SYZYGY PLASMONICS

Introduction to NOVASAF™

The Most Affordable and Abundant Advanced Sustainable Aviation Fuel

ENERGY • TECHNOLOGY • SUSTAINABILITY

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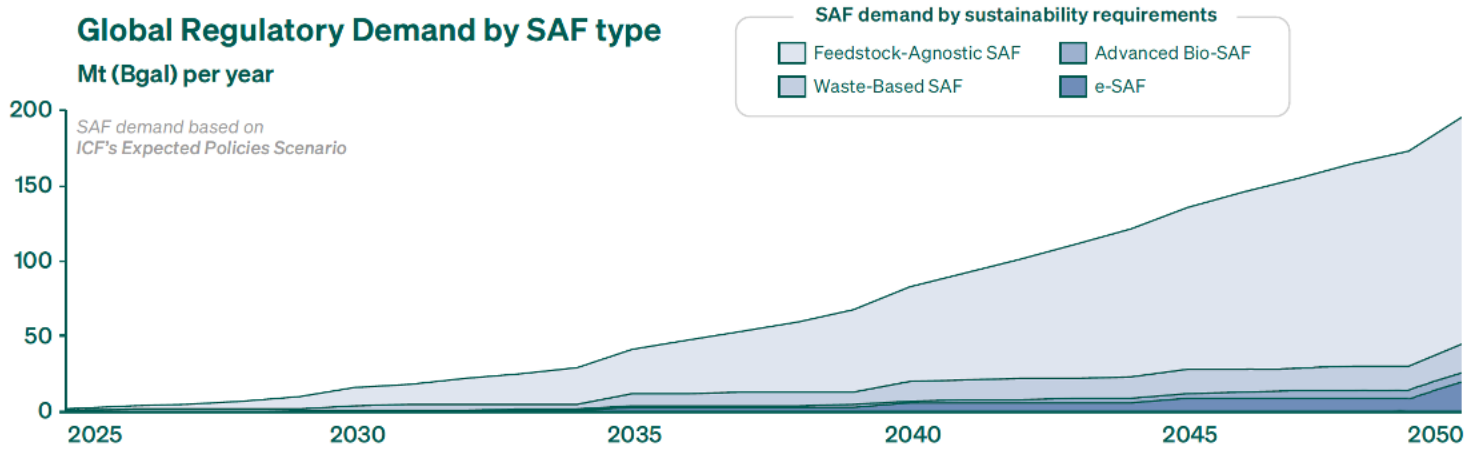
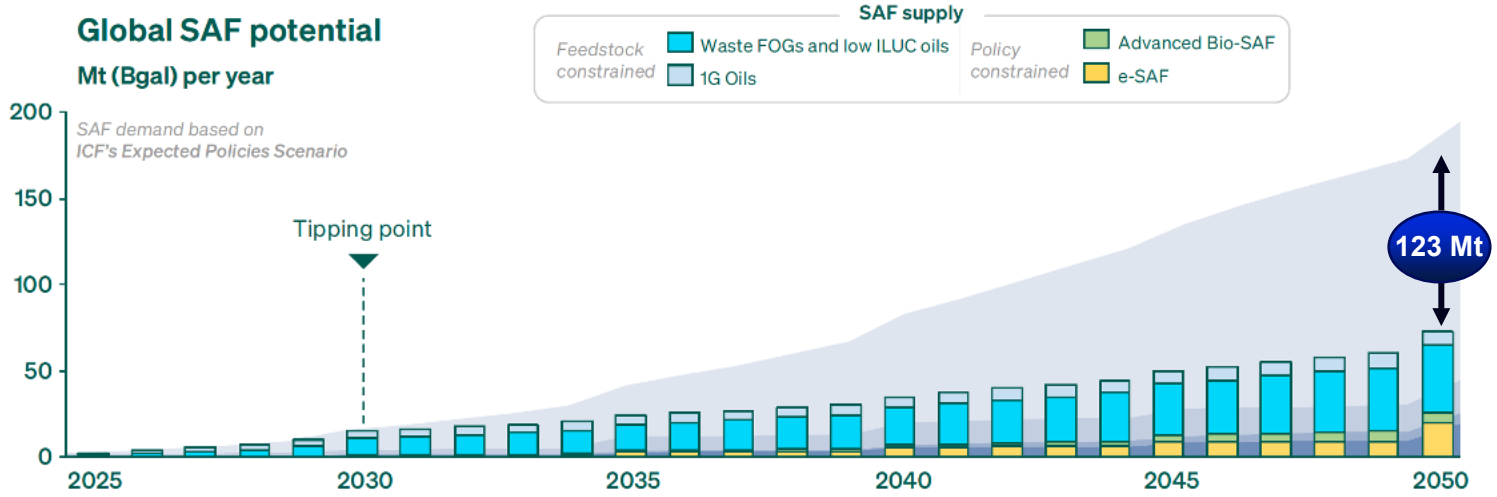
SAF Mandates Are Here to Stay

