

# Market Overview

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# NexantECA has over 60 years of experience as a globally recognised independent advisory that is specialised in the energy and chemicals sector

## Company

- Leading, independent provider of mission critical market, technical, environmental and commercial advice and intelligence to the global energy and chemicals sector.
- Highly complementary offerings combining deep intellectual capital and proprietary data and analytics.

**60+**  
years  
of institutional  
knowledge

**100+**  
Industry experts

**12**  
countries worldwide with  
physical presence

## Our Businesses

*Three integrated solutions:*



- Over 200 consulting engagements completed each year.
- Over 100 subscription reports published each year, providing analysis on more than 100 products.
- Online and in-house training.

## Clients

*Leading energy and chemicals operators,  
financial investors and advisors.*

- Base Petrochemicals and Polymers
- C1 Chemicals and Fertilizers
- Intermediate and Specialty Chemicals
- Downstream Oil
- Gas, Midstream and Infrastructure
- Biorenewables and Circular Economy

## Locations



- Global knowledge and regional expertise; industry professionals based in key regions.

# NexantECA provides a range of offerings to support key strategic and operational decisions driven by the changing industry dynamics

Our Value Proposition		
Technology Assessment	<ul style="list-style-type: none"> <li>Technology and operational benchmarking</li> <li>Cost of production modelling and benchmarking</li> <li>Technology evaluation and screening</li> </ul>	<ul style="list-style-type: none"> <li>Led by Chemical Engineers with vast operational experience</li> </ul>
Feasibility Studies	<ul style="list-style-type: none"> <li>Unbiased and independent assessment to underpin investment decisions</li> <li>Evaluation of technology, market and economic attractiveness</li> <li>Market entry and identification of current or future strategic opportunities</li> </ul>	<ul style="list-style-type: none"> <li>Deep market and technology knowledge</li> <li>Credible methodology and reputed quality</li> </ul>
Project Finance	<ul style="list-style-type: none"> <li>Lenders independent market, technical and environmental roles</li> <li>Project implementation and monitoring</li> <li>Completion test monitoring, analysis and certification</li> </ul>	<ul style="list-style-type: none"> <li>High-quality risk and value focused approach</li> </ul>
Mergers & Acquisitions	<ul style="list-style-type: none"> <li>Corporate development – buy-side due diligence; vendor due diligence</li> <li>Private equity commercial and technical due diligence support</li> <li>Environmental and social due diligence support</li> </ul>	<ul style="list-style-type: none"> <li>Deep industry knowledge</li> <li>Identification of viable strategic options</li> </ul>
Commercial Analysis	<ul style="list-style-type: none"> <li>Market assessment – supply/demand and trade-flow forecasts, price modelling</li> <li>Competitor analysis, market research (market interview programs)</li> <li>Financial modelling and valuations</li> </ul>	<ul style="list-style-type: none"> <li>In-house database with proven methodology – accepted by Boards and banks</li> </ul>
Strategic Planning	<ul style="list-style-type: none"> <li>Corporate strategy development, innovation, sustainability, business planning</li> <li>Strategy analysis – portfolio analysis, market segmentation, feasibility studies</li> <li>Strategic options and screening – market entry, company/product acquisition</li> </ul>	<ul style="list-style-type: none"> <li>Deep industry knowledge</li> <li>Identification of viable strategic options</li> </ul>
Independent Expert	<ul style="list-style-type: none"> <li>Expert advisor/witness</li> <li>Litigation support</li> <li>Training in Chemicals, Polymers and Bio industries</li> </ul>	<ul style="list-style-type: none"> <li>Highly experienced and credible</li> <li>Tailored to fit needs</li> </ul>

# NexantECA and FGE Combine to Offer Market Intelligence and Consultancy Services across the Value Chain



The merger is made possible by investment from **TA Associates** and combines

- **NexantECA's** expertise in energy and chemicals with
- **FGE's** market intelligence in crude oil, refined products, natural gas liquids and gas/LNG
- alongside both companies' complementary expertise in the green energy and chemicals space.
- As a result, we offer a combined consulting and market intelligence offering across the entire energy value chain.
  - We are enabling NexantECA to benefit from FGE's robust foothold in Asia.
  - Simultaneously, this partnership empowers FGE to benefit from NexantECA's established presence in North America..
- Together we will be able to provide a holistic set of insights for you, connecting upstream and downstream markets and continuing to deliver actionable insights and high-quality data to help you navigate today's dynamic global energy and chemicals landscape.
- We are excited to continue to deliver the high-quality insights and expertise you rely on now, strengthened by our combined capabilities as one company.

