PETRONAS

Chemicals Outlook:
2025 and Beyond

"Charting a Path Through Uncertainties"

22 January 2025

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Overall Chemicals Outlook – 2025 and Beyond

Nawaree Suvanmani
Specialist,
Downstream Strategic Research,
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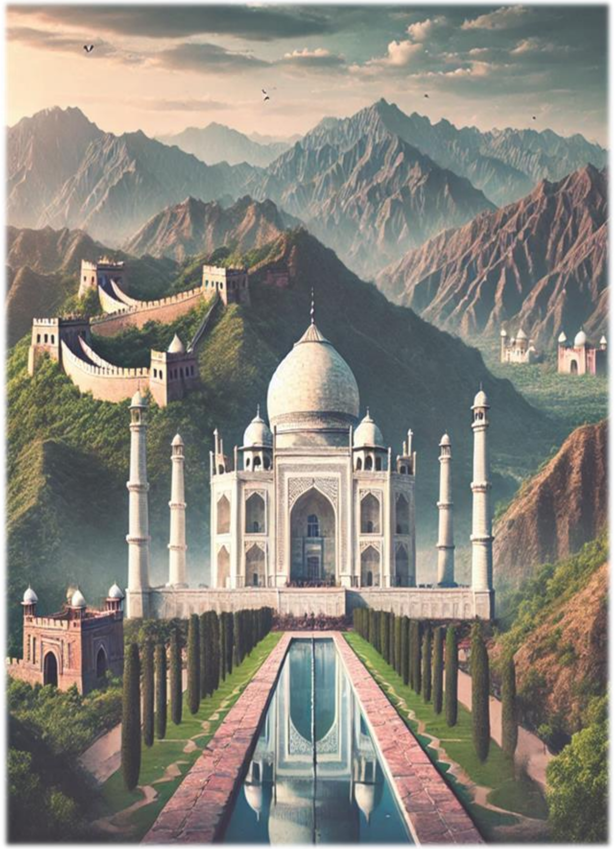
2025 will be shaped by an intensifying geopolitical landscape and a more protectionist world, resulting in a prolonged economic strains and challenging business landscape

Trump's return to the White House signals a foreign policy shift, intensifying pressure on adversaries, allies, markets and global institutions

The era of global isolationism is marked by rising trade barriers, tit-for-tat tariff wars, worsened by the rising sway of oligarchs in key economies

Higher-for-longer interest rates expose vulnerabilities to fiscal sustainability and business margins

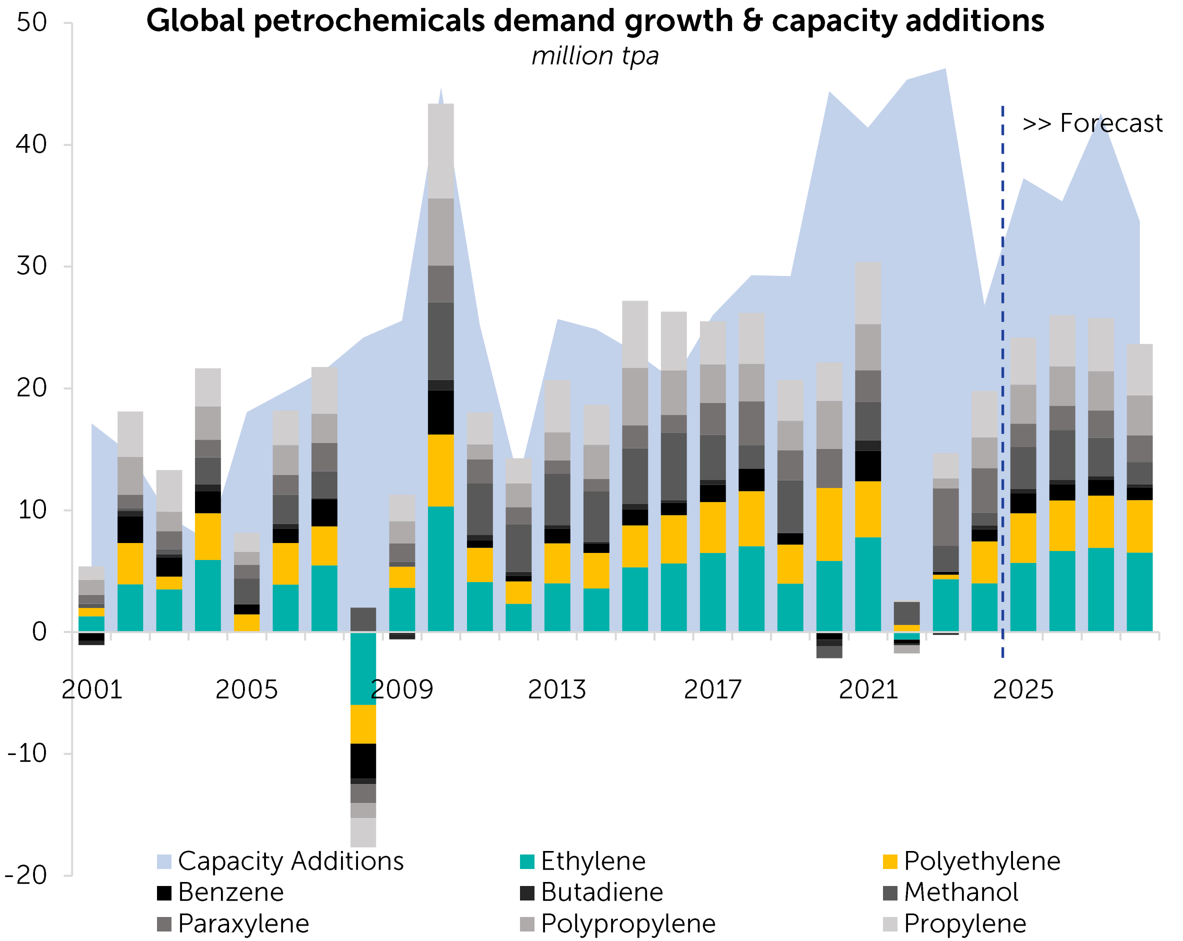


China's growth will be fueled by stimulus measures, despite US tariff concerns, while India's growing influence and middle class will drive consumption

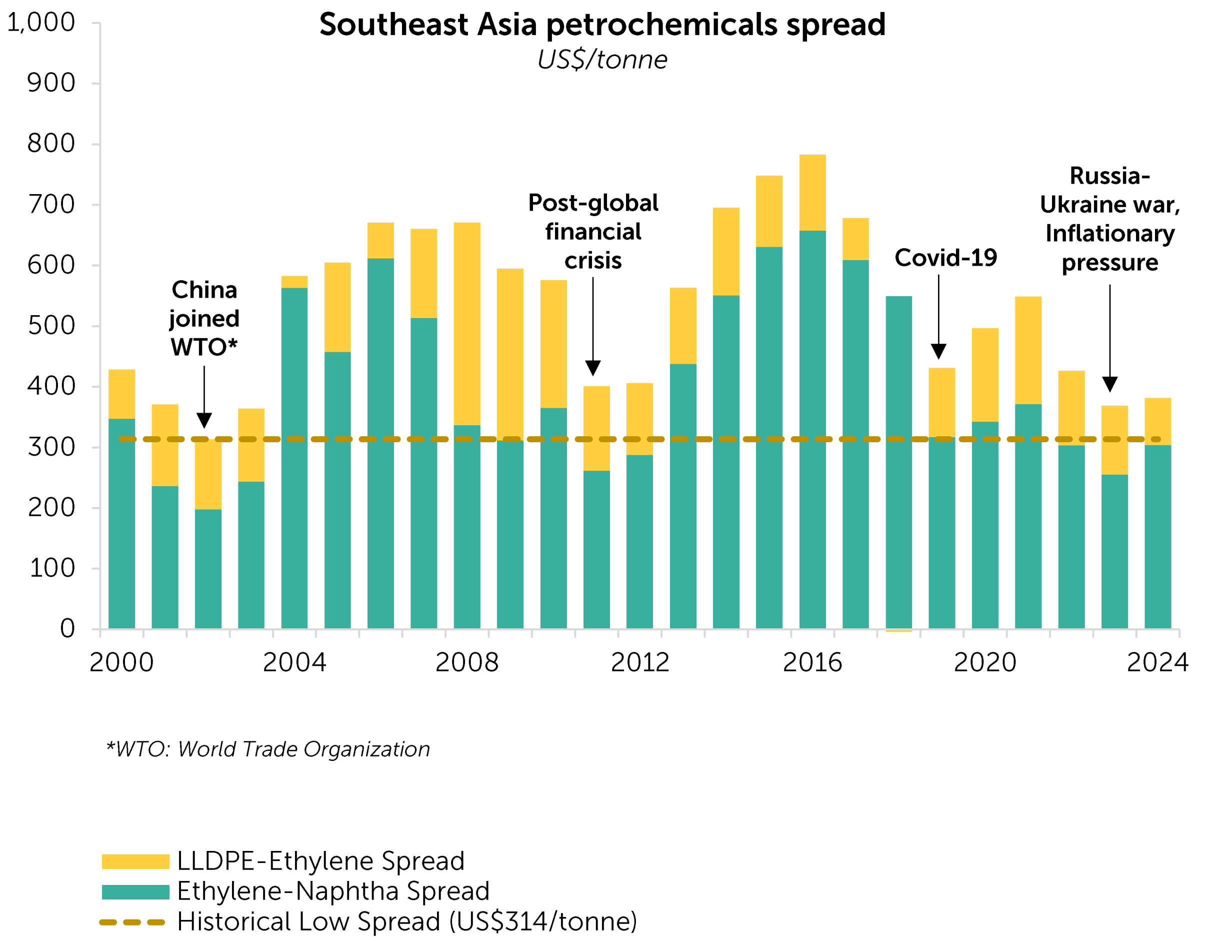
Source: SR analysis

In the chemicals sector, weak demand and overcapacity continue to weigh on margins

Global petrochemical products are expected to remain in oversupply in 2025, even as demand begins to recover



Southeast Asia LLDPE-ethylene-naphtha integrated spread is anticipated to remain in a trough in 2025



*WTO: World Trade Organization

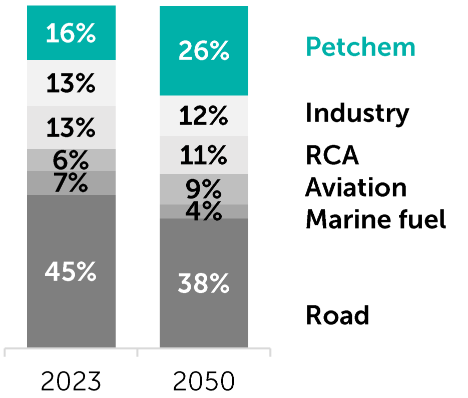
Source: CMA, S&P, SR analysis

Asia remains the global leader in the chemical market, though rising tariffs pose challenges

