

Environment

Progress, action, impact

July 2025



Vision

Bombardier is committed to a sustainable and financially resilient future. The company strives to advance sustainable business aviation by decreasing the environmental footprint of its operations and fostering a culture of creativity, belonging and engagement among employees.

As a leading manufacturer and servicing company for business aircraft, Bombardier plays a proactive role in support of the business aviation industry trajectory towards net-zero emissions.

“At Bombardier, we continue to make progress, driven by our commitment to building a more sustainable future for both our company and our industry.”

ÉRIC MARTEL
President and Chief Executive Officer



Achievements 2024–2025

Bombardier's achievements are already contributing to reducing the environmental impact of the business aviation industry.

- Bombardier became the first and only business aircraft manufacturer to publish **Environmental Product Declarations (EPDs)** for all in-production aircraft. Each EPD rigorously evaluates the environmental impact of a product during its life cycle from sourcing to recyclability.
- Bombardier was recognized as **2025 Aviation Week Laureate** for publishing EPDs for all in-production aircraft.
- Bombardier's **EcoJet research project** aims at maturing and delivering technologies that reduce aircraft CO₂ emissions through a combination of advanced aerodynamic shapes, highly integrated propulsion, leading-edge systems and efficient structures. In 2024, as part of the EcoJet research project, Bombardier continued to leverage its 18-foot-wide scaled demonstrator, allowing the Engineering team to gather significant data toward the advancement of multiple technologies. New capabilities were being studied via multiple collaboration projects that fall into three main areas: structures, systems and technical.
- In terms of waste management, **Bombardier upcycled and donated excess leather and fabric** with a total weight of 6.2 tonnes. This included 2.5 tonnes of excess leather used for aircraft mockups, 3.0 tonnes of excess leather used to create merchandise items and 0.7 tonnes of excess leather and fabric that were donated to organizations based in Montréal. This demonstrates Bombardier's ongoing commitment not only to supporting local communities but also to continuously finding new ways to apply sustainable practices.
- Since January 2023, Bombardier has covered **all its flight operations with a blend of approximately 30% Sustainable Aviation Fuel (SAF)**. A multi-year agreement with Signature Aviation facilitates the purchase of SAF through the global Book-and-Claim system, which is reducing carbon emissions.
- As part of the EcoJet research project, a four-hour development test was conducted in 2024 on a **Global 6500 using 100% SAF**, expected to be qualified as a drop-in replacement for conventional jet fuel. The extensive development testing showed very encouraging aircraft and systems performance with the "drop-in" SAF.

Raising sustainability standards through in-depth analysis

Designing innovative products is key to creating a sustainable aviation future.

Bombardier is committed to developing products that support sustainability, which is why it is the first and only manufacturer to achieve an Environmental Product Declaration (EPD) for all in-production aircraft.

An EPD is a scientific assessment and analysis of a product's environmental impact throughout its life cycle. EPDs are guided by Product Category Rules (PCRs), third-party guidelines developed in accordance with ISO 14044 standards that describe how to measure and report a product's environmental impact. The data generated provide insights on how to apply sustainable strategies, from sourcing to recyclability. The subsequent document reports the information gathered and ensures transparency in environmental communication following ISO 14020.

Independently verified by a third party, the Bombardier *Global 7500* aircraft's EPD was the first to be published. Subsequently, a team of internal experts was formed to develop EPDs for the entire fleet. Implementing the Bombardier product innovation life cycle strategy, the team analyzed the significance of different design options, techniques and materials to understand the overall environmental impact.

The EPD process enables the identification of areas with room for improvement. Using these standardized key metrics, along with data gathering, validation and analysis techniques, enables collaboration with suppliers and peers to foster a continued transition to a lower-carbon economy.

[View EPDs](#)



Bombardier Challenger 3500

- EPD publication date:
May 5, 2022



Bombardier Challenger 650

- EPD publication date:
March 26, 2024



Bombardier Global 5500

- EPD publication date:
May 2, 2023



Bombardier Global 6500

- EPD publication date:
May 2, 2023



Bombardier Global 7500

- EPD publication date:
June 6, 2020

Driving environmental progress across company sites

In 2024, Bombardier continued to lower the environmental footprint of its production processes and site operations, achieving measurable reductions in energy use, emissions, water consumption and waste. These improvements reflect the company's commitment to embedding sustainability into every stage of its operations.

