



State Action Plan On CO₂ Emission Reduction

SOMALI CIVIL AVIATION AUTHORITY



PROTECTING OUR ENVIRONMENT

We protect natural resources and ecosystems.



CLIMATE ACTION

We act on climate change for a resilient future.



SUSTAINABLE OPERATIONS

We use resources responsibly and reduce our footprint.



CLEAN ENERGY FOR TOMORROW

We embrace clean and renewable energy solutions.



GREEN FUTURE TOGETHER

We build a greener Somalia for future generations.

JUNE 2026

SCAA
SAP TEAM
MOGADISHU

Acknowledgements

The Somali Civil Aviation Authority extends its sincere appreciation to the International Civil Aviation Organization Eastern and Southern Africa (ESAF) Regional Office for its continuous technical support and guidance throughout the development of this State Action Plan on CO₂ Emissions Reduction. ICAO's assistance has been instrumental at every stage, including capacity-building and training of personnel, facilitation of National Action Plan Team (NAPT) engagements, and support in identifying innovative and practical mitigation measures for sustainable aviation in Somalia.

SCAA also acknowledges the valuable contributions of all stakeholders, including government ministries, departments and agencies, corporate entities, and Somali air operators, whose collaboration and input were essential to the successful preparation of this Action Plan.

The development of Somalia's first State Action Plan to address CO₂ emissions from international civil aviation would not have been possible without the strong leadership and commitment of SCAA Management. Their dedication and strategic direction ensured the successful completion of this process.

Finally, SCAA expresses its deep appreciation to all staff involved—particularly the focal points and members of the National Action Plan Team—for their professionalism, commitment, and sustained efforts. The collective contribution of all aviation stakeholders is gratefully acknowledged as a key foundation for advancing sustainable aviation in Somalia.

Abbreviations

ANS	Air Navigation Services
CCO	Continuous Climb Operations
CDO	Continuous Descent Operations
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
DRO	Direct Routings Operations
EEZ	Exclusive Economic Zone
ESAF	Eastern and Southern Africa
EU	European Union
FIR	Flight Information Region
FRO	Free Routing Operations
MOTCA	Ministry of Transport
MoECC	Ministry of Environment and Climate Change
MoEWR	Ministry of Energy and Water Resources
ICAO	International Civil Aviation Organization
NAPT	National Action Plan Team
PBN	Performance Based Navigation
RNAV	Area Navigation
RNP	Required Navigation Performance
SAF	Sustainable Aviation Fuel
SCAA	Somali Civil Aviation Authority
SEC	Somali Energy Commission

PREAMBLE

It gives me great pleasure to present Somalia's State Action Plan on CO₂ Emissions Reduction from International Civil Aviation (2026–2029). This Plan represents an important milestone in Somalia's commitment to sustainable aviation development and environmental stewardship, while supporting the continued growth of the aviation sector as a key driver of national development.

Aviation is a critical catalyst for economic growth, trade, investment, tourism, humanitarian operations, and regional integration. In Somalia, air transport continues to play an indispensable role in connecting people, businesses, and markets both domestically and internationally. Over recent years, the sector has experienced steady growth driven by increasing demand for air transport services, contributing significantly to employment creation, economic activity, and the country's integration into the global economy.

Like the rest of the world, Somalia's aviation sector faced unprecedented challenges during the COVID-19 pandemic. The suspension of international passenger operations and the resulting decline in air traffic during 2020 had a significant impact on the sector. Nevertheless, the resilience demonstrated by aviation stakeholders enabled a gradual recovery, and the sector has since returned to a growth trajectory, reinforcing its importance as an engine of economic development and connectivity.

As air transport continues to expand, it is essential that growth is achieved in a sustainable and environmentally responsible manner. Somalia recognizes the importance of addressing the environmental impacts of aviation and remains committed to supporting global efforts to reduce greenhouse gas emissions from international aviation. This State Action Plan has been developed in line with the environmental objectives of the International Civil Aviation Organization (ICAO), including the Long-Term Aspirational Goal (LTAG) of achieving net-zero carbon emissions from international aviation by 2050.

The Plan outlines practical and achievable measures that will improve fuel efficiency, enhance operational performance, strengthen environmental management, and support the modernization of Somalia's aviation sector. It also reflects the commitment of the Somali Civil Aviation Authority (SCAA), government institutions, air operators, and industry stakeholders to work collaboratively towards a more sustainable future.

I wish to express my sincere appreciation to ICAO, particularly the Eastern and Southern Africa (ESAF) Regional Office, for its technical guidance and support throughout the development of this Plan. I also extend my gratitude to all members of the National Action Plan Team and stakeholders whose dedication and expertise contributed to this important achievement.

As Somalia continues to rebuild and modernize its aviation sector, this State Action Plan provides a clear roadmap for balancing environmental responsibility with economic growth and connectivity. Through its implementation, Somalia reaffirms its commitment to a safe, efficient, resilient, and environmentally sustainable aviation sector for the benefit of present and future generations.

Ahmed Moallin Hassan
Director General
Somali Civil Aviation Authority (SCAA)

Executive Summary

The Somalia State Action Plan (SAP) 2026–2029 outlines the country’s strategic framework for reducing CO₂ emissions from international civil aviation while supporting sustainable sector growth. Developed by the Somali Civil Aviation Authority (SCAA) in collaboration with national stakeholders and international partners, the Plan aligns with Somalia’s contribution towards the international aviation climate goals under the Chicago Convention.

SAP establishes a balanced approach that integrates environmental responsibility with the need to expand aviation as a key driver of economic recovery, connectivity, and regional integration. It sets a sectoral target of achieving an average annual fuel efficiency improvement of 2% from 2025 to 2050, contributing to Somalia’s broader goal of reducing greenhouse gas emissions by 30% below 2015 levels by 2030.

The Plan identifies a set of priority mitigation measures, including improvements in air traffic management, optimization of flight operations, adoption of fuel-efficient technologies, and promotion of sustainable aviation practices such as Continuous Climb and Continuous Descent Operations. It also emphasizes the modernization of air navigation systems and airport infrastructure to enhance operational efficiency and reduce emissions.

Implementation is supported by strengthened institutional capacity, data-driven monitoring and reporting systems, and enhanced regulatory frameworks. The Plan further underscores the importance of international cooperation, particularly in accessing climate finance, technology transfer, and technical assistance.

Recognizing Somalia’s unique national circumstances—including limited infrastructure, evolving institutional capacity, and vulnerability to climate change—the SAP adopts a phased and realistic approach. It prioritizes cost-effective measures in the short term while creating pathways for long-term transition to cleaner technologies.

In conclusion, the Somalia State Action Plan 2026–2029 reaffirms the country’s commitment to building a safe, efficient, and environmentally sustainable aviation sector, contributing to global climate goals while supporting national development priorities.

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CHAPTER ONE (1) INTRODUCTION

1.0 State

Somalia, strategically located in the Horn of Africa, forms the easternmost edge of the continent, bordered by Ethiopia, Djibouti, and Kenya, with an extensive coastline along the Gulf of Aden and the Indian Ocean. Spanning approximately 637,540 km² and boasting Africa's longest coastline of about 3,300 km, Somalia occupies a critical geostrategic position linking Africa, the Middle East, and global trade routes—making it highly significant for aviation connectivity and airspace management.

The country's landscape is predominantly flat and arid, interspersed with northern highlands and mountain ranges, and fertile southern river basins formed by the Shabeelle and Jubba rivers. Somalia's climate is largely arid to semi-arid, characterized by low and erratic rainfall and cyclical droughts and floods, which shape economic activity and infrastructure planning. Livelihoods are primarily based on pastoralism and agro-pastoralism, complemented by trade and the growing services sector.

Culturally, Somalia is one of the most homogeneous countries in Africa, unified by a common language, shared traditions, and the Islamic faith. Its society is deeply rooted in a clan-based system that historically functioned through decentralized governance and strong customary law frameworks.

Politically, Somalia is a federal republic operating under a Provisional Constitution adopted in 2012, establishing a multi-tier governance system. The Federal Government of Somalia shares authority with Federal Member States, enabling decentralized administration while maintaining national unity. The country has made notable progress in rebuilding state institutions, strengthening governance, and advancing constitutional review processes after decades of conflict. While political development remains ongoing, there is increasing institutional stability and engagement with regional and international frameworks.

Economically, Somalia is driven by livestock exports, agriculture, remittances, and trade, with steady growth in sectors such as telecommunications, finance, and aviation. Its strategic location, expanding infrastructure, and ongoing reforms position the country as an emerging hub for regional connectivity.

This dynamic blend of strategic geography, climatic realities, cohesive cultural identity, evolving federal governance, and growing economic potential underpins Somalia's commitment to sustainable aviation development and forms the foundation of its ICAO State Action Plan.

Fig .1: Geographical location of the Federal Government of Somalia



1.1 Environmental Stewardship and Climate Commitments

Somalia's 2025 Greenhouse Gas (GHG) inventory, developed in line with the Intergovernmental Panel on Climate Change (IPCC) 2006 Reporting Guidelines, covers key emission sources across the energy, waste, Agriculture, Forestry and Other Land Use (AFOLU), and Industrial Processes and Product Use (IPPU) sectors. The inventory assesses four primary greenhouse gases: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and hydrofluorocarbons (HFCs), providing a comprehensive baseline for mitigation planning.

