

GUIDANCE ON VERIFICATION OF CORSIA ELIGIBLE FUEL CLAIMS

Note — The guidance in this document was approved by the Committee on Aviation Environmental Protection (CAEP) at its Thirteenth Meeting (CAEP/13, Montréal, Canada, 17 – 28 February 2025); its purpose is to support verification bodies in the implementation of the verification requirements contained in the second edition of Annex 16 – Environmental Protection, Volume IV – Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), applicable from 1 January 2024, more specifically on matters related to the verification of aeroplane operators' claims of emissions reductions from the use of CORSIA eligible fuels (CEF). This guidance will be included in the upcoming fourth edition of the Environmental Technical Manual (Doc 9501), Volume IV – Procedures for demonstrating compliance with the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

In accordance with Annex 16, Volume IV, Part II, Chapter 2, 2.2.4, aeroplane operators may claim emissions reductions from the use of CORSIA eligible fuels (CEFs) that are certified to meet the CORSIA Sustainability Criteria as defined within the ICAO document entitled “CORSIA Sustainability Criteria for CORSIA Eligible Fuels” that is available on the ICAO CORSIA website.

Sustainability Certification Schemes (SCSs) meet the requirements included in the ICAO document entitled “CORSIA Eligibility Framework and Requirements for Sustainability Certification Schemes”, that is available on the ICAO CORSIA website. Up to and including the blending point, each entity involved in the supply chain of CEFs is certified by a CORSIA approved SCS. The ICAO document entitled “CORSIA Approved Sustainability Certification Schemes” provides a list of currently approved SCSs.

CEFs can be produced and uplifted anywhere globally. However, as CEFs will be blended and may also be further comingled after blending at various points in the fuel supply infrastructure (e.g. pipelines, storage tanks, etc.) they will not typically be physically attributed to a specific operator or flight (cf. Annex 16, Volume IV, Part II, Chapter 2, 2.2.4.3, Note 1).

To claim emissions reductions under CORSIA, an aeroplane operator must monitor emissions according to the Annex 16, Volume IV, Part II, Chapter 2 and must provide the necessary information according to Annex 16, Volume IV, Appendix 5, Table A5-2. This can be accomplished by completing the CEF reporting template, which is supplementary to the Emissions Report and is accessible on the ICAO CORSIA website. The information provided in this document must be verified. Part of the information described in Annex 16, Volume IV, Appendix 5, Table A5-2 may also be provided directly in the pertinent sustainability documentation, such as the Proof of Sustainability (PoS) or the Proof of Compliance (PoC).

When verifying CEF claims, the verification body should follow a 6-step approach as described and shown below (Figure 1).

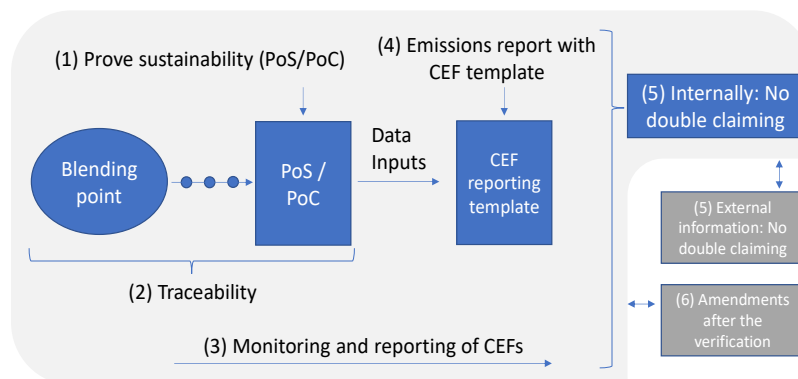


Figure 1. Verification steps when verifying CEF claims

1) Prove sustainability (PoS/PoC)

Up to and including the CEF blending point, each entity involved in the supply chain of the fuel, e.g. the fuel producer, oil mill/refinery etc., is certified by a CORSIA approved SCS. This certification puts the supply chain entity in the position to produce fuels that are compliant under the SCS's CORSIA certification programme. Each certified entity will provide evidence that the fuel satisfies the CORSIA Sustainability Criteria for CEFs. A possible way to provide such evidence is by means of a Proof of Sustainability (PoS) document. The PoS is the industry best practice and is a central document for the verification. It is created by the fuel producer and other certified entities in the supply chain to demonstrate the sustainability characteristics of a fuel.

