Short Abstract

Greener Skies Ahead
PtL-based Fuels as a Kerosene Alternative for Susainable Aviation

Commercial air transport is a crucial agent for further development of the world's economy. Aviation is also an important global growth industry in and of itself. Global aviation growth is driven by business-requirements or is personally-motivated. And there is no market saturation in sight. As IATA predicts, air passenger numbers will nearly double to 7.8 billion in 2036. Already today, air cargo counts for 1% of world trade by volume, but for over 35% by value.

Due to the overall growth of aviation, CO_2 -emissions are increasing faster than they can be reduced by the steady improvements of aircraft and engines.

In order to comply with the 2015 Paris agreement (COP21) and to mitigate climate change, reducing global aviation CO_2 -emissions becomes critically important.

Therefore, ICAO's unique Carbon Offsetting and Reduction Scheme for the International Aviation (CORSIA) needs to be flanked by additional technical means. In this regard, green renewable 'electrofuels' (PtL) are a major building block to achieve substantial absolute emission reductions in aviation.

Considering that state-of-the-art electrolysers and Fischer-Tropsch-reactors are already available and systems that capture CO_2 from the air are being improved, the question arises about best industrial pathways to produce drop-in capable ASTM D75665-conforming jetfuels at marketable costs.