

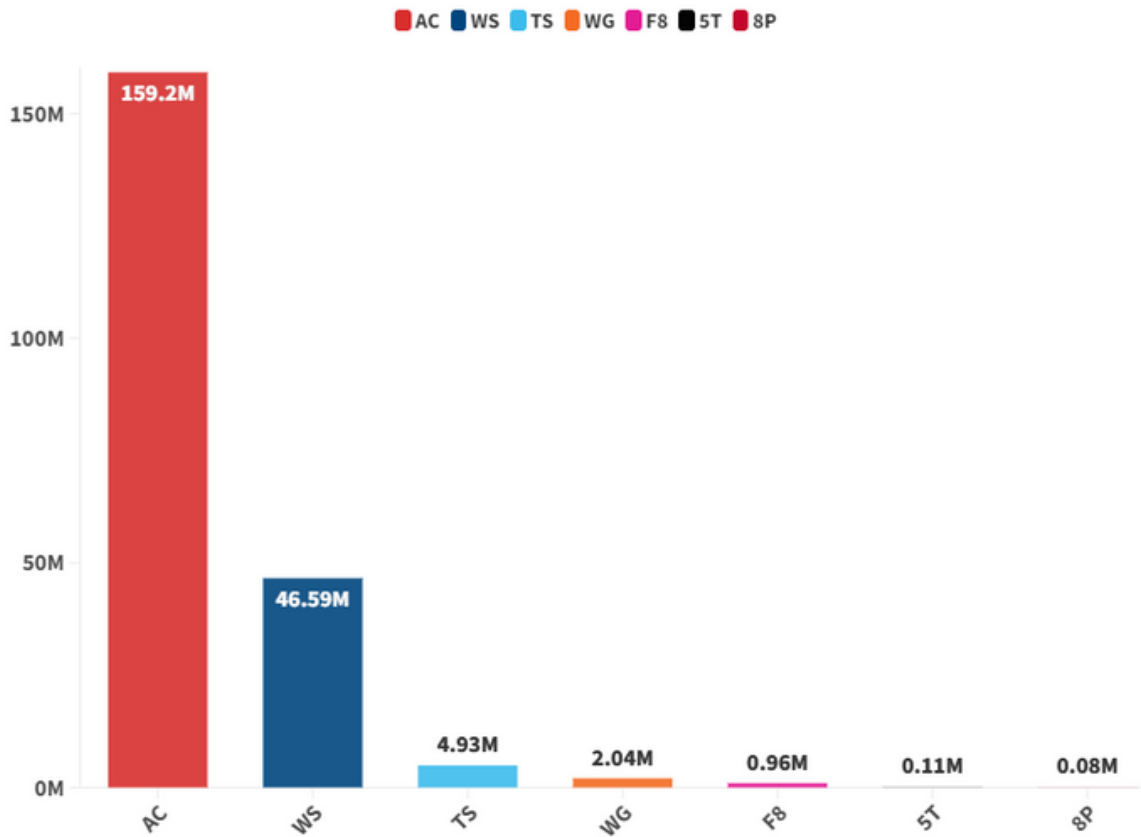
Canadian Airlines Emissions Report

Recently hitting an all-time high, greenhouse gas emissions pose a serious threat, escalating global warming. It is no longer a question of whether we should address this issue but how urgently and innovatively we can collectively create solutions. Amid escalating global concerns, the aviation industry has set an ambitious goal to achieve net-zero emissions by 2050. Pursuing net-zero emissions requires rethinking traditional approaches, embracing cleaner technologies, and fostering partnerships to step into the new era of air travel.