CORSIA-approved SCSs specify the required content of the CORSIA PoS, which includes all relevant information required under Annex 16, Volume IV, Appendix 5, Table A5-2. The SCS offers a CORSIA PoS template for the relevant entities in the supply chain (e.g. fuel producers) to use, although they are not obligated to use this template. The fuel producer is the first entity to issue a PoS.

An aeroplane operator claiming CEFs will provide a PoS to demonstrate that the fuel claimed for is a CEF. If a CEF batch is split, the new PoS generated at that point will reference the original batch details as produced by the fuel producer (including the original batch number). If the PoS is surrendered for other purposes (e.g. by the fuel producer to meet the requirements of a Sustainable Aviation Fuel (SAF) quota), the fuel producer will issue a Proof of Compliance (PoC) document at the point of surrender in accordance with the CORSIA certification programme of the SCS, which will contain identical information as the PoS and a direct reference to the original PoS. A PoC is only issued when the PoS is surrendered. As long as the PoC is issued by a certified entity of the supply chain, the PoC has the same status as the PoS for the purposes of claiming emissions reductions from CEFs. If the aeroplane operator is not able to provide a PoS/PoC to support a specific claim, that claim cannot be verified and should be removed from the total list of CORSIA eligible fuels claimed.

The first step of the verification is to review the details provided in the Emissions Report (CEF reporting template) and the associated PoSs/PoCs. This includes confirming the eligibility of the CEFs claimed (sustainability requirements) as such but also whether other documents available from the aeroplane operator support the data provided in the PoSs/PoCs (consistent set of documents supporting the claim). See Table 3 at the end of this guidance document for a selection of internal and external documents that may be available to the aeroplane operator to support the claim, including the sustainability of the CEFs claimed. While the PoS/PoC is a required document, not all of the other documents listed in Table 3 will be needed for a successful verification, nor necessarily required or available for every single batch.

A sampling approach can be used to confirm parts of the content of a randomly selected number of PoSs/PoCs, with the exact sample size being dependent on the outcome of the Verification Body's risk assessment.

2) Traceability

Traceability of the PoS/PoC up to the last certified entity of the supply chain

While all entities in the supply chain up to and including the fuel blender will always be certified by a CORSIA SCSs, entities beyond the blending point, including fuel traders (from whom the aeroplane operator is likely to purchase CEF) might not be certified. The starting point to trace sustainability documentation will in most cases be the certified entity that performed the blending. It is the task of the CORSIA verifier to trace back PoS/PoC documentation to the last certified entity. Verifiers can check whether a certain entity is certified or not via the online certificate database of the SCS. Non-certified entities handling sustainability documentation pose an increased risk for non-compliance or manipulation of data (risk assessment) and managing this risk is an important consideration in the verification plan. In contrast, data provided by certified entities of the supply chain does not require further assessment (out of scope of the CORSIA verification as already addressed by SCSs, e.g. certified fuel trader).

The aeroplane operator's documentation should enable the verification body to quickly confirm traceability, including the mode of transmitting sustainability information (PoS/PoC). If a PoS/PoC cannot be traced back to the last certified entity, the claim cannot be verified and should be removed from the total CORSIA eligible fuels claimed. It is not the responsibility of the verification body to perform investigations in the case where a documentary chain is broken. If inconsistencies are found within the analyzed sample, the sample size should be increased and the verification plan adjusted accordingly.

After tracking back the sustainability documentation, the verification body confirms that the last certified entity processing the batch was certified at the moment of issuing the relevant documentation. This step is only required for the last certified entity. In the vast majority of cases no further assessments are required prior to the last certified entity. However, in the event that the verifier identifies some anomaly or discrepancy in the sustainability certification document that would prevent the successful verification of the CEF claim, the verifier should immediately stop the verification and inform the aeroplane operator accordingly. Additional access to records may be available as Annex 16, Volume IV, Part II, 2.4.3.2 includes provisions to enable production records through the aeroplane operator.

Proving purchase, delivery and the amount of the CEF

In order to establish an emissions reduction claim arising from CORSIA eligible fuel purchased in a compliance period, and thereby reduce its offsetting obligation for that period, an aeroplane operator will provide satisfactory documentary evidence of purchase, any relevant blending, delivery and the mass of the CORSIA eligible fuel (in tonnes)¹.

