

A close-up photograph of a wolf's face, showing its eyes, nose, and fur texture, which is superimposed over the word 'WOLVES' in the title.

HOW WOLVES CHANGE RIVERS

REMASTERED

What is Sustainability?

- "Sustainability is the balance between the environment, equity, and the economy"
- UN World common on environment and development states:
 - *"Sustainability is meeting the needs of the present without compromising the ability of future generations to meet their own needs (1987)"*

What is ESG?

- ESG stands for Environmental, Social and Governance
- Why focus on ESG:
 - Financial performance (90% of companies report a positive upside)
 - Regulatory risk (fines/penalties for non-compliance)
 - Reputational risk (76% of consumers won't buy from firms not focusing on ESG)
 - Environmental Impact (firms prioritizing ESG are more likely to operate sustainably, reduce their carbon footprint and engage in ethical business practices)

ESG is Important For:

- Our airline partners
- Our vendor partners
- Our passengers
- Our overall cost of capital for borrowing (healthy financial position)
- Our government relations (municipal, provincial, federal)
- Our regulatory environment
- Our employees (airport culture/values, pride and retention)
- Our communities
- Our legacy
- Our future generations

ESG is *MOST* Important For:

- Humanity
 - It is the best “win-win” in our complex world
- *Why?*
 - Because it is a chance to do something noble to save our planet for future generations while simultaneously making strong strategic business sense for the future of aviation and airports

Megatrends for ESG in Aviation and Airports

- Electrification and hybridization (plus hydrogen)
- Carbon neutrality, net zero emissions, carbon reductions and carbon offsetting
- Sustainable aviation fuel (SAF)
- Waste reduction and circular economy
- Biodiversity conservation and wildlife management

Megatrends in ESG for Aviation and Airports

- Social responsibility, accessibility and inclusivity
- Responsible supply chain management
- Green financing and ESG reporting
- Stakeholder engagement and collaboration
- Climate resiliency and adaptation
- Noise reduction and community engagement
- Sustainable airport infrastructure

NOT JUST AN AIRPORT

AIRPORT CITY

SUSTAINABILITY

CAMPUS

- Driving our region's economic prosperity through aviation and commercial development
- Largest Airport by Land 7000+ acres
- Living Lab for the testing, trialing, incubation, commercialization of technologies - Alberta Aerospace Technology Center (AATC)





OUR CARBON FOOTPRINT

- Development and implementation of our decarbonization roadmap
 - Scope 1 & 2 emissions
 - 70% building operations
 - 30% ground transportation
 - Scope 3 emissions
 - Majority from buildings, ground transportation, and aviation

ENVIRONMENT

- Working to be the first airport in North America to go beyond net zero standards and remove CO2 from the air
- Emissions reductions - Net zero by 2040
- Stormwater upgrade - Increase effluent quality
- Deicing upgrades and recycling rate %
- Waste management - reduce landfill waste
- Traditional Land Use Study
- Noise impact numbers





SOCIAL

- "Airport for Everyone"
- Local and under-represented business inclusion
- Minority groups
- 2SLGBTQI+ inclusion
- Indigenous reconciliation & inclusion framework
- Accessibility
- Community Impacts
- Post-secondary partnerships
- Supply chain and RFP inclusion





GOVERNANCE

- Board Diversity Policy
- Board developed ESG Principle (macro not micro) – workshop on new core values?
- Board and Executive commitment to ESG, EDI and Indigenous
- Developing guidelines for collaboration
- Aligning with the government for collaboration
- Sustainable purchasing policy

CONFIDENTIAL



EIA is the
future home of

AIRPORT CITY solar

627

acres of
sustainable
power
generation

the size of

313

football
fields

electricity to power

27,000

homes

340,000

solar panels

CO-GENERATION

AT EIA



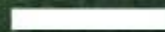
ENERGY AND CARBON MANAGEMENT



The new CoGen power plant will reduce our company's carbon emissions by approximately **20%** per year



EMISSION REDUCTIONS



7,000-8,000
tonnes of CO2 equivalent per year,
roughly the same as taking
2,400 vehicles off the road



ENERGY COSTS



Once operational, the facility will also reduce energy costs by **\$800,000** per year

An aerial photograph of a city skyline, likely Winnipeg, Manitoba, Canada. The image shows a dense urban area with numerous skyscrapers and buildings. A large river, the Red River, flows through the city, and a prominent bridge crosses it. The sky is clear and blue, suggesting a bright day. The overall scene is a panoramic view of a modern city.

