ICAO'S CORSIA FLIGHT PATH AND ITS CHALLENGES AFTER THE 40TH ASSEMBLY

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Abstract:

This article examines the implementation of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) by the International Civil Aviation Organization (ICAO) since its 40th Assembly, in light of recent legal, political, and financial developments. It argues that CORSIA's current mechanism and pace of implementation are insufficient to meet the objectives of the Paris Agreement. Drawing on the 2025 International Court of Justice (ICJ) Advisory Opinion, the outcomes of the 13th cycle of the Committee on Aviation Environmental Protection (CAEP) and the policy development challenges throughout the last two ICAO Assemblies, the paper identifies policy and legal transformations necessary to align CORSIA with States' evolving climate obligations.

1. INTRODUCTION

In July 2025, the International Court of Justice (ICJ) issued a landmark advisory[1] opinion affirming that States have binding obligations under international law to prevent significant harm to the climate system caused by anthropogenic greenhouse gas emissions. The Court emphasized that failing to take sufficient action, including regulating private entities, may be considered an internationally wrongful act attributable to the State. This includes obligations under the Paris Agreement to develop and carry out nationally determined contributions (NDCs) capable of limiting global warming to 1.5°C, with due diligence and in good faith. The ICJ further confirmed that climate obligations are *erga omnes partes*,

[1] https://www.icj-cij.org/sites/default/files/case-related/187/187-20250723-pre-01-00-en.pdf

strengthening the collective responsibility of all States and highlighting the duty to protect the environment for both current and future generations.

Recognizing the environmental impact of air travel, the International Civil Aviation Organization a specialized agency of the United Nations, adopted the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) at the 39th Assembly in 2016. This initiative plays a vital role in international endeavors to tackle carbon emissions produced by the aviation sector. It is a significant milestone under the United Nations Framework Convention on Climate Change (UNFCCC) to align international aviation climate actions. According to Annex 16 Environmental Protection Volume IV, applicable on 1 January 2019, all international carriers, no matter if the Member State participated in CORSIA or not, started to record their annual international passenger flight carbon emissions based on the ICAO guided monitoring method from the Environmental Technical Manual (Doc 9501), Volume IV — Procedures for demonstrating compliance with the Carbon Offsetting and Reduction Scheme for International Aviation. The CORSIA is designed to align with the objectives of the Paris Agreement, offering a comprehensive strategy to manage and regulate carbon emissions from international flights. Owing to the special characteristics of the air travel industry, which is highly carbon-intensive and dependent on fossil-based jet fuel, this paper critically examines the climate change framework development and implementation by the ICAO since the 40th Assembly in 2019. It analyzes the progress of legal cooperation and highlights the significant challenges confronting international aviation. By reflecting on CORSIA's current challenges and suggesting pathways for improvement, it seeks to support ongoing

efforts to ensure that international aviation can contribute meaningfully to the goals of the Paris Agreement.

2. ICAO CORSIA FLIGHT PATH

The CORSIA was adopted by ICAO at the 39th assembly in 2016 as the first global market-based measure to curb CO_2 emissions from international flights. Established under Assembly Resolution A39-3, where the assembly "…[d]ecides to implement a G(loble) M(arket) B(ased) M(essure) scheme in the form of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) to address any annual increase in total CO2 emissions from international civil aviation (i.e. civil aviation flights that depart in one country and arrive in a different country) above the 2020 levels, taking into account special circumstances and respective capabilities;… "[2] The planned schedule is to implement CORSIA by a three-year compliance phase, starting with two voluntary ones, the pilot phase(2021-2023) and the first phase(2024-2026), where the offset requirement is calculated only for the carbon emissions generated from the international flights between the participating Member States.

Although offsetting obligations under CORSIA began in 2021, participation during the voluntary pilot and first phase (2021–2026) has been uneven. Brazil, China, India, and the Russian Federation did not participate in the two voluntary phases until the beginning of the mandatory phase, starting in 2027. According to ICAO's latest available Annual Report of Air Transport Statistical Results 2023, these four States together accounted for more

[2] International Civil Aviation Organization Document 10075 Assembly Resolutions in Force (as of 6 October 2016)

than 10% of global international RTK[3] in 2023, highlighting the significant coverage gap in the vountray phases.

