U.S Emissions Airports & Airlines

Jan 2019 - Sep 2024

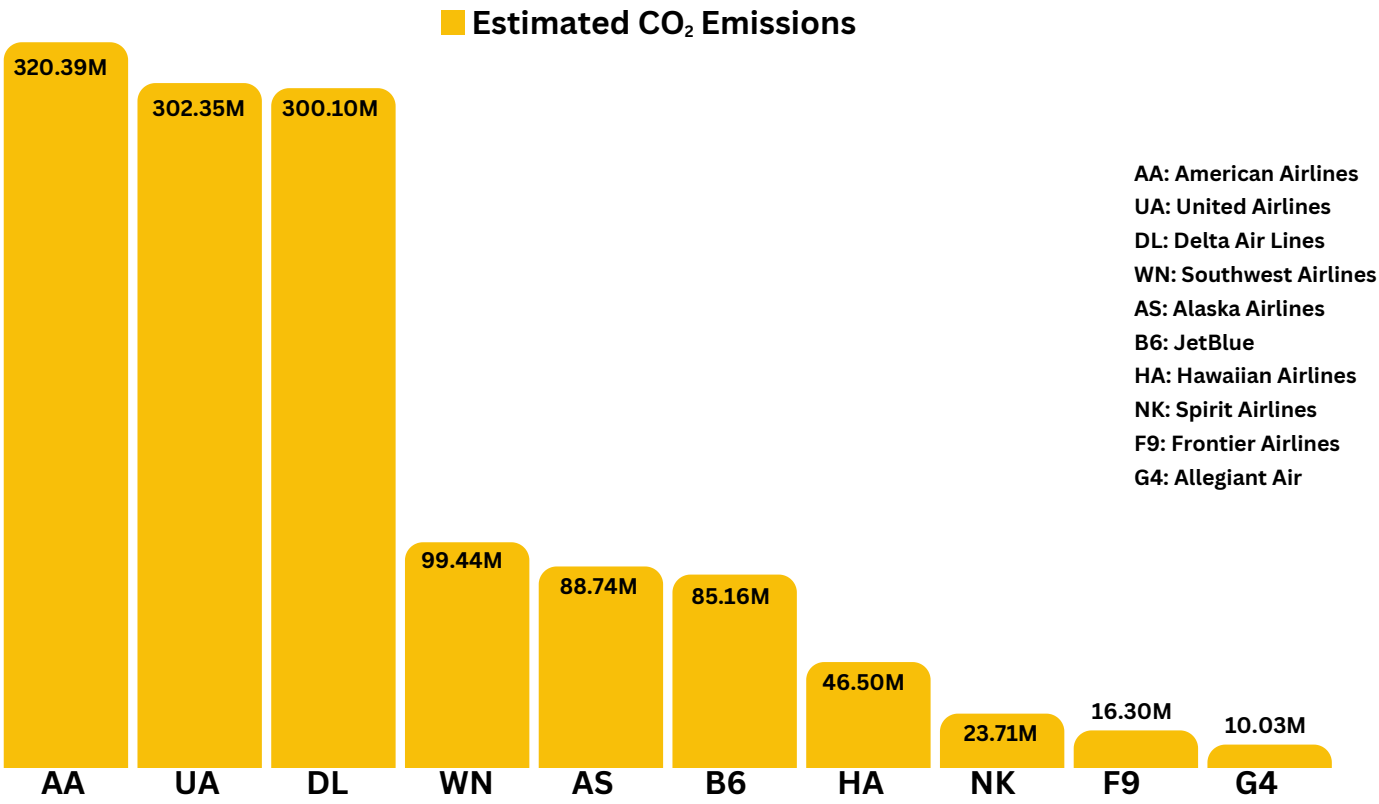
Airlines in the U.S.

Greenhouse gas emissions are at record highs, intensifying global warming. Addressing this challenge is urgent, requiring swift and innovative solutions. In response, the aviation industry has set an ambitious goal of achieving net-zero emissions by 2050. Reaching this target demands a shift to greener technologies and strong collaboration to create a sustainable future for air travel.