Somalia's mitigation strategy outlines sector-specific intervention pathways targeting a **total emissions reduction of 29.5 MtCO₂e (34%)**, at an estimated cost of USD 5.17 billion. Under the NDC 3 scenario, emissions are projected to decline from 84.9 MtCO₂e to 55.4 MtCO₂e, with a peak of 57.5 MtCO₂e around 2032. On a per capita basis, emissions are expected to rise from 2.6 tonnes per person in 2024 to 2.8 tonnes in 2030, before stabilizing at approximately 2.7 tonnes by 2035. The strategy focuses on five priority sectors, leveraging cost-effective **Nature-Based Solutions (NBS)**, particularly in transport, agriculture, and Land Use, Land-Use Change and Forestry (LULUCF).

In alignment with the Paris Agreement and the 2030 Agenda for Sustainable Development, Somalia recognizes climate change as a critical national challenge. The country remains highly vulnerable to climate impacts, including recurrent droughts, desertification, and coastal erosion, making environmental sustainability a central policy priority. Somalia's Third Generation Nationally Determined Contribution (NDC 3.0), issued by the Ministry of Environment and Climate Change Somalia, sets out a comprehensive framework to reduce emissions, enhance climate resilience, and promote low-carbon development across key sectors.

Within this national context, the aviation sector, though still developing—is acknowledged as an emerging source of emissions that requires proactive management. The State Action Plan on CO₂ Emissions Reduction from international aviation is developed by the Somali Civil Aviation Authority and is aligned to the International Civil Aviation Organization (ICAO) Doc 9988 and to the global international aviation goals such as the Long-Term Aspirational Goal (LTAG) of net-zero carbon emissions by 2050. It demonstrates Somalia's commitment to international aviation climate initiatives, including the CORSIA and use of cleaner energies for international aviation. The plan introduces targeted measures to improve fuel efficiency, promote green airport initiatives, and adopt energy-efficient technologies, ensuring alignment with international aviation environmental standards.

Looking Ahead

As Somalia continues to rebuild its infrastructure and institutions, the aviation sector will remain a key driver of economic growth, trade, tourism, and humanitarian access. At the same time, integrating environmental sustainability into aviation policy is essential to ensure long-term resilience and equitable development. Through this State Action Plan, Somalia reaffirms its commitment to responsible climate action and its ambition to develop a **cleaner, safer, sustainable and more efficient aviation sector** that supports both national priorities and global environmental goals.

1.2 Aspirational Goals for Aviation

Somalia's Action Plan to Reduce CO₂ Emissions from International Civil Aviation outlines targeted mitigation measures that support national efforts to lower aviation-related emissions. These actions contribute to the country's contribution towards the reduction of Carbon Dioxide (CO₂) emissions from international aviation. This is in line with the global environmental commitments by ICAO and its Member States such as the Long-Term Aspirational Goal (LTAG) of net zero carbon emissions by 2050.

This State Action Plan (SAP) focuses exclusively on **international aviation emissions**, while emissions from domestic aviation are addressed separately under Somalia's Nationally Determined Contributions (NDCs) submitted under the United Nations Framework Convention on Climate Change.

Somalia's updated NDC 3.0, submitted in 2025, targets a **30% reduction in greenhouse gas (GHG) emissions below 2015 levels by 2030**. The NDC was informed by Somalia's first national GHG inventory and the outcomes of the 2023 Global Stocktake, taking into consideration the country's unique national circumstances, including reliance on climate-sensitive sectors, limited renewable energy capacity, dependence on fossil fuels, low industrialization, and evolving governance structures.

Within this context, the Somali aviation sector has set a specific target: **to achieve a 2% annual average fuel efficiency improvement from 2025 to 2050**. This goal aligns both with Somalia's NDC objectives and ICAO's **aspirational goals** for global aviation emissions reduction.

1.3 Short-Term Approach (Up to 2030)

Somalia will prioritize practical and cost-effective measures to improve fuel efficiency and reduce emissions from international aviation operations. These measures include enhancing air traffic management, optimizing flight operations, improving airspace efficiency, and strengthening monitoring, reporting, and verification (MRV) systems. Efforts will also focus on institutional capacity building, regulatory enhancement, and operational efficiency improvements among operators in line with ICAO guidance and international best practices.

1.4 Long-Term Approach (2030–2050)

Over the long term, Somalia will pursue continuous improvements in aviation environmental performance through operational efficiency gains, modernization of aviation infrastructure, and gradual adoption of cleaner technologies and sustainable aviation fuels (SAFs), where feasible. The long-term approach supports the achievement of the sector's fuel efficiency improvement target and promotes alignment with evolving global initiatives on sustainable international aviation under ICAO.

1.5 Strategic Approach and Guiding Principles

Somalia adopts a phased, realistic, and nationally driven approach to reducing CO₂ emissions from international aviation while supporting economic growth, connectivity, and sustainable development. The strategy emphasizes operational efficiency, innovation, modernization of air navigation and airport infrastructure, and continuous improvement in fuel efficiency. It is guided by principles of sustainability, transparency, collaboration, and alignment with ICAO environmental policies and frameworks. The approach also recognizes Somalia's national circumstances, including infrastructure and capacity constraints, and promotes partnerships with international stakeholders to facilitate technical assistance, capacity building, technology transfer, and access to climate-related financing mechanisms.

CHAPTER TWO (2)

2 Business Environment

Aviation is a critical enabler of Somalia's economic activity, supporting trade, mobility, and service delivery in a geographically expansive country with limited ground infrastructure. Its strategic position along the Indian Ocean and the Gulf of Aden enhances its role as a gateway linking Africa with the Middle East and beyond. The sector contributes to employment, facilitates high-value trade, and supports key economic sectors, including livestock exports, commerce, and humanitarian operations, making it indispensable to Somalia's development.

2.1 Global Economic Context

The global economy experienced a sharp contraction during the COVID-19 in 2020, followed by a gradual recovery driven by reopening measures and vaccination efforts. The aviation sector, heavily impacted, is steadily rebounding, with passenger and cargo traffic approaching pre-pandemic levels. According to the International Civil Aviation Organization, long-term air traffic demand is expected to grow steadily, with moderate annual increases in passenger traffic and stable growth in air cargo, reinforcing aviation's continued importance in global trade and connectivity.



2.2 Socio-Economic Context, Transportation, and Aviation

Somalia's socio-economic landscape reflects its status as a developing country, with the majority of the population dependent on climate-sensitive sectors such as agriculture, livestock, and fisheries. The economy is on a gradual recovery path, driven by trade, remittances, and a growing services sector. Rapid urbanization in key cities like Mogadishu and Hargeisa is increasing demand for transport and infrastructure, while access to modern and clean energy remains limited. Electricity generation is largely dependent on diesel-based systems, with low penetration of renewable energy, contributing to carbon emissions and urban air pollution.

The transportation sector is an emerging source of greenhouse gas (GHG) emissions. Road transport dominates domestic mobility but is constrained by underdeveloped infrastructure and an aging, inefficient vehicle fleet, with no established vehicle emission standards. Air transport, however, plays a critical role in national connectivity, trade, and humanitarian operations, and has experienced steady growth—particularly through Aden

Adde International Airport—resulting in increased aviation-related emissions. Maritime transport is also expanding and presents opportunities for improved efficiency and emissions reduction through better regulation.

In response to growing environmental challenges, Somalia has strengthened its climate commitments through its NDC 3.0 (2025), targeting a **30% reduction in GHG emissions by 2030 compared to 2015 levels**. Within this framework, the Somali Civil Aviation Authority has developed a sector-specific action plan aiming to achieve **2% annual fuel efficiency improvement from 2025 to 2050**, aligning with global standards set by the International Civil Aviation Organization. While progress is evident, challenges remain, including limited regulatory frameworks, institutional capacity constraints, and financing gaps.

Despite these constraints, Somalia has significant opportunities to transition toward a low-carbon transport system. Expanding public transport, promoting cleaner technologies such as electric mobility, and integrating sustainable practices into airport and port infrastructure can deliver meaningful emissions reductions. With enhanced international support and climate financing, Somalia can strengthen resilience and advance sustainable transport development.

Aviation remains a strategic enabler of Somalia’s economic growth and regional integration, facilitating international market access, diaspora connectivity, and the movement of goods and people. The sector has demonstrated strong post-pandemic recovery, with increasing passenger, cargo, and aircraft movements. Continued progress by the SCAA underscores Somalia’s commitment to developing a **safe, efficient, modern, and environmentally responsible aviation system** aligned with international best practices.

2.3 Somali Aviation Sector

Background

The aviation sector often plays a central role in the national economy of Somalia, supporting numerous economic sectors and contributing to the Country development. As such, any measures to limit or reduce the impact of aviation on the environment, pursuant to the global aspirational goals agreed by the 37th Session of the ICAO Assembly and reaffirmed by the other Sessions of the Assembly up to A42, should be an integral part of the broader sustainable development priorities and objectives of Somalia. This would promote sustainable growth of aviation while ensuring consistency with any overarching greenhouse gas (GHG) emissions limitation or reduction efforts.

The ICAO Assembly at its 42nd Session in 2025 adopted Resolution A42-21: Consolidated statement of continuing ICAO policies and practices related to Environmental Protection and Climate Change. It reiterated the aspirational goal to improve fuel efficiency improvement from a 2020 baseline by an average annual rate of 2% per annum from 2021 to 2050.

To achieve the global aspirational goals and to promote sustainable growth of international aviation, ICAO is pursuing a basket of measures including technology and standards, sustainable aviation fuels, operational improvements and market-based measures.

