

SAF Outlook

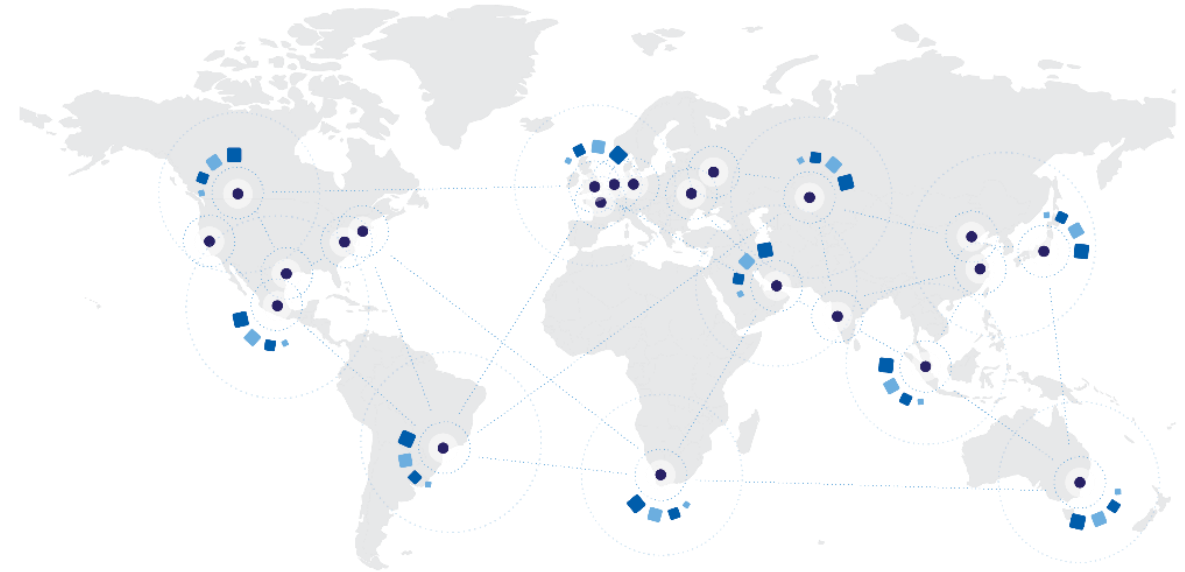
2024 ICAO LTAG STOCKTAKING

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A view of Argus

- One of the world's leading PRAs, Argus has more than 1,000 staff members and offices in the world's principal commodity trading and production centres
- Publishing more than 20,000 daily spot and forward price assessments, plus market intelligence for world commodities markets
- Coverage includes:
 - Energy, including oil, natural gas, power, coal, asphalt, base oils, biomass, emissions and more
 - Fertilizers
 - Petrochemicals
 - Metals
- Services
 - Price reporting and indexation
 - Consulting
 - Conferences
- Indexation examples
 - US crude oil
 - European gasoline
 - Asia-Pacific LPG
 - Coal
 - US and European environmental markets

