

Séminaire de Chimie Autour des Nanosciences

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SUSTAINABLE AVIATION FUEL FROM CARBON DIOXIDE, WATER, AND RENEWABLE ELECTRICITY

Power-to-liquid (PtL) technologies must be deployed at world-scale to sustainably produce energy-dense liquid fuels in the quantities needed to replace fossil fuels in hard-to-decarbonize industries. Legacy PtL pathways rely on multi-step approaches to first produce carbon monoxide, then combine carbon monoxide with hydrogen in a Fischer-Tropschh reactor to make a mixture of light hydrocarbons, liquid fuels, and waxes. Air Company has developed an alternate technology based on carbon dioxide hydrogenation, to both circumvent the need for carbon monoxide production and improve the selectivity of fuel production by minimizng wax byproduct. The process has been scaled to a pilot reactor in Brooklyn, NY that produces metric tons of sustainable aviation fuel (SAF), and is currently undergoing further scale-up in a small commercial demonstration facility. Concurrent to paraffin synthesis, light alcohols enable production of consumer goods that help to enable efficient technology scale-up.

LE VENDREDI 06 Janvier À 11h00

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