Energy consumption across global sites was 11% lower than the 2019 baseline and has decreased by 5% compared to 2023. The 2024 results can be explained in part by a reduction in energy consumption following the transition to the new Bombardier Aircraft Assembly Centre in Toronto (Canada), the continuation of the optimization plan at the Saint-Laurent Manufacturing Centre (Canada) and other new projects including:

- Replacement of air conditioning units in Saint-Laurent (Canada)
- Light-emitting diode (LED) lighting in Hartford (USA) and Wichita (USA)

Additional projects that were implemented in 2024 and that will impact the 2025 results:

- Replacement of a Volatile Organic Compounds (VOC) abatement system and of rotor concentrators in the *Challenger* plant in Montréal (Canada)
- A new heat pump and a recovery loop that reuses heat at the *Challenger* plant in Montréal (Canada)
- A new configuration that minimizes energy and natural gas consumption during down time of the spray booths at the Centre of Excellence in Montréal (Canada)

These operational improvements were complemented by strong performance in renewable energy use, emissions reduction, and waste and water management.



AROUND THE WORLD IN 2024

23%

Reduction in greenhouse gas emissions (scope 1 and 2) compared to baseline year 2019

48%

Reduction in water consumption compared to 2019

25%

Overall reduction in total waste generated compared to 2019

76%

Renewable share of Bombardier's electricity consumption

Increasing SAF adoption

Bombardier is the first business aviation manufacturer to cover all operational flights with a blend of approximately 30% neat Sustainable Aviation Fuel (SAF).

In 2024, Bombardier purchased approximately 2.5M U.S. gallons of blended SAF for all its flight operations through the Book-and-Claim system, with a blend of approximately 30% of neat SAF, which is the blend currently available in North America. This was enabled by an agreement with Signature Aviation, a partner that facilitates the purchase and measurement of SAF.

Flight operations include flight tests used to verify that each aircraft meets standards before delivery, experimental flight tests, demonstration and marketing flights.

This initiative mitigates the potential net impact on climate change of the use of jet fuel by replacing it with SAF, which results in lower greenhouse gas emissions throughout the life cycle.

Bombardier works closely with industry bodies including the General Aviation Manufacturers Association (GAMA), International Civil Aviation Organization (ICAO) and the Aerospace Industries Association of Canada (AIAC) committees, the International Business Aviation Council (IBAC), and the local C-SAF initiative, to lead the way for SAF development and use.

Bombardier is committed to generating demand for the ramp-up of SAF production on a global basis.



What is Sustainable Aviation Fuel?

SAF is a blend of conventional jet fuel and fuel derived from approved sustainable sources such as used cooking oils or forestry and agricultural residues. Approved sources cannot include lands with high biodiversity or carbon stocks, cannot compete with the food chain and must provide a social benefit. The reduction of greenhouse gas emissions associated with SAF is achieved throughout its life cycle.

What is Book-and-Claim?

The Book-and-Claim system allows an aircraft operator to order and pay for SAF without transporting SAF over long distances from where it is available. The paying operator can claim the greenhouse gas emissions reductions associated with the use of SAF, while the operator that uses SAF pays for the cost of regular jet fuel and does not claim the reduction in greenhouse gas emissions. The system requires a rigorous accounting of SAF quantity and related greenhouse gas emissions reductions. In addition to substantially reducing in-sector carbon emissions, it also allows the industry to optimize fuel delivery logistics and contribute to generating demand for the ramp-up of SAF production on a global basis.

Sustainability does not happen in isolation

Bombardier believes collaboration is essential to reducing the global carbon footprint of civil aviation. It shares its expertise in sustainability with many organizations, with the common goal of supporting initiatives that encourage the adoption of new technologies, tools and opportunities to positively influence partnerships with industry, regulatory and government bodies.

Bombardier has been actively involved with the Air Transport Action Group (ATAG) since 2007 and participates in numerous international and Canadian organizations and committees, including IAEF, IBAC, ICCAIA, GAMA, as well as Aéro Montréal, AIAC and C-SAF. A team of dedicated industry professionals participates in six working groups at the ICAO Committee on Aviation Environmental Protection (CAEP).

The ideas generated become valuable when realized, which is why Bombardier supports the Business Aviation Commitment on Climate Change (BACCC). The BACCC addresses industry emissions through three main objectives which aim to continue to improve fuel efficiency, maintain carbon-neutral growth and achieve net-zero carbon emissions by 2050.

