

HARBOUR AIR SEAPLANES

FY 2020 AND 2020 (REMAINDER)

GHG EMISSIONS SUMMARY REPORT

December 2021



Overview

This report summarizes the findings of a detailed greenhouse gas (GHG) emissions inventory conducted for Harbour Air's operations for FY2020 (May 1, 2019 – April 30, 2020) and the remainder of FY2020 (May 1, 2020 – December 31, 2020). Harbour Air changed their fiscal year in 2020 to match the calendar year, reflecting a longer reporting period for this year. The report follows the accounting and reporting guidelines of The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, Revised Edition, published by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD), which is the industry standard for corporate GHG inventories.

In FY2020, Harbour Air generated a total of 12,505 tonnes of carbon dioxide equivalent (tCO₂e), and in the remainder of FY2020, Harbour Air generated a total of 3,022 tCO₂e as shown in the table, below. Harbour Air's largest source of emissions in FY2020 and the remainder of FY2020 was jet fuel and aviation gasoline. This emissions source was followed by employee commute for FY2020 and homeworking emissions for the remainder of FY2020.

History of Harbour Air Climate Leadership

- 2007: Harbour Air starts calculating greenhouse gas emissions
- 2008: North America's 1st fully carbon neutral airline
- 2012: Founding member of Victoria Sustainable Tourism Alliance (ViSTA)
- 2012: Harbour Air Launches annual Self Propel Yourself to Work Week
- 2013: Launched reusable boarding passes and saved 340,000+ pieces of paper that year
- 2015: Initiated annual company-wide Earth Day Shoreline Clean Up
- 2015: Harbour Air maintenance department begins fuel recycling
- 2016: Victoria floating terminal opens with a 1-acre green roof, including 50 solar panels
- 2017: 10,000 honeybees added to Victoria green roof
- 2017: Calculates and optimizes flight routes to find new opportunities for fuel efficiency
- 2017: Starts printing carbon neutral brochures
- 2019: Founding member of Project Green YVR
- 2019: New partnership with LOOPShare Ltd. to launch electric scooter ridesharing services in Vancouver
- 2019: Historic moment - Harbour Air launches world's first fully electric commercial ePlane in Vancouver

Emissions By Scope and Source

In accordance with the GHG Protocol, emissions sources are grouped by scope. Each scope indicates the level of responsibility and influence Harbour Air has over emissions within that area. The company has the most control over Scope 1 (direct) emissions and the least over Scope 3 (indirect) emissions.

Table 1. Harbour Air GHG Emissions Scopes

Emissions Source	Annual Emissions (tCO ₂ e) *					Change		% Change	
	2007	2018	2019	2020	2020 (Rem.)	2019 to 2020	2007 to 2020		
Scope 1	6,740	12,059	13,077	12,228	2,845	↓ 6.5%	↑ 81.4%		
Natural Gas	266	142	157	186	73	↑ 18.5%	↓ 30.1%		
Aviation Gas	850	1,318	1,545	1,323	514	↓ 14.4%	↑ 55.6%		
Aviation Jet Fuel	5,485	10,505	11,275	10,660	2,249	↓ 5.5%	↑ 94.3%		
Mobile Combustion – Gasoline	39	36	38	44	8	↑ 15.8%	↑ 12.8%		
Mobile Combustion – Diesel	96	58	63	14	0.2	↓ 77.8%	↓ 85.4%		
Scope 2	87	9	8	6	4	↓ 25.0%	↓ 93.1%		
Electricity (Location-Based)	87	9	8	6	4	↓ 25.0%	↓ 93.1%		
Scope 3	337	408	455	271	172	↓ 40.4%	↓ 19.6%		
Air Travel	79	31	33	0	0	↓ 100.0%	↓ 100.00%		
Employee Commute	251	377	422	221	77	↓ 47.6%	↓ 12.0%		
Homeworking Emissions	-	-	-	50	95	N/A	N/A		
Paper	6.79	0.1	0.1	0.1	0.1	0.0%	0.0%		
OVERALL TOTAL	7,164	12,476	13,541	12,505	3,022	↓ 7.7%	↑ 74.6%		

*Note: Figures may not add due to rounding

Figure 1, below, is a visual representation of Harbour Air’s emissions broken down by source, comparing FY2020 emissions with the baseline of FY2007.

