S&P Global
Energy

Asia Polyolefins in Transition

When Will the Cycle Turn?

FENG Shaohua

Director, Asia Polymers

May 29th, 2026

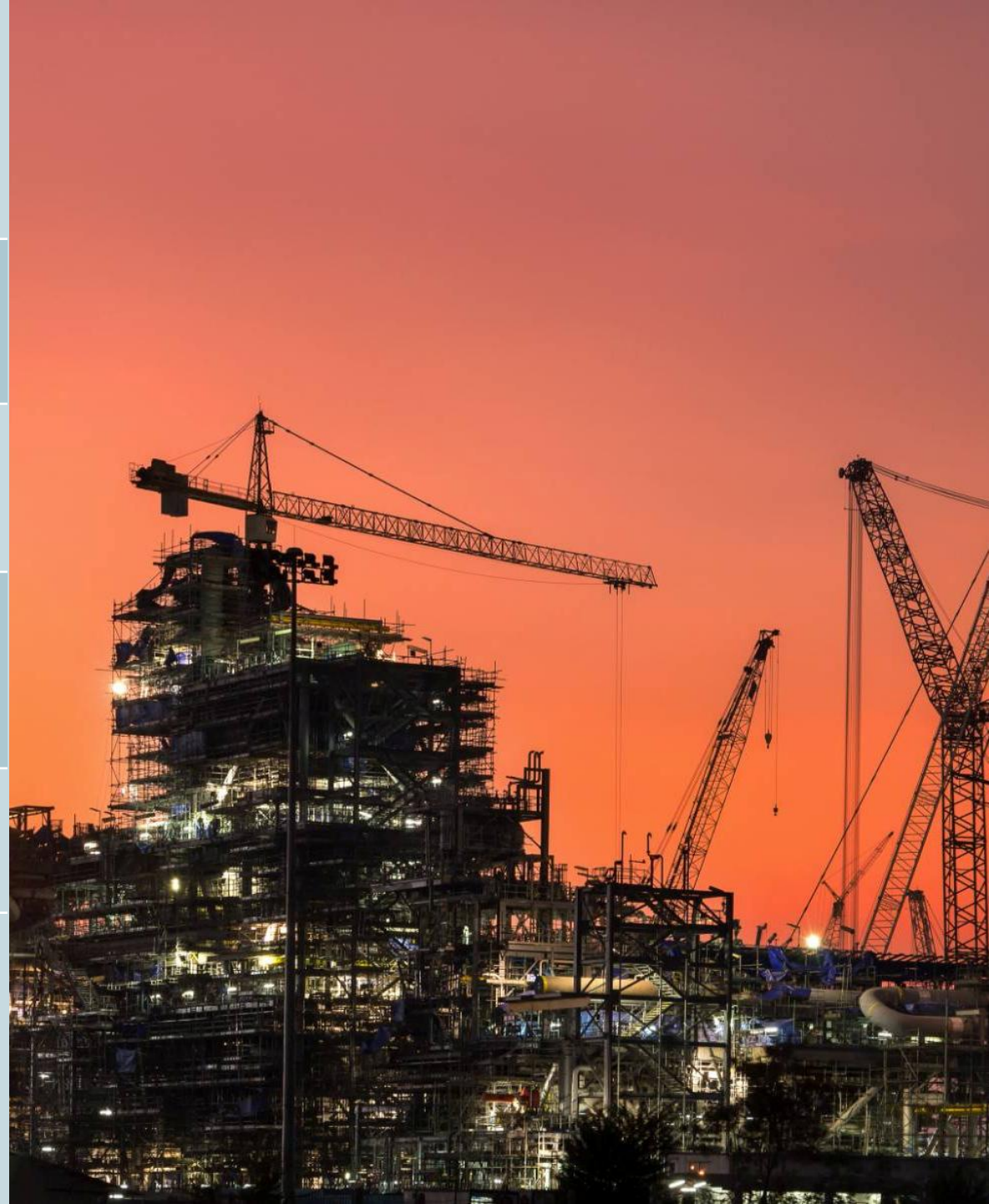
Agenda

What Changed? — The Structural Break After 2020

Why Did It Change? — Strategy Executed at Scale

How Is This Showing Up Today? — Trade Flows and Price Signals

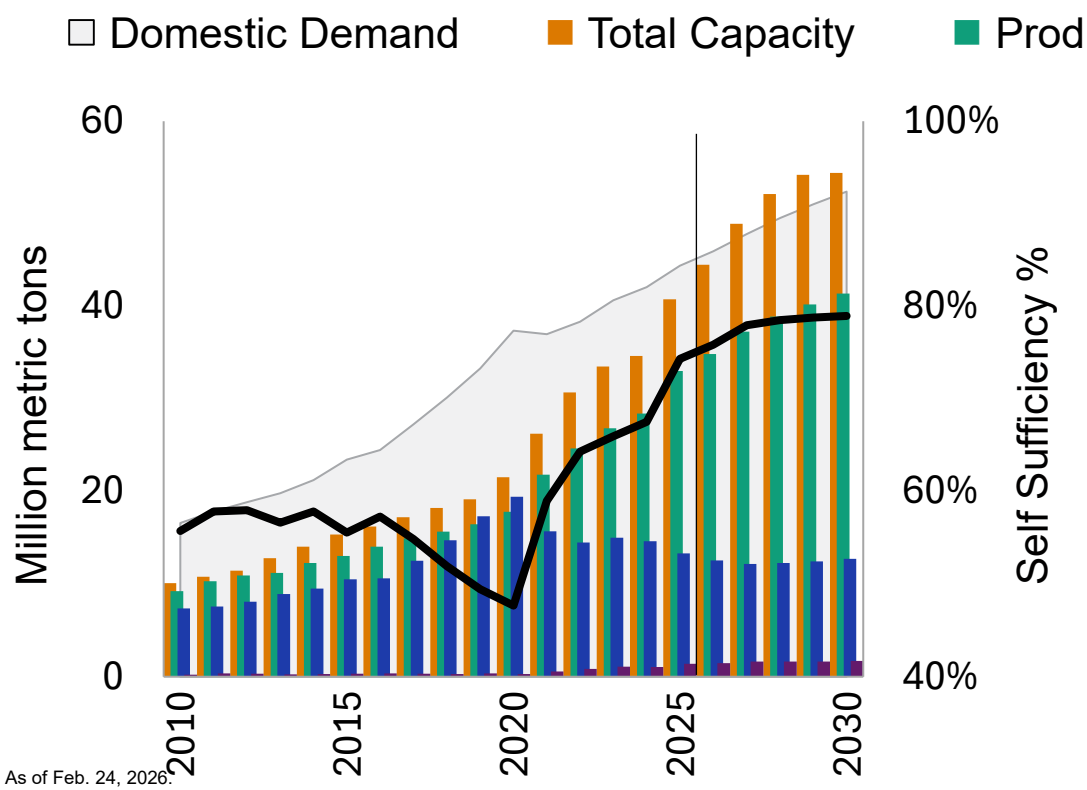
So What? — Who Must Adapt in the Next Phase



The **Structural** Break: China Turns Inward After **2020**

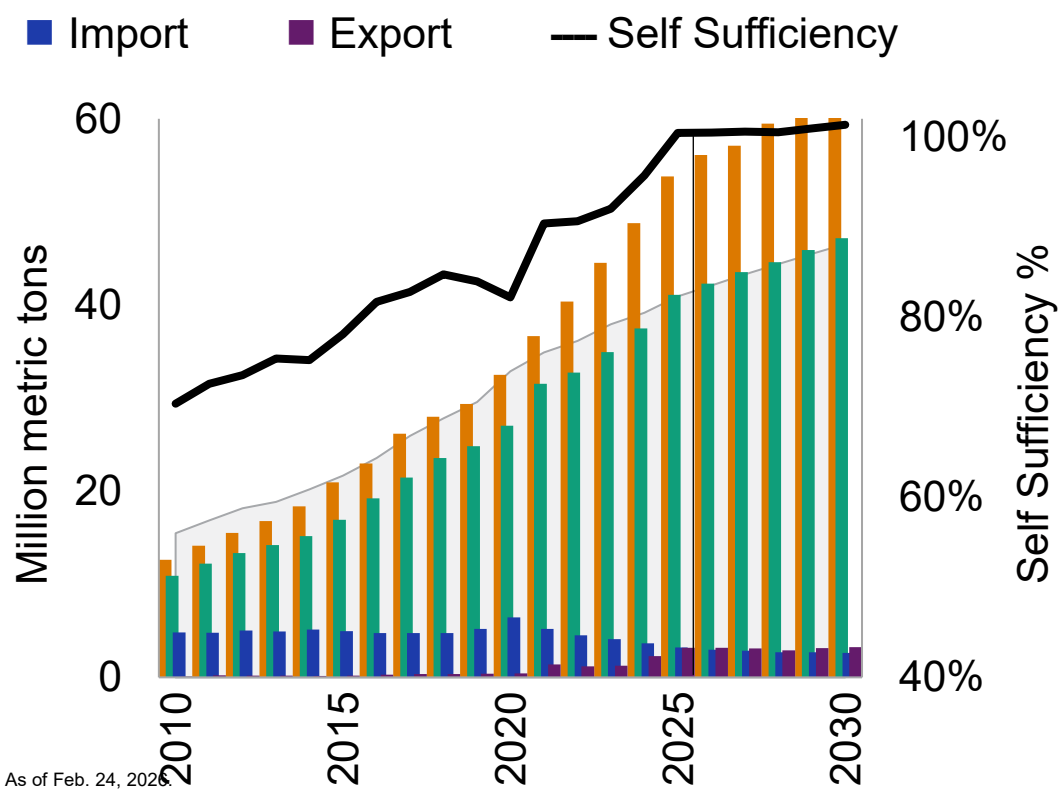
Accelerating PE and PP self-sufficiency becomes the single most transformative force in global polyolefin trade.