MEGATRENDS IN ESG FOR AVIATION

Tom Ruth

SWIFT Conference
Winnipeg, Manitoba
September 26, 2023

YEG Sustainable Construction Practices in 2022

Apron 1 North Rehabilitation

- 420 m³ of asphalt removed and stockpiled on the airport for future use
- 6500 m³ of old concrete stockpiled on site for crushing and re-use of granular materials

YEG Sustainable Construction Practices in 2022

Cargo Apron VIII

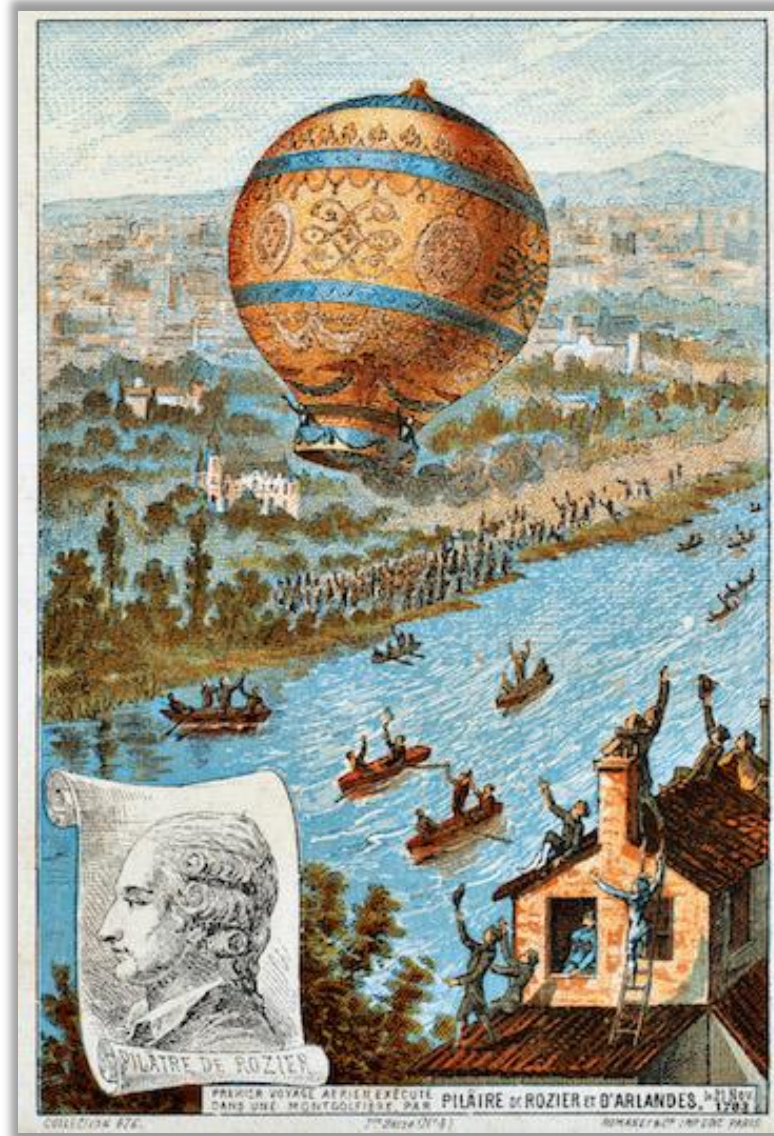
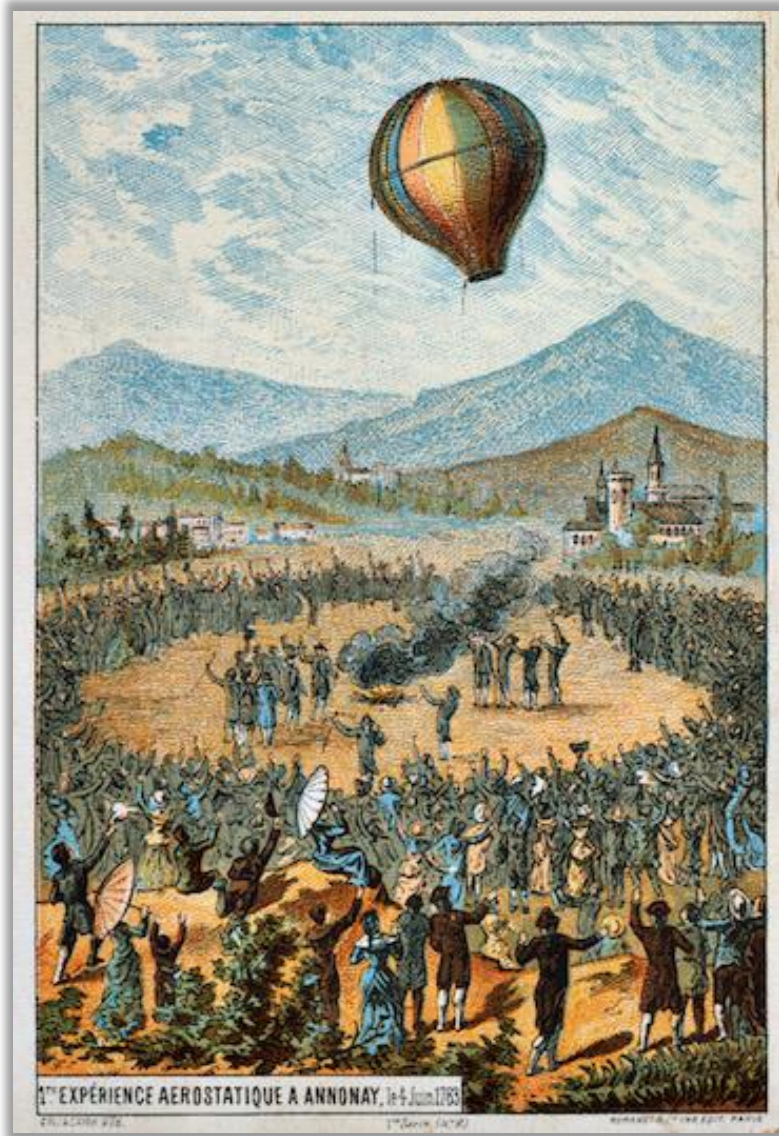
- Incorporated use of Carbon Cure technology in the production of concrete introducing recycled CO₂ into fresh concrete to reduce the carbon footprint without compromising performance. "Win-win" because it reduced the cost of the cement content while reducing the carbon footprint
- Other materials recycled as part of the project include 4200 m³ of subbase, 6000 m³ of unneeded engineered fill (clay) and an additional 337 m³ of asphalt

