Team ProPlane

NASA Gateways to Blue Skies Competition

PROPLANE
Sustainable Aviation Solutions

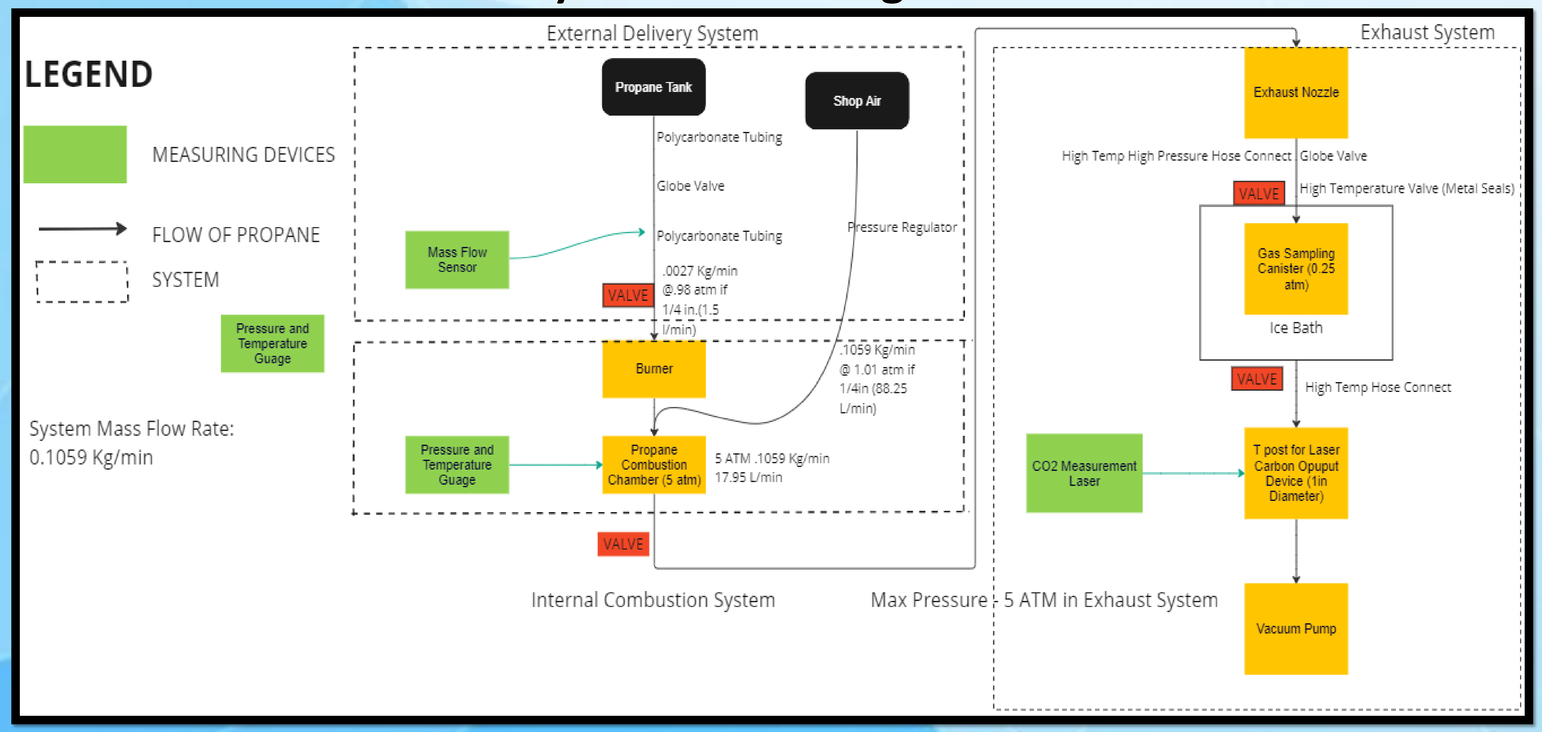
SAN DIEGO STATE UNIVERSITY

Project Overview

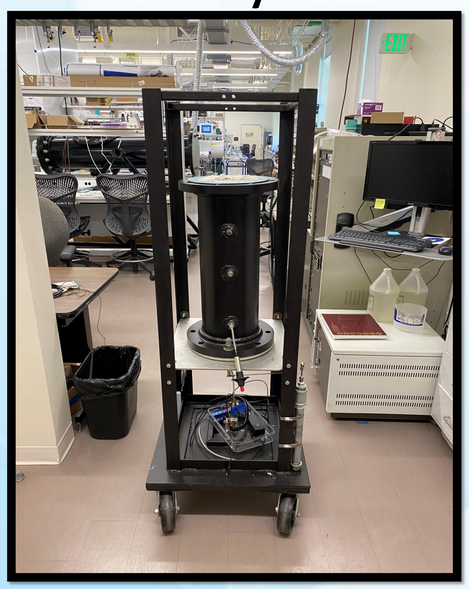
Problem Statement: Harmful global emissions attributed to aviation are very low, however, due to the release of contrails at high altitudes, the environmental impacts are more detrimental to the environment compared to emissions released at ground level.

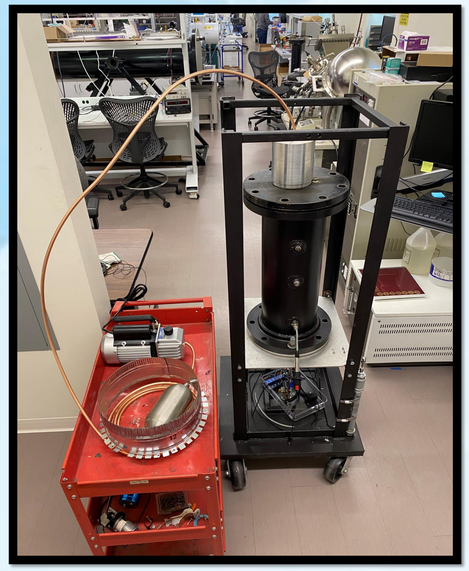
Objective: Redesign Dr. Miller's current combustion chamber to simulate jet engine combustion chamber, add a vacuum exhaust system to simulate high altitude conditions (low pressure and low temperature), and measure the CO2 exhaust output to analyze propane as a clean fuel source.

