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Commodity Insights

SAF & Feedstock Market Development and Pricing Mechanisms

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Global Market Engagement Lead

Market Reporting and Trading Solutions –
SP Global Commodity Insights



FLIGHT PLAN



Introduction

- S&P Global
- S&P Global Commodity Insights (Platts / MRTS)
- Price Methodology



How Is SAF Made Today And What Could Transform It Tomorrow?

- Main Technological Routes Today
- Present Demand Landscape
- Forecast for Emerging or Scalable Pathways



From Field to Flight: Which Feedstocks Will Take Off?

- Current Main SAF Feedstocks
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What Drives the Flow? Market and Policy Forces Shaping Feedstock Dynamics

- Feedstock Flows and Global Trade (UCO Ex.)
- Regional Market Dynamics (UCO Ex.)



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- Biofuel and Feedstock Prices
- SAF Production Costs / Market-Based Prices
- Pricing & Benchmarks

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INTRODUCTION



MRTS sits within S&P Global Commodity Insights, combining an unparalleled coverage platform with world-class news, price assessments and benchmarks

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We are the leading independent provider of benchmark prices and information to the global commodities and energy markets.

Customers in **150+ countries** look to our expertise in news, pricing and analytics to deliver transparency and efficiency to markets.



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Energy Transition

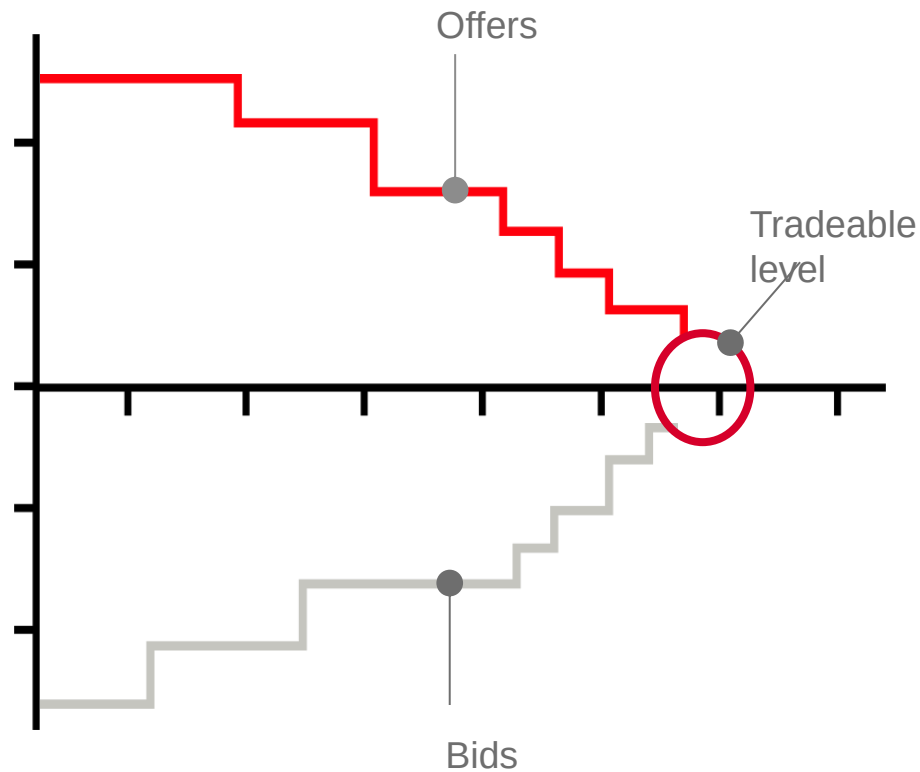


Biofuels



LNG

Platts uses well-defined, transparent, and established methodologies to provide accurate assessments that reflect the true market value



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Jan 28, 2025
Correction
 A Jan. 28 article about Chevron, Engine No. 1 and GE Vernova planning to develop natural gas-fired generation to power data centers incorrectly

Jan 28, 2025
Platts republishes Jan. 20-24, 2025, weekly averages for LME settlement prices
 Platts, part of S&P Global Commodity Insights, wishes to inform subscribers that it has republished the weekly averages for London Metal Exchange

Jan 28, 2025
Platts corrects US Middle Distillate Intradays historical data
 Platts, part of S&P Global Commodity Insights, has corrected the following historical intraday assessments: 9 am Houston intradays Name Symbol

Jan 28, 2025
Platts to rename ERCOT SREC CRS Current YTD Abatement Value
 Platts, part of S&P Global Commodity Insights, will change the description of its ERCOT SREC CRS Current YTD Abatement Value assessment, effective

Jan 28, 2025
Platts proposes European advanced recycling mixed plastic waste feedstock assessment
 Platts, part of S&P Global Commodity Insights, is proposing to launch a European daily spot assessment for mixed plastic waste bales, suitable as

Jan 28, 2025
Platts corrects USD/EUR Spot Forex and Latin America I-REC conversions to Euros for Jan 27

Transparency & consistency Repeatability & incrementability Price verification Robust and consistent methodology

Platts Methodology Principles - Platts applied a very specific hierarchy to evaluate the information received from the market and if the price accurately reflects the market value



Source: S&P Global Commodity Insights

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How Is SAF Made Today And What Could Transform It Tomorrow?



The variety of pathways and feedstocks suggests both availability and a competitive market in the medium term. Each option offers its own value proposition, and the balance of cost, availability, and GHG emissions reduction makes it challenging to determine a clear winner

1 st Gen – Crop	Edible oil crops	Palm oil, Soybean oil, Sunflower oil, Rapeseed/Canola oil	HEFA-SPK	20-45% CI reduction
	Edible sugars	Sugarcane, maize/corn, sugar beet	ATJ-SPK	
2 nd Gen – Advanced / waste	Waste lipids	Tall oil, Palm Oil Mill Effluent (POME), Palm Fatty Acid Distillate (PFAD), Used Cooking Oil (UCO), Animal Fat (Tallow)	HEFA-SPK	45-90% CI reduction
	Energy crops	<u>Oil trees</u> : Jatropha, Pongamia, <u>Oil cover crops</u> : Camelina, Carinata, Pennycress. <u>Cellulosic cover crops</u> : Switchgrass, Miscanthus, Reed	Oil: HEFA Cellulosic: ATJ	
	Ag residues	Straw, sugarcane bagasse, corn stover, cereal residues	ATJ-SPK	
	Forestry residues	Roundwood, sawdust, woodchip, sawmill slabs, logging leftovers, stemwood residues	FT-SPK	
	Biogenic compounds	Municipal waste streams (biogenic portion), algae, sewage sludge	HEFA-SPK	
3 rd Gen – RFNBO / eFuels	Non-biomass	CO ₂ from DAC, Green H ₂	PTL-SPK	90-99% CI reduction
	Recycled carbon fuels	Fossil share of reusable plastic waste Industrial waste gas :CO ₂ from CCS, Other (such as flue gas from steel production)	FT-SPK	

HEFA: Hydroprocessed Ester Fatty Acids, ATJ: Alcohol-to-Jet, FT: Fischer Tropsch, PTL: Power-to-liquid, SPK: Synthetic Paraffinic Kerosene, RFNBO: Renewable Fuels of Non-Biological Origin

Source: S&P Global Commodity Insights.