ICAO resolution A42-21 further encouraged States to submit voluntary action plans outlining respective policies and actions and annual reporting on international aviation CO₂ emissions to ICAO. The action plans should include information on the basket of measures considered by States, reflecting respective national capacities and circumstances, quantified information on the expected environmental benefits from the implementation of the measures chosen from the basket, and information on any specific assistance needs.

More precisely, ICAO resolution A42-21 required States to:

1. Consider policies to encourage the introduction of more fuel-efficient aircraft into the market and work together through ICAO to exchange information and develop guidance for best practices on aircraft end-of-life such as through aircraft recycling.
2. Accelerate investments on research and development to bring to the market more efficient technology.

3. Accelerate the development and implementation of fuel-efficient routings and air navigation procedures to reduce aviation emissions, and work with ICAO to
 1. bring the environmental benefits to all regions and States, considering the Aviation System Block Upgrades (ASBUs) strategy;
 4. Reduce legal, security, economic and other institutional barriers to enable implementation of the new air traffic management operating concepts for the environmentally efficient use of airspace.
 5. Work together through ICAO to exchange information and best practices on Green Airports;
 6. Set a coordinated approach in national administrations for policy actions and investment to accelerate the appropriate development, deployment and use of clean and renewable energy sources for aviation, including the use of sustainable aviation fuels, in accordance with their national circumstances.
 7. Consider the use of incentives to encourage the deployment of clean and renewable energies sources for aviation, including sustainable aviation fuels.
 8. Consider measures to support research and development as well as processing technology and feedstock production in order to decrease costs and support scale-up of sustainable production pathways up to commercial scale, taking into account the sustainable development of States;
 9. Recognize existing approaches to assess the sustainability of all fuels in general, including those for use in aviation which should achieve net GHG emissions reduction on a life cycle basis, contribute to local social and economic development; competition with food and water should be avoided; and
 10. Adopt measures to ensure the sustainability of aviation fuels, building on existing approaches or combination of approaches, and monitor their production at a national level.

At national level, section 15 (5) of the Somalia Climate Change Act No. 11 of 2016 requires State Departments and National Government public entities to report on sectoral greenhouse gas emissions for the national inventory and designate a unit with adequate staff and financial resources and appoint a senior officer as head of the unit to coordinate the mainstreaming of the climate change action plan and other climate change statutory functions and mandates into sectoral strategies for implementation.

From the foregoing, Somalia has prepared this Action Plan as a tool that will be used to showcase and communicate both at the national and international level. Somalia efforts to address the GHG emissions from aircraft operating national and international air navigation. Through the Action Plan, Somalia has identified, quantified and is implementing the environmental mitigation measures that will contribute Somalia's Nationally Determined Contribution (NDC) target and the ICAO global aspirational goals for international aviation.

2.3.1 Somali Civil Aviation Authority (SCAA)

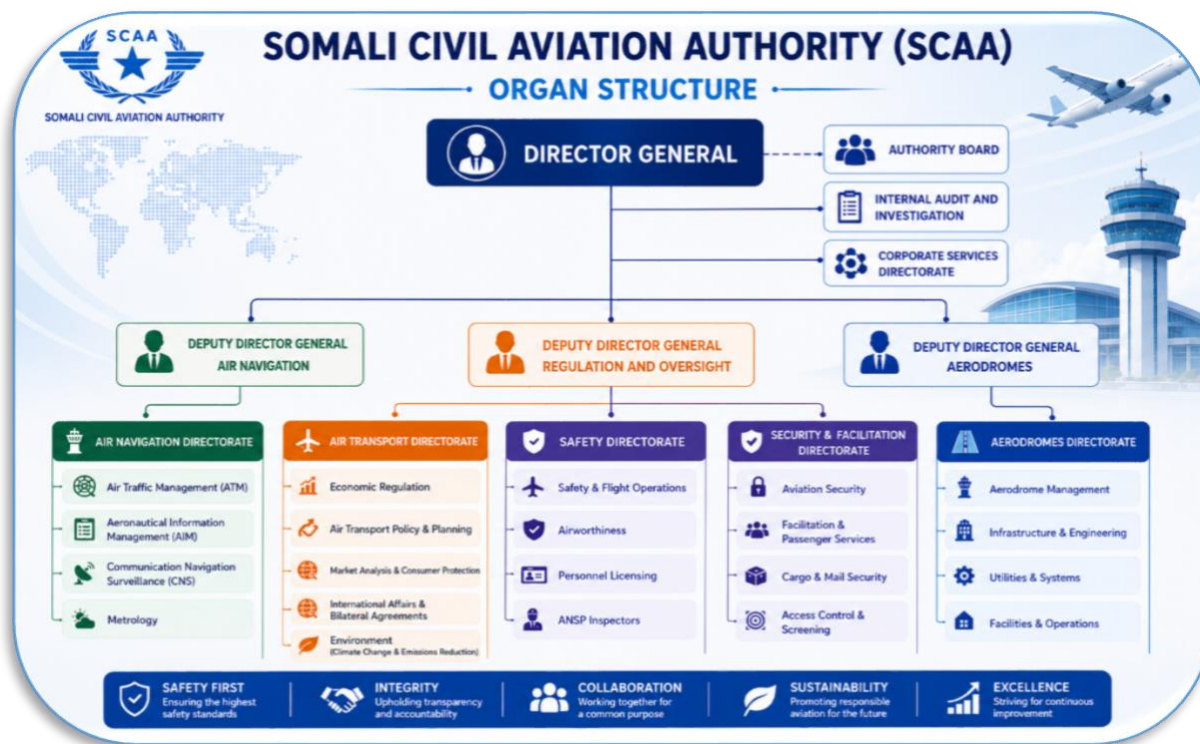
The Somali Civil Aviation Authority is the government agency responsible for regulating and overseeing aviation safety, security, and economic activities in Somalia. It also manages airport operations and the provision of air navigation services, playing a central role in the development and modernization of the country's aviation sector.

Following the collapse of the central government in 1991, Somalia's airspace was managed remotely from Nairobi under an ICAO-administered project (FISS-SOM1802) from 1995 to 2018. During this period, a collaborative framework between Somalia and the International Civil Aviation Organization ensured continuity of Air Navigation Services (ANS). In a major milestone, Somalia successfully restored full sovereign control over its airspace in 2018, with the relocation of operations, systems, and personnel to Mogadishu.

Since then, SCAA has made significant progress in rebuilding institutional capacity and strengthening the aviation sector. Key achievements include organizational restructuring, reactivation of core departments, redeployment of skilled personnel, enactment of the Civil Aviation Act (2020), recruitment of diaspora expertise, and development of regulatory frameworks, manuals, and training programs, alongside enhanced stakeholder engagement.

Civil aviation has become a cornerstone of Somalia’s national recovery by reconnecting remote regions, facilitating trade and mobility, supporting economic growth, and enabling humanitarian access. A defining achievement is the operationalization of the Mogadishu Area Control Centre (ACC), which provides Class A airspace services with full separation of high-altitude traffic in accordance with international standards. Notably, Somalia’s **air navigation infrastructure is state-of-the-art and top-tier**, ensuring efficient, safe, and reliable service provision while strengthening its role as a key regional transit corridor.

The SCAA operates through four main divisions: Aviation Regulation & Oversight; Aerodromes (Airports); Air Navigation Services; and Corporate Services. Within this structure, the **environment and climate-related functions are embedded under the Air Transport (economic regulation) department**, as illustrated in Figure 2.1 (Organizational Structure). This institutional placement underscores Somalia’s strong commitment to integrating environmental sustainability into aviation policy, planning, and regulatory oversight.



2.3.2 Somalia Airports

Somalia’s airport infrastructure is currently overseen by the **Somali Civil Aviation Authority (SCAA)** under its Aerodromes Department. Due to ongoing budgetary constraints, the country has not yet established a separate airport management authority. However, the government envisions establishing an **independent airports authority** in the near future to enhance transparency, efficiency, and operational effectiveness.

At present, Somalia has:

- **7 main international airports**
- **60+ domestic and regional air strips** across the country

These facilities play a vital role in supporting domestic mobility, humanitarian operations, international air connectivity, and cargo movement. Below are brief profiles of Somalia’s major international airports:

SCAA audits and oversights all the international and domestic airports in the country in coordination with federal State authorities.

2.3.2.1 International Airports

Serial No	Aerodromes	Loc Indicator	Coordinates	RWY Length	RWY Alignment	Surface	Traffic
1.	Baidoa	HCMB	030617.7N 433750.0E	2060X40	04/22	Tarmac	18
2.	Berbera	HCM I	102323N 0445631E	3650x45	05/23	Tarmac	3
3.	Bossaso	HCMF	111631N 0490829E	3200X45	09/27	Tarmac	6
4.	Garowe	HCGR	082735.7N 0483406.1E	2450X40	06/24	Tarmac	10
5.	Hargeisa	HCMH	093105.12N 0440522.95E	3700x45	06/24	Tarmac	12
6.	Kismayo	HCMK	002239.7S 0422733.5E	3700X43	04/22	Tarmac	10
7.	Mogadishu	HCMM	020050.15N 0451814.50E	3184X45	05/23	Tarmac	150

Due to the significant growth in the increase in traffic demands at Mogadishu Aden Abdulle International Airport, the Federal government of Somalia is planning to build a new airport outside of Mogadishu City. The development of the master plan is expected to be completed in 2026, and the implementation of a new modern Airport to follow suit in the years to come.