Mainland China PE self sufficiency



As of Feb. 24, 2026.
Source: S&P Global Energy.

Mainland China PP self sufficiency

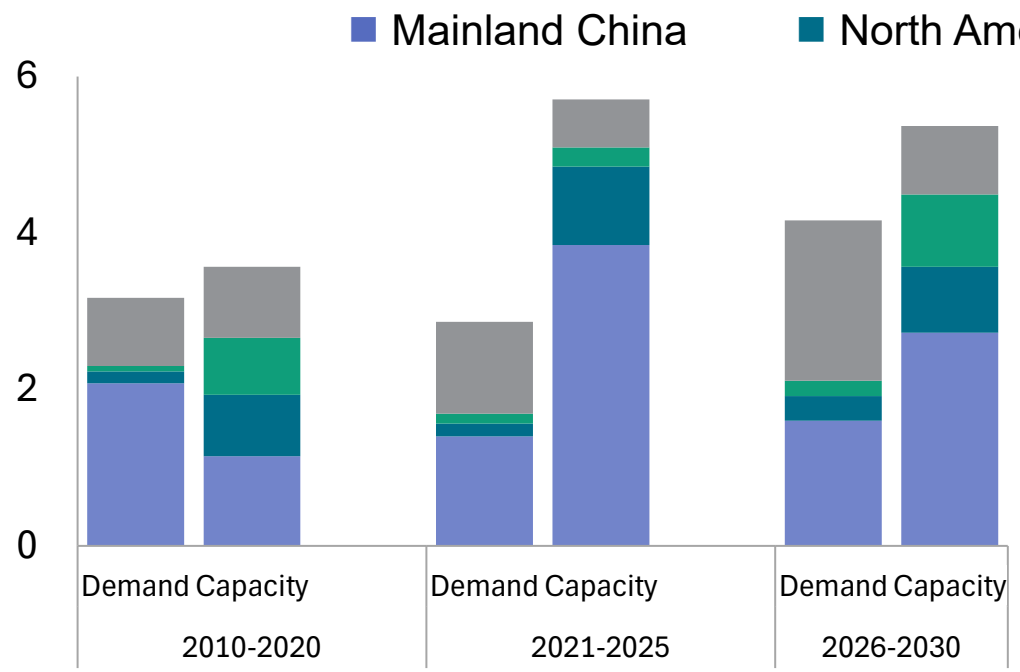


As of Feb. 24, 2026.
Source: S&P Global Energy.

From **Demand Sink** to **Supply Shock**

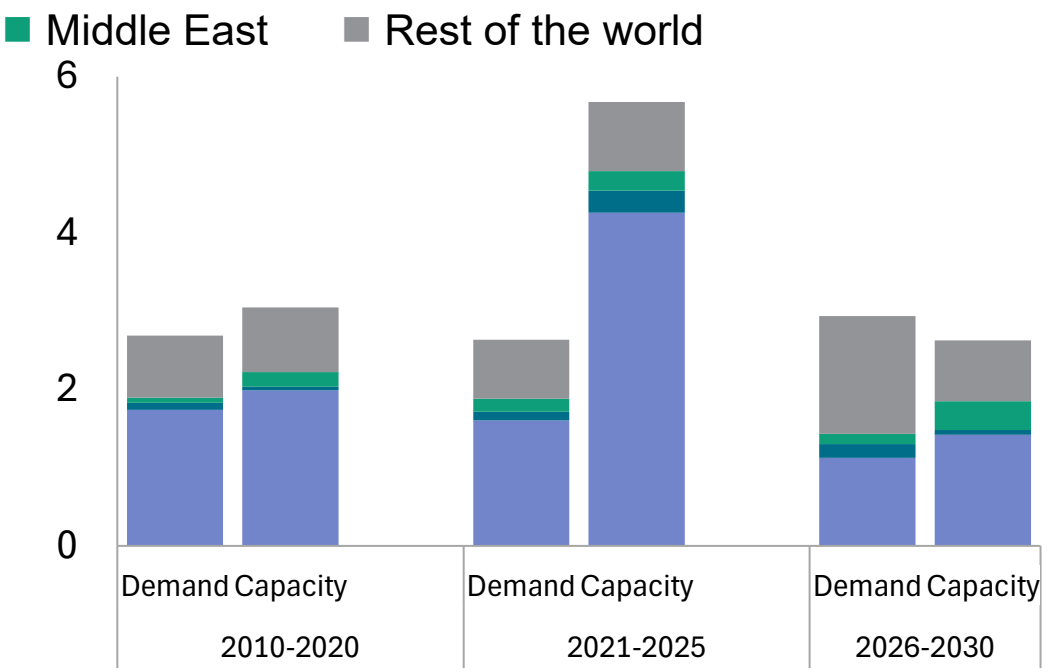
China's rapid capacity build flipped global balances—triggering oversupply and margin compression worldwide.

PE supply and demand growth across 3 distinct periods (MMT)



As of Feb. 26, 2026.
Source: S&P Global Energy.

PP supply and demand growth across 3 distinct periods (MMT)

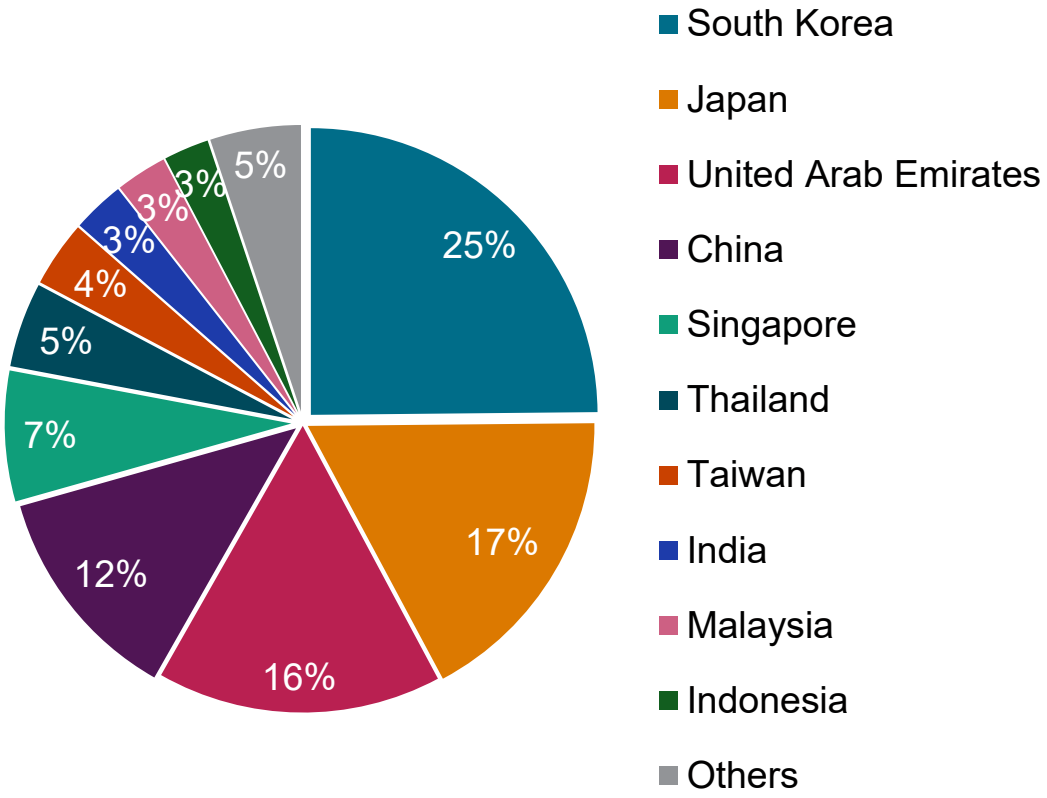


As of Feb. 26, 2026.
Source: S&P Global Energy.