The COVID-19 pandemic significantly affected the aviation industry, leading to no carbon emissions being offset during the pilot phase. As a result, there is no specific requirement for carbon emissions offsetting by any carrier, given the adverse effects of the Sector Growth Factor (SGF) as outlined in Annex 16, Volume IV. Below are the CORSIA policy progress updates and challenges discussed at the 40th and 41st Assemblies.

2.1 Resolutions of the 40th Assembly

Resolution A40-19 consolidated ICAO's policies on CORSIA and set out several core items, including the medium-term objective to keep net international aviation CO_2 at 2020 levels, the structure of the phased implementation, and guidance on eligible emissions units and fuels. Given the political sensitivity of these items, the A40 debate culminated in a rare secret ballot and a set of formal reservations published by several Member States.

The contentious issue at the 40th Assembly revolved around proposed amendments to the resolution on CORSIA items in A40-18 and A40-19, as Assembly adopted the resolution that "…, ICAO and its Member States with relevant organizations will work together to strive to achieve a collective medium-term global aspirational goal of keeping the global net carbon emissions from international aviation from 2020 at the same level,…"[4] While the resolution ultimately passed, the intervention by China, India, and the Russian

[3] International Civil Aviation Organization. "Annual Report of Air Transport Statistical Results 2023"
[4] International Civil Aviation Organization Document 10140 Assembly Resolutions in Force (as of 4 October 2019)

Federation, etc., unsatisfied with a published reservation in ICAO website and insisting a rare secret ballot, highlighted deep divisions among ICAO's membership. Their opposition was grounded in concerns over the fairness of establishing a medium-term objective that sought to cap international aviation emissions at 2020 levels. These States argued that such a commitment entrenched the advantage of mature, developed aviation markets, while constraining the growth potential of developing economies whose aviation sectors were still in expansion.

The fact that 25 out of 127 participating States voted against the resolution highlights how fragile the political support for CORSIA is. Unlike safety standards, where ICAO has long enjoyed near-universal compliance, environmental measures have been more controversial because they directly address issues of fairness, growth, and different responsibilities. The reservations published along with the consolidated resolution on ICAO's website suggest that the legitimacy of CORSIA is not universally accepted.

Brazil emphasizes that carbon emissions units generated through mechanisms established under the UNFCCC and the Paris Agreement, such as the Clean Development Mechanism (CDM) and the mechanism under Article 6.4 of the Paris Agreement, are already eligible for use in CORSIA. Brazil also expresses reservations about the use of carbon emissions units generated from mechanisms outside the UNFCCC framework and states that any transfer of units resulting from mitigation outcomes in Brazil will require prior consent from the Federal Government.[5]

[5] Permanent Delegation of Brazil to the International Civil Aviation Organization, Verbal Note No. 2019-082 / BRASICAO, 16 October, 2019

India's reservations on ICAO Assembly Resolutions A40-18 and A40-19 focus on the need for equitable treatment of developing states. India argues that the 2020 carbon emissions baseline is unfair due to expected high aviation growth and suggests a different threshold. They emphasize the importance of aligning provisions with the Paris Agreement and ensuring that measures do not hinder socio-economic development.[6]

China opposes any scheme that compromises the development rights of developing countries and emerging markets, arguing that the 2020 carbon neutral growth goal neglects the historical carbon emissions responsibilities of developed countries before fully proving the feasibility, economic viability and its impact on international aviation, they do not support the long-term goal due to lack of feasibility study. They criticize the lack of balanced reflection of states' comments in the resolutions and oppose their adoption without thorough discussion. China reserves the right to modify or withdraw its reservations based on future consultations and requests.[7]Since the 36th triennial, the ICAO Assembly has continued the tradition of releasing the reservations of Member States concerning climate change and CORSIA resolutions. This practice highlights the challenges in achieving a global policy consensus. Unlike a notification of difference mentioned in Article 38 of the Chicago Convention, which gives Member States sixty days to report any deviations between their practices and ICAO standards, the Assembly

[6] Representative of India on the Council of ICAO, Declaration of Reservation of the Republic of India in Relation to Resolution A40-19: Sonsolidated Statement of Continuing ICAO Policies and Practices Related to Environmental Protection – Corbon Offsetting and Reduction Scheme for International Aviation (CORSIA), 1 November, 2019

[7] Representative of the People's Republic of China on the Council of ICAO, Statement of the Chinese Delegation on the Consolidated Statement of Continuing ICAO Policies and Practices Related to Environmental Protection – Climate Change and the Consolidated Statement of Continuing ICAO Policies and Practices Related to Environmental Protection – Carbon Offsetting and Reduction Scheme for International Aviation, CN (2019)332, 8 October 2019

Chairperson allows only thirty days for Member States to express any reservations on the resolution. It's important to note that reservations are distinct from notifications of difference; they do not fulfill the same function and do not justify a Member State to ignore these resolutions.