SAF Supply Shortages are Expected to Accelerate Post 2030



Global **SAF demand expected to reach 200 mmtpy by 2050** driven by mandated volumes



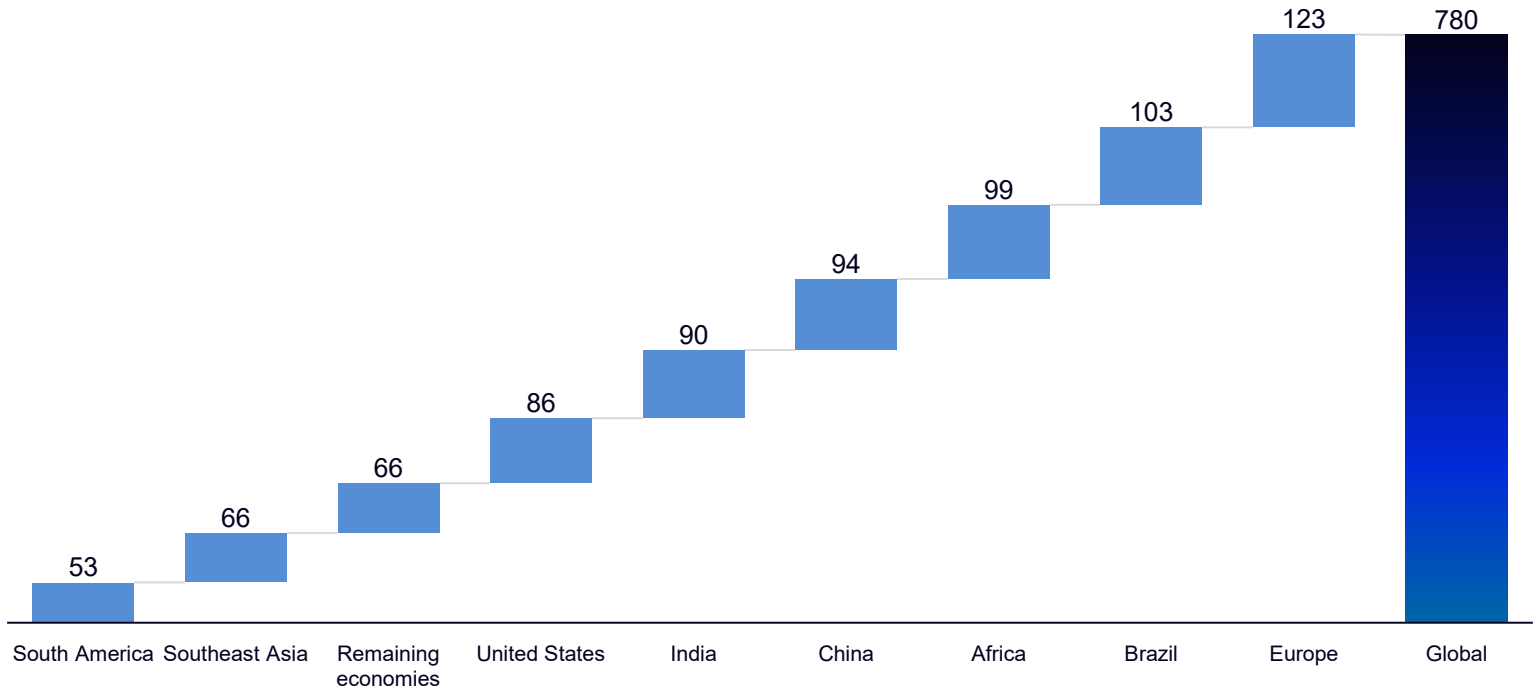
Limited HEFA supply along with limited supply of RFNBO and Advanced fuels contribute to **123 mmtpy shortfall long term**