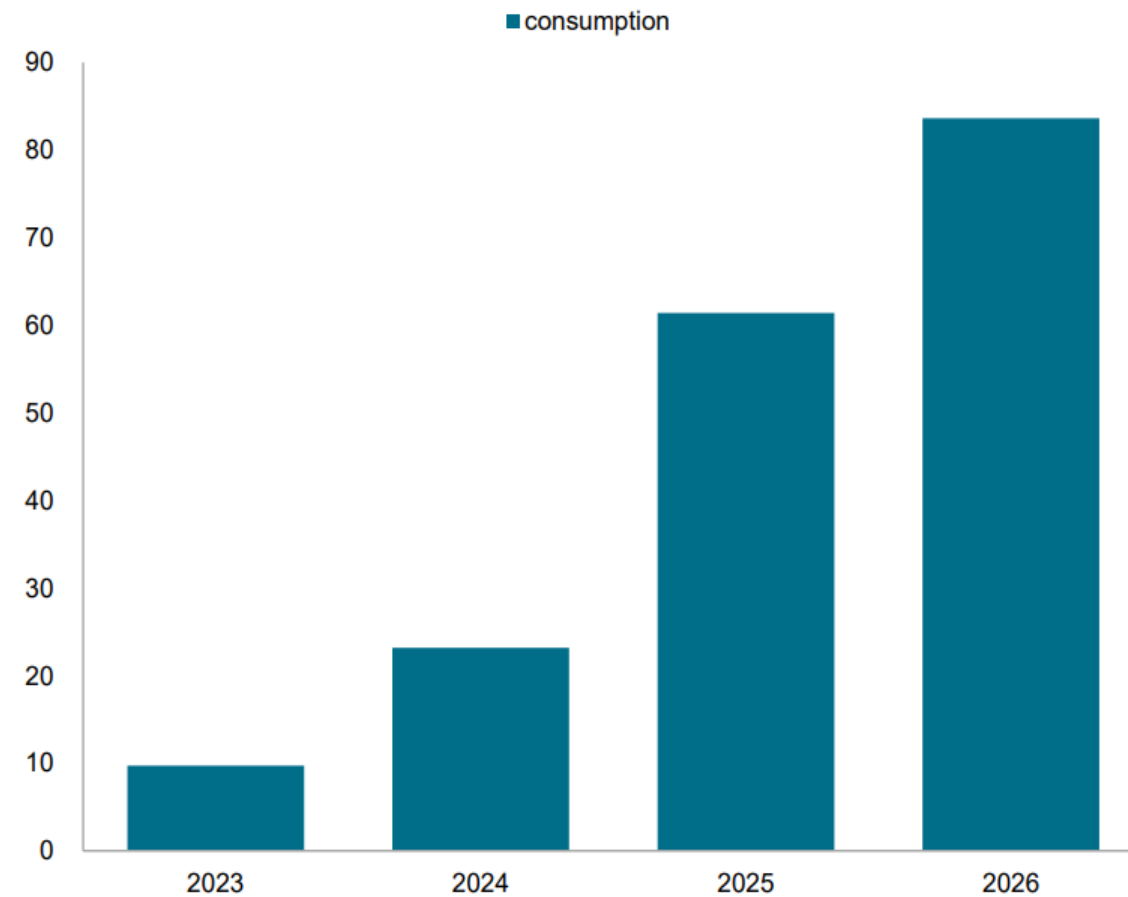
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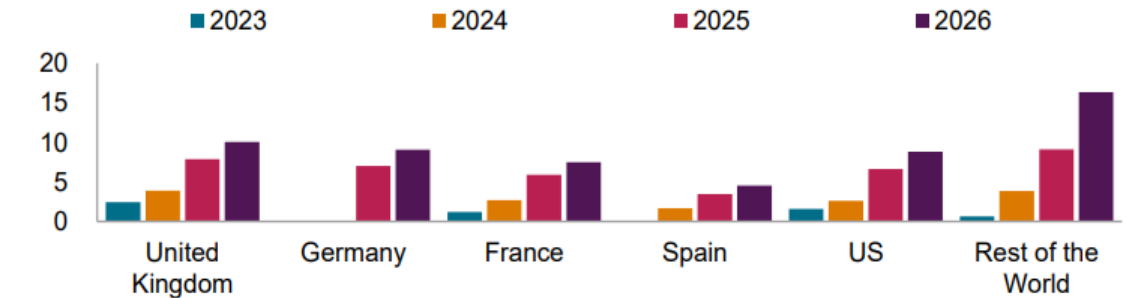
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Global SAF demand is projected to exceed 80,000 b/d by 2026, with Europe accounting for nearly two-thirds of total consumption

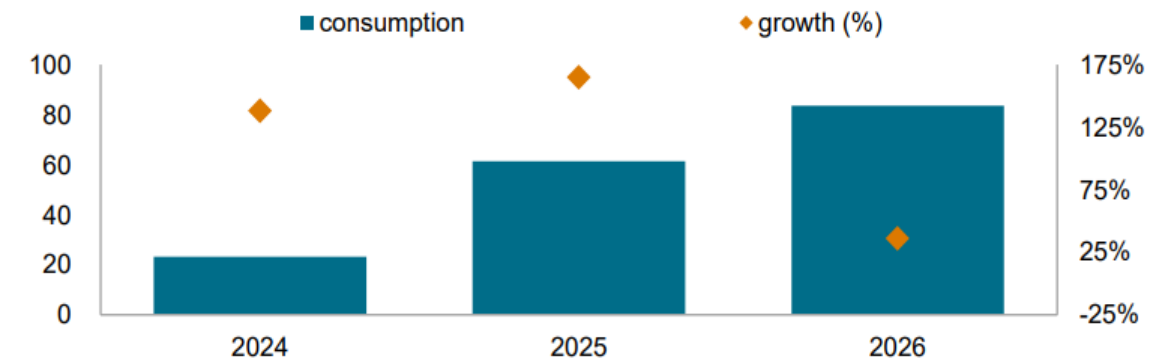
Global sustainable aviation fuel (thousand barrels/day)



Global sustainable aviation fuel demand in main countries (thousand barrels/day)



Global SAF demand (thousand barrels/day)



