



ICAO EUR/NAT Environment Workshop Hosted by the State Civil Aviation Agency of the Republic of Azerbaijan



ICAO

Reviewing CORSIA Eligible Fuel (CEF) Claims (State Order of Magnitude Checklist)

Georg Naumann



ICAO EUR/NAT Environment (ENV) Task Force Seminar
Baku, Azerbaijan, 9 to 11 December 2025

Approach

- We will **walk through** potential approaches for an Order of Magnitude Check of CEFs claims **together**
- You are invited to open the corresponding files on the ICAO CORSIA website as well

OoMC Template: Section for CEFs

a7) CORSIA eligible fuels (CEF)

No.	Question/Issue	Additional information	Status	Notes and results of check
38	Is the sum of emissions reductions claimed correct and supported by attached Proof of Sustainability (PoS) or Proof of Compliance (PoC) documentation confirming eligibility under CORSIA?	The State should, at a minimum, cross-check CEF claim totals between the Emissions Report and the Verification Report, and conduct spot checks of PoS or PoC documentation for individual batches.		
39	Does a spot check of the documentation confirm that claimed volumes were blended before the end of the compliance cycle?	As per Annex 16, Volume IV, Part II, Chapter 2, 2.3.3.3.		
40	Confirm that the verification body performed checks on double claiming (Verification Report). Did the verification body report any potential risk of double claiming (inside and outside of the CORSIA verification scope)?	The verification body should compare CEF batch numbers with those contained in the CORSIA Central Registry (CCR) and Sustainability Certification Schemes (SCSs) annual reports from the current compliance period, where available, as well as the compliance period immediately preceding it. If a risk of double claiming has been identified by the verification body, further investigation may be warranted, including with authorities in other States (if risk is with another claim in another State, or internally with other State entities).		
41	For a representative sample size, compare CEF batch numbers with production information contained in the SCS annual reports for the most recent reporting year to ensure consistency.	Due to publication timelines, the verification body would not have had access to this latest SCS annual report. As such, it falls to the State to carry out the comparison of CEF batch numbers with production information contained in the SCS annual report for the most recent reporting year.		

- Please open the Order of Magnitude Checklist (OoMC) from the ICAO CORSIA website
- Please go to section a7)

OoMC Template: Section for CEFs

a7) CORSIA eligible fuels (CEF)

No.	Question/Issue	Additional information	Status	Notes and results of check
38	Is the sum of emissions reductions claimed correct and supported by attached Proof of Sustainability (PoS) or Proof of Compliance (PoC) documentation confirming eligibility under CORSIA?	The State should, at a minimum, cross-check CEF claim totals between the Emissions Report and the Verification Report, and conduct spot checks of PoS or PoC documentation for individual batches.		
39	Does a spot check of the documentation confirm that claimed volumes were blended before the end of the compliance cycle?	As per Annex 16, Volume IV, Part II, Chapter 2, 2.3.3.3.		
40	Confirm that the verification body performed checks on double claiming (Verification Report). Did the verification body report any potential risk of double claiming (inside and outside of the CORSIA verification scope)?	The verification body should compare CEF batch numbers with those contained in the CORSIA Central Registry (CCR) and Sustainability Certification Schemes (SCSs) annual reports from the current compliance period, where available, as well as the compliance period immediately preceding it. If a risk of double claiming has been identified by the verification body, further investigation may be warranted, including with authorities in other States (if risk is with another claim in another State, or internally with other State entities).		
41	For a representative sample size, compare CEF batch numbers with production information contained in the SCS annual reports for the most recent reporting year to ensure consistency.	Due to publication timelines, the verification body would not have had access to this latest SCS annual report. As such, it falls to the State to carry out the comparison of CEF batch numbers with production information contained in the SCS annual report for the most recent reporting year.		

- Please open the Order of Magnitude Checklist (OoMC) from the ICAO CORSIA website
- Please go to section a7)

OoMC: No. 38

a7) CORSIA eligible fuels (CEF)

No.	Question/Issue	Additional information	Status	Notes and results of check
38	Is the <u>sum of emissions reductions</u> claimed correct and <u>supported by</u> attached Proof of Sustainability (<u>PoS</u>) or Proof of Compliance (<u>PoC</u>) documentation confirming eligibility under CORSIA?	The State should, at a minimum, cross-check CEF claim totals between the Emissions Report and the Verification Report, and conduct spot checks of PoS or PoC documentation for individual batches.		

- ✓ Where would we find the sum of emissions reductions?
 - Template ICAO CORSIA website

Sum of emissions reductions in Emissions Report template *Section 5 b1) or 5 b2)*

b1) CORSIA eligible fuels claimed

If claiming emission reductions from the use of CORSIA eligible fuels, please complete the table below. Supplementary information about the claim is also required, and can be reported using the CORSIA eligible fuels supplementary information template.

() For the purposes of this template, the fuel total could include the sum of equivalent fuels.*

Fuel type			Total mass of the neat CORSIA eligible fuel (in tonnes)	Approved Life Cycle Emissions values	Emission reductions claimed
Fuel type (e.g. Jet-A) (*)	Feedstock	Conversion process			
Total emission reductions from the use of CORSIA eligible fuel(s) claimed					

OoMC: No. 38

SUMMARY OF CORSIA ELIGIBLE FUELS INFORMATION

a1) Summary of CORSIA eligible fuels (by fuel claim # from CEF Claim Form)

In case information required in this form (requested by Annex 16, Volume IV, Appendix 5, Table A5-2 for claims of emissions reductions from CORSIA eligible fuel) is included in sustainability documentation attached, duplication of information in this form is not mandatory for all fields. Only fields which are marked with an asterisk ("*") and shaded in light orange need to be always filled in. Attached sustainability documentation should entail information that allows for cross-checking of entered data, for instance by granting data on sustainability certification, production methods, chain of custody information etc.

In case you are unable to enter data because the data requirement is not applicable to your operator, please enter "n/a".

In case more than 10 fuel claims have to be entered, please add additional rows to the summary table.

Fuel claim #*	Chain of Custody #*	Fuel type*			Total mass of neat CORSIA eligible fuel claimed (in tonnes)*	Life cycle emissions values of the CORSIA eligible fuel (in gCO ₂ e/MJ)*	Emissions reduction from CORSIA eligible fuels claimed (in tonnes CO ₂)*
		Type of fuel*	Feedstock type*	Conversion process*			
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

b) Summary of information of CORSIA eligible fuels claimed

b1) Total of emissions reduction from CORSIA eligible fuels claimed (in tonnes)*

Please note that the value of this field is automatically calculated using the sum of values from the Emissions reduction from CORSIA eligible fuels claimed (in tonnes CO₂)

-

- ✓ Where would we find the sum of emissions reductions?
 - Template ICAO CORSIA website

- ✓ CORSIA Eligible Fuels Supplementary Information available?
 - Template ICAO CORSIA website
 - ✓ Check with corresponding table in the summary section

OoMC: No. 38

SCOPE OF VERIFICATION REPORT

Please specify which type of report is being verified (an aeroplane operator's Emissions Report with or without CORSIA eligible fuels and/or an aeroplane operator's Emissions Unit Cancellation Report).