[1] *SkyNRG 2025 Sustainable Aviation Fuel (SAF) Market Outlook*

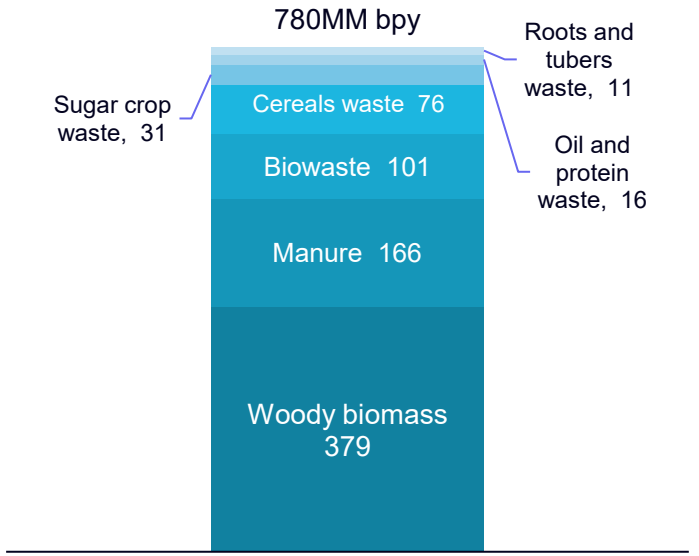
Global Sustainable Biogas Supply is Abundant

Biomethane sources today can support 780MM barrels of SAF annually and are estimated to grow 40% by 2050

Biogas Potential by region
(Million SAF barrels/year)



Biogas Potential by feedstock type
(Million SAF barrels/year)



Source: 2024 IEA Work Energy Outlook Special Report | Outlook for Biogas and Bio-Methane - A global geospatial assessment

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Syzygy is the **ONLY** Company Currently Capable of Producing RFNBO SAF at **BELOW** HEFA Prices

By combining **renewable electricity, biogenic CH_4 and CO_2...**

...with **unique photocatalysis technology.**

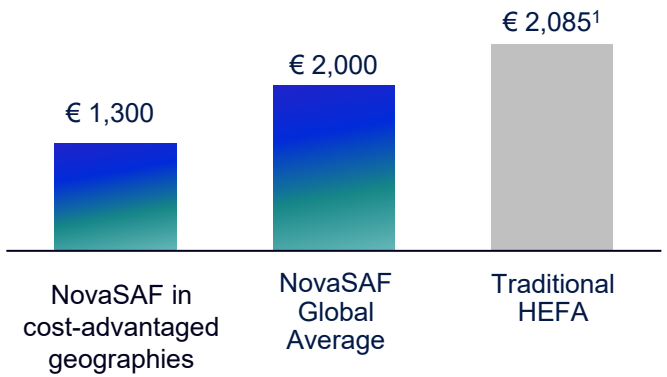
Syzygy Solves Multiple Problems

Abundant Low Cost RFNBO & Advanced Biofuel SAF

Economic

- Production **cost less than HEFA**
- **~20% IRRs** at HEFA prices

SAF Cost EUR / ton



High Demand

- NovaSAF Plants produce a mixture of **advanced biofuels + "RFNBO"**
  (Renewable Fuel of Non-Biologic Origin, aka e-SAF)

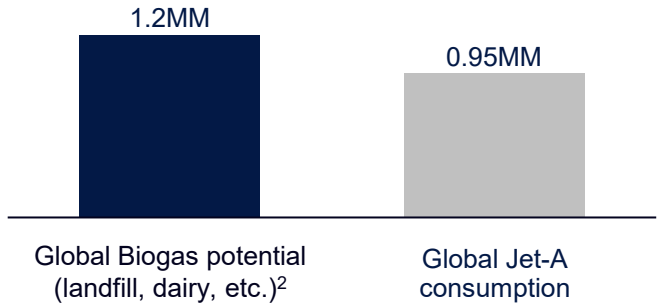
NOVASAF™

45% RFNBO[3] + **55%** ADVANCED BIOFUEL

Abundant

- Total potential **supply of NovaSAF exceeds daily Jet A Consumption**

Biogas Potential vs Jet Fuel Consumption
(Jet-A tons / day)