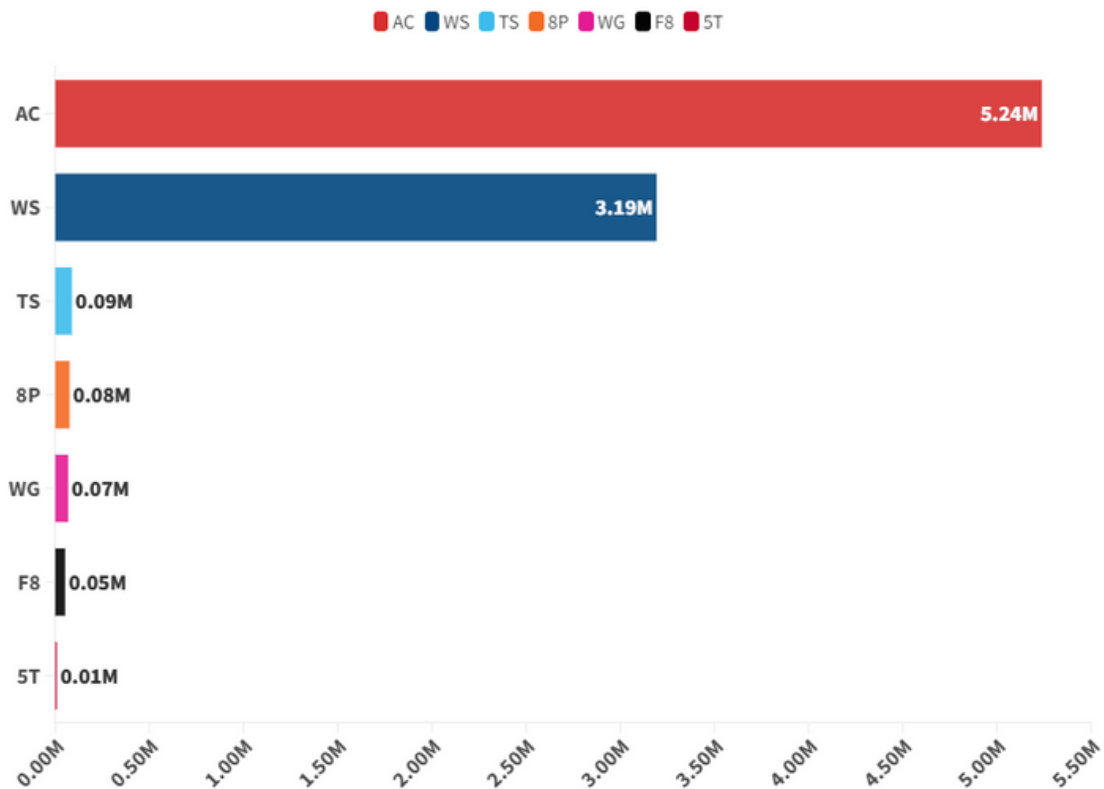
Major airlines in Canada contribute significantly to overall carbon emissions, with the cumulative impact steadily rising. Canadian air operators emitted around 2 million tons of carbon dioxide equivalent (CO₂e) from their domestic and international flights in 2019. This marked a 75 % rise from emissions recorded in 2005. These emissions are approximately equal to the greenhouse gas output produced by driving 4.8 million cars for a year.

Our algorithms and AI-driven tools present a comprehensive overview of the performance of Airlines in Canada from January 2019 to December 2023, covering aggregate emissions, total flight numbers, and cumulative emissions from diverse aircraft types.