Source: S&P Global Commodity Insights

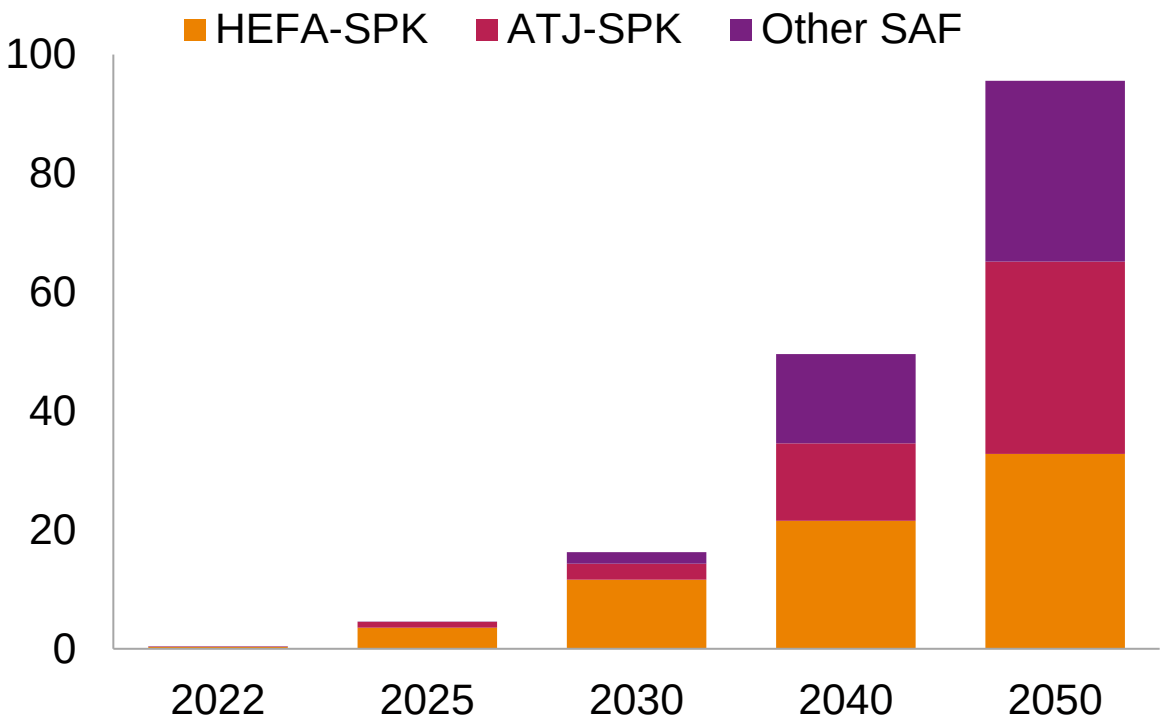
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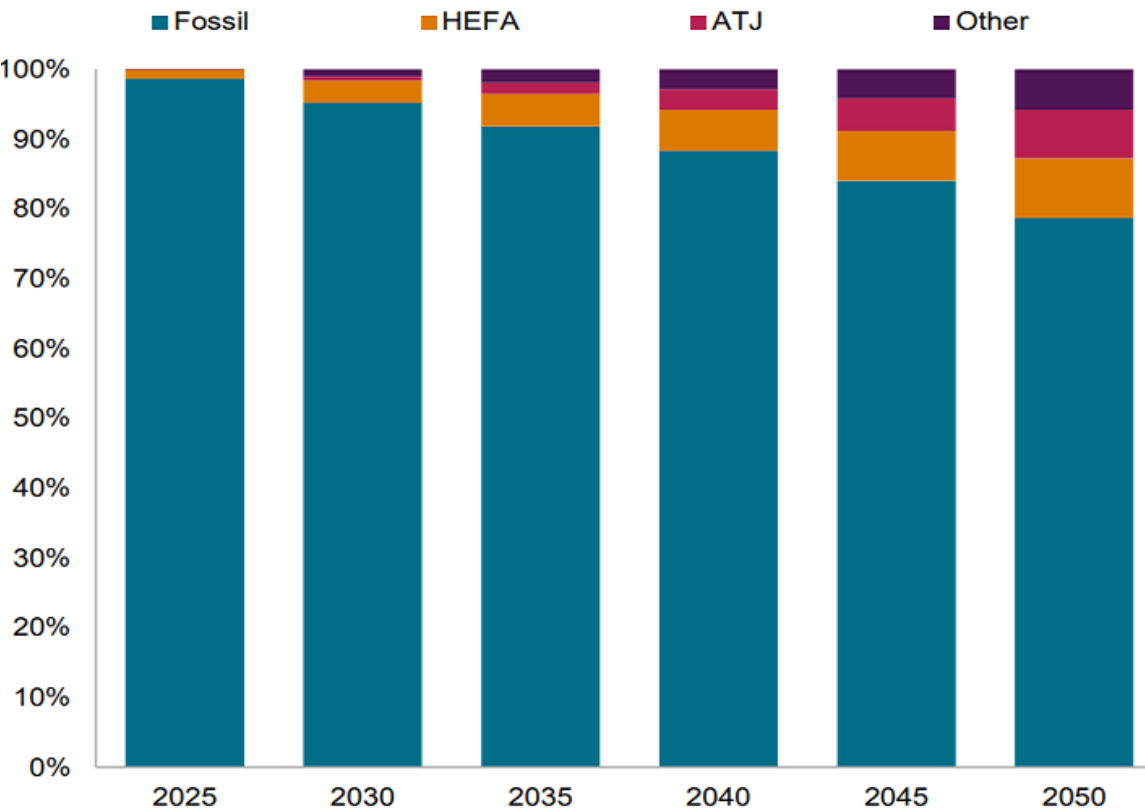
In the short to medium term, HEFA will remain dominant due to lower costs and proven technology, with ATJ growing quickly. In the long term, the three main pathways are expected to share market share equally

World SAF Supply Outlook by Pathway

(Million metric tons)



Volumetric Share of Fuel by Pathway x Jet Fuel



Source: S&P Global Commodity Insights

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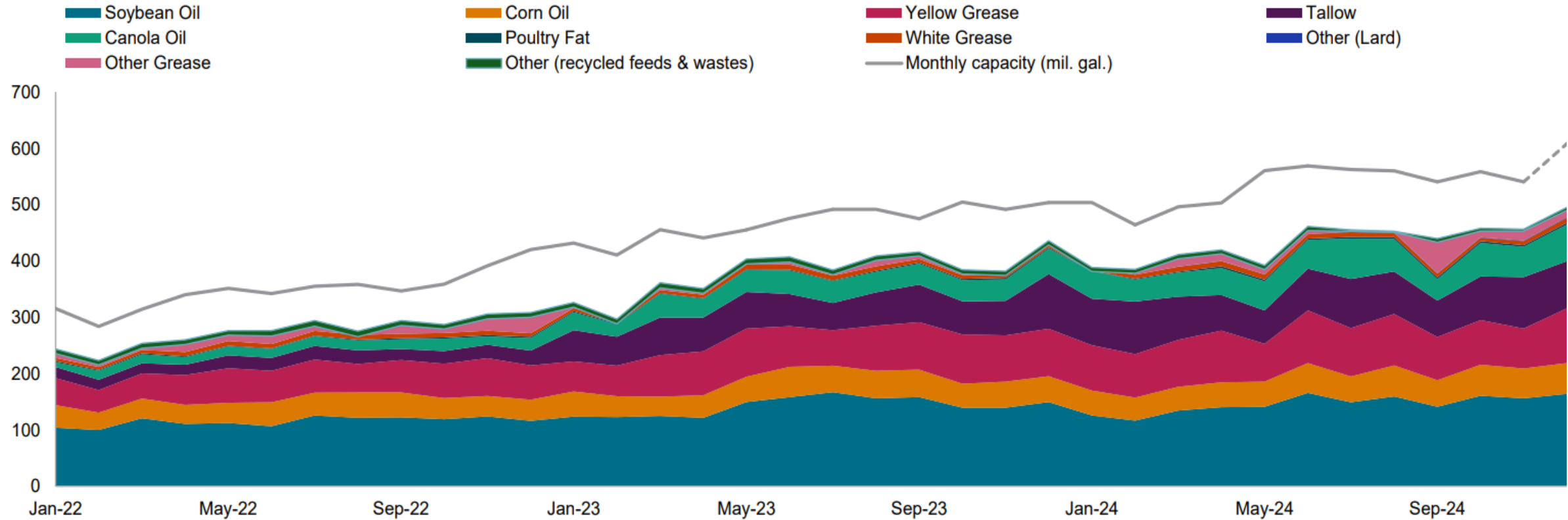
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From Field to Flight: Which Feedstocks Will Take Off?



