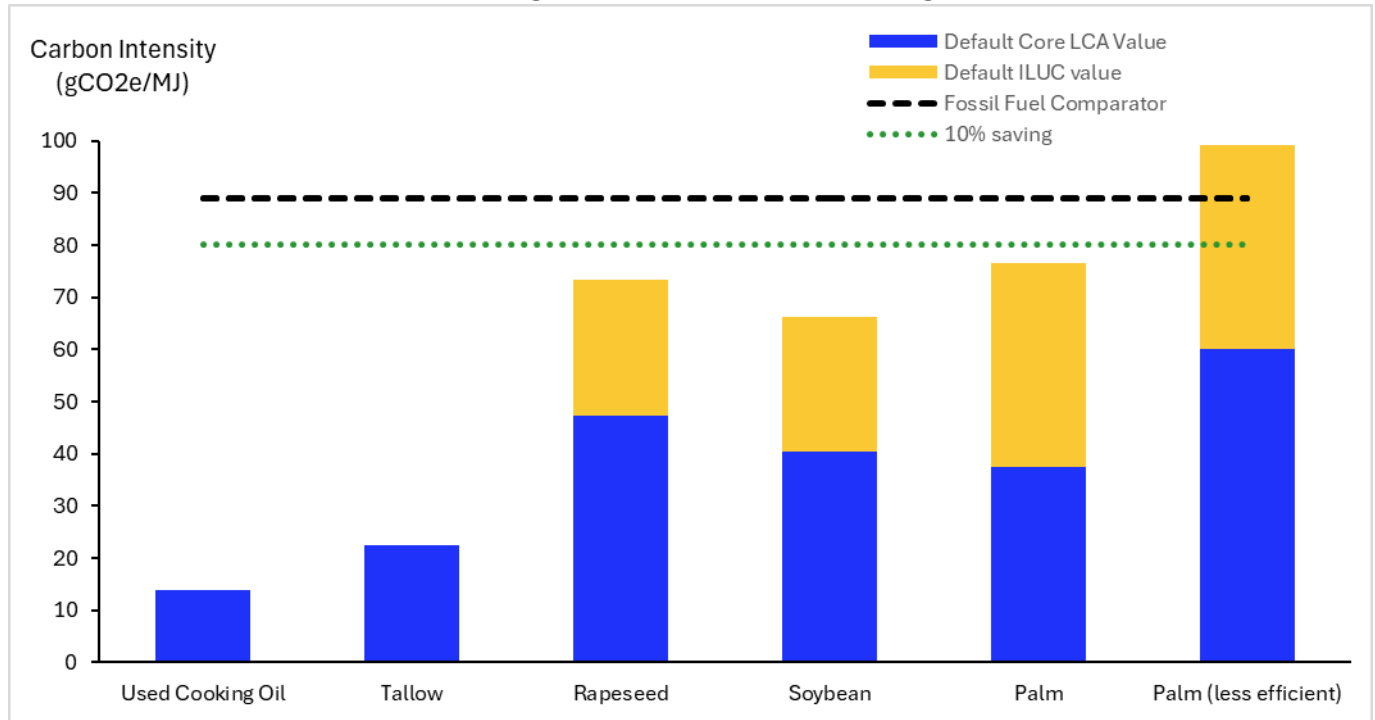


Lifecycle analysis (LCA) and SAF sustainability

Default LCA Values for CORSIA Eligible Fuels produced using the HEFA Process



Source: IATA Sustainability and Economics, based on [CORSIA Default Life Cycle Emissions](#)

- Not all SAF is created equal. CORSIA, the Carbon Offsetting and Reduction Scheme for International Aviation, requires that a sustainable aviation fuel (SAF) delivers a minimum emission savings of 10%. CORSIA provides default values for assessing emissions savings, as well as guidance for lifecycle analysis (LCA), which allows for the quantification of the carbon intensity (CI) of different transport fuels. In this way, the environmental impact of different products can be evaluated across all stages of the products life.
- SAF produced from used cooking oil (UCO) or tallow tends to achieve better emissions savings than other feedstocks. In the case of palm, only the most sustainable systems – where palm oil is sourced from processing mills that incorporate efficient waste management – are able to meet the 10% threshold.
- Defaults tend to be conservative but bring simplicity to the LCA process, while actual values ensure precision. Under CORSIA, conventional aviation fuel has a CI of 89 gCO₂e/MJ – a baseline against which different types of SAF emissions savings potential can be measured.
- The CORSIA core LCA values reflect “well-to-wake” emissions, from its production and transportation to its eventual use in the aircraft. CORSIA guidance also stipulates that induced land use change (ILUC) emissions must be included in a primary product’s LCA (primary products are for example food grade fats and oils from feedstocks such as rapeseed, soybean and palm). ILUC is when land used for food and feed cultivation is diverted to fuel production. The consequent conversion of high-carbon land areas to meet the ongoing demand for food and feed is considered ILUC. Wastes, residues and by-product feedstocks (UCO is a waste, while tallow is a by-product), on the other hand, benefit from default zero ILUC values and tend to cut emissions by more than primary products.

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