2.3.2.2 Domestic Airports

1. No	Aerodromes	Loc Indicator	Coordinates	RWY Length	RWY Alignment	Surface	Traffic
1	Abudwaq	HCAW	061046.12N 0461135.52E	2000MX30M	04/22	Gravel	2
2.	Adado	HCAD	06541.90N 046388.50E	2685MX30M	05/23	Gravel	2
3.	Afmadow	HCAM	03215N 42322E	900MX50M	18/36	Gravel	2
4.	Alula	HCMA	115730.21N 0504455.26E	1000MX20M	07/25	Gravel	1
5.	Badhan	HCBN	104130.94N 0482017.21E	1300MX30M	09/27	Gravel	2
6.	Bahdo	HCBX	05509.30N 0471246.8E	1700MX40M	03/26	Gravel	4
7.	Balidogle	HCIX	023954N 0444719E	3000MX40M	04/22	Asphalt	2
8.	Barawe	HCBW	010947.2N 0440050E	2100X30M	03/21	Gravel	6
9.	Bardera	HCMD	021953N 0421839E	750MX50M	15/33	Gravel	6
10.	Beletwein	HCMN	044614.9N 0451433.3E	2100MX32M	04/22	Gravel	10

11.	Borama	HCBM	095639N 0430919E	1400MX35M	11/29	Gravel	3
12.	Buhodle	HCBH	08132.30N 0462243.98E	1400M	01/19	Gravel	4
13.	Buloburde	HCBB	035325.31N 0453459.38E	600MX25M	01/19	Gravel	4
14.	Bur' o	HCMV	093000N 0453400E	16000MX30M	05/23	Gravel	3
15.	Buur Dhubo	HCBD	030936N 0423133E	2200MX20M	02/20	Gravel	2
16.	Dhobley	HCDB	002407.34N 0405946.43 E	1200MX2M1	01/19	Gravel	6
17.	Dinsor	HCDN	022543N 0420516E	900MX15M	18/36	Gravel	2
18.	Dolow	HCDL	040857.47N 0420452.39E	1702MX40M	03/21	Gravel	8
19.	Erigabo	HCMU	103836.18N 047232.70E	1000X30M	05/23	Gravel	2
20.	Eyl	HCME	080611.48N 0494907.83E	900MX20M	06/24	Gravel	2
21.	Galkayo	HCGS	64131.20N 472411.92E	2200MX40M	04/22	Tarmac	4
22.	Gara'ad	HCGA	065238.80N 491453.70E	1900MX25M	05/23	Gravel	2
23.	Garbaharey	HCGB	031922N 0421248E	1000MX20M	02/20	Murram	2
24.	Goldogab	HCGD	070433.8N 0470718.1E	2000MX40M	03/21	Gravel	2
25.	Guriel	HCGU	051904.74N 0455908.28E	1100MX30M	05/23	Gravel	4
26.	Hafun	HCHF	102640.70N 0511446.37E	700MX18M	05/23	Gravel	2
27.	Hudur	HCHO	04733.51N 0435254.37E	1785MX30M	08/26	Gravel	4
28.	Jowhar	HCJH	025305N 0452803E	2400MX30M	07/25	Gravel	6
29.	Las Anod	HCMP	083359.8N 0472035.3E	1500MX30M	07/25	Gravel	2
30.	Luq	HCLQ	034824N 0423246E	1100MX15M	18/36	Gravel	4
31.	Hoby o	HCMH	052119.6N 0483052.5E	1700MX35M	03/21	Gravel	2
32.	Qardo	HCMG	093244N 0490710E	1700MX25M	04/22	Gravel	2
33.	Samareb	HCDM	052816N 0462137E	2800MX30M	01/19	Asphalt	4
34.	Skushuban	HCMS	101846N 5012214E	1000MX15M	09/27	Gravel	1
35.	Wajid	HCWJ	034943N 0431457E	1300MX30 M	07/25	Gravel	4

a) Aden Abdulle international Airport (AAIA)

AAIA is the largest airport facility and busiest in Somalia. AAIA, is premier hub and ideal gateway to Somalia. It also serves as a major cargo center for both inbound and outbound goods as well as humanitarian goods. The following figures illustrate the traffic and movements data on aircraft, passenger and freight for AAIA from the year 2023 up to 2025.

I. Aircraft movement

a. International Operations: nearly doubling in three years

International aircraft movements increased from 3,437 in 2023 to 6,641 in 2025, a rise of 93.2 percent. Most of that increase happened between 2023 and 2024, when international operations expanded rapidly.

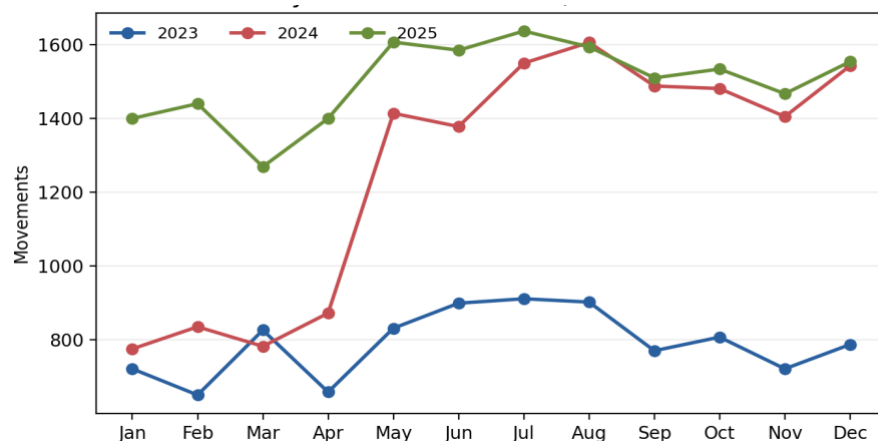


Figure 1: Monthly Aircraft Movements by Category, FY2023-FY2025.

The monthly series shows that the 2024 and 2025 movement levels remained well above those of 2023. Seasonal variation also narrowed, which suggests a shift away from more irregular, ad hoc operations and toward more stable scheduled service.

b. Domestic operations

Domestic aircraft movements rose from 6,046 in 2023 to 11,356 in 2025, an increase of 87.8 percent. However, that expansion happened alongside declining domestic passenger totals. This combination suggests a structural imbalance in the domestic market: more flights were being operated, but fewer passengers were being carried on average.

c. Aircraft Movement by Airport Market Share Analysis

Following the post-COVID-19 recovery, Somalia experienced a significant and sustained increase in aircraft movements—particularly from **2022 onwards**. The figures below show that **Aden Abdule International Airport (AAIA)** continues to dominate the sector, accounting for **65% of all domestic and international movements**. Hargeisa follows with approximately **8%**, while several smaller airports record shares as low as **1%**, indicating a substantial concentration of activity in Mogadishu.

The large margin between AAIA and other airports reflects both **market concentration** and **infrastructure constraints**. Despite its already high traffic levels, AAIA operates beyond its optimal capacity. The government has therefore initiated plans to construct a **new international airport on the outskirts of Mogadishu** to accommodate current growth and future demand. AAIA presently serves as the main hub for international airlines, humanitarian operations, UN agencies, diplomatic missions, and military movements—including troop rotations and cargo.

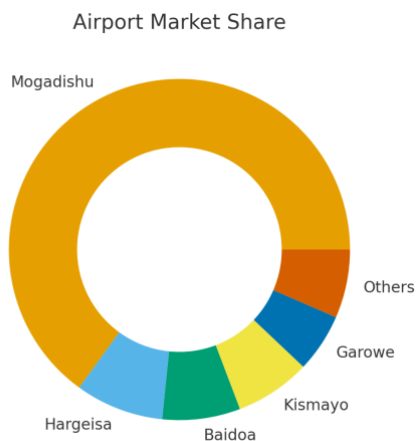


Figure 2: Airport Market share

II. PASSENGER TRAFFIC

a. International passengers: growing global engagement

International passenger traffic grew from 463,605 in 2023 to 529,748 in 2025, a gain of 14.3 percent. Although that growth is positive, it was much slower than the growth in international aircraft movements, which confirms the broader finding of declining efficiency.

The crossing point in 2024-2025 marks a structural shift in HCMM’s traffic composition. By 2025, international passengers accounted for the larger share of total traffic. That change indicates stronger external connectivity, even while overall passenger growth remained modest.