US feedstock supply expected to tighten in 2025 amid strong soybean oil exports and restrictions on imported UCO

Monthly US feedstock use (million gallons) and capacity



Data compiled February 27, 2025.

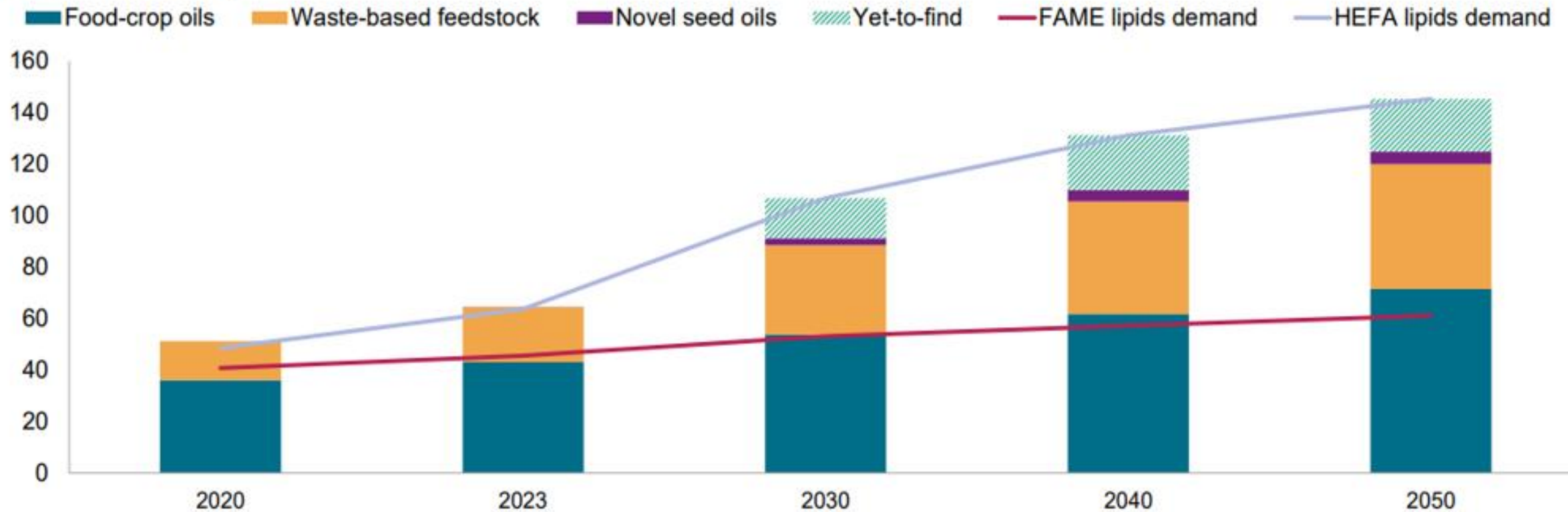
Source: S&P Global Commodity Insights.

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In the long term, limited feedstock availability constrains biofuels production, as demand grows faster than supply

Global fuel sector lipids demand (Million metric tons)



Data compiled Sep. 23, 2023.
Source: S&P Global Commodity Insights.
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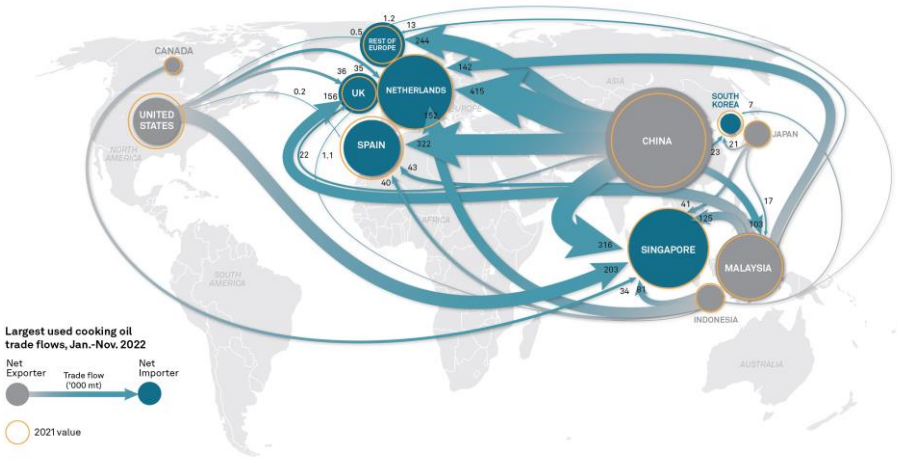
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What Drives the Flow? Market and Policy Forces Shaping Feedstock Dynamics (UCO Ex.)