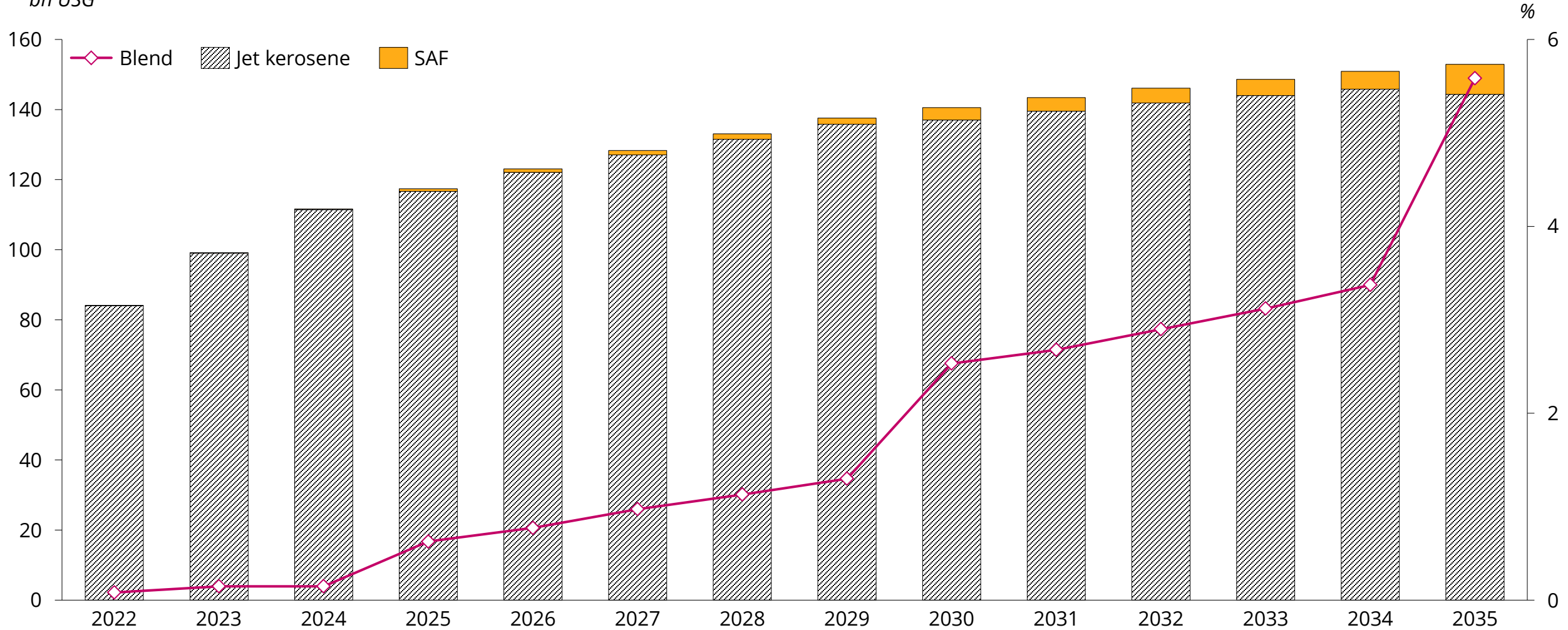


SAF outlook

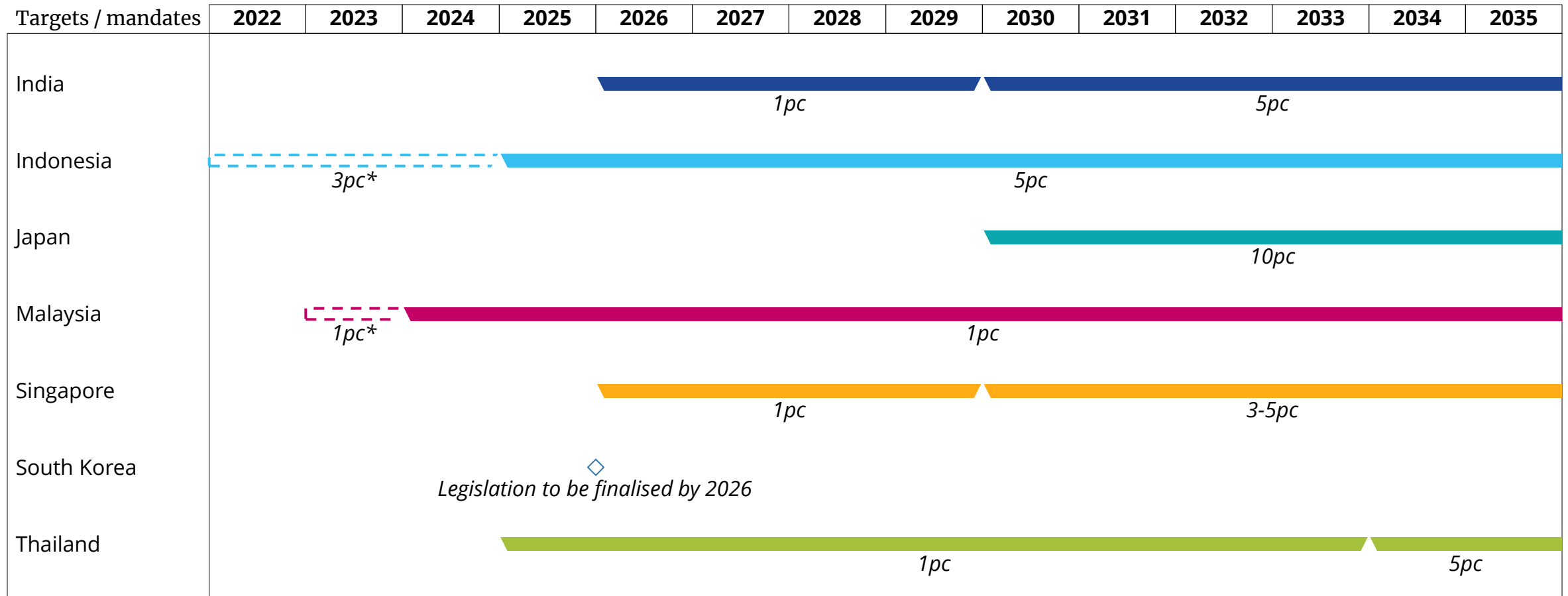
Demand

Global SAF blend

bn USG



Asia-Pacific SAF legislation



* Historical consumption below mandated volumes

Voluntary SAF demand

Voluntary carrier targets in 2030

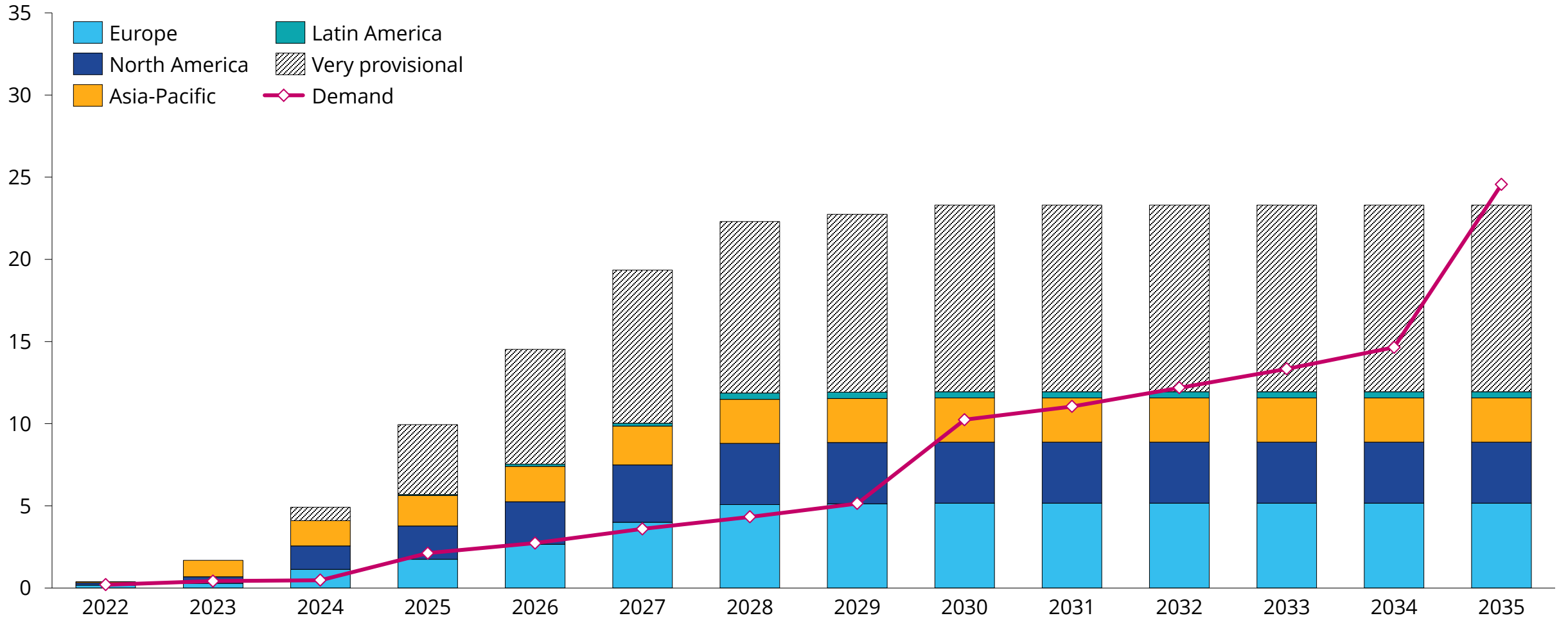
American Airlines	10%
United Airlines	10%
Delta Airlines	10%
Southwest Airlines	10%
IAG	10%
Federal Express	30%
United Parcel Service (2035)	30%
Alaska Airlines	10%
JetBlue Airways	10%
Air Canada	10%
Air France-KLM	10%
Cathay Pacific	10%
Emirates Airline	10%
Qatar Airways	10%
Japan Airlines	10%
ANA	10%
Qantas	10%
Singapore Airlines	5%
Finnair	10%
Virgin Atlantic	10%
Air New Zealand	10%
Royal Air Maroc	10%