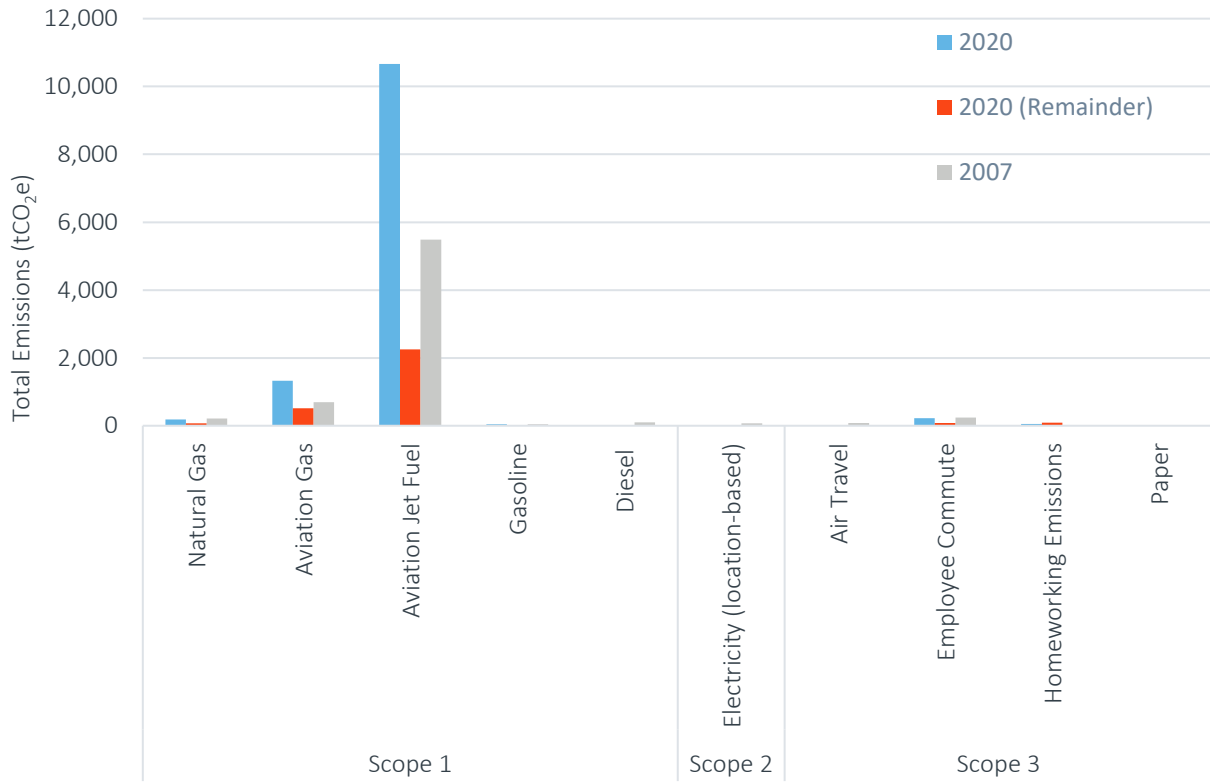


Figure 1. Harbour Air’s FY2020, FY2020 (Remainder) and FY2007 GHG Emissions by Source (tCO₂e)

Figure 2, below, further illustrates the breakdown of emissions by source for FY2020 and the remainder of 2020. As shown, the largest sources of emissions are related to aviation fuel, with commute, homeworking and building emissions contributing a small amount to the overall total.

