

New Technology Enables Efficient Conversion of CO₂ to Sustainable Aviation Fuel



The scalable combination of HyCOgen and the feet CANS innovation will increase SAF supply and reduce CO₂ emissions. (Johnson Matthey)

The business Johnson Matthey simply introduced their HyCOgen innovation that allows the conversion of CO₂ and green hydrogen into sustainable air travel fuel (SAF). Over 95% of the CO₂ is transformed into artificial petroleum through the Reverse Water Gas Shift (HyCOgen) innovation.

The Feet CANS Fischer Tropsch innovation, established in coordination with bp, is integrated with Johnson Matthey's HyCOgen— a catalyzed procedure that forms synthesis gas, or syngas— to

produce sustainable fuel. The petroleum that is produced can be changed into drop-in fuel items such as SAF, eco-friendly diesel, and naphtha. The mix of these innovations is now offered as an option from Johnson Matthey.

According to a press release from Johnson Matthey, the scalable combination of HyCOgen and the feet CANS innovation will serve to increase SAF supply and for that reason reduce CO2 emissions. The business declares that the air travel market jointly produces 12% of the world's transportation-related CO2 emissions. Sector Chief Executive at Johnson Matthey, Jane Toogood, discussed, "There are considerable difficulties in moving from hydrocarbon-based air travel fuel to options such as battery electrical or hydrogen. [Our expertise] in syngas generation innovation can play a vital function, by offering services that make it possible for the production of sustainable drop-in fuels that are deployable today."

Johnson Matthey contributed in United Airlines' accomplishment last month of the very first industrial flight utilizing 100% drop-in SAF in one of 2 engines. Part of the procedure of making it possible for the SAF production was the BioForming procedure which utilizes a catalytic procedure to transform sugar feedstocks into BioFormate. The resulting BioFormate can be utilized to make biofuels that are then combined to produce the SAF. Eco-friendly fuels and chemicals business Virent developed this innovation and has actually partnered with Johnson Matthey considering that 2016 to additional establish and advertise it.



United Airlines finished the very first industrial flight utilizing 100% drop-in SAF in one of 2 engines last month. (United Airlines)

Johnson Matthey likewise participated in an contract today with European ethanol manufacturer CropEnergies AG to develop a plant for producing eco-friendly ethyl acetate utilizing sustainable ethanol. Production of sustainable ethyl acetate is approximated to reach 50,000 metric lots each year and will use renewable resource. According to the statement, “The plant will likewise create sustainable hydrogen as a co-product that, together with biogenic CO2 from the CropEnergies fermentation procedure, will be the basis for more conversion of renewable resource into PtX (power-

to-X) downstream paths, to produce e-fuels.”

Source: [New Technology Enables Efficient Conversion of CO2 to Sustainable Aviation Fuel](#)