Note I: When conducting the verification of an Emissions Unit Cancellation Report exclusively, only the points a), b), c), d), f), g), h), m), p), q), r) and s) shall be applicable.

Note II: The verification body has to provide a conclusion on each of the verification objectives, as applicable, in the concluding verification opinion.

Verification of aeroplane operator's Emissions Report with CORSIA eligible fuels

Please state the aeroplane operator's name.

Please state the time period the claim covers (dd/mm/year - dd/mm/year).

Please state total CO₂ emissions from international flights, as defined in Annex 16, Volume IV, Part II, Chapter 1, 1.1.2 and Chapter 2, 2.1 and 2.2 (in tonnes).

Please state total CO₂ emissions from international flights subject to offsetting requirements, as defined in Annex 16, Volume IV, Part II, Chapter 1, 1.1.2 and Chapter 3, 3.1 (in tonnes).

Total emissions reductions claimed from CORSIA eligible fuels as calculated in accordance with equations described in Annex 16, Volume IV, Part II, Chapter 3, 3.3 (in tonnes) and **verified as satisfactory (prompt 1 below)** or **verified with comments (prompt 2 below)**.

1

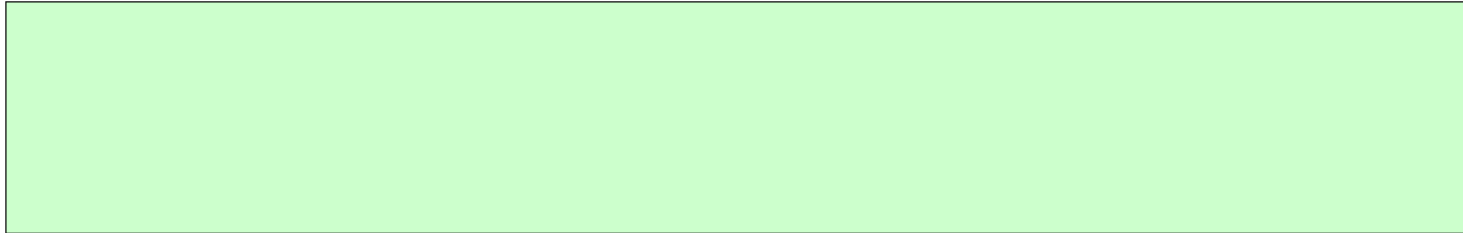
2

- ✓ Where would we find the sum of emissions reductions?
 - Template ICAO CORSIA website
- ✓ CORSIA Eligible Fuels Supplementary Information available?
 - Template ICAO CORSIA website
 - ✓ Check with corresponding table in the summary section
- ✓ Scope of Verification Report appropriate?
 - Template ICAO CORSIA website
 - ✓ Check emissions reductions claimed from CEF
 - ✓ Review Verification Report

OoMC: No. 38

c1) CORSIA eligible fuels

If the verification includes a claim of CORSIA eligible fuels, please indicate the source of the CORSIA eligible fuel information and if direct access to the fuel producer was required and provided.



formation | Scope of Verification Report | Identification | **Time Allocation and Scope** | General Information | Process and Analy

- ✓ Where would we find the sum of emissions reductions?
 - Template ICAO CORSIA website

- ✓ CORSIA Eligible Fuels Supplementary Information available?
 - Template ICAO CORSIA website
 - ✓ Check with corresponding table in the summary section

- ✓ Scope of Verification Report appropriate?
 - Template ICAO CORSIA website
 - ✓ Check emissions reductions claimed from CEF
 - ✓ Review Verification Report

OoMC: No. 38

f) Information and data used of the aeroplane operator

Please specify which data and documents were used by the verification body to carry out verification activities (e.g. list of flight activities exported from the Operational Management System as of dd/mm/yy, flight logs and ACARS messages of the following flights, instructions for flight crews for use of density information of fuel as contained in document xyz, declaration by the aeroplane operator that no claims were made for the same batches of CORSIA eligible fuel in other GHG schemes as per Annex 16, Volume IV, Part II, Chapter 2, 2.3.3.2, review of external information on batches of CORSIA eligible fuels, such as CORSIA Central Registry data or Sustainability Certification Schemes' reports on the ICAO CORSIA website, etc.).

mation | Scope of Verification Report | Identification | Time Allocation and Scope | **General Information** | Process and Analy

- ✓ Where would we find the sum of emissions reductions?
 - Template ICAO CORSIA website

- ✓ CORSIA Eligible Fuels Supplementary Information available?
 - Template ICAO CORSIA website
 - ✓ Check with corresponding table in the summary section

- ✓ Scope of Verification Report appropriate?
 - Template ICAO CORSIA website
 - ✓ Check emissions reductions claimed from CEF
 - ✓ Review Verification Report

OoMC: No. 38

g) Strategic analysis and risk assessment

Please specify the main results of the strategic analysis and risk assessment.

Note: If applicable, this item also requires indicating if the strategic analysis revealed any risk for double claiming of CORSIA eligible fuels in other mandatory or voluntary GHG schemes. If yes, please list the schemes. The strategic analysis should be informed by, but not solely based on, a declaration by the aeroplane operator of all other GHG schemes it participates in, as per Annex 16, Volume IV, Part II, Chapter 2, 2.3.3.2.

- ✓ Where would we find the sum of emissions reductions?
 - Template ICAO CORSIA website

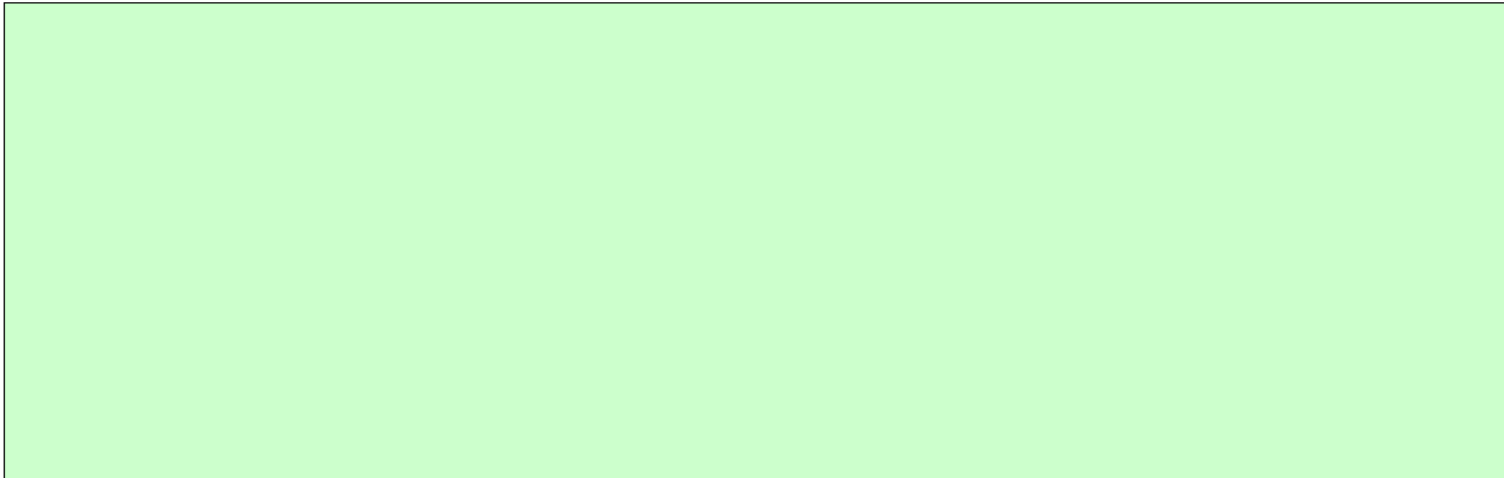
- ✓ CORSIA Eligible Fuels Supplementary Information available?
 - Template ICAO CORSIA website
 - ✓ Check with corresponding table in the summary section

