

# SAF SPOTLIGHT

A monthly newsletter focusing on sustainable aviation fuels and aviation decarbonisation.

 [www.sustainableaviationfutures.com](http://www.sustainableaviationfutures.com)

## Breaking barriers to FID: What does it take to move SAF projects from concept to construction?

By Sundyne's Nick Turner, March 27, 2025

The SAF market is poised for significant growth, as projects are being announced all over the world to meet production targets. According to Sustainable Aviation Futures[1], nearly 190 companies have evaluated SAF production across 330 facilities over the past decade. However, only about 10% of these companies are currently producing SAF. That leaves 90% of SAF projects stuck between a feasibility study, full funding, and facility start-up.

### **Is there a demand-side issue?**

In 2024, global SAF production reached roughly 1 million tonnes per year, accounting for less than 1% of total jet fuel demand. However, 50 major airlines have made commitments to blend SAF at 5-10% in their fuel mix[2] by 2030 with plans to ramp-up through 2050. These corporate commitments, alongside government mandates and incentives, are accelerating investment.

While more firm offtake agreements are still needed, momentum is building. Meeting even a 5% SAF share of global jet fuel demand by 2030 would require a nearly 15-fold increase from 2024 production levels[1]. The good news is that the announced project pipeline today is capable of meeting – and even exceeding – this demand scenario.

*The industry challenge is **not** in identifying new projects, but rather, progressing projects from feasibility to investment to start-up.*

### **What is causing this gap between project announcements and project execution?**

SAF projects require high capital investment, new feedstock supply chains, and policy frameworks to support economic viability.



The reality is that SAF costs 2-7x traditional jet fuel[3] today – and voluntary markets alone are not yet strong enough to bridge this cost gap.

There are two main ways to reduce this price gap:

1. **Regulatory support:** subsidies, tax credits, and carbon pricing on aviation emissions can improve SAF project economics, provided these policies are clear and long-term.
2. **Technology and Project Execution:** Advancements in process and equipment technology and design can improve SAF project economics, both from a capex and opex perspective.

### **How is the technology and project execution challenge being addressed?**

Like many capital-intensive industries, delivering SAF projects requires collaboration across the full value-chain of stakeholders:

- **Airlines and SAF purchasers** drive demand through offtake agreements and promote consumer support
- **SAF producers** commit, or raise capital to execute projects and operate the units

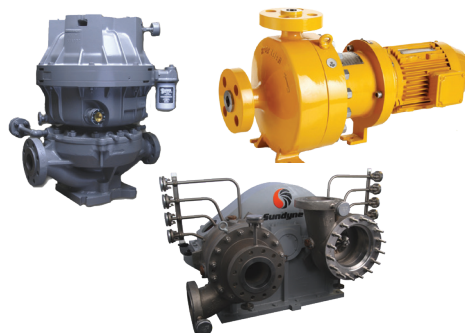




- **EPCs** provide high-quality engineering and construction services to deliver competitive project timelines and budgets
- **Technology licensors** optimize the process solutions and technology to enable the most efficient SAF production pathways
- **Equipment manufacturers** engineer equipment to meet the needs of the licensors, EPCs, and producers for new SAF projects and develop technical solutions to improve performance

Successful SAF projects are realized when there is alignment and collaboration between each stakeholder to design and deliver the most competitive solution.

As an equipment manufacturer, Sundyne takes pride in meeting the needs of the technology licensors, EPCs, and SAF producers to improve the technical and economic feasibility of SAF projects. Sundyne offers technical solutions in their rotating equipment to improve the capex, opex, and constructability of SAF projects. Through a strong product portfolio, and continuous improvement through new product initiatives,



Sundyne remains at the forefront of rotating equipment for SAF production.

Sundyne pumps and compressors have been deployed in the major SAF & RD production pathways, including HEFA, Alcohol-to-Jet, Biomass-to-Liquids and Power-to-Liquids. Sundyne looks forward to continuing to support their partners to enable the widespread adoption of SAF in the global aviation market.

Sundyne has more than 75 years of experience in conventional refineries. Today, Sundyne is applying this expertise to Sustainable Aviation Fuel & Renewable Diesel production. To learn more, please reach out to the author, or visit [www.sundyne.com](http://www.sundyne.com) and Sundyne's [SAF Industry page](#).



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