



CVAC's Green House Gas Reduction Strategy and Path to Carbon Zero

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Strategic Background

Sustainability as a Key Value

The growing awareness by the Comox Valley Airport Commission's (CVAC's) Board of Directors, management team and passengers to the impact of climate change motivates us to reduce our Green House Gas (GHG) emissions. Environmental sustainability remains a key value in the aviation industry and controlling GHG emissions is not only the right thing to do but a competitive differentiator. Being a leader in sustainability is viewed positively by the Canadian public and aligns with CVAC's core values.

Managing CVAC's GHG footprint

CVAC operates an air terminal, fuel trucks, and small equipment while employing more than 25 people in support of its operations. Our activities translate into GHG emissions, which were inventoried recently at approximately 230 tonnes of Carbon Dioxide equivalent (CO₂e) per year (baseline 2019-2020).

Defining GHG Emission Scope

Scope 1: Direct. GHG Emissions that are owned or controlled by a company – CVAC.

Scope 2: Indirect. GHG Emissions resulting from the generation of electricity, heat or steam purchased by a company – BC Hydro to CVAC.

Scope 3: Indirect. GHG emissions from sources not owned, or directly controlled, by a company but related to the company's activities – Sub-Contractors operating at the Comox Airport, Concessions, Tenants, etc.

CVAC operations are directly responsible for 141 tonnes of CO₂e (Scope 1 and 2). Scope 3 (~90 tonnes) are inventoried indirect emissions from other partners supporting operations. CVAC intends to use our limited resources to proactively reduce direct emissions (Scope 1 and 2) while advocating for others operating at CVAC to do the same with their respective emissions (Scope 3).

As a good steward of the environment, and ahead of the publishing of its formal reduction strategy, CVAC recently pursued several opportunities to improve the air terminal's efficiency and reduce our overall energy consumption. Namely:

- All lighting fixtures in the terminal have been upgraded to LED lighting;
- Better scheduling for climate control and lighting of the building has been actioned; and,
- A significant effort to reduce waste by diverting recyclable materials has been implemented.

Certification

A detailed analysis of the sources of Green House Gas (GHG) emissions at CVAC highlights that more can be done to improve and reduce the impact of our operations on the environment. Continuing our work from the initial GHG Emissions inventory, CVAC will pursue Airport Carbon Accreditation (ACA) certification in 2023, the only institutionally-endorsed, carbon management certification standard for airports. By ensuring CVAC's GHG reduction and Carbon offsets procurement strategy are ACA certified, our environmental efforts will be formally recognized by the aviation community and provide the public with an independent assessment of our actions.

Technology and Growth

Many carbon-friendly technologies such as Sustainable Aviation Fuels (SAFs), electric Ground Support Equipment (GSE) and Renewable Natural Gas (RNG) are emerging but are not yet readily available or fiscally prudent for a small airport. CVAC will pursue a cautious and patient approach, following the lead of the larger Canadian airports such as YVR and YYZ, to implement these emerging technologies locally. In the five-year horizon, CVAC will expand to accommodate passenger growth and will seek opportunities to incorporate incremental GHG emission reductions through state-of-the-art systems and building technologies. This environmentally-responsible strategy will ensure that CVAC's GHG emissions are reduced while supporting an increased number of flights and passengers. Further, CVAC is exploring the installation of alternative electrical power sources, such as a solar panel array on the roof of the main terminal, to reduce its BC Hydro demand. In the future, CVAC will explore ways to produce more power while accessing GHG emission "sinks" – a necessary approach to achieve Carbon Zero.

Carbon Offsetting

The purchase of carbon offsets is an un-circumventable fact for CVAC to achieve carbon neutrality¹ in the near term and Net Zero² recognition in the long term. Taking into consideration the finite amount of carbon offsets available and the keen interest of all organizations to procure these offsets, CVAC recognizes the need to immediately secure the required carbon credits to achieve carbon neutrality. However, this selection must be free of "Greenwashing" CVAC's environmental impact. Acknowledging the time pressure and the high demand which will inevitably drive up the cost of carbon offsets, CVAC will adhere to a rigorous selection process of high-quality and local³

¹ **Carbon neutral** refers to an activity or a company which offsets the same amount of carbon or greenhouse gases that they emit. Carbon neutral means that emissions produced and offsets are equivalent. Source:

<https://greenly.earth/en-us/blog/company-guide/whats-the-difference-between-carbon-neutral-and-net-zero>

² **Net Zero** or **carbon net zero** or **zero carbon** means reducing carbon emissions as much as humanly possible, and offsetting only the essential emissions that remain. Source: <https://greenly.earth/en-us/blog/company-guide/whats-the-difference-between-carbon-neutral-and-net-zero>

³ While we would like to purchase offsets in the Comox Valley, there are currently none available. At present, we are looking at two BC projects as included at the end of this document.

carbon offsets to ensure they are “additional, permanent, not claimed by other entities and not associated with significant social or environmental harms.”⁴

This document will highlight CVAC's governing principles, present the GHG emission problem, highlight CVAC's priorities to reduce GHG emissions and develop a strategy that will support its overarching business goals.