- **Richard Sleep, President of NexantECA** commented

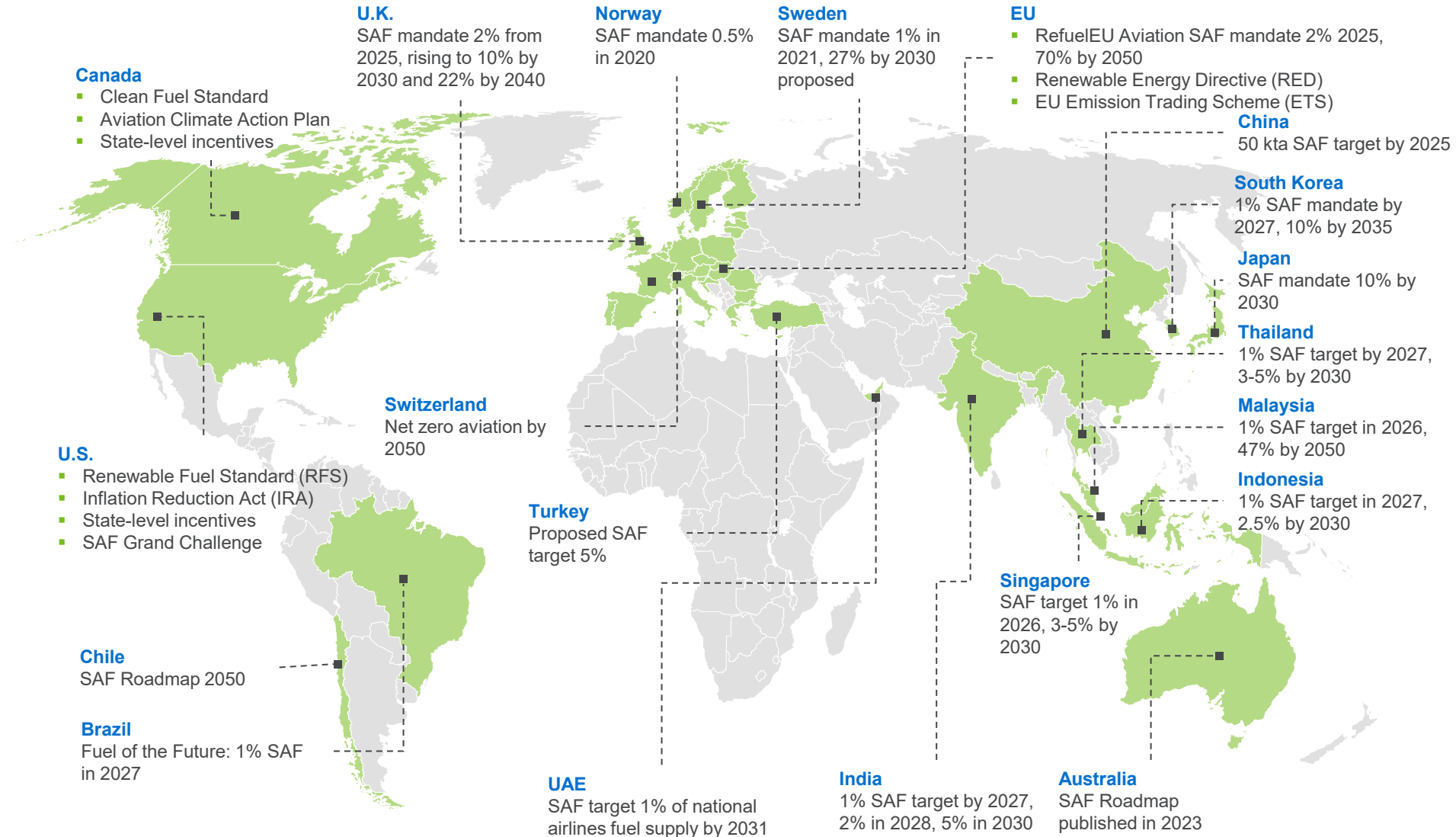
*"This combination is an excellent fit between two very complementary businesses, which along with the investment appetite of TA Associates provides a great platform for growth and success in the fast-evolving hydrocarbon, chemicals and green energy markets."*

- **Dr Fereidun Fesharaki, Founder and Chairman of FGE** said,

*"With the backing of TA Associates and the partnership of NexantECA, we will be able to scale up our technology platform and provide actionable insights across the entire energy value chain, adding additional value to clients."*



# Evolving policies continue to drive SAF uptake - which is being led by Europe – with increasing consideration in Asia

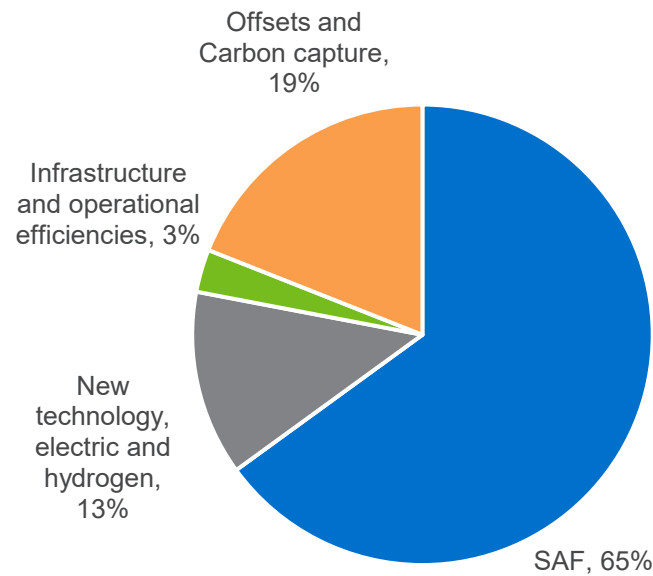


# The aviation industry has also set ambitious decarbonisation targets, with SAF playing a crucial role

- **International Air Transport Association (IATA)** pledged to achieve Net Zero by 2050
- **International Commercial Aviation Organisation (ICAO)** pledged to a Long-Term Aspirational Goal (LTAG) for net zero by 2050, supported by the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) – a cap-and-trade scheme requiring the industry to monitor its emissions

## IATA Strategy to Net Zero 2050

(Carbon emissions reduction share)