SAF outlook

Supply

Global SAF capacity by region

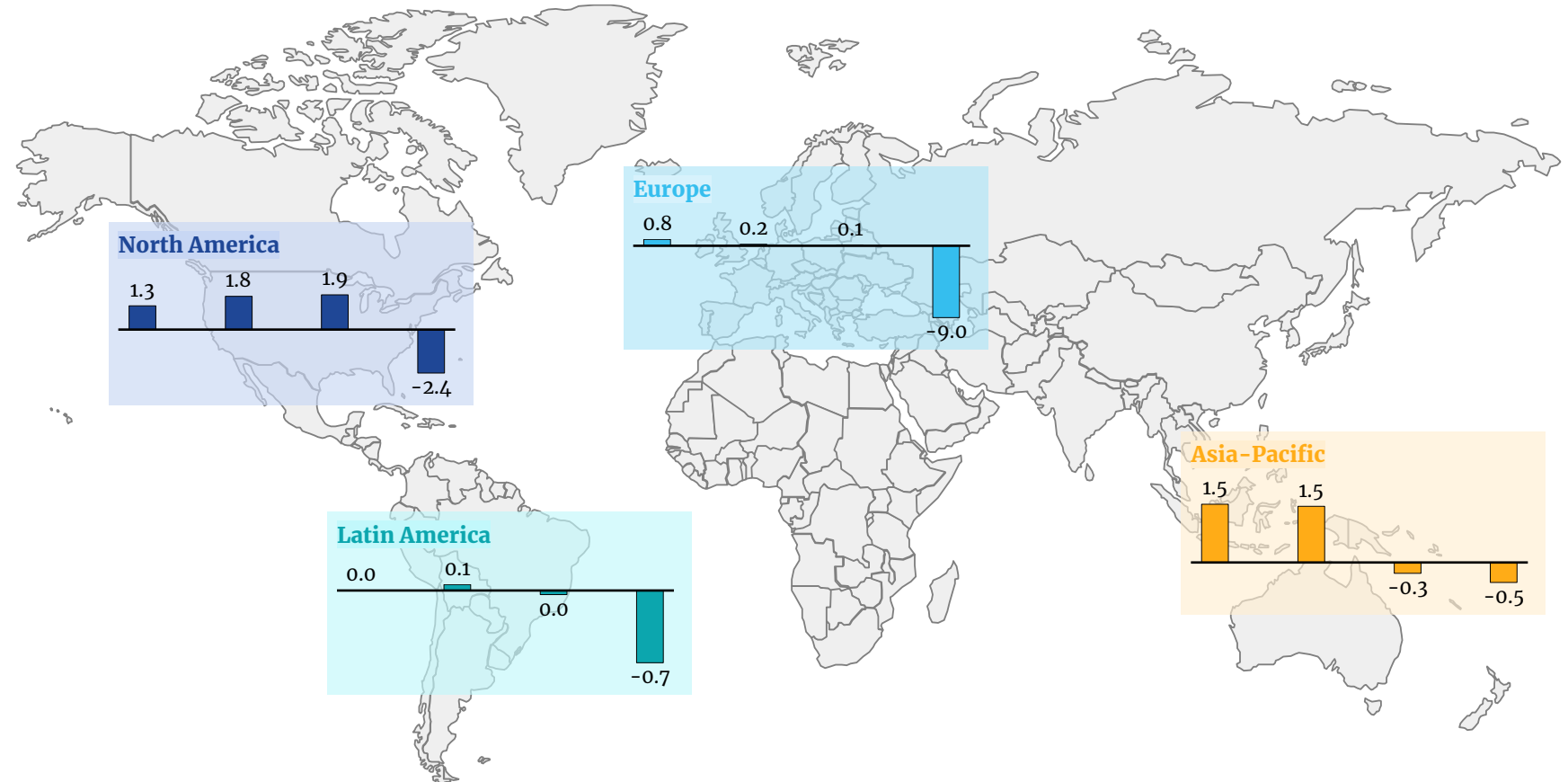
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SAF balances

- Most markets in oversupply until 2030, but a deficit expected from 2035
- Deficit based on current + planned capacity, excluding 'very provisional'