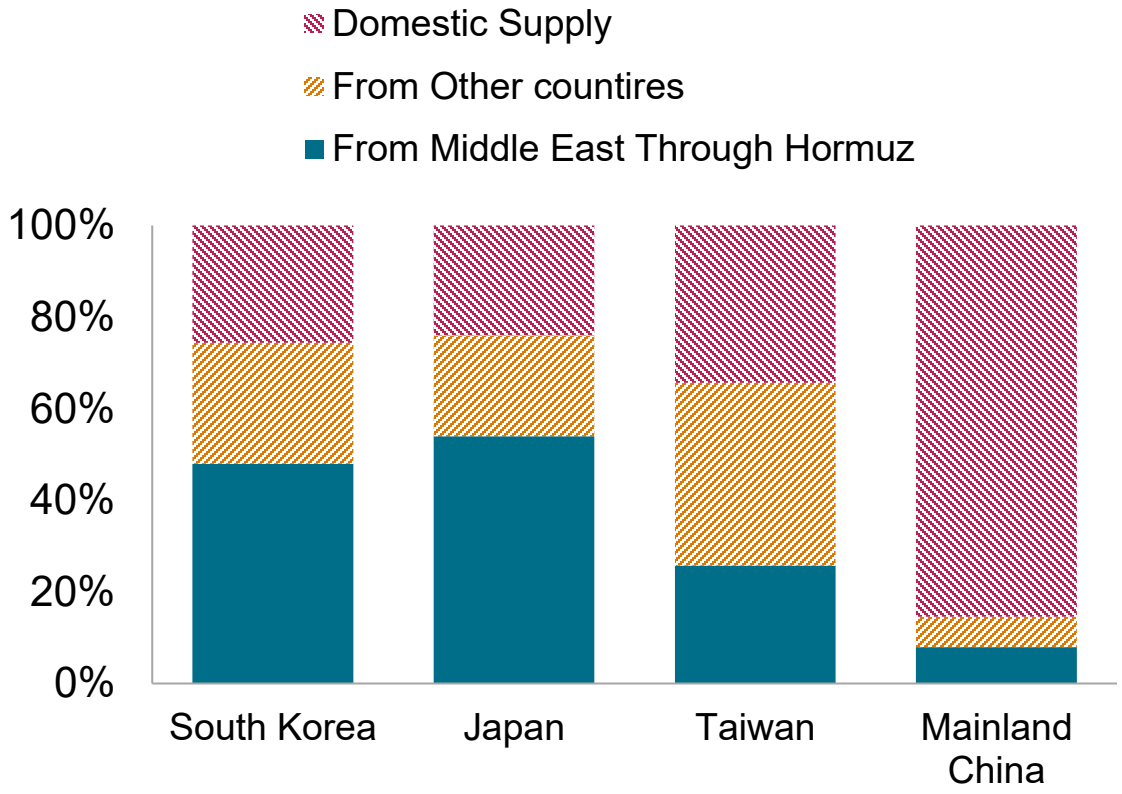
Lower Feedstock Exposure, Higher Resilience

Refinery-petchem integration reduces China’s vulnerability to Middle East naphtha supply disruptions.

2025 Middle East naphtha exports by destination country



Eastern Asia Light Naphtha Import via the Strait of Hormuz (2025)

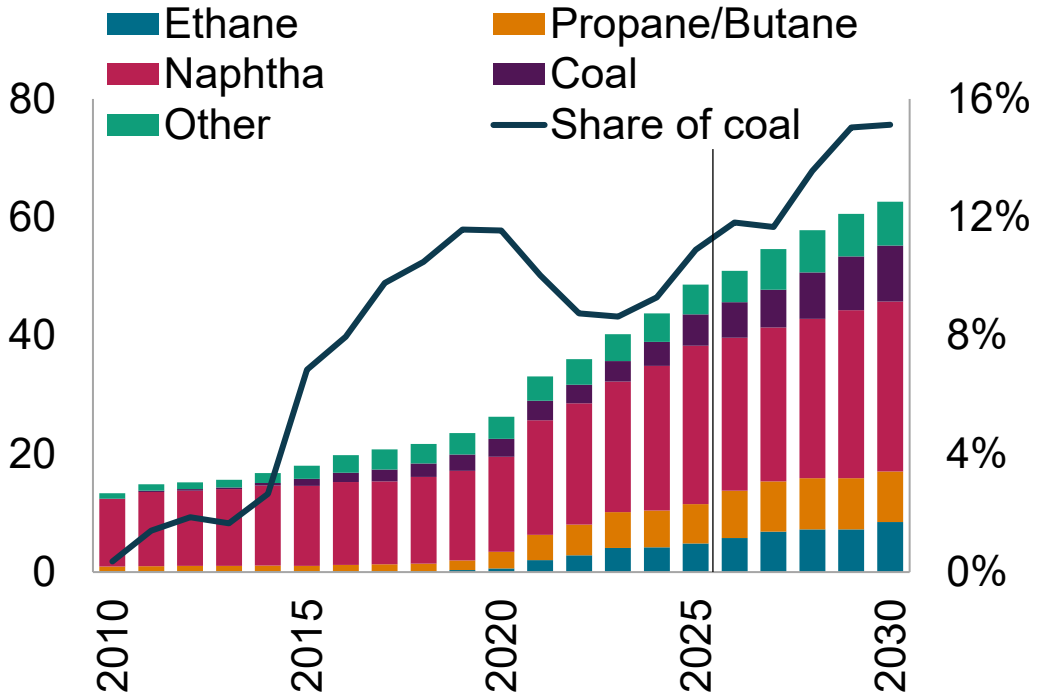


Source: S&P Global Energy.

Why China Can **Sustain** the Shift?

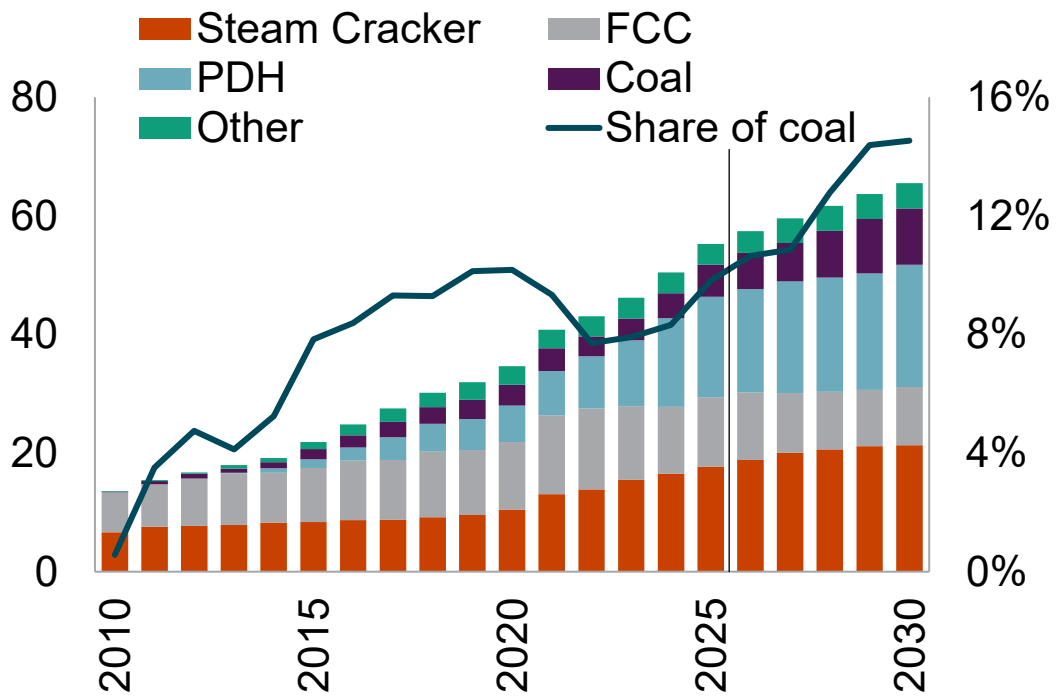
Coal-to-Olefins and feedstock diversification anchor costs and soften crude-oil volatility.

Mainland China ethylene production by feedstock
Million metric tons and share of coal %



As of Feb. 26, 2026.
Source: S&P Global Energy.

Mainland China propylene production by feedstock
Million metric tons and share of coal %



As of Feb. 26, 2026.
Source: S&P Global Energy.

China's Competitiveness **Follows** Industry **Logic**

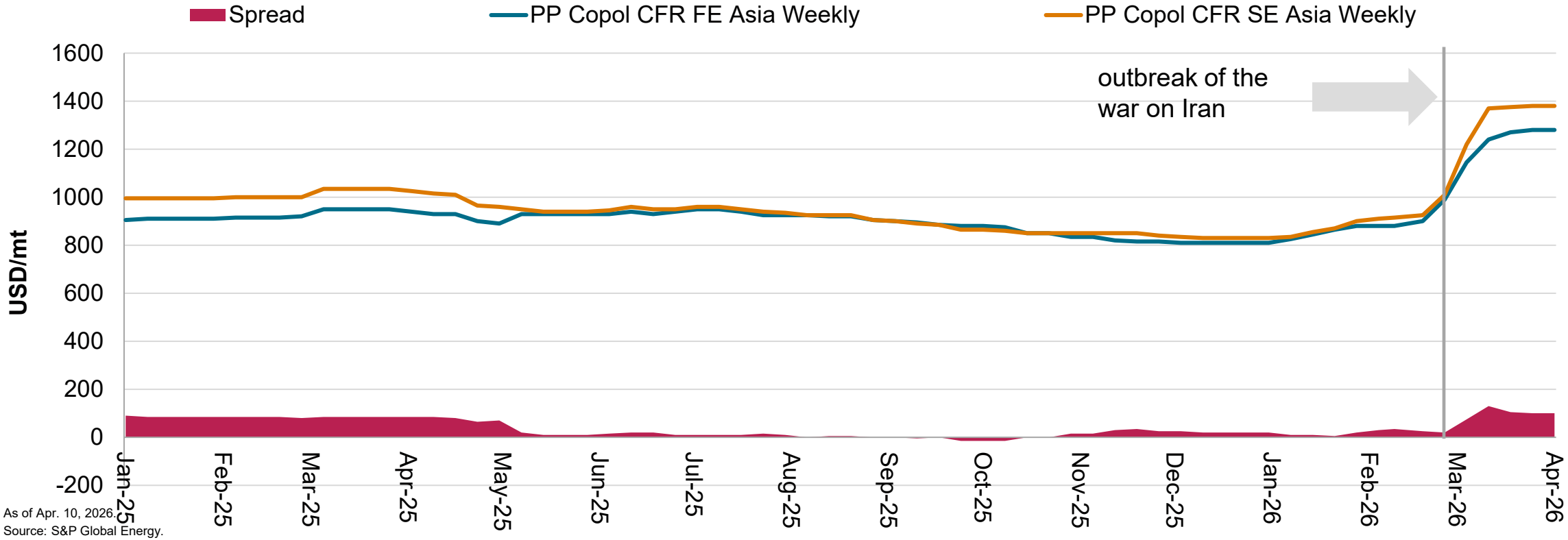
Scale, market depth, capex efficiency, and execution—fundamentals executed at unmatched speed.

