

# Contrail management: a quick, low-cost way to halve aviation's climate impact by 2030?

POLICY BRIEFING | APRIL 2026

## Summary

- Contrails are responsible for a substantial share of aviation's climate impact. Avoiding the small proportion of flights that form persistent contrails **could reduce aviation's climate impact by over 40%**.
- Contrail avoidance can be implemented with existing aircraft and air traffic management systems at **minimal cost and negligible impact on consumers**.
- The UK is uniquely well placed to lead due to its geography, airspace governance, and strong science base.
- An airspace-scale trial in the UK is now needed as the first step to move from modelling to delivery.
- Government should commit to making the UK a **"Blue Skies nation" by 2030** by publishing a contrail management policy roadmap by end-2026.

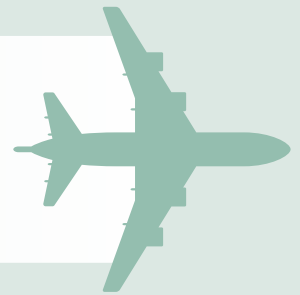
**Contrails from aircraft can form lasting clouds.**



They trap solar radiation, adding to climate change.

**>40%**  
of aviation's climate impact can be reduced with fewer contrails.

This equals about  
**1–2%**  
of overall climate warming.



## Why managing harmful contrails is important



**Big climate savings with existing technology**

By preventing the formation of harmful contrails – **one of the main non-CO2 impacts of aviation** – we can reduce the climate impact of flying in the near-term while working on wider solutions such as alternative fuels and propulsion systems.



**A Quick Win**

The entire warming impact of reducing contrail formation is **close to immediate**, whereas carbon emissions create a much smaller but longer lasting impact; contrail avoidance can therefore deliver a relatively easy short-term win for the climate.



**Intervention can be targeted**

Only **about 1 in 20 km flown** will form a persistent contrail, so avoidance efforts can focus on a relatively small subset of flights that have an outsized overall impact.



**Little to no cost to consumers**

The estimated impact of contrail avoidance on the price of air tickets in 2050 is **just a 1% increase**.



**Easy for aircraft to avoid**

Ice supersaturated regions (or ISSRs) where persistent contrails form are generally wide but shallow, meaning a flight can avoid them by ascending or descending a few thousand feet. The small fuel burn penalty associated with this is **at least 50 times smaller** than the positive impact of not forming a contrail.



**UK ideally positioned to lead**

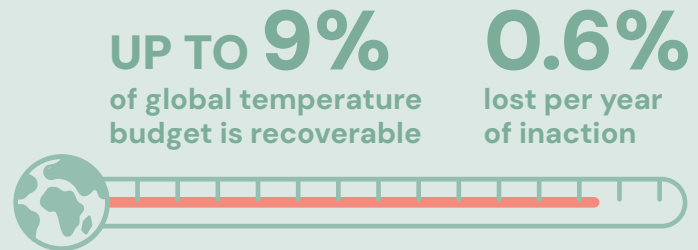
One of the primary contrail forming regions is over the North Atlantic, leaving the UK **particularly well-placed geographically** to take leadership on this issue; our airspace is also controlled by NATS, a 'regulated monopoly' which makes for easier coordination than in Europe, for example, which has over 30 providers.

# Why the most significant risk associated with contrail avoidance is inaction

Condensation trails (or contrails) are cloud-like formations that can form behind aircraft in flight – the lines often seen crossing the sky on a sunny day. While these often dissipate within a few minutes, some contrails form cirrus clouds that persist for hours. **These clouds trap solar radiation, adding to climate change.**

The climate warming impact of this is significant; **by successfully implementing contrail avoidance measures, we could reduce the overall climate impact of the aviation sector by over 40%**, or between 1–2% of overall climate warming. Contrail avoidance can recover 9% of the global temperature budget by 2050, but for every year of delay the recoverable warming will diminish by 0.6% highlighting the urgency of action. Looking at the average warming caused by a single flight, its warming contrail effect over 20 years could be larger than that of its CO<sub>2</sub> emissions. Some uncertainty still exists on the severity of this impact – but there is a clear scientific consensus that it is significant.

Industry, academia and policymakers are already working together to understand the actions needed to effectively manage these harmful contrails; **setting out the opportunity for the government to set a goal of becoming a Blue Skies nation by 2030.** This is a relatively low-cost way for the UK to demonstrate global climate leadership in a way that can be picked up by others. The UK has a greater opportunity to drive this agenda than almost any other country.



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The UK’s management of North Atlantic airspace gives it a unique chance to lead. Large-scale trials are the only way to build the operational evidence needed for standardisation and move from reactive efforts to real, proactive climate action.

Synthesis of findings from the Jet Zero Taskforce  
Contrail Impact Mitigation Report (2026)

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## The need for an airspace-scale trial in the UK

The science of predicting when and where a persistent contrail is likely to form is improving but still needs work. Similarly questions around how contrail avoidance might work in practice, especially in congested airspace need to be worked out. This demonstrates the need for a **large airspace-scale ‘living lab’ where solutions can be tested**, models improved and learnings taken forward ahead of widespread implementation. The quicker we carry out these trials the greater the opportunity to scale up contrail avoidance, although the development of policy and regulations to underpin a future contrail avoidance system will need to happen in parallel with several organisations working on this currently.

## What can parliamentarians do to make this happen?



Encourage the government to commit to becoming a **Blue Sky nation by 2030**, and to publishing a policy roadmap to achieve this by the end of 2026. This should define relevant incentive mechanisms, regulatory frameworks and timelines for implementation.



Advocate for a **large airspace-scale trial** in UK airspace as described above, utilising existing collaborations between the DfT, industry, academia and others.