions. However, unlike fossil jet fuel, SAF enables a closed carbon loop. This is because carbon reductions are evaluated on a fuel's entire lifecycle basis. The benefit is not from lower emissions from combustion, but from emissions reductions achieved upstream in the fuel value chain, resulting in a net reduction in CO<sub>2</sub> emissions relative to fossil jet fuel.

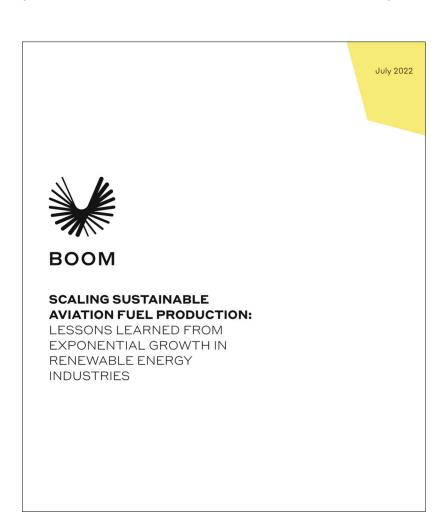
Currently, there are nine approved SAF production pathways through ASTM International, the standardsetting body for prescribing characteristics and approving specifications for aviation turbine fuel. These processes cover a number of technologies ranging from early stage to well-established processes, and at present, are approved at blend limits up to 50% with conventional fuel depending. These fuels are currently achieving as much as an 85% lifecycle carbon reduction, with potential for deeper reductions as the technology matures.<sup>10</sup>

Emerging technologies, such as direct air carbon capture (referred to as power-to-liquids or PtL), can achieve 100% lifecycle carbon reduction and have near-unlimited SAF production potential, as they do not rely on traditional biomass-based feedstocks. As such, PtL is Boom's preferred SAF pathway for its potential to be the most sustainable solution for aviation and the most promising for long-term scalability and affordability. While PtL has not yet scaled, the technology has been proven, with numerous pilot and production-scale plants planned and under construction.



Coordinated, immediate, and collective action is required from industry, government, and across the value chain to rapidly scale-up SAF production, deployment, and adoption. Nonetheless, there is ample evidence to suggest it is possible.

Lessons learned from exponential growth in renewable energy industries strongly indicate that SAF production can scale to meet industry needs if public and private initiatives are aligned.



In August 2022, Boom published the white paper, "Scaling Sustainable Aviation Fuel Production," that showed it is possible to fully satisfy SAF demand by applying the same key drivers that enabled other renewable energy industries to scale exponentially.

Dr. Akshay Ashok, Sustainability and Regulatory Specialist, and Ben Murphy, VP of Sustainability, studied patterns across other renewable energy industries, such as solar and wind, to understand how this growth can be achieved. They identified key drivers that contributed to successful exponential growth, and applied these proven trajectories to the SAF industry.

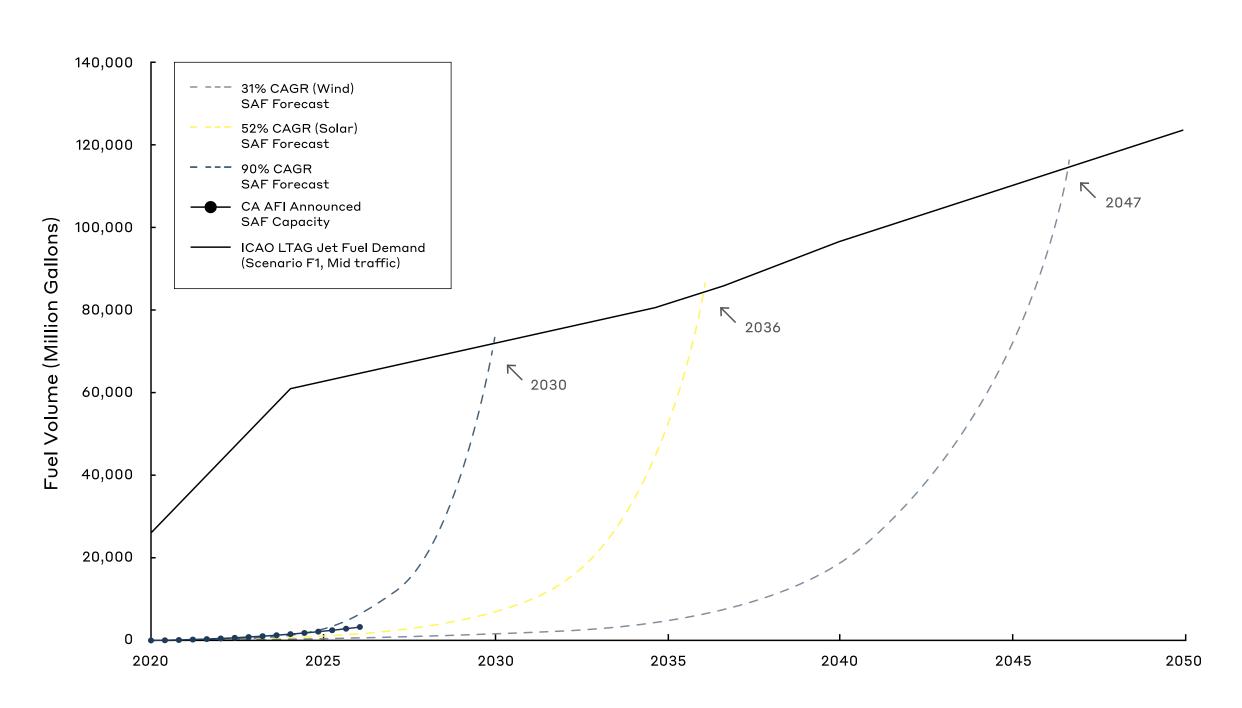
If SAF production follows the growth rates seen in solar and wind, the volume of SAF could satisfy international jet fuel demand in the 2035-2045 timeframe. Based on the

announcements of new SAF production facilities that have been made to date and two recent publications, SAF production could exceed the growth rate seen in the solar industry. 11, 12

11 https://www.greenairnews.com/?p=4210

12 http://www.ainonline.com/aviation-news/aerospace/2023-04-11/study-saf-will-be-10-billion-industry-2029

# SAF PRODUCTION AT SOLAR AND WIND GROWTH RATE



The figure above illustrates potential trajectories of SAF production should it follow the growth rates seen in other renewable technologies. If SAF scales at the rates seen in solar and wind, the volume of SAF could satisfy international jet fuel demand in the 2035-2045 timeframe.



While industry, governments, and researchers have taken initial steps, a range of targeted actions are needed now to help accelerate the scale-up of SAF.

# **SCALING SAF: CALL-TO-ACTION**



# **EARLY ADOPTION BUY-IN AND INVESTMENT**

- Airlines: Lean in on early purchase commitments
- Producers: Continue investment into new SAF facilities
- Government: Commit to SAF purchases for military applications
- Manufacturers: Support the entire SAF value chain and ensure product compatibility



### **SUSTAINED R&D FUNDING**

- Improve SAF feedstock and conversion technology, including co-processing pathways
- Mature promising low- and zero-carbon pathways (e.g., PtL)
- Increase SAF blending limits



## **GOVERNMENT INCENTIVES**

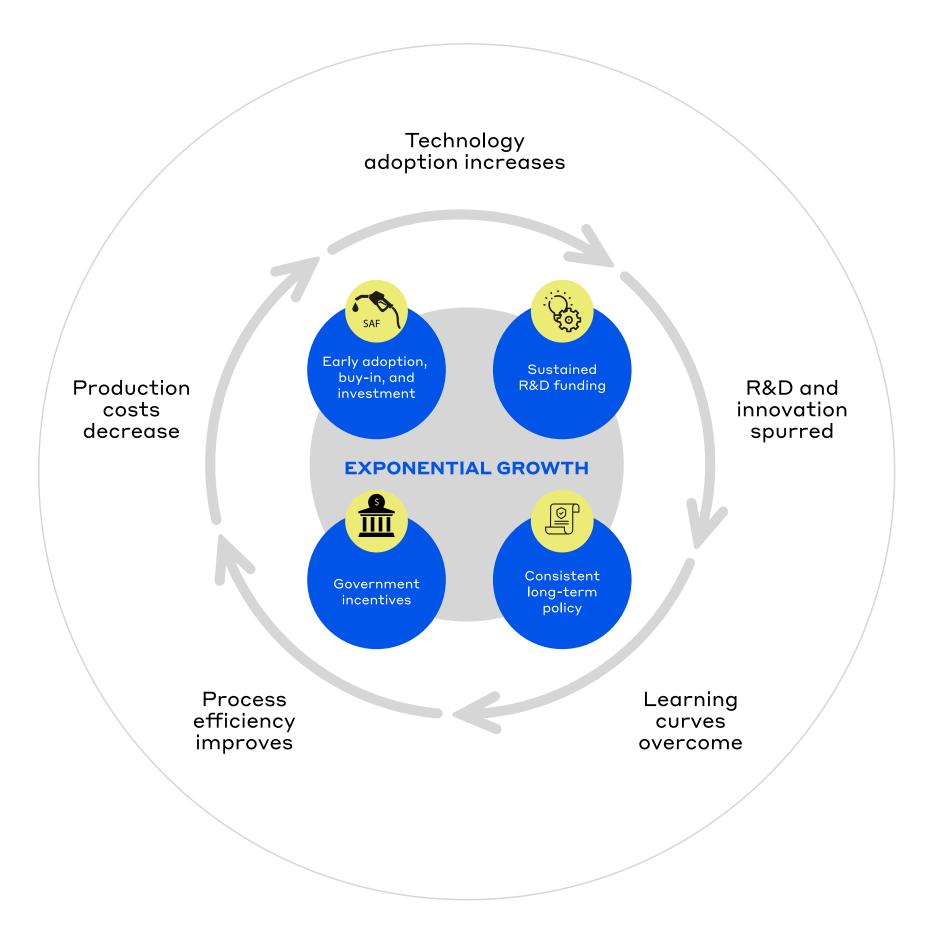
- Implement Blenders Tax Credit for SAF
- Incentivize SAF adoption through carbon pricing
- Provide government-backed loan guarantees and investment tax credits
- Provide competitve credits for SAF in renewable fuel programs



### **CONSISTENT AND LONG-TERM POLICY**

- Develop holistic carbon reduction policies, recognizing aviation is a hard-to-abate industry
- Expand low carbon fuel programs
- Mitigate disincentives for SAF production over other sustainable fuels

Read the full white paper.