System Level Diagram

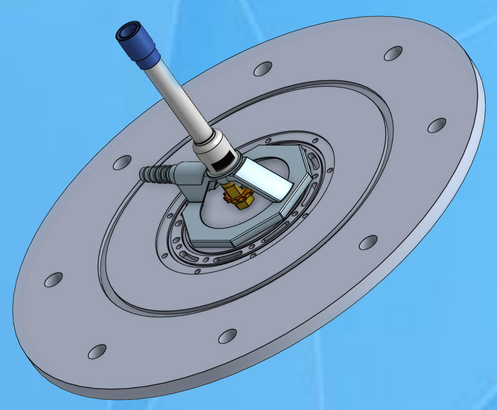


Test System





CAD Model



Proven Sustainable Efficient

Clean Fuel · Reduced Emissions · Refined Propane · Propane Sources · Portable Fuel

Acknowledgment

We would like to thank the following mentors for their contribution and time in the development of our project. We would also like to thank the San Diego State University Mechanical Engineering Department, as well as the NASA Gateway to BlueSkies competition administration.

San Diego State University
Dr. Scott Shaffar
Dr. Fletcher Miller

Meet the Team!


Steven Bach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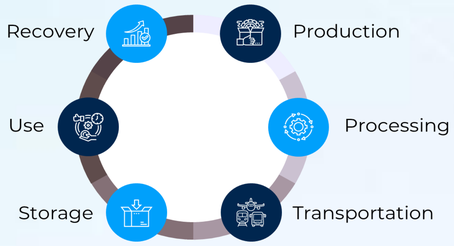
Diego Tres


Elijah Roa


Larson Sevilla



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