This episode implicates significant challenges for the future implementation of CORSIA. The effectiveness of the scheme depends on broad and consistent participation; yet, the opposition of major aviation States raises the prospect of uneven compliance and selective engagement. It also points to the difficulty of reconciling environmental ambition with developmental equitya. Unless ICAO is able to bridge these divides through more inclusive approaches, such as targeted capacity building and equitable financial support, CORSIA risks being undermined by the very States whose participation is essential for its credibility and global impact.

2.2 Resolutions of the 41st Assembly

The 41st Assembly resolution A41-22[8] outlines the key positions of developing and developed Member States regarding climate contributions under the CORSIA scheme. From the compliance cycle of 2033 to 2035, the resolution establishes a shift from a previously proposed framework of 100% sectoral and 0% individual contributions to a new framework of 85% sectoral and 15% individual contributions.

Member States have emphasized the importance of improved collaboration and the need for binding commitments aimed at implementing effective measures that reconcile aviation

[8] International Civil Aviation Organization Document 10184 Assembly Resolutions in Force (as of 7 October 2022)

growth with environmental sustainability. This call for action is exemplified by the clear and symbolic reservation included in the A41 resolution put forth by Venezuela (Bolivarian Republic of),

> "*The Venezuelan State wishes to take this opportunity to reaffirm its commitment and responsibility to preserve the environment for future generations, through the implementation of strategies based on the principle of 'common but differentiated responsibilities and respective capabilities' and of initiatives consistent with the existing multilateral regime, namely the Framework Convention and the Paris Agreement, in order to reduce CO2 emissions in international aviation*."[9]

Developing Member States have expressed significant concern about the projected higher growth rates in their aviation sectors compared to the saturated, slower-growing markets of developed countries. This discrepancy raises issues related to ensuring equitable access to air rights, potential environmental impacts, and the necessity for Sustainable Aviation Fuel (SAF) infrastructure development to support increased air traffic. As these nations expand their aviation capabilities, they seek assurances that their contributions to international frameworks and climate commitments will be recognized and that measures will be put in place to manage the associated challenges.

The ongoing revisions of the CORSIA framework at ICAO Assemblies reveal the uneven trajectory of the scheme since its initial planning and subsequent adoption by the Council. To ensure both credibility and feasibility, ICAO must deepen collaboration with industry actors. Engagement with the International Air Transport Association (IATA), which

[9] International Civil Aviation Organization Document 10184 Assembly Resolutions in Force (as of 7 October 2022)

provides country-specific analyses of market growth and development disparities, would allow more balanced integration of equity concerns into CORSIA's design. Likewise, the active involvement of manufacturers such as Airbus and Boeing in charting the introduction of more efficient aircraft types is critical for mapping the sector's long-term emissions trajectory and aligning technological innovation with the scheme's reduction goals.

2.3 High-level Meeting on the feasibility of a long-term aspirational goal for international aviation CO_2 emissions reductions (HLM-LTAG)

The smoother proceedings of the 41st Assembly can be attributed to prior discussions during the High-level Meeting on the feasibility of a long-term aspirational goal for reducing international aviation CO_2 emissions, which took place from July 19 to 22, 2022. The HLM-LTAG was initiated in response to Assembly Resolution A40-18, paragraph 9, which tasked the ICAO Council to examine the feasibility of LTAG and required updates on this work to be shared at the 41st Assembly.

Comments from Brazil, China, India, Nigeria, the Russian Federation, Saudi Arabia, South Africa, and Sudan have been collectively revised to reach a consensus on the publication of the ICAO Document 10178, titled Report of the High-Level Meeting regarding the Feasibility of a Long-Term Aspirational Goal for International Aviation CO2 Emissions Reductions (HLM-LTAG). This important meeting was conducted in a hybrid format to encourage widespread participation from Member States. Achieving this consensus represents a significant step towards reducing carbon emissions in international aviation. The outcomes will be reported and submitted for approval at the Assembly. Additional

details regarding the future work of ICAO can be found in paragraph 13 of Document 10178[10].