Global petrochemicals market will continue to struggle with overcapacity, of which capacity additions expected to exceed the demand growth by ~50% in 2025

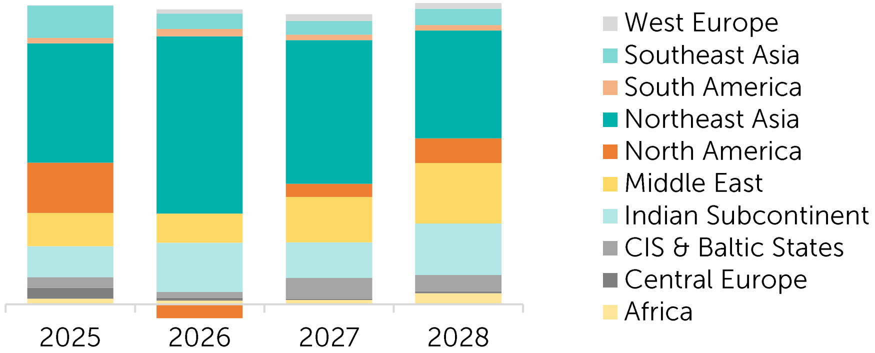
The state of the global petrochemicals market in 2025

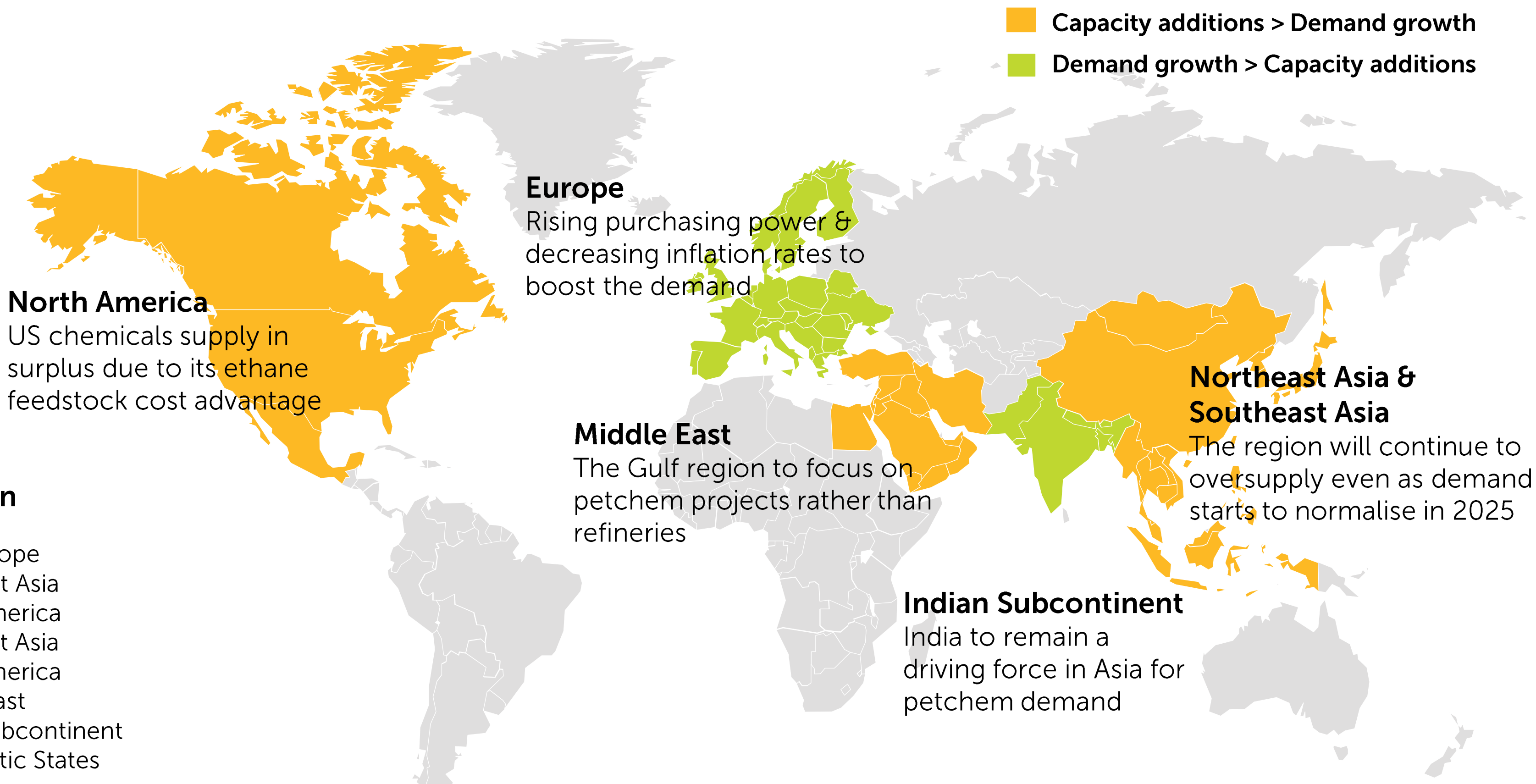
Global petroleum products share



Note: RCA refers to residential, commercial & agriculture

Global Petrochemicals Demand Growth by Region



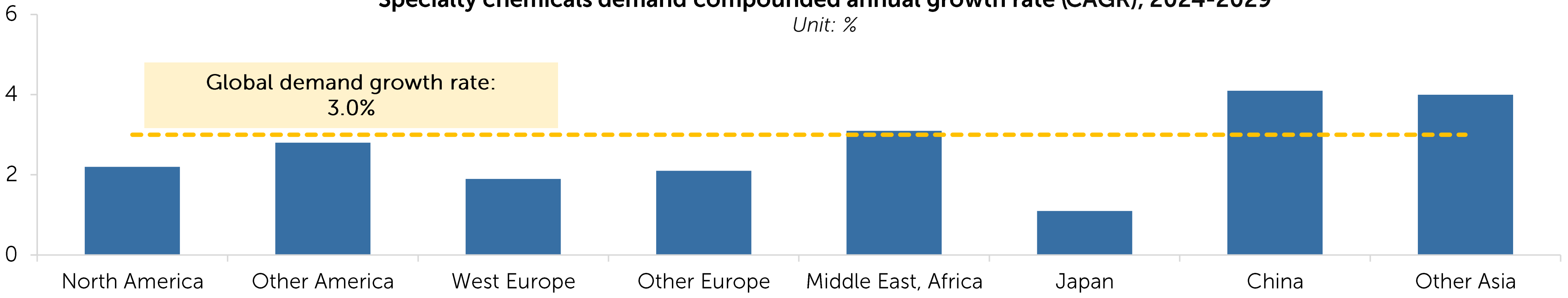


Note: Capacity additions and demand growth of petchem products calculated include benzene, butadiene, ethylene, methanol, paraxylene, polyethylene, polypropylene & propylene

Source: CMA, S&P, SR analysis

In this challenging environment, portfolio transformation continues as companies rationalise their businesses and focus on survivability

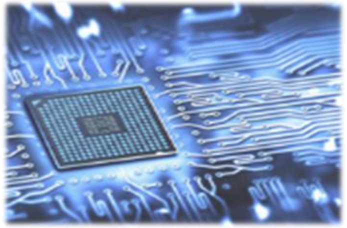
Demand for specialty chemicals is expected to grow of which Asia Pacific, particularly China provides the biggest growth potential



Growing population and rising middle-class income will further boost demand for high growth specialty chemicals segments

Top 5 segments of specialty chemicals, CAGR 2024-2029

Electronic chemicals	Nutraceutical ingredients	Coatings, radiation curable	High-performance thermoplastic	Surfactant
CAGR: 5.4%	**CAGR: 4.0%**	**CAGR: 3.8%**	**CAGR: 3.7%**	**CAGR: 3.5%**



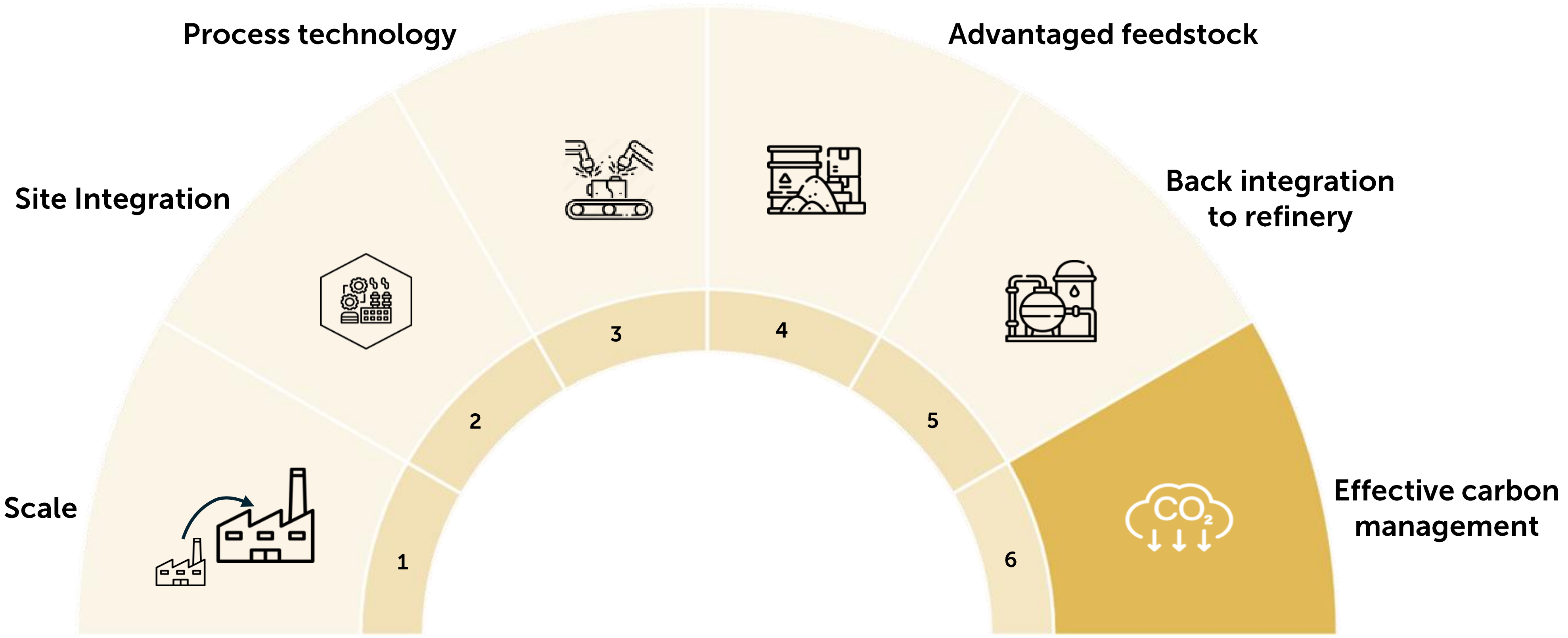


Source: S&P, SR analysis

Meeting sustainability targets is increasingly important for hard-to-abate sectors such as chemical sector …