- ✓ Scope of Verification Report appropriate?
 - Template ICAO CORSIA website
 - ✓ Check emissions reductions claimed from CEF
 - ✓ Review Verification Report

OoMC: No. 38

m) Non-conformities and misstatements identified

Please list identified non-conformities and misstatements. Please describe how these have been resolved. Please also indicate whether any of the listed non-conformities and misstatements were identified in previous CORSIA verifications (last three years). Please assess the quantitative materiality for non-conformities identified in previous years. The last section of the template allows to indicate optional information on potential improvements in the monitoring and reporting procedures of the aeroplane operator.



- ✓ Where would we find the sum of emissions reductions?
 - Template ICAO CORSIA website

- ✓ CORSIA Eligible Fuels Supplementary Information available?
 - Template ICAO CORSIA website
 - ✓ Check with corresponding table in the summary section

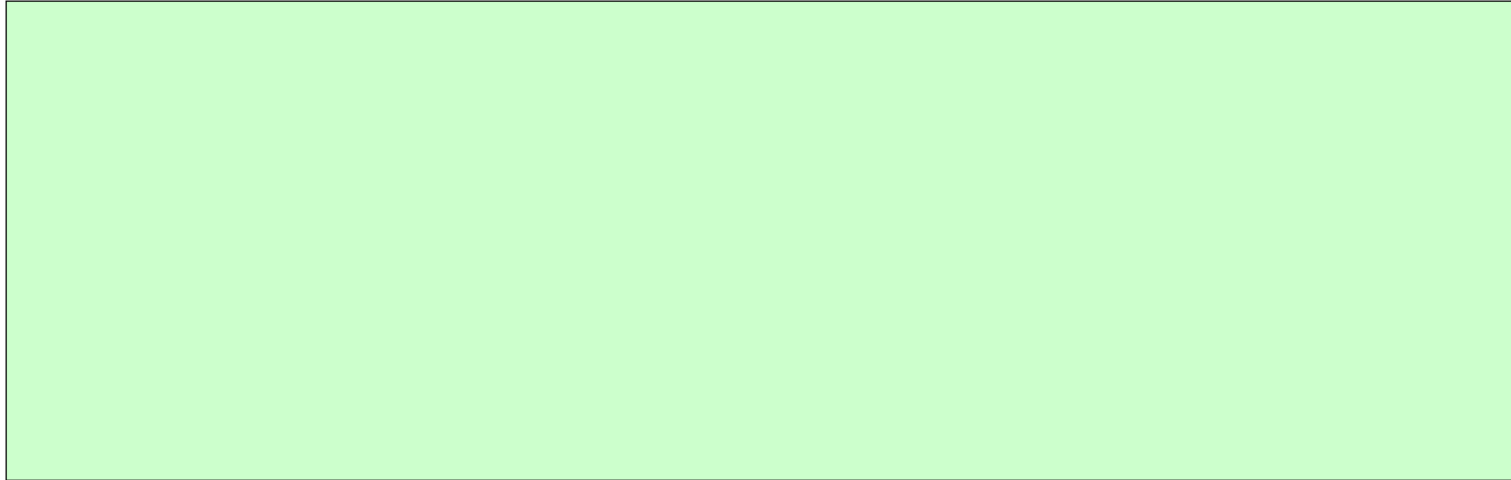
- ✓ Scope of Verification Report appropriate?
 - Template ICAO CORSIA website
 - ✓ Check emissions reductions claimed from CEF
 - ✓ Review Verification Report

OoMC: No. 38

o) Conclusion in relation to the aeroplane operator's Emissions Report

Please specify the conclusions on the verification of the aeroplane operator's Emissions Report by providing an individual conclusion for each of the verification objectives as listed in Annex 16, Volume IV, Appendix 6, 3.3.1 (as applicable).

Note: If applicable, this also includes a statement on whether the CORSIA eligible fuels emissions reductions claim is: calculated correctly; eligible under CORSIA; not previously claimed by the operator under CORSIA or in any other GHG scheme it participates in; and supported by sufficient evidence. This includes a statement by the verification body on whether the document review supported the declaration of the aeroplane operator that no claims were made for the same batches of CORSIA eligible fuel in other schemes.



- ✓ Where would we find the sum of emissions reductions?
 - Template ICAO CORSIA website

- ✓ CORSIA Eligible Fuels Supplementary Information available?
 - Template ICAO CORSIA website
 - ✓ Check with corresponding table in the summary section

- ✓ Scope of Verification Report appropriate?
 - Template ICAO CORSIA website
 - ✓ Check emissions reductions claimed from CEF
 - ✓ Review Verification Report

OoMC: No. 38

s) Concluding verification opinion

Please note: The reports(s) that is/are the subject of this verification opinion is/are the sole responsibility of the aeroplane operator.

s1) Concluding verification opinion for the Emissions Report

Please select the verification opinion.

Date of issue.

1a) Satisfactory with comments

Please specify the non-material misstatements and non-conformities.

Note: If the review of external information (such as CORSIA Central Registry data or Sustainability Certification Schemes' reports on the ICAO CORSIA website) revealed any inconsistencies regarding the CORSIA eligible fuels emissions reductions claim (e.g. batch numbers already claimed by other operators in the past), please specify the findings and list the relevant batch numbers here.

- ✓ Where would we find the sum of emissions reductions?
 - Template ICAO CORSIA website

- ✓ CORSIA Eligible Fuels Supplementary Information available?
 - Template ICAO CORSIA website
 - ✓ Check with corresponding table in the summary section

- ✓ Scope of Verification Report appropriate?
 - Template ICAO CORSIA website
 - ✓ Check emissions reductions claimed from CEF
 - ✓ Review Verification Report

OoMC: No. 38

Proof of Sustainability (PoS) for CORSIA Eligible Fuels V2.0

For one batch of CORSIA eligible fuel according to the ICAO Standards and Recommended Practices, Annex 16, Volume IV, Part II, Appendix 5, Table A5-2

Unique Number of Sustainability Declaration / Batch ID number: ABC-123

Place and date of dispatch: CEF producer site, Example Street 123, 789 Ontario; 15 March 2024

Date of issuance: 17. Mar 24

Original CEF Batch Information

This information is determined by the CORSIA eligible fuel (CEF) producer and must be forwarded/reproduced by downstream entities along the supply chain with future PoS