- "regularly monitor progress on the implementation of all elements of the basket of measures towards the achievement of the LTAG, including through: the ICAO environment stocktaking process;
- review of the ICAO Vision for SAF;
- further assessment of the CO2 reduction and cost impacts of a changing climate on international aviation and regions and countries, in particular developing countries, and the impact on the development of the sector, as well as the cost impacts of the efforts to achieve the LTAG;
- monitor of information from State Action Plans for international aviation CO2 emissions; and means of implementation.
- consider necessary methodologies for the monitoring of progress, and report to a future Session of the ICAO Assembly."

2.4 Third ICAO Conference on Aviation and Alternative Fuels (CAAF/3)

Refer to Assembly Resolution A41-21, paragraph 28(f); ICAO was invited to continue evaluating the progress on the development and implementation of SAF, Lower Carbon Aviation Fuel (LCAF), and other cleaner energy sources for aviation as part of the ICAO Stocktaking process. High-level Officials from Member States convened to assess the 2050 ICAO Vision for SAF, which includes LCAF and other cleaner energy sources, to establish

[10]ICAO Document 10178 Report of the High-Level Meeting regarding the Feasibility of a Long-Term Aspirational Goal for International Aviation CO2 Emissions Reductions July 2022

a global framework aligned with the No Country Left Behind initiative while considering national circumstances and capabilities. Notably, ICAO hosted two preliminary CAAF/3 events before rolling the red carpet of CAAF/3: the ICAO Stocktaking on aviation sector CO2 emissions reductions and the first pre-CAAF/3 policy and finance consultation in July 2023, followed by the second pre-CAAF/3 outcomes consultation in September 2023, aiming to advance the preparation for CAAF/3.

At the Third ICAO Conference on Aviation and Alternative Fuels (CAAF/3), high-level Officials from Member States adopted the ICAO Global Framework on Aviation Cleaner Energies[11], intending to achieve a 5% reduction in CO2 emissions by 2030 through the use of SAF, LCAF, and other cleaner energies and outlining a framework consisting of building blocks in Policy and Planning, Regulatory Frameworks, Implementation Support, and Financing. The key elements of building blocks include,

- Policy and Planning: Encourages Member States to implement supportive policies in a socially, economically, and environmentally sustainable manner, considering their special circumstances and capabilities.
- Regulatory Frameworks: Establishes guidelines for creating consistent and predictable regulations to facilitate the adoption of cleaner aviation fuels.
- Implementation Support: Provides technical assistance, capacity building, and knowledge sharing to help states transition to cleaner energy sources.

[11] International Civil Aviation Organization, "ICAO Global Framework on Aviation Cleaner Energies," adopted November 24, 2023, accessed December 2024, online: <icao.int/Meetings/CAAF3/Documents/ICAO%20Global%20Framework%20on%20Aviation%20Cleaner%20Energies_24Nov2023.pdf> [https://perma.cc/T8YJ-HXDQ].

- Financing: Explores funding mechanisms to stimulate investments in cleaner aviation energy, ensuring economic feasibility and sustainability.[12]

In 2022, ICAO launched the ACT-SAF programme as a side event related to Stockholm+50, aiming to offer customized assistance to States at various stages of SAF development and implementation. The programme facilitates partnerships and collaboration on SAF initiatives under ICAO's coordination and serves as a platform for knowledge sharing and recognition of all SAF efforts. Several feasibility studies, funded by the ICAO-EU project, were conducted in Côte d'Ivoire, Rwanda, and Zimbabwe[13]. The ACT-SAF programme has been rapidly producing a range of deliverables ahead of the CAAF/3, establishing a best practice model for Member States and setting the stage for the CAAF/3 outcomes. The feasibility studies revealed significant challenges in translating the business plan into reality, particularly concerning financial and policy support.