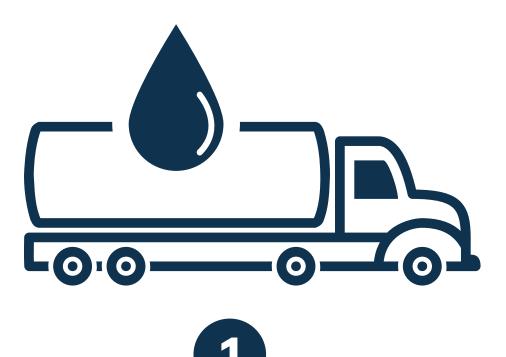


There are four common drivers that enabled these industries to expand rapidly—hallmarks which are also currently observed within today's SAF industry.



# **OUR SAF STRATEGY AND VISION**

Boom's SAF strategy aims to drive systemic change, accelerating and advancing current and next-generation SAFs. We are building SAF utilization into our business model and product strategy, engaging our partners and integrating the value chain—from feedstock to fuels—to accelerate adoption, and uniting and collaborating on policy, advocacy, and standard-setting efforts globally.



**PROGRAMS** 

Fast-Tracking the Fuels of Today, Future-Proofing for Tomorrow



**PARTNERS** 

Engaging our Partners and Integrating the Value Chain to Accelerate Adoption



**POLICY** 

Uniting and Collaborating Globally on Policy, Advocacy, and Standards



# PROGRAMS: FAST-TRACKING TODAY'S FUELS, FUTURE-PROOFING FOR TOMORROW

Accelerating the advancement, commercialization, and adoption of SAF is core to our programs and product strategy. As a "clean-sheet" aircraft and engine development program, Overture and its Symphony engine have the unique opportunity to integrate, commercialize, and bring to market clean energy technologies. Given these opportunities, Overture and Symphony will be designed for and flown on 100% SAF.

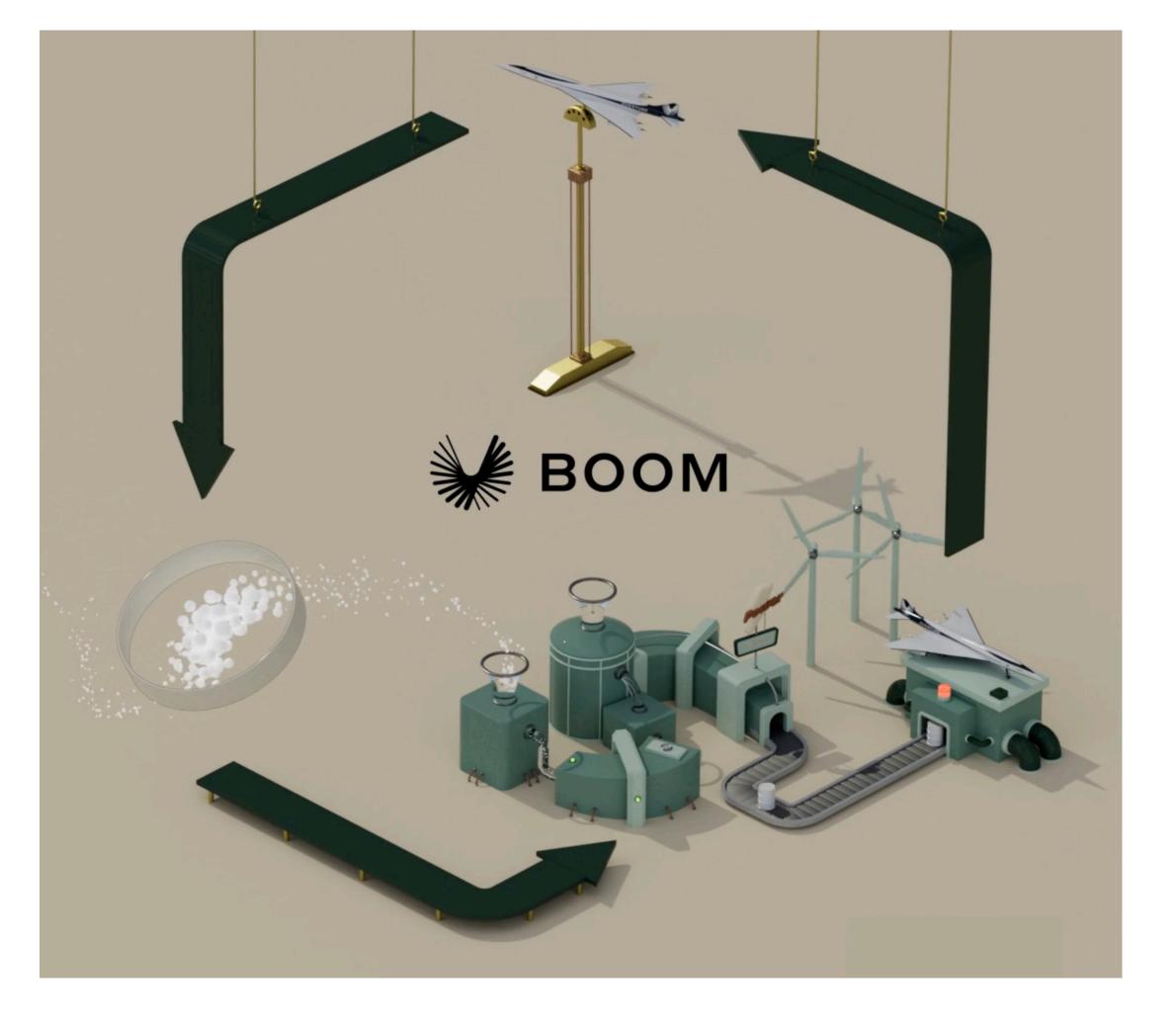
Since 2018, Boom has been engaged in industry efforts to support the approval of SAF blends above the current 50% SAF/50% fossil blend limit, with the goal of approving a drop-in 100% SAF. Overture and Symphony are being developed within the same timeframe as drop-in 100% SAF certification, well positioning Boom to contribute to fuel approval efforts and providing a valuable opportunity for hardware testing during fuel approval. The use of drop-in 100% SAF can achieve up to a 100% lifecycle carbon reduction, and provides an immediate and clear path to reducing emissions. All development and certification testing of Overture will use 100% SAF, contributing to the critical near-term uptake of today's currently available SAF.

Because Boom envisions multiple incremental improvements as alternative fuels mature, Overture and Symphony will also be future-proofed to accommodate next-generation SAF specifications (referred to as "Jet X").

These longer-term, higher-impact SAF technologies could improve aircraft performance and further reduce environmental impacts compared to currently available drop-in SAF blends. Specifically, fuel properties include reduced or zero aromatics (resulting in reduced contrail climate impact as well as reduced local air quality impacts), and increased energy density and specific energy (which can reduce aircraft weight and fuel consumption).

However, unlike drop-in SAF, Jet X may require updates to existing airport and refueling infrastructure. As safety is a top priority, safeguards will be needed to reduce risks and implications from fueling errors; for example, to ensure the fuel is not used by legacy aircraft requiring Jet A fuel. These risks are solvable, however, and Boom is currently conducting airport integration studies to understand potential risks and mitigation requirements.

Efforts towards advancing next-generation SAF in 2022 included participating in research with national laboratories and universities on future fuel specifications, conducting research and trade studies on characterizing and optimizing fuel properties for future fuel specifications, forging partnerships with SAF producers poised to produce Jet X, and advocating to garner broader aviation sector support for the fuel.



ACCELERATING & ADVANCING SUSTAINABLE AVIATION FUEL (SAF)



# PARTNERS: ENGAGING OUR VALUE CHAIN TO ACCELERATE ADOPTION

LOOKING AHEAD

While Boom is designing Overture and Symphony to accommodate current and next generation SAFs, our focus goes beyond our product strategy and our own net zero commitments. We are building strategic partnerships, integrating and engaging the entire value chain—from feedstock to fuel—to further drive the industry's transition to SAF and accelerate its scale-up.

# → PARTNERING WITH SAF PRODUCERS TO ACCELERATE SUPPLY

SAF will power Overture aircraft and Symphony propulsion system testing, certification, and production, as well as be utilized for the delivery of aircraft and propulsion system products.

While Boom views PtL as one of the best long-term SAF solutions, we support and engage with SAF producers utilizing a diversity of pathways and at varying stages of technology maturity to understand and look for opportunities to support SAF supply and technology development.

Demonstrating early buy-in from SAF users by securing offtake agreements for emerging SAF technologies now sends a critical demand signal to researchers, producers, and investors that will help the SAF industry scale.

In September 2022, Boom announced its first major offtake agreement with AIR COMPANY for the purchase of power-to-liquid net zero carbon SAF. As part of the agreement, AIR COMPANY will provide up to five million gallons of AIRMADE™ SAF on an annual basis over the duration of the Overture flight test program, advancing Boom's net zero carbon commitments. AIRMADE™ SAF offers the highest GHG emission reduction of any SAF in the world.

Using only renewable energy, AIR COMPANY'S patented and proprietary technology captures and utilizes  $CO_2$  to create sustainable alcohols and fuels—with just oxygen as a byproduct. According to AIR COMPANY, by scaling this technology within air travel and all other applicable industries, the projected impact could avoid 10.8% of global  $CO_2$  emissions, the equivalent of more than 4.6 billion tons of  $CO_2$  annually.