SAF balances*: 2024, 2025, 2030 & 2035 mmt

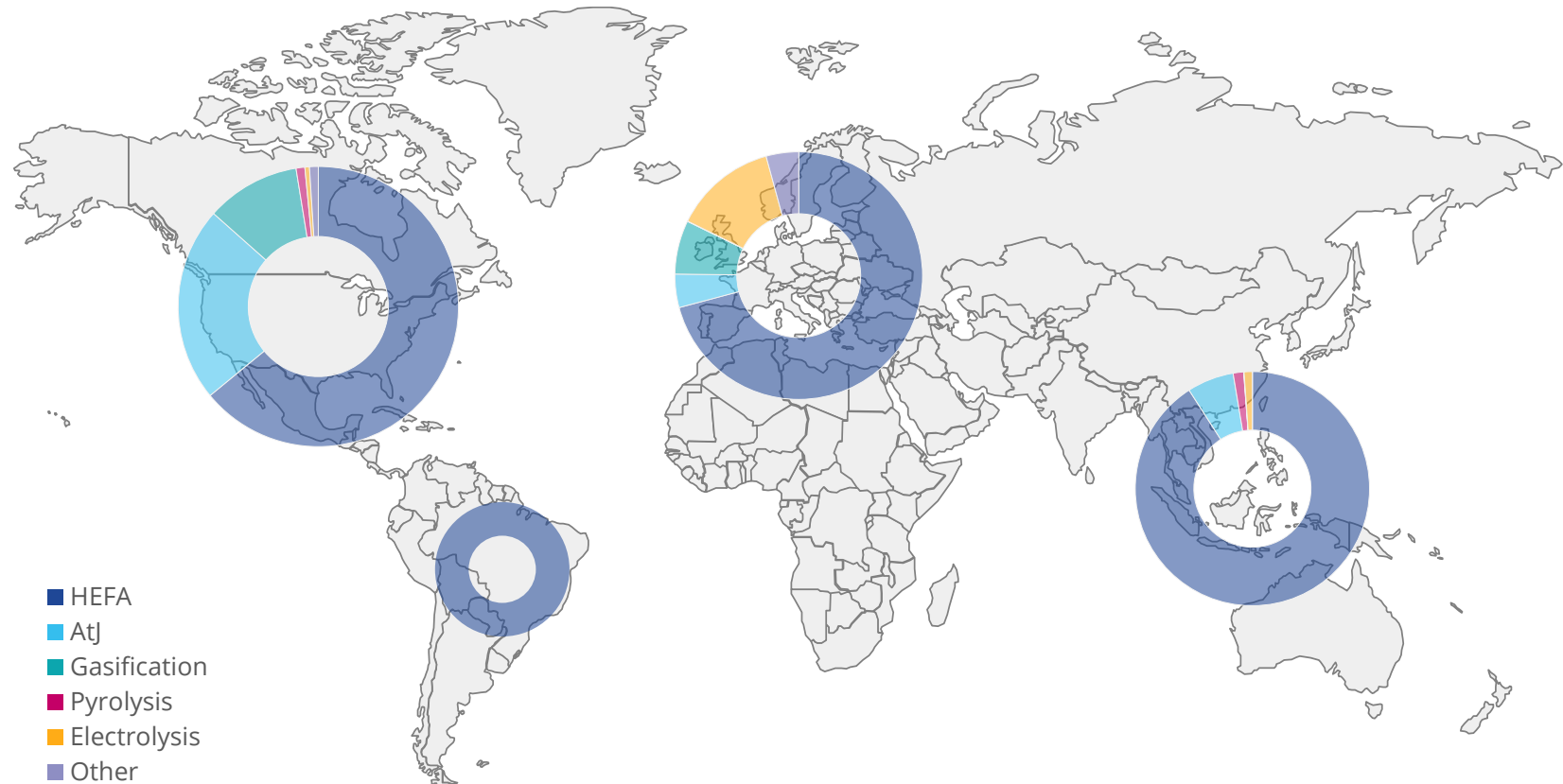


*Capacity based on operational, planned – firm, planned – provisional

SAF pathways

- HEFA dominates with 96pc of 2024 global capacity, but feedstock and some mandate limits are shifting attention to alternative pathways
- North America shows the largest interest in ATJ and gasification, with these SAF pathways making up a third of the potential 2030 capacity.
- Europe dominates the electrolysis pathway, largely driven by anticipation of PtL mandates from 2030.

