# Airbus tackles contrail misconceptions with new campaign



This week, Airbus has initiated a discussion about the phenomenon of contrails—those prominent white lines that appear in the sky behind aircraft—through a social media campaign intended to clarify the misconceptions surrounding them. The aerospace corporation is not delving into conspiracy theories about "chemtrails," but rather is addressing the environmental impact of the non-carbon dioxide (non-CO₂) emissions generated by aircraft.

Contrails are formed when water vapour and certain non-CO₂ emissions, including soot and other particulate matter, combine to create condensation trails as a result of burning jet fuel. According to Airbus, "on average, contrails heat the atmosphere, contributing to global warming". However, it should be noted that under certain conditions, some contrails might exert a cooling effect. The specific impact of contrails varies greatly depending on the time of their formation and their longevity.

The climate implications of these non-CO₂ emissions are complex and currently not as regulated as carbon dioxide emissions. Airbus has acknowledged that “non-CO₂ warming effects could be as significant as CO₂ in aviation’s total climate impact," and discussions concerning the regulation of these emissions are intensifying. This evolving debate is crucial as it involves key stakeholders such as airlines, governments, and air traffic management, impacting overall climate targets and scheduling due to complexities in capacity constraints.

To address the worrying effects of non-CO₂ emissions, Airbus is actively collaborating with scientists and industry leaders on approximately 20 projects aimed at mitigating these emissions. This collaborative effort includes external funding as well as partnerships with organisations willing to share the costs associated with research and development.

These projects fall under three main categories:

**Studying Contrails and Testing Alternatives**: Initiatives in this category include PACIFIC and CRYSTAL, which were unveiled at the Airbus Summit 2025. These projects focus on researching alternative fuel compositions, particularly aimed at sustainable aviation fuels (SAF) and hydrogen, utilising the A350 and A220 aircraft for their studies.

**Operational Avoidance**: This concept aims to optimise flight paths to reduce the formation of persistent contrails. A notable project, CICONIA, is currently examining how to forecast contrail-prone weather and model the climate impact. Preliminary findings suggest that with appropriate procedural implementations, operational mitigation can be applied to numerous flights, leading to a reduction in contrail formation without significantly disrupting air traffic.

**Innovative Technologies**: Airbus is investing in hydrogen-powered flight and exploring new propulsion systems. The Blue Condor project, a partnership between Airbus and the German Aerospace Centre (DLR), has conducted seven test flights, four of which resulted in contrail formation from the hydrogen engine. The project aims to compare the microphysical characteristics of these hydrogen-based contrails to those of conventional ones, with further results expected by late 2025.

Airbus noted that innovative technologies, including humidity sensors, may soon assist aircraft in circumventing weather conditions conducive to contrail formation. These sensors can enhance weather forecasting models and could offer valuable insights for optimising flying conditions in the future. However, it was also acknowledged that these efforts, like many climate impact models, are still in the early stages of development.

Overall, Airbus's projects and partnerships are contributing to ongoing efforts to formulate and implement effective strategies for reducing non-CO₂ emissions from the aviation sector, moving step-by-step towards more sustainable flight operations.

Source: [Noah Wire Services](https://www.noahwire.com)

## References

* <https://www.airbus.com/en/newsroom/stories/2025-03-non-co2-emissions-and-contrails-explained> - This article explains how contrails are formed, their impact on climate, and the efforts Airbus is undertaking to address non-CO₂ emissions. It discusses how contrails contribute to global warming and Airbus's research into mitigating their effects.
* <https://www.airbus.com/en/newsroom/stories/2023-11-contrail-chasing-blue-condor-makes-airbus-first-full-hydrogen-powered> - This article details Airbus's Blue Condor project, which focuses on studying the contrails produced by a hydrogen combustion engine. It highlights the differences between hydrogen and conventional jet fuel contrails.
* <https://www.flightglobal.com/air-transport/airbus-brings-contrails-down-to-ground-level-through-new-study/162395.article> - This article explains the PACIFIC project, led by Airbus, which aims to replicate contrail conditions at ground level to better understand contrail formation and mitigation strategies, particularly through the use of sustainable aviation fuels.
* <https://www.airbus.com/en/newsroom/press-releases/2025-03-pacific-a-new-european-project-led-by-airbus-will-advance-research> - This press release discusses the PACIFIC project, its goals to advance research on contrail mitigation, and the focus on understanding the impact of fuel composition on non-CO₂ emissions.
* <https://www.airbus.com/en/newsroom/press-releases/2022-07-airbus-to-take-up-the-hydrogen-contrail-characterisation-challenge> - This article describes Airbus UpNext's efforts to study hydrogen contrails through the Blue Condor project, which is part of the company's ZEROe initiative to develop zero-emission aircraft.