

First class or economy?

AN ASSESSMENT OF CREDIT PROVIDERS FOR THE AVIATION OFFSETTING SCHEME



Executive summary

The Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), a new carbon market established under the International Civil Aviation Organization (ICAO), aims to compensate the growth in CO_2 emissions from international flights above 2020 levels, starting in 2021.

ICAO must, therefore, identify which carbon offsets airlines can use to meet their obligations. This will be carried out by the Technical Advisory Body (TAB), which will assess existing GHG programs (i.e. offset providers) based on criteria which were formally adopted by the ICAO Council in March 2019.

This briefing analyzes eight offset programs against one of the two sets of criteria adopted by the ICAO Council: the Program Design Elements. The programs analysed are the Clean Development Mechanism (CDM), Verra, Gold Standard (GS), Japan's Joint Crediting Mechanism (JCM), Forest Carbon Partnership Facility (FCPF), Climate Action Reserve (CAR), and Plan Vivo. Information is based on publicly available documentation and, although not exhaustive, this screening provides insight into the general adjustments needed for all offset programs to meet CORSIA requirements.

Our conclusion is that no program can yet operate in a manner which complies with all the eligibility criteria. Some will need to update and improve certain parts of their protocols or methodologies, but all are hampered by the lack of clarity on international accounting rules to avoid double counting of emission reductions.

The present assessment also highlights that the Program Design Elements are not sufficient to exclude credits with no environmental value, and that a rigorous application of the second set of criteria, the Carbon Offset Credit Integrity Assessment Criteria, is necessary and will require analysis of specific methodologies and projects.

Key recommendations:

- All reviewed programs will need to adapt their protocols to ensure compliance with the Program Design Elements of CORSIA.
- A more thorough qualitative review at a project or methodology level is needed to determine the effectiveness of CORSIA. Basic fulfillment of the program-level requirements should be complemented with a continuous quality assessment of transacted credits, e.g. through spot checks of randomly selected projects which issue CORSIA-eligible credits.
- In order to avoid double counting with other emissions reduction efforts, countries need to reach an agreement on international accounting rules, and **programs should finalize the upgrading of their protocols to ensure that the credits they certify are not backed by double counted emission reductions.**
- The Technical Advisory Body should apply the criteria fairly and consistently, be free from conflicts of interest, and require public meetings and public input during its deliberation of program and offset eligibility.

Introduction

The UN agency in charge of aviation, the International Civil Aviation Organization (ICAO), established in 2016 an offsetting scheme, called the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). The objective of this mechanism is to compensate the growth in CO_2 emissions from international flights, above 2020 levels. Emissions below 2020 levels are not concerned by the offsetting obligations.

As with any offsetting system, the quality of the carbon offsets used under CORSIA will be key to assessing its contribution to fighting climate change. One major component of the CORSIA rules are therefore the criteria which will be used to assess the eligibility of credits coming from existing programs. This policy briefing provides an overview of the design of CORSIA, including the program eligibility and carbon offsetting rules. Based on desk research, it offers a first overview about the potential eligibility of existing carbon offsetting programs.

Purpose of the new offsetting scheme

Aviation produces more than 2% of the world's carbon dioxide (CO₂) emissions¹ and is responsible for around 5% of global warming². Over the next 30 years, its CO₂ emissions are projected to grow by $300\%^3$. While efficiency measures, sustainable alternative fuels, and flight path changes will partially compensate the massive expected increase in demand, emissions will continue to rise which means that carbon offsets will be the major driver in meeting ICAO's carbon neutral growth objective.

CORSIA is expected to cover only around 2GtCO_2 (2 billion tonnes of carbon dioxide) over its currently planned lifespan (2021-2030), or around 17% of international aviation emissions over the same period⁴. Therefore, although an important first step, it is hardly sufficient to effectively incentivize greener travel.

In addition, most carbon markets around the world have a poor track record when it comes to effectively compensating emissions. For example, 82% of projects currently registered under the Clean Development Mechanism (CDM), the largest carbon market to date, do not actually need any revenues from the carbon market to continue operating⁵, and 85% of all CDM projects did not need them even at the start of their operation⁶. Clearly identifying the programs and types of offsets which can truly compensate aviation emissions is therefore an important task for CORSIA to meet its objective.

