Public Impact Statement 2023

ITPS Canada

Committed to responsible aviation.

ITPS CANADA

ITPS Canada's GHG report has been prepared by LivClean

February 2024

livclean™

CARBON OFFSET SOLUTIONS

ITPS Canada
Impact Statement for 2023.

In 2023, ITPS's carbon footprint from flying was: **1,420** tCO_2-e

% of Footprint offset **100% = 1,420** t Carbon Offsets Purchased

ITPS Offsetting is equivalent to:

Taking **103,611** cars off the road for a day.

Planting **14,200** trees and protecting them for 100 years.

Recycling **1,843,290** Kg of waste instead of dumping it in landfill

Taking **169** passenger flights around the world.

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CARBON OFFSET SOLUTIONS

Overview

This is a report stating the direct carbon emissions associated with aviation fuel consumption by ITPS Canada in 2023, as assessed by LivClean Corp, using emission factors provided by The Sherpa Report and calculation methodology outlined below. This report and the data provided by ITPS are for estimation purposes only and are not independently verified. ITPS will use the results of assessment for the purpose of purchasing carbon offsets, as well as setting a baseline for future year assessments.

To mitigate the carbon impact from aviation fuel consumption, ITPS Canada has purchased offsets from LivClean Canada, equal to 100% of their 2023 assessed emissions. To mitigate the carbon impact from aviation fuel consumption, ITPS Canada has purchased 1,420 tonnes of carbon offsets from LivClean Canada, equal to 100% of their 2023 assessed emissions.

For 2023, ITPS Canada's carbon offset purchase supports two Canadian Projects:

- The Great Bear Forest Carbon Project located in British, Canada (710 tonnes)
- Quinte Community Forest Carbon Project located in Ontario, Canada. (710 tonnes)

By supporting these two projects ITPS is offsetting 1,420 tonnes about the equivalent of planting and protecting 14,200 trees. This effort balances 100% of the greenhouse gas emissions from the organization's fleet of 23 modern and vintage aircraft flown during test-pilot training, out of London's International Airport (CYXU).

Calculation Methodology

The methodology for calculating the emissions is presented below.

GHG emissions from aviation fuel

$$\mathbf{TOTALFleet_{Emissions}} = \sum_{\text{allfueltypes}} \{\mathbf{FuelConsumption_{fueltype}} * \mathbf{EmInt_{FuelType}}\}$$

Where

$\mathbf{Fleet_{Emissions}}$ = Total GHG emission from aviation fleet per year

$\mathbf{FuelConsumption_{fueltype}}$ = Fuel used in a year, by type of fuel in litres

$\mathbf{EmInt_{FuelType}}$ = GHG emission intensity by fuel type (Emission factor)

This calculation is repeated for each aircraft used in the fleet using the GHG emission factors for various fuel types which might be used by the aircraft, as specified below.

Primary Fuel Type	Emission Intensity CO_2e (kg/litre)
Aviation Jet A or A1	3.15
AvGas 100LL	3.10

Source:Sherpa Repor fro Private Aviation: https://www.sherpareport.com/aircraft/fuel-burn-private-aircraft.html

Data

GHG emissions from aviation fuel consumption were quantified according to information provided by ITPS on fuel purchases in 2023 as follows:

	Litres Consumed	Fuel Type	Emission Factor Kg CO_2-e/Litre	GHG Emissions Tonnes CO_2-e
Aircraft 1	55,333	Jet A or A1	3.15	174.30
Aircraft 2	8,616	AvGas	3.10	26.71
Aircraft 3	51,906	Jet A or A1	3.15	163.50
Aircraft 4	3,654	AvGas	3.10	11.33
Aircraft 5	1,292	AvGas	3.10	4.01
Aircraft 6	13,923	Jet A or A1	3.15	43.86
Aircraft 7	43,544	Jet A or A1	3.15	137.16
Aircraft 8	12,816	AvGas	3.10	39.73
Aircraft 9	30,135	AvGas	3.10	93.42
Aircraft 10	29,727	Jet A or A1	3.15	93.64
Aircraft 11	51,899	Jet A or A1	3.15	163.48
Aircraft 12	14,322	Jet A or A1	3.15	45.11
Aircraft 13	13,359	AvGas	3.10	41.41
Aircraft 14	43,903	Jet A or A1	3.15	138.29
Aircraft 15	46,598	Jet A or A1	3.15	146.78
Aircraft 16	312	AvGas	3.10	0.97
Aircraft 17	12,480	Jet A or A1	3.15	39.31
Aircraft 18	777	Jet A or A1	3.15	2.45
Aircraft 19	85	Jet A or A1	3.15	0.27
Aircraft 20	143	Jet A or A1	3.15	0.45
Aircraft 21	775	AvGas	3.10	2.40
Aircraft 22	16,105	AvGas	3.10	49.93
Aircraft 23	260	Jet A or A1	3.15	0.82
TOTALS	451,964			1,419.33