	Feedstock Advantage	Domestic Market	Capex Efficiency	Project Execution
US	High	Med	Low	Med
Middle East	High	Low	Low	Med
South Korea	Low	Low	Med	High
West Europe	Low	Med	Low	Low
China	Med	High	High	High

PP Trade Proves More Resilient

More moderate price-spread widening keeps PP flows intact—and enables exports to move first.

PP Price Spread in Asia

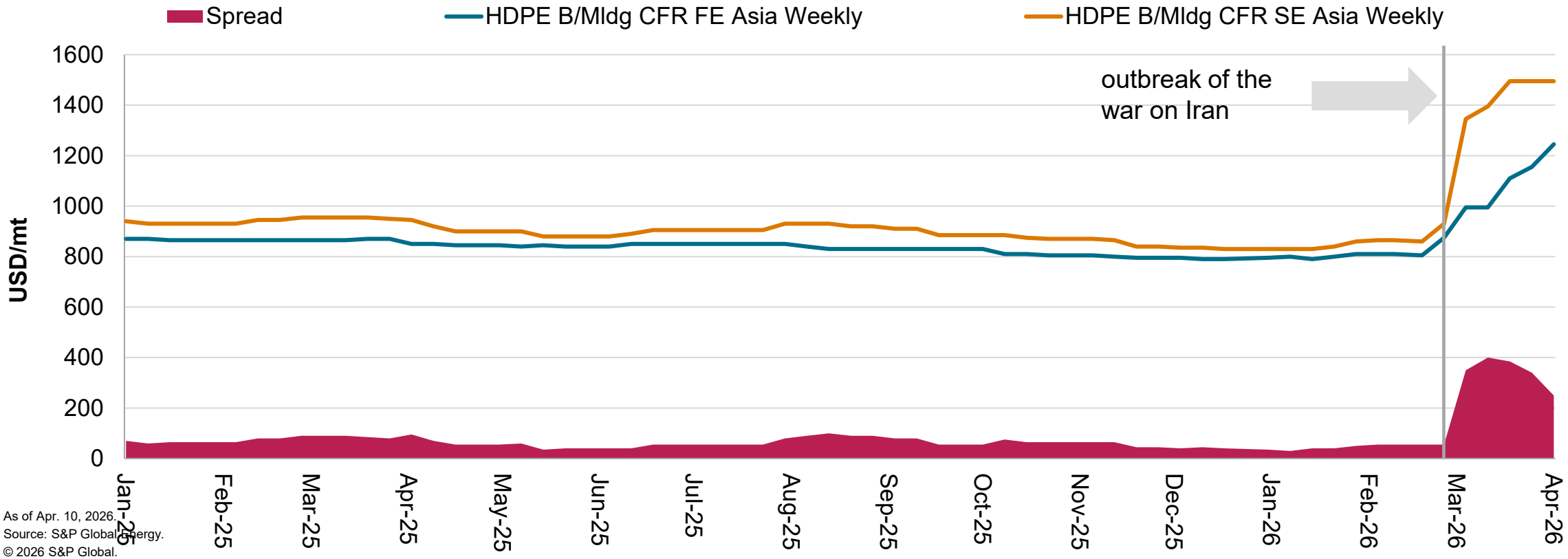


As of Apr. 10, 2026.
Source: S&P Global Energy.

Trade Frictions Surface First in PE

Widening price spreads signal disruption to traditional Northeast Asia–SEA trade flows.

HDPE Price Spread in Asia

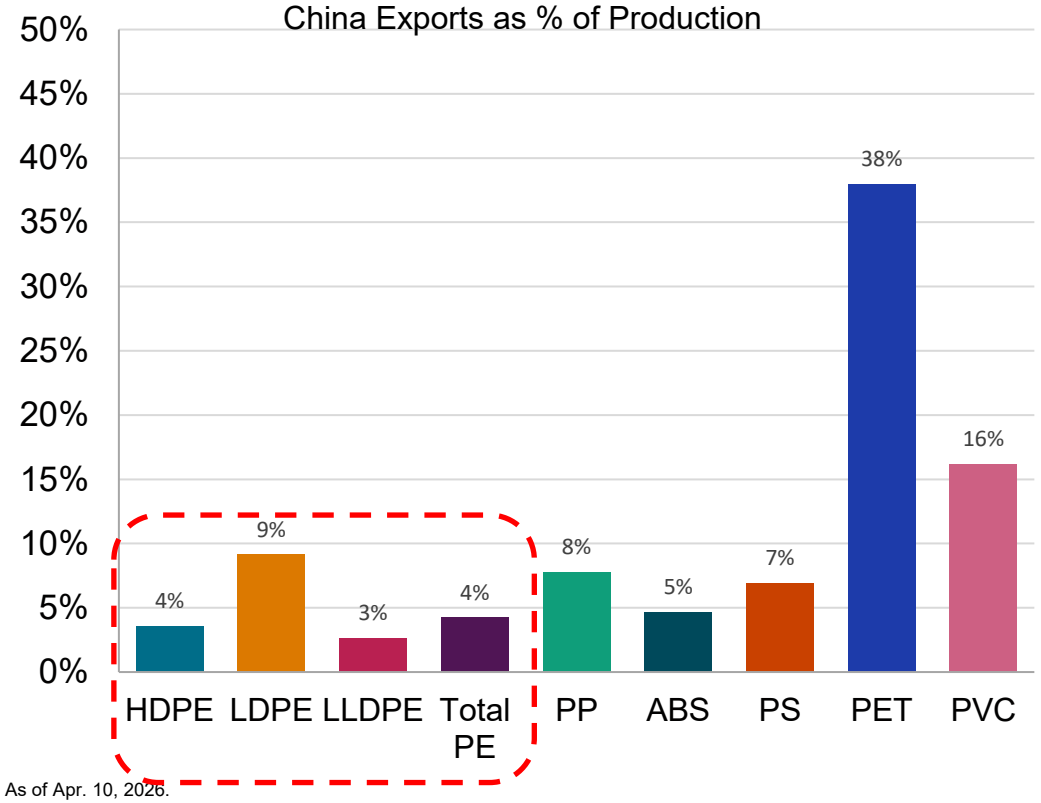


As of Apr. 10, 2026.
Source: S&P Global Energy.

Why China's PE Exports Lag—for Now

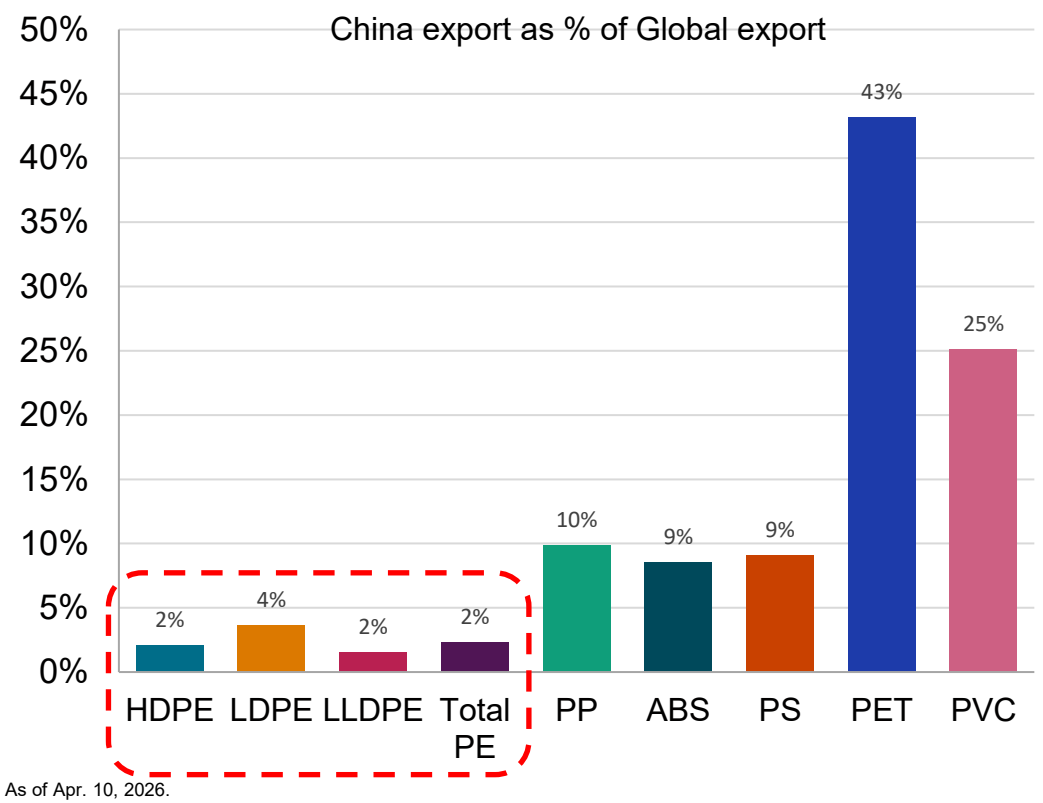
Lower PE self-sufficiency constrained export availability before arbitrage opened.