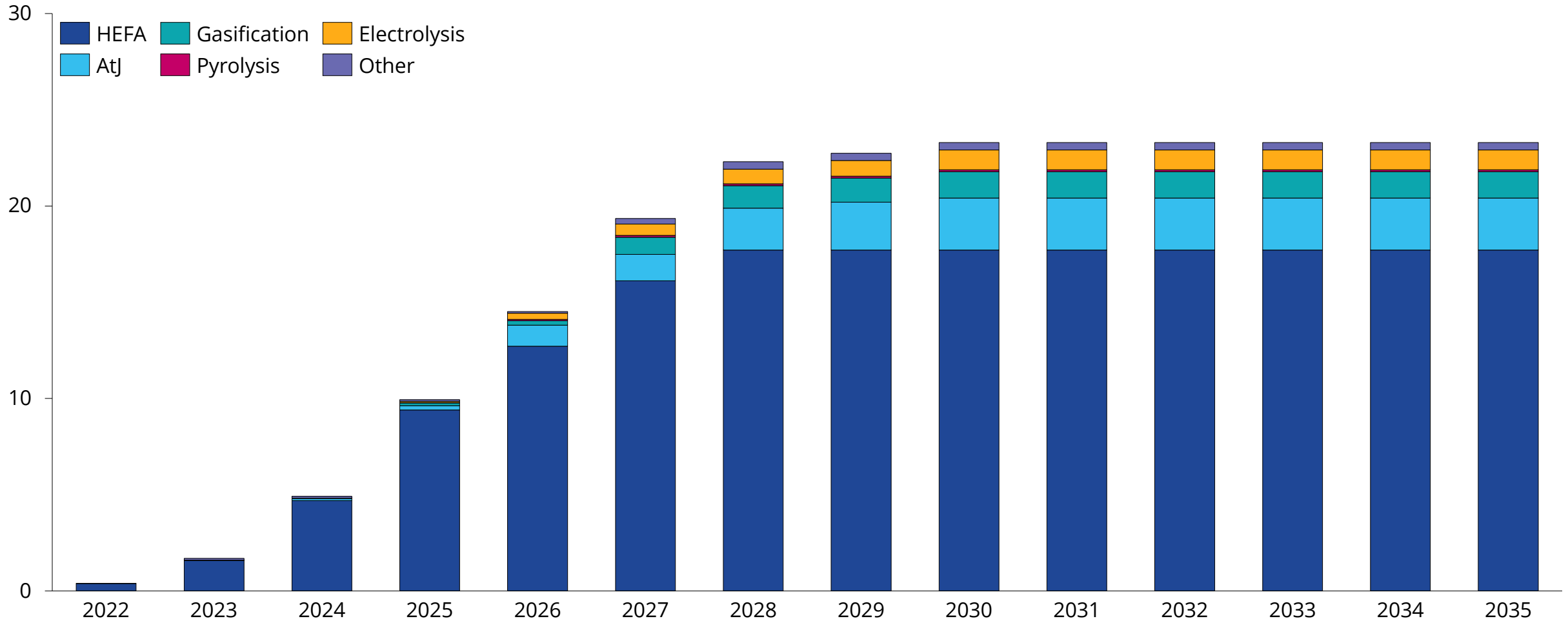
Announced global SAF capacity* by pathway (2030)



*Capacity based on operational, planned – firm, planned – provisional and very provisional

Global SAF capacity

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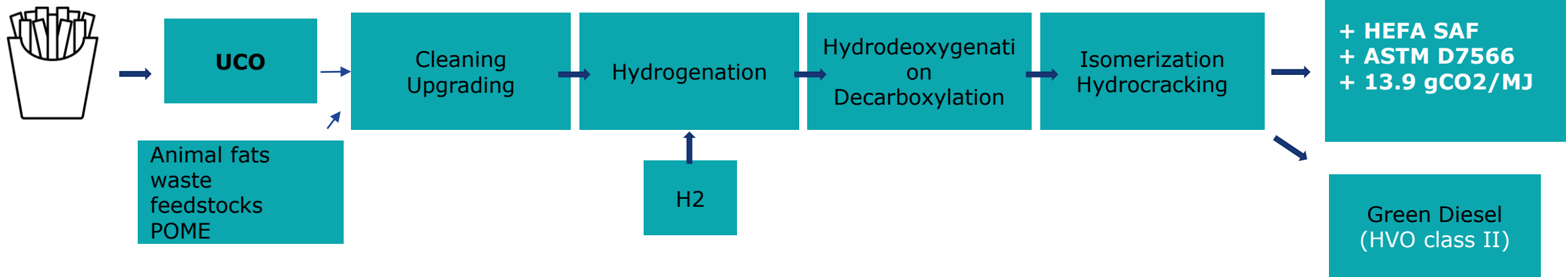