Purchase: Many different documents exist that could sufficiently demonstrate CEF purchase. Examples of suitable documents include fuel purchase invoices, product transfer documents and transaction reports (see Table 3 for additional information). The verification body should also check the domestic legislation to determine if the State to which the aeroplane operator is attributed requires the use of specific types of documents to demonstrate that a CORSIA eligible fuel has been purchased.

If a batch of CORSIA eligible fuel has been split in the non-certified part of the supply chain, where a new PoS/PoC cannot be generated, it will be essential for the verification body to seek additional documentation, such as a Product Transfer Document, to prove what proportion of the batch has been purchased by the aeroplane operator. If any part of a batch of CORSIA eligible fuel has been traded or sold to a third party by the aeroplane operator, this will be subtracted from the total reported quantity of CORSIA eligible fuels and evidence of this sale will be provided².

Delivery: Following CEF purchase, the CEF will either be delivered physically to the aeroplane operator's aeroplane or to another point of no return, where the aeroplane operator can demonstrate that the CEFs included in the CEF claim in the emissions report have not been sold on to a third party before or after delivery to an aerodrome. It is important to demonstrate that the CEF has been delivered to a point of no return as part of establishing that there has been no double-claiming. Double-claiming is considered in more detail below.

While reviewing the documents, the verification body should pay special attention to the identified delivery point/location. Delivering CEFs to an aerodrome may not establish a point of no return as the fuel can still be sold on to other aeroplane operators. In the situation where the risk assessment shows moderate to high risk related to the delivery point (e.g. the aeroplane operator has sold CEFs after delivery to the aerodrome in the past), the verification body should seek additional evidence/documentation that the CEFs will not be sold on after the verification. This could include also seeking a declaration/statement by the aeroplane operator to establish assurance that delivered (and not yet consumed) CEFs are not sold to anyone else after the verification.

The required evidence of purchase and delivery may well be contained in a single document. In all cases, a document demonstrating purchase or delivery will provide a cross-reference to and be consistent with the proof of sustainability documents provided for the CORSIA eligible fuel, for example, they should reference the batch number on the PoS/PoC.

¹ Annex 16, Volume IV, Part II, Chapter 2, 2.4.3.1.

² Annex 16, Volume IV, Part II, Chapter 2, 2.3.3.1.

3) Monitoring and reporting of CEF

In order to gain confidence in the handling of CEFs documentation by an aeroplane operator, the verification body should confirm the implementation of documented processes and controls related to the purchase, delivery, eligibility and claiming of CEF. This also includes aspects of gathering of evidence, avoidance of double claiming, selling/trading activities and CEF transport. Maturity of the underlying processes should be considered for the risk classification of the CEF related processes.

4) Emissions Report with CEF template

After confirming the consistency of the available CEF related documentation, including the sustainability documentation and evidence of purchase and delivery, the data and calculations provided in the Emissions Report and the supplementary CEF template (or alternative document) have to be assessed. This is to ensure that all requirements have been met and the information provided is accurate, for example, that the CEF claim has been calculated correctly in accordance with Annex 16, Volume IV, Part II, Chapter 3, 3.3 and that necessary data from the PoS/PoC has been accurately copied into the Emissions Report and the supplementary CEF Template.

5) No double claiming

In order to ensure the integrity of the scheme it is vital that emissions reductions made by aeroplane operators under CORSIA as a result of the purchase and use of CEF are not counted towards any additional mitigation obligations. Double claiming in the context of CEF made under CORSIA is only considered in relation to Scope 1 emissions of the fuel in question; this type of double claiming i.e. counting emission reductions associated with a given mass of CEF towards more than one mitigation obligation, is strictly prohibited. A key verification task is confirming that the aeroplane operator has not included any CEF in the claim which has either been a) used by the aeroplane operator to make an emissions reduction claim in another GHG scheme or b) sold on to a third party before or after delivery to an aerodrome.

