



EU ETS-Aviation: AER template training session

Aviation Task Force

30 January 2025

DG CLIMA B.4, European Commission

AER template revision



- The revised MRR had implications on established reporting procedures:
 - Reporting of alternative fuels as neat fuels in tonnes of fuel
 - Reporting of eligible aviation fuels (Art. 3c(6))
 - Proportionality principle where alternative fuel is distributed via pipelines
- The new Delegated Regulation on FEETS also effects the AER
 - Application done via AER including an opt-out option
- The revised CORSIA Delegated Act (now 2019/1603) also includes new aspects to be reported:
 - Reporting of CEF (CORSIA eligible fuels)
- Further updates to the AER template
 - Simplification in aircraft list
 - Deletion of “2023 Annex” (was relevant for free allocation 2024)

Reporting of neat fuels



- According to Article 53(1)

(v) the aircraft operator shall calculate the amount of each neat fuel as total amount of the mixed aviation fuel multiplied by the relevant fraction.

- For most alternative aviation fuels the relevant fractions are provided by the fuel supplier or producer as 'blend' information

Example 1 - blend:

- 1,000 tonnes 3% biofuel blend is supplied
 - 3% corresponds to the biofuel fraction
 - Neat fuels: 30 tonnes of neat biofuel + 970 tonnes of neat fossil Jet A

Example 2 - co-processing:

- 1,000 tonnes of co-processed biofuel is supplied with 5% biomass feedstock
 - 5% corresponds to the biofuel fraction
 - Neat fuels: 50 tonnes of neat biofuel + 950 tonnes of neat fossil Jet A

Alternative/eligible aviation fuel (SAF) attribution



- SAF must be monitored and reported as attributed to each flight or aerodrome pair

1. The aircraft operator shall monitor the amount of alternative aviation fuels used and report that amount as attributed to each flight or aerodrome pair.

3a. The aircraft operator shall determine the amount of neat eligible aviation fuel as a sum of neat alternative fuels eligible under Article 3c(6) of Directive 2003/87/EC as determined in accordance with Article 53(1) of this Regulation. The neat eligible fuels shall be attributed to each flight or aerodrome pair in accordance with paragraphs 4 or 5.

- Two scenarios are possible:
 1. Fuel is delivered in physically identifiable batches to the aircraft (fuelling truck with known SAF blend)
 2. Fuel is delivered via pipeline system where the SAF is injected in the fuelling system of the aerodrome of departure

Physically identifiable batches

- The SAF is attributed to the flight immediately following the fuel uplift
- In case a subsequent flight is carried out without fuel uplift (tankering), the SAF should be split between the flights proportionally to the emissions from those flights using preliminary emissions factor (3.16)



Physically identifiable batches



Example 1 – single flight:

- Aircraft fuel truck with 30% biofuel blend is used
- The uplift is 10,000 litres -> 8 tonnes of blended fuel -> 2.4 tonnes neat biofuel + 5.6 fossil Jet A
- The fuel consumption of the flight (per MP method) is 7 tonnes (22.12 tonnes CO₂)
 - Neat fuels reported on the flight: 2.4 tonnes of neat biofuel + 4.6 tonnes of neat fossil Jet A (7-2.4)

Technical
limitations
must be met!

Physically identifiable batches



Example 1 – single flight:

- Aircraft fuel truck with 30% biofuel blend is used
- The uplift is 10,000 litres -> 8 tonnes of blended fuel -> 2.4 tonnes neat biofuel + 5.6 fossil Jet A
- The fuel consumption of the flight (per MP method) **is 4 tonnes (12.64 tonnes CO₂)**
 - Neat fuels reported on the flight: **2.0 tonnes of neat biofuel + 2.0 tonnes of neat fossil Jet A (50% blend technical limit)**

**Technical
limitations
must be met!**

Physically identifiable batches



Example 2 – tankering:

- Aircraft fuel truck with 30% biofuel blend is used
 - The uplift is 20,000 litres -> 16 tonnes of blended fuel -> 4.8 tonnes neat biofuel + 11.2 fossil Jet A
 - The fuel consumption of flight 1 is 10 tonnes (31.6 tonnes CO₂)
 - The fuel consumption of flight 2 is 4 tonnes (12.64 tonnes CO₂)
- Total 44.24 tonnes CO₂
- The neat biofuel must be attributed between flight 1 and 2 proportionally to their emissions
 - Flight 1: $4.8 \times 31.6/44.24 = 3.43$ tonnes Flight 2: $4.8 \times 12.64/44.24 = 1.37$ tonnes
 - Neat fuels reported on flight 1: 3.43 tonnes of neat biofuel + 6.57 tonnes of neat fossil Jet A
 - Neat fuels reported on flight 2: 1.37 tonnes of neat biofuel + 2.63 tonnes of neat fossil Jet A