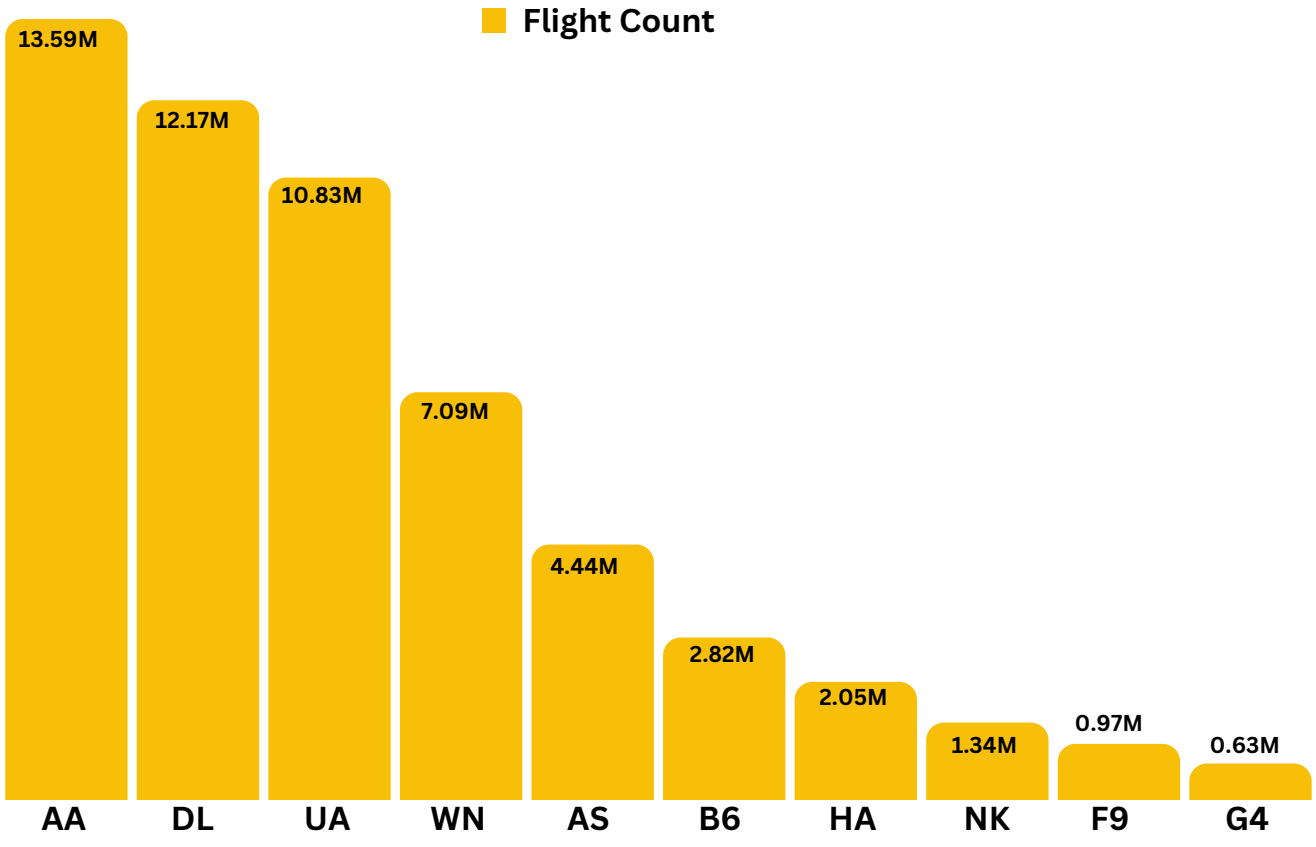
Major U.S. airlines contribute significantly to the overall carbon emissions, with the cumulative impact steadily rising. In 2019, U.S. domestic flights alone generated 150 million metric tons of CO_2, nearly 3% of the country's total emissions. The projection is alarming, with aviation emissions expected to double by 2050, both within the U.S. and worldwide, given the anticipated rapid growth in air travel unless sustainable practices are prioritized.

Our algorithms and AI-driven tools provide a comprehensive overview of the performance of airlines in the U.S. from January 2019 to September 2024, covering aggregate emissions, total flight numbers, and cumulative emissions from diverse aircraft types.