# WHAT IS AIRMADE™?

AIR COMPANY is currently considered to be one of the most industrialized/commercialized PtL SAF producers, with their first scaled production plant, AF1, well beyond lab scale. Their AIRMADE™ Technology process for net zero carbon SAF development produces a usable, qualified jet fuel product from raw materials. Their CO₂-derived, 100% unblended jet fuel has been approved and flown by the United States Air Force.

LOOKING AHEAD

The process involves five key steps:

# CO<sub>2</sub> CAPTURE

The CO<sub>2</sub> used in their production is captured and sourced from industrial plants prior to it being emitted into the atmosphere. It then arrives in tanks after it has been cooled, pressurized and liquified.

### **ELECTROLYSIS**

AIR COMPANY creates their own green hydrogen through on-site electrolysis with renewable energy. Their electrolyzer splits water  $(H_2O)$  into hydrogen  $(H_2)$  and oxygen  $(O_2)$ . The created oxygen gas is released as clean air into the atmosphere, and the hydrogen gas is fed into the Carbon Conversion Reactor with the captured  $CO_2$ .

### **CARBON CONVERSION**

Their patented and proprietary Carbon Conversion Reactor system is where the captured CO<sub>2</sub> and green hydrogen (H<sub>2</sub>) meet and are converted. Within their Reactor is a tubular, fixed-bed flow system. The CO<sub>2</sub> and H<sub>2</sub> rise to each tube, which are filled with the company's patented catalyst. This facilitates a chemical reaction that produces a reactor liquid. The reactor liquid is composed of alcohols, alkanes, and water.

# **DISTILLATION**

AIR COMPANY's proprietary distillation process separates the components of the reactor liquid. Alcohol (such as our ethanol and methanol), alkanes, and water all have different boiling points, and therefore when heated to a specific temperature, separate.

### **OUTPUTS**

Their impurity-free, carbon-negative AIRMADE™ alcohols and alkanes are funneled into separate totes and are either distributed to their partners, or are used in their own AIR products. The water that is created is fed back into the electrolyzer to begin the process again.



# **5 MILLION GALLONS PER YEAR**

of AIRMADE™ SAF purchased to power Overture's flight test program



# **COLLABORATING WITH AIRLINES ON A SHARED VISION**

In 2021, United Airlines signed a commercial agreement to purchase 15 Overture airliners, once Overture meets United's demanding safety, operating, and sustainability requirements, with an option for 35 more. Boom is proud that the Overture fleet is expected to run on up to 100% SAF for airline partners like United who remain committed to integrating sustainability efforts into operations.

Boom is committed to working with current and future airline customers to obtain their intention to operate Overture at net zero carbon, facilitated through customer agreements.





## RECOGNIZING FIVE YEARS OF STRATEGIC PARTNERSHIP

Boom's customers and partners are critical to our success and growth. Boom is proud to celebrate more than five years of partnership with Japan Airlines (JAL), one of Boom's first investors.

JAL has served as a strategic partner to Boom since their initial investment that includes an option to purchase up to 20 Overture aircraft through a pre-order arrangement in 2017. We are deeply appreciative of JAL's early belief and support, and for sharing in our commitment to sustainability.



## PARTNERING WITH STAKEHOLDERS ACROSS THE AVIATION & SAF ECOSYSTEM

As published in "Scaling SAF," a future in which SAF is widely available and economically viable is achievable. This requires coordinated, collective action from industry and government alike in the form of early adoption, buy-in and investment, sustained funding for R&D, government incentives, and consistent, long-term policy.

Boom, along with the broader aviation industry, works with environmentally-forward organizations taking meaningful action to advance both public and private sector drivers, with the goal of rapidly facilitating SAF advancement, commercialization, and adoption.

#### **ALLIED AND ADVOCATING FOR SAF**









#### SUSTAINABLE AVIATION BUYERS ALLIANCE (SABA)

Boom is a member of the Sustainable Aviation Buyers Alliance (SABA), a buyer-led collaboration spearheaded by RMI and the Environmental Defense Fund to accelerate the path to net zero aviation by driving investment in and adoption of SAF. As a member in 2022, Boom participated in their first round of high-integrity SAF procurement to reduce our corporate travel emissions. The development of SABA's SAF certificate system allows companies, airlines, and eventually the flying public to purchase credits for SAF.

#### ROUNDTABLE ON SUSTAINABLE BIOMATERIALS (RSB)

The Roundtable on Sustainable Biomaterials (RSB) is a worldwide movement of businesses, NGOs, academics, government and UN organizations that are working together to drive a just and sustainable transition away from fossil fuels to a bio-based and circular economy. As a member since 2020, Boom has helped shape the future of SAF by providing guidance and input on several of RSB's platforms, most notably its book and claim system, manual, and guidebook, launched in 2022 through the RSB Book and Claim Platform.

#### COMMERCIAL AVIATION ALTERNATIVE FUELS INITIATIVE (CAAFI)

Since 2018, Boom has been an active participant in the Commercial Aviation Alternative Fuels Initiative (CAAFI), which facilitates SAF supply. In June 2022, Boom was a proud sponsor of the CAAFI conference, where the Sustainable Aviation Fuel Grand Challenge Roadmap was rolled out. The roadmap outlines the combined efforts of the FAA, DOE, USDA, and EPA to enable SAF to rapidly scale.

#### **ASTM INTERNATIONAL**

Since 2021, Boom has participated in ASTM and serves on several task forces dedicated to efforts for advancing future fuel specifications and safely increasing permitted SAF blend ratios. In particular, Boom has representation on both the 100% drop-in and 100% non-drop-in synthetic fuels task forces, aligned with our mission to advance present and future SAFs.



## POLICY: COLLABORATING GLOBALLY ON POLICY, ADVOCACY, AND STANDARDS

The challenges with SAF have largely transitioned from technology readiness to economics and scaling.

Government policies continue to be one of the most critical components to accelerate scale, achieve economic parity, and meet demand. To this end, the government plays three key roles:

- Encourage R&D on new technology pathways, feedstocks, and production methods that could increase supply and decrease cost.
- Facilitate the financing of SAF refinery construction by providing loan guarantees, investment, tax credits, etc.
- Incentivize SAF producers to produce and users to use through tax credits, rebates, or direct purchases.

Boom works alongside various coalitions and organizations, including the U.S. trade group Aerospace Industries Association (AIA), to advocate for environmentally beneficial policies, such as R&D funding, grants, incentives, loans for capital costs, and cost-share programs.

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The recently passed U.S. SAF blenders tax credit is a giant leap toward sustainable, supersonic flight. Scaling sustainable aviation fuel is the most critical step to decarbonizing aviation, and this policy will speed the buildout of abundant SAF supply.

- Ben Murphy, VP of Sustainability

#### SAF BTC SIGNED INTO LAW

On August 16, 2022, U.S. President Joe Biden signed the Inflation Reduction Act (IRA) of 2022 into law, providing new and refined incentives to various sectors, including the biofuels industry.

A landmark component of the IRA is the U.S. SAF Blenders Tax Credit (SAF BTC). The law incentivizes SAF producers by providing a tax credit, ultimately helping the industry scale by providing more certainty on commercially viable prices, leading to increased production—akin to incentives that enabled the exponential scaling of other renewable energy industries.

Boom recognizes the importance of incentives in advancing nascent SAF technology, and we continue to actively advocate for the SAF BTC. As a member of an informal industry-wide SAF coalition that works at the federal level to advance performance-based SAF tax credits, Boom collaborated with nearly fifty other companies and trade groups to encourage legislators and policymakers to sponsor and pass the bill.

As an individual organization, the Boom policy team conducted outreach and met regularly with policymakers in Washington, D.C., to advocate for SAF incentives and policies, and provide end-user perspective as an aircraft manufacturer relying on SAF to achieve net zero carbon goals.





13 https://www.sciencedirect.com/science/article/pii/S1352231020305689

14 Ibid

15 https://ntrs.nasa.gov/api/citations/20205009400/downloads/CR-20205009400.pdf

#### TYPES OF NON-CO, EFFECTS FROM AVIATION

#### THE IMPACT OF CONTRAILS

Contrails, also known as condensation trails, are ice clouds that form as a result of the mixing of cold, humid air with aircraft engine exhaust plumes. Research suggests that contrails may potentially be the largest contributor to aviation-attributable climate change.<sup>14</sup>

However, at the cruising altitudes typical of supersonic aircraft, contrail formation is greatly reduced compared to typical subsonic cruise altitudes.<sup>15</sup> Research has shown that because stratospheric water vapor concentrations are very low (4–5 ppmv), contrails in the stratosphere would not be expected to grow or persist (Zhang, 2021). This characteristics of supersonic flight is expected to provide a considerable reduction in contrail climate impact compared to subsonic aviation.

Environmental regulations for aircraft do not currently include contrails. Regardless of the regulatory landscape, Boom believes that the aviation industry should take steps to mitigate contrail formation. This includes evaluating and implementing operational mitigations (e.g., changing flight paths to avoid contrail-forming regions of the atmosphere) and deploying next-generation SAF with zero aromatics (e.g., Jet X) to reduce contrail formation.

#### THE IMPACT OF STRATOSPHERIC EMISSIONS

While stratospheric flight greatly reduces contrail formation and the associated climate impact of contrails, recent scientific research has shown there may be other environmental impacts from stratospheric flight compared to subsonic cruise altitudes. This is due to the longer residence time of NOX and other non-CO<sub>2</sub> emissions at higher altitudes. The exact magnitude of the impact remains under debate, and no holistic study has yet been published to include all non-CO<sub>2</sub> impacts.