China export vs production in 2025



As of Apr. 10, 2026.
Source: S&P Global Energy.

China export vs global export in 2025

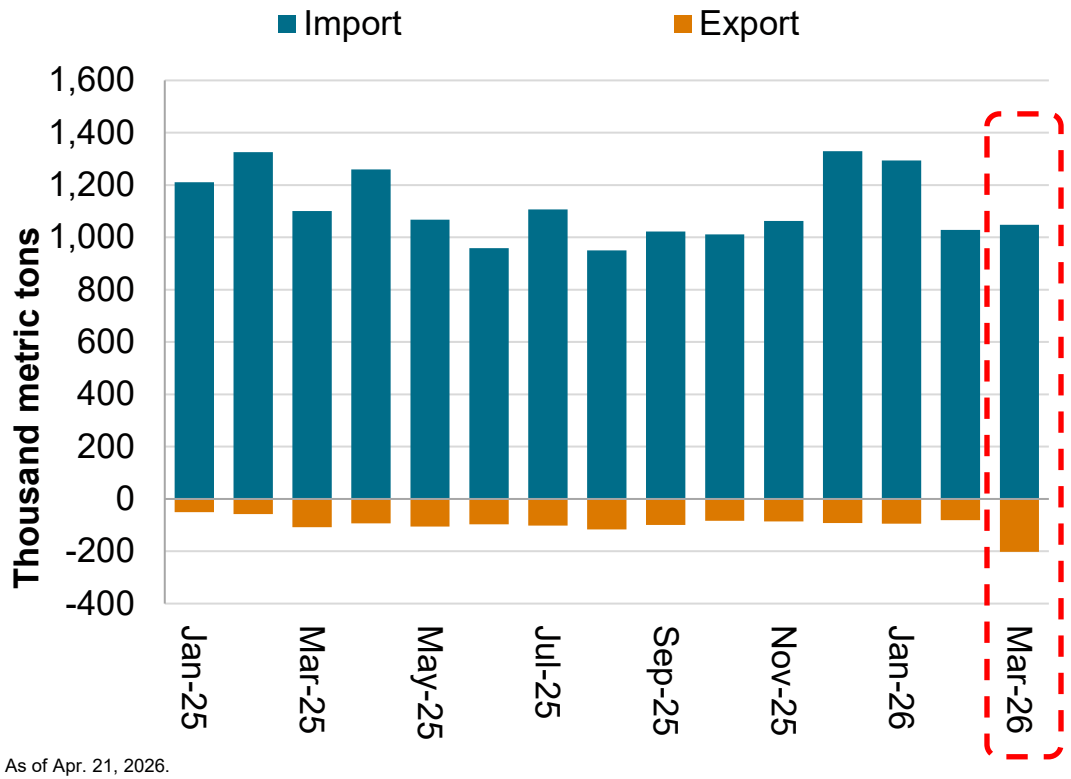


As of Apr. 10, 2026.
Source: S&P Global Energy.

China Steps Into the **Export** Arena

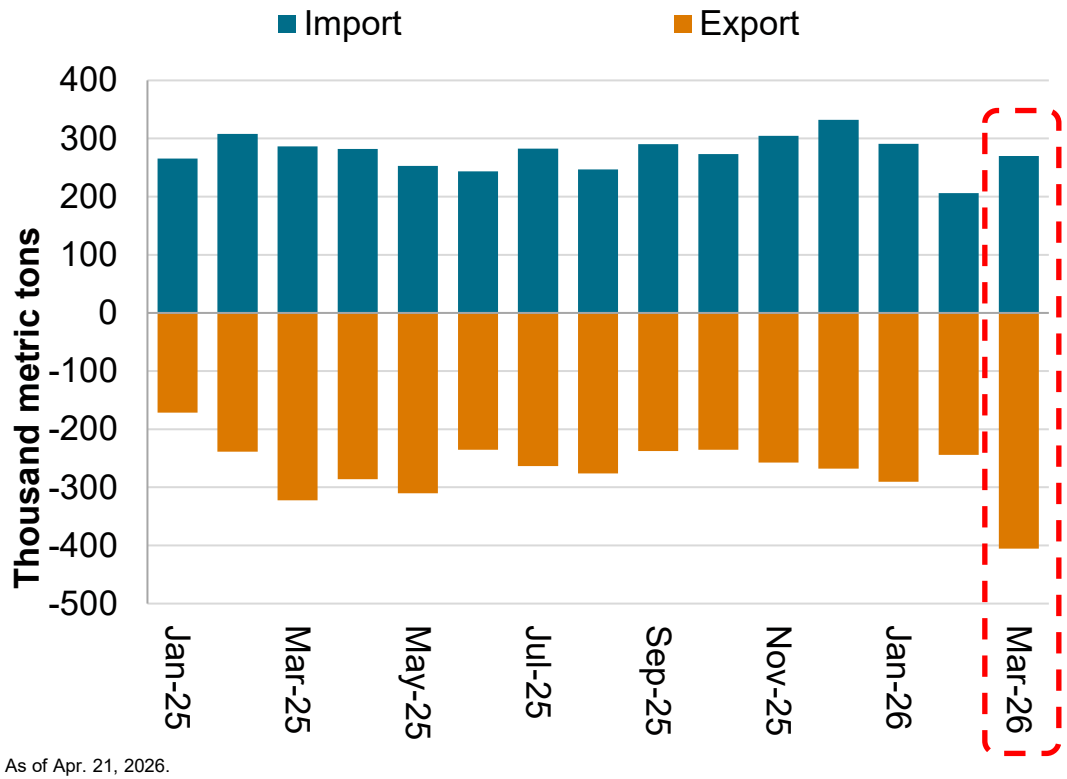
PP turns net-export; rare arbitrage unlocks new PE export opportunities.

Mainland China PE monthly trade volume



As of Apr. 21, 2026.
Source: S&P Global Energy.

Mainland China PP monthly trade volume

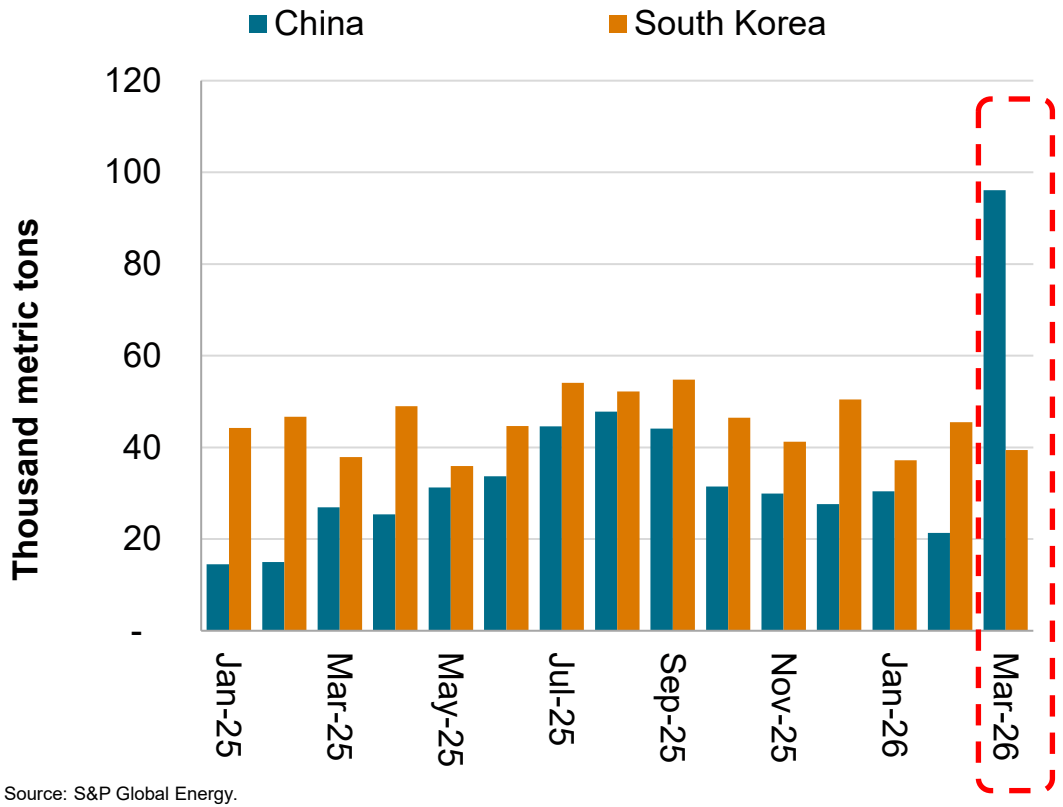


As of Apr. 21, 2026.
Source: S&P Global Energy.