CORSIA governance

The ICAO Council, a political decision making body of the organization consisting of 36 countries⁷, has been tasked with overseeing the functioning of CORSIA, and has the authority to take decisions on what types of offset programs and offset credits will be eligible under the mechanism. To assist the Council in its deliberations, a Technical Advisory Body (TAB) will take the leading role in assessing the eligibility of carbon offsetting programs against the quality criteria adopted by the Council. These criteria are based on recommendations from the Committee on Aviation Environmental Protection (CAEP), a working group assisting the Council on environmental matters. The TAB

¹ ICAO 2016 Environmental Report

² The difference between CO₂ emissions from aviation, and the sector's contribution to global warming (i.e. its contribution to radiative forcing) is due to so-called "non-CO₂ effects", such as NOx emissions, contrails, and cirrus clouds, which essentially act as a multiplier to the aviation sector's impact on the climate (See here for further details)

³ https://www.icao.int/environmental-protection/GIACC/Giacc-4/CENV_GIACC4_IP1_IP2%20IP3.pdf

⁴ https://icsa-aviation.org/wp-content/uploads/2018/06/ICSA-views-LTG-June-2018.pdf

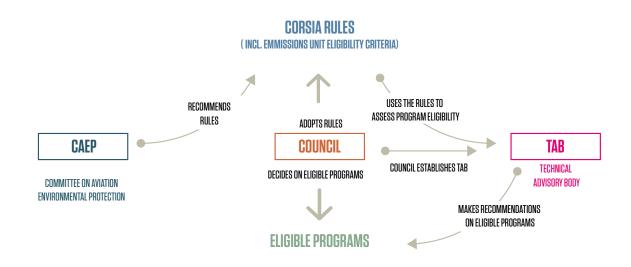
⁵ https://carbonmarketwatch.org/2019/02/26/existing-un-carbon-credits-will-do-nothing-to-offset-aviation-industry-pollution-new-nature-studyfinds/

⁶ https://ec.europa.eu/clima/sites/clima/files/ets/docs/clean_dev_mechanism_en.pdf

⁷ For more information on ICAO's governance structure, see our briefing: "Visibility unlimited: Transparency of the new aviation carbon market"

will then make its recommendations on eligible programs for the Council to decide. Credits purchased by airlines which are not deemed CORSIA-eligible will not be taken into account when verifying airlines' compliance with their offsetting obligations.

The environmental and social criteria for offsets, proposed by CAEP and adopted by the Council, are housed in an ICAO document called a SARP, short for Standards And Recommended Practices, and its annexes, in particular the ICAO CORSIA Implementation Elements.



Background on the CORSIA Package: what the rules mean and why they matter

SARPs are not binding in and of themselves, but must be transposed into national law and enforced by national authorities. Rules to screen programs and the individual offsets they generate are currently contained in the annexes of the SARP⁸ under "CORSIA Emission Unit Eligibility Criteria". They are divided into:

Program Design Elements which require offset programs to have certain processes in place to be able to produce robust offsets

Carbon Offset Credit Integrity Criteria which lay out principles to ensure that each offset credit represents a new reduction of one ton of pollution while adhering to social and environmental safeguards

As airlines will have to rely on carbon credits issued under existing market mechanisms to comply with their CORSIA obligations, the role of the Program Design Elements is to set a series of quality criteria which programs must meet in order for their credits to be CORSIA eligible. They provide general minimum requirements for the basic functionalities and processes which reputable offsetting schemes must have.

While the program design elements are intended for the screening of programs, the Carbon Offset Credit Integrity Criteria are designed to assess the environmental and social integrity of individual offset credits. For example, offsets have to be additional, permanent, issued against conservative baselines, subject to Monitoring, Reporting and Verification (MRV) requirements, have a transparent chain of custody, generate "no net harm" and be counted only once towards a mitigation effort.

Screening existing offset programs against CORSIA Program Design Elements

As a first step towards making CORSIA operational, offset programs will be screened against the new Program Design Elements. Only programs that comply with all 11 criteria can be recommended for approval by the ICAO Council.

Below is a first assessment of how different programs comply with the criteria, based on publicly available procedures of eight offset

programs against the 11 design elements. The programs were selected based on market size and geography with an effort to give broad representation of the types of offsetting schemes that could be eligible, e.g. UNFCCC market mechanisms, national offsetting schemes, and private offset providers. The programs are: Clean Development Mechanism (CDM), Verra, Gold Standard (GS), Japan's Joint Crediting Mechanism (JCM), Forest Carbon Partnership Facility (FCPF), Climate Action Reserve (CAR), and Plan Vivo⁹.