To address these potential impacts, Boom is working to better understand stratospheric climate impacts. Boom has engaged Dr. Donald Wuebbles, a world-leading climate scientist at the University of Illinois, to conduct an assessment of the non-CO<sub>2</sub> climate impacts of global Overture operations. The study will also evaluate potential mitigation strategies, including operational mechanisms, alternative SAF chemistries, novel engine emission control schemes, and adopting emerging combustion technologies.



ADDRESSING NON-CO, IMPACTS

## **UNDERSTAND AND QUANTIFY**

Boom prioritizes and invests in climate science to understand Overture's potential cumulative non-CO, impacts and stratospheric effects in order to inform mitigation.

Boom has engaged leading climates scientists towards this end. Since 2021, Boom has been collaborating on a global climate impact assessment of Overture operations with Dr. Donald Wuebbles of the University of Illinois Urbana-Champaign, a respected expert on atmospheric science and widely cited in climate science literature. Dr. Wuebbles has been both a lead author and contributor for Intergovernmental Panel on Climate Change reports and was recognized for contributing to the IPCC's 2007 Nobel Peace Prize shared with former Vice President Al Gore.

Research work is currently underway to quantify the global climate impact of Overture's projected global fleet operations across all routes that the aircraft is anticipated to be flown. The effort will comprehensively model the climate impacts of both particulate and gaseous emissions from the Overture fleet using the University Corporation for Atmospheric Research (UCAR) Whole Atmosphere Community Climate Model (WACCM) of the global atmosphere. The independent assessment will also help direct research on future SAF properties, providing suggestions on beneficial fuel properties to pursue in a new fuel specification. Other mitigation approaches such as altitude variations, as well as lower-emission engine control schemes and combustion technologies, will also be evaluated.





ADDRESSING NON-CO, IMPACTS

## MITIGATING NON-CO<sub>2</sub> EFFECTS

As understanding of non-CO<sub>2</sub> climate effects continues to improve, Boom is already working to mitigate these impacts by supporting and participating in research, making aircraft modifications, evaluating and incorporating broad emission-reducing technologies, and investigating and testing new capabilities. Specifically, technology focus areas and modification/mitigation efforts include:

#### AIRCRAFT AND OPERATIONAL STRATEGIES

Overture's cruise speed over water will be Mach 1.7 (1,188 miles per hour), and the aircraft has been optimized to achieve its peak fuel efficiency at this supersonic cruise condition. As part of the global climate study, Boom is assessing the climate impacts of flying at different cruise altitudes, so as to investigate the benefits of operational strategies that may be possible to mitigate climate impacts. Further, Boom is also developing proprietary tools for fleet and route optimization to reduce overall fuel burn while simultaneously avoiding sonic boom impacts to land.

#### **EMERGING COMBUSTION TECHNOLOGIES AND NOVEL ENGINE CONTROL SCHEMES**

Boom and its engine development partner FTT are evaluating engine cycle control schemes and state-of-theart combustion technologies such as lean burn combustion, idle cycle manipulation, plasma combustion, and other emission-reducing technologies to mitigate non-CO<sub>2</sub> emissions. As a clean-sheet aircraft and engine manufacturer, Boom is uniquely positioned to integrate new technologies, and is actively seeking partnerships with other industry, national laboratories, federal agencies and academic institutions to collaborate with on research, design, development, testing and evaluation.

#### **ALTERNATIVE OR NEXT-GENERATION SAF CHEMISTRIES**

Boom is engaged in research and development efforts to study fuel characteristics and optimize fuel properties for next-generation, future SAF specifications, particularly those without aromatics. These studies include investigations into vehicle-level benefits enabled by improvements in SAF specific energy, volumetric energy density, combustor operability, and thermal stability. In addition, these alternative fuel chemistries have the potential to reduce carbon emissions and other pollutants, providing a mechanism to holistically reduce environmental impacts. Overture and Symphony will be designed and optimized to accommodate these future zero-aromatic SAF specifications to reduce non-CO, emissions and mitigate any remaining contrail effects.





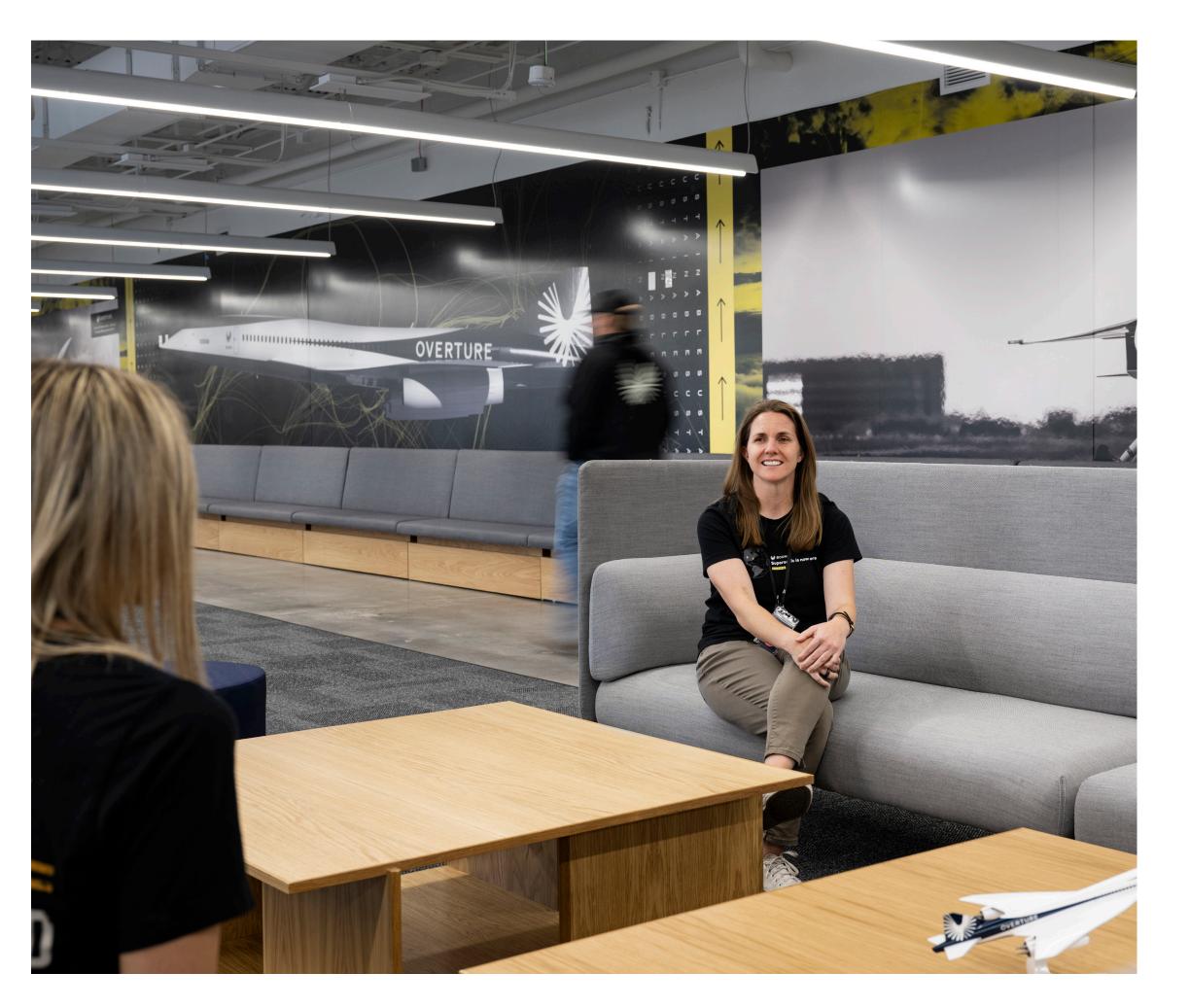
# COMMUNITY



At Boom, our people are our most valuable asset.

We strive to make Boom the place where the most talented people are inspired and enabled to do the best and most meaningful work of their careers. We are constantly raising the bar on talent and are committed to delivering elevated employee experiences grounded in developing our people, maintaining a strong safety and sustainability culture, and fostering an inclusive and equitable work environment. Our collective efforts allow us to continually innovate and deliver worthwhile experiences to each of our stakeholders.

Outside of the workplace, we are passionate about making a positive impact and building the communities we operate in through academic engagement, volunteerism, community engagement and partnerships, workforce development, and economic growth.





### **OUR SAFETY CULTURE**

Since the start, safety has been one of our three guiding principles. When Boom was founded in 2014, it was essential we establish a solid foundation for safety management and a strong safety culture.

LOOKING AHEAD

As our operations grew and our workforce expanded, it remains just as essential to mature and improve our safety practices and drive beyond compliance—voluntarily—to meet higher standards.

Today, safety remains our top priority. At Boom, "compliant" or "certified" does not define safety. We strive to not just meet but exceed the highest standards and levels for safety across all aspects of our business.

#### SUPPORTING SAFE, SUPERSONIC FLIGHT

Source: FSI



In December 2022, Boom announced FlightSafety International (FSI) as its exclusive partner for Overture supersonic flight training and education. FSI is the premier professional aviation training company and supplier of flight simulators to the world's leading commercial aircraft manufacturers and operators. Boom selected FSI because of its decades-long leadership in flight training and proven ability to ensure the highest levels of safety are in place as we prepare for the Overture flight test program.

FSI will develop a training program and curriculum for Overture pilots, mechanics,

and cabin crew, specifically tailored for supersonic flight and operations. The comprehensive training program will leverage the expertise of professional FAA-and EASA-qualified instructors, and include state-of-the-art flight simulators and training environments. Developed to support the Overture flight test program, including regulatory certification, the flight simulators will incorporate industry-leading technologies for the highest levels of safety, fidelity, and reliability. To support Boom's commercial airline customers who conduct their own internal training, FSI will also provide full-flight simulators.