Annex 16 Volume IV, Part II, Chapter 2, 2.3.3.2 requires an aeroplane operator to provide a declaration of all other GHG schemes it participates in where the emissions reductions from the use of CEF may be claimed, and a declaration that it has not made claims for the same batches of CEF under these other schemes. Related to this, the verification team is required to confirm that the claimed batches and associated mass of each claimed CEF have not also been claimed by the aeroplane operator under any other voluntary or mandatory schemes they have participated in, during the current compliance period, as well as the compliance period immediately preceding it (Annex 16, Volume IV, Appendix 6, 3.3.1 e)).

The starting point for the assessment of double claiming should be the content of the strategic analysis (section 3.3.4.2) with the two core questions below:

- 1) whether the aeroplane operator takes part in any other mandatory or voluntary schemes - this requires in-depth knowledge by the verification body of other national and regional regulatory schemes that the aeroplane operator may participate in, in line with the requirement of Annex 16, Volume IV, Appendix 6, 3.4.2 b) that limits checks on double claiming by the verifier to the specific aeroplane operator; and
- 2) whether the aeroplane operator has sold CEF to a third party - this requires an in-depth review of the CEF purchase and sale/trade documentation of the aeroplane operator, and its documented processes for ensuring that CEF volumes traded or sold to a third party are not included in the total reported quantity of CEF under CORSIA.

Where the verifier has identified a risk of potential double claiming of CEF involving other entities, the aeroplane operator will demonstrate that the mass of CEF being claimed is only a proportion of the specific total CEF batch as identified in the PoS certificate. If the issue cannot be resolved, the mass of the disputed CEF cannot be included in the CEF claim without any further explanations in the verification report submitted to the State. Depending on the outcome of an additional review of the sustainability documentation of the batch and the implemented control procedures at the aeroplane operator, the verification body will adjust the risk analysis (and verification plan).

Findings outside this scope should be included in the Verification Report for further consideration by the State, where the verifier becomes aware of relevant situations. An example of this might be that while reviewing information in the CORSIA Central Registry, it comes to light that the same batch of CEF, and associated mass, has been claimed in a previous year by another aeroplane operator.

Tables³ 1 and 2 below provide some practical examples of potential double claiming and their assessment.

Table 1. Examples of potential double claiming (Scope 1)

| # | Who is making the claim? Parties involved? | Description of the situation | Risk of potential double claiming (Y/N)? | If yes, what documents should verifier look at? |
|---|--|---|--|--|
| 1 | Single aeroplane operator | The aeroplane operator claims GHG emissions reductions from the same batch of CEF in multiple CORSIA reporting years. | Y | Previous CORSIA Emissions Reports by the aeroplane operator, including CEF related data ICAO document "CORSIA Central Registry (CCR): Information and Data for Transparency" Part IV: Information on CEF Claimed |
| 2 | Single aeroplane operator | The aeroplane operator claims GHG emissions reductions from the same batch of CEF under CORSIA and a different GHG reduction scheme where the reductions can be claimed Examples of GHG reduction schemes include: EU ETS UK ETS NZ ETS China ETS K-ETS Swiss ETS | Y | Declaration of no double-claiming (as per Annex 16, Volume IV, Part II, Chapter 2, 2.3.3.2) Relevant reports by the aeroplane operator to the other regulatory schemes, including emissions reports and verification reports Documented processes for attributing claims to schemes (including internal audit documentation) Any associated publicly available information including batch numbers, batch volumes, identification etc. |
| 3 | Aeroplane operator and a third party | The aeroplane operator claims the GHG emission reductions associated with a batch of CEF under CORSIA. That same aeroplane operator sells or trades some or all of that same batch of CEF, or the title to it, to a third party that claims the associated GHG emission reductions towards CORSIA or other GHG reduction scheme where the reductions can be claimed. Examples of GHG reduction schemes include: EU ETS UK ETS NZ ETS China ETS K-ETS Swiss ETS | Y | CEF sale/trade documentation records of the aeroplane operator, PTDs etc. Documented processes for ensuring that CEF volumes traded or sold to a third party are not included in total reported quantity of CEF (including internal audit documentation) Any associated publicly available information on the sale/trade including batch numbers, batch volumes, identification etc. PTDs Claims for the same CEF in other GHG Schemes |

³ For the purposes of the Tables 1 and 2 below, Scope 1, Scope 2, and Scope 3 emissions refer to emissions responsibility as defined by the GHG Protocol, a private sector initiative. 'Scope 1' indicates direct greenhouse gas (GHG) emissions that are from sources owned or controlled by the reporting entity. 'Scope 2' indicates indirect GHG emissions associated with the production of electricity, heat, or steam purchased by the reporting entity. 'Scope 3' indicates all other indirect emissions, i.e., emissions associated with the extraction and production of purchased materials, fuels, and services, including transport in vehicles not owned or controlled by the reporting entity, outsourced activities, waste disposal, etc.