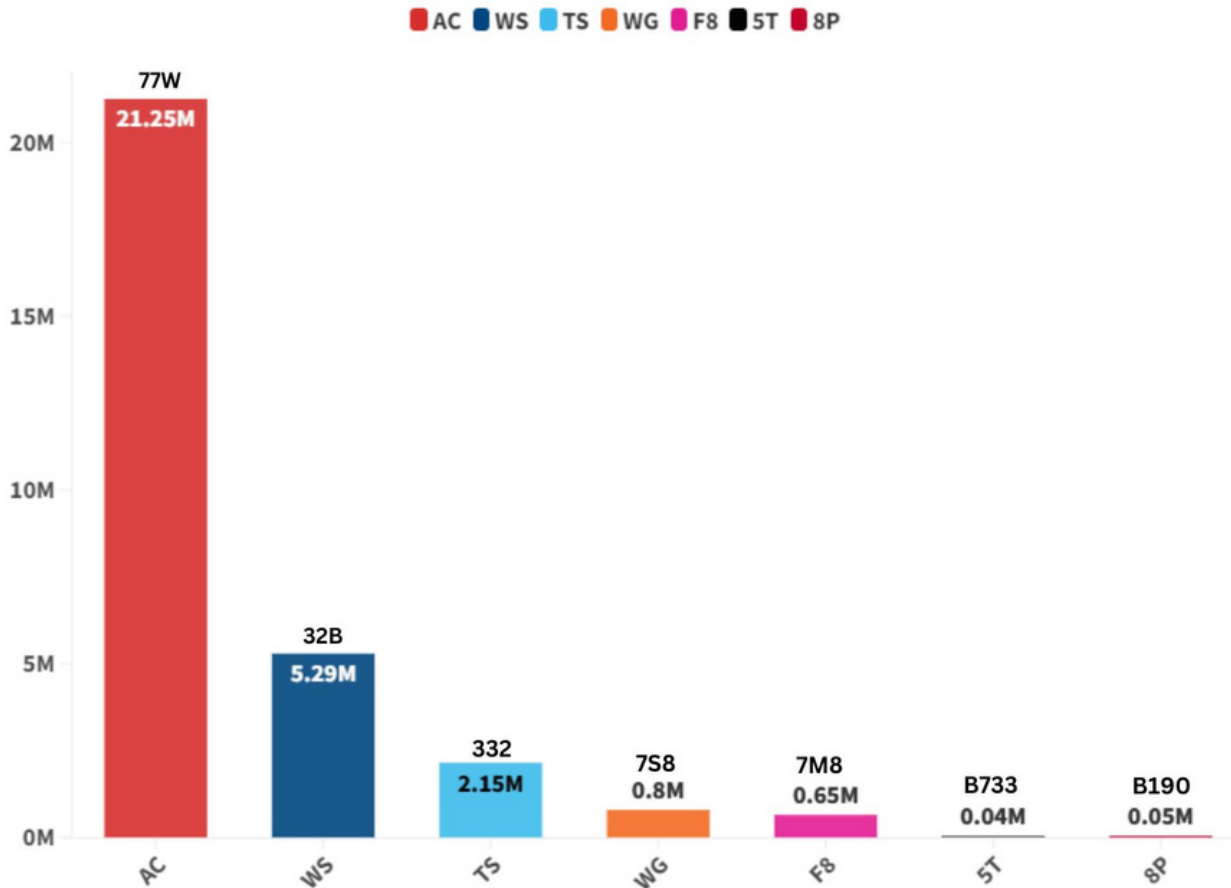
Airlines by CO₂ Emissions from Jan 2019 - Dec 2023 (In Million Tons)



Airlines by Total Flight Count from Jan 2019 - Dec 2023 (In Millions)



Top Emissions-Producing Aircraft Types by Airline from Jan 2019 - Dec 2023 (In Million Tons)



