SAF- Experience in Africa

Second Phase of the ICAO Assistance Project with the EU Funding :
"*Capacity Building for CO_2 Mitigation from International Aviation*

3 to 5 April 2023
Harare, Zimbabwe

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Regional Officer, ENV/MET
ICAO ESAF Office

Agenda

1. ACT-SAF implementation and SAF Facilities in Africa
2. SAF activities
3. Challenges
4. Conclusion

ACT-SAF implementation and SAF facilities in Africa

Introduction

- ICAO initiative to **facilitate the development and deployment of sustainable fuels,** while recognizing "not one approach fits all"

- Tailored support for States in various stages of SAF development and deployment

Role of Regional Offices:

- Outreach, promotion and support on SAF initiatives in the Region
- encourage States/ Organisations to participate

You can become an **ACT-SAF Partner** by agreeing to the ACT-SAF Terms and Conditions

ACT-SAF Participants

States:

About 50% ACT-SAF Partner States from both ESAF and WACAF Regions

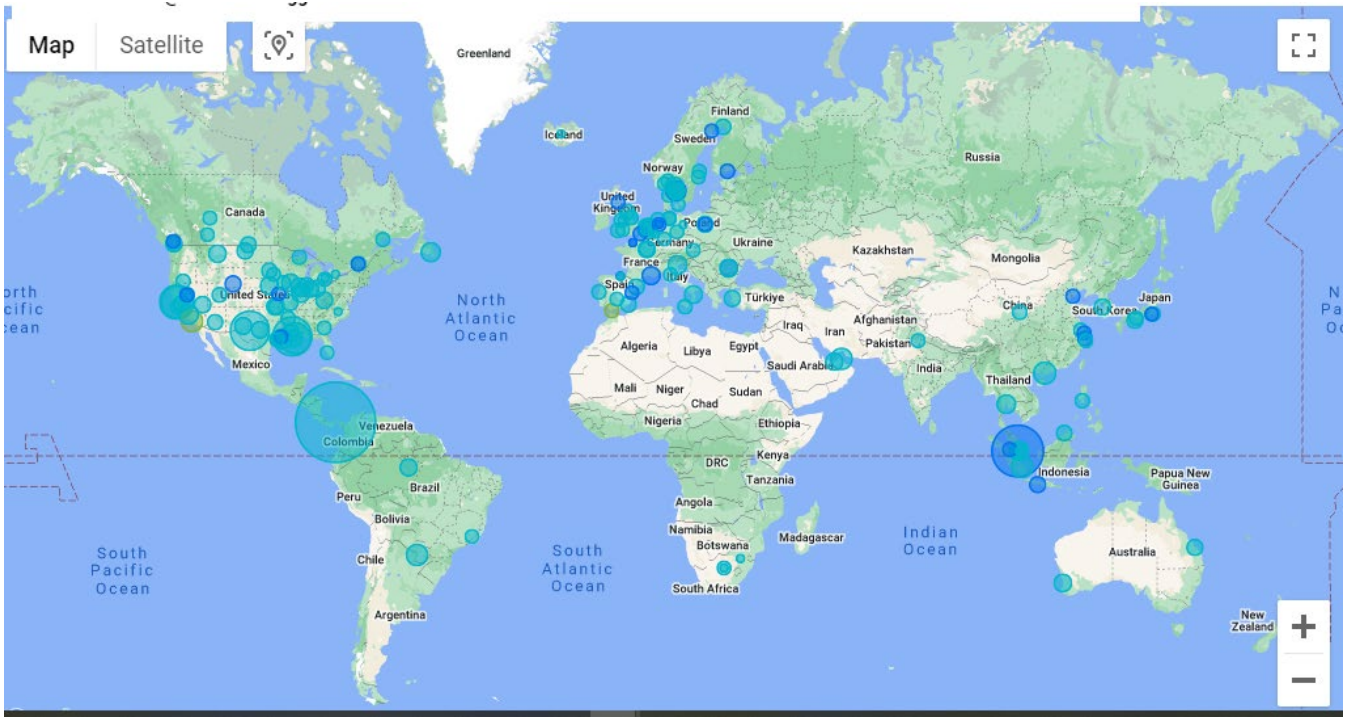
- **ESAF:**
  - Botswana, Ethiopia, Kenya, Madagascar, Mauritius, Mozambique, Rwanda, Seychelles, South Africa, South Sudan, Tanzania, Zimbabwe
- **WACAF:**
  - Burkina Faso, Cabo Verde, Cameroon, DRC, Cote d'Ivoire, Equatorial Guinea, Gabon, Ghana, Nigeria, Senegal, Togo

Organisations:

- Airports Company of Zimbabwe, Fastjet Zimbabwe, Sasol, Zijani (UCO)

Cote d'Ivoire offered financial resources to ACT-SAF

SAF Production facilities: Africa compared to the rest of the world



Map providing information on facilities *(existing and announced)* that could produce Sustainable Aviation Fuels

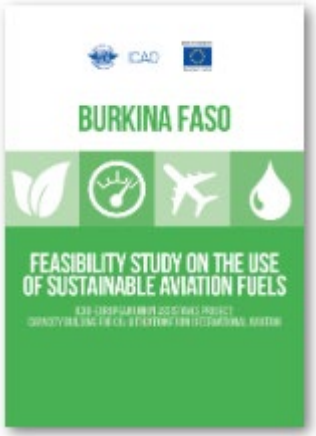
SAF activities

Example: Burkina Faso

Feasibility study:

- ICAO-EU Project Phase I (2018)
  - on the use of SAF

Waiting for the inputs of the Focal Point – if not input : will add some inform from the feasibility study



Example: Ethiopia

Ethiopian Climate Resilient Transport Sector Strategy

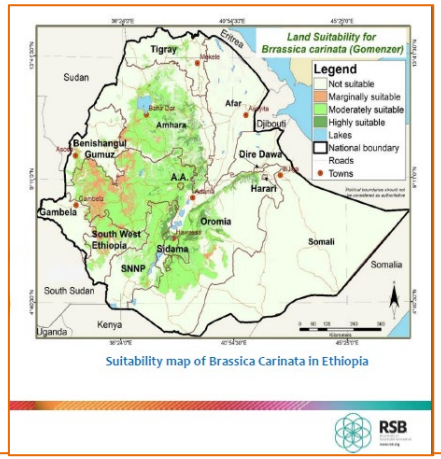
- launched in 2017 with a target to, '*introduce the use of biofuels for aviation (up to 10% of mix)';*

Projected fuel demand

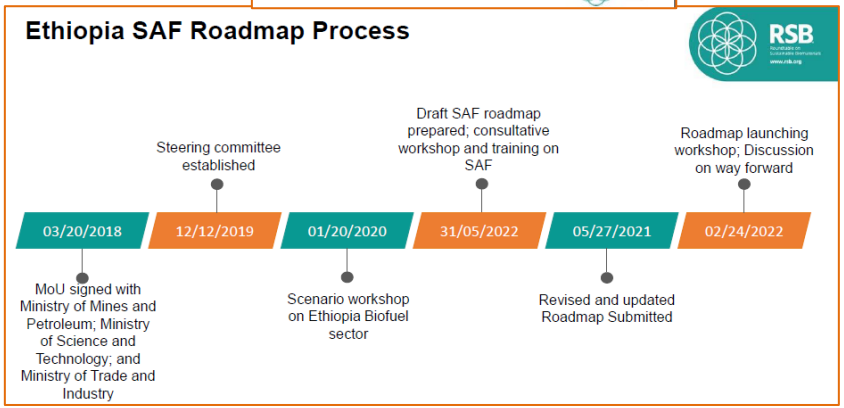
- About 586 million litres of SAF required to enable Ethiopia to reach the 10% SAF uptake

Joint partnership between RSB and WWF

- **The Ethiopian SAF Roadmap**
  - Published under the *Fueling the Sustainable Bioeconomy* Project supported through grant from The Boeing Company
- **Feedstock prefeasibility assessment**
  - *Brassica Carinata (Ethiopian mustard)*



Suitability map of Brassica Carinata in Ethiopia



Example: Kenya

Feasibility study:

- ICAO-EU Project Phase I (2018)
  - on the use of SAF

GIZ PtX Hub in Kenya:

- Great potential for the development of PtX and more specifically Power to Liquid (PTL) SAF
  - Availability of renewable energy sources for large scale production

Kenya part of the 'SAF Ambassador Group'

- Convened by the UK Government and the World Economic Forum in the lead up to COP26 in 2021
  - Jointly issuing a 'SAF Policy Toolkit'

Kenyan National Civil Aviation Master Plan

- Pledge to act on SAF

Example: South Africa

RSB, SkyNRG, WWF-SA
- First biofuel flight by South African Airways in 2018
- Study on opportunities for sugarcane (RSB and WWF-SA)

UNEP- SwitchAfrica green Project (funded by the EU)
- **Waste to Wing Project conducted by Fetoal, SkyNRG and WWF**
  - Identify opportunities for micro-small-medium
  - enterprise (MSMEs) to provide sustainable waste-based feedstocks
  - for Sustainable Aviation Fuel production.
  - Build the capacity of MSMEs to seize green business opportunities and participate in Sustainable Aviation Fuel supply chains
  - Pilot production of Sustainable Aviation Fuel using waste-based feedstocks supplied by MSMEs

WWF-SA
- Study on mapping the SAF opportunity for South Africa
  - Feedstock availability assessment
  - Techno-economic assessment

Sasol:
- Activities with the GIZ PtX Hubl
- Investment in green hydrogen

RSB

SAF production in South Africa ...

Afrik 21

SOUTH AFRICA: Sasol invests in hydrogen ...

Global Citizen

A Tobacco-Fueled Airplane Just Flew 300 ...

Example: Sub-Saharan Africa Study

WWF-SA in collaboration with International Institute for Applied Systems Analysis (IIASA) and Boeing (2019)

- The Report
  - Was aimed for the aviation industry, policy makers, biofuel producers and other organisations in the value chain
- tackled two key questions
  - 1. How much can sustainably produced aviation biofuels contribute towards fuel supply for the sector?
  - 2. What emission reductions could be achieved replacing conventional fossil-based jet fuel with aviation biofuels?

Challenges

Key challenges for SAF development in Africa

Resources

- Human- *lack of expertise; need to raise awareness in the academic sector*
- Financial- *constraints for SAF investments; inability to secure funds for SAF investments*
- Technological

Government policies on SAF

- Governments reluctant to *initiate and develop policies* that support SAF development
- Attention on other sectors of concern e.g. health, agriculture. *Need for aviation to play a huge role*

Conclusion

- ESAF and WACAF States have shown an interest in participating in the ACT-SAF Programme
- There are a number of on-going SAF activities in the Region
- The key challenges that require immediate attention include resources and encouraging Governments to consider SAF policy development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THANK YOU