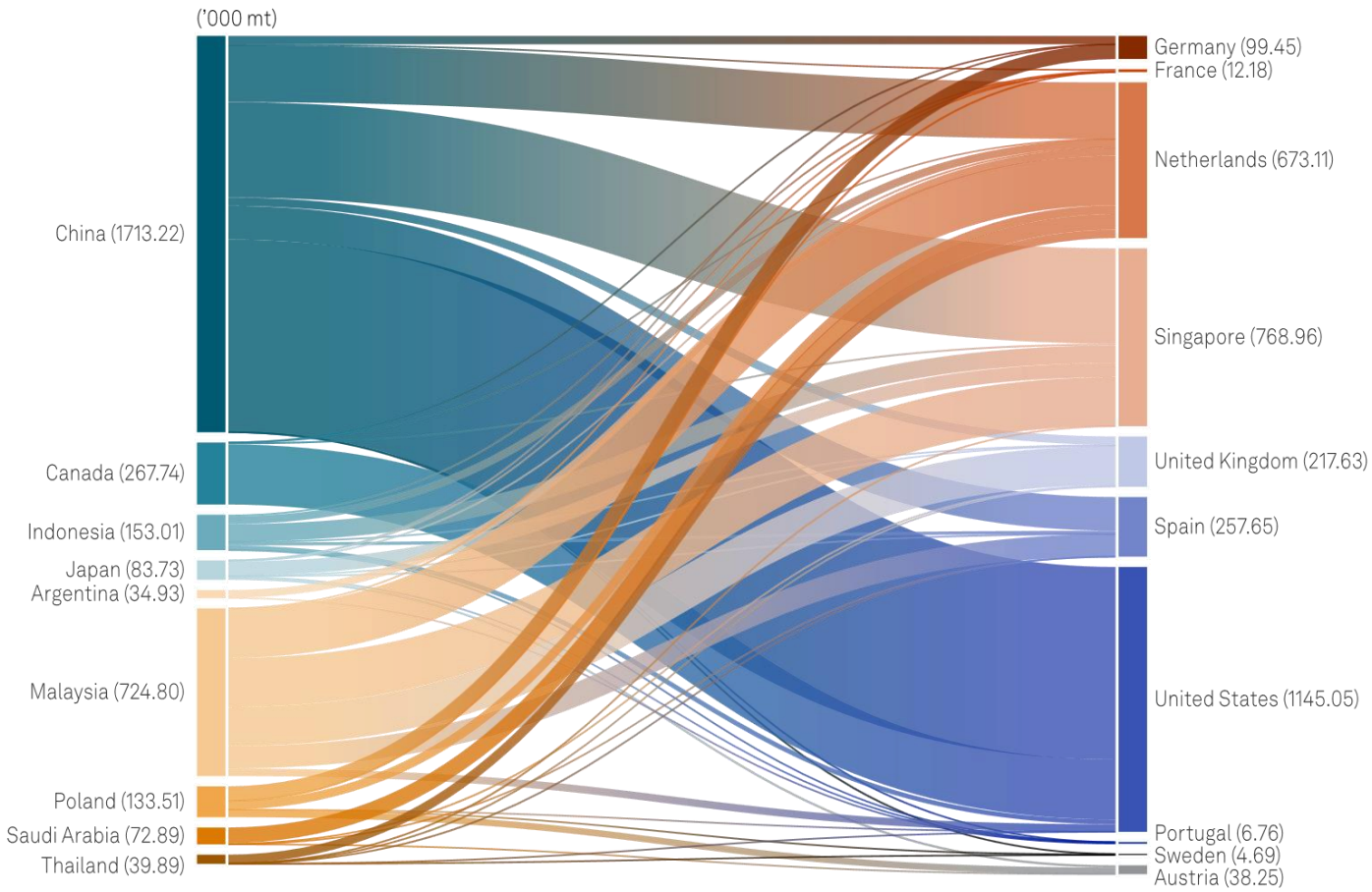


China has been the leading supplier of UCO globally, but policymakers have signaled an intention to retain more of it domestically for biofuel production, including SAF

Asian, US origin used cooking oil finding homes in largest demand and refining centers worldwide in 2021

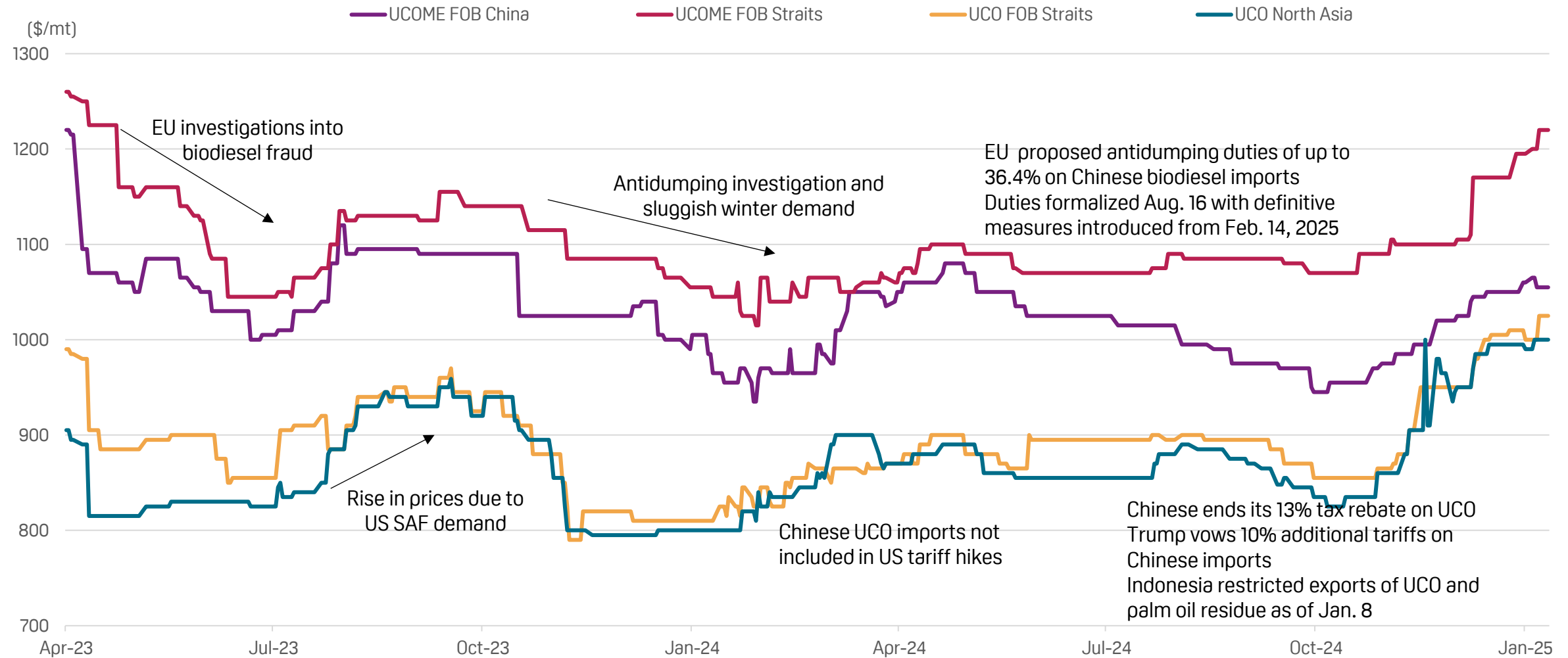


2023 UCO Global Trade Flows



Source: S&P Global Commodity Insights

UCO/UCOME prices largely impacted by policies and demand



Source: S&P Global Commodity Insights.