As environmental regulations get more stringent, effective carbon management is critical for new investment decision

Key drivers in downstream investment decisions



Source: SR analysis

... requiring a mix of mature and novel process technologies, as there is no one-size-fits-all solution

Pathways to greening the chemical facilities

E-CRACKER

90%

emission reduction in Scope 1 and 2 compared to conventional crackers

- High costs
- Requires affordable & renewable electricity
- Scalability issue
- Skilled labour

NUCLEAR REACTOR

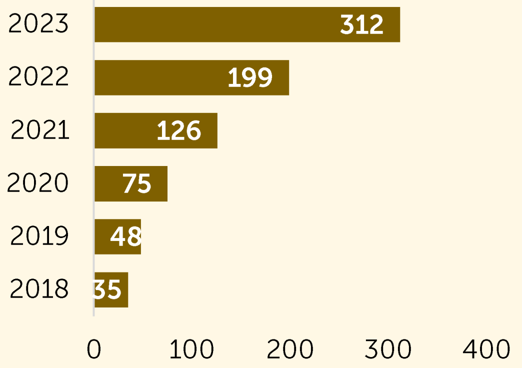
40-70x

emission reduction by using small modular nuclear reactor, SMR, compared to natural gas & coal

- High costs
- Safety concerns
- Waste management
- Supply chain constraints

CCS

Capture capacity of CCS projects
mtpa CO_2

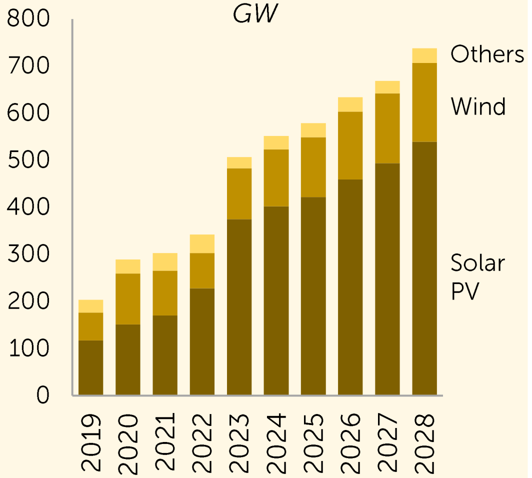


Source: Global CCS Institute

The NETR outlines plans to develop 3 CCS hubs by 2030, with a carbon storage capacity of up to 15 million tpa

RENEWABLES

Renewable electricity capacity additions by technology
GW



Source: IEA

Note: Others refer to concentrated solar power, geothermal and tidal

2.5x

increase in global capacity from current level by 2030

NETR: National Energy Transition Roadmap

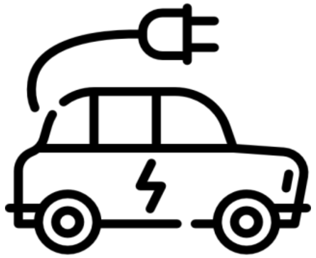
Source: S&P, Wood Mackenzie, Chemical Week, SR analysis

As energy transition accelerates, this lays out a staircase of opportunities for the chemical sector

With more pervasive and stricter emission reduction policies, as well as more ambitious climate targets, clean energy technologies are set to become the fastest-growing segment of demand for most advanced materials and chemicals

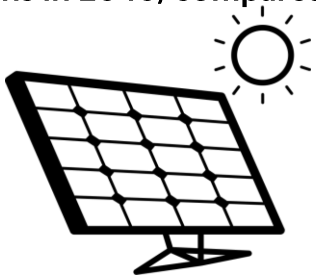
ELECTRIC VEHICLE

25x global EV sales in 2040, compared to 2020



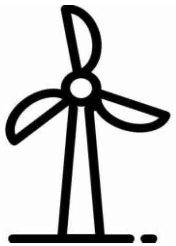
SOLAR PANEL

3x global solar PV capacity additions in 2040, compared to 2019



WIND TURBINE

3x increase of annual capacity installations for wind by 2040, from 2020 level



Chemical players, mainly from Europe and China, are fast placing big bets on energy transition technologies

Major producers of global EV plastics

BASF – We create chemistry
Dow
covestro
EVONIK – POWER TO CREATE
PLASTIC OMNIUM

Major producers of solar PV films

TORAY – Innovation by Chemistry
LG Chem
سابك sabic
DUPONT
MITSUBISHI POLYESTER FILM
BASF – We create chemistry
HENGLI

Major producers of wind turbine materials

covestro
SINOPEC
MITSUBISHI CHEMICAL CARBON FIBER AND COMPOSITES
ARKEMA
DUPONT
TORAY – Innovation by Chemistry

Source: IEA, S&P, PCG, SR analysis

Key Messages

- Global petrochemicals market struggles with **overcapacity**, suppressing margins for chemical producers.
- **Asia** remains the **global leader** in the chemical market, driven by a growing middle-income class, rising urbanisation and industrialisation.
- A growing population and rising middle-class incomes will continue to drive **demand for high-growth specialty chemicals** segments.
- The **main decarbonisation pathways** for downstream sector facilities, alongside the defossilisation of chemical feedstocks, include electrification, SMR, CCS and the use of renewable energy in refining and chemical processes.
- The energy transition is generating a wave of **manufacturing activity that depends on chemicals** and materials for support.