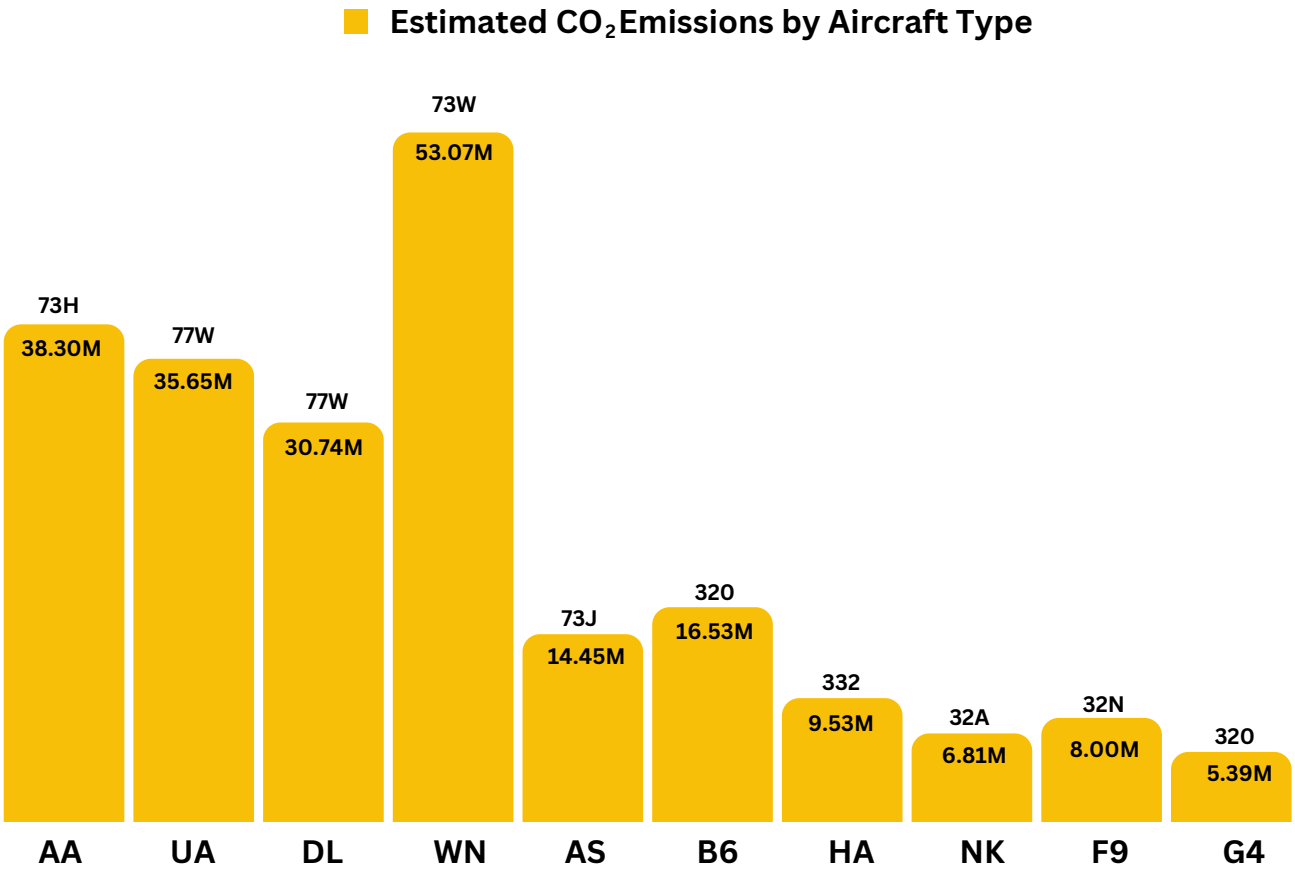
Top 10 Airlines by CO_2 Emissions from Jan 2019 - Sep 2024 (In Million Tons)



Airlines by Total Flight Count from Jan 2019 - Sep 2024 (In Millions)



Top Emission-Producing Aircraft Types by Airline from Jan 2019 - Sep 2024 (In Million Tons)