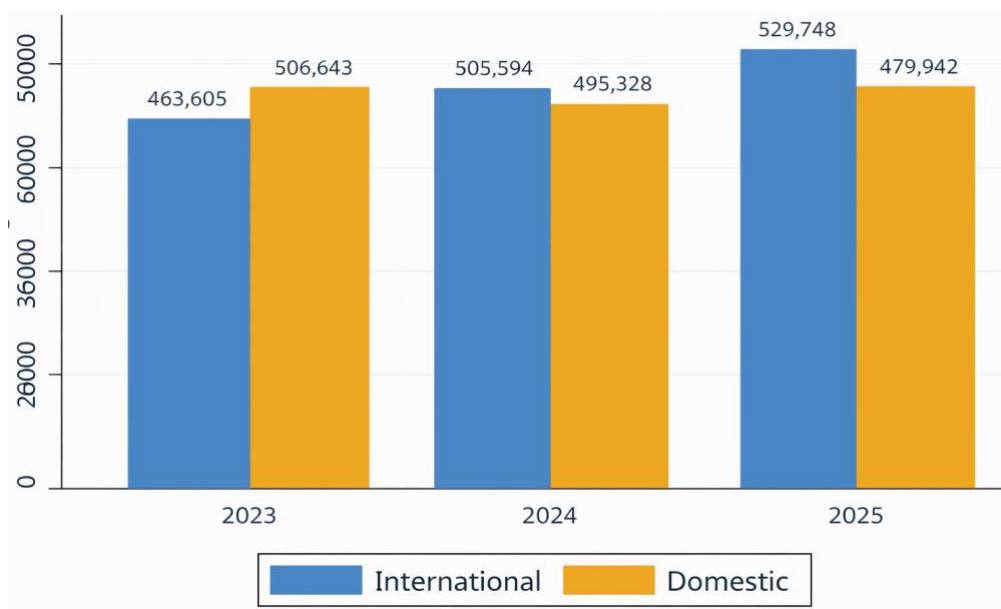


Figure 3: Annual Passenger Traffic by International and Domestic Classification

b. Domestic passengers: consistent contraction

Domestic passenger traffic declined steadily over the study period, falling from 506,643 in 2023 to 479,942 in 2025. This is one of the report’s most important concerns because the domestic passenger decline happened while domestic flight activity increased sharply.

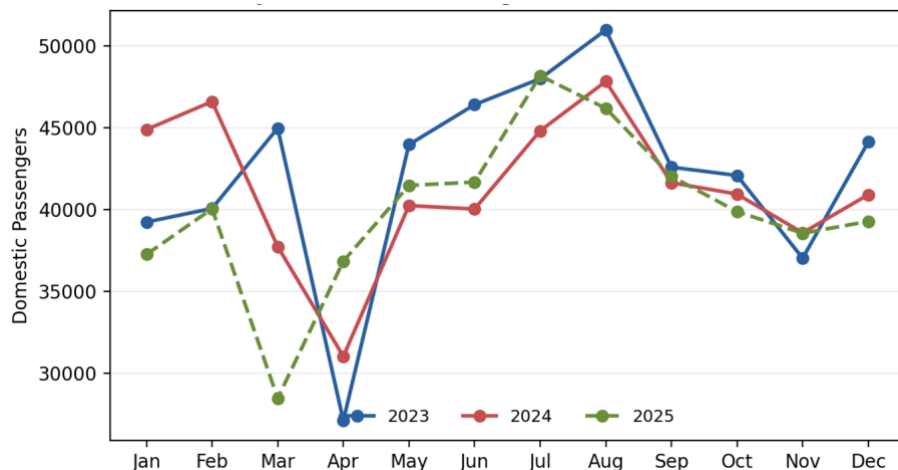


Figure 4: Monthly Domestic Passenger Traffic, FY2023-FY2025.

The 2025 domestic series underperformed relative to the earlier years in most months. This pattern suggests that the decline is not a one-off fluctuation but a sustained weakening in domestic air travel demand.



PASSENGER TRAFFIC AT AAIA (2023–2025)

MONTHLY PASSENGER MOVEMENT (INTERNATIONAL, DOMESTIC & GRAND TOTAL)

PASSENGER MOVEMENT 2023				PASSENGER MOVEMENT 2024				PASSENGER MOVEMENT 2025			
MONTHS	INTERNATIONAL	DOMESTIC	GRAND TOTAL	MONTHS	INTERNATIONAL	DOMESTIC	GRAND TOTAL	MONTHS	INTERNATIONAL	DOMESTIC	GRAND TOTAL
January	31,797	39,243	71,040	January	39,324	44,899	84,223	January	42,192	37,262	79,454
February	31,333	40,075	71,408	February	39,700	46,610	86,310	February	44,843	40,055	84,898
March	38,693	44,983	83,676	March	36,616	37,743	74,359	March	34,403	28,474	62,877
April	32,735	27,105	59,840	April	37,280	31,032	68,312	April	40,619	36,849	77,468
May	36,261	43,974	80,235	May	45,856	40,250	86,106	May	50,958	41,483	92,441
June	45,967	46,417	92,384	June	45,548	40,037	85,585	June	47,920	41,682	89,602
July	49,183	48,004	97,187	July	49,865	44,821	94,686	July	48,578	48,188	96,766
August	42,368	50,984	93,352	August	45,464	47,837	93,301	August	48,317	46,191	94,508
September	36,850	42,599	79,449	September	41,275	41,650	82,925	September	41,926	42,036	83,962
October	42,750	42,089	84,839	October	38,969	40,952	79,921	October	41,981	39,882	81,863
November	37,118	37,034	74,152	November	39,418	38,583	78,001	November	44,751	38,557	83,308
December	38,550	44,136	82,686	December	46,279	40,914	87,193	December	43,260	39,283	82,543
TOTAL	463,605	506,643	970,248	TOTAL	505,594	495,328	1,000,922	TOTAL	529,748	479,942	1,009,690

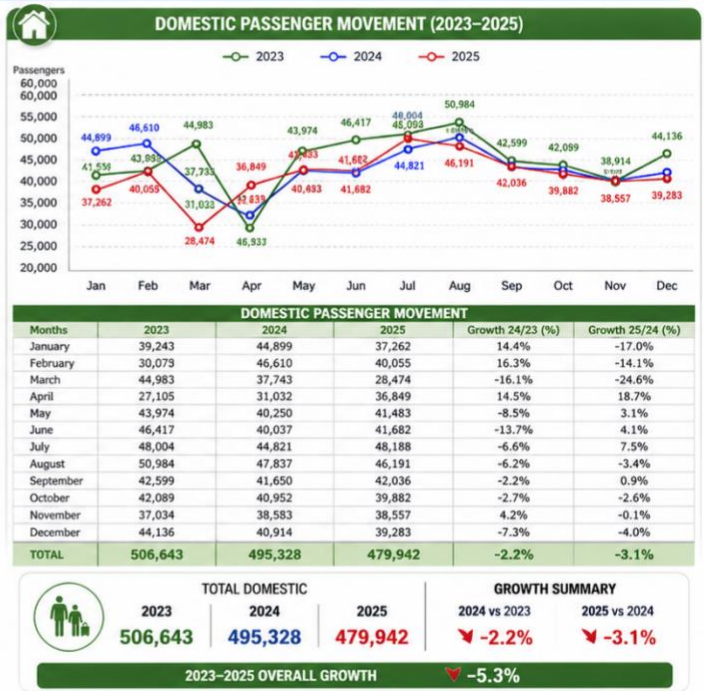
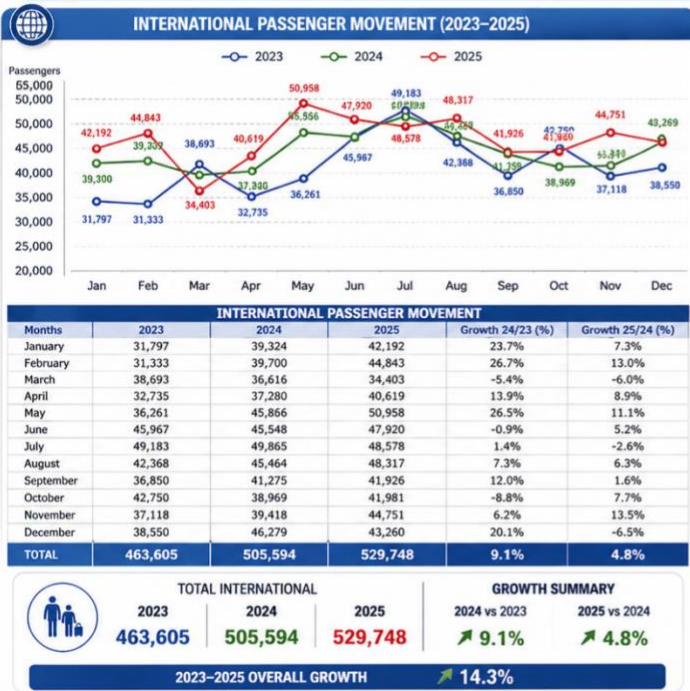
<p>GRAND TOTAL PASSENGERS 2023 970,248</p>	<p>GRAND TOTAL PASSENGERS 2024 1,000,922 <small>VS 2023</small> ↑ 3.2%</p>	<p>GRAND TOTAL PASSENGERS 2025 1,009,690 <small>VS 2024</small> ↑ 0.9%</p>	<p>3-YEAR GROWTH (2023-2025) ↑ 4.1%</p>
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Figures are number of passengers



ADEN ADDE INTERNATIONAL AIRPORT (AAIA) – PASSENGER MOVEMENT (2023–2025)

Monthly Passenger Traffic: International vs Domestic



Figures are number of passengers. Growth rates are calculated based on actual figures.

From recovery to expansion

The three-year series shows a clear progression. FY2023 was a recovery year, with activity stabilizing after prolonged disruption. FY2024 marked rapid expansion, and FY2025 sustained that growth at a slower pace. The airport therefore moved from recovery into a more active and more commercially structured operating phase.