#### **OUR SAFETY CULTURE**

## THE FOUNDATIONS OF OUR SAFETY MANAGEMENT SYSTEM

We are committed to the safety of our team as we design, develop, test, and manufacture the technologies that enable sustainable, supersonic flight. Beyond, we are committed to ensuring the safety of those who will use and operate our products: the flight crews, ground crews, and passengers—every day, with every activity, and aboard every flight. When Overture enters service, our passengers can expect the highest level of safety from Boom aircraft and engines.

An integral part of this has been augmenting Boom's existing safety processes and policies with the formalization of our safety management system, which includes safety policy, risk management, safety assurance, and safety promotion.

In 2022, Boom continued to implement and improve upon our SMS and its elements within our operations—voluntarily and in accordance with future FAA requirements. We also strengthened existing safety functions and launched new initiatives to advance our safety commitment, further promote safety, and raise the bar for our company relative to industry norms and regulatory requirements.

#### 1. SAFETY POLICY

Boom's Safety Review Board governs and oversees safety functions across the company, and establishes, evolves, and works to continuously improve practices that result in safe products and work environments.

The Safety Review Board is a dedicated group of Boom leaders engaged in and responsible for reviewing and discussing concerns, suggestions, quality processes, and areas for improvement, as well as establishing policies surrounding safety.

Building an impeccable safety culture at Boom requires relentless effort and a sense of shared responsibility from each employee. To ensure all employees and contractors understand and adhere to this commitment, the Board evolved and released Boom's Safety Vision and Policy in June 2022.

The policy defines what it means to make safety a top priority at Boom: We prioritize diligent risk management, while we recognize there is no such thing as perfect safety or zero-risk operation. We never blindly take risks, and when anyone has a safety concern we address it. We are committed to systematically identifying, evaluating, tracking, and managing risks. We include stakeholders and experts in our risk management processes. We evaluate risks with honest dialogue, where debate is welcome, and make informed decisions consistent with the high standards applicable to each program. We learn continually from our experience, including treating "near misses" seriously, systematically eliminating root causes of hazards.





To achieve our mission of making the world dramatically more accessible, we must provide safety to our team members and users of our products—including flight crews, ground crews, and passengers. Our passengers can expect the highest level of safety from Boom aircraft.

**Boom Safety Vision and Policy** 



#### OUR SAFETY CULTURE / THE FOUNDATIONS OF OUR SAFETY MANAGEMENT SYSTEM

#### 2. RISK MANAGEMENT

Risk management and hazard identification has been embedded in Boom's culture, operations, and processes since the start, expanding and maturing alongside the company's growth. We aim to take a holistic approach to risk management by systematically identifying, evaluating, tracking, and managing risks. A critical component of this is creating an open and candid environment that fosters transparency and proactive identification of risks.

For years, Boom has had a safety reporting system that enabled employees to speak up, raise safety concerns, and have their voice heard—without fear of negative consequences.

In 2022, Boom strengthened its existing safety reporting system, enhanced the system's user experience, and expanded the system to cover all reporting at Boom. The Anonymous Reporting System, managed by third-party partner AllVoices, is a streamlined, internal and confidential online platform where team members can report safety concerns as well as any other issues, including potential wrongdoing. Once submitted, safety concerns are routed directly to Boom's Safety Review Board, while all other types of concerns are routed to our Chief People Officer and Chief Legal Officer -- each of whom have a fiduciary responsibility to address all submissions in a comprehensive and confidential manner. We believe everyone plays a role in contributing to safety and integrity in the workplace, and we empower employees to take responsibility to identify and report any concerns and issues.

#### 3. SAFETY ASSURANCE

Safety assurance is a critical aspect of Boom's commitment to continuous improvement. This is accomplished by monitoring, tracking, and reporting key safety performance indicators, regularly evaluating these indicators and their contributing factors, and setting ambitious three- and five-year goals to drive down metrics and improve processes.

#### **OUR KEY SAFETY PERFORMANCE INDICATORS**

1

**14** 

0

Total First Aid Cases

Total Near-Miss Incidents

Lost Time (Days)

Total Recordable Incident Rate

First Aid Cases: While OSHA recordkeeping does not require reporting first aid cases, Boom voluntarily tracks "First Aid" incidents, defined as cases that require: using hot or cold therapy; using any nonrigid means of support (e.g., elastic bandages, wraps or nonrigid back belts); cleaning of minor cuts, scrapes, or scratches; treating a minor burn; applying bandages and dressings; the use of non-prescription medicine; draining blisters; removing debris from the eyes; massage; and drinking fluids to relieve heat stress. X-Rays do not make an injury recordable.

Near-Miss Incidents: Boom reports "Near-Miss" for OSHA injury and illness recordkeeping purposes, defined as an incident in which no property was damaged and no personal injury was sustained, but where, given a slight shift in time or position, damage or injury easily could have occurred.

Lost Time (Days): Boom reports "Lost Time" for OSHA injury and illness recordkeeping purposes. The term "lost workday case" designates cases involving days away from work and/or days of restricted work activity beyond the date of injury or onset of illness. It is recordable If it results in any of the following: death, days away from work (other than day of incident), restricted work or transfer to another job, medical treatment beyond first aid, or loss of consciousness.

Total Recordable Incident Rate (TRIR): TRIR is defined as the number of work-related injuries per 100 full-time workers during a one year period, and is measured against corresponding industrial classifications. Boom's TRIR of 0 was below the 2020 industry average of 1.8 for the "Aircraft Manufacturing" industrial classification (36411).



#### **OUR SAFETY CULTURE / THE FOUNDATIONS OF OUR SAFETY MANAGEMENT SYSTEM**

#### 4. SAFETY PROMOTION

The health and safety of our employees is paramount, and we focus on ensuring a strong safety culture by promoting all aspects of safety, including awareness, training, risk and hazard identification, reporting, and prevention.

Transparency is paramount: Boom discusses and reports on safety processes and performance at the team level as well as company-wide in monthly All-Hands meetings. Regular training, educational sessions, and refresher courses across company levels translate dialogue into education and action, enabling continuous improvement.

To complement existing efforts in assessing safety risks and improving operations, Boom rolled out the Health and Safety Committee in March 2022. The Committee provides assistance in fulfilling health and safety responsibilities, acts as an accountability agent for employee-related safety concerns, conducts workplace inspections and safety audits, and reviews safety-related incidents to prevent recurrences of similar incidents. The Committee is made up of a cross-functional team of employees who are nominated by Boom management and volunteer to serve for one-year terms.

In 2023, the Safety Review Board plans to mature other dedicated committees to enhance oversight of safety processes and procedures within specific company functions, including safety committees for Engineering, Flight Test, and Manufacturing.





## **OUR EMPLOYEE EXPERIENCE**

Our employees are integral to making the world dramatically more accessible.

Research shows that there is a direct correlation between employee experience, engagement, and productivity. An exceptional employee experience means employees are more likely to be engaged, and increased engagement leads to increased productivity, which then leads to better business outcomes. When we deliver exceptional employee experiences, we deliver exceptional stakeholder experiences across our suppliers and partners, our local communities and our valued customers.

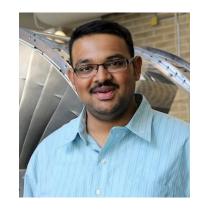
By being intentional about the experiences we create, we empower our employees to reach their potential and accelerate our collective success.





#### **OUR EMPLOYEE EXPERIENCE**

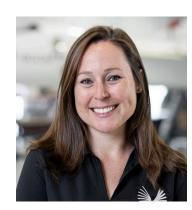
## WHAT IT'S LIKE TO WORK AT BOOM



"Boom is fast-paced and very dynamic – and that's what makes it exciting to work here!

Teams are eager and motivated to accomplish the next milestone, and there are no barriers between people of different skills and talent drawing from each other's strengths to achieve the goals. Each individual is an expert and learner at the same time. It is this positive energy that propels the company forward every day."

- Dr. Akshay Ashok, Sustainability and Regulatory Specialist



"There's so much to love about working at Boom. No day is ever the same and so much of the work you do is the first time it's being done at Boom. It's so fulfilling to see the direct impact you can have on the company's progress and success."

- Anne Bielecki, Overture Commercial Operations Program Manager



"The dynamic work environment with diverse individuals allows you to thrive and grow beyond your expectations. It's also a place where during one meeting I'm working next to a person with a Ph.D. in Astrophysics while in another I'm presenting to one of the first Amazon executives. It's amazing and inspiring to be surrounded by such talented individuals."

- John Bonanni, Chief of Staff to the CEO



"There's never a dull moment at Boom. The people here are absolutely brilliant and I've been able to learn so much from them; their passion about aviation and aerospace is really palatable. It's great to be working towards a mission that is truly going to change the world—being able to be a part of this is extremely cool, to say the least. It's hard work but I believe it's worth it."

- Terra Cooke, Cybersecurity Governance, Risk, and Compliance (GRC) Manager



"Everyone at Boom is committed to the mission. Our goal when we go into work each morning is to bring supersonic flight back to the general public. At Boom we've assembled the best and brightest to make it happen. Although I have a lot of aircraft experience, each day I can still learn from those around me."

- Douglas Klutzke, Principle Engineer, Aircraft Configuration



"It is truly humbling being part of a company making aviation history, by bringing back commercial supersonic travel. This excitement is shared across all functions at Boom, and we all go above and beyond to contribute with our unique talents. I love being in a creative environment, where a diverse group of people from all over the world with different experiences and backgrounds are empowered to solve hard problems."

- Fedime von Knoblauch, Aircraft Loads and Dynamics Engineer



"Boom is special not just because of the company's mission, but because everyone within the company is laser-focused on how to bring that mission to fruition without myopia. Teams regularly work together cross-functionally to share learnings and ask the hard questions, which requires one to wear many hats in a small and fast-moving company, but that's also what keeps each day so exciting."

- Miran Liu, Head of Business Development and Partner Relations



"In the big picture, Boom is one of the few places in the world where we can work on a project that will profoundly impact both aviation history and people's day-to-day lives. But, what I love most about working at Boom is the team—everyone that I have worked with at Boom is incredibly talented and passionate, but also very humble."