Date of CEF production: 27 February 2024

Original CEF batch number (as determined by CEF producer): ABC-123

Mass of original CEF batch (in mt): 10

Supplier		Recipient	
Name: Example CEF producer	Name: Example CEF blender	Name: Example CEF producer	Name: Example CEF blender
Address: CEF producer site Example Street 123 789 Ontario	Address: CEF blender site Another Example Street 456 678 Toronto	Address: CEF producer site Example Street 123 789 Ontario	Address: CEF blender site Another Example Street 456 678 Toronto
Certification System: ISCC CORSIA	Contract Number: DEF456	Certificate Number: ISCC-CORSIA-Cert-US133-11804512	Contract Number: DEF456

1. General Information

Type of Product: ALJ-SPK (ethanol)

Type of Raw Material: Corn grain

Additional Information (voluntary):

Country of Origin (of the raw material): Canada

Quantity: 10,000 mt m³ metric tons

Energy content (MJ): 440,000 MJ

2. Scope Of Certification Of Raw Material

The raw material complies with the approved CORSIA sustainability criteria (i.e., was certified under ISCC CORSIA or another CORSIA approved scheme)? Yes No

The raw material complies with the approved CORSIA sustainability criteria as well as additional social sustainability criteria (i.e., was certified under ISCC CORSIA PLUS)? Yes No

The raw material was additionally certified according to the low land use change (LUC) risk approach? Yes No

The raw material meets the definition of waste, residue or by-product according to CORSIA? Yes No

3. Life Cycle Emissions Information

Use of default core life cycle emissions value Yes No

Default induced land use change (ILUC) value (or DLUC value where applicable): 29.7 gCO₂eq/MJ

Actual core life cycle emissions values:

1	2	3	4	5	6	7	
10.0	2.0	4.0	2.0	8.0	3.0	0.0	= 29 gCO ₂ eq/MJ

Total life cycle emissions of the CORSIA eligible fuel (CEF): 58.7 gCO₂eq/MJ

Life cycle emissions reduction of the CORSIA eligible fuel:

34.0%	for jet fuel (baseline: 89 gCO ₂ eq/MJ)	38.2%	for aviation gasoline (AvGas) (baseline: 95 gCO ₂ eq/MJ)
-------	--	-------	---

This form is valid without signature. By issuing this PoS, the issuing party guarantees that all information made on this Proof of Sustainability are correct, in compliance with the requirements of ISCC and CORSIA.

Fuel claim #*	Chain of Custody #*	Fuel type*			Total mass of neat CORSIA eligible fuel claimed (in tonnes)*	Life cycle emissions values of the CORSIA eligible fuel (in gCO ₂ e/MJ)*	Emissions reduction from CORSIA eligible fuels claimed (in tonnes CO ₂)*
		Type of fuel*	Feedstock type*	Conversion process*			
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							



- ✓ Where would we find the sum of emissions reductions?
 - Template ICAO CORSIA website
- ✓ CORSIA Eligible Fuels Supplementary Information available?
 - Template ICAO CORSIA website
 - ✓ Check with corresponding table in the summary section
- ✓ Scope of Verification Report appropriate?
 - Template ICAO CORSIA website
 - ✓ Check emissions reductions claimed from CEF
 - ✓ Review Verification Report
- ✓ PoS/PoC provided and data correct?
 - ✓ Spot checks

Exercise

- Please take the PoS and complete table a1) “Summary of CORSIA eligible fuels (by fuel claim # from CEF Claim Form)” yourself (we pretend that this is the PoS after the blending...)
- What would have been the Default Core LCA Value / Default ILUC Value / Default Life Cycle Emissions Value L_{CEF} ?

a1) Summary of CORSIA eligible fuels (by fuel claim # from CEF Claim Form)

*In case information required in this form (requested by Annex 16, Volume IV, Appendix 5, Table A5-2 for claims of emissions reductions from CORSIA eligible fuel) is included in sustainability documentation attached, duplication of information in this form is not mandatory for all fields. Only fields which are marked with an asterisk (“**”) and shaded in light orange need to be always filled in. Attached sustainability documentation should entail information that allows for cross-checking of entered data, for instance by granting data on sustainability certification, production methods, chain of custody information etc.*

In case you are unable to enter data because the data requirement is not applicable to your operator, please enter "n/a".

In case more than 10 fuel claims have to be entered, please add additional rows to the summary table.

Fuel claim #**	Chain of Custody #**	Fuel type*			Total mass of neat CORSIA eligible fuel claimed (in tonnes)*	Life cycle emissions values of the CORSIA eligible fuel (in gCO ₂ e/MJ)*	Emissions reduction from CORSIA eligible fuels claimed (in tonnes CO ₂)*
		Type of fuel*	Feedstock type*	Conversion process*			
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

b) Summary of information of CORSIA eligible fuels claimed

b1) Total of emissions reduction from CORSIA eligible fuels claimed (in tonnes)*

Please note that the value of this field is automatically calculated using the sum of values from the Emissions reduction from CORSIA eligible fuels claimed (in tonnes CO₂)

-

Proof of Sustainability (PoS) for CORSIA Eligible Fuels

V2.0

For one batch of CORSIA eligible fuel according to the ICAO Standards and Recommended Practices, Annex 16, Volume IV, Part II, Appendix 5, Table A5-2

Unique Number of Sustainability Declaration / Batch ID number:

ABC-123



Place and date of dispatch:

CEF producer site, Example Street 123, 789 Ontario; 15 March 2024

Date of issuance:

17. Mar 24

www.iscc-system.org

Original CEF Batch Information

This information is determined by the CORSIA eligible fuel (CEF) producer and must be forwarded/reproduced by downstream entities along the supply chain with future PoS

Date of CEF production:

27 February 2024

Original CEF batch number (as determined by CEF producer):

ABC-123

Mass of original CEF batch (in mt):

10

Supplier

Name:
Example CEF producer

Address:
CEF producer site
Example Street 123
789 Ontario

Certification System: ISCC CORSIA

Certificate Number:
ISCC-CORSIA-Cert-US133-11804512

Recipient

Name:
Example CEF blender

Address:
CEF blender site
Another Example Street 456
678 Toronto

Contract Number:
DEF456

1. General Information

Type of Product:

ALJ-SPK (ethanol)

Type of Raw Material:

Corn grain

Additional Information (voluntary):

Country of Origin (of the raw material):

Canada

Quantity:

10,000 mt m³ metric tons

Energy content (MJ):

440.000 MJ

2. Scope Of Certification Of Raw Material

The raw material complies with the approved CORSIA sustainability criteria (i.e., was certified under ISCC CORSIA or another CORSIA approved scheme)¹ Yes No

The raw material complies with the approved CORSIA sustainability criteria as well as additional social sustainability criteria (i.e., was certified under ISCC CORSIA PLUS)² Yes No

The raw material was additionally certified according to the low land use change (LUC) risk approach³ Yes No

The raw material meets the definition of waste, residue or by-product according to CORSIA⁴ Yes No

3. Life Cycle Emissions Information

Use of default core life cycle emissions value Yes No

Default induced land use change (ILUC) value (or DLUC value where applicable)⁵ 29,7 gCO₂eq/MJ

Actual core life cycle emissions values:

1 10,0 + 2 2,0 + 3 4,0 + 4 2,0 + 5 8,0 + 6 3,0 + 7 0,0 = 29 gCO₂eq/MJ

Total life cycle emissions of the CORSIA eligible fuel (CEF): 58,7 gCO₂eq/MJ

Life cycle emissions reduction of the CORSIA eligible fuel:⁶

34,0% for jet fuel (baseline: 89 gCO₂eq/MJ)

38,2% for aviation gasoline (AvGas) (baseline: 95 gCO₂eq/MJ)

This form is valid without signature. By issuing this PoS, the issuing party guarantees that all information made on this Proof of Sustainability are correct, in compliance with the requirements of ISCC and CORSIA

Summary of CORSIA eligible fuels

a1) Summary of CORSIA eligible fuels (by fuel claim # from CEF Claim Form)

In case information required in this form (requested by Annex 16, Volume IV, Appendix 5, Table A5-2 for claims of emissions reductions from CORSIA eligible fuel) is included in sustainability documentation attached, duplication of information in this form is not mandatory for all fields. Only fields which are marked with an asterisk ("*") and shaded in light orange need to be always filled in. Attached sustainability documentation should entail information that allows for cross-checking of entered data, for instance by granting data on sustainability certification, production methods, chain of custody information etc.

