The Roundtable on Sustainable Biomaterials (RSB) and the World Wildlife Fund - South Africa (WWF-SA), in collaboration with local and international stakeholders, have researched opportunities for the development of Sustainable Aviation Fuels (SAF) in South Africa and the region for several years.

In April 2022, the RSB brought together key stakeholders to learn more about the status of SAF development in South Africa, and to advise on what a national SAF economy should look like, with the aim of creating a roadmap for SAF development in the country. The audience included decision-makers and experts from government, aviation, biomass producers, industry and civil society who have a vested interest in SAF, and whose agendas are aligned with the development of SAF in South Africa.

The roadmap aims to identify the most viable feedstock and technology mix that adheres to the sustainability requirements of the RSB, to inform policymakers of the necessary policy actions needed to incentivise SAF production and use, and to support the development of more proposals and plans aimed at unlocking further funding and investment into SAF research, development and pilot production.

### Key Objectives

<table>
<thead>
<tr>
<th>1 Year</th>
<th>2 Years</th>
<th>5 Years</th>
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<tbody>
<tr>
<td>RAISE AWARENESS</td>
<td>CREATE DEMAND</td>
<td>SCALE UP ACTIVITIES</td>
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<tr>
<td>DEVELOP PARTNERSHIPS</td>
<td>ENABLE SUPPLY CHAIN</td>
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### Key Findings of the Roadmap

- **Sugarcane as feedstock:**
  - The viability of SAF production varies between irrigated, dryland and dryland green sugarcane as a feedstock, with the cultivation of irrigated cane having a higher carbon footprint.
  - An enabling regulatory framework is needed.
  - Small-scale growers would need assistance with essential structures and equipment to ensure occupational health and safety, and internal farm level administrative support would need to be provided.
  - Proper impact assessments would have to be carried out, and the national greenhouse gas reporting requirement would need to be improved.

- **Green Hydrogen as feedstock:**
  - Sasol is not stopping CTL and will continue to do both as it is one of the largest employers in the coal sector and must look for a suitable transition for the labour market.
  - Green hydrogen production costs are significantly higher than coal or gas. The cost of electrolytes, green electricity and green infrastructure, govern the high GH prices. For Sasol to reach net-zero sustainability, it will have to convert to green hydrogen and green carbon sources through different pathways, starting with gas then investing in green hydrogen.
  - The allocation of products to just SAF from Secunda is not permitted under the EU renewable energy directive. Sasol is liaising with RSB to look at how they can identify levers and policy enablers to help the transition. The SA government is aware of the challenge and is supportive. The DTIC and DMRE are working with Sasol to bring SAF to South Africa.

- **Invasive alien biomass as feedstock:**
  - SA has enough IAPs to serve as a feedstock for the next 20 years to ensure security of supply. The concern is if cleaning can be ramped up fast enough.
  - A viable commercial market, and off-take agreements are required.
  - The integrity of the product must be guaranteed.
  - The industry and technology must be close to facilities.
  - SMME challenges in upscaling SAF production include training, biomass availability and transport costs.

### Key Prerequisites to be Met

- Enabling policy & legislation
- Public private partnerships
- Incentives & subsidies
- Stakeholder support

### Key Issues to be Resolved

- Stakeholders’ ambition and capacity to support SAF development
- Who is responsible for leading a national SAF roadmap process
- Top 3 priorities for SAF development in the next 1, 2, 5 years

### Stakeholder Support

- WWF-SA, as well as the participants of the SAF Stakeholder Meeting for their expertise and invaluable contributions.

- The Boeing Company, which has enabled all of the work conducted within this report. We would also like to thank RSB member and long-term partner WWF-SA, as well as the participants of the SAF Stakeholder Meeting for their expertise and invaluable contributions.

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### Roadmap for South Africa

#### Airline Industry:
- Change internal mindsets/ increase awareness of climate impacts of aviation
- Make sustainability plans
- Engage with one another
- Passenger / customer education
- Support public debate / understanding
- Explore incentive packages
- Work out an economic model to enable purchase of SAF
- Actively engage in international fora on aviation
- Provide market certainty by:
  - Concluding offtake agreements
  - Equity investment in SAF projects
- Increase offtake quantities
- Commit to regular SAF refuelling

#### Government:
- Create inter-departmental taskforce on SAF to avoid policy fragmentation
- Develop domestic flexibility mechanisms to facilitate uptake
- Leverage position on international bodies to increase flexibility of SAF accounting
- Evaluate possible incentives (carrots vs sticks); take broad view - they can be budget neutral
- Develop national flexible allocation system linked to flexibility mechanism to prioritise SAF from integrated production systems
- Implement the incentives
- Support availability of low cost green hydrogen
- Align existing government programmes (WfW/EPWP) with SAF supply chain
- Create regulatory framework for domestic use
- Transpose relevant international regulations
- Develop sectoral SAF masterplan
- Develop GCF proposals to drive sector transformation
- Policy shift to SAF instead of road transportation
- Include SAF in industrial policy
- Scale up incentives

#### Private Sector:
- Support government to liaise and correspond across different depts and sectors
- Look to DSIT for funding
- Develop proof of concept
- Form industry body to coordinate interaction with other stakeholders
- Commit to strong sustainability principles
- Long-term offtake agreements
- Unlock role of airports and other partners
- Share learnings from early projects
- Trial local SAF certification with flexibility of allocation to demonstrate / pilot concept
- Scale up production capacity
- Invest in R&D
- Ensure continued sustainability certification

#### Civil Society:
- Continue with climate awareness campaigns, focus on the flying public
- Get citizens on board to demand sustainable products
- Ensure integrity of supply through certification
- Ensure rehabilitation of landscapes
- Support acceptance of higher costs of flying
- Continued sustainability monitoring of different SAF supply chains.