



International Civil Aviation Organization

WORKING PAPER

A42-WP/377

EC/31

29/7/25

(Information paper)

English only

ASSEMBLY — 42ND SESSION

ECONOMIC COMMISSION

Agenda Item 26: Economic Development of Air Transport

**CHARGING FRAMEWORKS FOR NEW ENTRANTS IN THE AIRSPACE – ENSURING
EQUITY AND SUSTAINABILITY**

(Presented by Brazil)

EXECUTIVE SUMMARY

This paper highlights the urgent need for the International Civil Aviation Organization (ICAO) to provide coordinated guidance on charging frameworks for new entrants in the airspace, including electric vertical take-off and landing (eVTOL) and unmanned aircraft systems (UAS), particularly those operating under the specific category. While welcoming the ongoing efforts of the Air Navigation Services Economics Panel (ANSEP), the paper emphasizes that the absence of finalized global guidelines has already led to diverging national practices, potentially jeopardizing cost recovery, regulatory fairness, and system efficiency. The paper proposes core principles and short-term measures, including the recommendation not to apply charges to open-category UAS operations, which pose minimal impact on air navigation systems.

<i>Strategic Goals:</i>	This working paper relates to Strategic Goal: <i>The Economic Development of Air Transport Assures the Delivery of Economic Prosperity and Societal Well-Being for All</i>
<i>Financial implications:</i>	The ICAO activities referred to in this paper are expected to be undertaken within the resources available in the 2026-2028 Regular Budget.
<i>References:</i>	<i>ICAO Strategic Plan (2026-2050)</i>

1. INTRODUCTION

1.1 Technological advancements in aviation have given rise to new airspace users, such as drones, remotely piloted aircraft systems (RPAS), and electric vertical take-off and landing (eVTOL) aircraft. These new entrants are already conducting a wide range of operations, from cargo deliveries to inspection and surveillance, and are expected to expand significantly in both volume and complexity over the next decade.

1.2 In the absence of finalized international guidance, some States and service providers may have already initiated local charging frameworks, resulting in fragmented approaches and risks of regulatory divergence. Without timely International Civil Aviation Organization (ICAO) coordination, this fragmentation may compromise regional interoperability and investor confidence in Advanced Air Mobility (AAM) infrastructure.

1.3 As several of these technologies are expected to begin commercial operations as early as 2026, the lack of ICAO-level pricing guidance creates a risk of uncoordinated national implementations. This may lead to inefficiencies, cost asymmetries, and ultimately a delay in the global integration of these new entrants.

1.4 To ensure regulatory harmonization among States, it is necessary to speed up the work of developing a cost recovery mechanism for the provision of services to unmanned aircraft systems (UAS) and new entrants, seeking a balance between providing access to airspace and ensuring the financial viability of service providers.

2. DISCUSSION

2.1 Charging for the use of air navigation services is traditionally based on cost-recovery principles outlined in ICAO's *Policies on Charges for Airports and Air Navigation Services* (Doc 9082), and its associated guidance in the *Manual on Air Navigation Services Economics* (Doc 9161). These frameworks assume a well-defined user base operating within controlled airspace and subject to flight plan filings.

2.2 New entrants challenge this model. These developments affect not only unmanned aircraft but the broader new entrants' ecosystem, including urban air mobility (UAM) operators, hybrid aircraft and remotely piloted cargo services, all of which will depend on fair and sustainable access to airspace and infrastructure.

2.3 Some eVTOL aircraft manufacturers have begun their aircraft certification processes, with operations potentially beginning as early as 2026.

2.4 Additionally, several countries are implementing their Unmanned Aircraft Management (UTM) systems around the world without guidance or best practices for pricing.

2.5 Many operations conducted by new entrants fall under risk-based regulations, especially within the "open" and "specific" categories. Open-category operations are typically conducted at very low levels (VLL), with limited range, low kinetic energy, and without flight plan submission. Specific-category operations, including beyond visual line-of-sight (BVLOS) missions, often require airspace access and coordination, raising legitimate concerns regarding fair cost allocation.

2.6 In this context, ICAO guidance is essential for States to standardize pricing for these systems, ensuring their sustainability while the Air Navigation Services Economics Panel (ANSEP) completes its work on cost recovery mechanisms to be incorporated into Doc 9161.

2.7 ANSEP is currently working on cost recovery mechanisms to be included in the next revision of Doc 9161. However, there is currently no timeline or roadmap publicly available for completion, which limits States' ability to plan for financial sustainability.

2.8 Regarding the cost recovery mechanism being developed by ANSEP, it is important to emphasize the need for a balanced approach—one that ensures fair access to airspace while applying tariffs in a manner that does not encourage the underreporting of flights when reporting is required. ICAO must ensure the principles of equity, transparency, and proportionality are preserved when determining cost recovery frameworks for new entrants. Furthermore, ICAO should encourage States to exempt open-category operations from charges, given their minimal impact on infrastructure and their contribution to essential societal services (e.g., public security, agriculture, environmental monitoring).

2.9 Since information is the basic input for accident prevention programmes, and the uncontrolled presence of UAS represents a direct risk to aviation safety, it is understood that low complexity operations—such as those in the open category—should not be subject to charges.

2.10 This approach aims at regulatory compliance by all operators, in addition to avoiding the collateral effect of lack of flight. ICAO has an opportunity to proactively shape the governance and sustainability of these emerging systems. Failure to do so may lead to a patchwork of local policies that undermine efficiency, safety, and global interoperability.

3. CONCLUSION

3.1 A harmonized regulatory framework is crucial to the international aviation system. Despite ongoing aircraft certification processes and expected operations, ICAO has not yet published any framework or process to pricing eVTOL and UTM systems.

3.2 The emergence of new entrants in civil aviation requires urgent, harmonized responses regarding economic regulation. As the pace of innovation accelerates, ICAO's leadership in establishing charging principles and mechanisms in the context of new categories becomes essential.

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