- Allie Pelzel, Aircraft Performance Engineer



#### INVESTING IN LEARNING AND DEVELOPMENT

At Boom, we prioritize employee learning and development to grow our skillset, unlock innovation and achieve our mission of a sustainable future. Career development is more than advancing via roles and promotions, but leveraging our employees' collective talents and skills, challenging ourselves to think differently, and creatively solving problems. It is also about reminding ourselves who we are, what we bring, and what we can accomplish together.

In 2022, Boom revamped its career development program to better support employees and managers. The revamped program provides a structured approach to career planning, complete with assessment and development tools, job ladders, conversation guides, and more. Along with enhanced career development efforts, Boom also launched initiatives for Leadership and People Management.

Throughout the year, Boom continued to hold monthly sessions designed to stimulate dialogue, information-sharing, and promote cross-functional transparency. These efforts include monthly CEO Office Hours, offering employees a chance to ask Boom leadership any questions they may have, as well as regular Lunch and Learns—engaging sessions with subject matter experts that support continued growth and development, and knowledge-sharing at Boom.

Boom also rolled out mandatory compliance and cybersecurity training in 2022. The compliance training focused on harassment prevention, specifically covering topics on accessibility, LGBTQIA+ protections, and diversity, equity, and inclusion. The cybersecurity awareness training was mandatory for Boom employees and helped equip our teams with the necessary knowledge and skills to fend off digital and social attacks.

Along with facilitating a culture of learning and continuous improvement, Boom is also committed to being a respected employer, a trusted business partner, and a responsible corporate citizen. In November 2022, Boom updated and released its Company Code of Conduct, serving as a renewal of these collective commitments, all in support of our mission:

- WE ARE COMMITTED TO TO SAFETY
- WE ARE COMMITTED TO RESPECT IN THE WORKPLACE
- WE ARE COMMITTED TO INTEGRITY
- WE ARE COMMITTED TO COMPLIANCE





#### **OUR EMPLOYEE EXPERIENCE**

#### **DIVERSITY, EQUITY, & INCLUSION (DEI)**

Boom is proud to be an equal opportunity employer committed to having a diverse and inclusive workforce that celebrates differences, fosters belonging and enables employees to be their unique selves. As part of this commitment, we treat each other with respect in every aspect of our business. We respect diversity in each other, our customers and suppliers and all others with whom we interact. Anything less will not be tolerated. We hold everyone to the same standards to ensure we have a workforce and work environment that values diversity, equity, inclusion, and belonging.

In 2023, we are refining our DEI strategy and programs to ensure that our efforts add value and show up in meaningful ways for our employees, our customers, our partners, and our business.

#### **HELP BUILD THE SUPERSONIC FUTURE**

Come to work, be inspired, build the future. Start the best work of your career at Boom and be a part of the team that's bringing sustainable, supersonic flight to the skies. Boom is actively hiring for positions across its commercial and engineering organizations. <u>Learn more about career opportunities at Boom.</u>

#### **AMERICA'S BEST STARTUP EMPLOYERS**

## AMERICA'S BEST STARTUP EMPLOYERS

Forbes
2022 & 2023

POWERED BY STATISTA

According to the Bureau of Labor Statistics, about 50% of startups dissolve within five years. With this in mind, it is critical for any startup to excel at engaging, inspiring, and supporting their employees.

Entering its ninth year in operations, Boom has done just that—in 2022, Boom was awarded one of "America's Best Startup Employers" by Forbes for the second year in a row.

The Forbes ranking evaluated 2,500 startups based on their employer reputation, employee satisfaction and growth. The list was limited to companies that launched between 2012 and 2019 and have at least 50 employees.



CHAPTER

## PRIORITIZING OUR COMMUNITIES

Sustainable aviation goes beyond climate and emissions; community noise is an important consideration for every aircraft that takes flight, supersonic or subsonic. Boom cares deeply about communities—both around airports and under flight paths. For that reason, noise is a critical design driver for Overture and Symphony.

Boom is ensuring that Overture and Symphony will meet today's noise levels and that sonic booms never reach land. Boom is working with regulators to advance global noise standards for supersonic aircraft, and innovating to further reduce and mitigate noise. We are committed to prioritizing communities as Overture enters service, ensuring supersonic flight is something that communities welcome.





## MITIGATING NOISE

#### → DESIGNED FOR CHAPTER 14 NOISE LEVELS

Through the International Civil Aviation Organization (ICAO), governments, aviation stakeholders, and the NGO community all work constructively and collectively to set international standards and global policies related to the environmental effects of aviation, including the emerging civil supersonic industry.

LOOKING AHEAD

Overture will meet ICAO Chapter 14 noise levels—the same standard as subsonic vehicles—using advanced procedures. The current Overture design includes margin to Chapter 14 noise levels to accommodate uncertainty in both acoustic source and measurement.

#### **INTERNATIONAL STANDARDS**

In early 2022, ICAO Committee on Aviation Environmental Protection (CAEP) agreed to work toward technologically feasible, economically viable, and environmentally beneficial supersonic landing and takeoff noise and emission standards by CAEP/13 in 2025. Formalizing global environmental standards for supersonic commercial aircraft in the current CAEP cycle will both ensure Overture is environmentally responsible and enable a certification process consistent with that for subsonic aircraft, ensuring timely certification of Overture. Because airplanes are inherently international products—often taking off and landing in different countries—global standards are critical for regulatory certainty and unlock innovations that improve connectivity across the world.

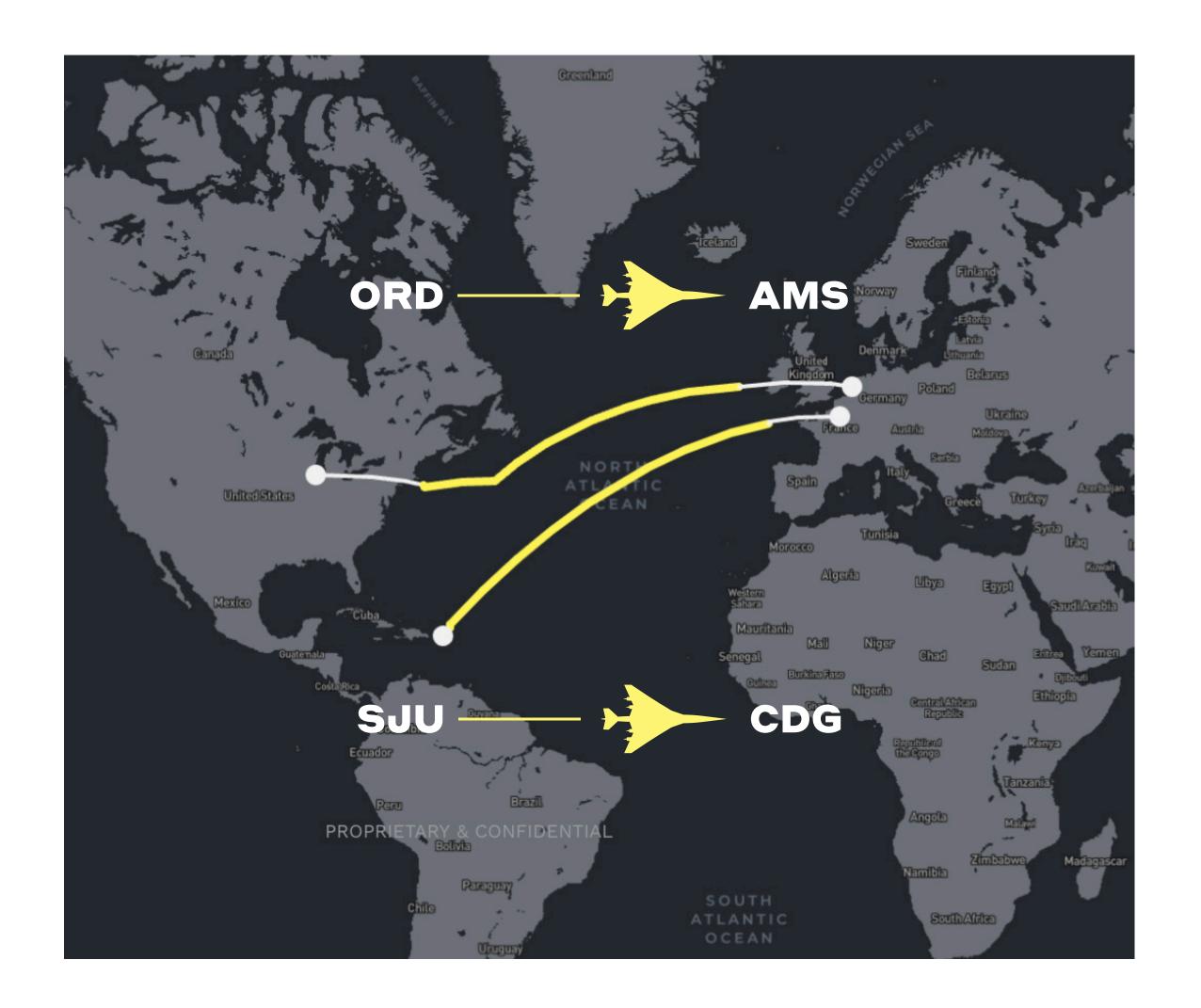




## SONIC BOOM AVOIDANCE

Boom cares deeply about communities—both around airports and under flight paths. For that reason, Boom is committed to ensuring that sonic booms will never reach land.

Overture's business case is built on over 600 primarily overwater routes. Our proprietary Smart Routing Tool optimizes Overture's routing to identify the fastest route while avoiding all sonic boom noise to land. When in service, Overture will include capability to leverage real-time atmospheric data to determine where the aircraft must slow to subsonic speeds near coasts to avoid sonic boom impacts to land. This pilot guidance and sonic boom avoidance system is patent pending as of 2022.