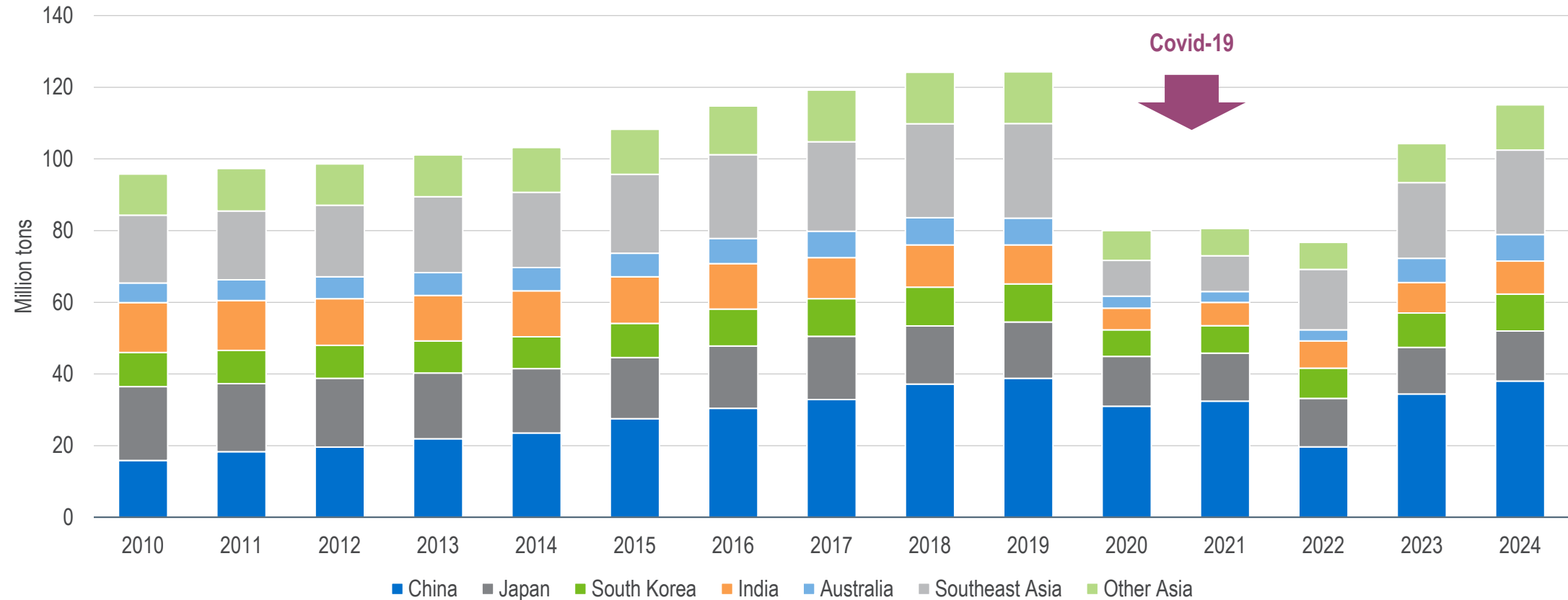


## Selected Major Airlines with Announced SAF Commitment Targets in Asia Pacific



# Current annual Jet demand in Asia Pacific is 115 million tons, providing substitution opportunities for SAF as national policies evolve

