Kenya's Engagement for Clean Aviation

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Vision:

A vibrant, safe, secure and sustainable civil aviation system.

Presentation Outline

- Status of aviation in Kenya
- Kenya's Aviation Net Zero Commitments
- Kenya's Action Plan
- Kenya's SAF Roadmap
- SAF Feedstocks for Kenya
- Key SAF Challenges in Kenya
- Success
- SAF Development priority Actions

Status of Aviation Sector in Kenya

Indicators	Status
Major international airports	3
Aircraft Movement	1014 per day
International Scheduled flights per day	300
Number of State Pairs flown by Kenyan carriers	379
Projected growth of aviation industry	5% P.A up to 2030

Kenya's Aviation Net Zero Commitments

Implementation of the Climate Change(Amendment) Act, 2023

Implementation of ICAO Annex 16 on Environmental protection by developing relevant regulations.

Created an Aviation environmental department in KCAA

Installation of 0.5 MW solar system in Moi International Airport

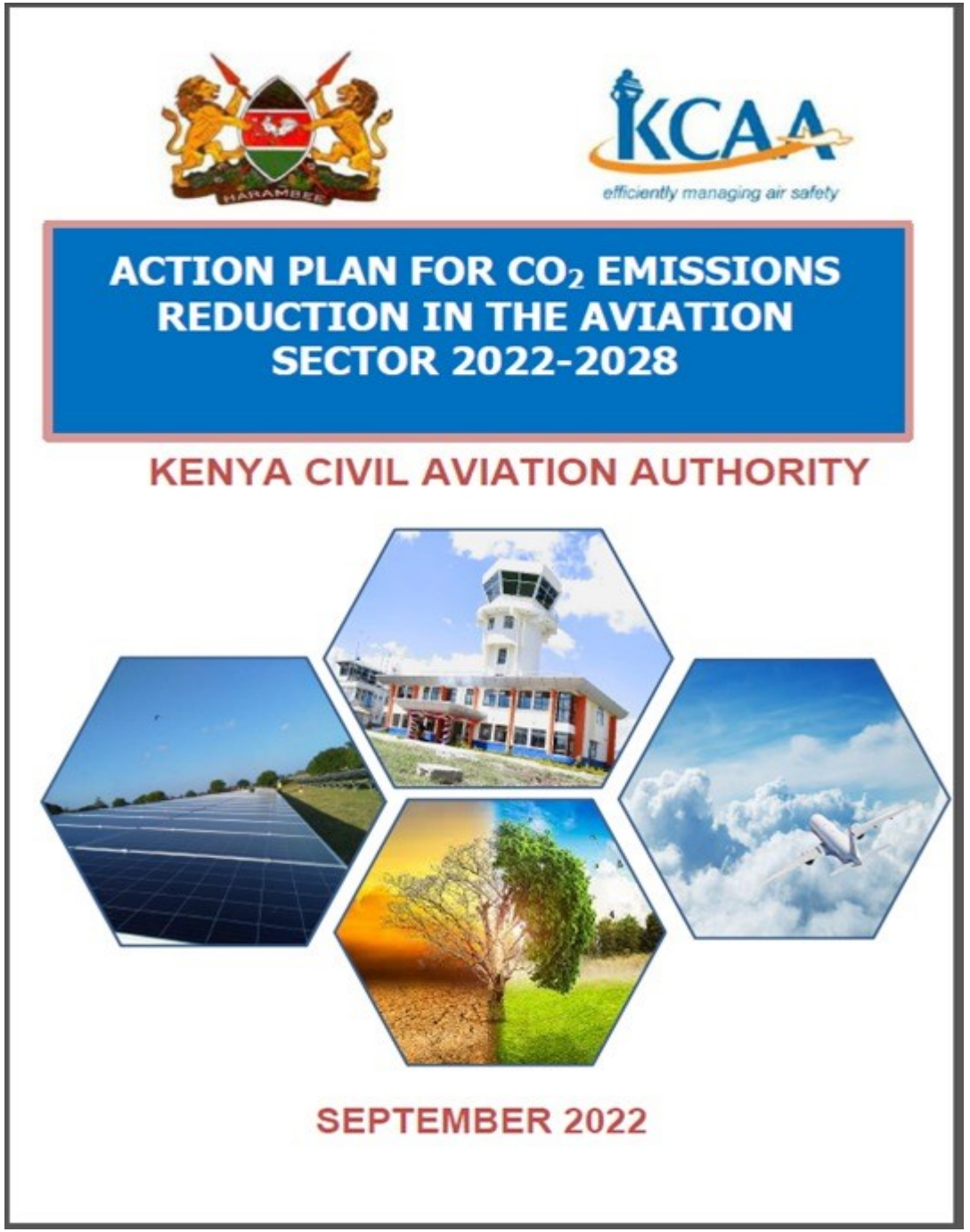
Development, implementation and review of **State Action Plan for CO2 Reduction in aviation sector**