YEG Sustainable Construction Practices in 2022

Runway 02 and Runway 12 Approach RESA

- Reuse of 3500 m³ of asphalt millings
- Reuse of 1,287,000 litres of water from YEG storm ponds for construction instead of potable water from hydrants
- Reuse of displacement threshold markerboards from a 2019 project
- Salvage of 40 electric pull pits for future use
- Installation of 30 m of existing unused culverts and overflow pipe retained from a 2012 project
- Removal and recycling of abandoned electric cables

What's Old is New Again



Announced global hydrogen investments exceeded \$500 Billion in 2021, with 350+ large scale projects announced globally



Canada

Hydrogen strategy launched in 2020, supported by \$1.2 Billion low-emissions fuel fund and upcoming Clean Fuel Standard



United States

Earthshot project aims to reduce price of hydrogen by 80% by 2030, supported by DOE funding of \$400m in 2022 alone



United Kingdom

Hydrogen roadmap aims to develop 5 GW of electrolyser capacity by 2030, supported by \$5.3 Billion in private investment



EU

Hydrogen roadmap aims to develop 40 GW of electrolyser capacity for green hydrogen production by 2030, supported by a further 40 GW of import capacity



Germany

62 large scale hydrogen projects, including electrolysers and pipelines. \$9 Billion government funding, supported by an expected \$37 billion in private investment



Norway

Norsk e-Fuel consortium planning first power-to-liquid aviation fuel plant, starting production in 2030 and producing 25m gallons by 2026



Japan

Ambitious hydrogen roadmap to reduce hydrogen cost by two-thirds by 2030, supported by development funding of \$2.7 Billion on the supply chain and 700 Million on production



South Korea

Government invested \$702 million on hydrogen in 2021, with planned private investment of \$38 Billion by 2030