<https://www.ipcc.ch/report/ar5/wg3/>, https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_annex-i.pdf

Note: Minimizing the risk of potential double claiming is an essential verification task. Table 2 supports by providing basic illustrative examples, but may not include all possible scenarios. As the subject is an evolving topic, coordination with the State is recommended.

Table 2. Example scenarios and risk of potential double claiming (outside Scope 1 only)

| # | Who is making the claim? Parties involved? | Description of the situation | Risk of potential double claiming (Y/N)? | Relevant documentation |
|---|---|---|--|--|
| 1 | One single aeroplane operator and a single fuel producer/supplier | The aeroplane operator claims the GHG emissions reductions associated with a batch of CEF under CORSIA. The fuel producer/supplier also claims the volume of the same batch of CEF under a volumetric mandate (not a GHG reduction scheme) (e.g. ReFuel EU Aviation) | N | Proof of Compliance documentation |
| 2 | One single aeroplane operator and a single fuel producer/supplier | The aeroplane operator claims the GHG emissions reductions associated with a batch of CEF under CORSIA. The fuel producer/supplier also claims the same batch of CEF under an incentive scheme (not a GHG reduction scheme) (e.g Inflation Reduction Act, US) | N | Proof of Compliance documentation |
| 3 | One single aeroplane operator and one or more aviation service users (i.e. corporate clients etc.) | The aeroplane operator claims the GHG emissions reductions associated with a batch of CEF under CORSIA. Those same GHG emissions reductions are also claimed by the aeroplane operator's aviation service users under a voluntary (non-regulatory) scope 3 emissions program (e.g. corporate sustainability reporting) | N | Documentation describing the aeroplane operator's scope 3 emissions program Documented processes for attributing CEF claims (including internal audit documentation) Corporate reports or similar documentation |
| 4 | One single aeroplane operator, a single fuel producer/supplier and one or more aviation service users | The aeroplane operator claims the GHG emissions reductions associated with a batch of CEF under CORSIA. The fuel producer/supplier also claims the volume of the same batch of CEF under a volumetric mandate or incentive scheme (not a GHG reduction scheme). Those same GHG emissions reductions are also claimed by the aeroplane operator's aviation service users under a voluntary (non-regulatory) scope 3 emissions program. | N | Documentation describing the aeroplane operator's scope 3 emissions program Documented processes for attributing CEF claims (including internal audit documentation) Corporate reports or similar documentation |
| 5 | Two aeroplane operators | The aeroplane operator claims the GHG emissions reductions associated with a batch of CEF under CORSIA. Another aeroplane operator claims the same GHG emissions reductions associated with that batch of CEF under CORSIA or another GHG scheme. | Y | NA – Not in scope of CORSIA verifications Note: According to Annex 16, Volume IV, Appendix 6, 3.4.2 b) any findings outside of the scope should still be included in the Verification Report for further consideration by the State |

Note: Any potential double claiming risk scenarios associated with a batch of CEF and Parties' reporting under the Paris Agreement are considered outside the scope of the CORSIA verification. However, according to Annex 16, Volume IV, Appendix 6, 3.4.2 b) any findings outside the scope of the verification of the CEF claim(s) in the Emissions Report should still be included in the Verification Report for further consideration by the State.

An expected challenge relates to differences in the reporting timelines of some of the supporting documentation. For example, CEF data reporting under CORSIA is required at a minimum on a 3-year compliance cycle basis, although it is recommended that aeroplane operators report annually. Consequently, there could be up to a four-year time lag between when the CEF was actually purchased (i.e. first year of compliance cycle, year 1), when it was claimed in year 4 (reporting to State the year after the end of the three year compliance cycle), when the associated data is published in the CORSIA Central Registry (year 4), and when the published data can be used during a verification (year 5). Separate from the CCR, the publication of the SCS annual report with relevant CEF production information occurs annually, with publication expected on the ICAO website⁴ around mid-year the year following the reporting year. Assuming a yearly reporting of the aeroplane operator, this information cannot be used for the verification of the latest CEF claims. However, verification bodies should use the data to confirm claims in previous years and inform the State through a note in the verification report of any irregularities.