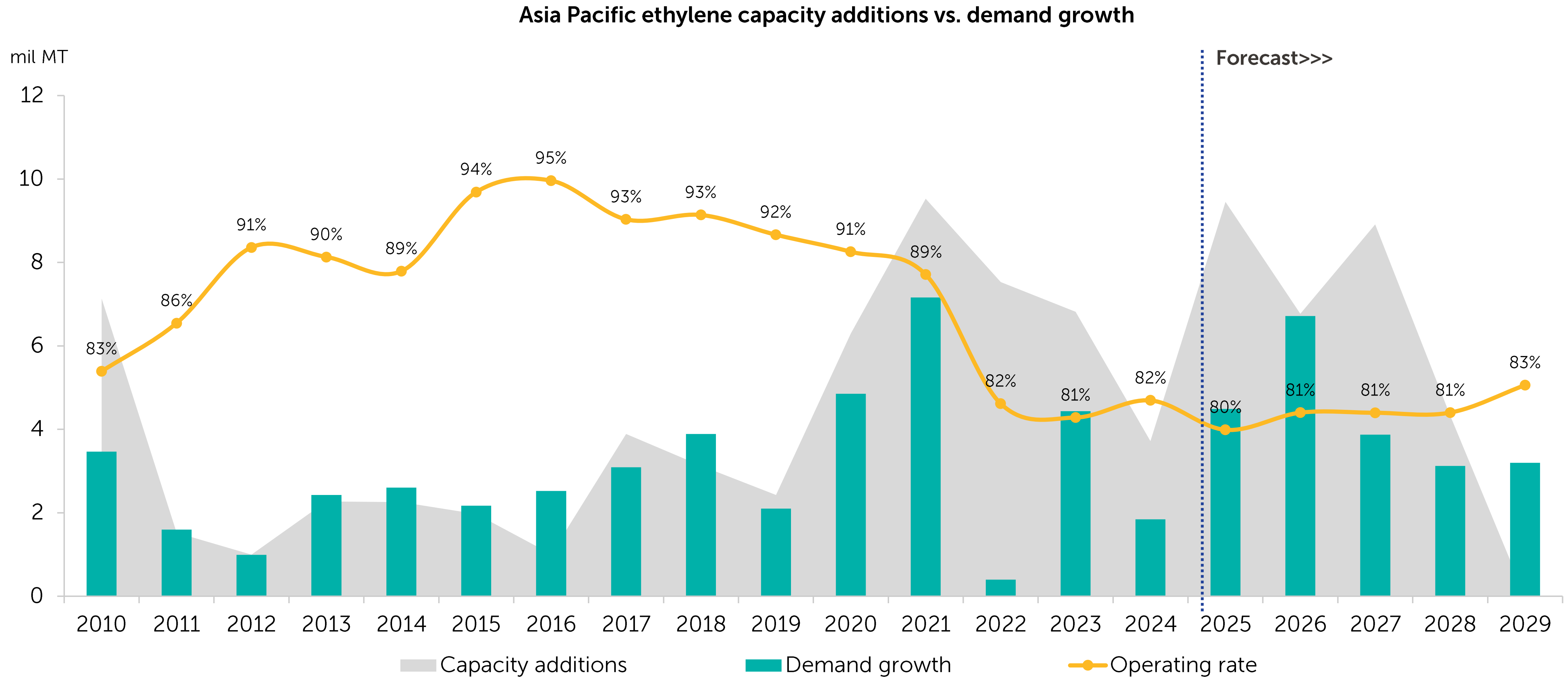
PCG Key Products Outlook

Sarizal Amir
Head,
Business Analysis & Market Research,
PCGB

Ethylene

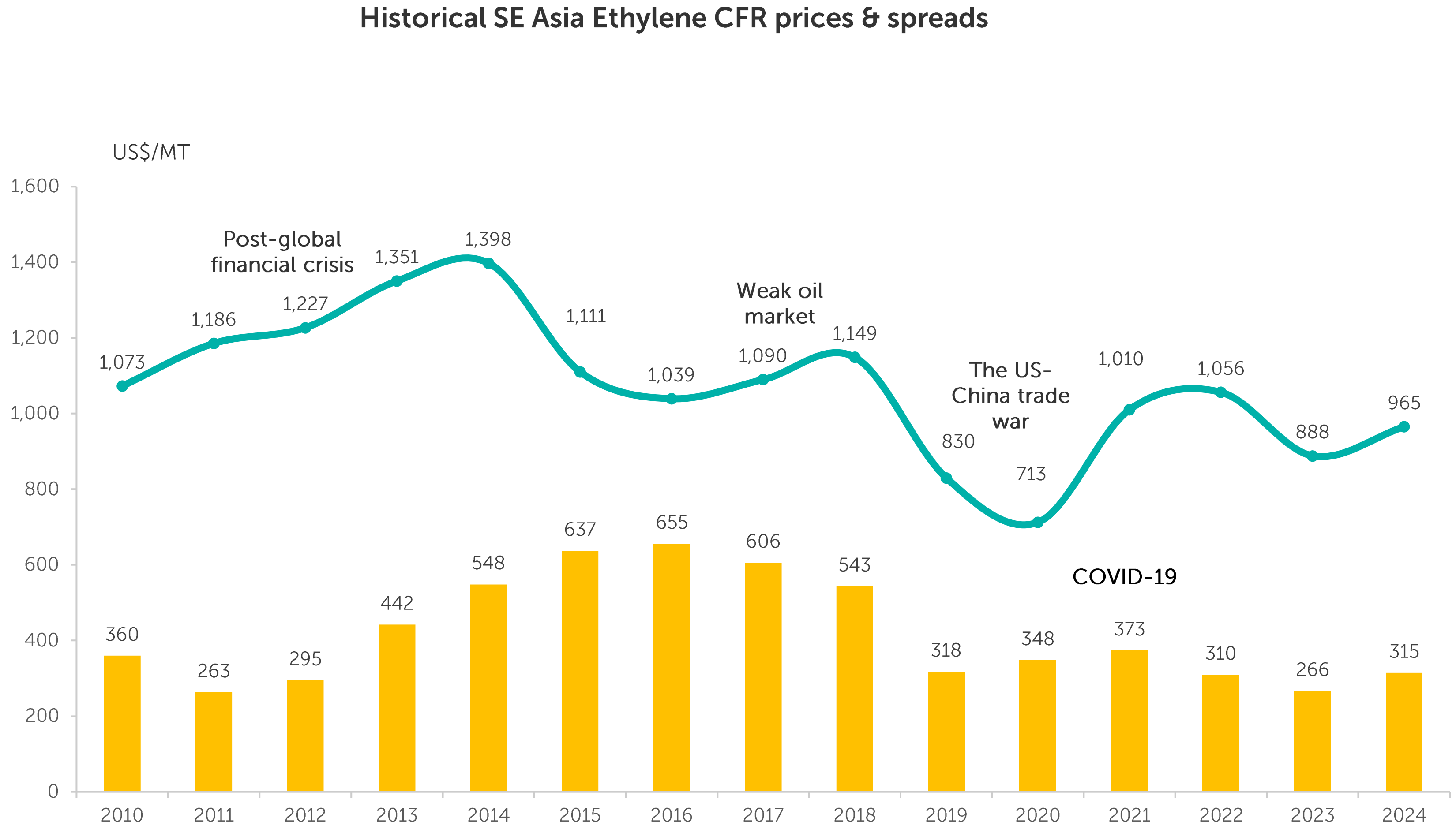
Ethylene operating rates have been on a downtrend due to capacity expansions in the US and China

Ethylene market in 2025 is expected to remain in oversupply with moderate demand growth throughout the forecast period



Source: S&P Global Commodity, CMA, Team Analysis

Despite expected demand recovery, spread will continue to be pressured by massive capacity expansion



MARKET OUTLOOK

Asia Pacific will continue to face **deficit** of ethylene until 2029

Rapid capacity expansions have turned North America into a **large exporter**

Capacity expansions in Asia Pacific to increase in 2025

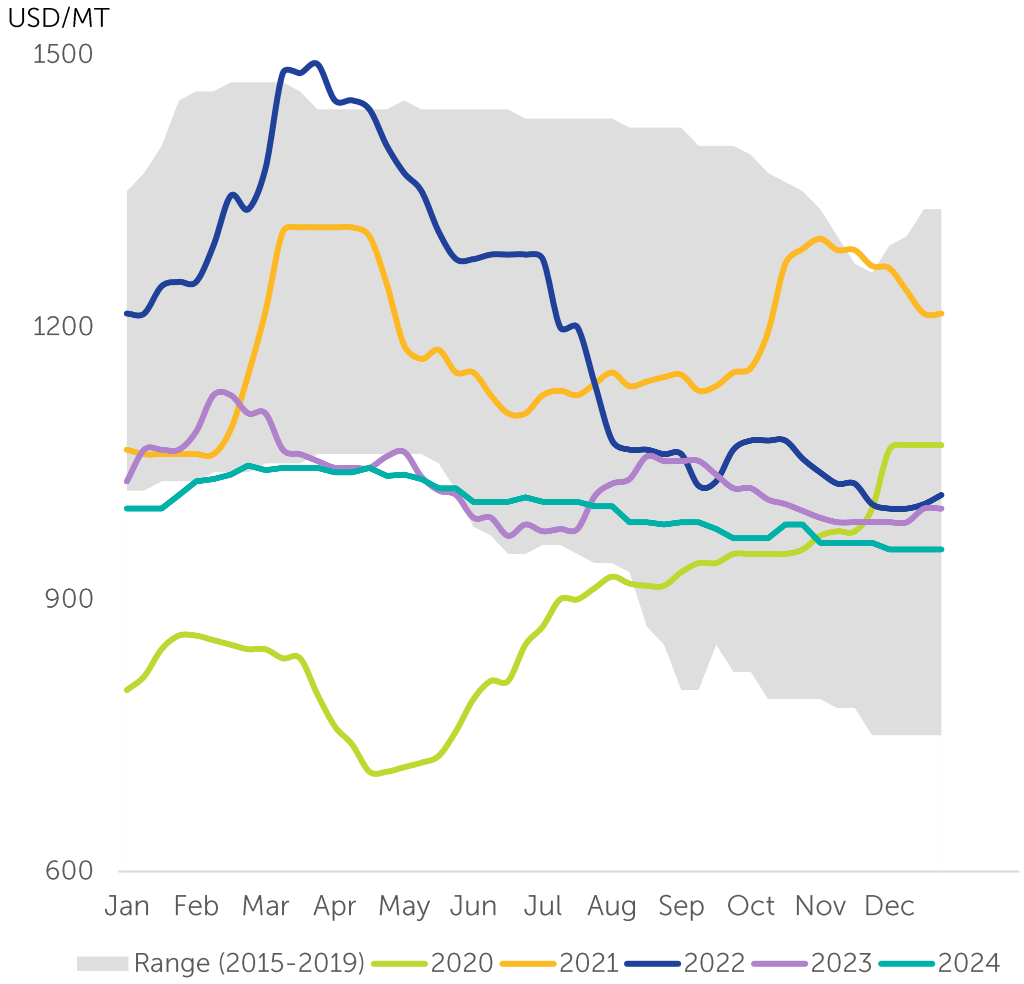
Asia Pacific's ethylene demand in 2025 is expected to grow at a **higher rate** compared to 2022-2024

Source: S&P Global Commodity, Platts, CMA, ICIS, Team Analysis

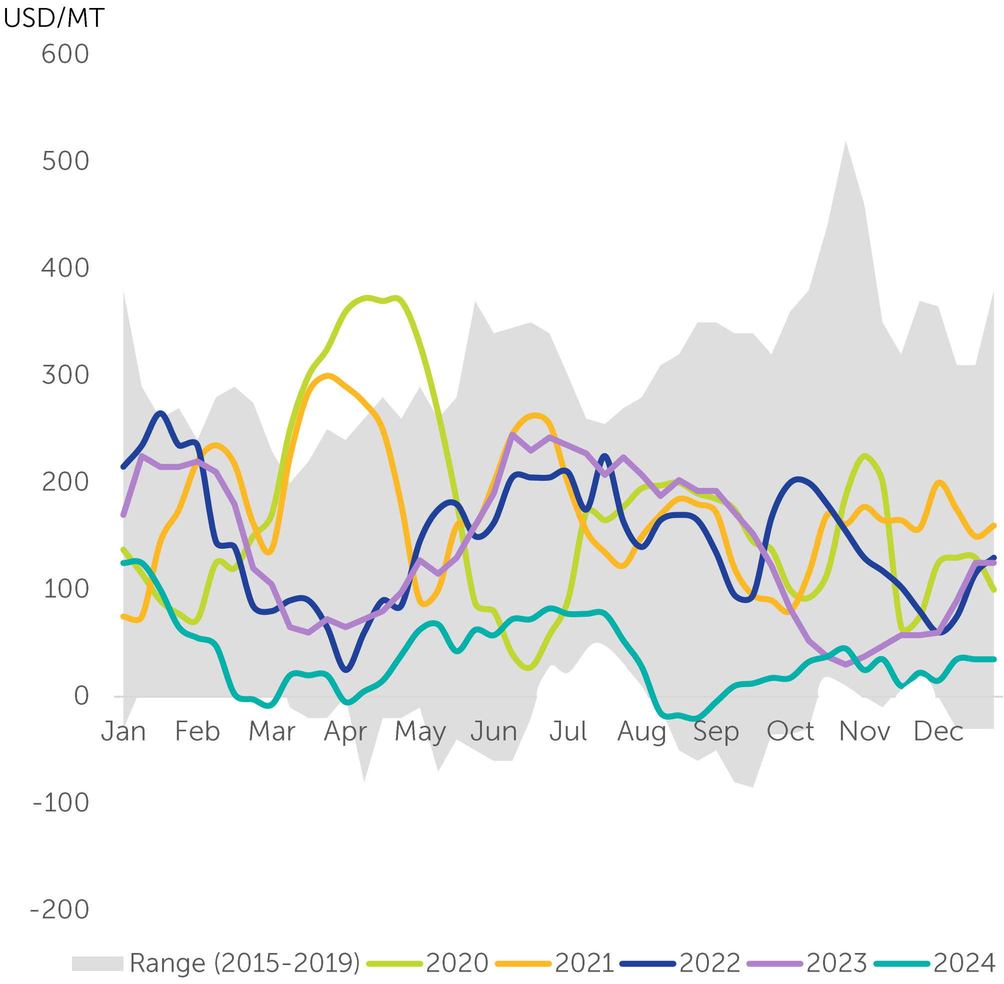
Polyethylene

In 2024 polyethylene price and spread fell to the lower level of historical range due to weak demand amidst increased supply

Polyethylene price (CFR SEA)