3. LIMITATIONS OF CORSIA IMPLEMENTATION ELEMENT

3.1 CORSIA Eligible fuel (CEF)

ICAO has made significant progress in promoting CORSIA-eligible fuels, including SAF and LCAF, which reduce carbon offsetting requirements for aircraft operators. Recent updates[14] include new sustainability certification schemes and the certification of initial

[12] Id
[13] International Civil Aviation Organization. "Sustainable Aviation Fuel (SAF) Policies." Accessed December 2024. Online: <icao.int/environmental-protection/SAF/Pages/Policies.aspx> [https://perma.cc/T79N-ZV56].
[14] International Civil Aviation Organization. "CORSIA Eligible Fuels." December 2024. https://www.icao.int/environmental-protection/CORSIA/Pages/CORSIA-Eligible-Fuels.aspx [https://perma.cc/Q5ND-GFM2]

batches of SAF under CORSIA. ICAO has established criteria for monitoring, reporting, and verifying the environmental benefits of these fuels.

SAF is generally more expensive to produce than conventional jet fuel. Without significant financial incentives or regulatory mandates, airlines may be hesitant to adopt SAF. To address the hesitation, more and more government administrations are developing a mandate to blend the SAF into jet fuel, starting with 1% up to 10% by 2030[15]. These policies primarily pertain to fuel suppliers who must blend SAF into their jet fuel for both domestic and international airlines.

The reduction in carbon emissions attributed to blended fuels will be calculated based on the guidance published by ICAO regarding the CORSIA methodology for determining actual life cycle emission values. It is important to note that the percentage of the blend does not directly correspond to the percentage of offsetting value. Currently, there are no international standards requiring airlines to offset their carbon emissions based on a specific percentage of CEF or Carbon Emission Units (CEU). s a result, airlines may focus on balancing CEU and SAF prices in their climate mitigation strategies rather than solely considering the reduction of carbon emissions. There is currently a policy loophole, and the ICAO Council should balance supply and demand, updating the CORSIA standards and recommended practices in the future.

3.2 CORSIA Eligible Unit (CEU)

[15] International Civil Aviation Organization. "Sustainable Aviation Fuel (SAF) Policies." Accessed December 2024. Online: <icao.int/environmental-protection/SAF/Pages/Policies.aspx> [https://perma.cc/T79N-ZV56].

As one of the five elements of CORSIA implementation, the eligible unit[16] is defined in the CORSIA Emissions Unit Eligibility Criteria document. This document outlines the principles and criteria used to evaluate the eligibility of carbon emissions units for CORSIA. These criteria ensure that the carbon emissions units uphold high standards of environmental and social integrity. The assessment takes place at the programme level, and eligible programmes must adhere to both the Programme Design Elements Criteria and the Carbon Offset Credit Integrity Assessment Criteria.

The critique from Transport & Environment[17] addresses CORSIA as ineffective and misleading. It points out that passengers can offset their carbon emissions for a flight from Europe to New York for as little as €2.40, an amount that fails to reflect the true environmental impact of aviation. It argues that CORSIA's reliance on inexpensive offsets allows airlines to claim they are reducing carbon emissions without making meaningful changes. This practice is labeled as "greenwashing," as it creates a false impression of environmental responsibility. The article advocates for more stringent measures and genuine efforts to reduce aviation carbon emissions.

The CORSIA Eligible Emissions Units document outlines the carbon emissions unit programmes that have been approved by the ICAO Council, based on recommendations from the Technical Advisory Body (TAB). These programmes are authorized to supply carbon emissions units for CORSIA during the designated three-year compliance periods.

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[16] International Civil Aviation Organization, "CORSIA Emissions Units," accessed December 2024, online: <icao.int/environmental-protection/CORSIA/Pages/CORSIA-Emissions-Units.aspx> [https://perma.cc/FYK9-FDBR].

[17] Transport & Environment, "Pay €2 to greenwash a flight to New York with UN aviation scheme," September 23, 2022, https://www.transportenvironment.org/articles/pay-e2-to-greenwash-a-flight-to-new-york-with-un-aviation-scheme [**https://**perma.cc/XJ3D-TRR7]

Due to the impact of the COVID-19 pandemic on the aviation industry, there is no offsetting requirement for airlines during the pilot phase from 2021 to 2023. Starting in 2024 and continuing through 2026, the aviation sector will enter the first phase of offsetting. During this period, airlines will begin to implement strategies aimed at mitigating their carbon emissions. However, the actual cycle for offsetting will not commence until 2027. At this stage, airlines will be required to account for and address the carbon emissions generated during the earlier pilot phase.