6) Amendments after the verification

As for all verification engagements, a verification body may become aware of an issue after the verification of the CORSIA Emissions Report and associated CEF claim, that would render the verification opinion invalid or inaccurate. For example, where a verification body learns that a batch of CEF has been similarly claimed by another aeroplane operator for emission reductions under a separate regulatory GHG scheme. In such a case, the verification body is required to bring this to the attention of the relevant State for further consideration.

List of relevant documents

Table 3. Selection of documents available to support a CEF claim

| Document | Document description | Use of document |
|---|---|---|
| Emissions Report and Supplementary information to an aeroplane operator's Emissions Report | Required documentation prepared by the aeroplane operator, for verification and submission to the State. | Base document , required in all cases. |
| Proof of Sustainability (PoS) or Proof of Compliance (PoC) | Sustainability documentation for a single batch from which the CEF draws the majority of its base information –such as GHG Emissions, Feedstock Information, Customer Information and other sustainability-related information. | Base document , required in all cases. It is the fundamental sustainability documentation <i>for supporting the CEF claim</i> . |
| Product transfer document (PTD) | Document containing sustainability, purchase and delivery information when the CEF batch or fuel containing part of it is transferred. It is a non-standardized document with similar information as the PoS or PoC. | Documentation stating purchase and delivery information. May be produced when a volume of CEF is split in the uncertified part of the supply chain (after the blending point) and a new PoS/PoC cannot be generated. The PTD can be used to confirm the content of the PoS or PoC but cannot replace it. |
| Sale/purchase documentation, fuel invoice, fuel slip | Non-standardized document | Proof of purchase and/or delivery of CEF |

⁴ <https://www.icao.int/environmental-protection/CORSIA/Pages/CORSIA-Certified-Fuels.aspx>

| Document | Document description | Use of document |
|--|--|--|
| Bill of lading | A legally binding document between the CEF shipper (entity transporting the CEF) and the entity sending the CEF to the receiver. Details what is being shipped, working as a receipt of freight services and a document of title. | Delivery documentation confirming names and addresses of relevant entities in the supply chain, mass and/or volume of CEF shipment, shipping date, and cargo description (could include sustainability information). |
| Aerodrome/aerodrome fueling system delivery documents | Non-standardized document | Delivery to an aerodrome/aerodrome fueling system or equivalent of the CEF. Important to establish/confirm a point of no return (see section 2, <i>Traceability</i>). |
| Stock transfer report | Non-standardized document | Delivery documentation |
| Blending documentation | Documentation confirming that neat SAF was blended according to maximum blend ratio in ASTM D7766 and that blend meets fuel quality specifications. | Details of the type of CEF and its sustainability characteristics, e.g. Certificate of Analysis. |
| SCS annual report | Published on the ICAO website annually and containing information about the SCS including information on each CORSIA-certified economic operator throughout the supply chain. | Allows for cross checks with annual volumes of certified CEF reported by SCSs for past reporting years. |
| Sustainability certificate | Certificate issued under the SCS, confirming that the certified entity satisfies the requirements of the SCS CORSIA certification programme. The sustainability certificate refers to the entity only (and not to the individual CEF batch level). | To confirm sustainability certification of the last certified entity in the supply chain by CORSIA approved SCSs. The validity of certificate can be confirmed online on the website of the SCSs. Not every batch of fuel being processed by the certified entity must be sustainable. |
| Declaration of no double-claiming (as per Annex 16, Volume IV, Part II, Chapter 2, 2.3.3.2) | Mandatory statement by the aeroplane operator of all other GHG schemes it participates in and declaration that it has not made claims for the same batches of CORSIA eligible fuel under these other schemes. | While this declaration can support the verification process, it does not release the verification body from verification activities related to double claiming. |
| CORSIA Central Registry: Information and Data for Transparency. Part IV: Information on CEF Claimed. | ICAO Document providing information that is required to be published in order to ensure transparency. 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 will be included in this ICAO document can be found in Annex 16, Volume IV, Appendix 5, Note under Table A5-6. | See section 5 (<i>No double-claiming</i>) |

— END —