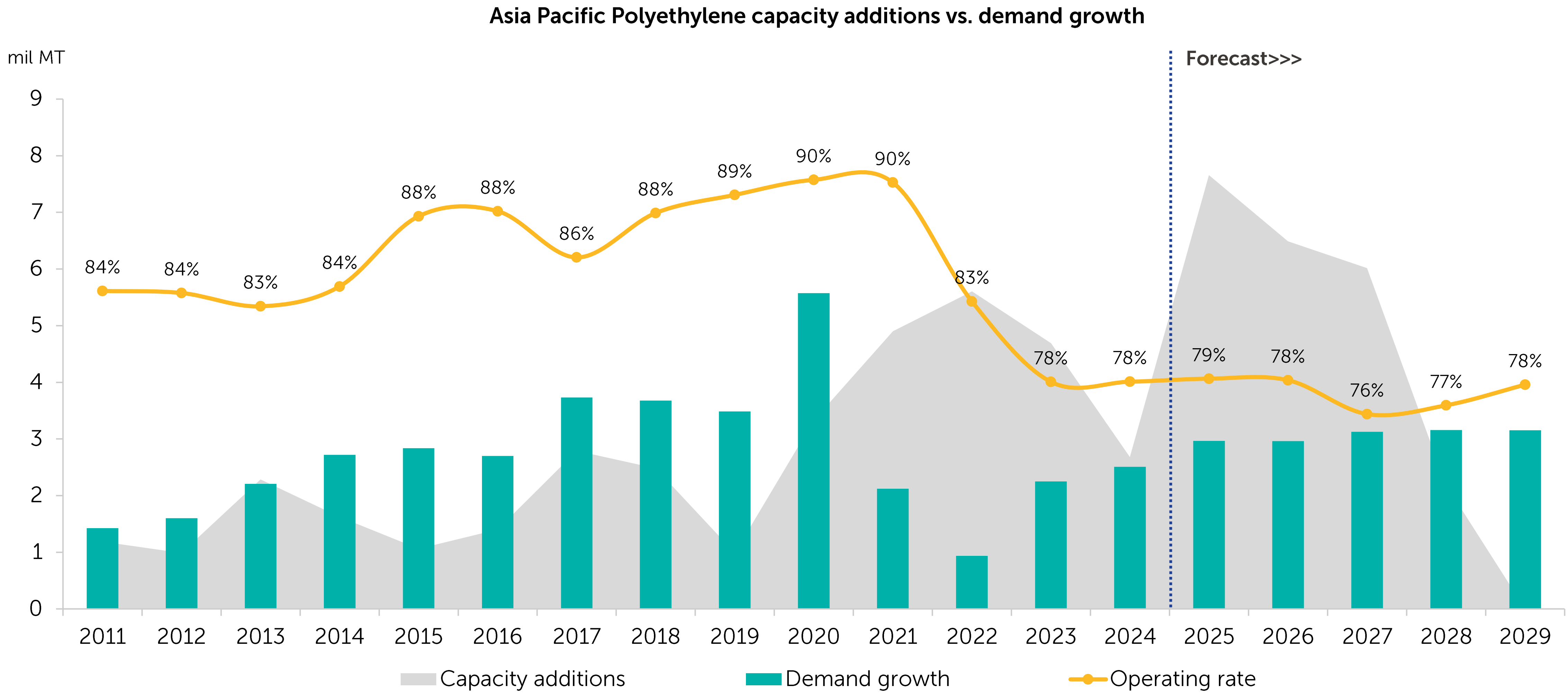


Polyethylene spread



Source: Platts, ICIS, Team Analysis

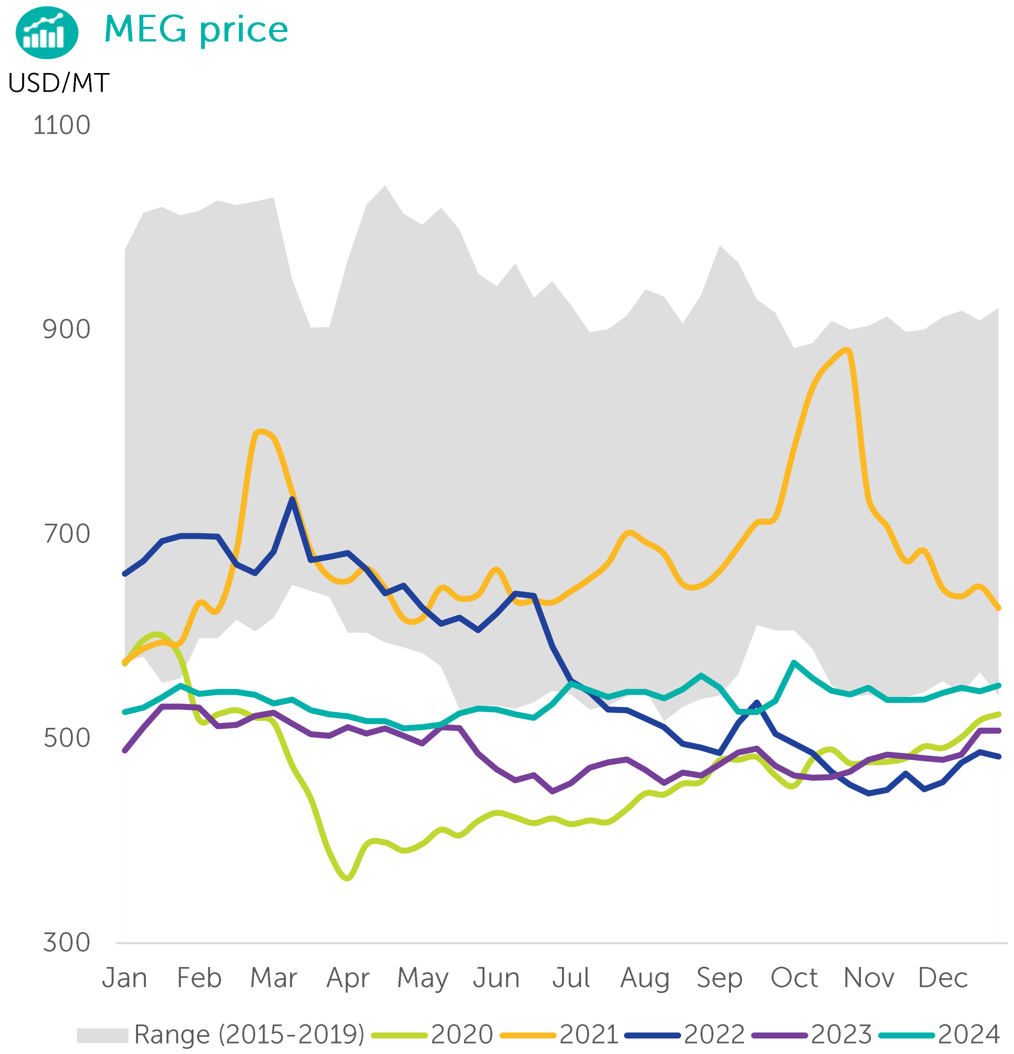
A wave of capacity additions will suppress polyethylene operating rates until end of the decade