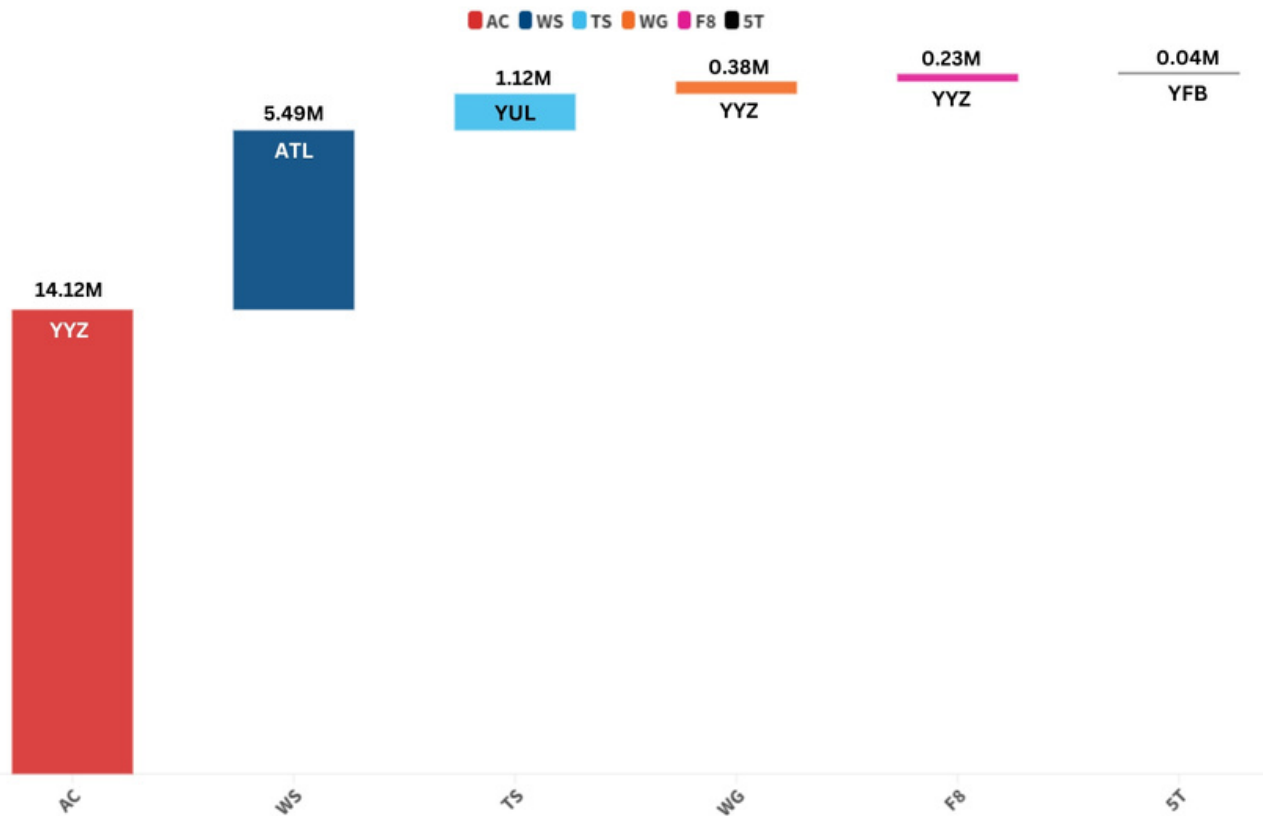
The overview indicates a clear connection between major airlines, their aircraft choices, and the consequential impact on CO₂ emissions. Specifically, Air Canada (AC) and WestJet Airlines (WS) stand out as significant contributors, emphasizing the need for focused strategies to tackle emissions from these Airlines.

Additionally, the influence of the 77W aircraft type in Air Canada and 32B in WestJet's fleet highlights the significance of individual aircraft models in shaping the overall environmental impact.

Highlighting Emissions Hotspots: Airlines and Their Key Departure Airports

Below is the graph highlighting the key departure airports and their corresponding emissions for each airline.