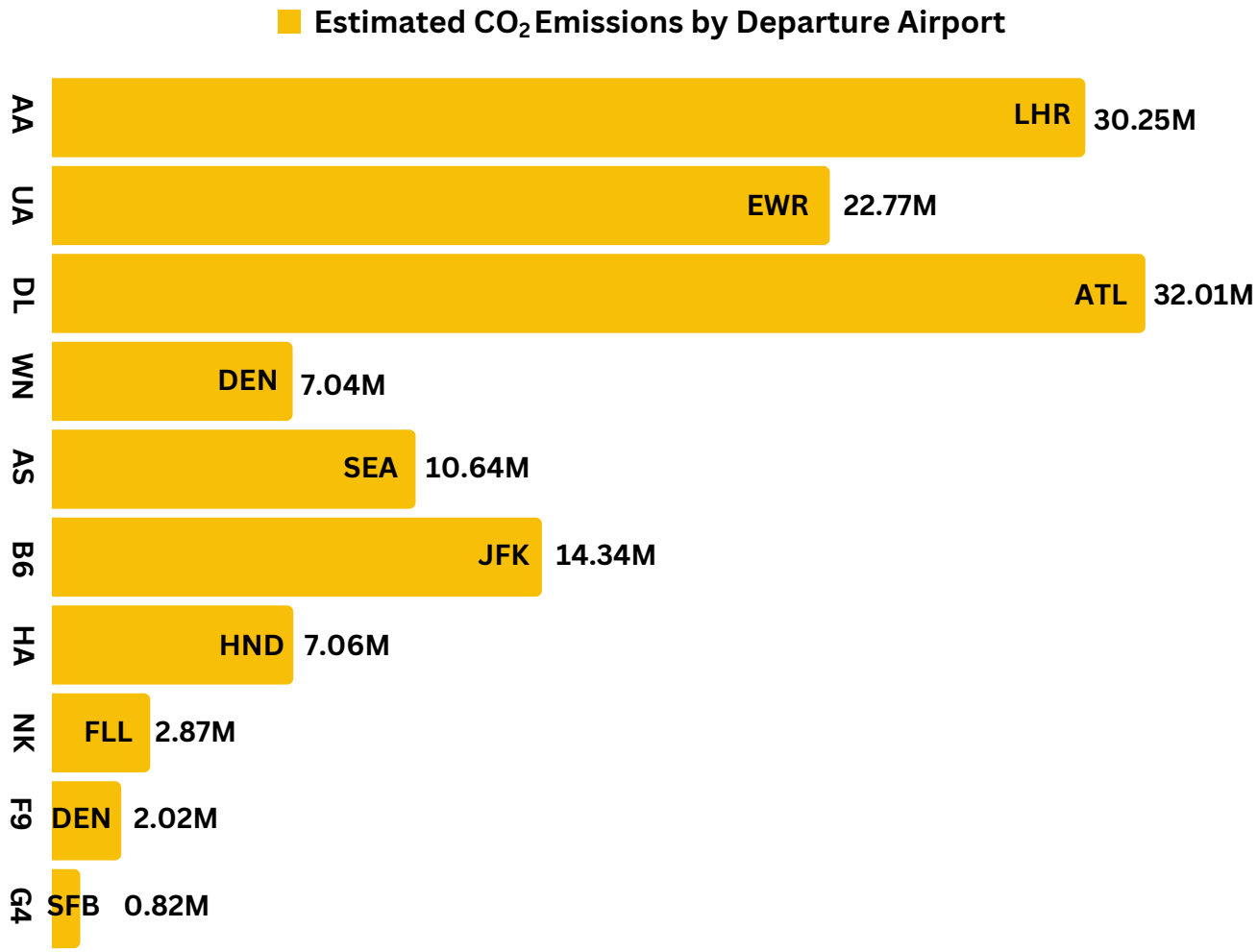


The overview indicates a clear connection between major airlines, their aircraft choices, and the consequential impact on CO_2 emissions. Specifically, American Airlines (AA), United Airlines (UA), and Delta Air lines (DL) emerge as primary contributors, signaling the need for targeted strategies to address emissions from these Airlines. Additionally, the influence of Southwest Airlines (WN) and JetBlue (B6) underscores the significance of aircraft selection in shaping the overall environmental footprint.