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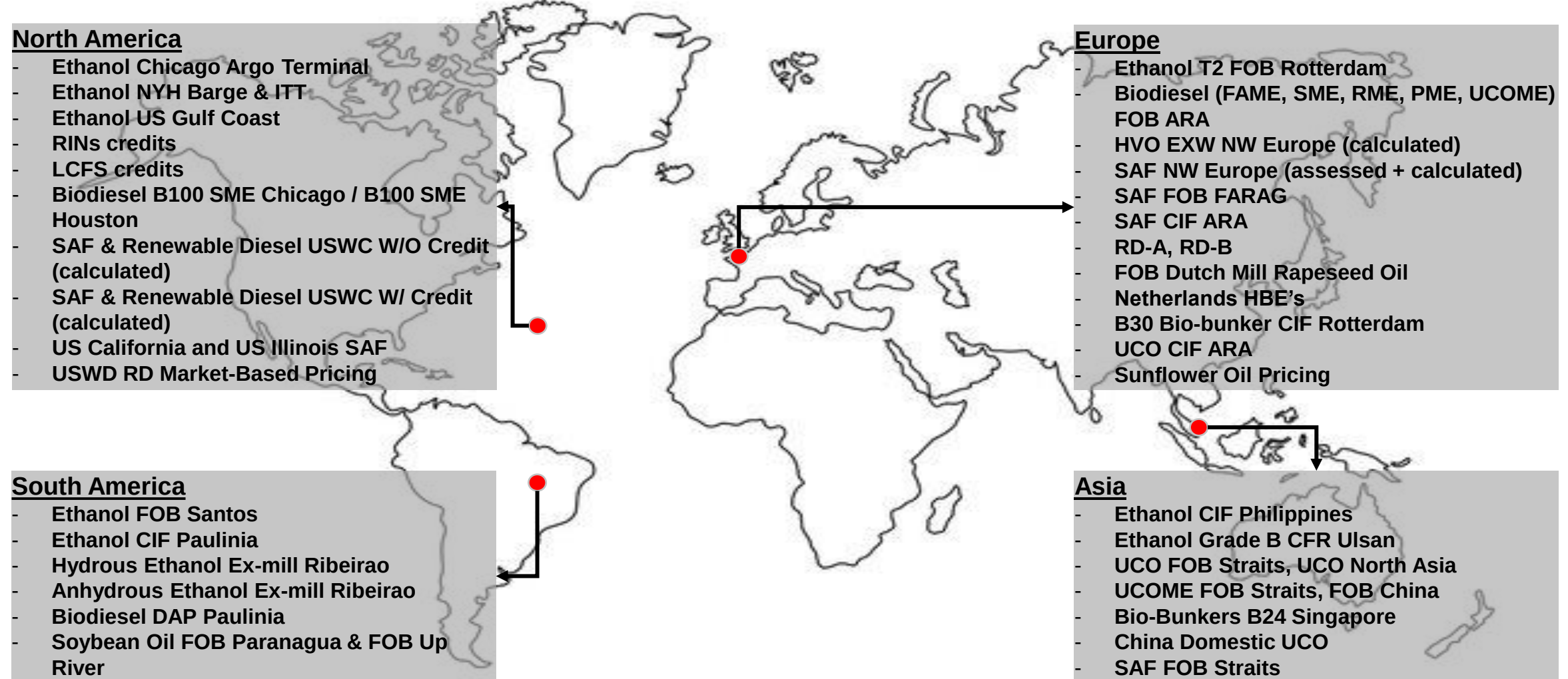
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Can SAF Compete on Price? And Should It?



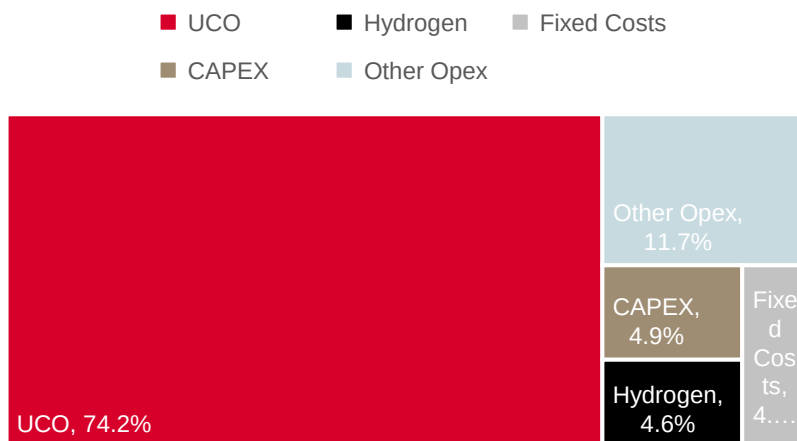
As a biofuel, SAF prices are somewhat linked to feedstock prices, making it essential to have a comprehensive and global perspective on the market



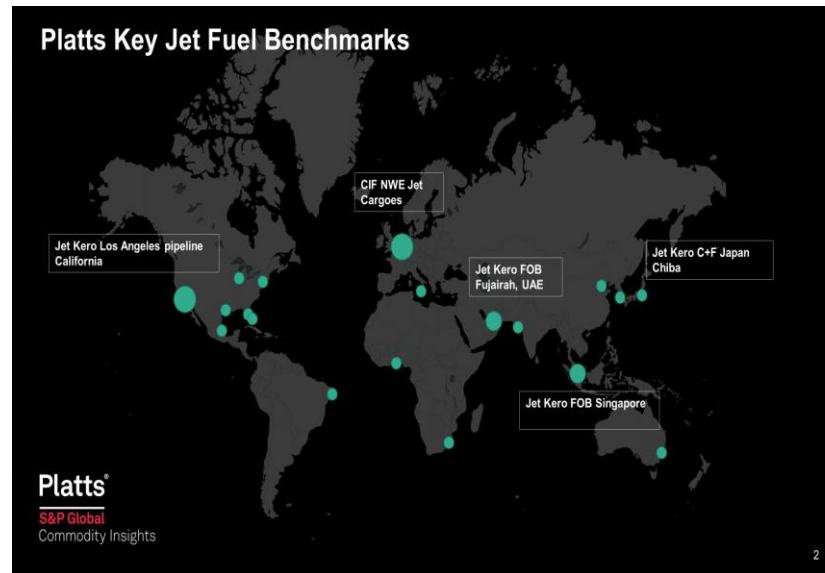
Market players have used different pricing structures as part of their negotiations to enter commercial agreements. These strategies aim to reduce risk or hedge it according to their business models

Cost+ Model

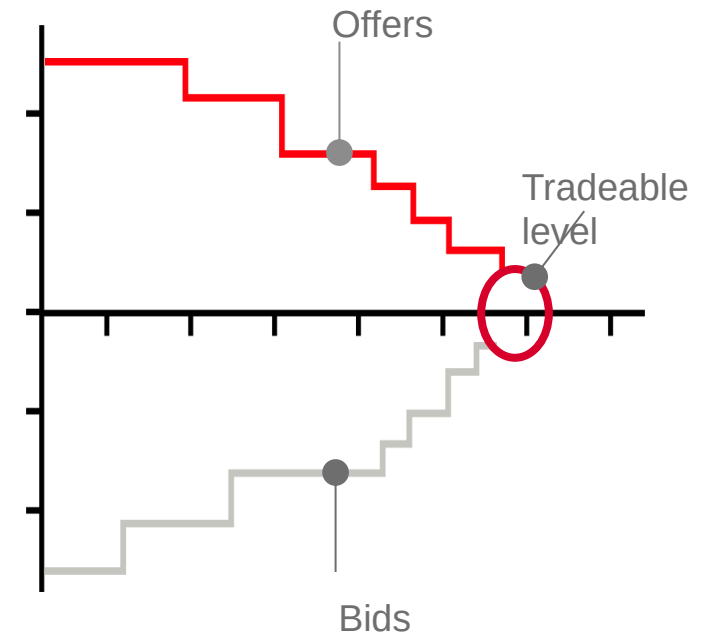
EMEA SAF Cost of Production Breakdown
(Apr 16)



