



PRATT & WHITNEY COLLABORATES WITH FAA TO STUDY NON-CO2 EMISSIONS UNDER FAA ASCENT PROGRAM

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Pratt & Whitney and the Federal Aviation Administration will work together with Missouri University of Science and Technology, Aerodyne Research and the Environmental Protection Agency to study non- CO2 aviation emissions, to help understand and reduce the environmental impact of those emissions. As part of the FAA [ASCENT](#) program, the project will measure emissions from a Pratt & Whitney GTF engine combustor rig test stand using conventional Jet A and 100% sustainable aviation fuel.

Sean Bradshaw, senior technical fellow of sustainable propulsion at Pratt & Whitney commented: "As the aviation industry targets a goal of net-zero CO2 emissions by 2050, we continue to pay close attention to addressing the environmental impact of other emissions, including cruise non-volatile particulate matter and NOx. Combustor rig tests with 100% SAF provide a controlled environment for generating valuable baseline data, which will support future studies using full scale engines on-wing at ground and flight test conditions."

Dr. Philip Whitefield of Missouri University of Science and Technology said: "By bringing together

expertise from industry, government, and academia, this project represents an important step towards understanding and reducing the environmental impacts of aviation, including those arising from non-CO2 emissions. SAF containing low sulfur and aromatic hydrocarbon concentrations could contribute to reduced sulfur dioxide and non-volatile particulate emissions, which are associated with contrail formation and the impact to global warming."

The project will compare emissions from Jet A kerosene and SAF comprised of 100% Hydroprocessed Esters and Fatty Acids Synthetic Paraffinic Kerosene (HEFA-SPK), a biofuel derived from vegetable oils and animal fats; the fuel is supplied by World Energy. The rig tests will take place at Pratt & Whitney's facility in Middletown, Conn., using an advanced Rich-Quench-Lean combustor. The rig allows testing of the full range of combustor operating conditions, including at take-off, ground, and cruise altitudes, to help understand the environmental and emissions benefits of using SAF. Pratt & Whitney, the FAA, Missouri S&T, Aerodyne Research, and the EPA will collaborate on test design, execution, and emissions data analysis.

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