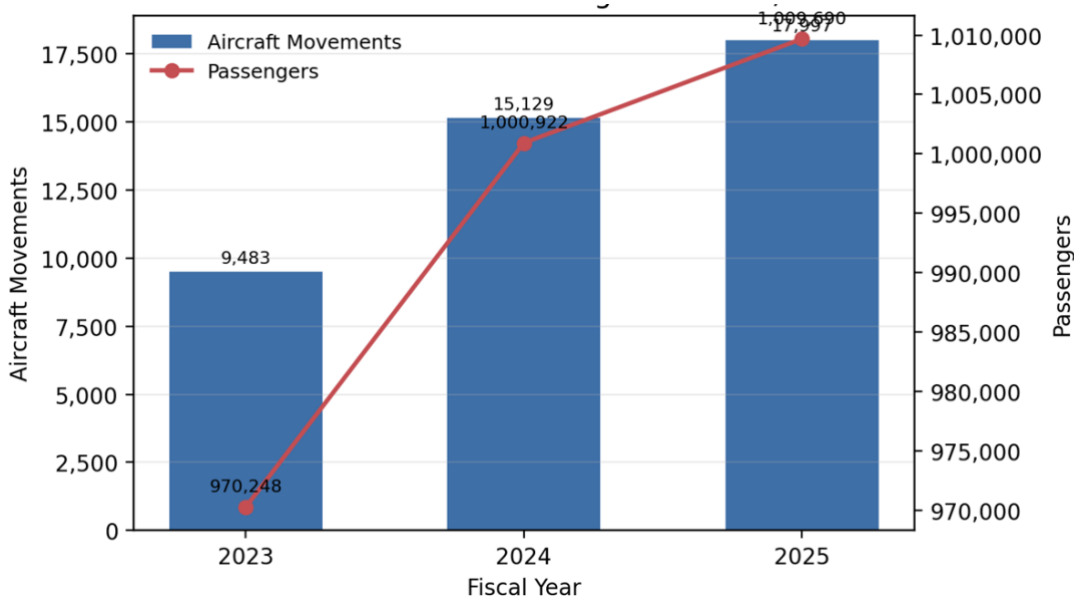


Figure 1: Annual Aircraft Movements and Passenger Volumes, FY2023-FY2025.

Figure 1 captures the central story of the report. Aircraft movements rose very quickly, especially between 2023 and 2024, while passenger totals increased only gradually. This widening gap is important because it shows that more capacity was being deployed without an equivalent increase in demand.

III. International Operators

The following table shows the national airlines and air operators registered in Somalia and operating international flights:

Operator Name	Number of Aircraft	Details
Ethiopia airline	4	B-373-400, B737-200, D-8, B787-200
Turkish Airline	2	B737 Max, A320, B787-400
Qatar Airways	1	A-320
Kenya Airways	2	CRJ-900, B373-200
Uganda Air	1	CRJ-900
Fly Dubai	1	A-320
Air Djabuti	2	CRJ-200, CRJ-400
Daallo Airline	4	B737-400, B373-300, D-8
Freedom Airline	5	CRJ-100, F-50, CRJ-200, A-320, Em-120
Premier Airlines	3	CRJ-100, F-70, F-100
Jubba Airways	4	F-50, EM-120, B737-300, B737-400
I-Fly	3	F-50, F-70

IV. Local operators

S/No.	Aircraft Name	Number of Aircraft	Details
1.	Dalsan Air Express (Foreign-Registered)	2	SAP 340A
2.	Fly 24 (Foreign-Registered)	2	F-50, F27
3.	Maandeeq Air (Foreign-Registered)	2	F-50
4.	Saacid (Foreign-Registered)	3	F-50, Em-120
5.	Star Airline (Foreign-Registered)	2	Em-120, F-50
6.	Starsky (Foreign-Registered)	5	F-50, Em-120, CRJ-100
7.	Som Express (Foreign-Registered)	2	EM-120, F-50
8.	Salaam Air (Foreign-Registered)	2	F-50, F-70

CHAPTER THREE (3)

3.0 Action Plan Development Process

The Somali Civil Aviation Authority recognized the importance of environmental management as early as 2018, initiating efforts to develop a State Action Plan aimed at reducing CO₂ emissions from international aviation, in line with global initiatives of the International Civil Aviation Organization launched in 2010.

The formal development process commenced on **24 April 2023**, led by SCAA Senior Management, with two primary objectives:

1. To develop and present Somalia's State Action Plan on aviation carbon emissions reduction by 2025; and
2. To align with ICAO recommendations for the implementation of the national Action Plan by June 2025.

In September 2023, SCAA formally requested technical support from ICAO. The ICAO Eastern and Southern Africa (ESAF) Regional Office subsequently confirmed its support through a coordination meeting and assigned a Regional Officer (Environment/MET) to provide technical guidance in the preparation and submission of the Plan.

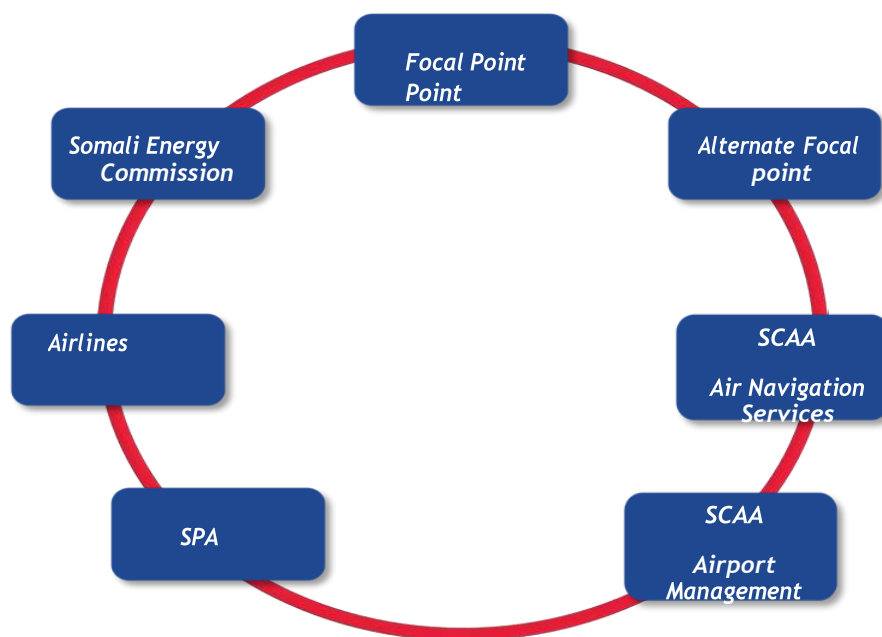
3.2 The National Action Plan Team (NAPT)

Following approval by the Director General, SCAA established a **National Action Plan Team (NAPT)** to lead the development process. Invitations were extended to relevant government institutions, industry stakeholders, and airlines through official correspondence dated 10 November 2023. Positive engagement was received from key entities, including:

- Somali Air Operators
- Somali Petroleum Authority (SPA)
- Ministry of Energy and Water Resources
- Ministry of Environment and Climate Change
- SCAA technical departments (Air Navigation Services and Aerodromes)

The NAPT, comprising seven members including the focal point and alternate, was mandated to **collect data, conduct analysis, and identify feasible measures** to reduce CO₂ emissions from international aviation. The team worked collaboratively under the leadership of the focal point to develop Somalia's State Action Plan covering the period **2026–2029**.

This inclusive and coordinated approach reflects Somalia's commitment to stakeholder engagement, evidence-based planning, and alignment with international best practices in advancing sustainable aviation.



1: Composition of the Somali NAP T 2026-2029

3.2.1 Ministry of Energy and Water Resources

It plays a central role in ensuring access to affordable, clean, and sustainable energy and water resources across Somalia. The Ministry is mandated to formulate and implement national policies, strategies, and plans for both the energy and water sectors, promote electrification in rural and urban areas, and ensure sustainable management, conservation, and utilization of water resources. It also undertakes research to unlock the country’s energy potential and improve service delivery, contributing directly to national climate and development goals.

Under the Ministry, the **Somali Energy Commission (SEC)**—established in July 2023—oversees national energy planning and policy implementation. The SEC is responsible for integrating energy considerations into broader development strategies, coordinating energy-related projects, mobilizing funding, and ensuring alignment between energy initiatives and climate change objectives. It works closely with regional and international partners, reinforcing Somalia’s transition toward sustainable energy systems.

3.2.2 Somali Petroleum Authority (SPA)

It was Established in 2020, regulates and promotes the petroleum sector to ensure sustainable and transparent development of oil and gas resources. Operating under the National Resources Council, SPA aims to maximize economic recovery while upholding high standards of governance, accountability, and environmental responsibility, contributing to Somalia’s long-term economic growth.

3.2.3 Somali Civil Aviation Authority

It was represented in the National Action Plan Team through its technical departments.

The **Air Navigation Services (ANS) Department** is responsible for delivering safe, efficient, and modern air navigation services across the Somali Flight Information Region (FIR), which spans approximately 2.63 million square kilometers and interfaces with multiple regional FIRs. Equipped with **state-of-the-art systems**, the department ensures optimal airspace management, including fuel-saving measures such as continuous climb and

continuous descent operations, as well as efficient ground and air traffic flow—significantly contributing to emissions reduction.

The **Department of Aerodromes** oversees the development and operation of airport infrastructure, ensuring safe, secure, and efficient airport services in compliance with national and international standards. It is responsible for strategic planning, operational management, and maintaining high-quality service delivery across Somalia's airports.

Together, these institutions form a coordinated framework that supports Somalia's commitment to sustainable aviation, climate action, and the successful implementation of the State Action Plan.

