

Transforming Transportation

Parallel Session on *Financing Low Carbon Aviation Fuels in Developing Countries*

20 March 2024, 12:00 – 13:15 EST (hybrid event)

I. Context

The financing requirements for the decarbonization measures in the aviation industry are estimated to be as high as USD 5.3 trillion. In addition to initiatives aimed at enhancing the technical and operational efficiency of airlines, airports, and air navigation service providers, a global demand for over 400 million tonnes (mt) of Sustainable Aviation Fuel (SAF), constituting approximately 60-65 percent of jet fuel demand, is essential to achieve net-zero targets for the aviation sector. [To scale up SAF production, an annual greenfield plant investment of up to US\\$124 billion is necessary.](#) This translates to the establishment of over 370 SAF-producing facilities during the peak years in the late 2030s or early 2040s, coinciding with the periods of highest SAF production growth.

Currently, SAF production capacity is predominantly centered in North America and the EU, while [non-OECD countries contribute to less than 10% of the announced SAF volumes despite utilizing 42% of global jet fuel.](#) Although the SAF industry is still in its early stages, there are substantial SAF volumes expected to become operational in the upcoming years. Unfortunately, developing countries have limited representation in the aviation sector's energy transition.

Projections from the International Civil Aviation Organization (ICAO) anticipate a notable share of SAF to originate from developing countries and emerging markets, benefiting from the availability of biogenic sustainable feedstock and the potential for renewable energy production. The absence of integration of developing and emerging markets in the SAF prospective pipeline poses a challenge not only for the industry's decarbonization objectives but also for developing countries, which may find themselves in a situation of exporting feedstock and importing SAF.

With the diverse range of available feedstock, the production of SAF becomes accessible to most countries lacking a tradition in fuel production but having reliable access to feedstock supply. This presents a significant opportunity to enhance national energy security and resilience. However, it also poses a challenge, requiring the development of innovative and ambitious national energy strategies. These strategies should be robustly supported through effective policy implementation and financing mechanisms.

The production costs of SAF are heightened by technological, regulatory, and market risks, contributing to the overall financing challenges faced by the emerging SAF industry. It is imperative to carefully assess these risks to prevent unwarranted increases in SAF project costs. At present, SAF project development relies heavily on equity financing, and when debt is involved, it often comes with a high cost of capital, resulting in elevated prices for end purchasers of SAF.

In the context of developing countries, the costs associated with SAF development are further compounded. Financiers of low-carbon projects encounter high financing costs for both debt and equity, stemming from two main sources of actual and perceived risks. The first set of risks is specific to investing in the emerging SAF industry. The second type of risks pertains to general challenges faced by all large infrastructure projects when investing in low- and middle-income countries. To make a SAF-related investment attractive to international funding in a developing country, many country-level risk factors must be mitigated.

II. Objective

This session convenes key stakeholders from both the public and private sectors in the financing domain to update the World Bank, other Multilateral Development Banks (MDBs), and their clients who are in the early stages of formulating and implementing their support for Sustainable Aviation Fuel (SAF). While there is limited funding available for technical assistance projects, roadmaps/strategy development, and pre-feasibility studies, the approved lending for SAF plants remains constrained. In light of this, the session aims to:

- Discuss the challenges and opportunities for the aviation industry to achieve its net-zero targets.
- Provide insights into relevant financial instruments supporting the decarbonization of aviation.
- Evaluate existing funding mechanisms and explore the utilization of innovative blended finance solutions, including private sector participation, to scale up SAF production.
- Propose the establishment of a global coalition that collaboratively develops a pipeline of investable SAF production proposals. This includes long-term offtake agreements, techno-commercial assessments of SAF projects, and finance frameworks.

III. Speakers

1. Mr. Alan Mitchell (Senior Advisor, US Department of Transport)- **Confirmed**
2. Dr. Patrick Gruber (CEO, Gevo, Inc.) – **Confirmed**
3. Dr. Christoph Wolf (CEO, Smart Freight Center) – **Confirmed**
4. Mr. Zia Haq (Senior Analyst, BETO Department of Energy (DoE))- **Confirmed**
5. Mr. Ken Hill – (Senior Consultant within the Loan Program Office DoE)- **Confirmed**
6. Mr. Mike Caston- (Director, Program Management & Investments, Boeing), **Confirmed.**
7. Ms. Ayanda Dlodlo, Executive Director: EDS25 World Bank – **Invited**
8. Mr. Kelly Johnson, Global Sector Lead, Chemicals and Fertilizers, IFC - **Confirmed**

IV. Discussion points

The following are suggested questions to stimulate discussions around the challenges, opportunities, and financial strategies needed to advance sustainable aviation fuel initiatives on a global scale.

I. Challenges and Opportunities for Aviation's Net-Zero Targets:

- How can the aviation industry overcome the challenges and leverage opportunities to achieve its net-zero targets, especially in the context of SAF production and utilization?
- What role can MDBs/ International Financial Institutions play in addressing the challenges faced by the aviation industry in its pursuit of net-zero emissions?
- In what ways can the adoption of SAF contribute to the economic and environmental goals of developing and emerging economies, and what opportunities does it present for local industries?

II. Financial Instruments for Air Transport Decarbonization:

- What financial instruments and mechanisms are currently available to support the decarbonization efforts of the aviation sector, particularly in the context of SAF projects?
- What are the primary financial barriers hindering the development and production of SAF in these economies, and what innovative solutions or financing models can help overcome these challenges?
- How can MDBs and other financial institutions collaborate to design and implement innovative financial instruments tailored for SAF initiatives?

III. Evaluation of Existing Funding Mechanisms:

- In light of the constrained lending for SAF plants, what improvements or innovations can be made to existing funding mechanisms to better support SAF projects?
- Are there successful examples of SAF financing that can serve as models for future projects, and what lessons can be drawn from them?
- How can public and private sectors collaborate effectively to drive SAF initiatives forward, considering the unique challenges and opportunities in developing and emerging economies?

IV. Utilization of Blended Finance Solutions:

- How can blended finance solutions, combining public and private sector funding, be effectively utilized to scale up sustainable aviation fuel production?
- Is risk-sharing crucial for nascent industries like SAF? Given the ongoing debate surrounding technological risk versus commercial and financial risk in the SAF industry, and discussions on who should shoulder this responsibility, how does this dynamic impact the scale of development and price premiums among key stakeholder types?
- What specific incentives or mechanisms can encourage private sector participation in SAF projects in developing and emerging economies?

V. Establishment of a Global Coalition:

- To what extent can international cooperation and knowledge sharing accelerate SAF initiatives in developing and emerging economies, and what platforms exist for such collaboration?
- How can public and private sectors collaborate effectively to drive SAF initiatives forward, considering the unique challenges and opportunities in developing and emerging economies?
- What are the key components and benefits of a global coalition aimed at developing a pipeline of investable SAF production proposals?
- We've seen maritime companies collaborate on green shipping corridors while some manufacturers are joining forces to develop costly green innovations. What sorts of cooperation is happening in aviation?
- How can such a coalition facilitate the creation of long-term offtake agreements, techno-commercial assessments, and finance frameworks for SAF projects?

V. 4. Breakdown of Panel Time

1. Session opening
2. Introduction by moderator
3. Moderated Panel Discussion
4. Q&A with audience
5. Summary by moderator