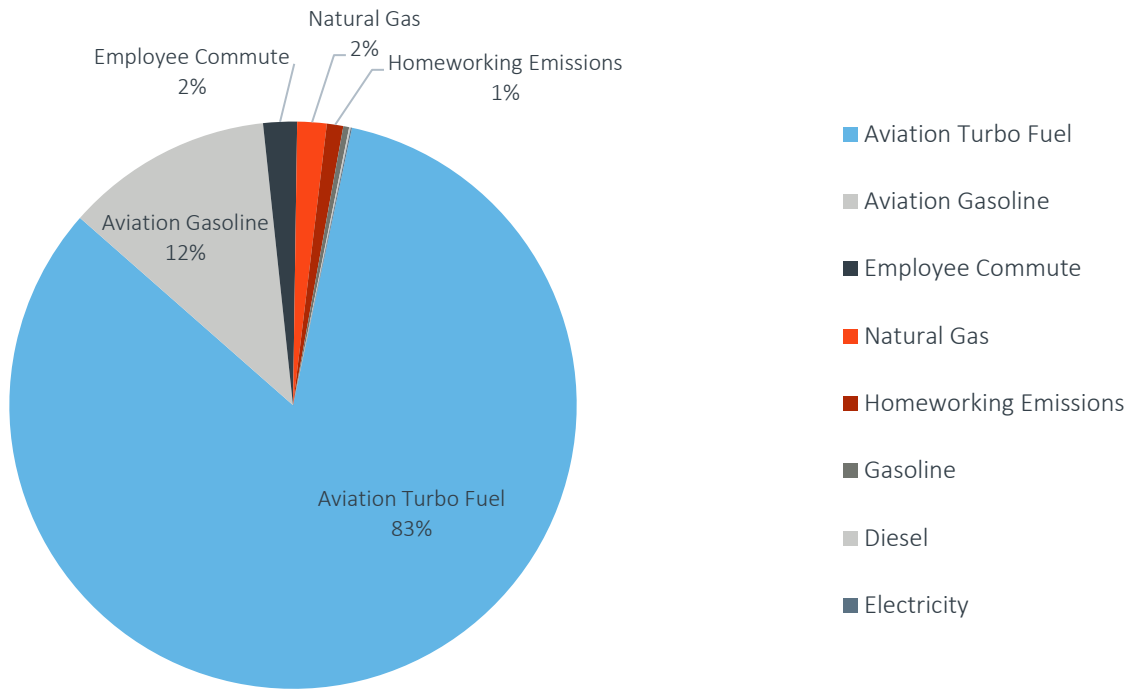


Figure 2. GHG Emissions by Source for FY2020 and remainder of FY2020 Combined

Key Insights

Aviation Jet Fuel

- Aviation jet fuel is the largest source of emissions for the FY2020 and FY2020 (Remainder). Jet Fuel corresponds to almost 85% of emissions in FY2020 and 74% in the remainder of FY2020. In FY2020, aviation jet fuel emissions decreased by 5.5% compared to FY2019, but were almost double the emissions of FY2007. This is the result of a significant increase in business from 2007 to 2020; further insights are shown in the Emissions Intensity section below.

Aviation Gas

- Aviation gas emission made up 11% of emissions in FY2020, and 17% in the remainder of FY2020.
- Aviation gas emissions follow the same trend as aviation jet fuel when compared with FY2019 and FY2007. They decreased by 14% in comparison with FY2019 and increased dramatically since FY2007 (up 56%).

Employee Commute

- Employee commute is the third-largest source of GHGs. Emissions from this source dropped 48% from FY2019 to FY2020. The global pandemic has curtailed commuting significantly and is the main reason for a rapid decrease in commuting emissions during that time.

Employee Commute & Homeworking Emissions

During COVID restrictions, there was a shift to working more from home, when this option was suitable to a person's work role. As such, the amount of commuting decreased and the number of Harbour Air staff working from home increased. Since this was a widespread trend, Ostrom Climate estimated the amount of additional energy used in staff members' homes associated with office equipment and any additional home heating.

Figures 3 and 4, below, show how the % emissions associated with commuting was higher than those from homeworking in the pre-COVID period, and how this reversed during the pandemic restrictions.

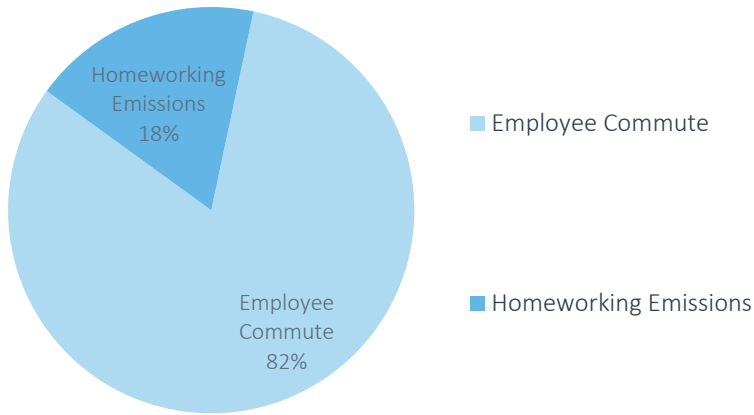


Figure 3. Employee Commute & Homeworking Emissions, Pre-COVID

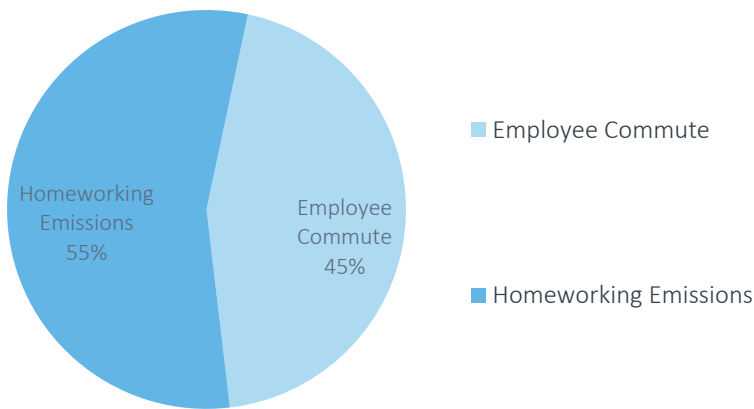


Figure 4. Employee Commute & Homeworking Emissions during COVID Restrictions

Emissions Intensity Trends

In addition to calculating total emissions, Ostrom Climate also evaluated Harbour Air's emissions using a number of intensity metrics, which allow a company to track progress towards emissions efficiency, while accounting for business growth.