The results of this desk research are summarized in Table 1, which also indicates whether programs have the necessary processes to comply with the design elements, or not, or whether they do not provide sufficient information to draw any conclusions.

Programs are likely to make more information available to the TAB than what is currently accessible to the public. However, evidence to demonstrate CORSIA compliance should be in the public domain, in order to allow public scrutiny of the mechanism¹⁰.

The 11 program design elements are¹¹:

- 1. Clear Methodologies and Protocols, and their Development Process: Programs should have qualification and quantification methodologies and protocols in place and available for use as well as a process for developing further methodologies and protocols. The existing methodologies and protocols as well as the process for developing further methodologies and protocols should be publicly disclosed.
- 2. **Scope Considerations:** Programs should define and publicly disclose the level at which activities are allowed under the program (e.g., project-based, program of activities, etc.) as well as the eligibility criteria for each type of offset activity (e.g., which sectors, project types, or geographic locations are covered).
- 3. **Offset Credit Issuance and Retirement Procedures:** Programs should have in place procedures for how offset credits are: (a) issued; (b) retired or cancelled; (c) subject to any discounting; and, (d) the length of the crediting period and whether that period is renewable. These procedures should be publicly disclosed.
- 4. Identification and Tracking: Programs should have in place procedures that ensure that: (a) units are tracked; (b) units are individually identified through serial numbers: (c) the registry is secure (i.e., robust security provisions are in place); and (d) units have clearly identified owners or holders (e.g., identification requirements of a registry). The program should also stipulate (e) to which, if any, other registries it is linked; and, (f) whether and which international data exchange standards the registry conforms with. All of the above should be publicly disclosed information.
- 5. **Legal Nature and Transfer of Units:** The program should define and ensure the underlying attributes and property aspects of a unit, and publicly disclose the process by which it does so.
- 6. **Validation and Verification Procedures:** Programs should have in place validation and verification standards and procedures, as well as requirements and procedures for the accreditation of validators and verifiers. All of the above-mentioned standards, procedures, and requirements should be publicly disclosed.
- 7. **Program Governance:** Programs should publicly disclose who is responsible for administration of the program and how decisions are made.
- 8. Transparency and Public Participation Provisions: Programs should publicly disclose (a) what information is captured and made available to different stakeholders; and (b) its local stakeholder consultation requirements (if applicable) and (c) its public comments provisions and requirements, and how they are considered (if applicable). Conduct public comment periods and transparently disclose all approved quantification methodologies.
- 9. **Safeguards System:** Programs should have in place safeguards to address environmental and social risks. These safeguards should be publicly disclosed.

⁹ Results of our assessment of China's domestic offsetting program are not reported in detail here due to the scarcity of information available. However, the lack of social and environmental safeguards, as well as the absence of rules to deal with the avoidance of double counting, suggest that the program would not meet all the criteria.

¹⁰ Note: This screening only looks at the existence of processes but does not assess the quality of these processes. This second step should, however, be taken by TAB if its assessment is to correctly evaluate the effectiveness of existing mechanisms. The present analysis is therefore conservative and criteria which are found to be met could still be invalidated by the TAB's assessment if they lack stringency.

Table 1. : Assessment of potentially eligible carbon offset programs under CORSIA

Criteria	Clean Develoment Mechanism	Verra	Gold Standard	American Carbon Registry	Japan Joint Crediting Mechanism	Forest Carbon Partnership Facility	Climate Action Reserve	Plan Vivo
1. Clear Methodologies and Protocols, and their Development Process	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
2. Scope Considerations	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3. Offset Credit Issuance and Retirement Procedures	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
4. Identification and Tracking	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
5. Legal Nature and Transfer of Units	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	Yes
6. Validation and Verification Procedures	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
7. Program Governance	Yes	Yes	Yes	Yes	Yes	Yes	No	Unclear
8. Transparency and Public Participation Provisions	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
9. Safeguards System	No	Yes	Yes	Yes	No	Yes	No	Yes
10. Sustainable Development Criteria	No	Yes	Yes	No	No	No	No	Yes
11. Avoidance of Double Counting, Issuance and Claiming*	No	No	No	No	No	No	No	No

Several programs, in particular the non-governmental programs, have sufficient rules in place to prevent double issuance and double use, and are in the process of developing guidance for the avoidance of double claiming. However, programs are limited in their ability to do so by the lack of an international agreement on accounting rules. (see "Avoidance of Double Counting" section below for more detail).