Total Jet Fuel Demand in Key Asian Countries

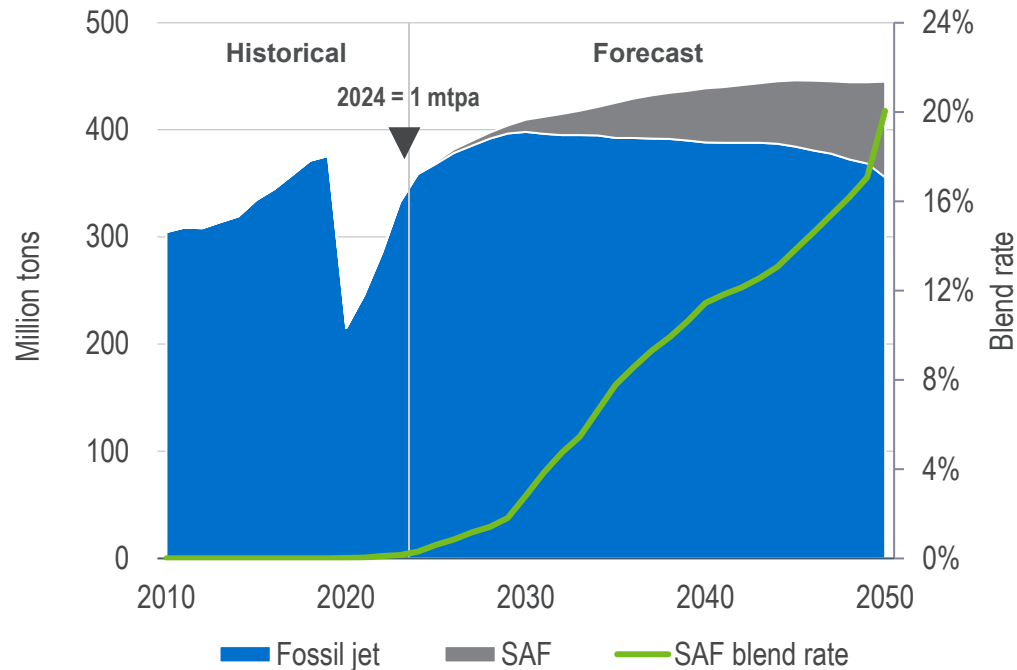


*Average annual growth of 1.3 percent per year between 2010 and 2024*

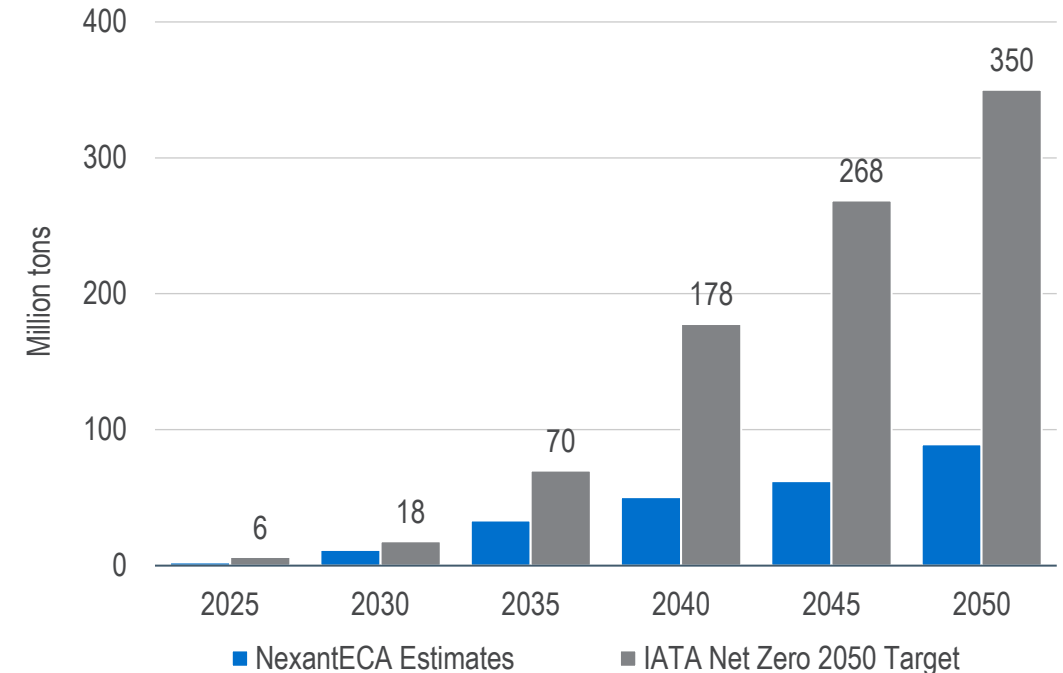
# SAF demand is growing but remains a relatively small proportion of total jet demand. Asia Pacific at the forefront as a key exporter as production outpaces demand

## Global jet fuel demand

(inclusive of conventional jet fuel and SAF)