Three intensity metrics were used:

- **tCO₂e/ employee**: tracks emissions per employee.
There was a 10% decrease in the emissions per employee from 2007 to 2020
- **kgCO₂e/revenue \$**: tracks emissions per revenue dollar.
Since 2007, GHG emissions have decreased by 30% per dollar earned.
- **kgCO₂e/passenger-km**: tracks the emissions per passenger km flown.
This metric increased by 8% from 2012, when data for this metric was first tracked, to 2020. This can be attributed, in whole or in part, to changes in flight routes that were outside of Harbour Air's control.

Tables 2 and 3 summarize this:

Table 2. Harbour Air 's FY2007 to FY2020 intensity metric changes

Intensity Metric	FY2007	FY2020	% Change
tCO ₂ e per employee	33.03	29.63	↓ 10%
kgCO ₂ e/ Revenue \$	0.306	0.21	↓ 30%

Table 3. Harbour Air 's FY2012 to FY2020 intensity metric changes

Intensity Metric	FY2012	FY2020	% Change
kgCO ₂ e per passenger-km	0.421	0.456	↑ 8%

Carbon Neutral Status

In most cases, organizations can't reduce 100% of their operational emissions and are left with unavoidable GHGs. To go beyond this reductions barrier, and take full responsibility for their emissions, organizations can purchase carbon offsets to mitigate their GHGs and achieve carbon neutrality (net zero emissions). A carbon offset is an investment in a project with real and measurable emissions reductions and can help organizations cost-effectively meet their carbon targets. Harbour Air supports high-quality offset projects that are third-party verified to ensure the reductions are real, permanent and that they would not have occurred without funding from carbon offsets.

Harbour Air has been a carbon neutral airline since 2007. Since that time, it has offset over 154,500 tCO₂e.



Looking Forward

Canada's Commitments

Under the Paris Agreement, Canada is committed to a national GHG reduction target of 30 percent below 2005 levels by 2030. In 2020, the Government of Canada released an updated climate plan, A Healthy Environment and a Healthy Economy, to help Canada exceed those targets.¹

To achieve this target, the Government of Canada is addressing GHG emissions on a sector-by-sector basis, including those in the aviation industry through Canada's Action Plan to Reduce Greenhouse Gas Emissions from Aviation (Canada's Action Plan).² Canada has also signed onto ICAO's Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). Doing so requires that emissions from international flights for 2021 be offset, if they exceed CORSIA's sectoral baseline (the total average CO₂ emissions for 2019 and 2020); this requirement comes into effect, once the baseline and other design features have been adjusted (the annual Sectoral Growth Factor value corresponding to 2021 emissions), which ICAO plans to complete by 31 October 2022).³

Harbour Air's Commitments

Harbour Air goes well beyond this commitment by purchasing carbon credits to offset GHG emissions from all flights—domestic and international—and has been doing so since 2007. They offset their entire corporate footprint, as well.

Harbour Air is also committed to making real emissions reductions. They manage their fleet renewals, guide flight operations, and optimize air traffic, routes, and scheduling as a function of good business practices. Efforts on these fronts serve to make the business more efficient, which correlates directly with lower emissions.

Harbour Air's Leadership

In 2019, Harbour Air made headlines by flying the first fully electric commercial aircraft. Recognizing the significant carbon footprint associated with the aviation industry, this is a historic milestone towards reducing their emissions and setting a precedent for the rest of the industry. They are currently working with the government to get approvals in place and hope to launch the world's first commercial electric plane in 2023.

Being the only airline in the world that has been carbon neutral since 2007, Harbour Air is already the world's leading airline in low carbon aviation. Their drive to further reduce emissions and lead the way for other airlines continues to raise the bar throughout the sector.

¹ Government of Canada, "Progress towards Canada's greenhouse gas emissions reduction target," <https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/progress-towards-canada-greenhouse-gas-emissions-reduction-target.html>, (January 9, 2020).

² Government of Canada, "Canada's Action Plan to Reduce Greenhouse Gas Emissions from Aviation," <https://tc.canada.ca/en/corporate-services/policies/canada-s-action-plan-reduce-greenhouse-gas-emissions-aviation>, (April 9, 2020).

³ ICAO, "Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)," <https://www.icao.int/environmental-protection/CORSIA/Pages/default.aspx>, (2020).