Feasibility Study on the production and use of SAF
Zimbabwe

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

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Damiana Serafini
Senior Technical Consultant, ICAO

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Objectives

Evaluate SAF development and deployment in Zimbabwe:

Conduct a comprehensive study assessing the potential for production and use of socially acceptable, environmentally friendly, and economically viable drop-in sustainable aviation fuels in Zimbabwe.

Objectives of the feasibility studies

- Identify **singularities and opportunities** of a potential SAF Supply Chain
- Define **potential capacity:** feedstock and conversion
- Define **demand**, considering cost/benefit and prices
- Evaluate the **environmental impact** (GHG, water, soil) and local social and economic development impact
- Look for **implementation keys** (policies, challenges, and alternatives)

Work-plan

Work-plan

ICAO has international policies applicable to SAF

Project Management & Initial Assessment	On-site research and deep study	Data analysis & strategy development	Final report & guidance material
Area of Activity 1	Area of Activity 2	Area of Activity 3	Area of Activity 4
• Final Work-plan • Establish a team • Identify relevant stakeholders • Assess social, political, and economic framework • Kick-off meeting • First draft delivery	• On site primary data gathering & consultation process • Data collection and analysis i. State of readiness for SAF prod. ii. Feedstock iii. Production capacity & tech. iv. Human capital v. Market analysis vi. Environmental impact vii. Legal &political framework • Second draft delivery	• Risk analysis: identify obstacles and propose solutions • Roadmap: conclusions and way forward	• Final report delivery • Closing workshop

Timeline

Milestones: area 1

Capacity building for CO_2 mitigation from international aviation

Feasibility Studies on sustainable Alternative Fuels in Zimbabwe

Main objective: Conduct a comprehensive study evaluating the potential of production and use of socially acceptable, environmentally friendly and economically viable drop-in SAFs for aviation in Zimbabwe.

Activities	TIMEFRAME					
	April	May	June	July	August	September
Area of Activity 1: First Draft- MS 05						
Activity 1.1. Conduct research and initial assessment, draft table of contents, list resources, bibliography and abbreviations, background/baseline analysis, and introduction.						
MS01. Workplan	28 April MS 01					
MS02. Identify the relevant stakeholders.						
MS03. Conduct kick-off remote meetings with Zimbabwe collaborators.						
MS04. Data collection and analysis - background/baseline, national conditions, legislation, government, and industry.						
MS05. Presentation of First Draft.				June 30th MS 05 delivered		

Milestones: area 2

Capacity building for CO_2 mitigation from international aviation

Feasibility Studies on sustainable Alternative Fuels in Zimbabwe

Main objective: Conduct a comprehensive study evaluating the potential of production and use of socially acceptable, environmentally friendly and economically viable drop-in SAFs for aviation in Zimbabwe.

Activities	TIMEFRAME					
	April	May	June	July	August	September
Area of Activity 2: Second Draft - MS 09						
Activity 2.1. In-person and remote meetings with public and private authorities and other relevant stakeholders in Zimbabwe, sources consultation, drafting of all chapters, and provision of draft for review.						
MS 06. Data gathering and consultation process through in person meetings in Zimbabwe.		1-15 June	★			
MS 07. Data collection and analysis – feedstock and correlated supply chain, transforming and refining technology, economic viability, market demand, potential GHG reductions, and enabling policy.			★★★★★★★★			
MS 08. Deliver Second Draft for review.				△ July 31st MS 08 – on track		

Milestones: area 3

Capacity building for CO_2 mitigation from international aviation

Feasibility Studies on sustainable Alternative Fuels in Zimbabwe

Main objective: Conduct a comprehensive study evaluating the potential of production and use of socially acceptable, environmentally friendly, and economically viable drop-in SAFs for aviation in Zimbabwe.

Activities	TIMEFRAME					
	April	May	June	July	August	September
Area of Activity 3: Roadmap/Strategy – MS 12						
Activity 3.1. Preparation of a draft for review of potential roadmap and strategy for the production and use of drop-in SAFs, including the entire supply chain according to the assessment of the national context, including steps, stakeholder involved, required legislation and any other relevant information.						
MS 09. Identify obstacles and means to tackle them on technical, financial, and training/capacity building.						
MS 10. Develop roadmap and key recommendations for the efficient and effective deployment of drop-in SAFs most suitable to local needs and conditions.						
MS 11. Deliver Document.				4 August MS 12		

Milestones: area 4

Capacity building for CO_2 mitigation from international aviation

Feasibility Studies on sustainable Alternative Fuels in Zimbabwe

Main objective: Conduct a comprehensive study evaluating the potential of production and use of socially acceptable, environmentally friendly, and economically viable drop-in SAFs for aviation in Zimbabwe.