[1] *2024 Aviation Fuels Reference Prices for ReFuelEU Aviation*
[2] *Outlook for Biogas and biomethane - IEA 2020*
[3] *Slide 23 in the appendix provides a breakdown of RFNBO vs Advanced Biofuel percentage (projected, based on internal data)*

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Syzygy's Unique Value | NOVASAF™

Decarbonizing & Providing a Win-Win for the Entire Value Chain

OFFTAKERS ACHIEVE AMBITIONS WHILE MEETING THEIR MANDATES WITH SAF APPROACHING JET-A PARITY

ASSET OWNERS GENERATE MORE REVENUE & ARE HIGHLY INCENTIVIZED TO DECARBONIZE

INVESTORS / FINANCIERS ACHIEVE HIGH RETURNS BY FUNDING GLOBAL OPPORTUNITIES

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NOVASAF™ Feedstock Asset Owners Maximize their Returns

By Sharing in the Additional Value Created by Upgrading Biogas to SAF

Pathway	Asset Revenue ($/mmbtu)	Royalties	Cashflow Certainty	Scale & Returns
NOVASAF™	~$80 (>3x RNG)	10% Royalty = 1.5x RNG cashflow	73% Contracted	High Returns even at small scales *Stranded assets monetizable*
RNG / Status Quo	~$29	20% royalty = 1x RNG cashflow	100% Market Fluctuation	High returns at large scale only *Stranded assets not monetizable*

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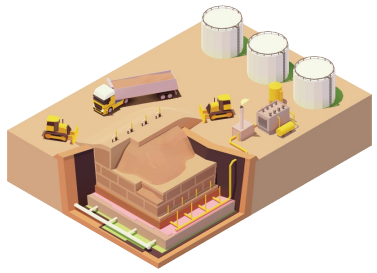
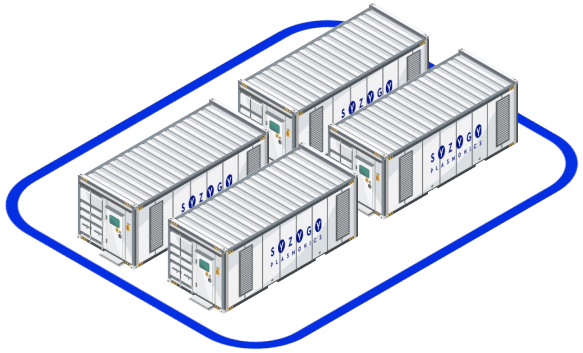
Our Solution | How it Works

Syzygy's Biogas-to-SAF Process



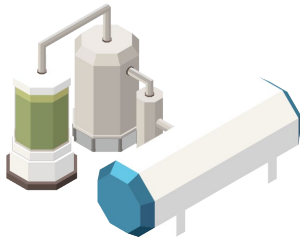
Desulfurized Raw Biogas

CH_4, CO_2, N_2, O_2,



Syngas Production

H_2, CO, N_2



Fischer-Tropsch Crude

FT Liquids

Sustainable Aviation Fuel

Biogas is secured from partner and sulfur / siloxanes are removed

Syzygy's technology converts biogas to syngas using electricity & steam

Syngas is converted to Fischer-Tropsch Crude using established tech

FT Crude is refined to drop-in ready fuels (SAF, Diesel, Naptha)

NOVASAF™ 1 | Validating the Opportunity

NOVASAF™ 1 Overview

1st	~350k	17,000	~80%
Integrated Dairy Gas-to-SAF Plant	*Gallons of SAF per Year*	*Tons of CO2e Abated Per Year[1]*	*CI reduction versus Jet-A[2]*

