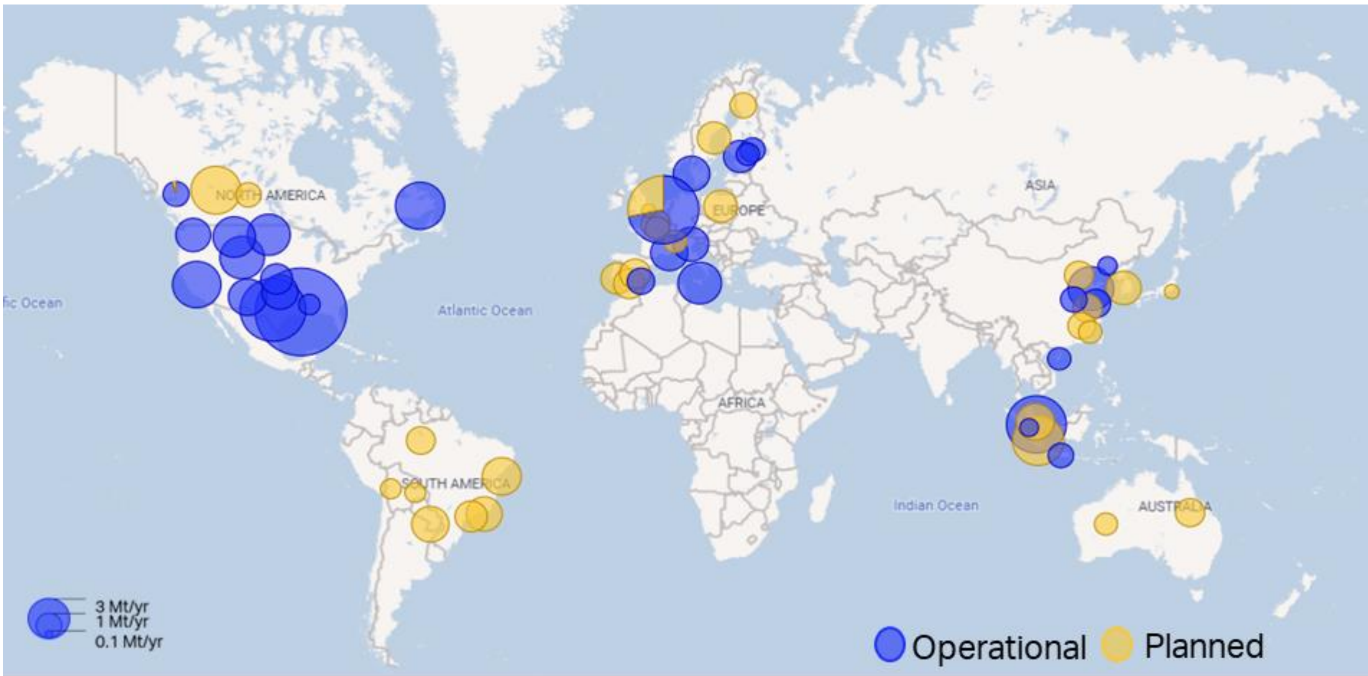
Chart of the week

15 November 2024

Ramping up SAF through standalone HEFA facilities

Renewable Diesel Capacity around the Globe



Source: IATA Sustainability and Economics based on government/industry data

- Sustainable aviation fuel (SAF) production needs to grow considerably for aviation to reach net zero carbon emissions by 2050, given its role as the key enabler. Amid available pathways, HEFA (hydrotreated esters and fatty acids) is responsible for about 80% of the current SAF production. Most HEFA volumes are generated at standalone facilities, and some lesser volumes are produced by coprocessing at crude oil refineries. Standalone HEFA units are primarily designed to produce renewable diesel today, favored by policy support and a prominent position among distillate products.
- The global standalone HEFA capacity currently stands around 4-5 Mt and is expected to double by 2030. Due to road transportation electrification and the increased use of liquefied natural gas, on-road diesel demand is expected to decline over the same horizon. The drop in demand for diesel will free up capacity at the HEFA refinery, which represents a growing opportunity to prioritize SAF production and meet airlines' demand. Existing HEFA units could effortlessly increase SAF production to 15-20% of the total product slate through basic modifications and add around 1 Mt of SAF volume. SAF production can be further ramped up by additional processing capacity, which requires substantial investments. This would require long-term SAF-oriented policies and incentives across the value chains to make the business case attractive.
- Regions worldwide will contribute to SAF supply according to their respective feedstock availability, policies, and maturity of available technologies, and this will take time in some cases. However, maximizing the SAF output of existing renewable fuel facilities is already possible. This is an opportunity that the refining industry should not miss.