POSITIONING PAPER

RECOMMENDATIONS ON MSF'S APPROACH TO SUSTAINABLE AVIATION FUEL (SAF) PARTICIPATION

Author:	Isabel Rodriguez, Supplier Sustainability Assessment Lead, GPU
Contributors:	Francesc López, Program manager, Climate Smart MSF; Monica Cazorla, Travel Category Buyer, GPU; Corentine Berthet, Sustainable Supply Coordinator,Climate Smart MSF; Maëlle Charrier, Carbon Data Analyst, Climate Smart MSF; Maria Ten Palomares, Climate, Environment and Health Programme Manager, OCB; Alexandre Chaudonneret, Chef de Projet Environment, OCP; Roberta Borgognoni, Project Manager, Environmental Impact Project OCA; Bert Koelewijn, IO Senior Advisor, Climate Smart MSF
Date:	8-8-2024
Version:	Proposition Paper - Final

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Content

The Purpose

Globally, the aviation sector consumes approximately 3% of the world's fossil fuels, accounts for around 11–12% of all transportation-related CO2 emissions and produces around 2% of anthropogenic greenhouse gas emissions. Aviation also causes warming through several non-CO2 climate impacts, such as the stimulation of cirrus cloud formation through an aircraft's contrails and the emission of nitrogen oxides that influence atmospheric methane and ozone concentrations.[1]

According to MSF Travel Agencies data, in 2019, Médecins Sans Frontières (MSF) flew approximately 110,000,000 kilometers to transport our staff around the globe. This distance is equivalent to circling the Earth 2,744 times. Additionally, MSF air transported equipment and supplies over a distance of 10,650,000 kilometers, which translates into 266 trips around the world.[2]

The fossil fuels consumed for these travel activities resulted in significant carbon emissions. The transportation staff contributed 76,831 tons of CO2, while the movement of equipment added another 39,752 tons of CO2. Together, these activities accounted for 23% of MSF's total carbon footprint in 2019.[3]

To put these numbers in perspective, the combined distances covered by our staff and equipment transportation were not only essential for our mission but also carried a considerable environmental impact. As an organization committed to providing medical aid where it is most needed, we recognize the importance of addressing our carbon footprint and are continuously seeking ways to minimize our environmental impact while fulfilling our humanitarian objectives.

This report provides recommendations and evaluates the opportunities and risks associated with using or participating on Sustainable Aviation Fuel (SAF) programs for Médecins Sans Frontières (MSF) in achieving the MSF movement-wide goal of reducing carbon emissions by 50 per cent by 2030.

[1] European Commission, page content: Reducing emissions from aviation https://climate.ec.europa.eu/eu-action/transport/reducing-emissions-aviation_en
[2] Figures worked out from 2019 MSF Baseline data source: https://msfintl.sharepoint.com/sites/ClimateSmartMSF/SitePages/MSF-Baseline-2019.aspx
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Aviation Sustainability Proposition

IATA (International Air Transport Association) strategy towards net zero CO2 emissions by 2050[4] will require a combination of maximum elimination of emissions at the source, offsetting and carbon capture technologies.

- 65% Sustainable Aviation Fuel (SAF)
- 13% New technology, electric and hydrogen
- 3% Infrastructure and operational efficiencies
- 19% Offsets and carbon capture (CORSIA)

What is SAF?

Sustainable aviation fuel (SAF)[5] is the main term used by the aviation industry to describe a nonconventional (non-fossil derived) aviation fuel. SAF is the preferred IATA term for this type of fuel although when other terms such as sustainable alternative fuel, sustainable alternative jet fuel, renewable jet fuel or biojet fuel are used, in general, the same intent is meant.[6]

Sustainable Aviation Fuels (SAF) are produced from renewable feedstocks such as vegetable oils, agricultural waste and municipal waste, are designed to partially or fully replace traditional fossil fuels such as paraffin without requiring major modifications to existing aircraft engines. SAF can be blended at levels ranging from 10% to 50%, depending on the feedstock and production method.[7]