SAF outlook

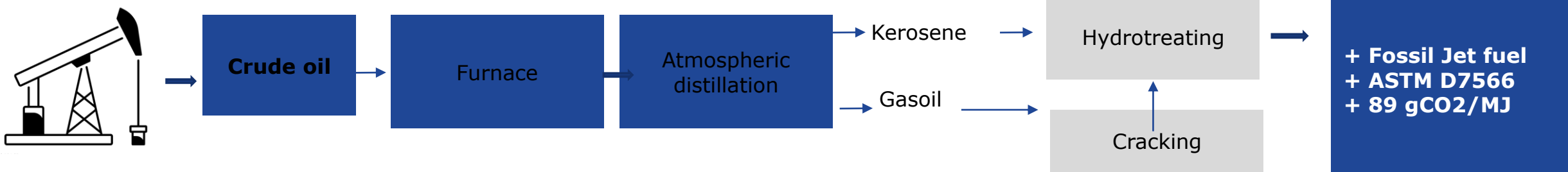
Pricing

How to Value SAF? HEFA is the main pathway

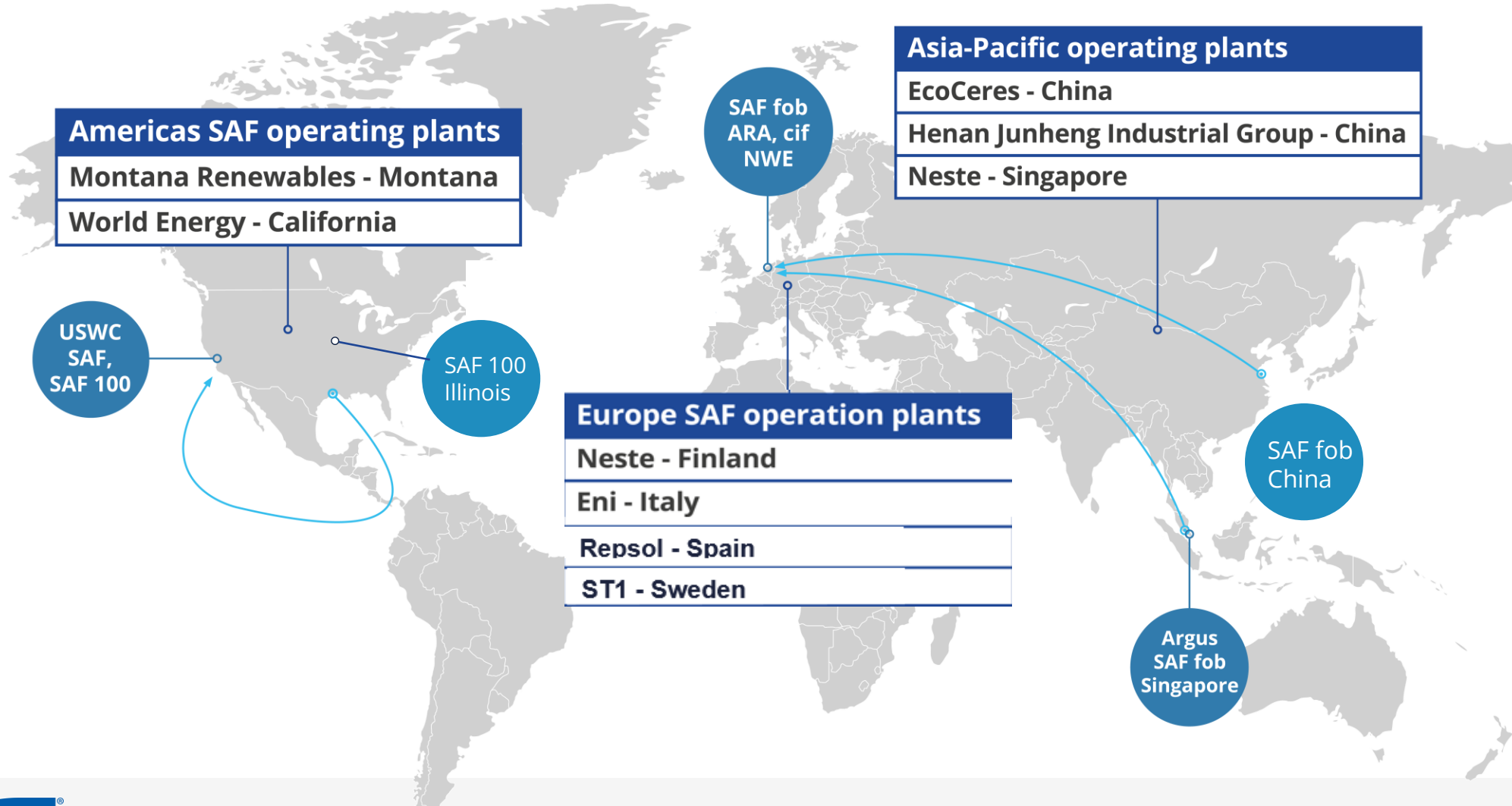
Bio crack spread – UCO to Hydrotreated Esters Fatty Acids (HEFA)



Fossil Jet Fuel crack spread values refining margin: crude oil to jet :



Global HEFA SAF pricing – tracking flows and liquidity



Increase in liquidity and a transparent SAF price – the path to robust, trustable spot pricing and risk management

Development of Argus SAF pricing



US WC SAF price and SAF 100

Published daily in cents/USG

ASTM D7566 specifications.