Activities	TIMEFRAME					
	April	May	June	July	August	September
Area of Activity 4: Document ready for Publication – MS 14/ Workshop – MS 15						
Activity 5.1. Submitting of final document incorporating all edits and recommendations ready for publication.						
MS 12. Prepare a guidance document containing relevant findings, recommendations and a proposed roadmap with milestones and efficient monitoring strategy for the development of a sustainable SAFs production chain and use in Zimbabwe.						
MS 13. Deliver Document ready for publication (edited)					8 Septemebr MS 14	
MS 14. Workshop organization and presentation of final findings (subject to change)				TBD – mid to end of September		

Data gathering process and stakeholder participation

Research & consultation process

Task	Process
1. Literature review and secondary data gathering	- Desk research - Fact checking Sherphard Machingauta and the CAAZ supporting team
2. In-person meetings, interviews, and primary data collection	- From June 5th – June 15th I will meet in person with everyone here present (calendar) - Virtual interviews will be arranged with additional collaborators you may suggest who may not be available to meet these following weeks - Virtual follow up to request additional primary data and confirm the narrative to ensure your point of view is adequately reflected
3. Analytical Framework: qualitative and quantitative data analysis	- Non-numerical data will be approached using qualitative analysis to capture expressive information not conveyed in quantitative data. Quantitative analysis will be used for data that is number-based or data that can easily be converted into numbers.

Stakeholder Engagement

List of active collaborators

Republic of Zimbabwe – Public Authorities	
Ministry of Industry and Commerce Ministry of Energy and Power Development Ministry of Transport and Infrastructural Development Ministry of Environment, Climate, Tourism, and Hospitality Ministry of Finance and Economic Development Ministry of Agriculture Ministry of Finance and Economic Development	City of Harare City of Bulawayo Reserve Bank of Zimbabwe National Oil Infrastructure Company of Zimbabwe Agricultural and Rural Development Authority Agricultural Marketing Authority Environmental Management Agency Forestry Commission Zimbabwe Energy Regulatory Authority

Stakeholder Engagement

List of active collaborators

Academia & Research Institutions
Chinhoyi University of Technology University of Zimbabwe Matopos Research Institute University - Bindura University of Science Education (pending) University - Marondera University of Agricultural Sciences and Technology (pending)
Aviation Industry & Private Sector
Civil Aviation Authority of Zimbabwe Airports Company of Zimbabwe National Handling Services Harare Airport Fueling Service Fastjet Air Zimbabwe Finealt Engineering Green Fuel

Level of development of the study

Progress

Tasks completed
1. INTRODUCTION
1.1. ICAO and Environment
1.2. ICAO-European Union Assistance Project: Capacity Building for CO2 Mitigation from International Aviation
1.3. 2050 ICAO Vision for Sustainable Aviation Fuels
2. METHODOLOGY
2.1. Literature review and secondary data
2.2. Interviews and electronic data collection
2.3. Analytical framework: qualitative and qualitative data analysis
3. ZIMBABWE - STATE SNAPSHOT
3.1. Colonial History
3.2. Geography
3.3. Population size, distribution, and demographics
3.4. Climate/Soil
3.5. Trade and economy
3.6. Agriculture
3.7. Energy
3.8. Transport infrastructure

Progress

Tasks under progress		
4. STATE OF READINESS FOR SAF PRODUCTION 4.1. Vision 2030 4.2. Biofuel Policy 4.3. State Action Plan 4.4. Aviation Industry 4.5. Capacity assessment for SAF production	**5. FEEDSTOCK EVALUATION** 5.1. Starch and Sugar Crops (sugarcane) 5.2. Lignocellulosic Biomass 5.3. Wastes 5.4. Jatropha	
6. CONVERSION TECHNOLOGY 6.1. Technology transfer 6.2. Investment and financing needs	**7. STAKEHOLDERS** 7.1. National 7.2. International collaboration	
8. RISK ASSESSMENT	**9. KEY FINDINGS & RECOMMENDATIONS**	**10. ACTION PLAN AND ROADMAP**

Q&A

ICAO


North American Central American and Caribbean (NACC) Office
Mexico City
South American (SAM) Office
Lima
ICAO Headquarters
Montréal
Western and Central African (WACAF) Office
Dakar
European and North Atlantic (EUR/NAT) Office
Paris
Middle East (MID) Office
Cairo
Eastern and Southern African (ESAF) Office
Nairobi
Asia and Pacific (APAC) Sub-office
Beijing
Asia and Pacific (APAC) Office
Bangkok
THANK YOU