Differential Marked to a Jet Index

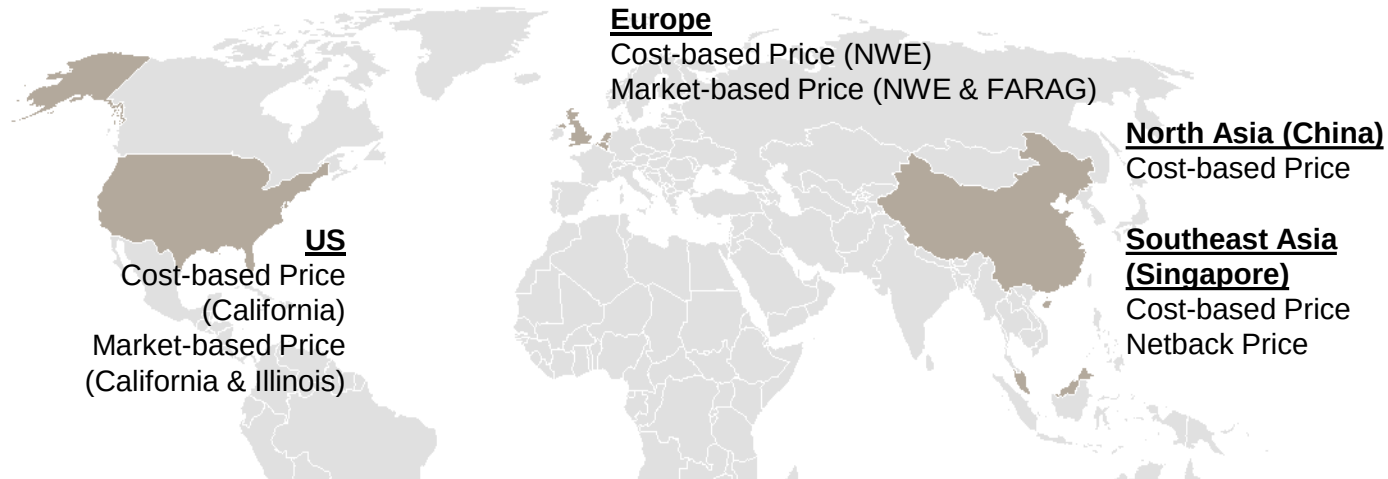


SAF Prices (Platts MOC)



Platts has released Sustainable Aviation Fuel (SAF) prices for three key regions

SAF price assessments



Northwest Europe sustainable aviation fuel price assessments (\$/mt) (PBF page 1013)

SAF (H-S) CIF NWE	AJNWD00	2079.250	-18.750
SAF (H-S) CIF NWE Premium	AJNWF00	1309.250	0.000
SAF (H-S) FOB FARAG	SUAFA00	2052.75	-19.75
SAF (H-S) FOB FARAG Premium	SUAFB00	1284.25	0.00

Americas sustainable aviation fuel price assessments (\$/gal) (PBF page 0012)

SAF CA	SAFCA00	703.730	-1.940
SAF CA vs Jet LA	SAFCB00	455.300	+3.550
Aviation Turbine Fuel 30/70 blend basis CA	SAFCF00	530.690	-5.490
SAF IL	SAFCD00	827.170	-1.940
SAF IL vs Jet Chicago	SAFCE00	613.990	+2.800
Aviation Turbine Fuel 30/70 blend basis IL	SAFCG00	543.220	-4.740

Source: S&P Global Commodity Insights.

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Market-based SAF prices

US Assessments

- Neat SAF and Blended SAF
- Locations: California & Illinois
- Characteristics: HEFA pathway, Reference CI of 42 gCO₂e/MJ

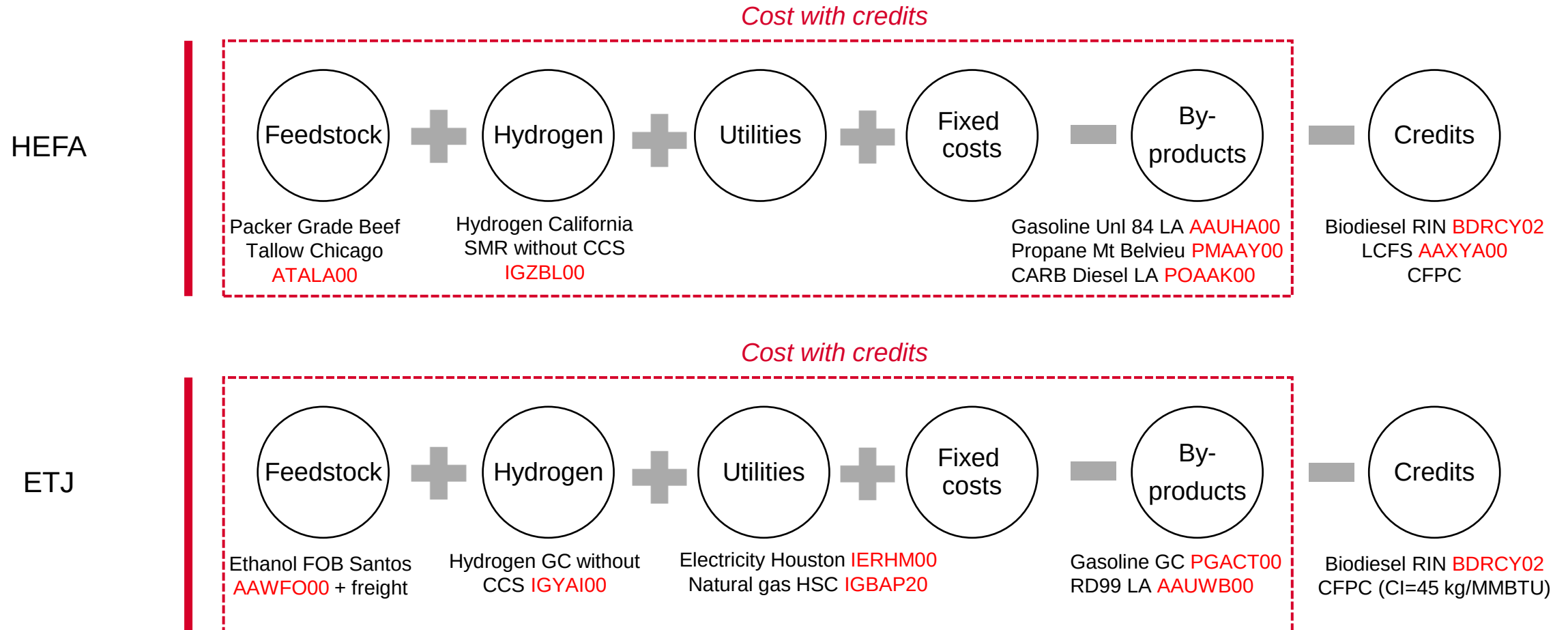
European Assessments

- Ewindow
- Location: NWE & FARAG
- Characteristics: raise minimum GHG savings to 85%. HEFA pathway