Currency/unit: cents/gallon

Location: delivered West Coast - California or Oregon

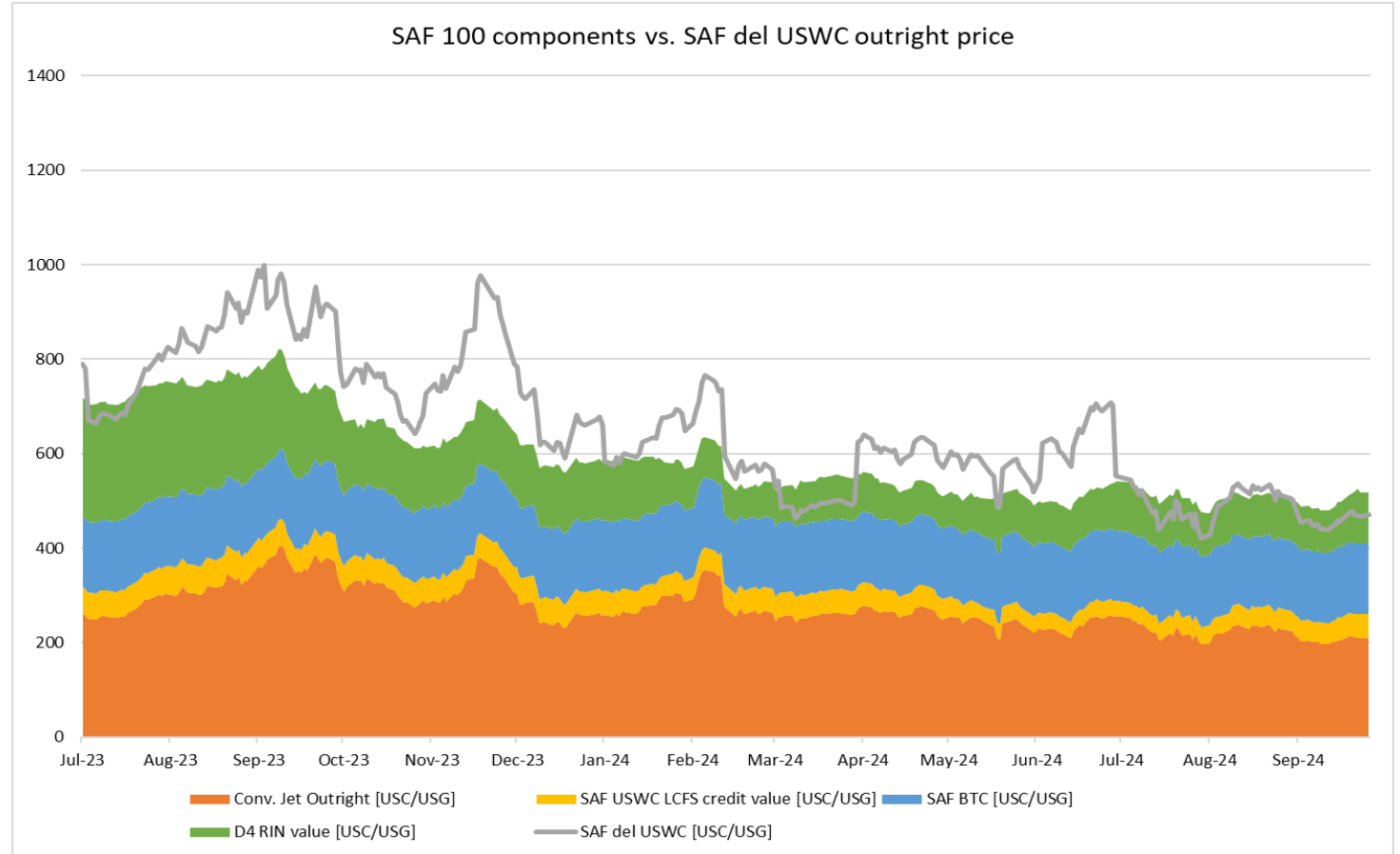
Basis: assessed as a dif. to conventional Los Angeles Jet A fob Kinder Morgan and includes environmental credits

Based on market survey -Differentials are assessed monthly as a multiple of the underlying jet fuel price.

Outright prices are calculated daily.

Differentials may be assessed more frequently as liquidity increases

SAF100 prices reflects the maximum achievable value based on credits available to the producer



Thank you!

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