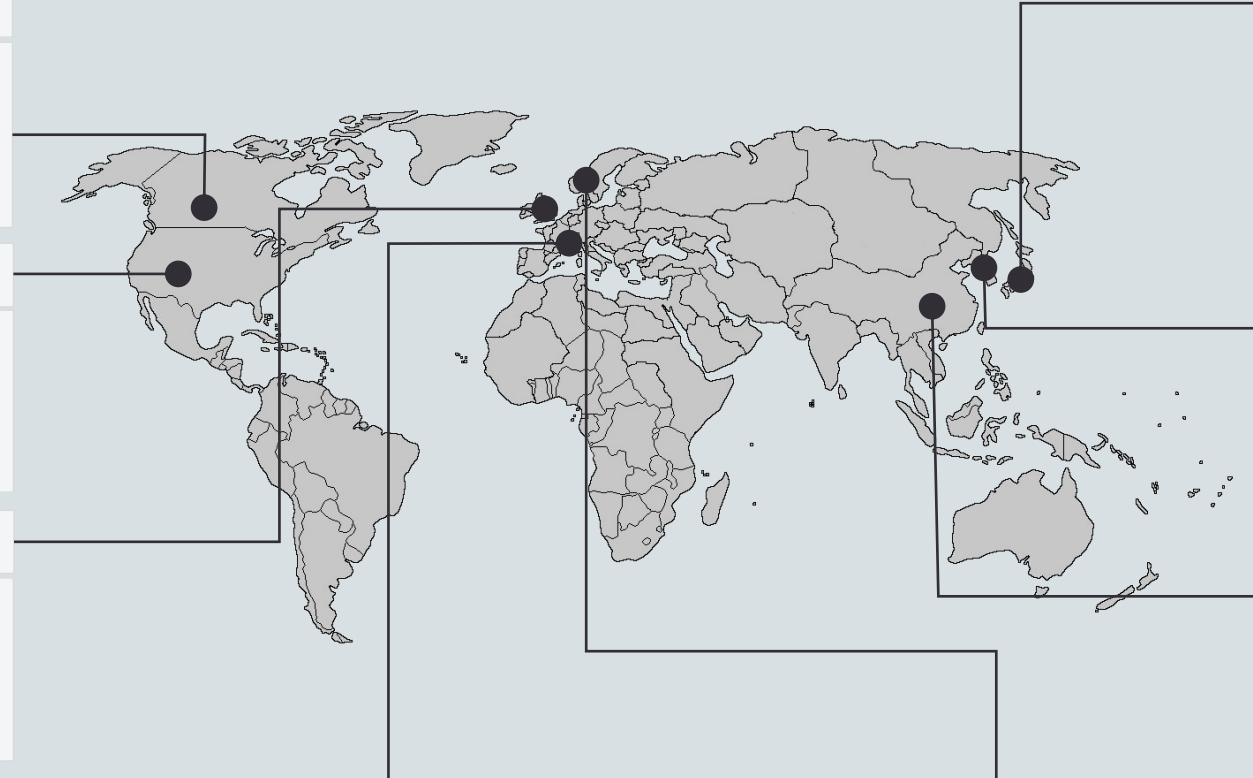
China

53 large-scale projects, with investment over \$17 billion, with additional \$20 Billion of public funding available from the government



Australia

Government is investing \$1.2 Billion to develop a national hydrogen industry



Port of Seattle green hydrogen fuel project underway with DOE funding

December 7, 2021 | By ALICIA MOORE

SUSTAINABLE ENERGY

'No way around hydrogen' says RWE CEO, as firm lays out plans to invest billions in renewables