Criteria 1-6

When screening the publicly available procedures of programs against the 11 design elements, it is noteworthy that nearly all assessed programs respond to the basic infrastructure requirements of program design elements 1 to 6. The exception to this is the World Bank's Forest Carbon Partnership Facility (FCPF), whose carbon fund does not benefit from the necessary infrastructure to operate as an offset program capable of selling units.

In large part, this is because the FCPF was set up as a financial instrument to show how activities preventing deforestation could be funded through carbon credits. Established before the Paris Agreement and CORSIA, the FCPF has only recently begun to develop the level of infrastructure necessary to operate as an offset program. For instance, both its registry and its verification process are still under development¹².

Further to this, the FCPF only lays out criteria and indicators for emission reduction programs, but its methodological framework does not "consist of detailed calculation methods or protocols"¹³. The framework also falls short of providing detailed procedures for the issuance and retirement of offset credits, as it is limited to setting guidelines for participating countries to meet certain integrity requirements¹⁴.

Finally, it is unclear how the ownership of emission reductions is identified under the FPCF. The Methodological Framework (under its criterion 28) only describes how emission reduction programs should assess land tenure ownerships, and the legal underpinnings of emission reduction transfers are found in Emission Reduction Payment Agreements (ERPA), between Carbon Fund or Donor participants. As the FCPF was set up as a broker between FCPF members, it is unclear how the program will adapt to a new role of seller of carbon offsets.

Criterion 7: Program governance

While programs need some governance structure and code of conduct to be able to operate, not all have made such documents publicly available on their website. Information on these could be found for all but two programs. CAR makes available both the list of its staff members and the composition of its board of directors, and lays out rules to prevent conflicts of interest in its program manual, but while its website states that governing documents can be requested by email, this request was denied to us. Plan Vivo displays a chart of its governance structure, and a basic description of the responsibilities of the various bodies, but does not currently have further documentation publicly available to describe its governance processes or conflicts of interest policy¹⁵.

Criterion 8: Transparency and public participation provision

In order to ensure an inclusive process, open to the participation of various stakeholders, programs must operate in a transparent and inclusive manner. This relates to both the program-level developments, such as the design of new protocols, and the project-level work, where programs should require project developers to carry out local stakeholder consultations before projects can be recognized for the issuance of credits. All programs are transparently set up and have taken steps to achieve some level of stakeholder participation in the development of their protocols. Only one program, CAR, does not require public stakeholder consultations as part of the implementation of mitigation projects¹⁶.

¹² See the latest update on these developments as of February 2019, here (registry) and here (verification process).

¹³ See the FCPF Methodological Framework p.2

¹⁴ See section 6.2 of the Methodological Framework (from p.30)

¹⁵ Note that Plan Vivo is in the process of preparing for the publication of these documents

¹⁶ Note that CAR operates the majority of its projects in the US. For projects outside the US, CAR has begun incorporating local stakeholder consultation requirements. However, our assessment is that local stakeholder consultations are a necessary step for the implementation of projects anywhere in the world. Given the relatively low costs of such consultations, it is a worthwhile precautionary measure to prevent any potential adverse impacts of projects.

Criterion 9: Safeguard systems

A safeguard system allows for the identification of unintended negative environmental and social impacts during the implementation of projects, and sets out clear ways of remedying such impacts. Without opportunities for redress, projects with adverse impacts may advance despite serious shortcomings. While the Program Design Elements do not specifically list the types of safeguards which programs should have, our assessment is that it is necessary for programs to publicly display the existence of a mechanism for individuals impacted by projects to bring their disputes to the attention of the offset program. Certain programs in our assessment may mention criteria about avoiding harm, but offer no concrete systems and guidance to facilitate comments from affected communities. The CDM's lack of social and environmental safeguards has been well documented, with the absence of a grievance mechanism being a major shortcoming of the system. The JCM requires local consultations but does not have a grievance mechanism in place. Finally, CAR requires that a project complies with local laws, or fulfills the "no net harm" principle if local laws are deemed insufficient. Stakeholders affected by a project can contact CAR through its website but this process is not described specifically as an avenue for stakeholders to seek recourse against a project⁷⁰.