## INNOVATION IN NOISE REDUCTION, PREDICTION, AND VALIDATION

Noise is a key priority for Boom's aircraft and engine development programs. Boom is targeting current subsonic noise certification levels through the use of noise-reducing technological innovations and advanced flight procedures—techniques and technologies which may also be applicable to subsonic aviation.

In collaboration with our partners, we are incorporating noise reduction into Overture through airframe noise mitigation technologies, and developing innovative noise reduction engine technologies for Symphony, such as ejectors, mixers, chevrons, acoustic liners, and other technologies.

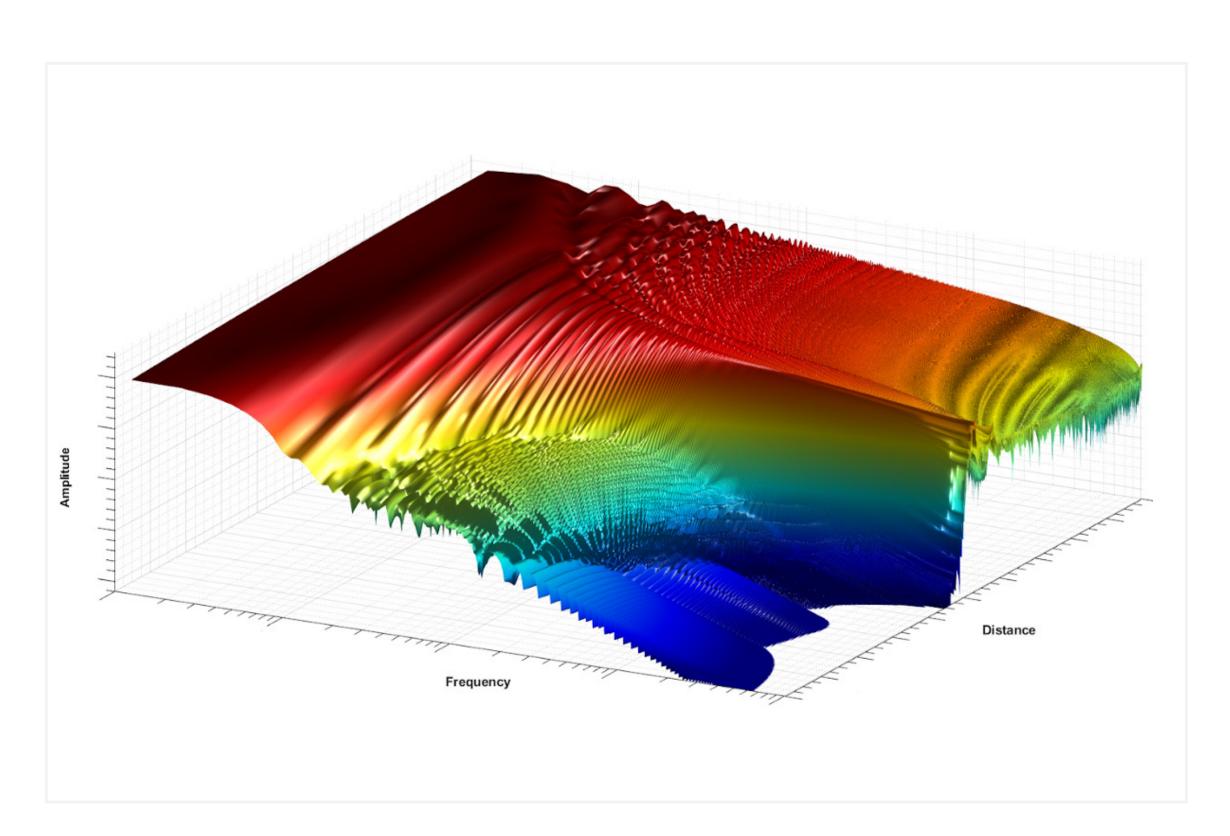
Boom has invested extensive engineering resources into noise prediction and analysis, including a proprietary in-house landing/takeoff noise prediction tool, low-order models, computational aero-acoustic analysis, and wind tunnel tests of jet and airframe noise. This work affords us high confidence in Overture's noise levels, enabling us to optimize for efficiency while remaining confident we will meet the same certification noise levels applicable to current subsonic aircraft.

Critical to these efforts is a new technology called a Variable Noise Reduction System (VNRS). Overture's automated VNRS will reduce engine and aircraft noise during takeoff and landing, reducing community impacts.

#### → PRIORITIZING DAYTIME OPERATIONS

Supersonic flight allows airlines to schedule most flights during the day—Overture unlocks two daily round trips across the Atlantic for routes with <4.5 hour block time—largely avoiding nighttime takeoffs and landings. These "double-dailies" can retain connectivity and avoid back-of-the-clock arrival/departure times which both reduces community noise and provides passenger benefits.

The day-night average sound level (DNL) noise metric is used to describe the effects of environmental noise in a simple, uniform, and appropriate reflection of cumulative exposure to sound over a twenty four-hour period (Federal Aviation Administration [FAA], 2022). To account for a higher sensitivity to noise at night, nighttime flight noise receives a tenfold multiple weight—measured as if ten daytime events had occurred—and thus receives a "penalty" of 10 dBA, the measurement for noise level as perceived by the human ear.



The above plot is a notional acoustic pressure field of a focused sonic boom within the focal zone. The plot is used to predict the amplitude of a sonic boom that undergoes sonic boom focusing. It demonstrates both the amplification and decay of sound as a function of frequency and relative distance from the focusing location. Note that Overture will only fly supersonic over the ocean to avoid sonic boom impact above populated areas.



## CREATING POSITIVE IMPACT WITHIN OUR COMMUNITIES

At Boom, we are passionate about advancing sustainability in our neighborhoods, inspiring the next generation of aerospace talent, and making a positive impact in the communities we operate in.

As Boom's growth accelerates, we are prioritizing developing workplaces that support our sustainability commitment and give back to our neighborhoods, going beyond job creation and economic growth to strengthen the fabric of the communities where we operate. In addition to our organizational efforts, we are also engaging our team members to make a positive impact in our neighborhoods—from cleaning up our parks, to building and investing in the communities around us.

#### → **VOLUNTEERISM & COMMUNITY EFFORTS**

Since 2021, Boom has partnered with Colorado State Parks to create team-building volunteer opportunities for employees that support park beautification through tree planting and park cleanup efforts, while creating a positive impact on the environment.

In April and September 2022, Boom volunteers gathered at Cherry Creek State Park to help landscape overgrown and neglected recreational areas so that fresh trees and shrubs could be planted.

Boom and its employees also host regular donation drives, community blood drives, and other opportunities to support and contribute to causes within the communities we call home. Many of these initiatives are employeeled and driven.

Now in its second year, Boom's annual "Giving Tree" provides an opportunity for employees to voluntarily donate to Family Tree. Family Tree is a Denver organization that works alongside people affected by child abuse, domestic violence, and homelessness throughout their journey to safety and economic independence, providing emergency residential services, case management and advocacy, therapeutic services, outreach support, housing search and placement, education, and employment support, among many other services.









### EARLY TALENT ENGAGEMENT

We believe in connecting with and inspiring the next generation of aerospace talent.

Throughout 2022, we hosted college interns, local schools, academic institutions, and youth engagement organizations at our facilities for an up-close look at how Boom is building the supersonic future, and the opportunities they have to play a role in it.



Each summer, our internship program provides an opportunity for college students to contribute to all areas of our business. Students experienced hands-on learning and development in flight sciences, propulsion, electro-mechanical systems, avionics and more.



For years, Boom has hosted cadets from the U.S. Air Force
Academy for tours of its facilities, including walk-arounds of the
XB-1 demonstrator aircraft and opportunities to pilot the XB-1
flight simulator. In September 2022, Boom hosted the USAFA
AFWERX-designated innovation cell, SPARK. USAFA SPARK's
mission is to inspire, promote, and sustain exponential thinking and
disruptive innovation.



In November 2022, we partnered with the Aero Club Foundation to host students from Washington, D.C.'s Dunbar High School. Along with a tour of Boom's facilities, students were given the rare opportunity to view an XB-1 taxi test event as well as visit the Wings Over the Rockies.



Also in November 2022, Boom hosted more than 50 students and their parents through the Tuskegee Airmen's Mile High Flight Program. The program introduces minority and other motivated youth to the unlimited possibilities available to them in STEM career fields, like aerospace and aviation, through the legacy of the Tuskegee Airmen. Students had the opportunity to tour XB-1 and participate in a handson learning experience about the aircraft manufacturing process.



Boom joined the WIA Girls in Aviation Rocky Mountain Chapter to celebrate women in aviation at a Denver International Airport event in September 2022. The event engaged young girls within the greater Denver area to introduce them to the career and lifestyle possibilities in aerospace and aviation.



More than 2,000 children attended the Parker Science Night in November, an annual event hosted by the city of Parker's Council of Arts, Science & Culture and Parker Arts. With the 2022 theme focused on space and aviation technology, Boom presented a keynote and provided hands-on experiences that showcased the future of supersonic flight.



## **INVESTING IN NORTH CAROLINA**

In early 2022, Boom selected Greensboro, North Carolina, as the site of its state-of-the-art manufacturing facility, the Overture Superfactory. The Overture Superfactory is located on a 62-acre campus at the Piedmont Triad International Airport, and will house the final assembly line, test facility, and customer delivery center for Overture. The facility will be LEED certified and feature onsite renewable energy production.

Construction on the Superfactory kicked off in January 2023, a shared milestone for Boom and the Piedmont Triad Airport Authority, local community, and the state of North Carolina. Boom expects to hire more than 2,400 workers at the Superfactory by 2032. North Carolina economists estimate that the full Boom manufacturing program will grow the state's economy by at least \$32.3 billion over 20 years. In addition to our job creation in the state, we plan to create over 200 internships for students in North Carolina universities, community colleges, and trade schools to build the next generation of Boom Supersonic employees.