Southeast Asia Becomes the Release Valve

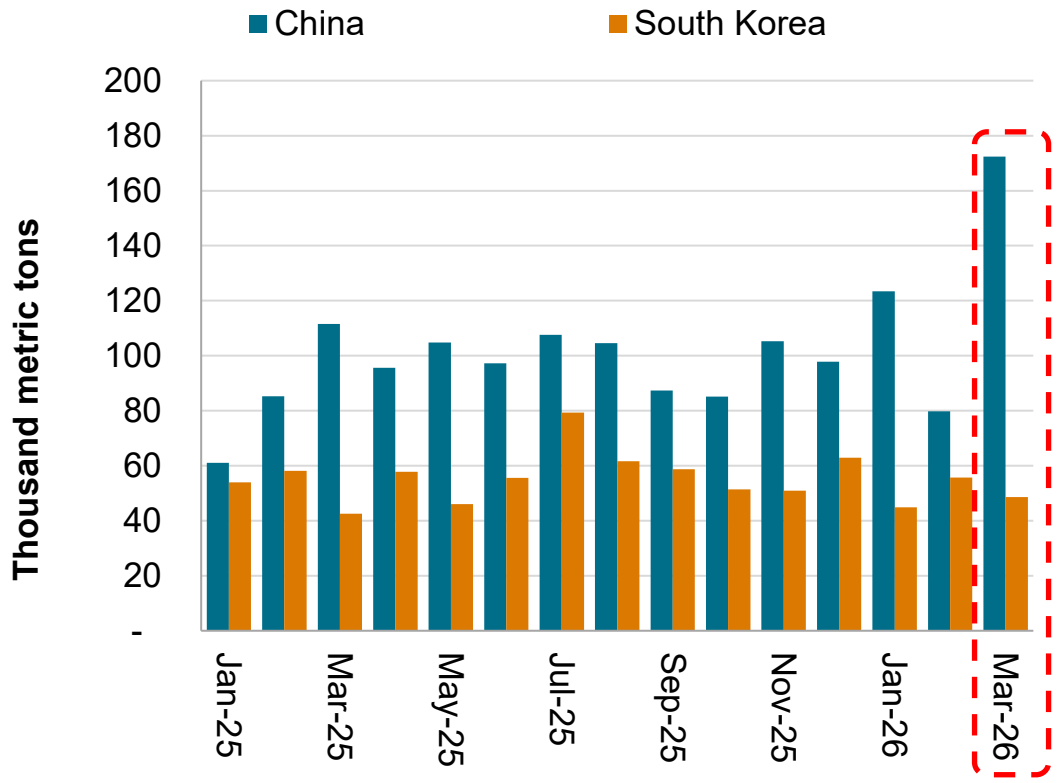
Supply gaps and weakened incumbents create space for China's PE and PP exports.

PE Export volume to Southeast Asia



Source: S&P Global Energy.

PP Export volume to Southeast Asia



Source: S&P Global Energy.

So—Has China Won?

- China has structurally reshaped Asia’s polyolefin market
- Cost resilience, scale, and execution—not geopolitics—explain the shift
- The next phase favors global players with diversified footprints
- Mid-sized producers must rethink positioning, partnerships, or focus

S&P Global
Energy

Polyolefins in Asia

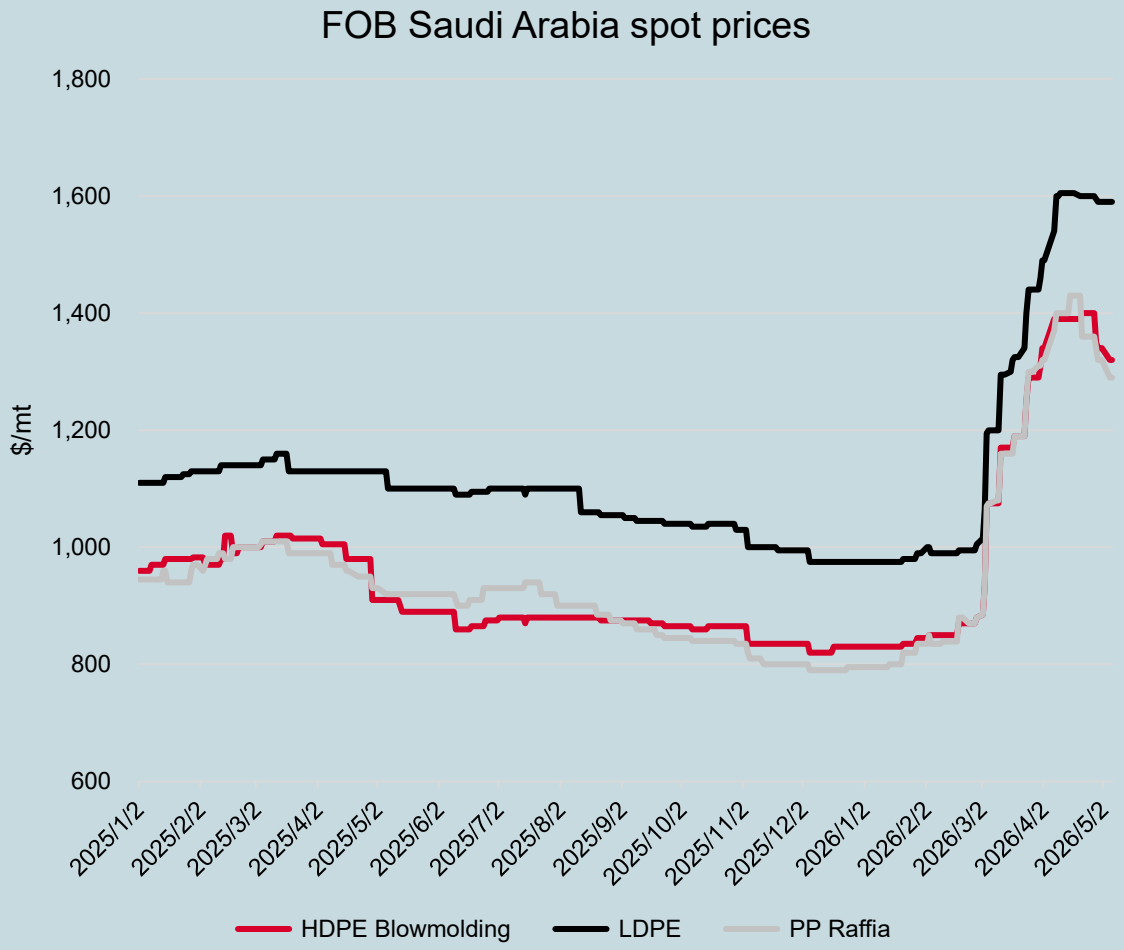
Charting the Course from Market Turbulence to Sustainable Solutions