SAF feasibility study was conducted in 2018

Kenya decided to voluntarily participate in the CORSIA with effect from 2021

Kenya's Action Plan

- The 3rd action plan was completed and approved by the Director General on 22nd September 2022
- The action plan covers the period between 2022 to 2028



Measures in the action plan

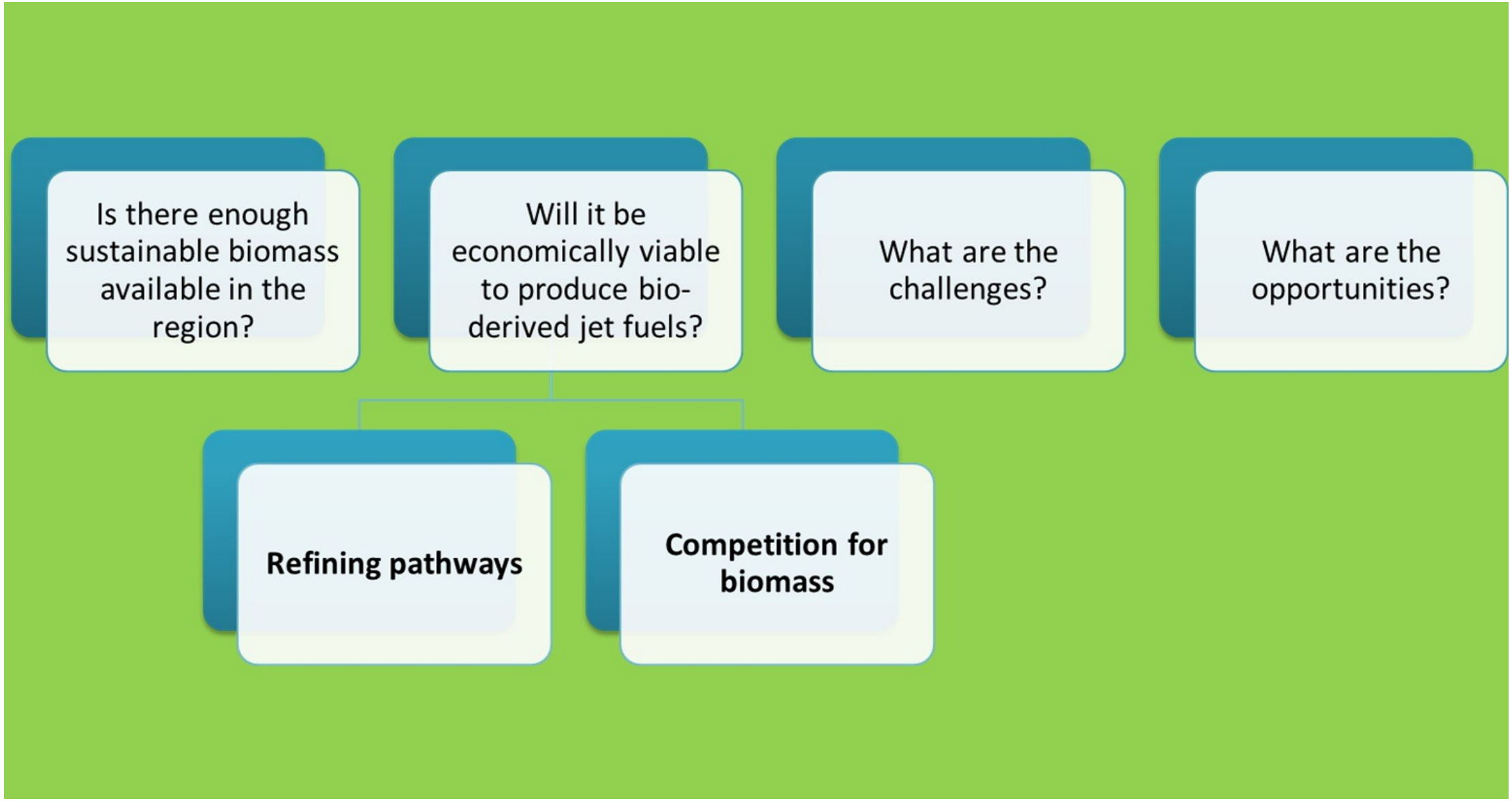
Considered five categories of measures that are expected to have the greatest environmental benefits namely:

- ❖Technology and standards
- ❖Sustainable aviation fuels
- ❖Operational improvements
- ❖Market-based measures
- ❖Airport improvements

Kenya SAF Roadmap

- One of the mitigation measures identified in 2nd Kenya's State Action Plan was the development and deployment of sustainable aviation fuels (SAF).
- A study into the feasibility of a commercial SAF supply chain in Kenya was commissioned in 2018.
- The study examined the feasibility of various potential feedstocks based on conflicting uses, logistics, volumes and socio-economic factors.
- It identified paths and required actions that could be pursued by relevant stakeholders to develop a viable SAF industry.
- It identified key barriers and presents fact-based outcomes to assist stakeholders to prepare business and policy recommendations

Key Areas determined in the feasibility study



SAF Feedstocks for Kenya

Used Cooking Oil (UCO)

- Large volumes – high growth/energy dense
- Proven conversion technologies/can utilise existing petroleum infrastructure
- Sustainable/waste does not compete with food/improved environmental outcomes

Sugar Cane Tops

- Large volumes/NOT energy dense/region limited
- Conversion technologies still to be commercialised/some conversion tech certified
- Sustainable - does not compete with food/reward for farmer
- Medium to long term option requiring further study

Municipal Solid Waste

- Very large volumes/Not energy dense
- Conversion technologies still to be commercialised/some conversion tech certified
- Sustainable - does not compete with food/social and environmental outcomes
- Medium to long term option requiring further study

Water Hyacinth

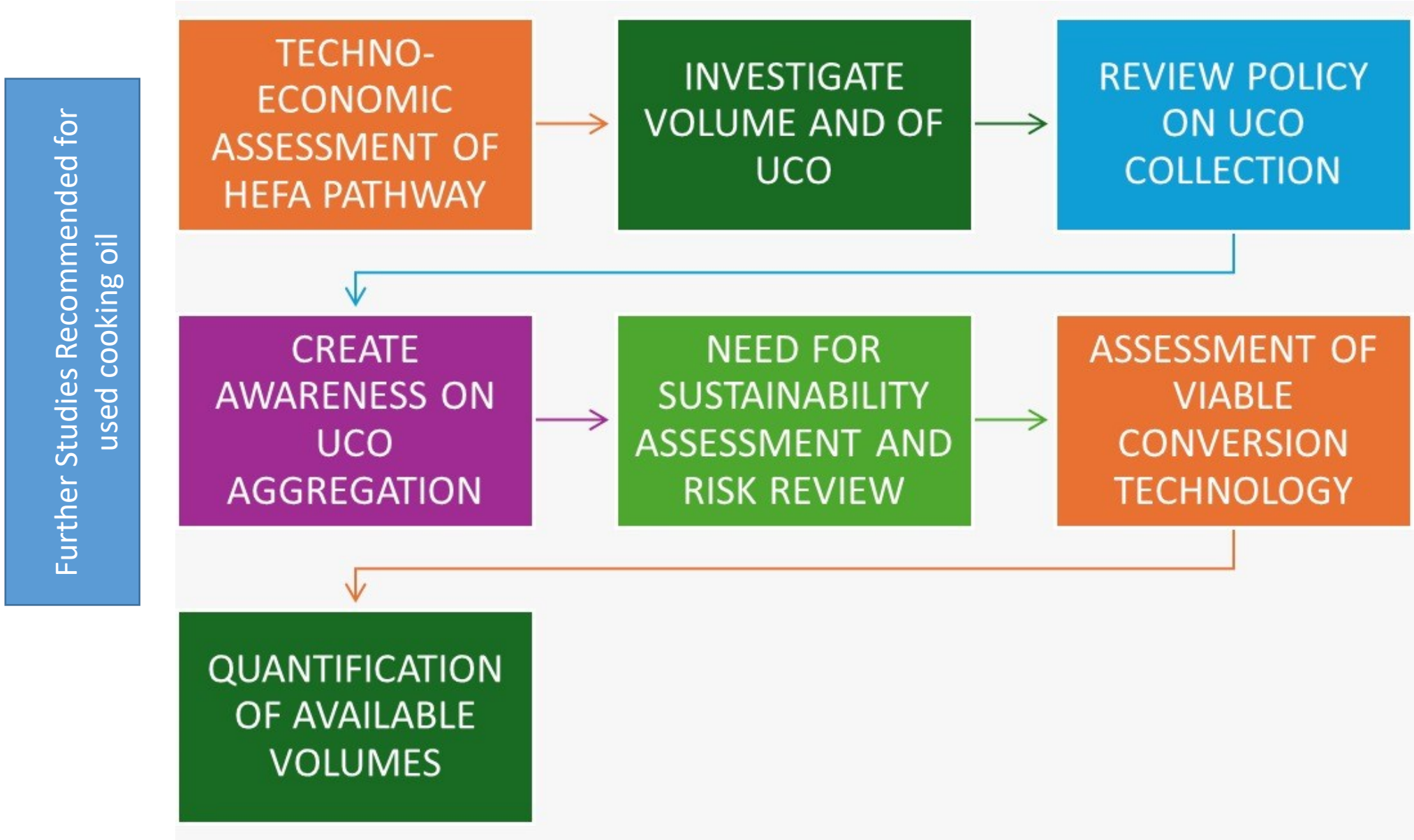
- Medium to large volumes possible/region limited/low energy density/hi moisture
- Would help solve significant social, environmental and economic issues
- Difficult to harvest and process
- Long term option requiring in-depth study

