Hydrogen @ Pearson

Toronto Pearson

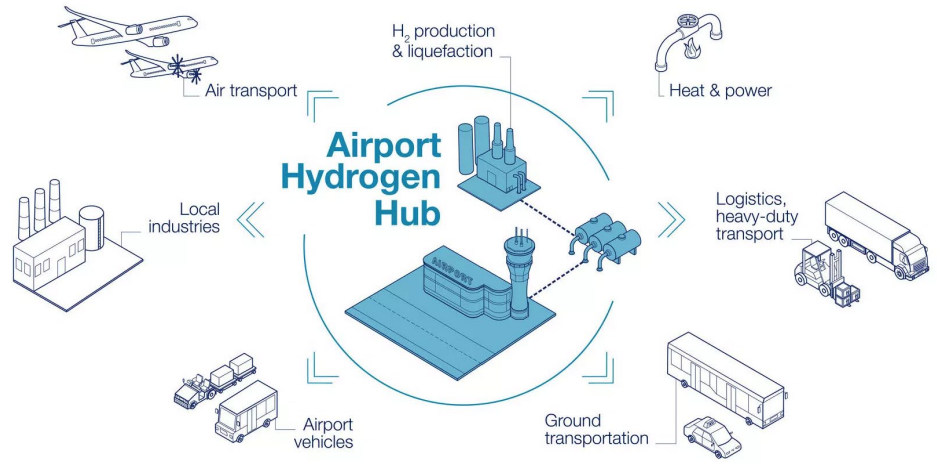
Airbus ZEROe Hydrogen Flight Concepts

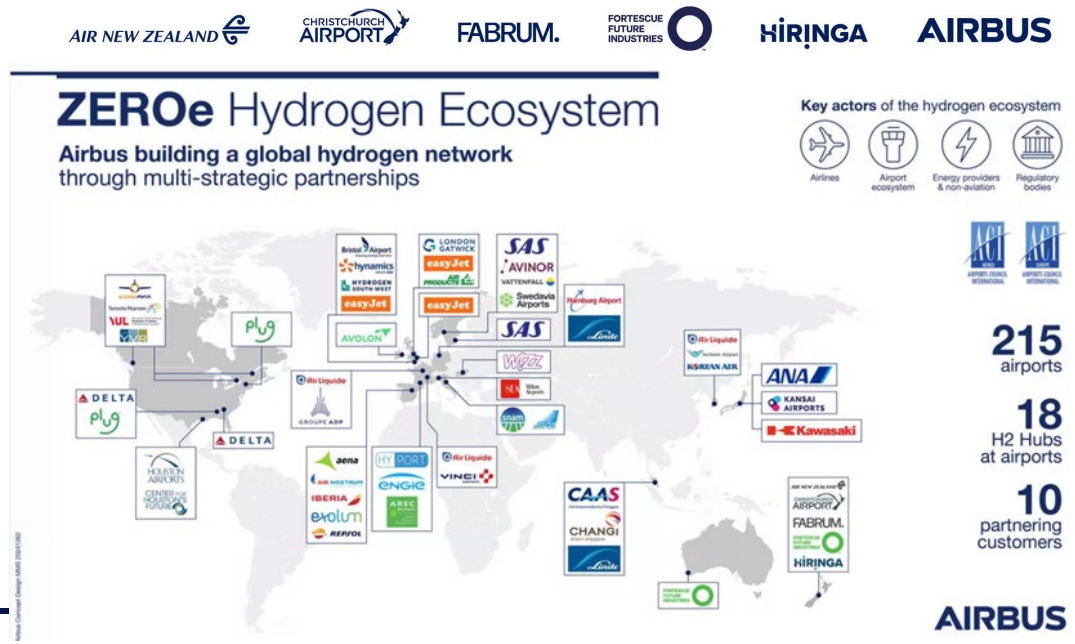
- **Turboprop**
  - Range: 1,000+ nm | Passengers: <100
  - Two hybrid-hydrogen turboprop engines, which drive eight-bladed propellers, provide thrust
- **Turbofan**
  - Range: 2,000+ nm | Passengers: <200
  - Two hybrid-hydrogen turbofan engines provide thrust
- **Blended-Wing Body (BWB)**
  - Range: 2,000+ nm | Passengers: <200
  - Two hybrid-hydrogen turbofan engines provide thrust.

Airbus and ZeroAvia Partner on Hydrogen Hubs at Leading Canadian Airports

- The study is exploring:
  - hydrogen aircraft concepts,
  - operations,
  - supply infrastructure, and
  - refuelling needs at airports, aiming to establish a comprehensive hydrogen aviation ecosystem across Canada.
- The use of hydrogen to power future aircraft is not only expected to significantly reduce aircraft emissions in the air but could also help decarbonize air transport activities on the ground.