Results

Using the calculation methodology and the emission factors, the resulting carbon associated with aviation fuel consumption were:

Aviation Fuel related emissions 2023

Fuel Type	Consumption (L)	Direct emissions (tonnes CO2e)
Aviation Jet A or A1	364,900	1,149.44
AvGas	78,448	243.19
TOTAL		1,419.33

Baseline Comparisons

Due to purposeful changes in teaching methodology, specifically increased use of flight simulators, ITPS has decreased their carbon emissions year-over-year vs. baseline (2021).

	2021 (Baseline)	2022	2023
Direct emissions (tonnes CO2e)	1,809.03	1,932.20	1,419.33
% change vs. Baseline	-	+6.8%	-21.6

About the Projects

The Great Bear Carbon Forest Project

Location: Haida Gwaii archipelago and coastal mainland B.C.

Type: Improved Forestry Management (IMF) carbon offset

Standard: British Columbia (BC) Forest Carbon Offset Protocol

Registry: BC Carbon Registry

The Great Bear Forest Carbon Project covers more than 14 million acres in British Columbia and is home to the largest remaining intact coastal temperate rainforest in the world. The project aims to increase carbon capture and storage through improved forest management practices that balance timber harvesting with the overall health of the forest in an ecosystem-based management regime.

In addition to sequestering carbon, this unique landscape protects the habitats of many species that cannot be found anywhere else on the planet, such as the Kermode bear—fully white, black bears that hold a prominent place in the oral histories of the indigenous peoples who live in the project area. The project also protects the Western Red Cedar, which is known as the "Tree of Life" and preserves important coastal and freshwater habitats for marine life.

Great Bear balances human wellbeing with the improved management of the land, distributing carbon credit revenue among the Coastal First Nations group, a ground-breaking organization that brings together the 9 First Nation communities who inhabit the area.

The Project is measured in ex-post carbon credits with 100-year permanence protection backstopped by the Forest Carbon Asset Management System buffer pool. The project follows the British Columbia (BC) Forest Carbon Offset Protocol for Improved Forest Management and is tracked on the BC Forest Carbon Offset third-party public carbon-reduction registry.

More details:

https://carbonregistry.gov.bc.ca/br-reg/public/bc/project.jsp?project_id=104000000011319

About the Projects

Quinte Conservation Forest Project

Location: Northeast shores of Lake Ontario, ON
Type: Improved Forestry Management (IMF) carbon offset
Standard: Verified Carbon Standard (VCS)
Registry: ACR (American Carbon Registry)

Description: The Quite Conservation Forest Project is a community-based environmental initiative that aims to protect a 25,400-acre community forest on the northeast shores of Lake Ontario through improved forest management and protection against forest loss, ensuring long-term capture and storage of CO2. As forested land in Southern Ontario continues to be lost to development, managing the forest's sustainably for the long-term also provides important benefits to the health of the watersheds and a legacy for area residents.

The project also protects the watershed, by supporting the ecosystem health in the drainage basins of the Napanee, Moira, and Salmon rivers. The area is known as an ecotone—an area of transition containing elements from the ecosystems it borders. Because of this, it has features that are completely unique to the area that are not found anywhere else and is home to hawks, eagles, waterfowl, mink, muskrat and more.

The Project is measured in ex-post carbon credits and follows the VCS (Verified Carbon Standard) for Improved Forest Management (IFM) and is tracked on the American Carbon Registry (ACR).

More details:

https://acr2.apx.com/mymodule/reg/prjView.asp?id1=680

Third-Party Tracking

1. BC Carbon Registry: The offset purchase of the Great Bear Carbon Forest Project is tracked and retired by LivClean, on behalf of ITPS Canada on the BC Carbon Registry here: https://carbonregistry.gov.bc.ca/br-reg/public/bc/index.jsp?entity=retirement&sort=holding_quantity&dir=DESC&start=0&acronym=&limit=15&name=itps&standardId=&unitClass=

2. American Carbon Registry (ACR): The offset purchase of the Quinte Forest Project is tracked and retired by LivClean, on behalf of ITPS Canada on the ACR Registry here: https://acr2.apx.com/mymodule/rpt/myAHrpt.asp?r=601&tabname=Retirement+Accounts&ID=2686

3. LivClean: ITPS carbon offset purchases and impacts are tracked by LivClean Canada. See public dashboard: https://ecostayforest.ca/partner_impacts/0182