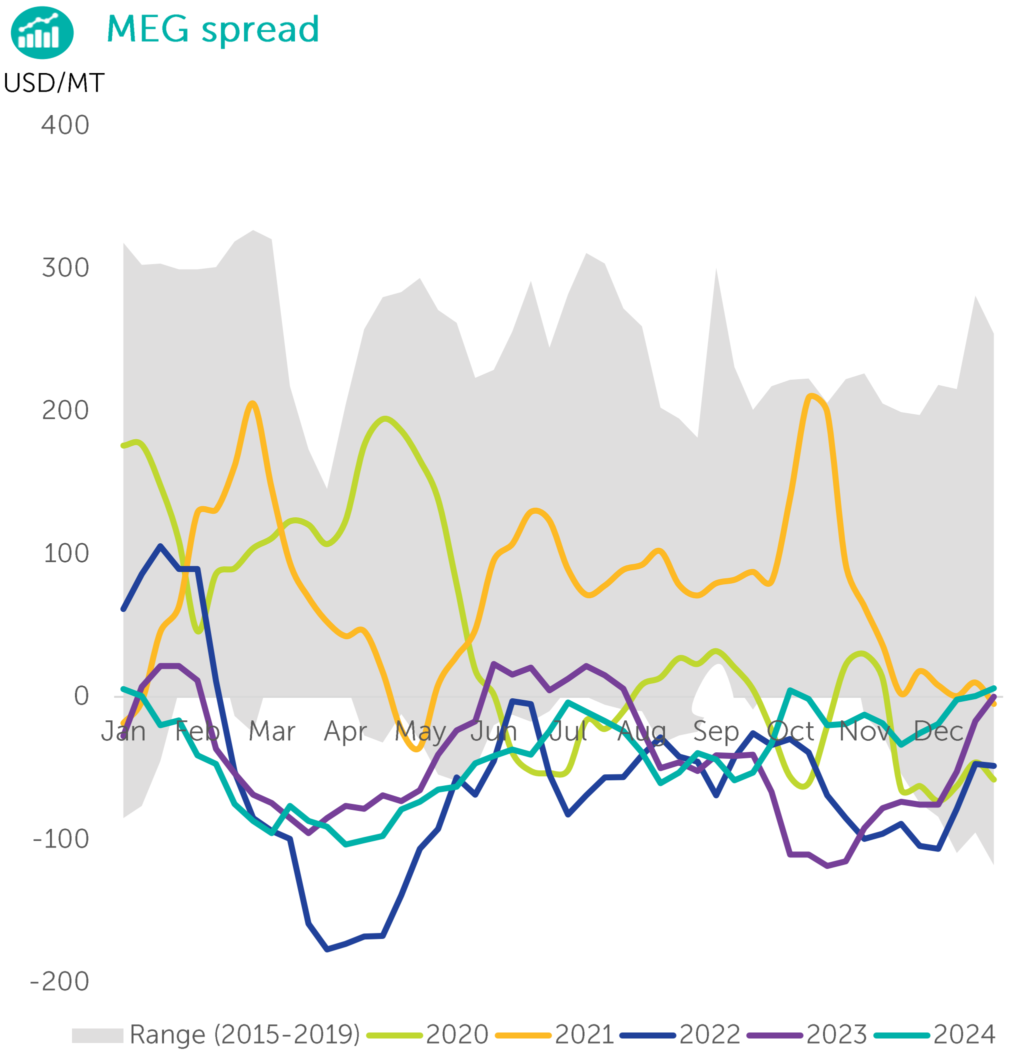


Source: S&P Global Commodity, CMA, Team Analysis

MEG

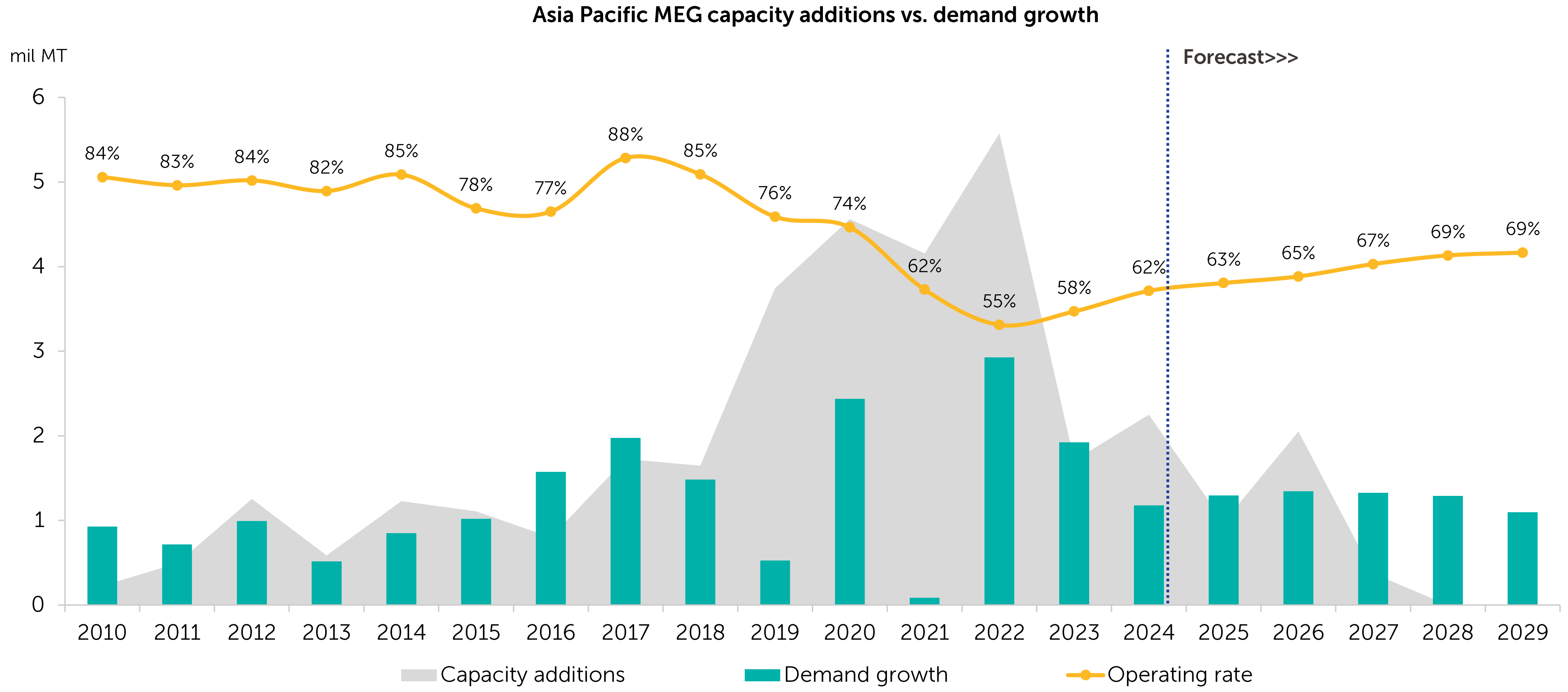
MEG price and spread maintained below historical range in 2024 due to lackluster demand





Source: Platts, ICIS & Team Analysis

The significant increase in capacity expansions is likely to keep MEG operating rates subdued throughout forecast period



Source: S&P Global Commodity, CMA, Team Analysis

Methanol

2024 Recap: Production constraints kept prices stable despite weak demand

Recap of 2024 – Production constraint but weak demand persist

Lower feedstock costs

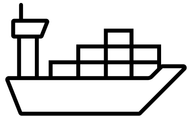
Lower natural gas cost

Lower coal price

Production constraints due to geopolitical tension:

Dropped in Russian supplies

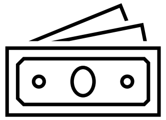
High EU feedstock prices



High logistic cost due to ME tension

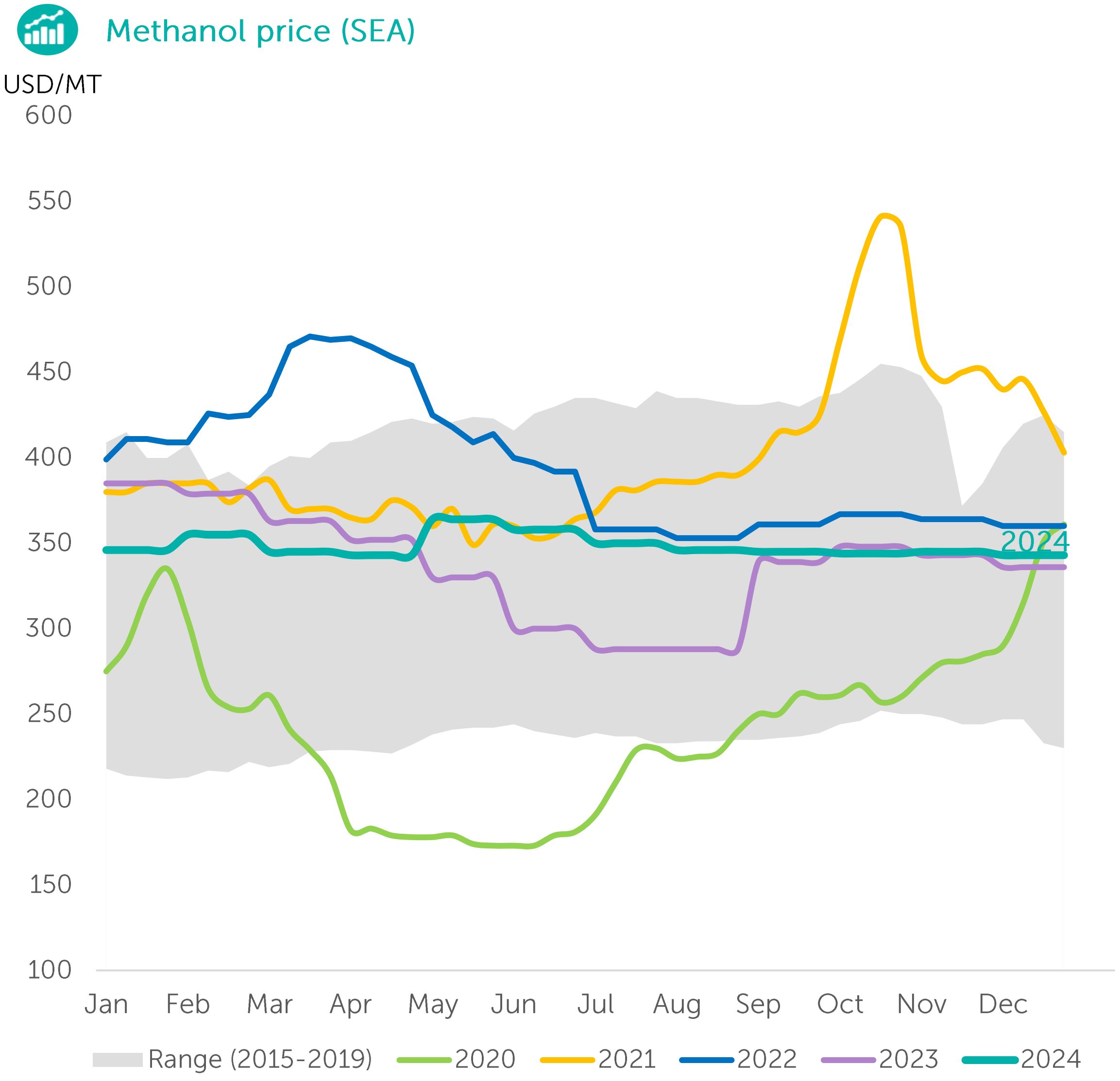
Demand is weaker than expected

Post COVID: China's recovery slower than expected



Weaker demand due to economic headwinds – inflation, interest rate, consumer confidence

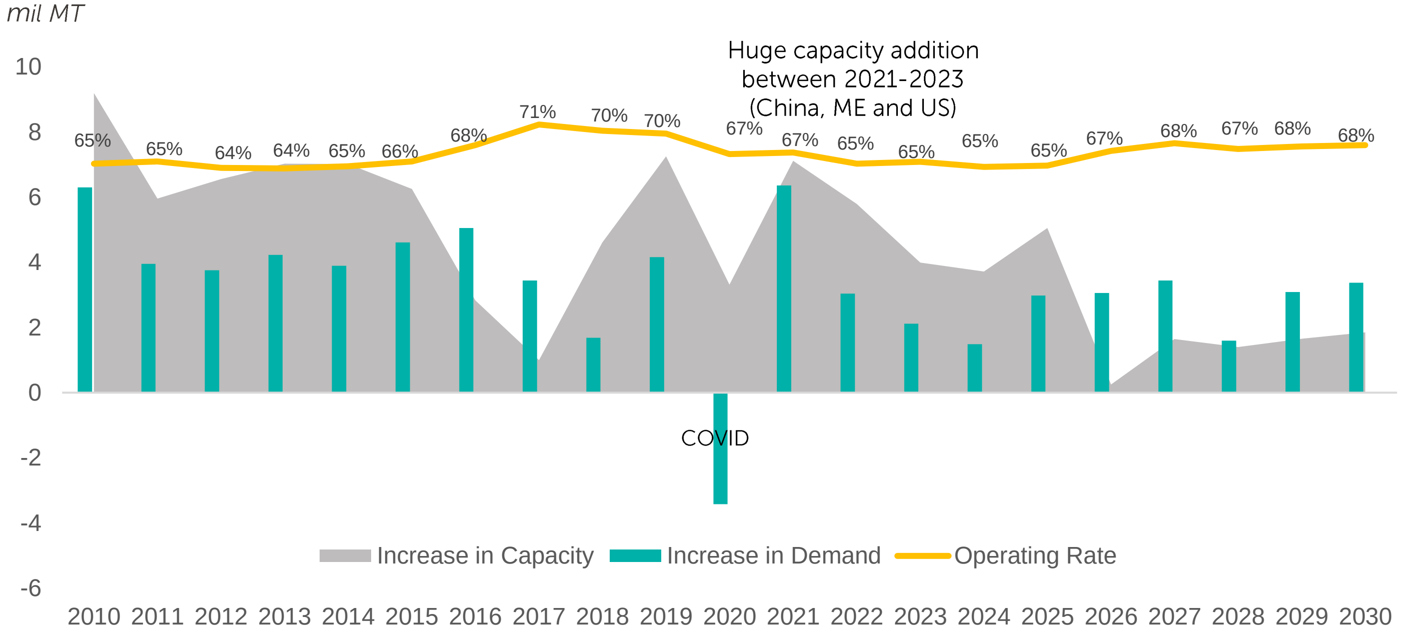
Methanol price (SEA)