## IATA SAF Requirements for Net Zero 2050 vs NexantECA scenario

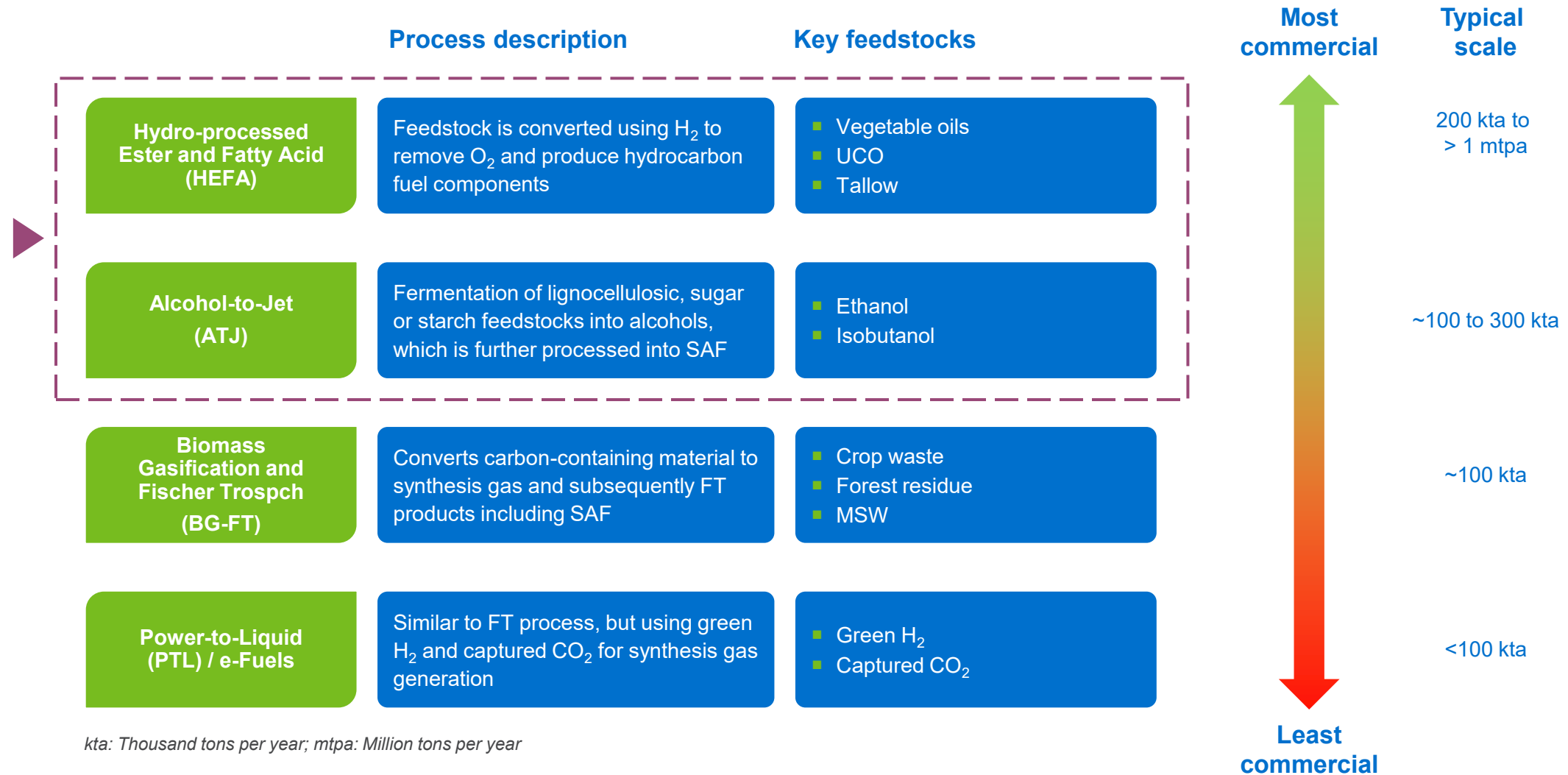


Source: NexantECA analysis; based on Business-As-Usual scenario – current and announced policies, projected rate of technology advancement and includes speculative capacity additions; blend rate by weight

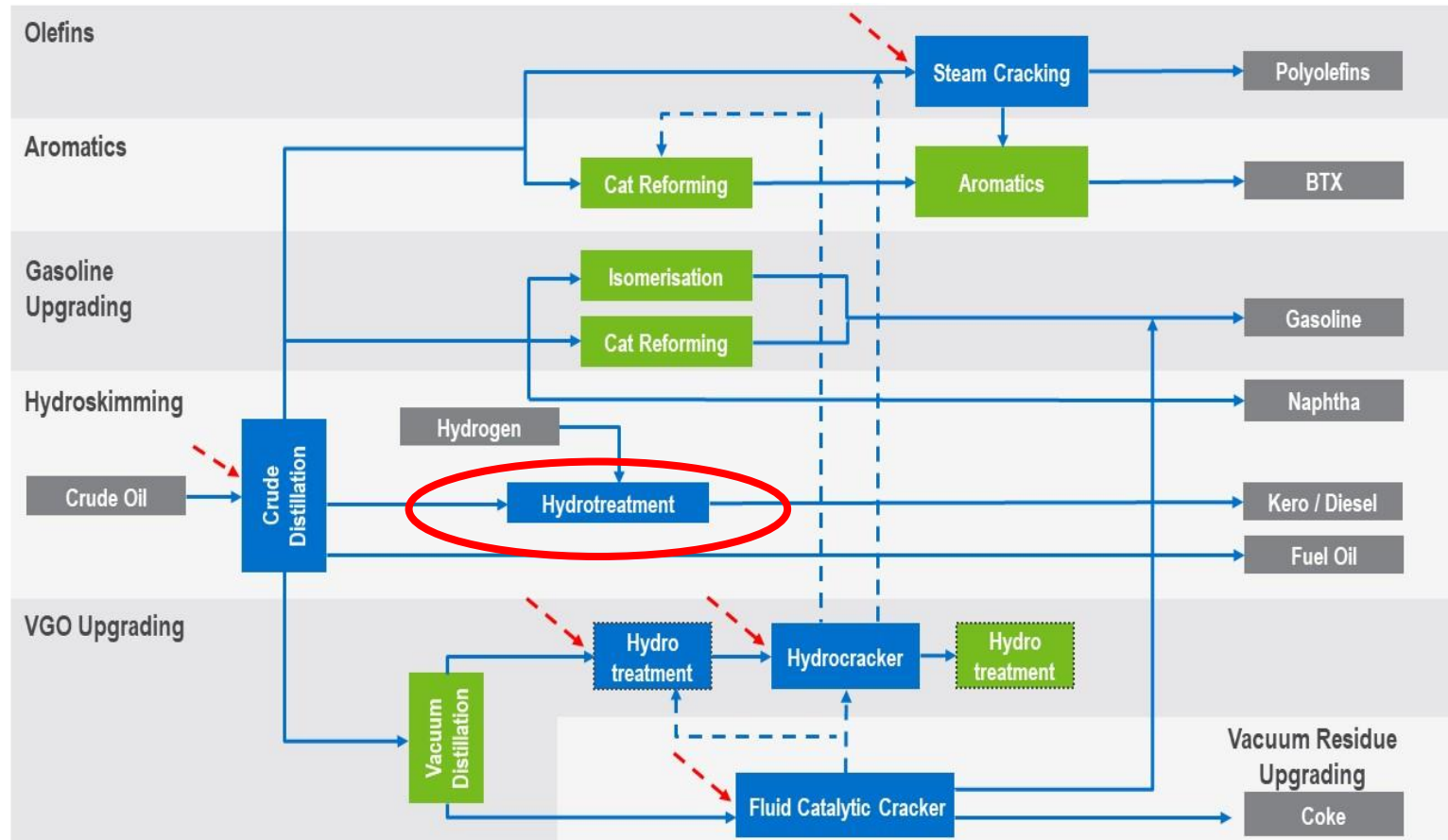
**SAF to account for ~20% of global jet fuel demand by 2050, equivalent to 90 million tons.  
This demand will still be short of IATA's 350 million tons goal by 2050, indicating strong potential for growth.**