Criterion 10: Sustainable development criteria

Climate projects must be socially, economically and environmentally viable to be a sound investment to fight climate change, hence the need for sustainable development criteria.

While many programs may offer special types of credits with additional sustainable development certifications such as the Climate, Community and Biodiversity standard, this assessment looked at the rules and requirements which programs have in place regarding the quality of their standard units. It should be acknowledged that some programs that lack sustainability criteria at the program level develop sustainability standards, which can be added on to their standard offsets.

The Sustainable Development criteria requires programs to "publicly disclose the sustainable development criteria used" for assessing registered projects. While some programs such as Gold Standard and Plan Vivo go further than this, and make the contribution towards SD benefits a mandatory element for a project to be registered, a majority of programs do not meet the criteria. Nearly all programs encourage projects to deliver and report on their sustainable development benefits, but the CDM, ACR, JCM, FPCF and CAR do not make it a mandatory requirement for programs to report on their contribution to sustainable development¹⁸.

Criterion 11: Avoidance of double counting

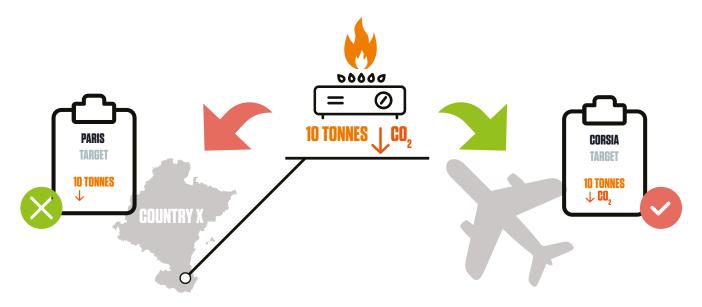
There are several forms of double counting, including separate programs issuing credits from the same project (double issuance), and the same unit being used to meet multiple targets (double use). Most programs have checks and balances to prevent these situations from occurring. Such controls include registry protocols and third party verification of projects across programs. The CDM is the only program which does not have appropriate measures in place to prevent double issuance, i.e. the case when emission reductions already used to issue credits under another program, are used a second time to issue credits under the CDM.

However, there remains a risk of double counting that cannot be addressed at this stage, which materialises when a single emission reduction is counted several times (double claiming). This form of double counting will be a major problem after 2020, since all countries are expected to continue and intensify their emission reduction efforts. Credits used under CORSIA should hence avoid double counting emission reductions between CORSIA targets and domestic climate efforts. Units that are sold to airlines and claimed under CORSIA

CAR has a detailed and structured contact webpage outlining many topics and the relevant contact points for each, but none of these topics covers grievances raised by local stakeholders affected by a project (as of March 7th, 2019). While the location of CAR projects means that stakeholders are already relatively well protected by the existing judiciary system (most projects are implemented in the US), it is our assessment that a grievance mechanism is necessary as an intermediate step for stakeholders to take action against a project, by seeking its deregistration by CAR. Preventing the project from generating revenues by selling offsets would be sufficient for terminating it, without the need to engage in lengthy and costly legal procedures.

Several programs do encourage voluntary reporting, including CAR and ACR. Some programs also claim that all projects deliver and report on SDG 13 - climate action, through their emissions reduction activity. However, our assessment of this criteria is that programs should request mandatory reporting of sustainable development benefits other than climate action, i.e. the co-benefits of the emission reduction project. This criterion would not have been necessary if the intent was to enforce reporting upon SDG13, given that this is already ensured under criteria 1-6.

should under no circumstances also be claimed by the country where the emission reduction occurred. This requires host countries to make a "corresponding adjustment" to their national emissions accounts, meaning a correction to their reported emissions in order to acknowledge the fact that part of the emission reductions they are measuring have in fact been sold out to another entity (in this case an airline), as shown on the infographic below. While this responsibility falls on countries, programs will have to set up processes to verify if such corresponding adjustments have been applied and, when this is not the case, have procedures to invalidate the issued units.