Two key considerations for airlines in this upcoming offsetting cycle are the availability of eligible carbon offset units and the pricing associated with these units. The dynamics of supply and demand in the carbon market are critical, especially since there is a possibility that prices for these offset units may surge. This increase can be attributed to the anticipated influx of airline buyers entering the market in 2027, all seeking to fulfill their offsetting requirements. Consequently, airlines must carefully strategize their approaches to carbon offsetting and budgeting in anticipation of these market changes.

The following price range is derived from page 6 of Part II of the further assessment concerning the costs of implementing CORSIA for Member States and airplane operators[18]. This information is based on analyses conducted by CAEP to support the 2022 periodic review of CORSIA, as reported in the Council Working Paper (C-WP/15261) for the 224th Session of the ICAO Council. Despite costs from monitoring, reporting, and verification procedures incurred on airlines, estimated “related costs of $325 million through 2035(with

[18] International Civil Aviation Organization. "CORSIA Periodic Review: Focus on Costs." 2022. Accessed December 2024. Online: <icao.int/environmental-protection/CORSIA/Documents/2_CAEP_CORSIA%20Periodic%20Review%20(C225)_Focus%20on%20Costs.pdf> [https://perma.cc/Q6SL-46W2].

a range from $110 to $540 million)"[19]The annual cost for offsetting could range from $190,000 to $3,2000,000, based on airline carbon emissions of up to 100,000 tonnes.

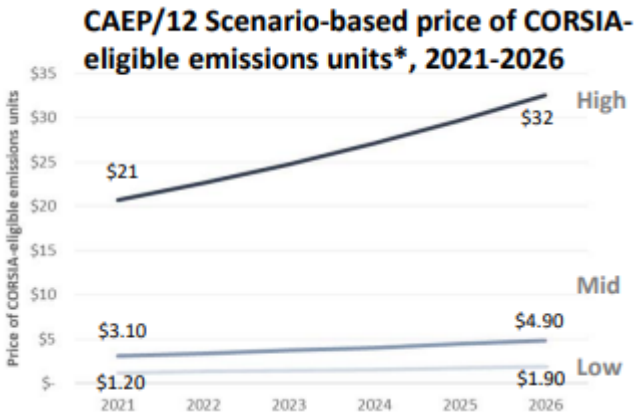

Chart 1: CAEP/12 Scenario-based price of CORSIA eligible emissions unit

The double claiming is a key matter at the international level. It occurs when the same carbon emissions reduction is counted by both the airlines and the host country's NDCs, under the Paris Agreement. IATA published a Guidance Document for Host countries concerning the issuance of CORSIA Eligible Emissions Units[20], outlining the need for host countries to provide written attestations. These attestations confirm that the carbon emissions reductions used by airlines for CORSIA compliance will not be counted towards the host country's NDCs. This requests the host country to maintain a transparent system for record accuracy.

This article suggests that a CORSIA Central Registry (CCR) will be the best solution for multilateral platform maintenance, as CCR has served as one of the CORSIA

[19] Id on page 16.
[20] International Air Transport Association. "Guidance Document for Host Countries Regarding CORSIA." Accessed December 2024. Online: <iata.org/contentassets/0bf212bfcb0548f2b6ad4c1e229f7e94/guidance_document_for_host_countries_regarding-corsia_final.pdf>. [https://perma.cc/SCQ5-GRWN]

implementation elements, collecting Member States' reporting carbon emissions based on their airline submission. Along with the regular update of Annex 16 vol. IV, the CCR will be able to serve as the platform to unify the CORSIA Eligible Emissions Units in claiming compliance[21].

ICAO could take lessons learned from the vulnerabilities exposed in the European Union Emissions Trading Scheme[22], particularly regarding frauds[23] within the registry system. To address these issues effectively, ICAO needs to implement stringent controls over user accounts to prevent unauthorized access and misuse. Moreover, it is crucial to establish a comprehensive oversight system that can actively monitor and analyze transaction patterns, enabling the identification of any abnormal claims or irregularities quickly. This proactive approach will enhance the integrity of the carbon emissions trading system and safeguard against potential fraudulent activities at the offsetting cycle.

Furthermore, the eligible unit is approved based on the programme. If airlines select to purchase lower-quality carbon credits, those that do not produce meaningful environmental benefits may face allegations of greenwashing in their ESG reports. This practice, where companies present themselves as environmentally responsible without making substantial efforts, could damage their reputation and erode public trust in their sustainability initiatives.