Source: MMSA, CMA, ICIS, Team Analysis

Future methanol capacity additions will be considerably lower than in the past decade

Global capacity additions vs. demand growth



Global Methanol capacity addition 2024 – 2028:

Year	Country	Asset Name	Capacity (kmt)
2025	Iran	Dena Petrochemical Co.	1,650
	US	Methanex Methanol	1,800
2027	Iran	Siraf Energy Investment	1,650
2028>	US	Big Lake Fuels	1,400
	Nigeria	Brass Fertilizer Company Ltd.	1,660

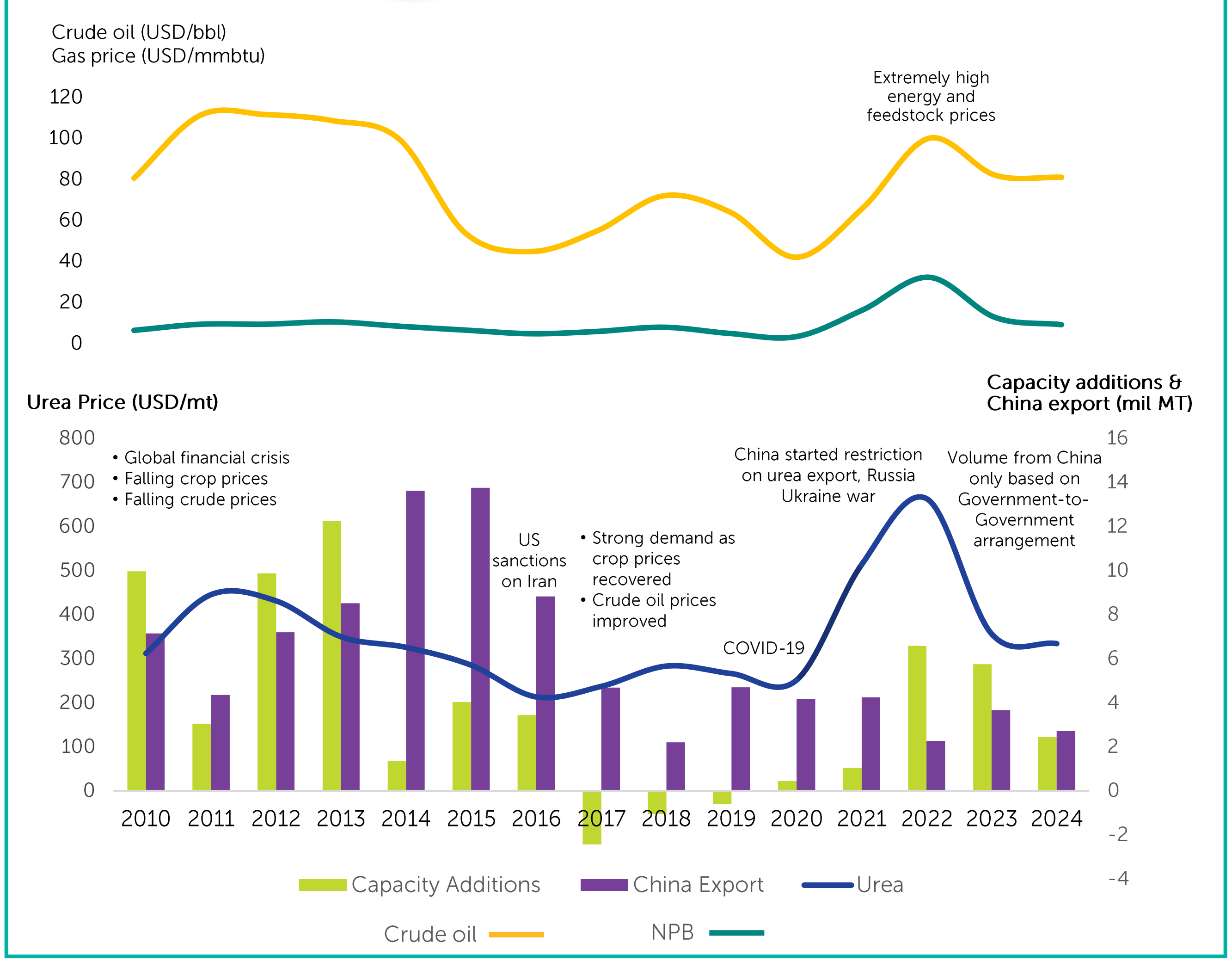
Source: S&P Global Commodity, CMA, Team Analysis

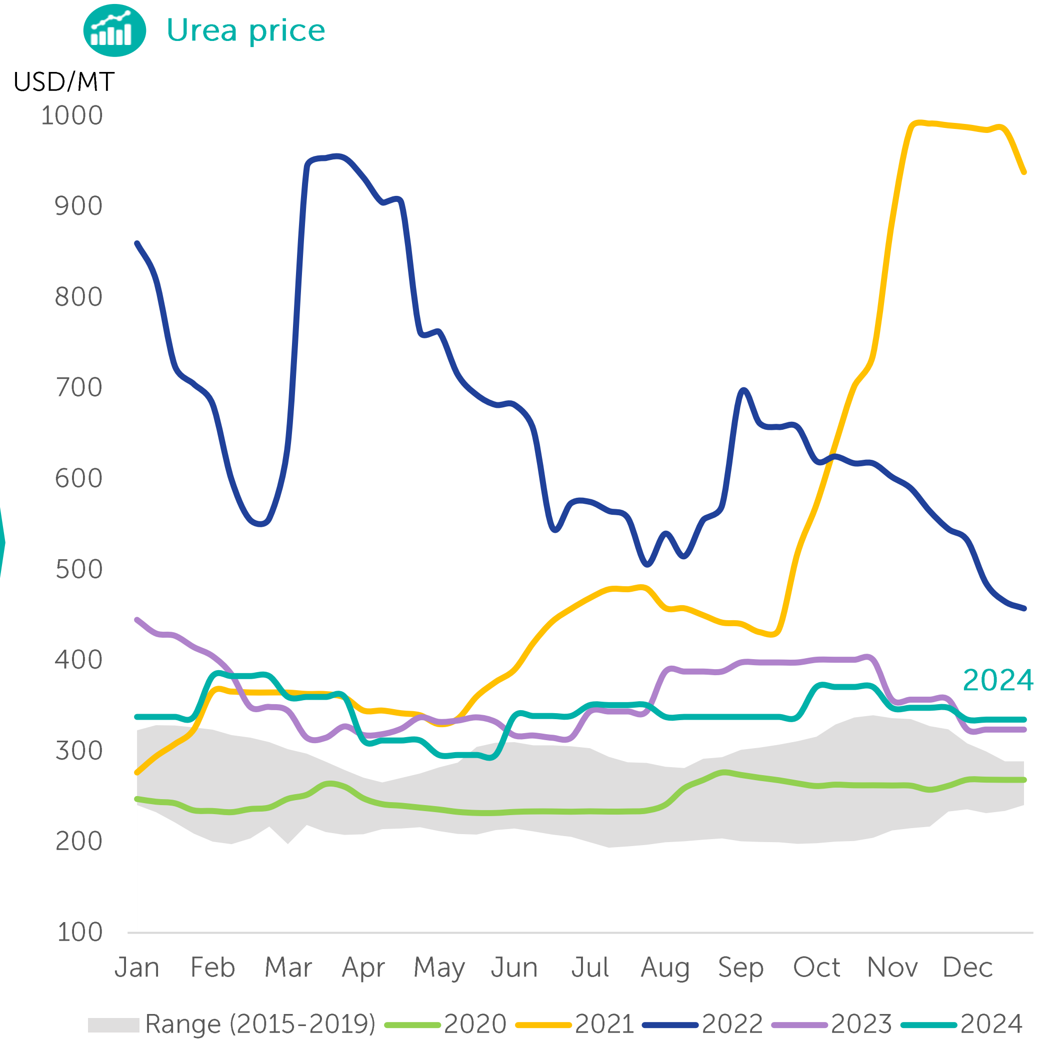
Internal

Urea

Urea prices continue to stabilize recovering from downward trajectory as weak demand and supply overhang kept prices under pressure

