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WORKING PAPER

ASSEMBLY — 42ND SESSION

TECHNICAL COMMISSION

Agenda Item 25 : Other issues to be considered by the Technical Commission

PROMOTING SUSTAINABLE AIRCRAFT END-OF-LIFE MANAGEMENT

(Presented by African Civil Aviation Commission on behalf of 54 African States[2])

EXECUTIVE SUMMARY

This paper highlights the importance of aircraft end-of-life management through a structured dismantling and recycling industry which is enabled by associated regulatory standardisation, environmental control, job creation and industrial development aspects. Recognizing efforts already underway, there is an urgent need for clear policies promoting sustainable aircraft disposal. Collaboration with international organizations can ensure that Africa aligns with global sustainability goals while fostering economic growth.

Action: The Assembly is invited to:

a) urge ICAO and States to prioritize and support the development and implementation of a regulatory framework for aircraft dismantling and recycling, in alignment with international standards relating to:
   1) environment;
   2) safety as relates to the re-integration/re use of parts from end-of-life aircraft; and
   3) use of qualified aircraft maintenance personnel lead in aircraft dismantling and recycling projects to ensure compliance with design standards of applicable aircraft structural parts when further used.
b) encourage States, in collaboration with regional and international aviation bodies, to invest in local dismantling infrastructure and establish dedicated dismantling hubs to enhance capacity and reduce reliance on external facilities;
c) encourage States and international organisations to establish relevant capacity-building initiatives to ensure a skilled workforce capable of supporting sustainable aircraft end-of-life management;
d) urge industry stakeholders, regulatory bodies, and academic institutions to collaborate in promoting research and innovation in aircraft end-of-life solutions including upcycling, recycling, material recovery and sustainable disposal practices; and
e) encourage States and ICAO to facilitate policy harmonization to ensure standardized and efficient aircraft end-of-life management.

[1] English and French versions provided by AFCAC.

[2] Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cabo Verde, Central African Republic, Chad, Comoros, Congo, Cote d'Ivoire, Democratic Republic of the Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, São Tomé and Príncipe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Togo, Tunisia, Uganda, United Republic of Tanzania, Zambia, Zimbabwe.

Strategic Goals:	This working paper relates to the Strategic Goals *Every Flight is Safe and Secure; Aviation is environmentally sustainable; No Country is Left Behind;* and *the Economic Development of Air Transport Assures the Delivery of Economic prosperity and Societal well-Being for All*.
Financial implications:	To be determined.
References:	Doc 9760, *Airworthiness Manual* *AU Agenda 2063: The Africa We Want*, 2015.

1. INTRODUCTION

1.1 The challenge of aging aircraft calls for the urgent need for structured dismantling and recycling processes. For example, Africa faces growing challenges with aging aircraft, requiring urgent action to prevent environmental, safety, and economic risks. Currently, over 220 decommissioned aircraft contribute to pollution, while another 190 are nearing the end of their operational life. With more than 1 170 new aircraft expected by 2043, the need for sustainable recycling practices is critical.

1.2 Without proper decommissioning by a means of an effectively structured end-of-life management, retired aircraft pose serious environmental and safety risks. Developing countries currently lack a standardized framework for aircraft end-of-life management, leading to inefficiencies in material recovery, hazardous waste disposal, economic losses and the risk of installation of unapproved parts on aircraft in service.

1.3 The aviation sector in some developing States has begun taking steps towards sustainable aircraft end-of-life management, recognizing its potential to support environmental sustainability and economic growth. However, gaps remain in regulatory policies, infrastructure, and workforce development. The establishment of localized dismantling hubs and harmonized regulations will be critical to addressing these challenges.

1.4 This paper presents key policy recommendations to accelerate aircraft dismantling efforts, aligning them with international best practices. Strengthening regulatory frameworks, investing in workforce training, and developing sustainable dismantling infrastructure will position Africa, among others to capitalize on the growing global demand for responsible aircraft end-of-life solutions.

2. DISCUSSION

2.1 Developing countries, in general, lack a standardized aircraft end-of-life management framework, leading to abandoned aircraft, unsafe dismantling practices, risk of installation of unapproved parts on aircraft in service and environmental hazards. Hazardous materials from decommissioned aircraft contaminate soil and water sources, which can be scarce, posing serious risks to ecosystems and human health.

2.2 The absence of dedicated, quality-controlled dismantling facilities results in economic losses as valuable materials like aluminium and titanium remain underutilized. Additionally, many developing nations lack cohesive policies aligned with global sustainability and environmental standards, making regulatory enforcement difficult.

2.3 Addressing these challenges requires the development of clear policies, investment in aircraft dismantling infrastructure, and workforce training to ensure safe and efficient disposal of aircraft, aircraft parts and consumables.

2.4 The implementation of a structured aircraft end-of-life management framework will enhance environmental sustainability by mitigating the pollution risks associated with disused aircraft or aircraft parts. Proper disposal and material recovery will align with international best practices, ensuring compliance with global sustainability goals.

2.5 The establishment of localized aircraft dismantling and recycling facilities will reduce dependency on external markets for disposal services. By developing regional hubs, particularly in Africa can retain valuable materials, minimize logistical costs, and enhance industrial self-sufficiency in aviation maintenance and materials recovery. By returning high-value materials into the supply chain through recycling and reuse, these facilities will actively contribute to a circular economy, minimizing waste and maximizing resource utilization. It would also stimulate the development of ancillary industries of related sectors, such as logistics, transportation, and specialized recycling services.

2.6 Workforce development is critical to the success of a sustainable dismantling industry and can lead to advancements in other related sectors. Standardized training programs in aircraft dismantling, hazardous materials management, and upcycling will create employment opportunities while strengthening regulatory compliance and technical expertise within the sector.

3. CONCLUSIONS

3.1 The sustainable management of aircraft at the end of their operational life presents a unique opportunity for developing States, particularly in Africa, to address pressing environmental, safety, and economic challenges. By embracing structured dismantling and recycling practices, States can minimize environmental hazards, prevent the misuse of unapproved parts, and unlock significant economic and industrial development potential.

3.2 To fully realize these benefits, urgent and coordinated action is needed to establish harmonized regulatory frameworks, invest in local infrastructure, and build a skilled workforce. Through collaboration with ICAO, industry stakeholders, and regional bodies, Member States can position themselves as active participants in the global shift toward environmentally sustainable aviation practices. Promoting responsible end-of-life aircraft management is not only a matter of compliance but a strategic imperative for long-term sustainability, safety, and economic resilience.

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