CVAC Governing Principles

CVAC's 2022 mission, vision and values are listed below. The *bold, italicized* portions identify the environmental considerations that permeate our governing principles:

OUR MISSION: Connecting with the world

We are a gateway that welcomes business, family and leisure travel, enables community and economic development and brings Vancouver Island closer to the world. The possibilities are endless.

OUR VISION: Gateway of choice

We will be the preferred Island gateway by providing affordable, friendly, access to desirable destinations with convenient connections.

VALUES: We commit to these values because WE CARE:

- **[Safe & Secure]** Ensuring that the health, safety and security of our passengers, staff, tenants, volunteers, and operations remain our most important priority.

Our overriding priority, we continue to *adapt to ever-changing circumstances following all applicable regulations and best practices*, creating a safe and secure terminal for all.

- **[Adaptive & Responsive]** Remaining adaptable and responsive to the changing needs of our passengers, our community, and our industry.

We continue to explore new routes and opportunities with new carriers to provide more destinations, more choice, more flexibility and more value. We will adapt to world changes that impact YQQ and the travel industry. *We will continue our efforts to become “Cleaner, Greener, Leaner, and Keener”*. Cleaner with sanitation and health protocols, *greener in reducing emissions*, leaner in balancing revenue sources, and keener to provide a great passenger experience.

⁴ Carbon Offset Guide – What makes a high-quality Carbon Offset? <https://www.offsetguide.org/high-quality-offsets/#:~:text=First%20and%20foremost%2C%20a%20quality,to%20social%20or%20environmental%20harms.>

- **[Innovative & Proactive]** Providing optimum customer experience by adopting proactive and innovative approaches to our work.

YQQ embraces innovation and strives to implement new ideas and technologies to enhance our operations and passenger experience. We believe in continuous improvement and adaptability in both our operations and facilities.

- **[Honest & Respectful]** Ensuring that all relationships are founded on integrity, honesty, and mutual respect.

As a basic foundation for all our interactions, we adamantly care about the people we encounter. Our workplace is free of harassment, bullying and discrimination. We embrace diversity, equity, inclusion and accessibility.

- **[Ethical & Sustainable]** *Remaining environmentally responsible, socially conscious, financially sustainable, and ethically governed.*

We pay attention and respond to changes in our environments. We are proactive environmental stewards in areas we can control, and advocates for those we can influence. We contribute to the social well-being of our community. We prudently plan for future financial requirements and are responsible in our spending.

CVAC's Strategic Objectives

1. Optimal airport facilities and customer experiences.
2. Meeting demands of measured and responsible growth.
 - *Our facility and team will expand and keep pace with the changing needs of both travellers and airlines while being increasingly conscious of environmental considerations.*
3. Reinforcing relationships with governments, First Nations, and stakeholders.
 - *Acknowledging concerns about environmental stewardship and accountability in both the airline industry and tourism in general, we will be aware and responsive.*
4. Attract and retain a talented and motivated team.

CVAC's Environmental Principles

The following principles will govern CVAC's environmental strategy. It is critical that all steps taken to reach the environmental targets align with the following principles. These also reflect CVAC's overarching Strategic Values of becoming "Greener", embracing innovation, new ideas and technologies, and remaining "environmentally responsible, socially conscious, financially sustainable, and ethically governed."