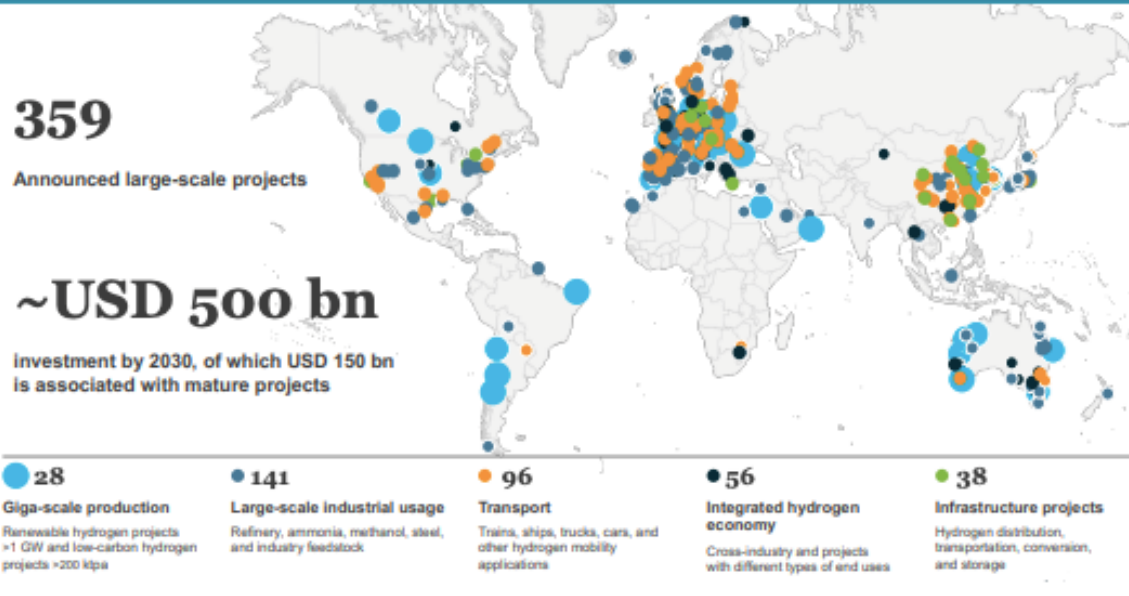
PUBLISHED TUE, NOV 16 2021-10:47 AM EST

Flying To Primary Airports Makes Adopting Hydrogen Easier

McKinsey & Company

by Linnea Ahlgren · December 3, 2021 · 10 shares · 2 minute read

Exhibit 1: Global hydrogen projects and investment across the value chain



News

South Korea Aims to Become First Mover in Hydrogen Economy, Shift 100% to Clean Hydrogen Energy by 2050

By FuelCellsWorks | November 26, 2021 | 2 min read (374 words)

Commodities

Australia, Germany commit \$90 mln to fund hydrogen projects

Reuters

News



California: CEC Approves \$1.4 Billion Plan for Zero-Emission Hydrogen Refueling and EV Charging

By FuelCellsWorks | November 16, 2021 | 4 min read (564 words)

EXPRESS

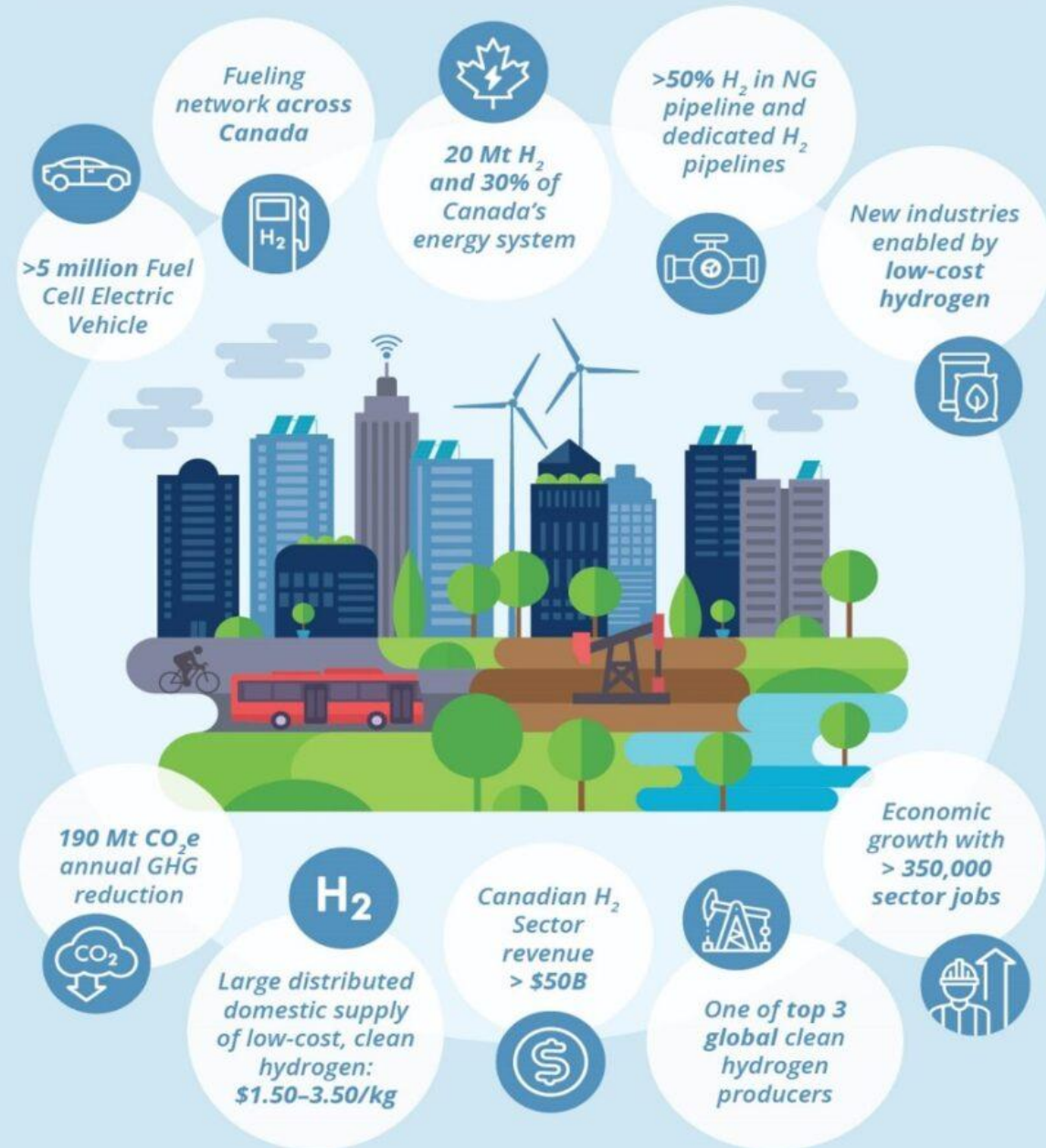
Hydrogen vehicles: Bosch to invest £800million into developing fuel cells and lorries