The challenge of today is SAF costs are 120%–700% higher than fossil-based jet fuel costs and the lack of producer incentives poses a significant hurdle to SAF adoption, so a large gap between current SAF demand and IATA's net-zero by 2050 projections.[8] SAFs currently account for less than 0.1% of all aviation fuels consumed. With currently planned production of SAFs, only 1-2% of fuel demand will be covered by 2027. Hence, significant investments, combined with a favorable policy environment, will be needed to increase production capacity.[9]

When calculating the benefices of biofuel versus traditional jet fuels, on one hand, SAF claimed to reduce CO2 emissions between 27% and 87% versus fossil-based jet fuels. This calculation varies in function of the calculation methodology and the source of information. Also, IATA claim to have a potential of 80% GHG emissions [10], US government recent study show the roadmap and the challenges of the SAF and highlighted more R&D is needed in order to find more efficient technologies and feedstock to reach the target by 2025 [11].

On the other hand, alternative studies not linked to corporate airlines researchers like T&E "Globiom: the basis for biofuel policy post-2020", April 25, 2016, which calculates land-use change (LUC)

[4] IATA Net Zero strategy https://www.iata.org/en/programs/sustainability/sustainable-aviation-fuels/#tab-1
[5] CAA reference "SUSTAINABLE AVIATION FUELS, BACKGROUND PAPER , Paolo Sévègnes and Sonja Schmid – v1 July 2024"
[6] IATA Full Definition https://www.iata.org/contentassets/d13875e9ed784f75bac90f000760e998/saf-what-is-saf.pdf
[7] https://ibexpub.media/is-sustainable-aviation-fuel-really-more-expensive/
[8] Journal of Cleaner Production, Volume 449, , 10 April 2024, 141472.
https://www.sciencedirect.com/science/article/abs/pii/S095965262400920X
[9] https://www.iea.org/energy-system/transport/aviation
[10] https://www.iata.org/en/programs/sustainability/sustainable-aviation-fuels/
[11] https://www.energy.gov/sites/default/files/2022-09/beto-saf-gc-roadmap-report-sept-2022.pdf

emissions[12] resulting from additional demand for biofuels in Europe. This paper adds 'direct' emissions (for example, from tractors, fertilizers, etc.) and subtracts emissions from fossil petrol and diesel equivalents, putting the Globiom numbers in a wider context so that policy conclusions can be drawn.[13]

Globiom includes in their conclusions that LUC[14] emissions from biodiesel made from vegetable oil far exceed those from bioethanol. This is largely because vegetable oils, the main source of biodiesel, are often grown in the tropics, leading to high risk of tropical deforestation and associated peatland drainage. Palm and soy products are two of the four major drivers of tropical deforestation/peat loss – together with beef and wood. Annually harvested crops store less carbon than land left abandoned, allowing grasses, trees and other vegetation and their carbon-storing roots to develop.

It is important to consider the full life cycle analysis of biofuels including carbon emissions from land use change. Globcom analysis decreases the potential impact of biofuels of first generation versus SAF and IATA calculations.

What is Book and Claim?

Part of what makes Sustainable Aviation Fuel (SAF) environmentally sustainable is ensuring sustainability in its supply chain. Transporting SAF to a specific airport or flight is not always possible and could lead to higher GHG emissions. The Book and Claim system provide a solution for these situations.

The Book & Claim model is a common practice where a sustainability claim made by a company is separated from the physical flow of these goods. The most notable example is green electricity. Electricity cannot be tracked along the grid since it is all combined before entering a power outlet. To solve this problem, Book and Claim systems were developed to allow customers to claim a specific amount of renewable energy. Electricity providers can enter or "book" the electricity they have produced in their systems and customers can "claim" the green energy they have bought. Consumers will then receive a certificate stating the amount of renewable electricity they paid for.