In case you are unable to enter data because the data requirement is not applicable to your operator, please enter "n/a".

In case more than 10 fuel claims have to be entered, please add additional rows to the summary table.

Fuel claim #*	Chain of Custody #*	Fuel type*			Total mass of neat CORSIA eligible fuel claimed (in tonnes)*	Life cycle emissions values of the CORSIA eligible fuel (in gCO ₂ e/MJ)*	Emissions reduction from CORSIA eligible fuels claimed (in tonnes CO ₂)*
		Type of fuel*	Feedstock type*	Conversion process*			
1	1	Jet-A1	Corn grain	ATJ-SPK	10	59	10758
2							
3							
4							
5							
6							
7							
8							
9							
10							

Alcohol-to-Jet
Synthetic Paraffinic Kerosene

b) Summary of information of CORSIA eligible fuels claimed

b1) Total of emissions reduction from CORSIA eligible fuels claimed (in tonnes)*

Please note that the value of this field is automatically calculated using the sum of values from the Emissions reduction from CORSIA eligible fuels claimed (in tonnes CO₂)

10 758

Calculation of the emissions reductions from CEFs

- $$ER_{2024} = 3.16 \frac{\text{tonnes CO}_2}{\text{tonnes fuel}} \times \left(10,000 \text{ tonnes fuel} \times \left(1 - \frac{58.7 \frac{\text{gCO}_2\text{e}}{\text{MJ}}}{89 \frac{\text{gCO}_2\text{e}}{\text{MJ}}} \right) \right)$$

- $$ER_{2024} = 3.16 \frac{\text{tonnes CO}_2}{\text{tonnes fuel}} \times (10,000 \text{ tonnes fuel} \times 0.34045)$$

- $$ER_{2024} = 3.16 \frac{\text{tonnes CO}_2}{\text{tonnes fuel}} \times (3,404.5 \text{ tonnes fuel})$$

- $$ER_{2024} = 10,758 \text{ tonnes CO}_2$$

3.3 Emissions reductions from the use of CORSIA eligible fuels

3.3.1 The aeroplane operator that intends to claim for emissions reductions from the use of CORSIA eligible fuels in a given year shall compute emissions reductions as follows:

$$ER_y = FCF * \left[\sum_f MS_{f,y} * \left(1 - \frac{L_{CEF}}{LC} \right) \right]$$

where:

- ER_y = Emissions reductions from the use of CORSIA eligible fuels in the given year y (in tonnes);
- FCF = Fuel conversion factor, equal to 3.16 kg CO₂/kg fuel for Jet-A fuel, Jet-A1 fuel, TS-1 fuel, or No. 3 Jet fuel and 3.10 kg CO₂/kg fuel for AvGas or Jet-B fuel;
- MS_{f,y} = Total mass of a neat CORSIA eligible fuel claimed in the given year y (in tonnes), as described and reported in Field 14.b in Table A5-1 from Appendix 5;
- L_{CEF} = Life cycle emissions value for a CORSIA eligible fuel (in gCO₂e/MJ); and
- LC = Baseline life cycle emissions values for aviation fuel, equal to 89 gCO₂e/MJ for Jet-A fuel, Jet-A1 fuel, Jet-B fuel, TS-1 fuel, or No. 3 Jet fuel and equal to 95 gCO₂e/MJ for AvGas.

Note 1.— The ratio $\left(1 - \frac{L_{CEF}}{LC} \right)$ is also referred to as the emissions reduction factor (ERF_f) of a CORSIA eligible fuel.

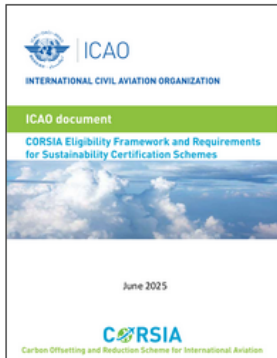
Note 2.— For each of the CORSIA eligible fuels claimed, the total mass of the neat CORSIA eligible fuel claimed in the given year y needs to be multiplied by its emissions reduction factor (ERF_f). Then the quantities are summed for all CORSIA eligible fuels.

What would have been the Default Core LCA Value?

ICAO documents related to CORSIA eligible fuels

[Annex 16, Volume IV](#) include references to 5 ICAO documents that are essential to the implementation of the CORSIA. These ICAO documents are available below, and may only be amended by the ICAO Council.

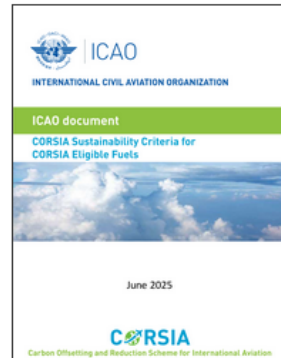
Last Update: November/2025



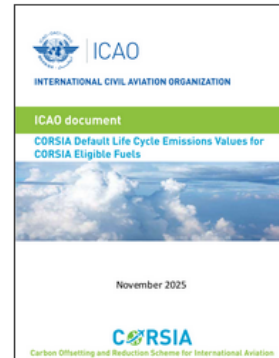
[CORSIA Eligibility Framework and Requirements for Sustainability Certification Schemes](#)
Fourth Edition,
June 2025



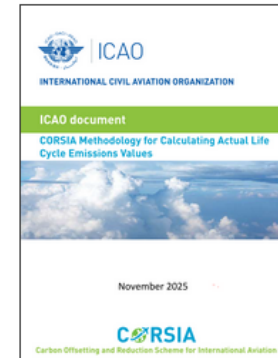
[CORSIA Approved Sustainability Certification Schemes*](#)
Third Edition,
October 2024



[CORSIA Sustainability Criteria for CORSIA Eligible Fuels**](#)
Fourth Edition,
June 2025



[CORSIA Default Life Cycle Emissions Values for CORSIA Eligible Fuels***](#)
Eighth Edition,
November 2025



[CORSIA Methodology for Calculating Actual Life Cycle Emissions Values](#)
Seventh Edition,
November 2025

What would have been the Default Core LCA Value?