Details of the NAPT Members:

No	Names	Job Titles
1.	Mahat Adan Farah	Air Transport Director
2.	Abdirahman Geelle Isse	Met officer
3.	Abdirahman Mohamed Ahmed	ATM Manager
4.	Fuad Aden Yussuf	Chief Aerodromes
5.	Zainab Omar Abdullahi	Statistic Officer
6.	Musa Mohamed Farah	Ministry of Environment
7.	Nour Ismail Hussein	Somali Petroleum Authority
8.	Hassan Abdullahi Khalif	Airline Operators Association
9.	Abdirizak Mohamed Mohamud	Ministry of Energy & Water

Meeting Date	Objective	Outcomes
4 th November 2023	<ul style="list-style-type: none"> • Introduction to SAP • Agreement of timeframe to complete the project. • Secure commitment to provide information 	<ul style="list-style-type: none"> • Members received a copy of DOC 9988 • Members expressed appreciation to be part of the process and committed to provide all necessary information. • Members agreed on timeframe for the project.
4 th December 2023	<ul style="list-style-type: none"> • Presentation of baseline guidelines on selection of mitigation measures 	<ul style="list-style-type: none"> • Members agreed with the set baseline. • All members in attendance noted the steps to selecting a mitigation measure and reassured that they would provide feedback as per agreed timeline
9 th Feb 2024	<ul style="list-style-type: none"> • Presentation of Mitigation Measures 	<ul style="list-style-type: none"> • In this meeting members were presented with the Mitigation Measures. To which all agreed. • Members indicated on Assistance required to implement the measures identified. • The next step was to quantify the data and determine the expected results and share with the NAPT.
30 th March 2024	<ul style="list-style-type: none"> • Validation of the State Action Plan 	<ul style="list-style-type: none"> • The NAPT met for its final meeting to validate the NAPT. • An advanced draft copy was circulated, which included the expected results from the Mitigation Measures identified. • The NAPT confirmed and validated the SAP for Somali for the period 2023-2024

14 th May 2024	SAP Review meeting	The members review the SAP Document with amendments to portray the current status. The meeting was called in preparation for the Webnair planned with ESAF office on 15/5/2024 at 10:00 am
13 th June, 2024	SAP Review meeting	
20 th April, 2026	SAP Review Meeting	I held my first meeting with the ESAF Environment officer as the newly appointed focal point to address the outstanding issues in the draft SAP. During the meeting, we agreed to modify and adjust the document before submitting it for review.
May 18, 2026	SAP Review meeting	I also held a Zoom meeting with the ESAF Environment Officer to discuss the comments raised last week regarding the draft SAP and to finalize the remaining pending issues.

Following the Agreement of the NAPT on the State Action Plan, it was presented to the DG of SCAA for his validation and approval. Thereafter, a copy of the State Action Plan submitted to the Minister responsible for Transport and the other Ministries concerned.

Chapter Four (4)

Establishment of the Baseline

Somalia has no airlines attributed to the State in accordance with Annex 16 Volume IV. The IPCC methodology could have been used but there were challenges getting data for the foreign operators departing from international aerodromes in the country.

For this 1st edition, the State will not provide any baseline data but has already initiated processes to enable the collection of such data. The collected data will be used in the 2nd edition SAP in 2027.

Chapter Five (5)

Selection of Measures

In the absence of baseline data, the State is exploring mitigation measures that can be applied to reduce CO₂ emissions from international aviation.

This section explores the mitigation measures identified in Somalia to reduce CO₂ emissions from international aviation. It first provides an overview of the national clean energy ambitions and landscape in the State that could be leveraged to support the transition to sustainable aviation. It further presents the measures quantified in this Action Plan. The selected mitigation measures are described in more detail in Annex 1.

Overview of the Energy and Climate Objectives In Somalia

Somali is dependent of fossil fuels as energy sources. To mitigate climate change and strengthen energy security, the State has developed a national energy policy, the Somali Energy Policy 2010-2030 that focuses on the promotion of energy efficiency and renewable energy. Somali has a target for renewable energy of 5% and 15% in national electricity production by 2020 and 2030, respectively, with an additional plan to reach 100% by 2050.

Although limited by its small land size, the country is surrounded by a large ocean area and offers reliable wind and marine renewable resources. To date, a wind plant of 6 MW capacity with eight turbines is in operation and the State continues to explore the development of onshore wind energy. Biomass similarly plays an important role in the transition to clean energy in Somali. The government is reviewing the waste management policy of the State, with a possibility to build a Waste-to-Energy Facility. Significant amounts of waste are dumped each year in the landfill of the islands. The State has interest in further exploring the possibility of turning feed stock and waste into energy to deliver win-win solutions. Somali aims to bring energy transition to a low carbon energy sector through the introduction of large scale RE plants (solar photovoltaic plants, large scale offshore wind farms, marine RE, biomass plants), distributed generation, grid stabilizing technology such as battery and pump storage, the introduction of smart grid and smart meters. Somalia seeks to examine the feasibility of the production of feed stock and/or refining of sustainable aviation fuels, and the use renewable energy at the airports. This transition will require the support from Somalia's' technical and financial partners.

Mitigation Measures

To determine the Mitigation Measures that would be most suitable for Somali several factors were considered. An important consideration was the changing landscape of the aviation sector in Somali with regards to government policy prioritizing growth and modernization of the aviation industry. This growth being quintessential to support the tourism industry, the main pillar of the economy of Somalia. In addition to this, consideration was given to the many limitations, specifically linked with resources as well as lack of empirical data to determine the most appropriate measure that would yield the desired result. Henceforth, in determining the Mitigation Measures to be adopted, the NAPT was guided by the ICAO Assembly Resolution 42-21 which stipulates as follows, "To promote sustainable growth of international aviation and to achieve its global aspirational goals, a comprehensive approach, consisting of a basket of measures

including technology and standards, sustainable alternative fuels, operational improvements and market-based measures to reduce emissions is necessary.”

Consistent with ICAO recommendations, Somali utilized the basket of measures to select its mitigation measures to reduce CO2 emissions from international aviation. Somali selected a total of fifteen (15) measures from the following categories of ICAO’s basket of measures: Technology and standards, Sustainable Aviation Fuels (SAF), operational improvements, Market Based Measures (MBM) and supplemental benefits (airport improvements).

Implementation of Selected Measures

Below is a summary of the implementation timeline of the Mitigation Measures for Somali:

Table: Timeline of the implementation for the mitigation measures for Somalia.

Description of mitigation measures	Implementation timeline		
	2026	2027	2028
SAF Feasibility Study	Purple	Yellow	Light green
Improve the use of Optimum flight levels	Purple	Yellow	Light green
Improve the use of Direct routings	Yellow	Light green	Dark green
Efficient departure and approach procedures – PBN SID and STAR	Yellow	Light green	Dark green
Efficient departure and approach procedures CDO/CCO	Yellow	Light green	Dark green
Utilize RNAV/RNP capabilities	Yellow	Light green	Dark green
Minimizing weight – Past Projects	Light green	Dark green	Dark green
Minimizing Weight - Biodegradable product	Light green	Dark green	Dark green
Minimizing Weight - Plastic free flight	Yellow	Light green	Dark green
Voluntary inclusion of a State in the CORSIA	Yellow	Light green	Dark green
Installation of LED Lighting	Light green	Dark green	Dark green
Reduce Energy demand and Preferred cleaner energy sources	Yellow	Light green	Dark green
Conversion of GSE to cleaner fuels	Yellow	Light green	Dark green
Electrically operated ground vehicles	Yellow	Light green	Dark green

Purple- preparation stage Yellow- Ongoing
Light green- partially Completed Dark green- Fully implemented

Annex 1 provides the details of the identified measures for Somalia.

Chapter Six (6)

Quantification of Expected Results

No expected results were calculated because of the explanation provided in Chapter 4 on the Baseline.

Chapter Seven (7)

Implementation and Assistance Needs

Somalia has identified 15 measures to be implemented over a period of three years. In some instances, the implementation would warrant an additional period to ensure it achieves the desired result. To attain the expected measures and results, Somalia will require different types of assistance, ranging from technical to financial and capacity building, training to the Aviation personnel, fuel providers, Airport and ground handling staff, awareness seminars to sensitize staff on energy conservation. The table below summarizes the assistance needs of Somalia:

Table 7.2: Assistance needs for the implementation of mitigation measures.