By adhering to the four pillars which form the foundations for practical solutions to meet the BACCC goals, Bombardier is responsible for the evolution of new technologies through research and development, adapting operations, developing more environmentally friendly infrastructure and optimizing SAF for all its flights.

Bombardier believes that if the industry joins together, communal goals can be achieved.

Business Aviation Commitment on Climate Change (BACCC)

Developed in 2009 by the General Aviation Manufacturers Association (GAMA) and the International Business Aviation Council (IBAC) on behalf of the manufacturers and operators of Business Aviation worldwide, the Business Aviation Commitment on Climate Change (BACCC) represents an aggressive strategy for CO₂ emissions reductions to 2050.

<https://www.generalaviation.eu/baccc/>

OBJECTIVES

- Continue to improve fuel efficiency
- Maintain carbon-neutral growth
- Achieve net-zero carbon emissions by 2050

FOUNDATIONAL PILLARS

- Technology
- Alternative fuels
- Infrastructure and operations
- Market-based measures

Innovation at new heights



Bombardier's EcoJet research project aims at maturing and delivering technologies that reduce aircraft CO₂ emissions through a combination of advanced aerodynamic shapes, highly integrated propulsion, leading-edge systems and efficient structures.

The EcoJet team is modeling full-scale blended wing body aircraft shapes, designing potential features across all structures and systems, and testing scaled models with a blended wing body configuration. The advanced concept shape of the aircraft could contribute up to 20% emissions reduction through aerodynamic improvements alone.

Hybrid propulsion systems are being studied, as are digital and simulation capabilities, to further optimize energy demand and accelerate the introduction of new technologies.

In 2024, as part of the EcoJet research project, Bombardier continued to leverage its 18-foot-wide scaled demonstrator, allowing the Engineering team to gather significant data toward the advancement of multiple technologies. New capabilities were being studied via multiple collaboration projects that fall into three main areas: structures, systems and technical.

Promoting aviation sustainability requires a unified vision supported by collaboration. Here are a few examples of Bombardier's collaborations:

- With the **Consortium de recherche et d'innovation en aérospatiale au Québec (CRIAQ)**, to leverage the wealth of knowledge within the local aerospace ecosystem.
- With the **University of Victoria's Centre for Aerospace Research**, to provide flight testing expertise for the various demonstrator testing campaigns, and to work on research that will help create the next generation of transonic wings, resulting in reduced energy consumption.
- With **Quaternion Aerospace**, to manufacture, maintain and improve the blended wing body scaled demonstrators.
- In the **Transport de demain (TDD)** program to continue developing capabilities to design the next generation of aircraft systems that are lighter and include a maximized modularity.
- In the **Les projets collaboratifs de l'aéronef de demain (LPCAD-2)** program that focused on the blended wing body scale demonstrator, which concluded in 2024.

By collaborating with a diverse set of partners and sharing aerospace heritage, Bombardier is enabling a sustainable aviation future.

Bombardier

Bombardier designs, builds, modifies and maintains aircraft for the world's most discerning people, businesses and governments. That means not simply exceeding standards, but understanding customers well enough to anticipate their unspoken needs.

For them, Bombardier's talented teams are committed to pioneering the future of aviation – innovating to make flying more reliable, efficient and sustainable. And they are passionate about delivering unrivaled craftsmanship and care, giving their customers greater confidence and the elevated experience they expect.

Bombardier customers operate a worldwide fleet of more than 5,100 aircraft, supported by a vast network of Bombardier team members worldwide and 10 service facilities across six countries. Bombardier's performance-leading jets are proudly manufactured in aerostructure, assembly and completion facilities in Canada, the United States and Mexico.



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PROGRESS, ACTION, IMPACT

- Bombardier supports the industry goal of reaching **net-zero carbon emissions** by 2050.
- The advanced shape of Bombardier's **EcoJet research project** could contribute up to 20% emissions reductions through aerodynamic improvements alone.
- **76% of energy** purchased by Bombardier **is from renewable sources**.
- Two **heavy-duty electric trucks, plus electric and hybrid vehicles** are being used for industrial security and to ship parts between Bombardier sites in Québec.
- **100% of Bombardier flight operations** purchase SAF through Book-and-Claim at an approximately 30% blend.
- **6.2 tonnes of excess leather and fabric** were upcycled or donated by Bombardier in 2024.