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- Sep 2024 (In Million Tons)

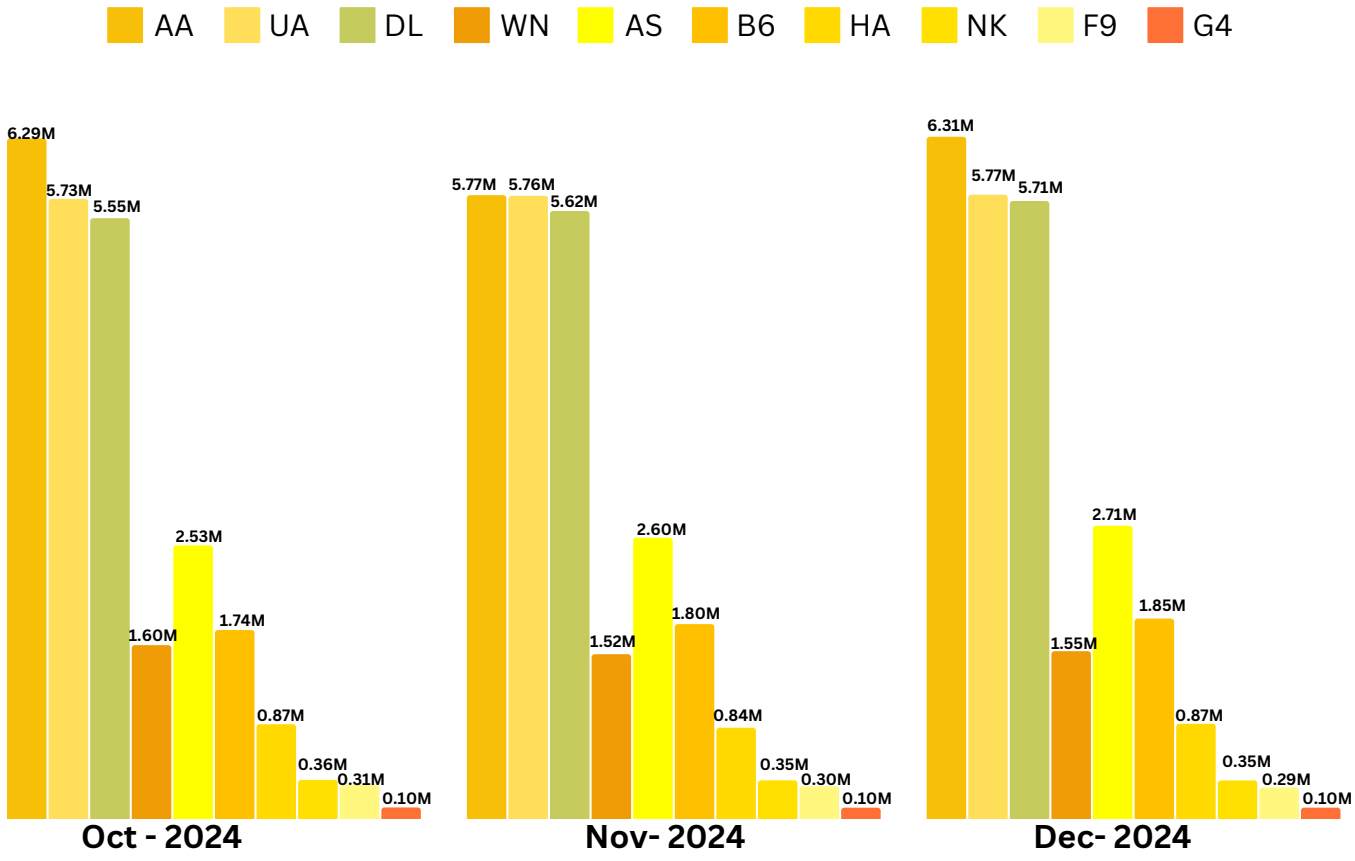


There are variations in emissions hotspots across airlines. Atlanta Hartsfield-Jackson International Airport (ATL) stands out as the leading departure hub, contributing the highest emissions, notably driven by Delta Air lines (DL).

Airlines Emissions Prediction

The following graph provides a comprehensive insight into the emissions prediction for major airlines in the U.S., offering a glimpse into the anticipated carbon footprint from October to December 2024.

Predicted Emissions from Oct to Dec 2024 (In Million Tons)



