

GATEWAYS TO BLUESKIES

Inspire. Innovate. Impact.

2023 Theme: Clean Aviation Energy

NASA Aeronautics' collegiate-level design competition asks student teams to conceptualize the source-to-flight lifecycle of one potential clean aviation energy source of the 2050s, in terms of feasibility, viability, and environmental impact.

Initial participation involves a design study and submission of a 5-7 page proposal and two-minute video. Based on a review of these submissions, up to 8 finalist teams will be selected to develop a final research paper, infographic, and present their work in a competitive design review during the 2023 Gateways to Blue Skies Forum at a NASA Center in June 2023.

About the Competition

The 2050s aviation landscape will incorporate new technologies and designs that enable aircraft to fly safer, faster, cleaner, and quieter. This future landscape includes the use of alternative energy sources to reduce the climate impacts caused by aviation. These alternative sources could include a myriad of viable options beyond those popularly researched (e.g., fully electric, liquid and gaseous pure hydrogen, the hydrogen fuel carrier, and liquid ammonia). **NASA is particularly interested in energy sources that are currently less explored.**

Although the proportion of harmful global emissions attributable to aviation is low, they are released high in the atmosphere and create a relatively larger climate impact than emissions released at ground level. This triggers chemical reactions and atmospheric effects that heat the planet. Increased air travel demand and dependence on fossil fuels has created a critical global issue that necessitates the move toward new energy sources. Additionally, studies suggest that contrails (made up primarily of water) have large short-term effects on climate.

This competition seeks to crowdsource potential new energy sources and analyze the entirety of the supply chain's climate impacts, to help inform the "clean aviation energy" source of the 2050s. Teams are encouraged to research energy sources that aren't currently mainstream or highly regarded as becoming mainstream in the future.

[FULL COMPETITION DETAILS](#)

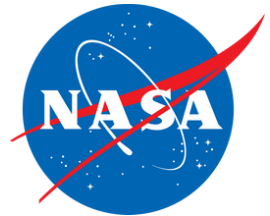
[NASA'S OFFICIAL COMPETITION ANNOUNCEMENT](#)

Awards & Prizes

Each finalist team will receive a \$6,000 award to facilitate full participation in the 2023 Blue Skies Forum in June 2023.

Winners will be offered the opportunity to intern within NASA's Aeronautics Research Mission Directorate in the academic year following the Forum.

<https://blueskies.nianet.org/> | blueskies@nianet.org



Eligibility*

Open to full- or part-time undergrad and/or grad students at accredited U.S.-based colleges and universities. Team size can range from 2-6 participants.

**See website for full program eligibility.*

Multi-disciplinary teams and Minority Serving Institutions encouraged to apply!

Submissions from ALL academic levels (i.e., freshman, sophomore, junior, senior, and graduate) are highly encouraged and anticipated.

Important Dates

Notice of Intent Deadline

October 17, 2022

Proposal Submission Deadline

February 28, 2023

Selection Notifications

March 28, 2023

Final Deliverables Submission Deadline

May 14, 2023

2023 Blue Skies Forum at a NASA Center:

June 1-2, 2023