- $L_{CEF} = \text{core LCA value} + \text{ILUC} (- \text{emission credits})$
- $L_{CEF} = 54.1 \frac{\text{gCO}_2\text{e}}{\text{MJ}} + 23.2 \frac{\text{gCO}_2\text{e}}{\text{MJ}}$
- $L_{CEF} = 77.4 \frac{\text{gCO}_2\text{e}}{\text{MJ}}$

ICAO document - CORSIA Default Life Cycle Emissions Values for CORSIA Eligible Fuels

3 GENERAL PROVISIONS

3.1 Use of default values for L_{CEF} calculation

An aeroplane operator that intends to claim for emissions reductions from the use of CORSIA eligible fuels in a given year may use an Actual Life Cycle Emission Value or a Default Life Cycle emission value to compute these emission reductions (reference: Annex 16 Vol IV Part II Section 3.3.).

A Life Cycle Emissions value (L_{CEF}) is calculated from the following equation:

$L_{CEF} = \text{core LCA value} + \text{ILUC} - \text{emission credits}$; where:

a) core LCA value can be obtained in two ways:

1. a default core LCA value obtained from Section 4 of this document, or
2. an actual core LCA value calculated with the use of the methodologies described in the ICAO document "ICAO document - CORSIA Methodology For Calculating Actual Life Cycle Emissions Values"

b) ILUC value can be obtained in two ways:

1. Default ILUC values obtained from Section 5 of this document,

Note: These default ILUC values are directly applicable to feedstocks produced in land that was converted before 1 January 2008. In the event of land use conversion after 1 January 2008, direct land use change (DLUC) emissions will be calculated according to the methodologies defined in Section 8 of the ICAO document "CORSIA methodology for calculating actual life cycle emissions values". If DLUC greenhouse gas emissions exceed the default induced land use change (ILUC) value, the DLUC value will replace the default ILUC value.

Or

2. ILUC=0 with the use of the low Land use change (LUC) risk practices provided in Section 5 of the ICAO document "CORSIA methodology for calculating actual life cycle emission values".

c) emission credits can be obtained with the methodologies listed in Section 6 of the ICAO document "CORSIA methodology for calculating actual life cycle emission values". The use of emission credits is optional.

OoMC Template: Section for CEFs

a7) CORSIA eligible fuels (CEF)

No.	Question/Issue	Additional information	Status	Notes and results of check
38	Is the sum of emissions reductions claimed correct and supported by attached Proof of Sustainability (PoS) or Proof of Compliance (PoC) documentation confirming eligibility under CORSIA?	The State should, at a minimum, cross-check CEF claim totals between the Emissions Report and the Verification Report, and conduct spot checks of PoS or PoC documentation for individual batches.		
39	Does a spot check of the documentation confirm that claimed volumes were blended before the end of the compliance cycle?	As per Annex 16, Volume IV, Part II, Chapter 2, 2.3.3.3.		
40	<p>Confirm that the verification body performed checks on double claiming (Verification Report).</p> <p>Did the verification body report any potential risk of double claiming (inside and outside of the CORSIA verification scope)?</p>	<p>The verification body should compare CEF batch numbers with those contained in the CORSIA Central Registry (CCR) and Sustainability Certification Schemes (SCSs) annual reports from the current compliance period, where available, as well as the compliance period immediately preceding it.</p> <p>If a risk of double claiming has been identified by the verification body, further investigation may be warranted, including with authorities in other States (if risk is with another claim in another State, or internally with other State entities).</p>		
41	For a representative sample size, compare CEF batch numbers with production information contained in the SCS annual reports for the most recent reporting year to ensure consistency.	Due to publication timelines, the verification body would not have had access to this latest SCS annual report. As such, it falls to the State to carry out the comparison of CEF batch numbers with production information contained in the SCS annual report for the most recent reporting year.		

- Please open the Order of Magnitude Checklist (OoMC) from the ICAO CORSIA website
- Please go to section a7)

OoMC: No. 39

39	Does a <u>spot check</u> of the documentation confirm that claimed volumes were <u>blended</u> before the end of the compliance cycle?	As per Annex 16, Volume IV, Part II, Chapter 2, 2.3.3.3.		
----	--	--	--	--

Blending before the end of the compliance period

2.3.3.3 To claim emissions reductions from the use of CORSIA eligible fuels in the Emissions Report, the aeroplane operator shall provide the information as described in Appendix 5 Table A5-2 within a given compliance period for all CORSIA eligible fuel **received by a blender by the end of that compliance period.** The information provided is through to the blend point, and includes information received from both the neat (unblended) fuel producer and the fuel blender.

d) Blender information

d1) Date the neat CORSIA eligible fuel was received* <i>Please enter the date the neat CORSIA eligible fuel was received by blender. Use the format yyyy-mm-dd.</i>						
d2) Mass of neat CORSIA eligible fuel received <i>Please enter the mass of neat CORSIA eligible fuel received (in tonnes).</i>						
d3) Blend ratio of neat CORSIA eligible fuel and aviation fuel <i>Please enter the blend ratio of neat CORSIA eligible fuel and aviation fuel.</i>						

Plate Information AO Identification CEF Chain of Custody Form **CEF Claim Form** Summary +

b) Purchase or shipment date(s)*
Please enter the date or date range when the neat CORSIA eligible fuel was purchased or shipped from the blender. Use the format yyyy-mm-dd.

Purchase or shipment date(s)*

--	--	--	--	--	--	--

c) Production information

c1) Date of production of the neat CORSIA eligible fuel*
Please enter the date of production of the neat CORSIA eligible fuel. Use the format yyyy-mm-dd.

--	--	--	--	--	--	--

Plate Information AO Identification CEF Chain of Custody Form **CEF Claim Form** Summary +

OoMC Template: Section for CEFs

a7) CORSIA eligible fuels (CEF)

No.	Question/Issue	Additional information	Status	Notes and results of check
38	Is the sum of emissions reductions claimed correct and supported by attached Proof of Sustainability (PoS) or Proof of Compliance (PoC) documentation confirming eligibility under CORSIA?	The State should, at a minimum, cross-check CEF claim totals between the Emissions Report and the Verification Report, and conduct spot checks of PoS or PoC documentation for individual batches.		
39	Does a spot check of the documentation confirm that claimed volumes were blended before the end of the compliance cycle?	As per Annex 16, Volume IV, Part II, Chapter 2, 2.3.3.3.		
40	<p>Confirm that the verification body performed checks on double claiming (Verification Report).</p> <p>Did the verification body report any potential risk of double claiming (inside and outside of the CORSIA verification scope)?</p>	<p>The verification body should compare CEF batch numbers with those contained in the CORSIA Central Registry (CCR) and Sustainability Certification Schemes (SCSs) annual reports from the current compliance period, where available, as well as the compliance period immediately preceding it.</p> <p>If a risk of double claiming has been identified by the verification body, further investigation may be warranted, including with authorities in other States (if risk is with another claim in another State, or internally with other State entities).</p>		
41	For a representative sample size, compare CEF batch numbers with production information contained in the SCS annual reports for the most recent reporting year to ensure consistency.	Due to publication timelines, the verification body would not have had access to this latest SCS annual report. As such, it falls to the State to carry out the comparison of CEF batch numbers with production information contained in the SCS annual report for the most recent reporting year.		