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[22] European Commission. "Reducing emissions from aviation." December 2024. https://climate.ec.europa.eu/eu-action/transport/reducing-emissions-aviation_en [https://perma.cc/5BK5-HN4B]

[23] Nield, Katherine and Pereira, Ricardo 2011. Fraud on the European Union Emissions Trading Scheme: effects, vulnerabilities and regulatory reform. European Energy & Environmental Law Review 20 (6) , pp. 255-289.

3.3 ACT- CORSIA

After approving the first edition of Annex 16, Volume IV, the ICAO Council recognized the need for a coordinated global capacity-building initiative under ICAO. This initiative aims to help all Member States implement CORSIA and meet its monitoring, reporting, and verification requirements. To support this effort, ICAO launched the Assistance, Capacity-building, and Training on CORSIA (ACT-CORSIA) Programme in 2018.

Article 9(1) of the Paris Agreement specifies that "Developed country Parties shall provide financial resources to assist developing country Parties with respect to both mitigation and adaptation in continuation of their existing obligations under the Convention[24]." However, the financial resources allocated to the ACT-CORSIA programme by developed Member States are quite limited. While these developed Member States have participated in buddy partnerships to assist with the implementation of Monitoring, Reporting, and Verification (MRV), their contributions primarily consisted of providing on-site training to developing Member States. Overall, the level of financial support for the ACT-CORSIA programme from developed Member States remains insufficient. The developed Member States participated in buddy partnerships for the MRV implementation and CCR reporting by providing on-site training to developing Member States. In addition to sharing best practices, ICAO should help finance developing Member States, especially in the fuel refinement of ICAO Assistance, Capacity-building, and Training for Sustainable Aviation Fuels (ACT-SAF).

[24] Paris Agreement under the United Nations Framework Convention on Climate Change, 2015

4. ICAO SOFT LAW STATUS

CORSIA was established through a resolution adopted by the Assembly in 2016. It is implemented as a form of soft law under ICAO's Annex 16, Volume IV, which primarily pertains to environmental protection in civil aviation. One significant characteristic of this framework is its lack of binding enforcement mechanisms, which essentially allows individual Member States the discretion to opt out of participation or to delay their compliance with the regulations. This flexibility, while intended to encourage broader participation, can ultimately hinder the scheme's universal adoption.

Unlike international treaties such as the Kyoto Protocol or the Paris Agreement, which have legal obligations as a ratified international treaty among 195 Parties[25], CORSIA relies on self-regulation and good faith commitments, which may lead to inconsistencies in implementation and effectiveness, as it does not impose strict legal requirements.

Furthermore, an important aspect of CORSIA is the requirement to offset carbon emissions from international flights, yet the absence of an environmental clause within bilateral air services agreements means that countries are not legally compelled to suspend or modify flight operations in response to non-compliance with this Annex. This situation may result in overall lower compliance and reduced effectiveness of CORSIA in its goal to mitigate the environmental impact of international aviation.

Starting in 2025, the participating States will reach a number of 129, with 57 of these classified as Small Island Developing States (SIDS), least developed countries (LDCs), or

[25] United Nations Framework of Convention on Climate Change, https://unfccc.int/process-and-meetings/the-paris-agreement

landlocked developing countries (LLDCs)[26]. According to Assembly Resolution A41-22, these States are exempt from the CORSIA offsetting requirements unless they choose to participate voluntarily. An example of this can be seen in the State Action Plan programme, which was launched in 2010 and has received submissions from 149 Member States[27]. At present, there is no defined penalty for non-compliance regarding carbon emission offsets. The enforcement of offset requirements for international carriers may begin in 2027, as these carriers will start offsetting emissions from the 2024-2026 period. This delay is a result of the COVID pandemic's impact on the aviation industry's recovery.

