

Transport Canada Update to the ASCENT Advisory Board

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Transport
Canada

Transports
Canada

Canada

Purpose

Update on the Government of Canada's priorities and Transport Canada's activities related to aviation research



Government of Canada

- Canada's Aviation Climate Action Plan (2022-2030)
 - The plan is a collaboration between the Government of Canada, including Transport Canada, and various aviation industry stakeholders
 - Expands on previous voluntary agreements and is aligned with international efforts, such as the International Civil Aviation Organization (ICAO)'s Resolution A37-19
 - Released in September 2022
 - Presents a vision of net zero emissions by 2050 for the Canadian aviation sector
 - Sets goal of 10% for the use of sustainable aviation fuel by 2030
 - Includes pathways and actions to improve efficiency and reduce pollution from aviation activities
 - 2022-2023 report showing increased SAF usage by Canadian carriers to 5 million litres in 2023, up from 2.2 million litres in 2022

Government of Canada

- Creation of the Initiative for Sustainable Aviation Technology (INSAT)
 - Announced in June 2023 - \$350 million in national sustainable aviation innovation network
 - Five projects announced in November 2024 for a value of \$100M
 - Turbine Engine Advanced Materials for Efficiency (TEAME)
 - Fuel Cell Stack with Integrated Hydrogen Storage System for Aviation Applications
 - Ground testing of an experimental “electric jet” aircraft powered by batteries and 250kW eJet
 - Electrification of the DHC-2 Mk1 De Havilland Beaver
 - Hydrogen ADvanced Engine Study (HyADES)
 - Five projects announced in June 2025 for a value of \$87M
 - Cabin for Light and Efficient Electric and Responsible Vehicles
 - LEAF: Low Emission Aircraft Flight Testing and Control Laws Development
 - Scalable Remote Sensing with Ultra Endurance Solar Electric Drones
 - On-board DC microgrids for sustainable aircraft: from design to proof-of-concept by simulation
 - DéCAF: Développement des Contrôles de l’Avion du Futur écoresponsable

All details are available at: <https://strix.aero/news/>

Other National Activities

- Harbour Air all electric seaplane:
 - Presence at EAA AirVenture 2025
 - The eBeaver prototype has accumulated nearly 100 flight hours
 - Certification delayed to 2026-27
 - Battery cooling limits the number of flights at two per day
- Braya Renewable Fuels Project
 - Production of renewable diesel and sustainable aviation fuel; of 18,000 bpd of renewable diesel
 - Operations began in February 2024
 - Shut down between Jan-Jun 2025
 - Low market margins
 - Expiration of the U.S. Federal Tax Credit for renewable diesel in December 2024
 - NF provided repayable loan of \$25M to support maintaining the workforce and other direct facility costs.



Source: Aviation International News

Other National Activities

- National Research Council of Canada
 - Hybrid Electric Aircraft Testbed (HEAT)
 - Conversion of a Cessna 337 (Skymaster) to hybrid electric power
 - Aft engine replaced by an electrical motor, battery and control system
 - First flight in February 2022
 - Supports NRC's Low Emission Aviation Program (LEAP) research areas
 - Supports certification of technology



Source: Aviation Week and NRC

Other National Activities

- In September 2022, Air Canada announced a purchase agreement for 30 ES-30 electric-hybrid aircraft from Heart Aerospace
- All-electric range of 200 km (108 nm)
- Plans to carry out its first fully electric experimental flight at New York's Plattsburgh International Airport in 2025



Source: Heart Aerospace



Source: CNW Group/Air Canada



Questions ?

Source: NRC