1. **[Understand and acknowledge] CVAC's environmental impact**
 - a. Conduct a GHG emission inventory and update it as necessary
 - b. Educate our workforce on climate change and our impact on the environment

2. **[Reduce] CVAC's GHG Emissions while supporting operations**
 - a. Seek efficiencies from top emission sources
 - i. Optimize existing equipment (maintenance, repairs, replacements)
 - b. Manage system schedules (lights, heating) to reduce energy requirements
 - c. Reduce our emissions while growing our operation

3. **[Pursue Innovation and Technology]**
 - a. Electrify internal combustion equipment
 - b. Improve the performance, efficiency of existing equipment and systems (natural gas boilers, lighting, fan coils, etc.) that cannot be readily replaced by green technology
 - c. Be attentive to available new technology

4. **[Foster Green Energy] initiatives in our community**
 - a. Solar power array procurement
 - b. EV charging stations
 - c. Staff commuting support options

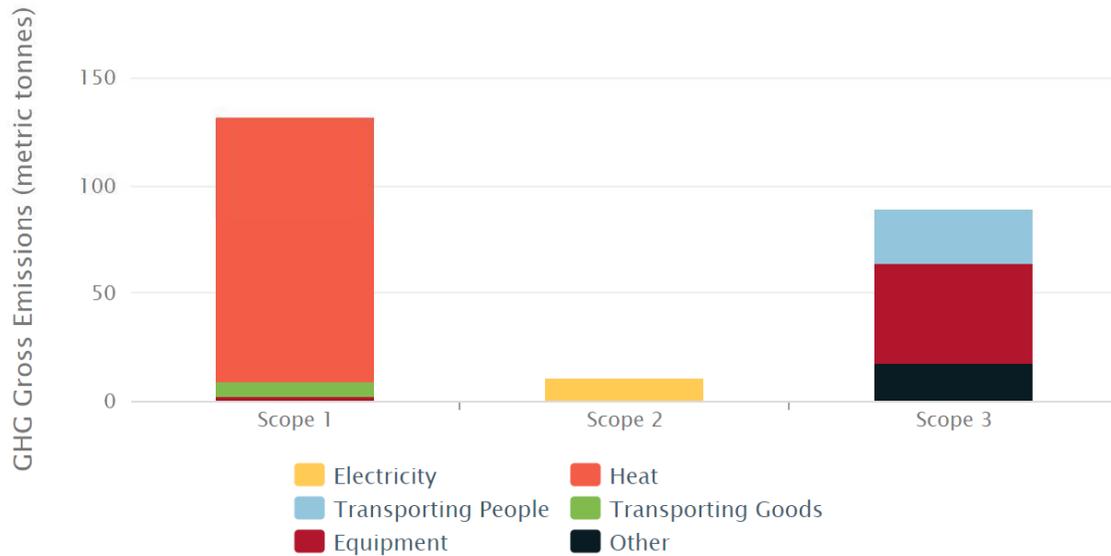
5. **[Procure Local and Ethical Carbon Offsets]**
 - a. Partner with local offset providers
 - b. Explore carbon capture and sequestering technology
 - c. Seek tangible carbon offsets

6. **[Pursue Net Zero]**
 - a. Establish the framework and investments to achieve Net Zero
 - b. Develop standards to institutionalize environmental behaviour/ investments
 - c. Make the corporate commitment to maintain Net Zero

CVAC GHG Emission Footprint

Recent analysis of YQQ's main GHG emission sources revealed the following sources and respective tons of CO₂e using a pre-pandemic baseline.

Gross GHG Emissions by Scope (metric tonnes) (Comox Valley Airport..., year ending Mar 31, 2020)



Natural gas used for heating the terminal and hot water (Scope 1) are at the forefront of our GHG emission sources and account for 53% of all emissions inventoried at CVAC and 93% of CVAC's Scope 1 emissions. In contrast, electricity (Scope 2) is a relatively small amount of our overall GHG emissions. Regardless, it behooves us to focus on reducing the direct sources of GHG emissions from Scope 1 and 2 since CVAC has complete control to effect changes to these emissions sources. For Scope 3, CVAC can use our limited influence to advocate for others to follow our leadership in reducing GHG emissions.

Gross Emissions	230.39	
Scope 1	131.26	
Heat	121.99	
Generated	121.99	
Transporting Goods	6.93	
Road	6.93	
Equipment	2.34	
Light Equipment	1.12	
Heavy Equipment	1.23	
Scope 2	10.45	
Electricity	10.45	
Purchased	10.45	
Scope 3	88.69	
Transporting People	24.85	

Road	0.24	
Staff Commuting	24.61	
Equipment	46.8	
Light Equipment	46.8	
Other	17.04	
Garbage	15.55	
Paper Consumption	1.49	
Purchased Reductions	0	

CVAC's Environmental Targets 2022-2035

CVAC commits to the following environmental targets and associated timelines.

Resources will be assigned to ensure the targets are met while adhering to CVAC's environmental principles.