Crude oil, urea, China export and capacity additions

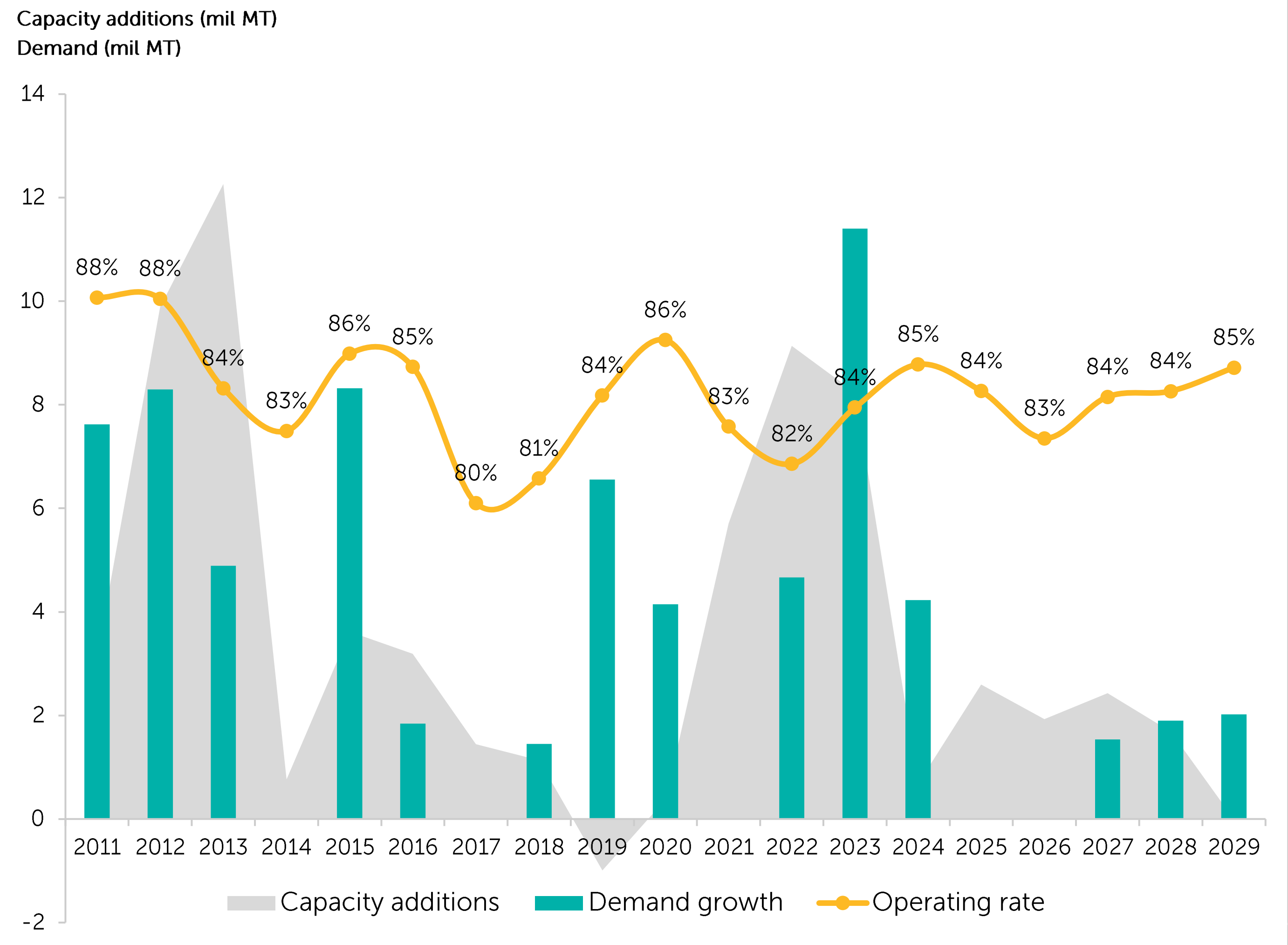




Source: S&P Fertecon, Platts, ICIS, Team Analysis

Capacity addition is expected to grow at much slower pace in the future than over the past decade

Global Urea Supply & Demand 2017 - 2026



Major world Urea projects 2024 - 2026

Year	Country	Asset Name	Capacity (mt)
2025	Turkey	GemlikGübreSanayii	541
	Russia	Acron	347
		Eurochem	1,320
	Egypt	Abu Qir Fertilizers & Chemical	204
	China	Jiangsu HuachangChemical Co.	214
		Shaanxi WeihuaChemical	280
		Shandong Hualu	520
		HengshengChemicalGansu	300
		NenghuaJinchang Energy	350
		Jingyuan Coal Industry Group	
		LiuhuaChemic	
2026>	Australia	Perdaman	2,046

Source: S&P Fertecon, Team Analysis

Specialty Chemicals Outlook

Lim Wen Jun
Senior Manager,
Strategic & Business Development,
Specialty Chemicals, PCGB

PCG Specialty Chemicals (PCG SC) business at a glance

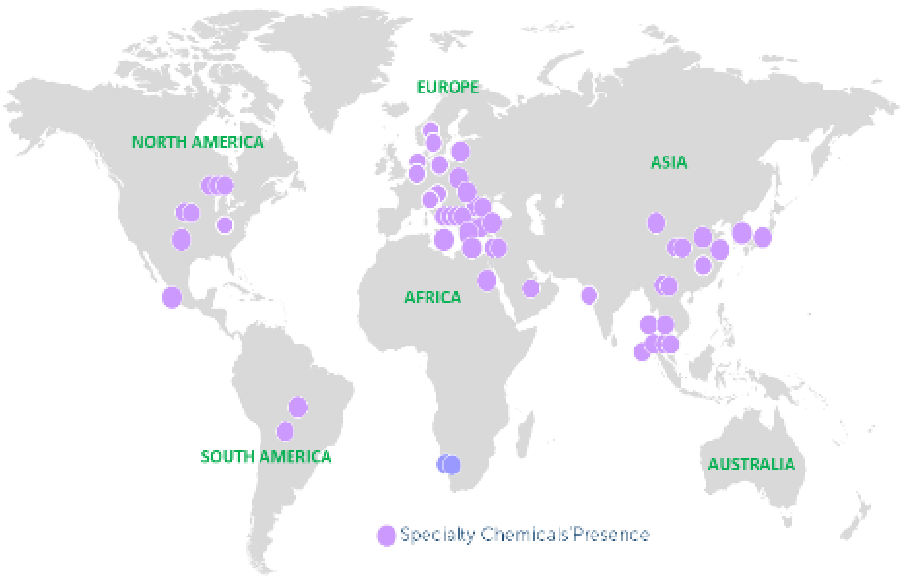
PCG SC 2024

~50%
of Sales from Leading Market Positions

27+ countries
Global Presence

~2,000
Employees

PCG SC Worldwide



Specialty Chemicals portfolio boosts our market presence in Americas and EMEA, while strengthening our footprint in APAC

PCG SC Segments

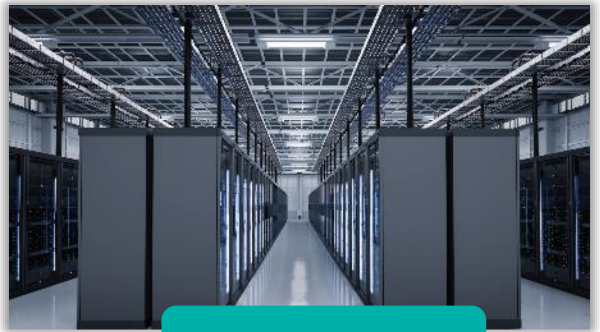
1		Resin & Coatings	Range of building blocks and specialty products can be used and tailored to produce resins and coatings
2		Engineering Fluids	Provider of essential intermediates ester lubricant base stock and synthetic fluid solutions
3		Animal Nutrition	Specialist in organic acid-based solutions for the agricultural industry via feed additives and preservatives
4		Advanced Materials	Provider of focused and innovative chemistry for futureproof, safe, and sustainable materials
5		Silicones	Producer of specialty silicones and also supplier of broad range of core and specialty silicone intermediates
6		Lube Oil Additives & Chemicals	Formulator and manufacturer of additives that improve the performance of lubricants and fuels

To contribute towards 30% additional revenue from non-traditional business

Specialty chemicals solutions to continue offering solutions and capturing value from targeted global megatrends, 2025 and beyond

ELECTRICAL INFRASTRUCTURES & TRANSPORTATION
efficient & safe electricity distribution and durable materials

E-Mobility



Digitalization

DATA CENTRES & ELECTRONIC DEVICES
efficient & safe emerging cooling granting aggressive growth of data centers

INFRASTRUCTURE AND BUILDINGS
sustainable coating ensuring durable solutions

Smart Cities

Packaging

HOUSING & PACKAGING
renewable and durable material maximizing recyclability

The targeted global megatrends remain robust and relevant for 2025 onwards, largely reflected through 3 key end markets, i.e. construction, automotive, and consumer goods.

Within the specialty chemicals industry, there are also macroeconomic uncertainties weighing onto the development and outlook of the end markets

Trade tariffs	While specialty chemicals are not fully spared from the tariff war, the jury is still out on how the cost structure and market access will be affected
Supply chain & trade shifts	Sourcing of raw materials for specialty chemical production may become more challenging amid the increased lead times from shipping disruptions and emerging geopolitical risks
Inflation / Deflation	Varying inflationary / deflationary customer behaviors will impact the elasticity of pricing strategies on cost passthroughs, as end users demand for more value to the same solutions offered
Fragmented regional recovery	Fragmented economic recovery across different regions have led to different demand profiles for specialty chemical solutions, which may no longer be similar to the previous years
Regulatory compliance	Stricter regulations and compliance requirements will lead to more reformulation, necessitating higher R&D and innovation outputs from specialty chemical companies

Market sentiment remains jittery across industries amid regional economic growth divergence and uncertain policies impacting consumer spending

KEY MARKET OUTLOOK 1H 2025

Construction Industry

- Soft global residential and commercial demand is expected to persist across major geographies, as elevated interest rates and lower consumer confidence remains a headwind
- US: Construction spend is expected to be mainly driven by data centers and non-residential spending
- EU: Overall construction volumes are expected to remain under pressure throughout the region
- China: The policy easing by Chinese government yielded positive results in 4Q 2024 but the persistent weakness has yet to be fully overcome

2025 1H Outlook: LSD decline – Neutral (yoy)

Segments affected:


Resin & Coatings


Engineering Fluids


Advanced Materials


Silicones

Automotive Industry

- Global automotive production growth rates are estimated to slow down in EU and North America while Chinese may tick upwards for 1H 2025
- US: Resilient consumer demand expected but affordability may be affected by the potential implementation of tariffs on imports
- EU: Exports from China into Europe combined with European consumers buying more local used cars are impacting the local production volume in Europe
- China: Following the extension of government's trade-in subsidy in 2025, the passenger vehicle demand is expected to follow seasonal patterns and trend upwards heading into 1H 2025

2025 1H Outlook: LSD decline – Neutral (yoy)

Segments affected:


Resin & Coatings


Engineering Fluids


Silicones


Lube Oil Additives & Chemicals

Consumer Goods Industry

- The global economy ended 2024 on relatively solid footing with interest rate cuts still expected for 2025
- US: Demand for consumer goods are expected to remain robust despite some frontloading taking place prior to new tariff hikes
- EU: Weak-but-resilient growth and inflation remains under control although overall consumption is not expected to improve significantly
- China: The general price trend for consumer goods is expected to remain sluggish, which faces worsening deflationary pressure should tariff hikes materialize

2025 1H Outlook: Neutral – LSD growth (yoy)

Segments affected:


Resin & Coatings


Advanced Materials


Silicones


Animal Nutrition

Note: LSD = low single digit; yoy = year over year
Source: S&P Capital IQ, Bloomberg, EU Commission, JP Morgan, HSBC, team analysis

Our Key Takeaways

Safarah Zeba
Senior Manager
Investor Relations, Finance, PCGB

Key Takeaways for 2025

- 2025 business landscape continues to be challenging with ongoing geopolitical uncertainties and increased protectionist approach leading to prolonged economic strain.
- The global chemicals sector continues to be burdened by soft demand and supply overhang, keeping margins under pressure.
- Portfolio transformation and energy transition will drive long-term business.
- Asia remains a leader in both the production and demand for chemicals.
- Chemicals demand will continue to grow in the long-term in all segments, driving demand for crude oil and liquids beyond 2030.

Q&A

“Charting a Path Through Uncertainties”