**Technical
limitations
must be met!**

Pipeline system



- Where alternative aviation fuels cannot be physically attributed at an aerodrome to a specific flight, the aircraft operator shall **split the SAF between the flights for which allowances have to be surrendered in accordance with Article 12(3) of Directive 2003/87/EC departing from that aerodrome and the rest of the flights departing from that aerodrome proportionally to the emissions from those flights calculated using the preliminary emission factor (3.16).**
- **SAF attributed to each flight or aerodrome pair can be attributed freely within limits set in Article 53a(4) and 54a(6) – proportionality is not mandatory!**

Pipeline system



- Evidence must be provided that the alternative fuel was delivered to the fueling system of the departure aerodrome in the reporting period, or 3 months before the start, or 3 months after the end, of that reporting period

$$AttrF_N = TotalF_N \times F_{Ae}$$

$$F_{Ae} = Em_{relevant} / Em_{total}$$

Pipeline system



- Proportionality factor for alternative fuels:

$$F_{Ae} = \frac{\textit{Emissions of flights from this airport for which allowances have to be surrendered by the AO}}{\textit{Emissions of all flights of the AO departing from this airport}}$$

- Proportionality factor for eligible fuels:

$$F_{Ae} = \frac{\textit{Emissions to be surrendered by the AO + Emmissions from domestic OMR flights}}{\textit{Emissions of all flights of the AO departing from this airport}}$$

Different geographical scope

Pipeline system

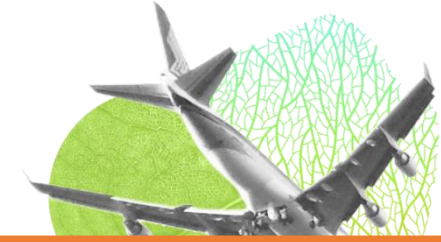


Example 1 – alternative and eligible fuel proportionality is the same:

- AO purchased/used 100 tonnes of neat biofuel ('total neat fuel used at the airport')
- This biofuel was delivered to the fueling system of Frankfurt airport (departure airport)
- The total CO2 emissions from flights subject to surrender departing from Frankfurt (intra-EEA flights) is determined to be 10,000 tonnes CO2 (using 3.16 EF)
- The total CO2 emissions from all flights departing from Frankfurt is determined to be 50,000 tonnes CO2 (using 3.16 EF)
- The proportionality factor is $F = 10,000/50,000 = 0.2$ (20%)
 - The AO can report up to total 20 tonnes (100 x 20%) of neat biofuel at Frankfurt airport
 - Neat biofuel shall be reported in the AER on aerodrome pairs departing from Frankfurt (reduced scope) freely

Technical
limitations
must be met!

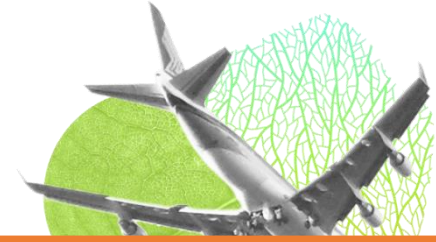
Pipeline system



Example 2 – alternative and eligible fuel proportionality is different:

- AO purchased/used 100 tonnes of neat biofuel
- This biofuel was delivered to the fueling system of Madrid airport (departure airport)
- The total from flights subject to surrender departing from Madrid: 10,000 tonnes CO₂
- The total from OMR domestic flights departing from Madrid: 10,000 tonnes CO₂
- The total from all flights departing from Madrid: 50,000 tonnes CO₂
- The proportionality factor for alternative aviation fuels is $F = 10,000/50,000 = 0.2$ (20%)
- The proportionality factor for eligible aviation fuels is $F = 20,000/50,000 = 0.4$ (40%)
 - The AO can report up to total 20 tonnes (100 x 20%) of neat biofuel at Madrid airport for the purpose of reporting and zero-rating of those fuels
 - The AO can report up to total 40 tonnes (100 x 40%) of neat biofuel at Madrid airport for the purpose of support mechanism under Article 3c(6) (FEETS)
 - Neat biofuel shall be reported in the AER on aerodrome pairs departing from Madrid (reduced scope) freely

Pipeline system



Example 2 – alternative and eligible fuel proportionality is different:

- AO purchased/used 100 tonnes of neat biofuel
- This biofuel was delivered to the fueling system of Madrid airport (departure airport)
- The total from flights subject to surrender departing from Madrid: 10,000 tonnes CO₂
- The total from OMR domestic flights departing from Madrid: 10,000 tonnes CO₂
- The total from all flights departing from Madrid: 50,000 tonnes CO₂
- The proportionality factor for alternative aviation fuels is $F = 10,000/50,000 = 0.2$ (20%)
- The proportionality factor for eligible aviation fuels is $F = 20,000/50,000 = 0.4$ (40%)
 - The AO can report up to total 20 tonnes (100 x 20%) of neat biofuel at Madrid airport for the purpose of reporting and zero-rating of those fuels
 - The AO can report up to total 40 tonnes (100 x 40%) of neat biofuel for the purpose of support mechanism under Article 3c(6) (FEETS)
 - Neat biofuel shall be reported in the AER on aerodrome pairs departing from Madrid (within the scope) freely

Technical
limitations
must be met!