- Please open the Order of Magnitude Checklist (OoMC) from the ICAO CORSIA website
- Please go to section a7)

OoMC: No. 40

40	<p>Confirm that the verification body performed <u>checks on double claiming</u> (Verification Report).</p> <p>Did the verification body report any <u>potential risk of double claiming</u> (inside and outside of the CORSIA verification scope)?</p>	<p>The <u>verification body should compare</u> CEF batch numbers with those contained in the CORSIA Central Registry (CCR) and Sustainability Certification Schemes (SCSs) annual reports from the current compliance period, where available, as well as the compliance period immediately preceding it.</p> <p><u>If a risk of double claiming has been identified by the verification body, further investigation may be warranted, including with authorities in other States (if risk is with another claim in another State, or internally with other State entities).</u></p>		
----	---	--	--	--

Double Claiming

o) Conclusion in relation to the aeroplane operator's Emissions Report

Please specify the conclusions on the verification of the aeroplane operator's Emissions Report by providing an individual conclusion for each of the verification objectives as listed in Annex 16, Volume IV, Appendix 6, 3.3.1 (as applicable).

Note: If applicable, this also includes a statement on whether the CORSIA eligible fuels emissions reductions claim is: calculated correctly; eligible under CORSIA; not previously claimed by the operator under CORSIA or in any other GHG scheme it participates in; and supported by sufficient evidence. This includes a statement by the verification body on whether the document review supported the declaration of the aeroplane operator that no claims were made for the same batches of CORSIA eligible fuel in other schemes.

s) Concluding verification opinion

Please note: The report(s) that is/are the subject of this verification opinion is/are the sole responsibility of the aeroplane operator.

s1) Concluding verification opinion for the Emissions Report

Please select the verification opinion.

Date of issue.

1a) Satisfactory with comments

Please specify the non-material misstatements and non-conformities.

Note: If the review of external information (such as CORSIA Central Registry data or Sustainability Certification Schemes' reports on the ICAO CORSIA website) revealed any inconsistencies regarding the CORSIA eligible fuels emissions reductions claim (e.g. batch numbers already claimed by other operators in the past), please specify the findings and list the relevant batch numbers here.

Verification Report

OoMC Template: Section for CEFs

a7) CORSIA eligible fuels (CEF)

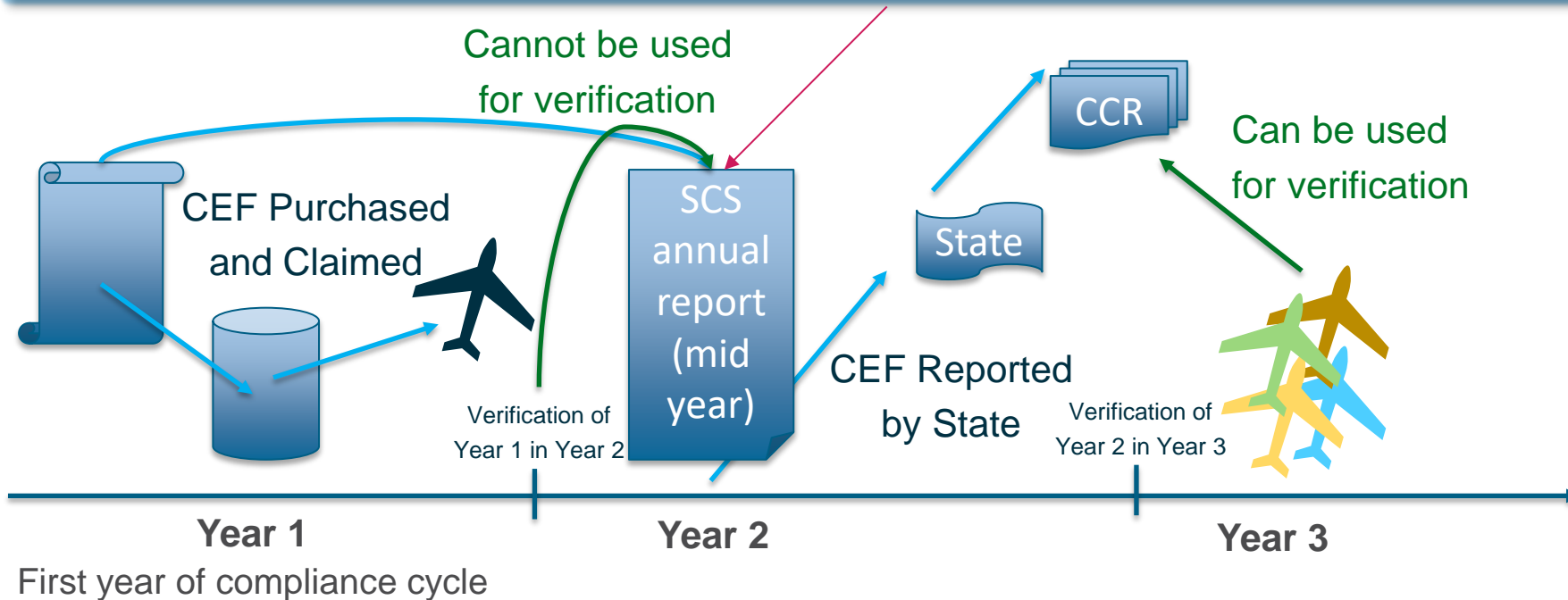
No.	Question/Issue	Additional information	Status	Notes and results of check
38	Is the sum of emissions reductions claimed correct and supported by attached Proof of Sustainability (PoS) or Proof of Compliance (PoC) documentation confirming eligibility under CORSIA?	The State should, at a minimum, cross-check CEF claim totals between the Emissions Report and the Verification Report, and conduct spot checks of PoS or PoC documentation for individual batches.		
39	Does a spot check of the documentation confirm that claimed volumes were blended before the end of the compliance cycle?	As per Annex 16, Volume IV, Part II, Chapter 2, 2.3.3.3.		
40	Confirm that the verification body performed checks on double claiming (Verification Report). Did the verification body report any potential risk of double claiming (inside and outside of the CORSIA verification scope)?	The verification body should compare CEF batch numbers with those contained in the CORSIA Central Registry (CCR) and Sustainability Certification Schemes (SCSs) annual reports from the current compliance period, where available, as well as the compliance period immediately preceding it. If a risk of double claiming has been identified by the verification body, further investigation may be warranted, including with authorities in other States (if risk is with another claim in another State, or internally with other State entities).		
41	For a representative sample size, compare CEF batch numbers with production information contained in the SCS annual reports for the most recent reporting year to ensure consistency.	Due to publication timelines, the verification body would not have had access to this latest SCS annual report. As such, it falls to the State to carry out the comparison of CEF batch numbers with production information contained in the SCS annual report for the most recent reporting year.		