Feasibility Study Recommendation

The study recommended that priority to be given to Used Cooking Oils(UCO) feedstock for a number of reason:

- It is a waste available in significant volume and which grows rapidly, annually;
- New legislation encourages aggregation and beneficial reuse;
- There is a proven SAF conversion pathway certified for use in aircraft up to 50 per cent blend and;
- There are social and environmental co-benefits through avoiding release to the environment and potentially providing an income stream to the community.

Results from SAF Feasibility Studies report 2018



Key SAF Challenges in Kenya

- **Plant financing**
- **Offtakes(airlines and Corporates)- how to allocate the green premium**
- **Fuel testing, certification and blending**
- **Policies**

Success

The SAF study recommended that focus be directed to waste-based feedstocks namely, used cooking oil (UCO) in the short to medium term, and municipal solid waste (MSW), sugarcane field byproducts (cane tops) and water hyacinth in the long term.

Kenya has Agreed to Enter into ICAO ACT-SAF programme to scale up production of SAF

Hosted a workshop on SAF scaling up including Power to Liquid held in Nairobi on 3rd August 2022 & 11-12 Sept. 2023 in Collaboration with GIZ PtX Hub

Collaboration with other Partners on SAF production are under discussion.

Implementation of the SAF toolkit recommendation that was launched during COP 26 in Glasgow UK

The Ministry of Energy has done baseline studies on the potential of biofuels production in the country to promote the use of SAF

SAF WORKSHOP IN KENYA

- SAF capacity building training were conducted on 13th and 14th September 2023 in Nairobi

The following were the main outcomes from the workshop

- Public-private SAF steering group, with international stakeholder involvement
- SAF Action Plan / Roadmap aligned with the Aviation Environmental Action Plan
- Model SAF Finance Case that addresses risk and green premium coverage
- Technical analysis on the usability of the old refinery and of blending infrastructure, and domestication of (certification) standards
- Domesticate SAF policy to help cover the green premium and reduce risk premiums

COLLABORATION WITH CORSIA AFRICA AND CARRIBEAN PROJECT

- Kenyan stakeholder workshop was held in Nairobi Kenya 10th – 12th October 2023 on CORSIA, Sustainable Aviation Fuel and CORSIA Eligible, Fuels.

The following were the outcome:

- Review the biofuel Strategy
- Continue the Capacity Building on CEF and on Sustainable Aviation Fuel
- Support to the development of CORSIA Eligible program in Kenya

NSC On Acceleration of Development and Deployment of SAF in Kenya

- The first meeting of the NSC On Acceleration of Development and Deployment of SAF in Kenya was held on 29th May 2024, the following were the outcome
- Establishment of Six working group

❖SAF Finance

❖Socio-economic benefit study

❖SAF policy

❖Mombasa refinery and fuel blending and certification

❖SAF road map

❖Feedstock

Opportunities in the Implementation of SAF in Kenya

large **volumes of wastes** and residues

Strong **government commitment** to renewable energy

Social, **environmental** and economic benefits

SAF Development Priority Actions

The following are the Key priority Actions/Collaborations for SAF development in Kenya

Development of **National SAF policy**	Develop SAF National **Strategy and Roadmap**	Review of **incentive policy** to increase production of SAF
Capital investment to scale up SAF production	**Capacity building** through technical training to experts and Knowledge transfer.	Support **SAF pilot** project development
Support and collaborate in SAF through **research and development**.	Creation of **stakeholder** awareness & Working Groups	Establishment of local, **Regional and international partnerships to** Scale up SAF developments

Aviation Working Group Stakeholders