Attribution to flights – technical limitations



- For both scenarios, the AO has to provide the following evidence (53a(4)):
 - Total amount of alternative aviation fuel claimed \leq total fuel usage of that AO from that airport for flights under the EU ETS
 - Amount of alternative aviation fuel for flights under EU ETS \leq total quantity of alternative aviation fuel purchased minus fuels sold to third parties
 - Ratio between alternative aviation fuels and fossil fuels attributed to flights (aerodrome pairs) does not exceed the maximum blending limit for that fuel type as certified according to a recognised international standard;
 - No double counting of the same quantity of alternative aviation fuel, in particular that the alternative aviation fuel purchased is not claimed to be used in an earlier report or by another aircraft operator, or in another carbon pricing system (UDB may be used for proof)
- Any fuel remaining in tanks after a flight and before an uplift is assumed to be 100 % fossil fuel.

Attribution to flights



Example 1:

- AO can report 20 tonnes of neat biofuel purchased/used at Frankfurt airport
- The AO reports the following flights departing from Frankfurt:

departure	arrival	Fuel name	Fuel consumed [tonnes]	Calculated ratio
EDDF	LROP	Jet kerosene	45	10%
EDDF	LROP	HEFA	5	
EDDF	LKPR	Jet kerosene	495	1%
EDDF	LKPR	HEFA	5	
EDDF	LEMD	Jet kerosene	195	2.5%
EDDF	LEMD	HEFA	5	
EDDF	LIRF	Jet kerosene	5	50%
EDDF	LIRF	HEFA	5	



Attribution to flights



Example 2:

- AO can report 20 tonnes of neat biofuel purchased/used at Frankfurt airport
- The AO reports the following flights departing from Frankfurt:

departure	arrival	Fuel name	Fuel consumed [tonnes]	Calculated ratio
EDDF	LROP	Jet kerosene	45	31%
EDDF	LROP	HEFA	20	
EDDF	LKPR	Jet kerosene	500	0%
EDDF	LKPR	HEFA	5	
EDDF	LEMD	Jet kerosene	200	0%
EDDF	LEMD	HEFA	5	
EDDF	LIRF	Jet kerosene	10	0%
EDDF	LIRF	HEFA	5	



Q&A



- The following example:
- A 3rd country a/o has only one single EEA flight to report at all in his AER from Frankfurt to Barcelona (proportional factor 100%). His total fuel consumption for this single reporting flight is just 3t using Method B. The a/o has no other flights to report. The a/o bought 10 t of alternative fuel, which was delivered to Frankfurt airport and he submitted PoS for 10 t of alternative Fuel to the CA in order to claim for a zero emissions factor. Since he had no other EEA flight, what would his “neat fuel consumed” be in this case?
 - The AO can report up to 10 tonnes of this neat alternative fuel
 - The neat alternative fuel shall be reported in the AER on aerodrome pair Frankfurt-Barcelona (only flight) within the technical limits

Q&A



- The AO has to provide the following evidence (53a(4)):
 - Total amount of alternative aviation fuel claimed \leq total fuel usage of that AO from that airport for flights under the EU ETS
 - Amount of alternative aviation fuel for flights under EU ETS \leq total quantity of alternative aviation fuel purchased minus fuels sold to third parties
 - Ratio between alternative aviation fuels and fossil fuels attributed to flights (aerodrome pairs) does not exceed the maximum blending limit for that fuel type as certified according to a recognised international standard;
 - No double counting of the same quantity of alternative aviation fuel, in particular that the alternative aviation fuel purchased is not claimed to be used in an earlier report or by another aircraft operator, or in another carbon pricing system (UDB may be used for proof)
- Any fuel remaining in tanks after a flight and before an uplift is assumed to be 100 % fossil fuel.

Q&A



- The AO has to provide the following evidence (53a(4)):

- Total amount of alternative aviation fuel for flights under the EU ETS **10 > 3 ! - > MAX 3t** message of that AO from that airport
- Amount of alternative aviation fuel for flights under EU ETS \leq total quantity of alternative aviation fuel purchased minus fuels sold to third parties ✓
- Ratio between alternative aviation fuel and fossil fuel attributed to flights (aerodrome pairs) does not exceed the maximum **100% ! -> MAX 50% -> 1.5t** certified according to a recognised international standard
- No double counting of the same quantity of alternative aviation fuel, in particular that the alternative aviation fuel purchased is not claimed to be used in an earlier report or by another aircraft operator, or in another carbon pricing system (UDB may be used for proof) ✓
- Any fuel remaining in tanks after a flight and before an uplift is assumed to be 100 % fossil fuel.



AER template

Thank you!



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