International aviation fuel emissions are not included in the limitation and reduction commitments of Annex I Parties under the United Nations Framework Convention on Climate Change and the Kyoto Protocol. According to the reporting guidance from the Decision 18/CMA.1[28] International bunker fuel for international aviation needs to be calculated separately, as referred to Article 13 of the Paris Agreement, and requested that,

> "*Each Party should report international aviation and marine bunker fuel emissions as two separate entries and should not include such emissions in national totals but report them distinctly…*"

According to Article 2(2), the Kyoto Protocol,

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[26] International Civil Aviation Organization. "CORSIA States for Chapter 3 State Pairs." 5th ed. September 2024, https://www.icao.int/environmental-protection/CORSIA/Documents/CORSIA%20States%20for%20Chapter%203%20State%20Pairs_5Ed_Rev_web.pdf. [https://perma.cc/53MS-B3L6]

[27] International Civil Aviation Organization. "Climate Change Action Plan." December 2024. https://www.icao.int/environmental-protection/pages/climatechange_actionplan.aspx. [https://perma.cc/GH3L-22VK]

[28] UNFCCC/PA/CMA/2018/3/Add.2, Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on the third part of its first session, held in Katowice from 2 to 15 December 2018

> "*The Parties included in Annex I shall pursue limitation or reduction of emissions of greenhouse gases not controlled by the Montreal Protocol from aviation and marine bunker fuels, working through the International Civil Aviation Organization and the International Maritime Organization, respectively*."

assigned ICAO the responsibility to develop measures for limiting carbon emissions from international aviation. This legal framework supports CORSIA as ICAO's main tool for addressing these carbon emissions.

In the 1940s, the Chicago Convention primarily addressed technical standards to promote aviation safety, security, and navigation. At that time, sustainability was not a priority for the aviation industry, but it is essential to integrate sustainability concerns into aviation development now. A suitable place to include the sustainability agenda is Article 64 of the Chicago Convention. The responsibilities regarding climate change, as outlined by the UNFCCC, should be regarded as equally important as those related to security issues, such as counter-terrorism and human trafficking, in accordance with the Chicago Convention's framework for global security found in Article 64.

> "*The Organization may, with respect to air matters within its competence directly affecting world security, by vote of the Assembly enter into appropriate arrangements with any general organization set up by the nations of the world to preserve peace*."

Member States should reaffirm their commitment to taking action on climate change. The effective way to enforce environmental standards is to incorporate climate change together

with the security arrangement to “preserve peace and sustainability”. Member States may seek approval under Article 94(a) of the Chicago Convention,

> “*Any proposed amendment to this Convention must be approved by a two-thirds vote of the Assembly and shall then come into force in respect of States which have ratified such amendment when ratified by the number of contracting States specified by the Assembly. The number so specified shall not be less than two-thirds of the total number of contracting States*.”

The true strength of aviation conformity lies in bilateral Air Services Agreements, as well as the outcomes of the ICAO Universal Safety Oversight Audit Programme (USOAP CMA) and the ICAO Universal Security Oversight Audit Programme (USeOAP). An effective alternative solution is to establish an audit programme that ensures compliance with climate change Standards and Recommended Practices (SARPs) at both the policy level of Civil Aviation Authorities and among airlines. This would enable Member States to incorporate a new article into their Air Services Agreements. By doing so, they would clarify and solidify their accountability in contributing to environmental sustainability, ultimately promoting a more sustainable and responsible approach to air transportation.

5. **CONCLUSION**

The Carbon Offsetting and Reduction Scheme for International Aviation marks a pivotal action by ICAO to mitigate the aviation sector's environmental footprint while aligning with global climate objectives outlined in the UNFCCC and the Paris Agreement. Since its introduction, CORSIA has demonstrated progress from the 40th Assembly to the 41st Assembly, particularly regarding HLM-LTAG and CAAF/3, alongside the five essential implementation components of the ACT-CORSIA program. However, considerable

challenges remain. The voluntary aspect of CORSIA, stemming from ICAO's soft law framework, hinders its enforcement and raises questions about the initiative's effectiveness. The inequality between developed and developing nations, differences in aviation markets, and the economic viability of adopting SAF underscore the necessity for fair and inclusive solutions. To tackle these issues, ICAO should enhance CORSIA with binding obligations and foster greater international cooperation. This includes creating stronger compliance mechanisms, increasing financial aid for developing countries, and encouraging a transparent carbon market. Additionally, incorporating climate goals into the wider framework under the umbrella of the Chicago Convention, together with safety and security provisions, will bolster the international commitment to aviation sustainability. By addressing the legal, technical, and economic obstacles, CORSIA can evolve into a more resilient and broadly accepted initiative aimed at reducing carbon emissions from international aviation and contributing positively to climate change efforts.

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