Asian Assessments

- Netback price assessment
- Location: Singapore
- Characteristics: based on the market-based NWE SAF assessment

Platts has released Sustainable Aviation Fuel (SAF) Cost-Based Prices for HEFA and ATJ Pathways



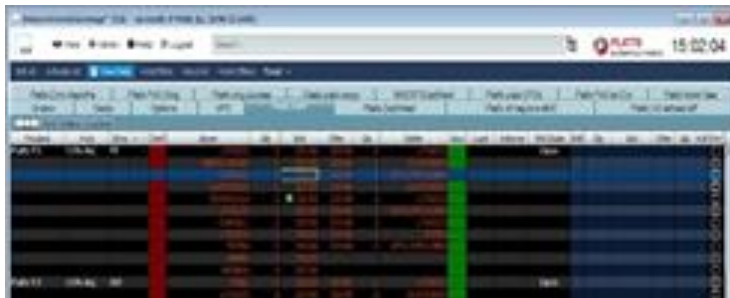
Source: S&P Global Commodity Insights.

With the evolving SAF market, participants have requested a market-based SAF price assessment, built on a robust process to provide the transparency and reliability that meet market needs



European Market-Based SAF Prices

- CIF basis Amsterdam Rotterdam Antwerp. Other locations within Northwest Europe will be considered for the assessment but may be normalized to reflect basis ARA
- Delivery period of 10-25 days forward
- Volume 500-5,000 mt, HEFA pathway
- Minimum GHG savings of 80%



September - 2023



US Market-Based SAF Prices

- US California assessments
 - Neat SAF, basis Los Angeles
 - Aviation Fuel (70% Jet / 30% SAF), basis LA
- US Illinois assessments
 - Neat SAF, basis Chicago
 - Aviation Fuel (70% Jet / 30% SAF), basis Chicago
- HEFA pathway, Reference CI of 42 gCO₂e/MJ
- Inclusive of credits, Published as outright price and premium to Jet

August - 2024



Market-Based SAF Prices (New Ones / Updates)

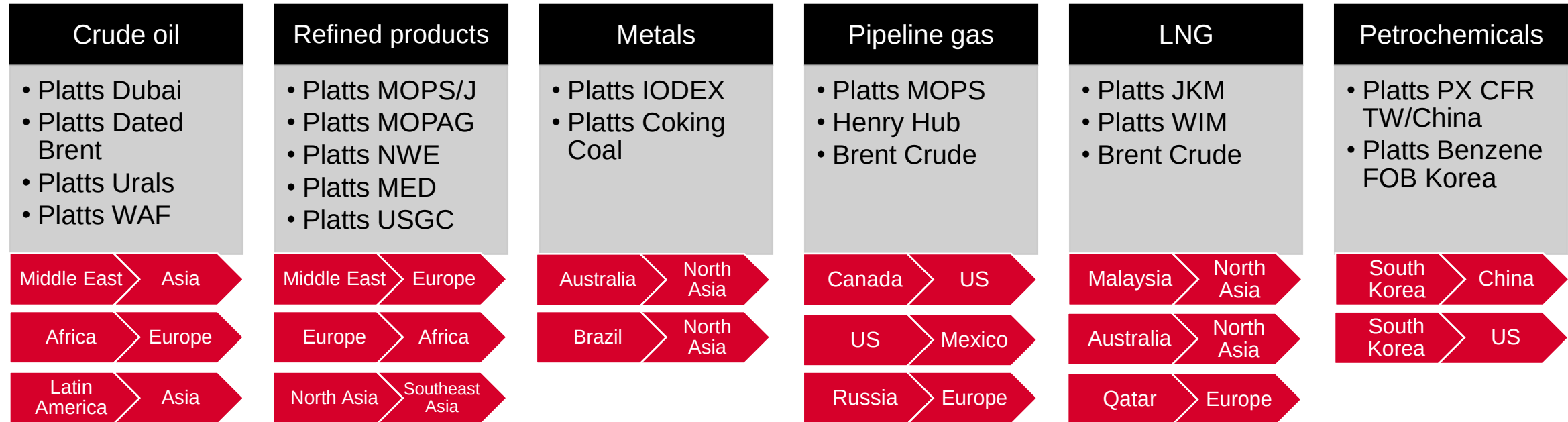
- Change the basis for SAF CIF ARA to SAF NWE
 - Include UK as a delivery option
 - Cargo size to change from 500-5000mt to 5,000-10,000mt
 - Raise minimum GHG savings to 85%
- SAF FOB FARAG barge assessment:
 - Assessment reflecting SAF flow throughout Europe via barge
 - Amsterdam-Rotterdam-Antwerp-Ghent and reflect volumes of 1,000-3,000 mt
 - HEFA, minimum GHG savings of 85%
 - Published as an outright in \$/mt and a premium to the Platts Jet barge FOB FARAG assessment

September - 2024

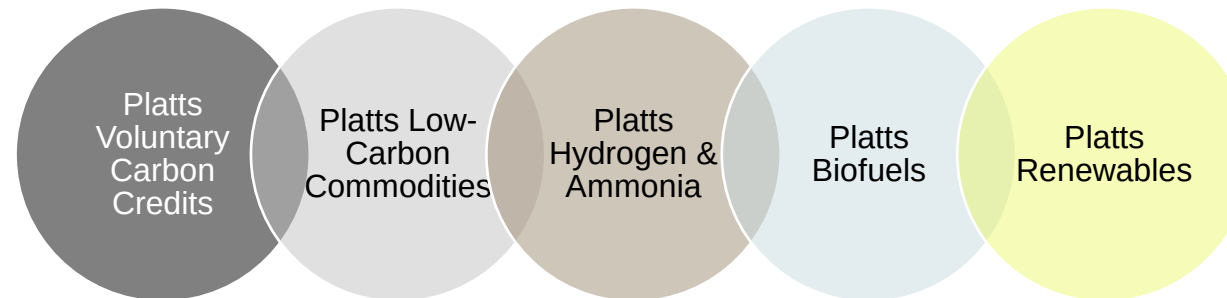
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Indexation to Platts benchmarks is the standard in commodity trading, refined products, petrochemicals, and metals supplied through term contracts referencing spot prices, while most spot trading in the energy market also relies on benchmark prices



Energy Transition sectors will need to commoditize to become efficient and contribute to decarbonization



Indexation is happening

We're taking off on WhatsApp!

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Join the Conversation: Will You Board This Plane?

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Q&A and Closing Remarks

Thank You!

Join the conversation and help shape the future of sustainable aviation fuel.

7/25/2025