# SAF production technologies are developing but remain focused primarily on HEFA, and to a lesser extent ATJ



# Some refiners have also adopted co-processing for SAF production, most commonly undertaken in hydrotreaters



## Co-processing in Asia Pacific

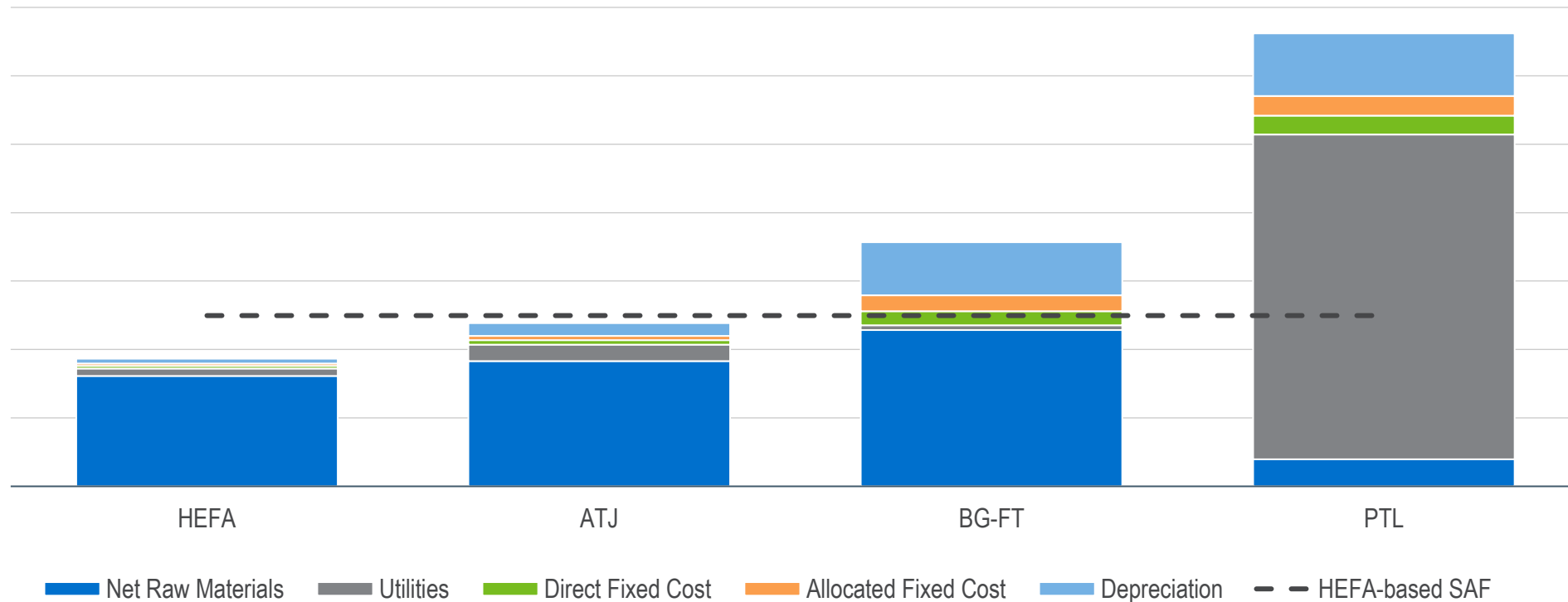


With several others expected in the near term

*Alternative insertion points include crude distillation unit, hydrocracker, fluid catalytic cracker but limited by considerations such as stream properties, renewable component tracking amongst product components etc*

# Currently, only HEFA and ATJ are economically viable. Alternative routes e.g. PTL require additional policy support

Western Europe Cost of Production, per ton SAF basis  
(2024, Indicative)



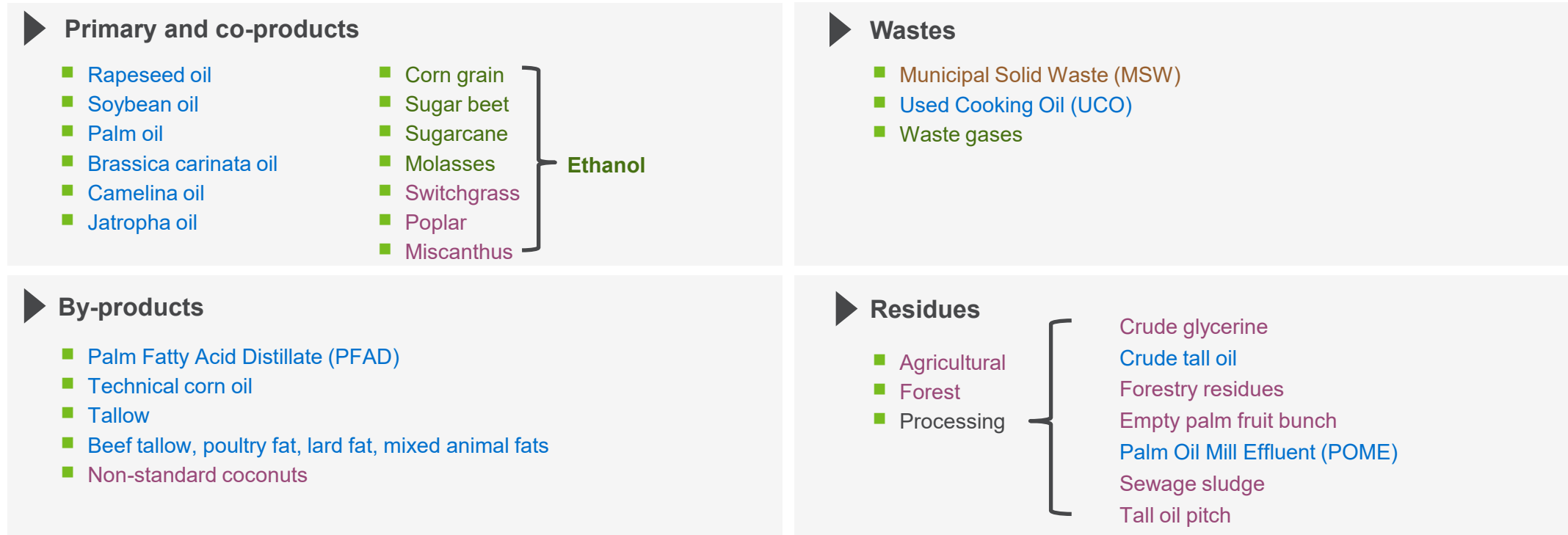
300 kta SAF capacity

HEFA: UCO; ATJ: 1G ethanol; BG-FT: woody biomass; PTL: renewable power from offshore wind and biogenic carbon source, assuming FT technology