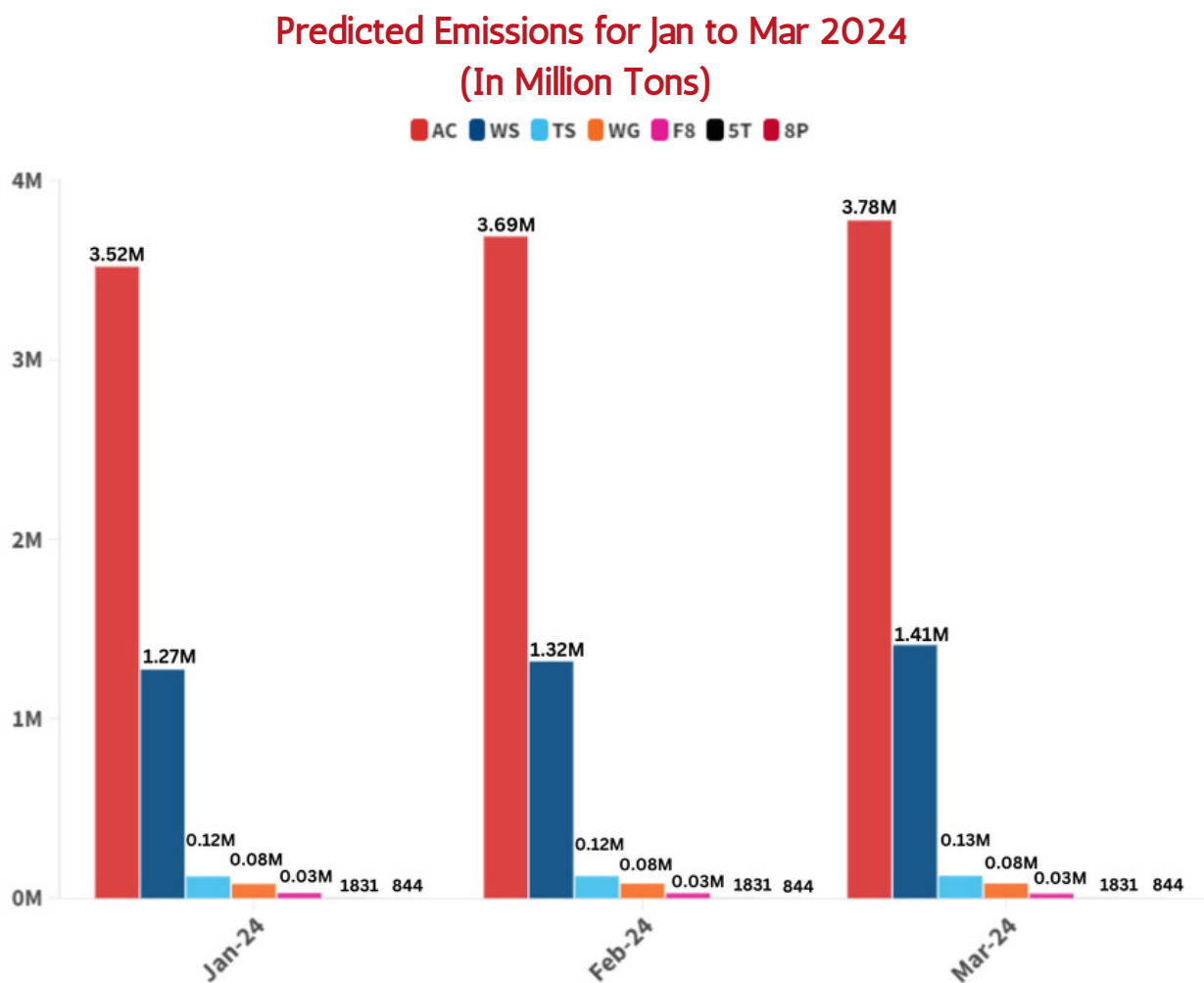
**Emissions by Airports and Airlines from Jan 2019 - Dec 2023
(In Million Tons)**



There are variations in emissions hotspots across airlines. Toronto Pearson International Airport (YYZ) stands out as the leading departure hub, contributing the highest emissions, particularly driven by Air Canada (AC). This underscores YYZ's consistent prominence as the busiest airport in Canada since 2019, reflecting the significant environmental impact of Air Canada's operations.

Airlines Emissions Prediction

The following graph provides a comprehensive insight into the emissions prediction for major airlines in Canada, offering a glimpse into the anticipated carbon footprint from January to March 2024.