But what does this mean when talking about SAF? This means that SAF is not physically transported and entered into the specific aircraft of the person covering the fuel premium (e.g. Board Now members). Instead, it goes into the fuel system at an airport close to the SAF production facility. The volume of SAF that is produced and entered into the hydrant system is tracked and verified, after which corresponding carbon emissions factors are calculated and allocated to the person/organization that covers the premium. [15]

[12] "[..] [LUC] land-use change, […] is defined as a "greenhouse gas inventory sector that covers emissions and removals of greenhouse gases resulting from direct human-induced land use such as settlements and commercial uses, land-use change, and forestry activities". […] has impacts on the global carbon cycle and as such, these activities can add or remove carbon dioxide (or, more generally, carbon) from the atmosphere, influencing climate. Source: https://en.wikipedia.org/wiki/Land_use,_land-use_change,_and_forestry

[13] https://www.transportenvironment.org/uploads/files/2016_04_TE_Globiom_paper_FINAL_0.pdf

[14] LUC: land use change E LUC : carbon emissions from land use change. Positive values indicate that LUC has a net effect of releasing carbon from land to the atmosphere, while a negative value indicates the reverse. (: Source: https://www.researchgate.net/figure/Nomenclature-LUC-land-use-change-E-LUC-carbon-emissions-from-land-use-change_tbl1_323428141

[15] SkyNRG explanation on "Book & Claim" https://skynrg.com/book-claim-explained-what-is-book-and-claim/ . SkyNRG is the trusted strategic partner for the aviation industry, governments and some of the world's largest organizations.

Commercial SAF programs from aviation corporations

MSF is facing some commercial offers for SAF investments from logistic service providers and passengers' flights, commercial language usage could be different from company to company (e.g. sustainable corporate fares, green fare, neutral CO2 ticket…).

Behind those commercial terms there is mainly two modes operandum (1) purchasing off carbon offsets, this is not part of MSF strategy to reduce GHG emission[16] (2) book & claim system for SAF. Also, in some cases could be a mix of 2 options.

MSF position recommendation

Today aviation corporations encourage B2B clients to adhere to their commercial environmentally sustainable programs under SAF application. MSF is challenged by logistic service providers and passengers' flights.

Today SAF is in its early stage of development, with mainly 1st generation Bio-Jet fuel and Offset option available in the market. The origin and production process of 1st generation Bio-Jet fuel is not fully transparent, when it can occur to have a negative impact in deforestation and agriculture land compete with food production, this do not align with MSF global commitment of CO2 emissions by 2030[17] and to a more indirect extension to the "Do no harm" principle.

The offset option (CORSIA) is not under MSF Environmental Sustainable strategy to reduce GHG emissions.

Following the reasoning above today we are not in a position to recommend investing in SAF when guarantees are not provided and more over MSF is not in position to verify them. **Book & Claim offer on SAF is not recommended at this stage, as there is no full evidence to align on MSF values & principles.**

MSF should keep contributing to the reduction of GHG emissions in logistic service providers and passengers' flights by the following approach.

- Roll-out of the Global Travel Policy Framework, where the main goal is to reduce travel and make better use of transport for passenger movements, to limit the usage to the only necessary and best transportation option. And the International Environmental Travel guidance with the objective to reduce the Carbon Emissions linked with Air travel.
- Keep the efficiency in operational and logistics process to ensure all alternatives of transport have been taken into consideration, by optimizing our travel routes and improvement of integrated logistics. MSF Carbon Travel app is a resource to contribute to this direction[18].

[16] MSF Carbon Offsets – Position paper
https://msfintl.sharepoint.com/sites/ClimateSmartMSF/Shared%20Documents/Forms/AllItems.aspx?id=%2Fsites%2FClimateSmartMSF%2FShared%20Documents%2F2%2DCarbon%20Framework%2FCarbon%20Offsets%2FMSF%20Carbon%20Offsets%20Position%20Paper%20Final%2Epdf&parent=%2Fsites%2FClimateSmartMSF%2FShared%20Documents%2F2%2DCarbon%20Framework%2FCarbon%20Offsets

[17] Movement-wide carbon 50% reduction by 2030 target

[18] Travel App developed during Climate Smart Project together with Epicentre. MSF Carbon Travel App
https://apps.epicentre-msf.org/secure/app/msf-carbon-app

- Keep onboarding and developing sustainable procurement approach in supplier selection process, understanding supplier sustainable value proposition and innovation toward MSF global commitment of CO2 emissions by 2030[19].
- Follow aviation sustainability strategy and policy versus SAF value proposition and evolution in recurrent way and reevaluate when the bio-fuel market is more mature and next generations are part of the business as usual.

[19] Movement-wide carbon 50% reduction by 2030 target