**Feedstock account for majority of SAF production costs,  
except for PTL which is dependent on the economics of renewable power**

# SAF feedstocks are diverse, but are focused on waste due to lower carbon intensity (CI) values, which could become a future limitation

## Key feedstocks listed under CORSIA's framework



Key pathway type: *HEFA* / *ATJ* / *BG-FT* / *Multiple*

**Availability is a crucial consideration**  
**All feedstocks need to be certified to prove sustainability**

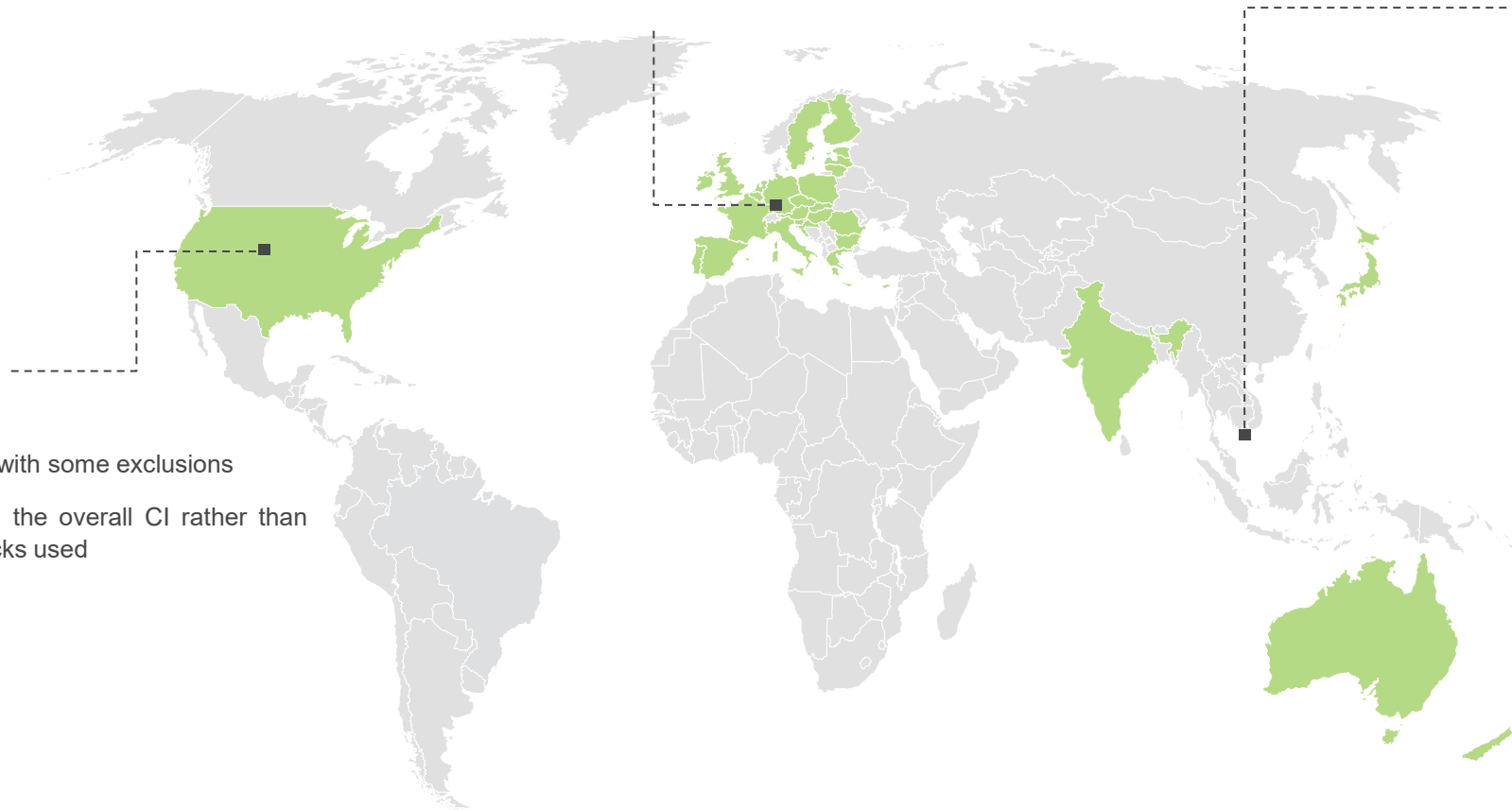
# The EU restricts the use of food and feed crops for SAF production, while the rest of the world appears more feedstock agnostic at present



- SAF produced from food and feed crops ineligible to count towards EU SAF mandates
- ATJ developments mainly focuses on cellulosics / waste-gas based



- Feedstock neutral, with some exclusions
- Focuses mainly on the overall CI rather than the type of feedstocks used