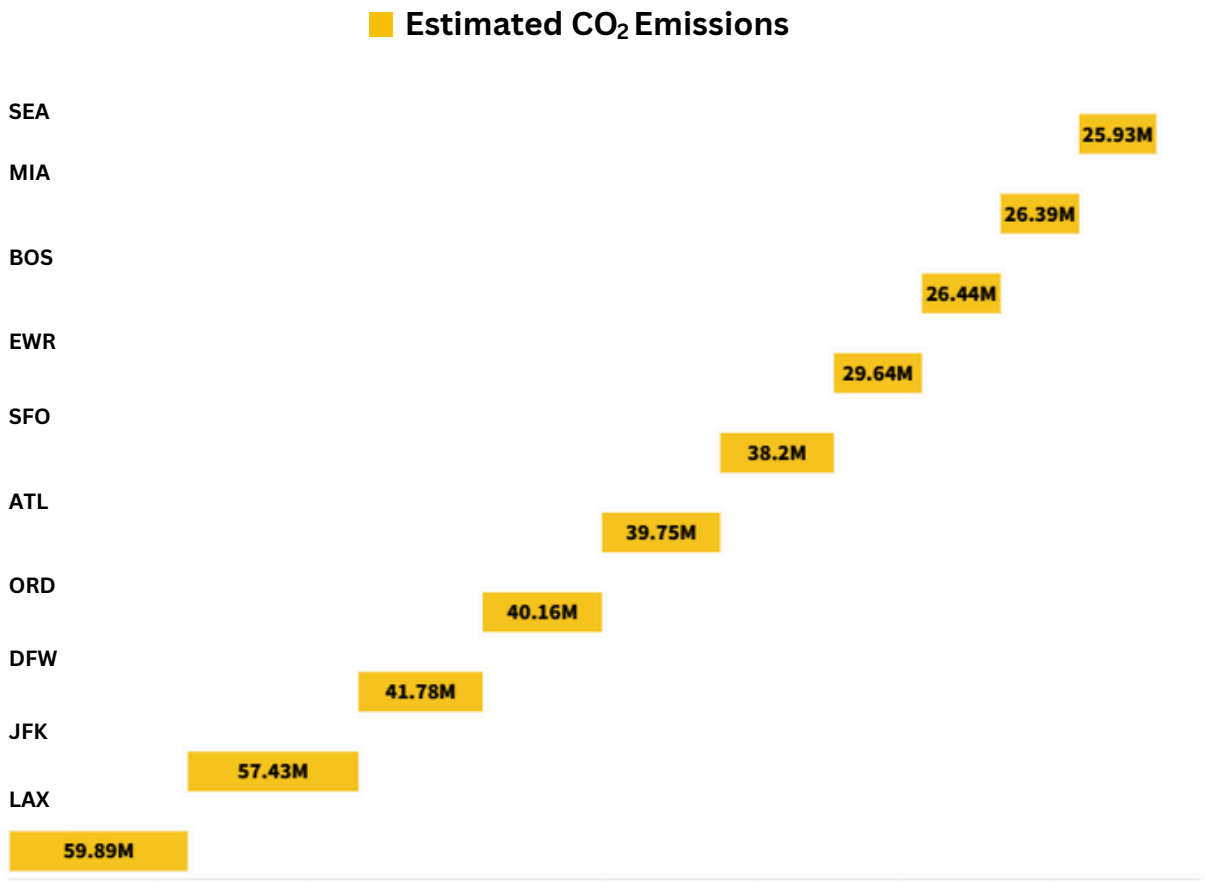
Based on our predicted data, it is evident the emissions for Airlines in the U.S. are on an upward trajectory. This calls for a heightened focus on implementing and accelerating emissions reduction strategies to address the industry's environmental impact and move towards a more sustainable aviation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

Airports in the U.S.

Airports play an important role in the current landscape of emissions in the U.S. 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 U.S. Airports: Top 10 from Jan 2019 - Sep 2024 (In Million Tons)



Emissions by Routes - Top 10 from Jan 2019 - Sep 2024 (In Million Tons)

Departure Airport	Arrival Airport	Estimated CO_2 in Million Tons
LHR	JFK	5.77M
JFK	LHR	5.04M
JFK	LAX	4.55M
LHR	LAX	4.21M
LAX	JFK	3.95M
LAX	LHR	3.89M
LAX	SYD	3.02M
SYD	LAX	2.81M
DOH	JFK	2.78M
JFK	SFO	2.68M

The data reveals that Los Angeles International Airport (LAX) and John F. Kennedy International Airport (JFK) consistently rank high in both departure and arrival emissions. This highlights their important position in connecting global air traffic, contributing significantly to the overall carbon footprint. Additionally, Transatlantic flights between LHR-JFK contribute the highest CO_2 emissions, while JFK-LAX and LAX-SYD routes also significantly impact carbon emissions, reflecting the environmental consequences of long-haul air travel.