FUTURE OPPORTUNITY

1000's of sites

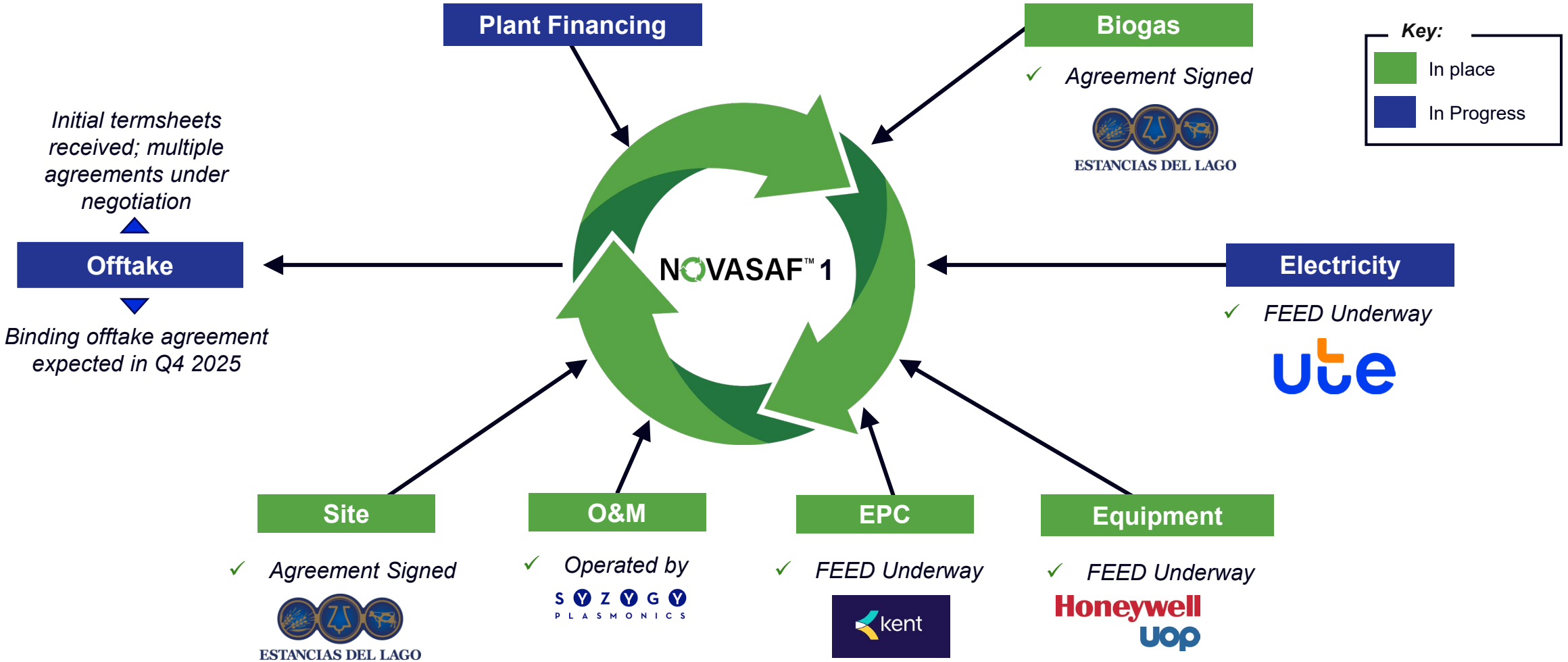
Millions of tons of CO_2 abated

3x – 4x build multiples

[1] Reference GHG Footprint from 3rd party assessment based on LCFS methodology
[2] Per CORSIA methodology