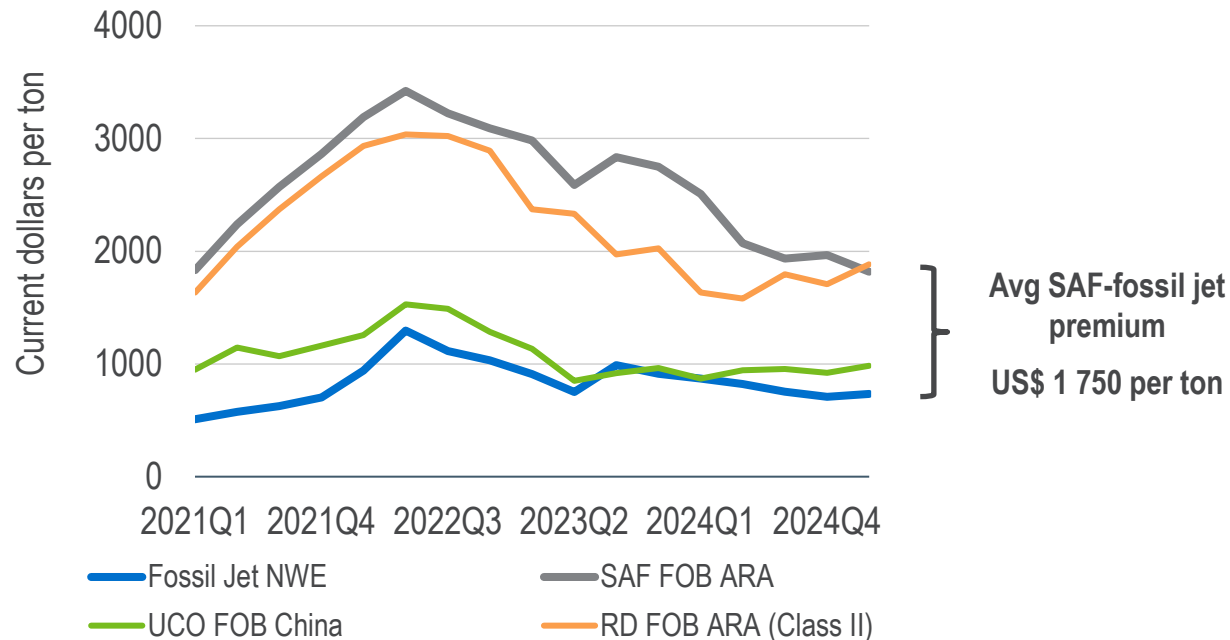


- Japan ATJ: 1G ethanol (sugarcane-based) from Brazil
- Australia and New Zealand: waste gases as input for ethanol production

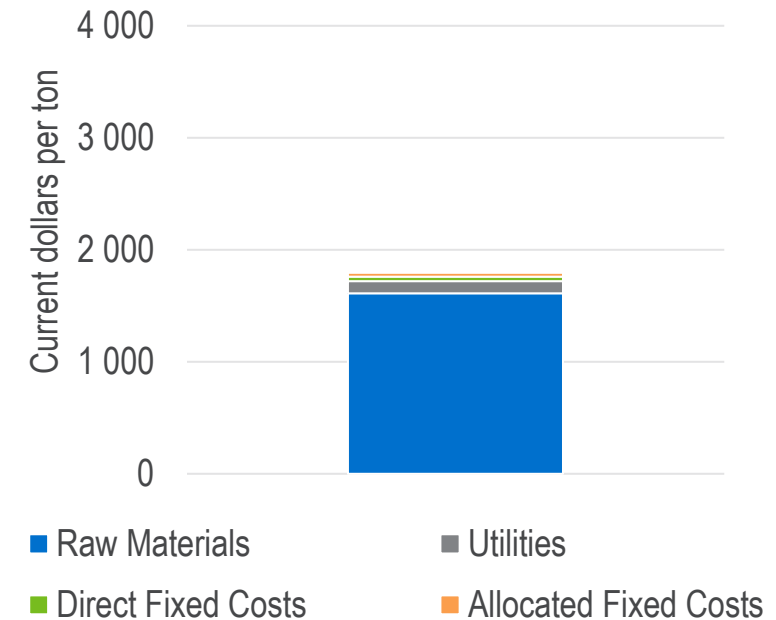
***Most HEFA plants in Asia Pacific are based on waste feedstocks e.g. UCO, POME, inedible animal fats***

# SAF pricing is currently around 2-3 times that of conventional jet fuel, with adoption supported by policies, recognising limited availability

Historical pricing of SAF versus fossil jet in North West Europe (NWE)



Indicative Cost of Production for Max Jet HEFA Configuration\* - UCO feed, NWE (2024)



\* Excluding credit impact, assuming internal recycle of Renewable Naphtha & Renewable LPG

**SAF premium over fossil jet is subject to volatility in feedstock prices, shifting government policies and technology advancement**



## SAF provides a commercially proven solution today to support energy transition



**Global SAF market remains nascent at 1 mtpa in 2024, with strong projected growth through to 2050.**  
*Asia Pacific at the forefront as a key exporter to Europe, with increasing policy adoption within the region*



**Availability for certified, waste-based feedstocks may become limiting**  
*Feedstock sourcing, quality, supply chain much more fragmented vs conventional oil, with shorter terms*  
*All types of SAF pathways will be required to meet net zero targets*



**Pricing remains subject to considerable uncertainty due to limited traded volumes**  
*Highly dependent on government policy, feedstock price volatility, etc.*