

# MSc Sustainability Intern SAF, CORSIA and Emissions Reporting



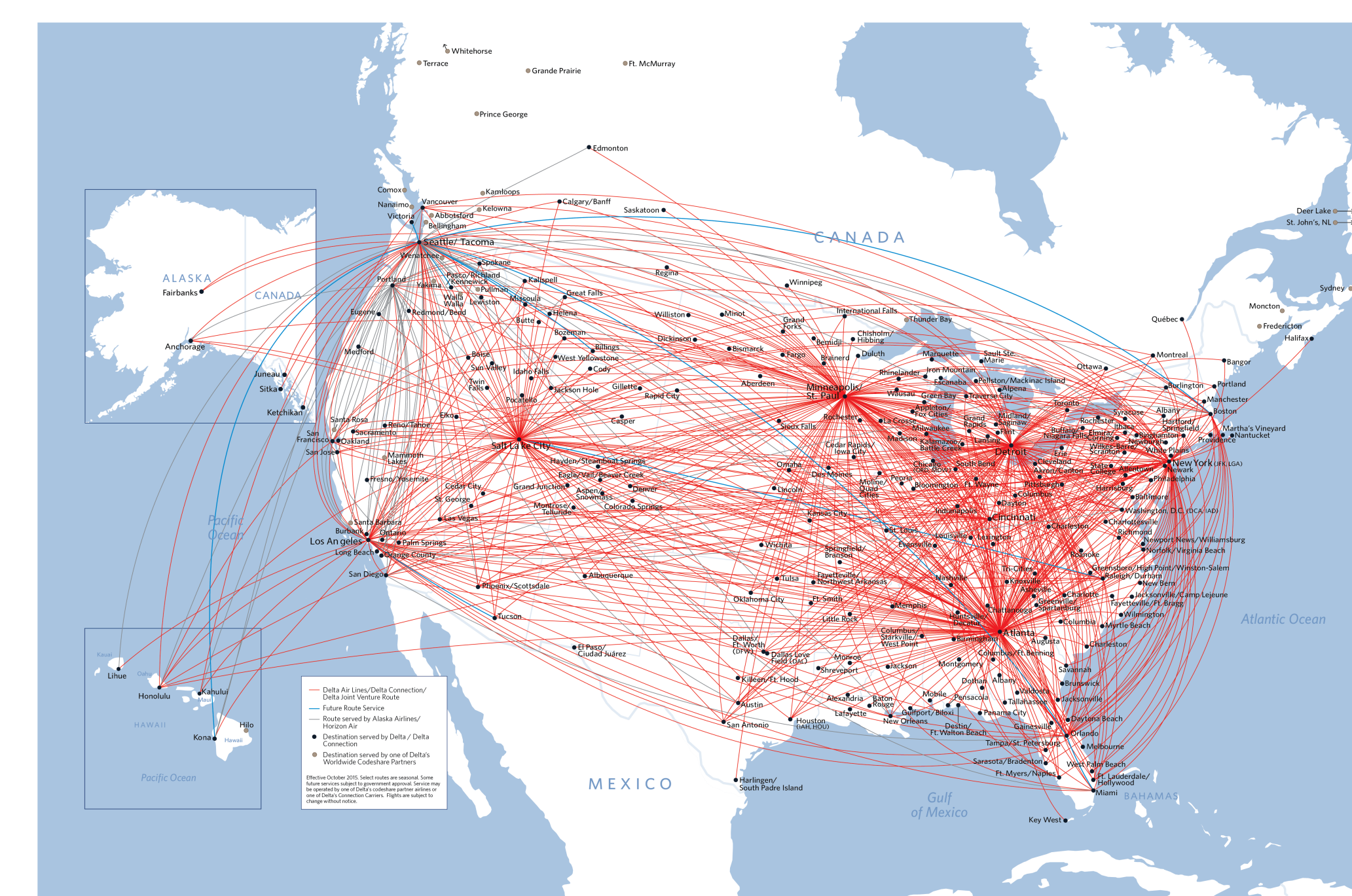
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## Introduction

Delta Air Lines is one of the world's oldest airlines and the largest in terms of total passengers flown and number of departures. Founded in 1929 and based in Georgia since its inception, Delta Air Lines has spearheaded innovation in the aviation industry by being one of the first airlines to fly the McDonnell Douglas MD-11, Douglas DC-8, DC-9 and most recently, the Airbus A220.

Furthermore, Delta Air Lines has fully embraced the need for sustainable change and has committed to becoming Net Zero by 2050, reducing the reliance on offsets, increasing investments in SAF, both through the purchasing of fuel and investment in production infrastructure, among many other initiatives.