- Please open the Order of Magnitude Checklist (OoMC) from the ICAO CORSIA website
- Please go to section a7)



OoMC: No. 41

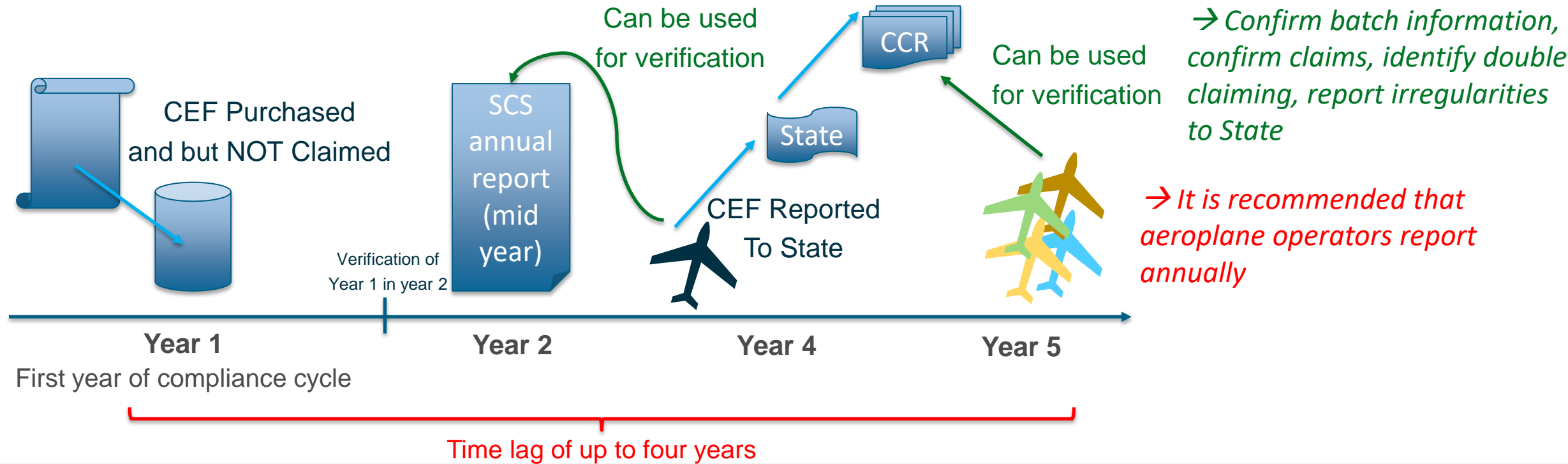
41	For a <u>representative sample size</u> , compare <u>CEF batch numbers</u> with production information contained in the <u>SCS annual reports</u> for the most recent reporting year to ensure consistency.	Due to publication timelines, the verification body would not have had access to this latest SCS annual report. As such, it falls to the State to carry out the comparison of CEF batch numbers with production information contained in the SCS annual report for the most recent reporting year.		
----	---	--	--	--



→ Confirm batch information, confirm claims, **identify double claiming**, report irregularities to State

OoMC: No. 41

41	For a <u>representative sample size</u> , <u>compare CEF batch numbers</u> with production information contained in the <u>SCS annual reports</u> for the most recent reporting year to ensure consistency.	Due to publication timelines, the verification body would not have had access to this latest SCS annual report. As such, it falls to the State to carry out the comparison of CEF batch numbers with production information contained in the SCS annual report for the most recent reporting year.		
----	---	--	--	--



OoMC: No. 41

CORSIA Certified Fuels and Economic operators

Table 1 of the ICAO document "[CORSIA Eligibility Framework and Requirements for Sustainability Certification Schemes](#)" requires approved SCSs to submit an annual report to ICAO. This annual report includes information on the CORSIA-certified economic operators, and products they produce (including CORSIA eligible fuels).

The annual reports provided by the approved SCSs are below.

ISCC	RSB	ClassNK
2021 report	2021 report	
2022 report	2022 report	
2023 report	2023 report	
2024 report	2024 report	2024 report



Part IV: Information on CORSIA Eligible Fuels (CEF) Claimed

Description This ICAO document is published following the reporting of relevant data by States to ICAO, as per the timeline defined in Annex 16, Volume IV, Appendix 1. Details on the information that are published in this ICAO document can be found in Annex 16, Volume IV, Appendix 5, Note under Table A5-6.

Current edition First edition (October 2025) containing information and data for reporting year 2024 - [click here](#)



Reporting year: 2024

Production year	Producer	Production location	Fuel type	Feedstock	Conversion process	Life Cycle Emissions Value (gCO _{2e} /MJ)	Batch number	Total mass of batch (tonnes)
2024	NESTE Singapore Pte Ltd.	1 Tuas South Lane, 637301, Singapore	Jet-A1	Used cooking oil	Hydroprocessed Esters and Fatty Acids (HEFA)	14	J4-24-15	1430.01

Field 8 - Batch information of CEF certified

Code of Economic Operator (fuel producer) ISCC Registration number	8. a Batch Number	8. b Total Mass of Batch (tonnes)	8. c Whether "provisional" (not yet verified by auditors) or "verified" for each batch. [Provisional* batches that are self-reported by the economic operator to the SCS will be reported again in the following year annual report once verified by auditors.]	8. d Date of production of the CORSIA eligible fuel			8. e Production location of the neat CORSIA Eligible fuel					8. f Blender		
				Year	Month	Day	Address	City	State/Province/Region	Postcode/ZIP	Country	Code of economic operator (blender) ISCC Registration number	Location where neat CORSIA eligible fuel is	
													Address	City
18225	SUT-2024-125	1.7	Verified	2024	August	24	88 Onsan-ro, Onsan-eup, Ulsju-gun	Ulsan	N/A	44995	Republic of Korea	N/A	N/A	N/A
18225	SUT-2024-141	2.3	Verified	2024	September	16	88 Onsan-ro, Onsan-eup, Ulsju-gun	Ulsan	N/A	44995	Republic of Korea	N/A	N/A	N/A
13236	280602	43.22	Provisional	2024	November	16	2275 West Rev. Ransom	Port Arthur	TX	77640	United States of	19023	12801 American Petroleum Rd	Houston

OoMC: No. 41

CORSIA Certified Economic Operators

CORSIA Certified Fuels

CORSIA Certified Fuels (Batch Info)

CORSIA Certified Fuels - Batch information

This dashboard provides information on CEF batches over time. Information is provided as of 31 December 2024.



CEF Batch Table

Production Year: 2024 (1) ▾

Name of Fuel Pr... ▾

Batch Number ▾

Type of Fuel ▾

Feedstock ▾

Conversion ▾

Production Year ▾	Name of Fuel Producer	Batch Number	Total Mass Produce...	Type of Fuel	Feedstock	Conversion	LCA value
2024	Montana Renewables	202403	3262.95	Jet-A	Tallow	HEFA	22,5
2024	Montana Renewables	202406	6872.8	Jet-A	Tallow	HEFA	22,5
2024	Montana Renewables	202408	8457.12	Jet-A	Tallow	HEFA	19,0
2024	Montana Renewables	202409	10905.43	Jet-A	Tallow	HEFA	19,0
2024	Montana Renewables	202411	1348.59	Jet-A	Tallow	HEFA	19,0
2024	Diamond Green Diesel Port Arthur	2809052	43.22	Jet-A	Technical Corn Oil	HEFA	17,2

**Umwelt
Bundesamt**

DEHSt
Deutsche
Emissionshandelsstelle

Thank you for your attention!

Georg Naumann

E-Mail: Georg.Naumann@uba.de

This presentation is based on a speech and is not clear for publication. Check against delivery. References and quotations from the presentation must at all times be approved in written form by the DEHSt.



Thank You