Boom selected North Carolina as the site for Overture aircraft manufacturing because of its large skilled talent pool, access to exceptional universities, community colleges, and technical schools, proximity to the Eastern Seaboard for supersonic flight testing over water, and close proximity to several top-tier aerospace suppliers. North Carolina's aerospace manufacturing sector has grown three-times faster than the national average over the past few years.



Building on our legacy of 'First in Flight,' North Carolina is ready to partner with Boom Supersonic in leading the way to a fast and clean aviation future. Our economy is taking flight with a talented workforce and strong infrastructure ready for these new, good-paying jobs in innovation and aerospace.

- North Carolina Governor Roy Cooper, as quoted in a January 2023 <u>Boom press release</u> announcing the Overture Superfactory groundbreaking







## SETTING A NEW STANDARD FOR SUSTAINABLE TRAVEL

Travel plays a profound role in our world.

The snap-back in passenger demand and near-rebound in travel following the global pandemic so clearly illustrate this—underpinning Boom's belief that travel is a net good, and reinforcing our mission of connecting the world. But to ensure travel remains a net good, sustainability must be integrated into the entire travel journey.

2022 was a year for moving sustainable travel forward, not as a singular company operating in a vacuum, but together with industry and in union with the public sector. Now in its third year, our annual Net Good Summit and Sustainable Travel Forum build on this mandate by engaging stakeholders across the entire global spectrum to inspire dialogue and catalyze collective action.



#### TRAVEL AS A NET GOOD—DEFINED

Global travel creates both positive and negative consequences—across environmental, social, cultural, and economic facets, affecting the lives and needs of all travelers, the host communities and cultures they interact with, and the economies and environments they impact. When responsibly planned and managed, the benefits of travel can far outweigh the challenges for both people and the planet. How can we ensure travel is a net good?

Supporting social impact and development: Tourism is a tool for community development and can democratize, reduce inequalities, preserve cultural heritage, empower disadvantaged communities, and foster connection, if local populations and all key stakeholders are engaged.

Stimulating economic growth: Tourism is a key driver globally for economic progress. As one of the fastest growing economic sectors in the world, sustainable tourism can spur job creation, innovation, conscious investment, poverty reduction, urban renewal, and rural development.

Enhancing environmental protection while promoting resource efficiency: Responsible and ethical tourism can support the conservation of biodiversity and reduce ecological and climate impacts—while prioritizing sustainable consumption and production through the integration of circular economy principles and practices.



## THE SECOND ANNUAL NET GOOD SUMMIT

Each year, the Net Good Summit provides an opportunity to bridge perspectives across the global travel spectrum and better align efforts around the promising innovations, ideas, and initiatives that will reshape travel.

Held in Del Mar, California, in October 2022, Boom's second annual Summit brought 60 diverse industry leaders, influential thinkers, and sustainability experts together with one common goal—to accelerate the path toward net zero travel. The Summit was held at L'Auberge Del Mar, a designated Surfrider Foundation, and the venue was chosen for its incorporation of sustainability and green hospitality practices into our daily operations.

The 2022 Summit featured touchstone keynotes, thought-provoking panel discussions, and fireside chats centered on three core themes: enabling exponential growth of sustainable technologies, integrating sustainability across the travel journey, and engaging and educating the traveler.

Over the course of two days and across 18 sessions, 35 speakers explored the opportunities, technology, experiences, stakeholder roles, and challenges on the path to advance socially and environmentally responsible travel and tourism. The Summit focused on three core themes: enabling exponential growth of sustainable technologies, integrating sustainability across the travel journey, engaging and educating the traveler.

A diverse sampling of organizations from across the global travel spectrum were represented—including academia, airlines, airports, booking platforms, chambers of commerce, documentary filmmakers, consumer brands, electric vehicle solutions, financial services, SAF suppliers, government agencies, renewable energy technologies, strategic advisories, sustainability certification firms, transport providers, travel associations, tourism organizations, venture capitalists, and more. As a small scale event, the Summit enabled meaningful interactions and fostered deeper relationship-building.

#### TRAVEL + LEISURE GLOBAL VISION AWARD



In 2022, Boom was awarded the T+L Global Vision Award, which recognizes organizations and individuals taking strides to develop more sustainable and responsible travel products, practices, and experiences.

T+L Global Vision Awardees not only demonstrate thought leadership and creative problem-solving, they also take actionable, quantifiable steps to protect communities and environments around the world—while inspiring industry colleagues and travelers to do their part along the way.

In choosing Global Vision honorees, T+L selects those demonstrating real, tangible impact, innovating, and thinking both broadly and deeply about concrete ways that travel can spur long-term, positive change.

Honorees are chosen for their dedication to turn ideas into actionable projects that will improve travel — and the world — for generations to come.





## Travel as a Force for Good











## SUSTAINABLE TRAVEL FORUM

In 2021, Boom established the Sustainable Travel Forum to go beyond siloed, individual efforts to ally our industries and create meaningful change in sustainable travel.

LOOKING AHEAD

The Forum aims to catalyze collective solutions as well as leveraging the work each organization is doing to advance sustainable travel. The Forum includes 15 industry experts, leaders and stakeholders from across the aviation, transport, travel, mobility, and sustainability sectors. As a self-sustaining and independent council, members own the Forum agenda, steer its efforts, and determine its ambitions.

In 2022, the Forum's priority was to map the critical gaps and sustainability challenges across the entire travel journey, and identify opportunities to focus and leverage the Forum's collective strengths for greatest impact.

Several key themes were identified from these exercises:

- Costs are a core challenge at every stage of the journey. Consumers are not always willing to pay more for sustainable travel options.
- No standardization—from universally agreed upon targets to a standard definition of sustainable travel—creates confusion and passivity around sustainability for the traveler and lessens transparency for organizations.
- A lack of awareness on sustainability issues at key decision-making junctures, coupled with no uniformity in guidance, ultimately results in consumer purchase decisions that do not prioritize sustainability or consumer inaction.
- While education is needed, it will require a clear understanding of the consumer (demystifying the range and types of leisure travelers), a simple, creative, and non-authoritative approach, and a strong, centralized call-to-action.
- Tactics that convene a critical mass can accelerate change: building a coalition, starting a movement, etc.





# LOCKING AHEAD



## **LOOKING AHEAD**

At Boom, we believe in the power of human connection—enabled by the ability to travel, and maximized by speed.

We seek to increase our capacity to connect—to experience the world, create understanding, propel ideas forward, and foster a shared sense of humanity—all of which is a net good for society. In order to create a more connected world, we must understand the privilege of travel and therefore our responsibility to sustainability.

At Boom, we're committed to solving complex problems and rethinking traditional approaches. We're focused on driving industry-wide shifts in sustainable travel, ensuring travel delivers a positive impact to the places we go and the people we meet and remains a net good.

#### THE 2024 NET GOOD SUMMIT

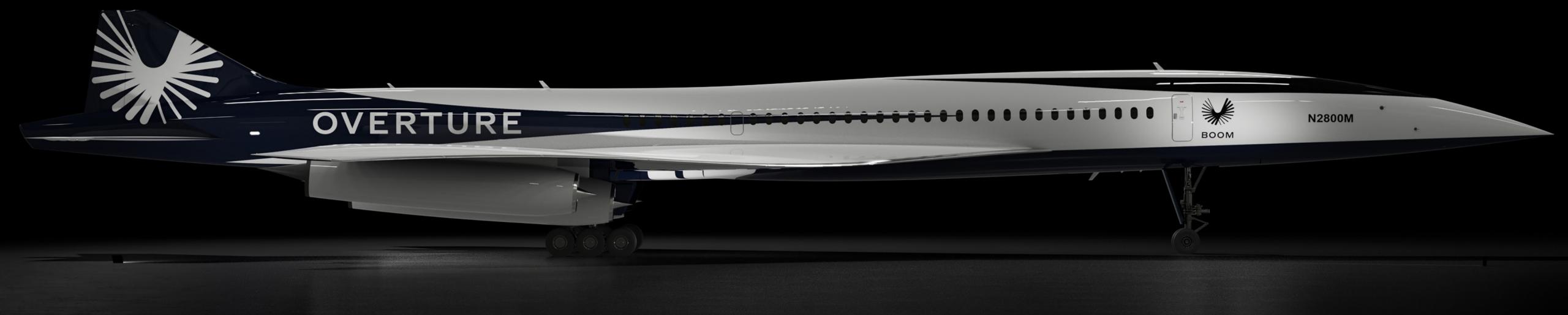
Since 2021, our annual Net Good Summit has brought together global travel leaders to bridge perspectives and build an integrated future for global sustainable travel. The Summit provides an opportunity to break down silos and shift the paradigm in travel—from convenient, either-or thinking to industry-wide change that moves us past binary choices.

Now in its third year, the Summit aims to push dialogue further and forward. Building on our inaugural Summit's theme of catalyzing cross-sectoral conversation, the 2024 Summit is focused on solutions. The 2024 Summit will define innovative approaches to integrate sustainability throughout the travel journey, and explore avenues for scaling solutions for a sustainable future of travel.

To learn more about the Net Good Summit, email <u>partners@boomsupersonic.com</u>.







#### DISCLAIMER

This report contains certain metrics and other information relating to Boom's sustainability commitments, objectives, goals, plans, expectations and data. This information is based on a combination of company- and industry-specific datasets and represents company and third-party best estimates, calculations, and assumptions. Such measurements reflect current industry practices, and other applicable frameworks, but have not been audited or reviewed by a third party. Throughout this report, Boom presents calculated values rounded to one decimal place. Due to rounding, numbers presented may not correspond precisely with the sum of the separate figures and percentages may not add up to 100%. This report contains forward-looking information, which involve risks and uncertainties that may result in actual results to differ materially from those expressed or implied.