HYDROGEN vehicles are set to benefit from a massive £800million investment as Bosch are looking to upgrade technology in the UK.

HYDROGEN IN CANADA



VISION FOR HYDROGEN IN CANADA IN 2050



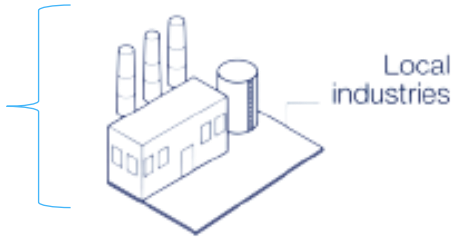
YEG's Internal Hydrogen Demand

- Airbus 2035
- ZeroAvia
- Hypoint
- Air Canada Partnership
- KLM Partnership



- Building & Industrial
- Cogeneration

- Airside/Ground Side Fuel Station
- CAT 2 Hydrogen Garage
- EIA International Cargo Hub



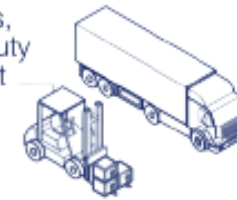
Airport Hydrogen Hub

H₂ production & liquefaction



- Buses
- Ground Support Fleet
- EIA Fleet

Logistics, heavy-duty transport



- Medium Duty Trucks
- Heavy Duty Trucks

Ground transportation



- Buses
- Taxis
- Rental Vehicles



HYDROGEN HUB

- Edmonton Canada's first hydrogen hub
- 60% of all Hydrogen in Canada produced in Edmonton
- Azatec project - hydrogen truck from Edmonton to Calgary - Alberta Motor Transport Association headquartered at EIA
- Ecosystem with demand and supply
- Decarbonizing aviation to from and through the airport for passenger and goods
- Decarbonizing ecommerce cargo logistics supply chain



EDMONTON REGION

Hydrogen HUB



HYDROGEN FLEET

- Partnership between YEG and Toyota Canada to reduce carbon emissions and drive demand for hydrogen in the region
- Bringing in 100 Hydrogen fuel cell electric vehicles for use by the airport and key partners in the Edmonton region.
- Only byproduct produced is water

ZeroAvia & Edmonton International Airport Tie Up to Bring Hydrogen-Electric Flights to Canada