May 29, 2026

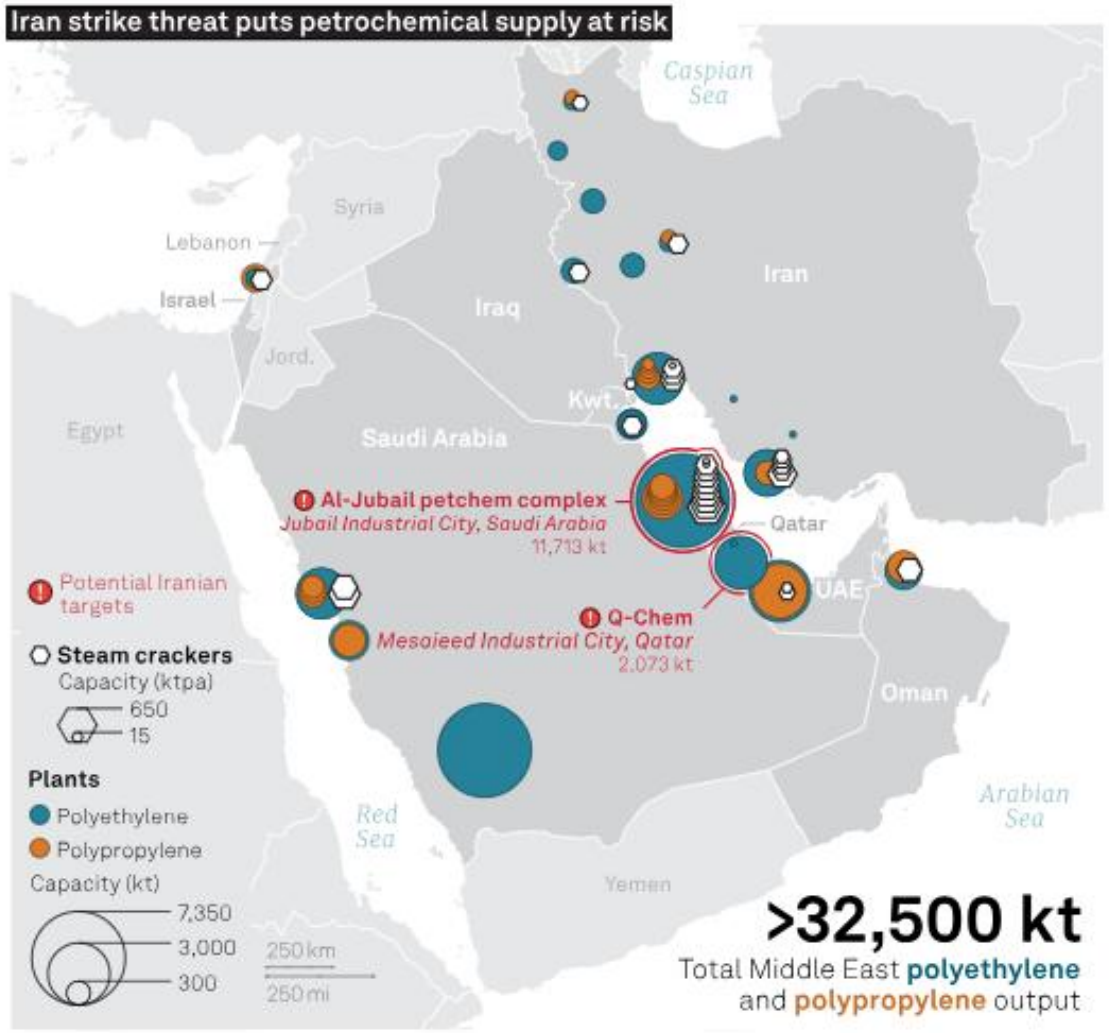
Iris Poon

Global pricing lead, sustainable chemicals

Middle Eastern polymer supplies disrupted, in addition to upstream implications



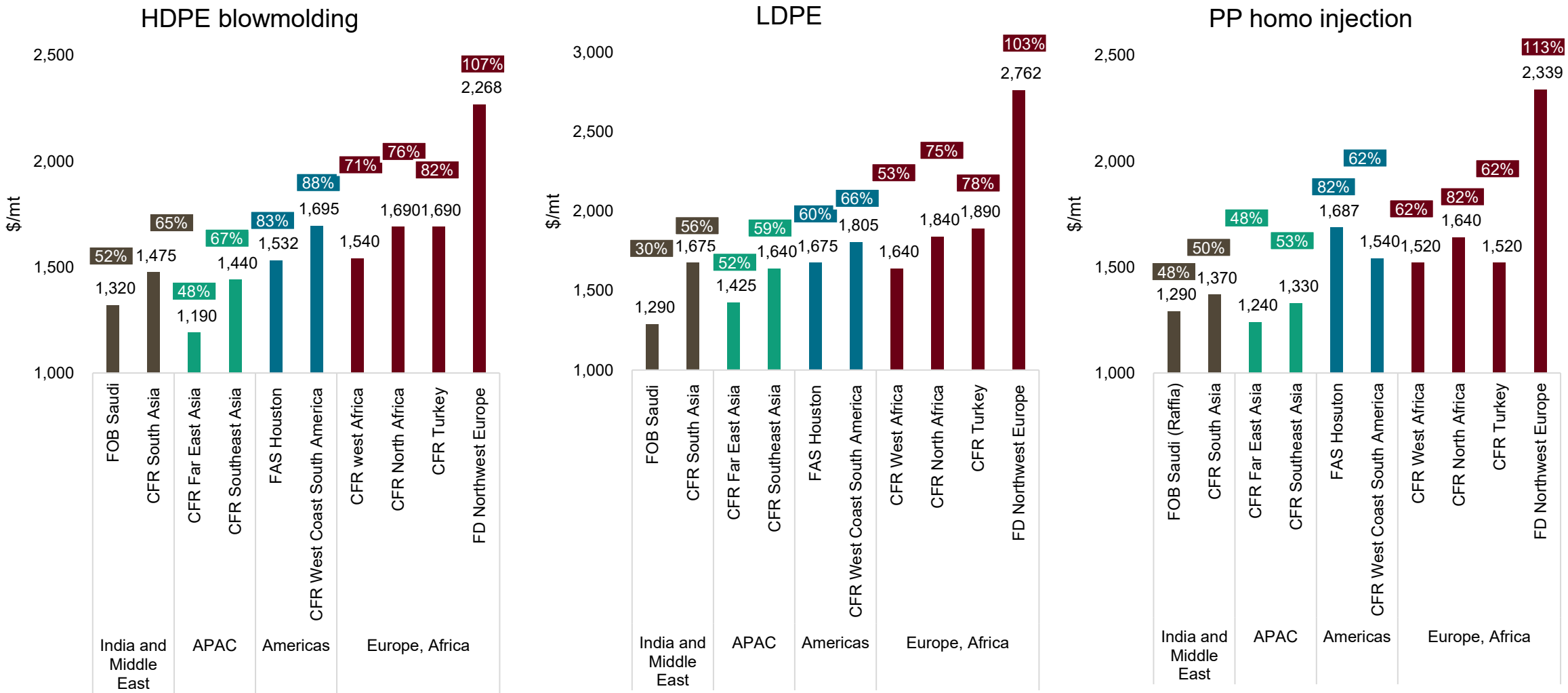
Source: S&P Global Energy Platts



Infographics published on March 19, 2026.

Iris.poon@spglobal.com

Pricing increases are non-uniform across regions and grades



Note: Spot prices as of May 6 2026.
% denoted rice movement change from Feb 25 2026 to May 6 2026.

Source: S&P Global Energy Platts

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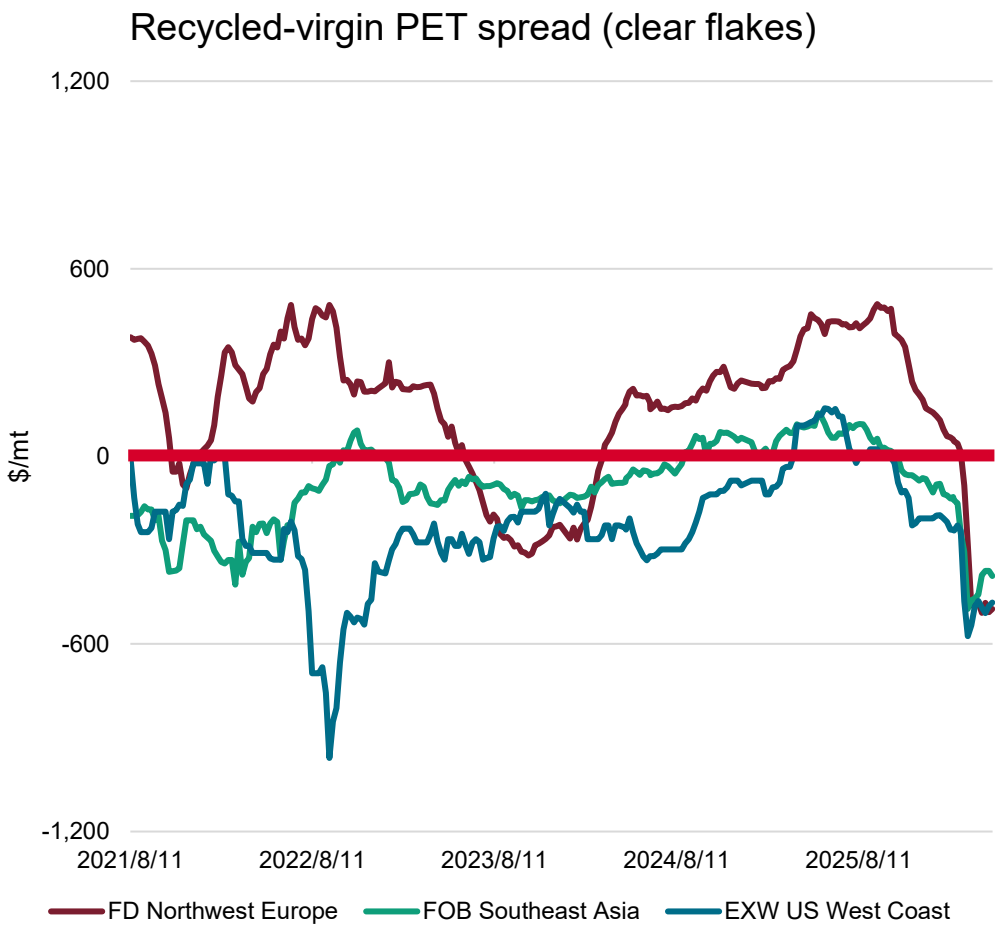
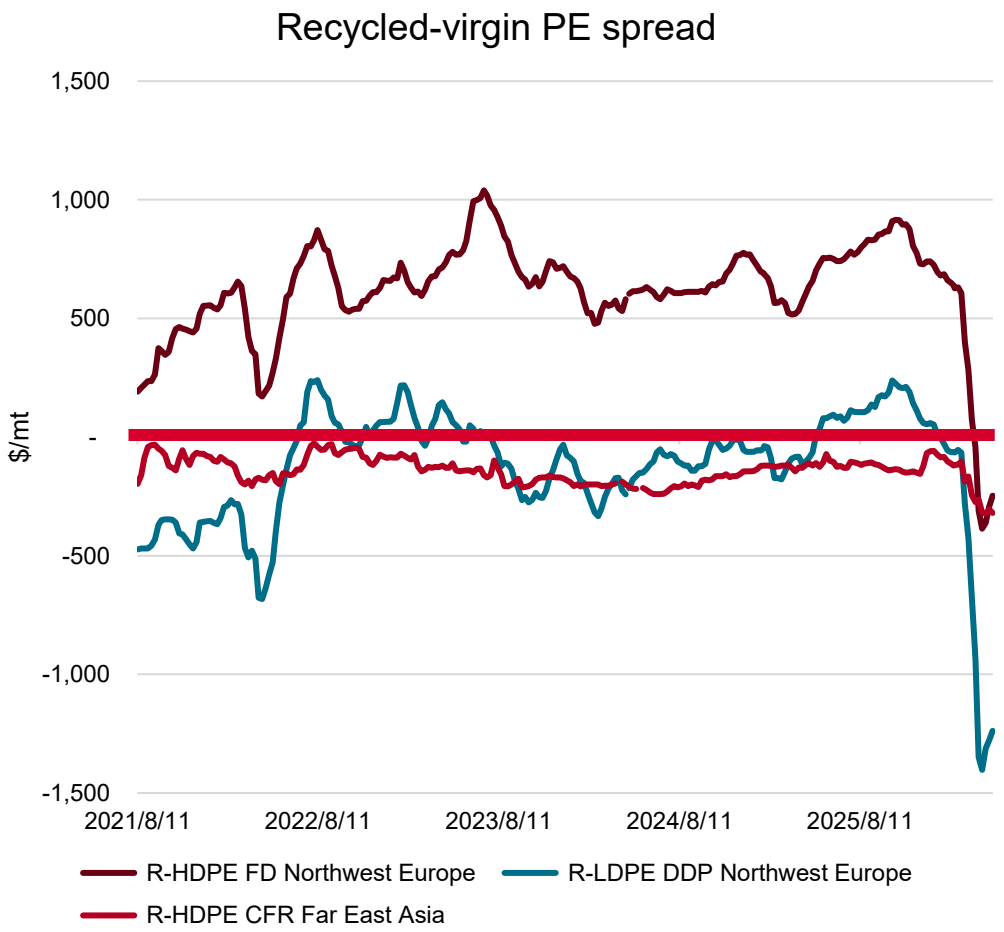
On a global scale, recycled polymers are at a discount to virgin