- **Inventory of all CVAC GHG Emissions**
 - CVAC completed its GHG inventory with the help of "Climate Smart – Radicle"
 - Complete 2022 – Will be reassessed as required
- **GHG Reduction Strategy**
 - CVAC's GHG Reduction Strategy – Develop and Approve
 - Drafted and approval anticipated Q1 2023
- **Carbon Neutral by 2023**
 - CVAC will pursue the purchase of Carbon Credits to achieve neutrality
 - Anticipate budget approval to purchase in Q2 2023
 - CVAC will pursue Airport Carbon Accreditation as the industry standard
- **Net Zero by 2035**
 - An aggressive objective that aligns with other BC airports' Net Zero targets

Conclusion

CVAC's GHG reduction strategy and path to Carbon Zero document outlines, in general terms, the overarching environmental principles and realistic targets set by the Board of Directors to provide direction to CVAC management. The plan will require significant financial and human resource investments to achieve its environmental objectives. Seeking financial assistance through BCAAP and other federal and provincial programs will greatly assist CVAC in reaching its environmental goals.

Achieving Net Zero by 2035 will be a challenge that our organization is ready to tackle. As an immediate measure, local and ethical carbon offset sources will be purchased to achieve carbon neutrality by the end of 2023. Over the long term, CVAC will continue to implement solutions that reduce our GHG footprint while looking for methods that will sequester our residual carbon footprint. Alternative energy sources (solar arrays, renewable natural gas (RNG)), leveraging the initiative and experience of larger airports such as YVR, and technological advancement will all form part of CVAC's road to Net Zero.

From an industry perspective, air operations will inherently produce GHG emissions for the foreseeable future. The aviation industry's plan to Fly Net Zero⁵ by 2050 will be achieved by pursuing sustainable aviation fuels (SAFs), through new technology including electric and hydrogen systems and through offsets and carbon capture.

Detailed updates will be provided as part of CVAC's Annual Accountability Report and this strategy will be updated as our situation, and technology, evolves.

⁵ <https://www.iata.org/en/programs/environment/flynetzero/>

Annex A – Carbon Offsets

CVAC is currently investigating two BC projects that are reputable and established, both of which are currently registered with the BC Carbon Registry:

The Great Bear Forest Carbon Project – @ \$30 per tonne

The Great Bear Forest Carbon Project is an Improved Forest Management project. The project activities include changes in land-use legislation and regulation that result in increased carbon stocks by converting forests that were previously designated, sanctioned, or approved for commercial logging to protected forests. Emissions caused by harvesting, road building and other forestry operations are also prevented. It is a landmark project for balancing human well-being and ecological integrity through carbon finance and is the first carbon project in North America on traditional territory with unextinguished Aboriginal rights and Title. Without offset funds, the protected areas would not have been established and harvest levels would not have been reduced. The project is unique in that it is the only Improved Forest Management Project of its scale that has equal involvement with the First Nations and the BC Government, strong legal and policy foundations, and robust data to support the quantification of ecosystem services. This is not simply a conservation project; it is a model for sustainable development in an economically valuable but ecologically and culturally vulnerable area.

<https://ostromclimate.com/portfolio/great-bear-forest-carbon-project>

Project Type : Improved Forest Management

Standard : BC Forest Carbon Offset Protocol (FCOP)

Location : North and Central-Mid Coast & Haida Gwaii, BC, Canada

Estimated Annual Emission Reductions : 1,000,000 tCO₂e

The Darkwoods Forest Carbon Project – @\$10-\$30 range- awaiting new vintage of carbon offsets issue.

The Darkwoods Forest Carbon Project is an initiative of the Nature Conservancy of Canada that markets carbon credits generated from the Darkwoods Conservation Area. The conservation area protects 630 km² of rare inland temperate rainforest, subalpine meadows and fresh water systems. It protects mature and old-growth forests from being intensively harvested for timber. The conservation management of Darkwoods follows an internationally recognized protocol for carbon projects and was audited and approved by a number of independent organizations.

<https://www.natureconservancy.ca/en/where-we-work/british-columbia/featured-projects/west-kootenay/darkwoods/dw-carbon.html>).

Project Type : Forest Conservation

Standard : VCS and Sustainable Development Verified Impact Standard (SD VISTa)

Location : Selkirk Mountains (136,000 acres) BC, Canada

Estimated Annual Emission Reductions : 450,000 tCO₂e

Once offsets are purchased they are retired under our name in the Registry. As such, there will be a yearly cost for the purchase of offsets which will undoubtedly rise as offsets become more scarce and commercially attractive.