This accounting problem is yet to be resolved at the international level, as countries are currently negotiating the accounting rules of international carbon markets for the post-2020 period. It is therefore not surprising that programs do not yet meet this criterion. Currently, rules in place to prevent double counting vary by program. Some already have detailed provisions which are close to sufficient for meeting this criterion, which is the case for GS, Verra, CAR and ACR, while others do not. All of the non-governmental programs (GS, Verra, CAR, ACR and Plan Vivo) are in the process of updating their requirements to avoid double claiming with climate targets. However, even for programs with the most detailed rules for avoiding double claiming, unclarity remains as to how emission reductions from sectors not covered by the countries' national targets should be treated. While such emission reductions should ideally not be recognized as eligible for issuing credits¹⁹, the uncertainty around the final set of rules means that programs should design processes to correctly account for a situation where such emission reductions were allowed.

Until clear rules to effectively prevent all forms of double counting are determined at an international level, no units should be recognized as eligible under CORSIA unless a program has clear procedures to invalidate those units if they are found ex-post to have been double counted. Such requirement will be a major barrier to the implementation of CORSIA, which underlines the need to finalize international rules on the avoidance of double counting before CORSIA can start operating.

Looking behind the scenes

While the criteria agreed by ICAO are robust and provide some assurance regarding the environmental integrity of the CORSIA eligible units, they do suffer from a certain lack of specificity. We carried out a conservative assessment of programs' compliance with the criteria, by only verifying each program's stated rules, protocols and methodologies. However, it is clear that important qualitative distinctions remain between various programs. For example, while Verra, GS and Plan Vivo all request their projects to report on sustainable development benefits, GS and Plan Vivo are the only two programs which make it mandatory for projects to actually deliver sustainable development benefits.

Another example comes from the CDM, which, although it meets criteria 2 by defining its scope, has never revised the scope of eligible activities to take into account latest findings regarding the non-additionality of specific project types. This is a striking example, but other

differences exist as to the treatment of additionality between, for example, Gold Standard, Verra, ACR, CAR, and Plan Vivo.

These are all important factors which should be taken into consideration when assessing programs in a more detailed, qualitative manner, going beyond the simple compliance on paper with the set of criteria.

Conclusions

As it stands, no offsetting program that we analyzed currently meets all 11 Program Design Elements of CORSIA. In some cases, there is partial application of criteria, which emphasizes the need for project-level analysis to determine the environmental and social integrity of offsets in any given program. In the case of double counting, programs have a clear need to adjust to the new context of the Paris Agreement, and many are moving in the right direction but are hampered by slow progress in international negotiations. UNFCCC guidance should make the application of corresponding adjustments compulsory for all traded units.

At the same time, an important responsibility falls on the Technical Advisory Body to faithfully apply the criteria to candidate programs. This board should be fairly balanced, transparent, free of conflict of interests, and accountable to the public.

It is important to note that the present assessment does not include a qualitative analysis of program's implementation of the various criteria. This can sometimes be misleading, and assessing program's performance against the eligibility criteria is therefore only a first step in promoting environmental integrity in CORSIA. Other filters will need to be put in place, such as the adoption of a vintage restriction to ensure that only new credits, issued by projects which were started after 2020, can be used for compliance under CORSIA.

Recommendations:

- New protocols will need to be adopted by all programs seeking to become recognised under COR-SIA. This is particularly true for criteria relating to safeguards, sustainable development, and double counting, which several programs do not currently meet.
- To determine the effectiveness of programs' processes requires a more thorough review at a project or methodology level. This means that TAB will have to analyse individual programs' fulfillment of the criteria from a qualitative perspective. The sheer existence of safeguards, or the requirement that projects report on their contribution to sustainable development, are necessary but not sufficient. Mechanisms should be in place to ensure that these requirements are enforced, and TAB should recommend the establishment of procedures for assessing the qualitative compliance with the EUC (including for credit-specific criteria which have not been assessed in this briefing), for example through random spot checks of projects within the programs.
- Avoiding double counting requires further guidance and international consensus. Programs will have a role to play in this, including by asking governments for authorisation letters before issuing credits and by having measures in place to deal with credits which are found ex-post to be double counted. States will also play an important role as their agreement on international accounting rules is necessary prior to the start of the CORSIA mechanism.
- TAB, the governance body that will review programs against the CORSIA rules, has a key role in ensuring environmental integrity. The selection by the TAB of eligible programs should happen in a transparent manner, including by opening up TAB meetings to outside observers, and making documentations about TAB work publicly available. The EUC should be applied in full and with the objective of ensuring the highest level of environmental integrity for CORSIA. This will be crucial for both the effectiveness of this carbon market, and the credibility of ICAO and the aviation industry as a whole.



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