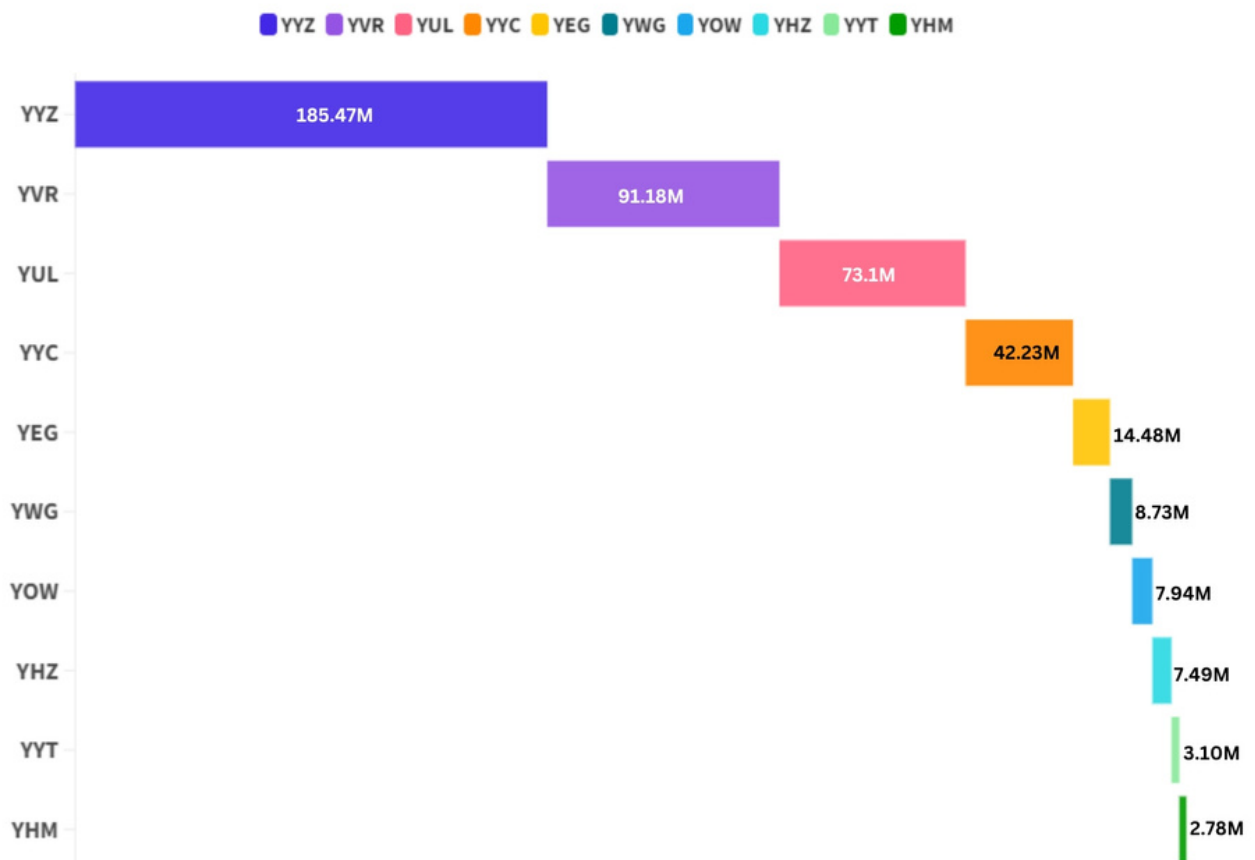
Based on our predicted data, the emissions for Airlines in Canada are on an upward trajectory. This calls for a heightened focus on implementing and accelerating emissions reduction strategies to address the industry's environmental impact and move towards a more sustainable aviation future.

Airport Emissions in Canada

Airports play an important role in the current landscape of emissions in Canada. To achieve the greater goal of the Aviation industry, to achieve net-zero emissions by 2050, demands a comprehensive transformation of airports, from converting ground fleets to electric vehicles (EVs) and electrifying building systems to on-site renewable energy generation and significant enhancements in energy and water efficiency, including innovative water reuse initiatives.

The current trends in airports' emissions are given below:

**Emissions by Canada Airports- Top 10 from Jan 2019 - Dec 2023
(In Million Tons)**



Emissions by Routes - Top 10 from Jan 2019 - Dec 2023 (In Million Tons)

DEPARTURE AIRPORT	ARRIVAL AIRPORT	ESTIMATED CO ₂ IN MILLION TONS
YYZ	YVR	1.75M
YVR	YYZ	1.54M
YYZ	YYC	1.04M
FRA	YYZ	0.92M
YYC	YYZ	0.91M
YYZ	FRA	0.80M
LHR	YYZ	0.75M
YYZ	ICN	0.68M
YYZ	LHR	0.67M
YVR	SYD	0.65M

The data reveals that Toronto Pearson International Airport (YYZ) is a major contributor to CO₂ emissions, particularly in departures. This underscores YYZ's significant role as a departure hub, reflecting its environmental impact. Vancouver International Airport (YVR) has high emissions for departure and arrival. Transatlantic flights between Frankfurt Airport (FRA) and YYZ contribute significantly to the overall carbon footprint, highlighting the environmental consequences of extended air travel between major international hubs.

As we witness an unprecedented rise in greenhouse gas emissions and the consequential escalation of global warming, the urgency to act has never been more apparent. Now is the time to accelerate sustainable practices, embrace cleaner technologies, and forge partnerships to mitigate the environmental impact of air travel and secure a healthier future for our planet.