In the pursuit of net-zero carbon emissions by 2050, the aviation industry finds itself at a pivotal juncture. A combination of technological solutions is required to achieve that ambitious goal. Various pathways to net zero are possible but all feature Sustainable Aviation Fuel (SAF) as a key component in curtailing carbon emissions within the hard-to-abate air transport sector.

In 2022, SAF fuel production remained very low, amounting to just 0.24 Mt, a mere 0.1% of the overall volume of jet fuel (see chart). Nevertheless, the output of SAF has staged a remarkable fivefold growth over the past three years, indicative of robust demand. In 2022, airlines purchased all the available SAF supply globally, notwithstanding the price differential to conventional jet fuel.

The SAF market remains in its early stages of development, making the task of estimating a global price a challenging one. During 2022, the average SAF price estimate was around USD 2,400/t, albeit with significant differences across regions. This is around two and half times higher than the price of conventional jet fuel.

Within a competitive market framework, increased production levels and expansion of the feedstock mix should exert downward pressure on SAF prices, progressively closing the gap to fossil-based jet fuel and easing the financial burden on airlines.

To achieve a substantial scale-up of SAF production, collaboration is required between governments and key industry players. Such efforts will pave the way for globally synchronized strategic policies, offering incentives and facilitating the investments necessary to bring about the expansion of SAF capacity and production in time for aviation to meet its net-zero commitment by 2050.