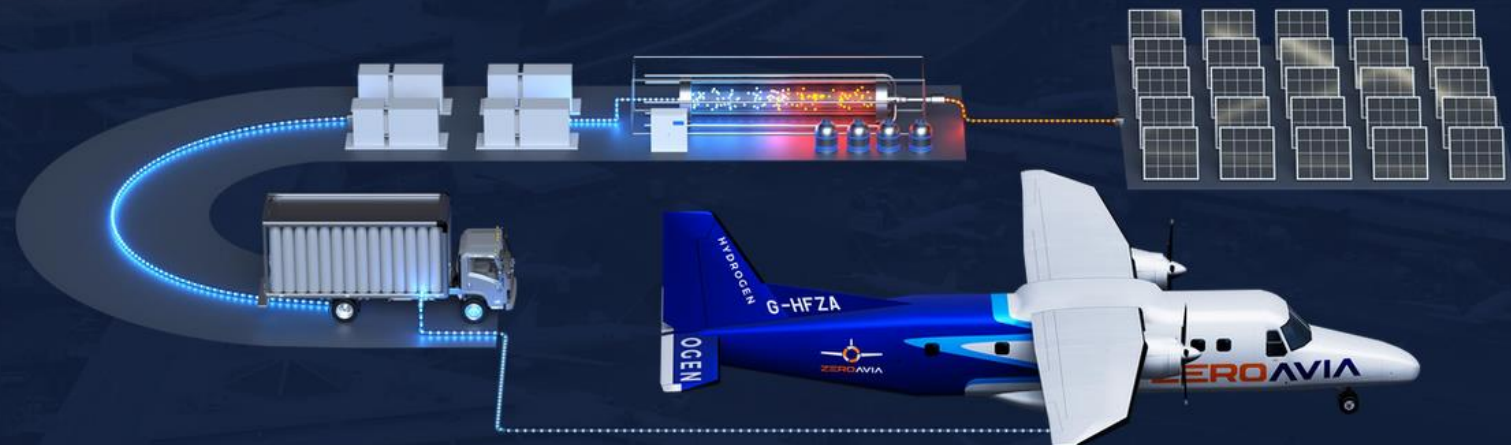
July 21, 2022

- Zero-emission aviation pioneer and Canada's largest airport by land area to collaborate on hydrogen fuel infrastructure and launching zero-emission routes



The first practical hydrogen-electric, zero-emission aviation solution

ZeroAvia's novel hydrogen-electric powertrain replaces traditional engines on existing fixed wing aircraft, simplifying regulatory issues and reducing time to market.