Delta Air Lines' aircraft fly to over 100 countries and its impacts on the environment are significant. Therefore, it has been with great pride that I have had the opportunity to work for such an innovative and future-minded organization throughout the course of this summer.



## My Role

I had the pleasure of working on multiple projects with Delta Air Lines' Sustainability Team which greatly expanded my skillset and introduced me to topics that I were previously entirely foreign to me. Although there are too many to list in detail, the most notable were SAF, CORSIA and emissions reporting.

SAF, or sustainable aviation fuel, is a biofuel used to power aircraft and relies less on traditional fossil fuels for the generation of energy and instead uses alternative sources such as tallow, waste oil and biomass. SAF is vital in fueling Delta Air Lines' path towards Net Zero. I was tasked with developing a ground-up SAF tracking framework that would help to streamline the SAF inflows and outflows as they were procured and assigned. Delta Air Lines acts as both a procurer of SAF as well as a vendor of SAF-fueled flights for corporate customers who desire to reduce their own emissions. Therefore, it is vital that the financial flows, emissions data and other associated information is tracked carefully with great attention to detail to ensure future auditability.

CORSIA, or the Carbon Offsetting and Reduction Scheme for International Aviation, was developed and ratified by the International Commercial Aviation Organization, ICAO, in 2016. CORSIA has applied to global commercial aviation since 2019 and within this scheme, all airlines must track and report their international flight emissions. It was my role to project what Delta Air Lines' emissions would be through the end of CORSIA, with consideration for the industry's recovery out of COVID-19 to support the financial planning on regulatory compliance as CORSIA includes a significant offsetting component. I developed multiple models under differing growth rates and offset pricings to provide insight into what such a future might hold. Furthermore, a major issue pertaining to CORSIA is the baseline which determines the rate at which airlines must reduce their emissions output. Determining which year all future emissions will be compared to is vital in supporting Delta Air Lines' future commitment to sustainability. Therefore, I provided models for all of the hypothetical models being considered by ICAO for the CORSIA baseline to better support Delta Air Lines' position.

Emissions reporting is a vital part of regulatory compliance in the commercial aviation industry and with the advent of regulations such as CORSIA, EU ETS and others, Delta Air Lines ensures that its own emissions are tracked with the highest level of scrutiny. I had the opportunity to look through Delta Air Lines' global flight log and track and report emissions data from all flight pairs for use in regulatory processes. This included the use of EUROSTAT and other large databases that record the movements of the aviation industry.

## Industry Trends

- The post-COVID-19 recovery caught many airlines off guard as workforces had been drastically reduced during the pandemic. However, some airlines, Delta Air Lines, included, temporarily transitioned to cargo operations during the peak of the pandemic to support the movement of medical equipment and the increased demand for delivered purchases for residents who were unable to safely visit stores. Those airlines that did transition were largely able to avoid mass layoffs and those that were not as nimble have continued to struggle.
- The airline industry has mostly recovered in the Americas and Europe but continues to lag in Oceania and Asia due to travel restrictions and limited capacity.
- Sustainable Aviation Fuel and alternative propulsion technologies are rapidly developing, but SAF is currently the only tool airlines have, to meet their Net Zero targets as most have abandoned the use offsets altogether.

## Takeaways

Through my time at Delta Air Lines, I gained numerous invaluable technical and interpersonal skills. By having the opportunity to interact with multiple projects, I was able to expand my skillset into strategy-related areas which has proven to be incredibly interesting. Furthermore, I have never learned so much, so quickly and am incredibly proud to be continuing onwards as a member of the Delta Air Lines community into the academic year. Delta Air Lines' commitment to its employees and its customers is commendable and I hope to play a role in the airline's continued efforts in the realm of sustainability.



## Delta Air Lines Facts

- Delta Air Lines is one of the few major carriers in the world that has a profit-sharing scheme, which in 2020, paid out over \$1.6b to eligible employees. The airline has paid out of \$6.5b to its employees over the last five years.
- Delta Air Lines returns 1% of all profits to the communities where it operates through charitable gifts, community investments and education services.
- Delta Air Lines began in 1925 as Huff Daland Dusters, which was the world's first aerial crop-dusting operation. Following success of this business, the company transitioned to become Delta Air Service, to reflect the Mississippi Delta region where it began operating.
- Although the Delta Air Lines name carries significant historical weight, it also carries on the legacies of two major American airlines that it acquired significant portions of including Pan American World Airways and Northwest Airlines.