Mitigation Measures	Cost	Assistance Type
SAF Feasibility Study	Yes	Technical Assistance and Financial aid for a SAF Feasibility Study.
Feasibility study on the use of renewable energy for aviation	Yes	Technical and Financial Assistance
Improve the use of Optimum flight levels	Yes	Capacity Building and Surveillance Rating Training
Improve the use of Optimum routings	Yes	Capacity Building and Surveillance Rating Training
Efficient departure approach procedures-PBN SID and STAR, CDO and CCO	Yes	Capacity Building and Surveillance Rating Training
RNAV/RNP Capabilities	Yes	Capacity Building and Surveillance Rating Training
Minimizing Weight- Plastic Free Flight	No	Technical
Voluntary Inclusion of a State in the CORSIA	No	Capacity Building and Technical support
Reduce Energy demand and prefer cleaner energy sources	Yes	Technical, Financial and Capacity Building
Conversion of GSE to cleaner fuels	Yes	Technical and Financial

ANNEX 1: MEASURES SELECTED BY SOMALIA

1. Sustainable Aviation Fuels	
Measure	Feasibility study
Description	<p>Now, the aviation fuel being supplied to air operators in Somalia is principally Jet A-1. This is being supplied by SPA, and its specification is an international standard based on the requirements of the following:</p> <ul style="list-style-type: none"> • ASTM D1655, DEFSTAN 91-91 • AFQRJOS issue 32 of Nov 2020. (Aviation Fuel Quality requirements for Jointly operated systems) <p>SPA only follows these standards and has no control in determining/deriving the specifications. Therefore, there is a need to conduct a Feasibility Study to evaluate the potential use of Sustainable Aviation Fuel (SAF) in Somali to supply air operators. This is to determine whether SAFs would be economical and match with market demand as well as being congruent with government plans and policies. The Study outcome will propose options on how Somali could potentially move towards supply and possibly production of SAF.</p>
Stakeholder	CAA and Somali Petroleum Authority (SPA)
Required Assistance	Technical expertise and financial assistance
Cost	US\$ 200000
Timeframe	2026-2029
2. Operational Improvements	
Measure	Improve the use of optimum flight levels
Description	<p>The SCAA's Air Navigation Services Department is currently using a system which does not allow the ANSP to offer optimum flight levels to operators. With ongoing investments in upgrading the existing system, the result will be a reduction in Separation minima and introduction of surveillance control. This will support lower separation minima hence increasing the probability of obtaining optimum level.</p>
Stakeholder	Somali Civil Aviation Authority
Required Assistance	Capacity Building and Surveillance rating training
Cost	To be determined
Timeframe	2026-2029

3. Operational Improvements	
Measure	Improve the use optimum routings
Description	Introduction of surveillance control and implementation of Direct Routings Operations (DRO) and eventually (FRO) Free Routings Operations in Oceanic airspace. This being part of the project to further improve and modernize the Air Traffic Management system, which is currently being implemented.
Stakeholder	Somali Civil Aviation Authority
Required Assistance	Capacity Building and Surveillance rating training
Cost	To be determined
Timeframe	2026-2029

4. Operational Improvements	
Measure	Efficient Departure and Approach procedures – PBN / SID and STAR
Description	Measures to improve fuel efficient departure and approach procedures by implementation of PBN STAR. This being part of the modernization project, which is currently being implemented.
Stakeholder	Somali Civil Aviation Authority
Required Assistance	Capacity Building and Surveillance rating training
Cost	To be determined
Timeframe	2026-2029

5. Operational Improvements	
Measure	Efficient Departure and Approach procedures - CDO
Description	Measures to improve fuel efficient departure and approach procedures. Implementation of CDO. This being part of the modernization project. A project which is already being implemented.
Stakeholder	Somali Civil Aviation Authority
Required Assistance	Capacity Building and Surveillance rating training
Cost	To be determined
Timeframe	2026-2029

6. Operational Improvements	
Measure	Efficient Departure and Approach procedures -CCO
Description	Measures to improve fuel efficient departure and approach procedures. Implementation of CCO. This being part of the modernization project, which is already being implemented.
Stakeholder	Somali Civil Aviation Authority
Required Assistance	Capacity Building and Surveillance rating training
Cost	To be determined
Timeframe	2026-2029

7. Operational Improvements	
Measure	Utilize RNAV/RNP Capabilities
Description	Measures to fully implement PBN to bring about the most benefits to the airspace users in linewith GANP highest priority. Implementation must complete and procedures to be reviewed by second quarter of 2026.
Stakeholder	Somali Civil Aviation Authority
Required Assistance	Capacity Building and Surveillance rating training
Cost	To be determined
Timeframe	2026-2029

8. Operational Improvements

Measure	Minimizing weight – Past projects
Description	<p>The Somali Airline Operators will adopt a range of measures to reduce their carbon footprint in their operation across their network. The measures will be adopted consistent with the requirements of the different routes and jurisdiction the airline serves. The measures listed below will be implemented by the airline to reduce weight:</p> <ul style="list-style-type: none"> • Use of plastic beverages instead of glass on its inflight catering service, saving up to 0.5kg per bottle. • Reduction in number of in flight magazines to only 1 per passenger; • Emptying waste tank at each destination point. • Cleaning of interior and exterior of aircraft to minimize weight increase from dirt accumulation and reduce drag; • Introduction of electronic devices e.g. iPads in the cockpit which means removal of manual in cockpit replaced by Electronic Flight Bags (EFB). Henceforth reducing from 20kg manuals per pilot to 500g iPads. <p>These measures have already been implemented by the airline as it is part of their strategy to be more sustainable.</p>
Stakeholder	Somali Local Operators
Required Assistance	None
Cost	To be determined
Timeframe	2026-2029

9. Operational Improvements

Measure	Minimizing weight – Biodegradable product
Description	<p>Somali Airline Operators intends to introduce biodegradable utensils for inflight catering. This is a requirement for Somali Airline Operators at the different points it serves. Presently, the airlines are utilizing glass cups and silver cutlery for in-flight catering, which adds to the overall weight of the aircraft. Henceforth a new project is being put forward to replacing all the cutlery in a bid to reduce weight factor.</p>
Stakeholder	Somali Local Operators
Required Assistance	No
Cost	Not applicable

Timeframe	2026-2029
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10. Operational Improvements

Measure	Minimizing weight – Plastic free flight
Description	As part of its plans to be more sustainable and to further reduce the weight factor in its international operation in the future, Somali Airline Operators intends to embark on a project to eventually remove all plastic items on board of their aircrafts. This is in line with the stringent requirements being introduced in different jurisdictions on its network. Based on an initial analysis done a plastic free flight would mean approximately 250 to 500g of waste removed from each passenger.
Stakeholder	Somali Airport Operators
Required Assistance	Financial
Cost	To be determined
Timeframe	2026-2029

11. Market Based Measure

Measure	Voluntary inclusion of a State in the CORSIA
Description	Somalia intends to voluntarily participate in the CORSIA from 2018 till now. The State benefited from the capacity initiative on CORSIA. In this regard monitoring, reporting and verification of CO2 Emissions will be done by airlines registered in Somalia and the State will submit CO2 emissions reports from 2026 year onwards. Somalia will endeavor to continue with the monitoring and reporting of CO2 emissions. To ensure that it becomes mandatory for airlines registered in Somali to report on their annual emissions, the Authority will domesticate the necessary regulation as well as develop guidelines for operators on submission of their CO2 emissions report.
Stakeholder	Somali Civil Aviation Authority
Required Assistance	Capacity building and technical assistance
Cost	Not applicable
Timeframe	2026-2029

12. Supplemental Benefits – Airport improvements	
Measure	Installation of Light Emitting Diode (LED) Lighting
Description	The AAIA Airport is the main airport in Somalia and operate on a 24-hour basis. Now the main type of lighting used at the airport are LED, Halogen, Fluorescent and Metal Halide. Although the Led lighting tends to drive up the cost of electricity to approximately USD 60,000 annually. The SCAA, who manages the main airport in Somalia, implemented a pilot study in 2023 and based on the result found that LED lighting would go a long way in reducing the overall operational cost of the airport. Henceforth, the move is to now change all lights at the airport which would cover the following areas [passenger and cargo terminals, offices, airfield]. This will be done in phases to ensure that all the areas are covered. It is expected that a 6% decrease in the overall operational cost will berecorded once the project is fully implemented.
Stakeholder	Somali Civil Aviation Authority
Required Assistance	Technical and Capacity building
Cost	To be determined
Timeframe	2026-2029

13. Supplemental Benefits – Airport improvements	
Measure	Reduce Energy demand and Preferred cleaner energy sources
Description	The SCAA, as custodian of the Somali International Airport and the Private domestic Airports, has for a very long time incurred an important operational cost because of energy consumption. Over the years, various ad-hoc solutions have been proposed and put forward,in a bid to drive down this cost. However, none have had the desired impact. There is a need for SCAA to conduct and in-depth feasibility study on all the Airports that are under its responsibility to: determine the real cost of energy consumption, identify and propose shortand long-term solutions to bring down this cost and to propose alternative and cleaner sources of energy based on available capacity of existing airport infrastructures.
Stakeholder	Somali Civil Aviation Authority
Required Assistance	Technical, Capacity Building and Financial
Cost	To be determined

Timeframe	2026-2029
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14. Supplemental Benefits – Airport improvements

Measure	Conversion of GSE to cleaner fuels
Description	The amount of oil spills recorded due to GSE yearly on the airport airside is a concern to the Somali CAA. From January 2020 to September 2023, a total of 14 occurrences of oil spills were recorded. Henceforth, the move is to now encourage the use of electrically operated vehicles. To encourage such initiative, the Somali Civil Aviation will embark on a sensitization program with stakeholders to review the fleet of vehicles for the airport and provide incentive to use electrical vehicle for ground services, with the introduction of a power point to charge electrical vehicle.
Stakeholder	Somali Civil Aviation Authority
Required Assistance	Technical and Financial
Cost	To be determine
Timeframe	2026-2029

15. Supplemental Benefits – Airport improvements

Measure	Electrically operated ground vehicles
Description	As the main ground handler at the Somali international Airport, Somali Airport operators will plan a robust project to replace all its ground vehicles with electrical ones. This is in a bid to reduce costs and align with the sustainable goals of the airlines. The project also has another important component which is to replace one existing passenger steps used upon boarding and disembarkation, to one that use less energy. The airline is currently conducting the necessary evaluations to determine the best way forward to implement this project.
Stakeholder	Somali Airport Operators
Required Assistance	None
Cost	Not applicable
Timeframe	2026-2029

References

ICAO DOC 9988 <http://www.icao.int/env>

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Somali Petroleum Authority <https://hbs.gov.so/>

Somalia NDC 3 <https://unfccc.int/node/648021>

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