**THE FIRST PRACTICAL
ZERO EMISSION
AVIATION POWERTRAIN**



ZA2000-RJ
ZA2000
ZA600

Powertrain Timeline



SUSTAINABLE INNOVATION

World's Largest
Airport Solar Farm



SUSTAINABLE INNOVATION

Air Canada Landmark Green Partnership


**THE
CLIMATE
PLEDGE**



SUSTAINABLE INNOVATION

Eco-Friendly Cutlery & Packaging Solutions



SUSTAINABLE INNOVATION

Hydrogen Fuel Development



SUSTAINABLE INNOVATION

Carbon Capture Crop Farming & Biofuel Production



SUSTAINABLE INNOVATION

Drone Logistics



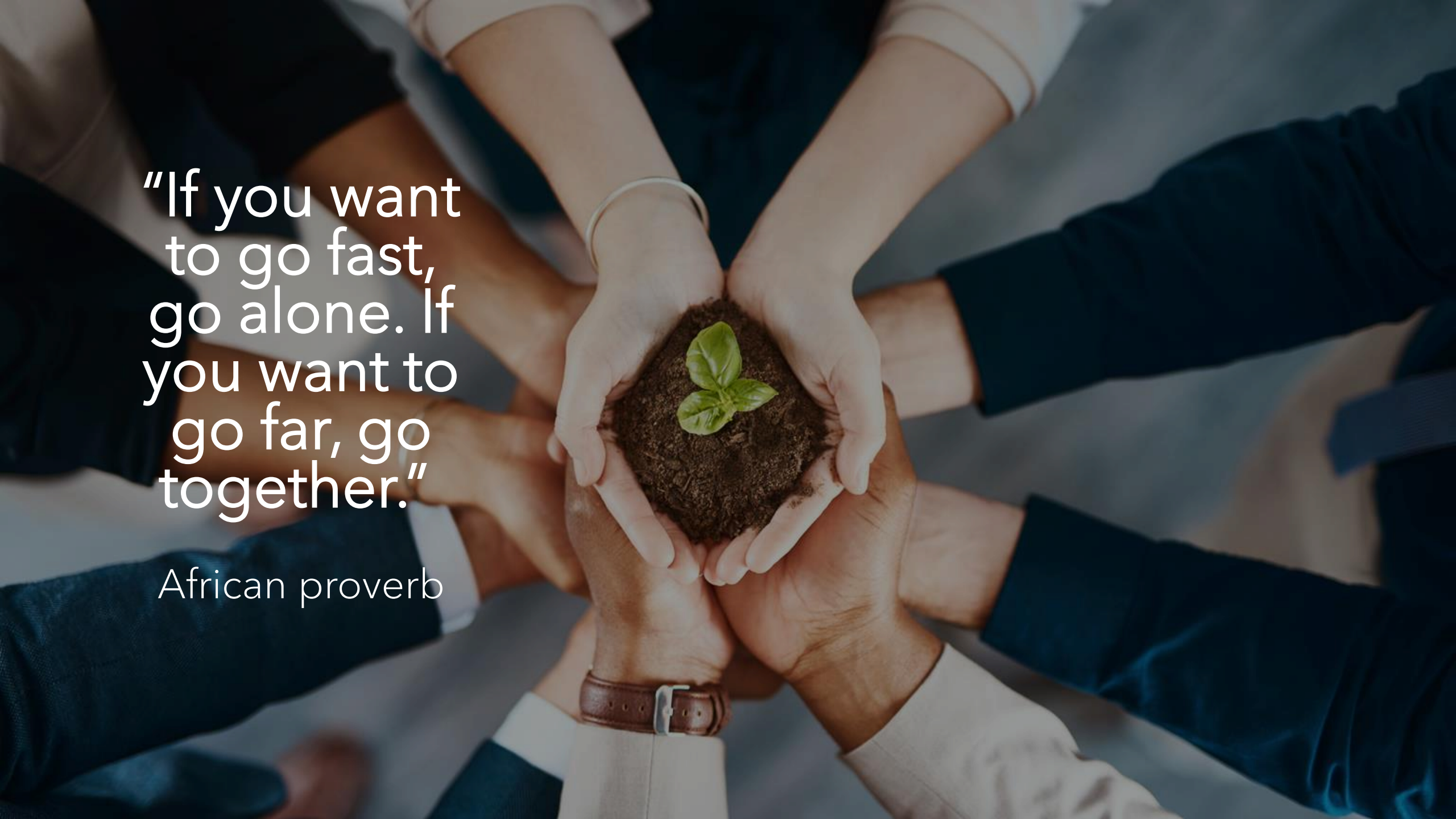
SUSTAINABLE INNOVATION

Green Cargo Apron & Warehouse Development



COLLABORATION IS THE FUTURE



A top-down view of several people's hands of various skin tones and ages, all reaching towards the center. They are holding a small, vibrant green basil plant growing out of a mound of dark brown soil. The hands are positioned in a circle, with fingers pointing towards the center, creating a sense of unity and shared purpose. The background is a soft, out-of-focus grey.

"If you want
to go fast,
go alone. If
you want to
go far, go
together."

African proverb



TOYOTA

MITSUI & CO.

HERCULES



Canadian Hydrogen Convention
EDMONTON, ALBERTA - April 2022



FIRSTELEMENT FUEL



Japan Overseas Infrastructure Investment Corporation
for Transport & Urban Development





Some Personal ESG-related Recommendations for Aviation and Airports

- Reward sustainable practices for your front-line managers and employees
- Incorporate sustainability/ESG into all elements of your company strategy
- Learn from other airport best practices and learn from other industries
- Don't just depend on your airport to have all the answers (not our core competency)

Some Personal ESG-related Recommendations for Aviation and Airports

- Share costs, savings and other opportunities with outside stakeholders and companies
- Relentlessly pursue government grants
- Don't get bogged down by emerging certifications and countless metrics
- Pay attention to emerging regulatory changes (the "Mario Lemieux factor")

EIA - 1960



EIA - 2020



An aerial photograph of a city at sunset. The sun is low on the horizon, casting a warm, golden glow over the scene. The city skyline is visible on the right, with several tall skyscrapers. A river winds through the city, and a large highway interchange is prominent in the foreground. The text "THANK YOU" is overlaid in large, white, bold letters across the center of the image.

THANK YOU