NOVASAF™ 1 | On Track to be FID Ready by 4Q25

Major Agreements and Vendors in Place

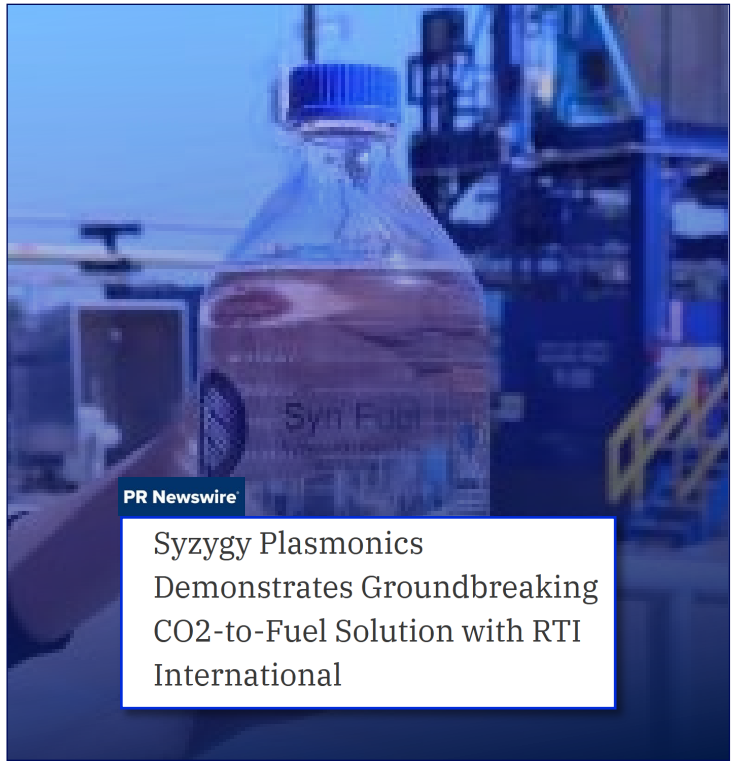


Proven Technology

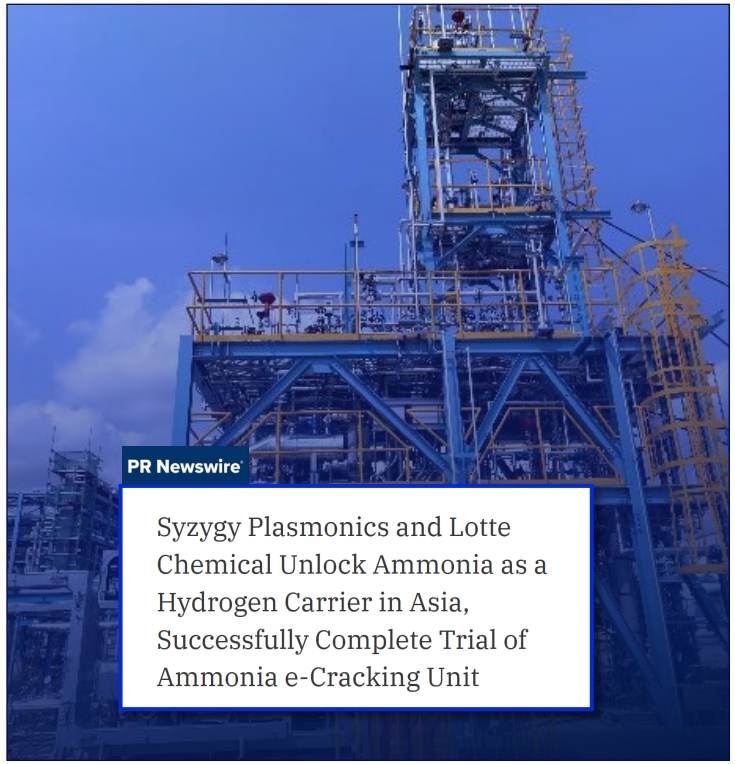
Syzygy Has Successfully Operated Three Separate Plants

In-House Demonstration Facility

Synfuel from CO_2 and Methane



NH_3 to H_2 cracking at customer site in Korea



Ready to Build

Reactor Assembly and Catalyst Production Lines In Place

All capabilities needed to procure, build, test, and ship reactor cells are in place

Multiple cells built and tested on site; current capacity of ~400 cells per year (100k tpy) with ability to expand 10x with minimal investment

Standard catalyst production process with the ability to produce enough catalyst for 300 – 400 cells per year

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ISCC is Critical for FOAK Projects

- Enables Certification of Novel Technologies
- Supports Early-Stage Methodology Development
- Facilitates Market Access and Regulatory Compliance
- Builds Trust with Stakeholders

For More Information and Data:

SAF Whitepaper

https://www.plasmonics.tech/saf-whitepaper

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