[Airbus and ZeroAvia Partner on Hydrogen Hubs at Leading Canadian Airports - ZeroAvia]





Hydrogen and Pearson's Unique Intersection with Energy, Transportation & Facilities on the Ground

GTAA Fleet Decarbonization and Hydrogen Hardstands

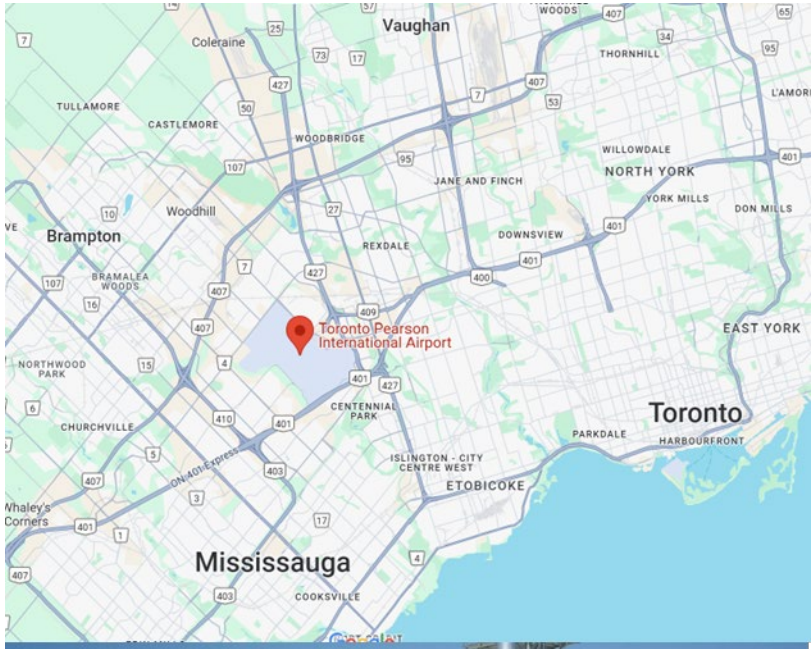
- Hydrogen will be important part of the clean fuel mix to decarbonize GTAA ground fleet – weight-sensitive and/or high-use applications (e.g. buses)
- Potential to replace diesel generators at hardstands with hydrogen fuel cells

Unique location to serve local needs as well as airport

- 1 million cars and trucks pass daily
- Pearson is growing to 65M PAX in early 2030s
- 4 major transits all converge at Pearson (Mississauga, TTC, Brampton, Metrolinx)

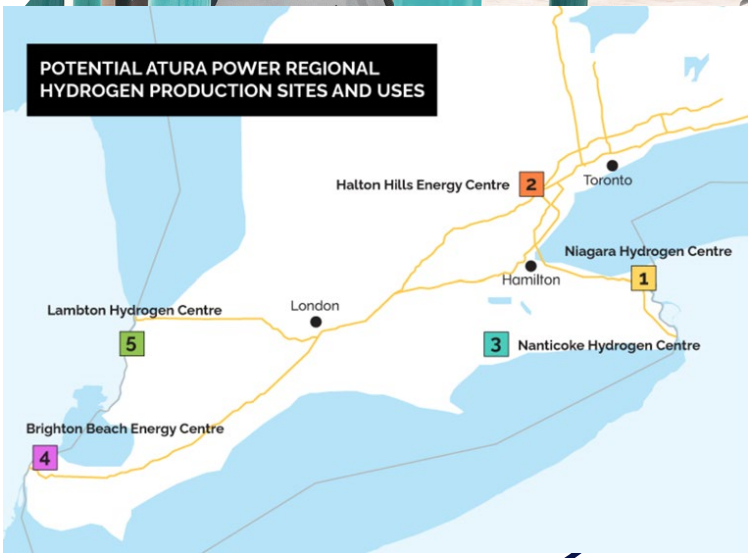
GTAA CoGen

- Built to avoid repeat of 2003 blackout scenario
- Climate resilience and energy stability for Pearson and grid-constrained GTA West community
- Pearson electrical load forecast to quadruple under LIFT (facility growth and electrification)
- Hydrogen can help decarbonize Cogen at input (burn H2) or at output (carbon capture and combine with H2 to create SAF)



Bringing Hydrogen To-Scale and Supporting Ontario's Energy Needs

- Pearson is currently the site of Ontario's only publicly accessible 350 and 700bar hydrogen fill-station.
- Trucked-in gaseous hydrogen will serve smaller to mid-sized applications.
- Large-scale end-uses (flight, transit, Cogen) will require more than truck or rail can deliver.
- In 2025 – FEL1 Feasibility Study of connecting large hydrogen generating assets in Niagara Region to Toronto Pearson via pipeline.
  - Planned hydrogen production assets are near existing fuel pipeline rights-of-way to Pearson
  - Helps balance Ontario's grid
  - Extends the economic benefits of clean growth to other Regions
  - This could be first step in developing Ontario's Hydrogen backbone



Thank you

Toronto Pearson