Source: S&P Global Energy Platts

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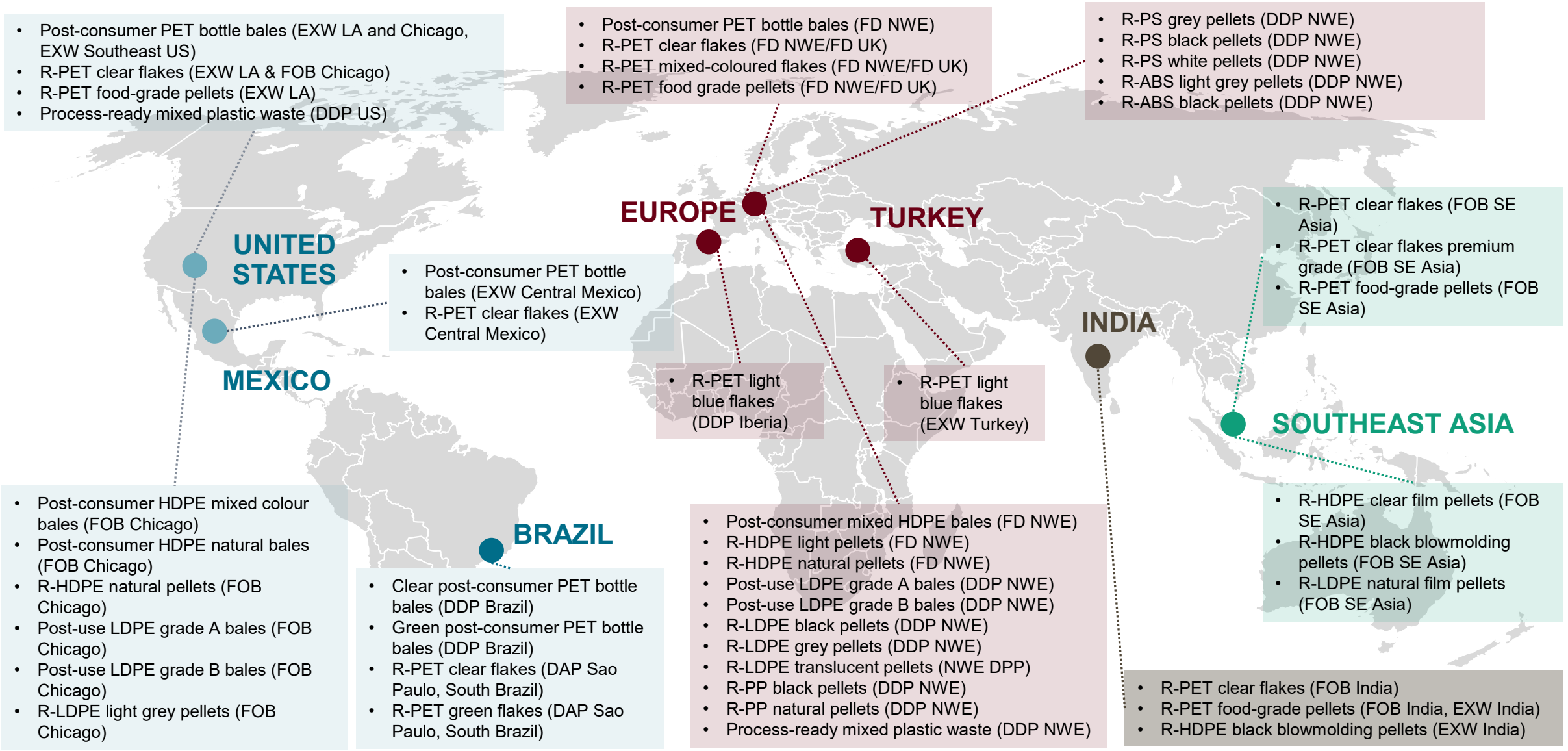
Virgin replacement needs ignite new interest in recycled polymers



Source: S&P Global Energy Platts

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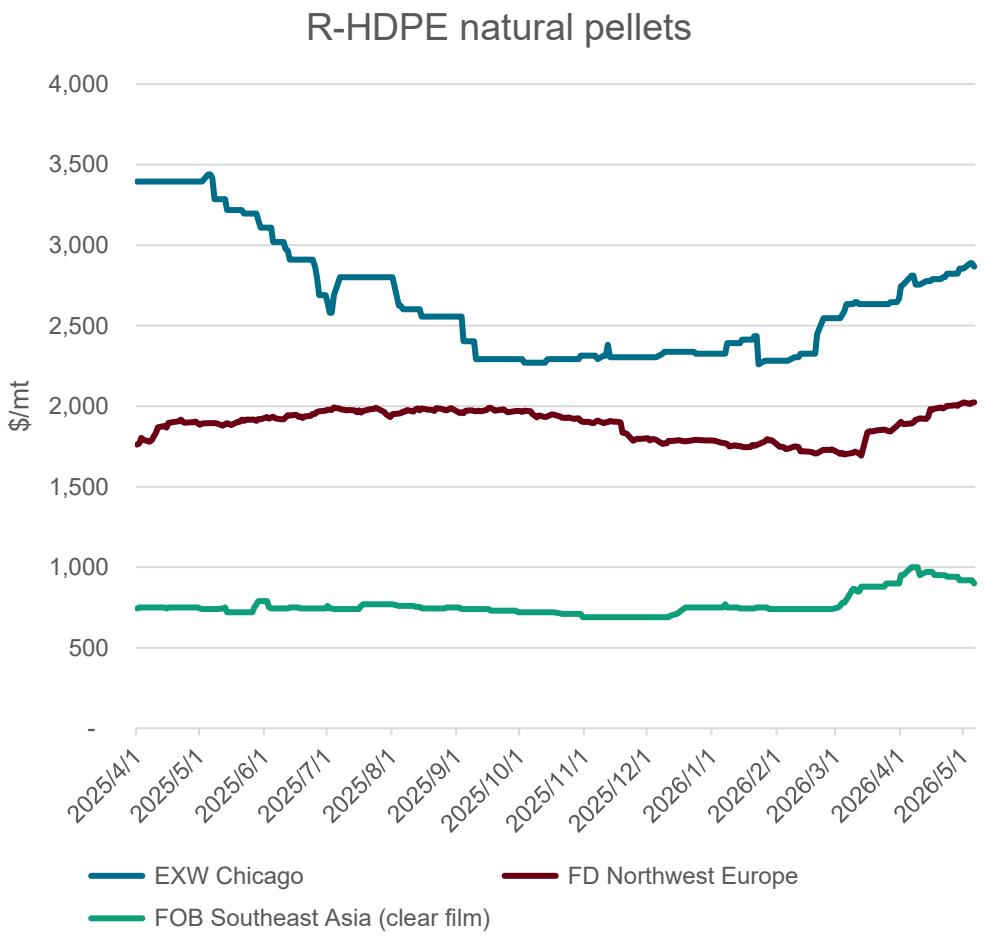
US and Europe pricing remains much above Asia



- Attractive trading opportunities are offset by practical challenges
- **Certifications** for contact-sensitive applications and feedstock traceability are examples of key barriers
- Brands and converters require rigorous **trialing and qualification**
- **Legislation** will continue to actively shaping market dynamics

Source: S&P Global Energy Platts

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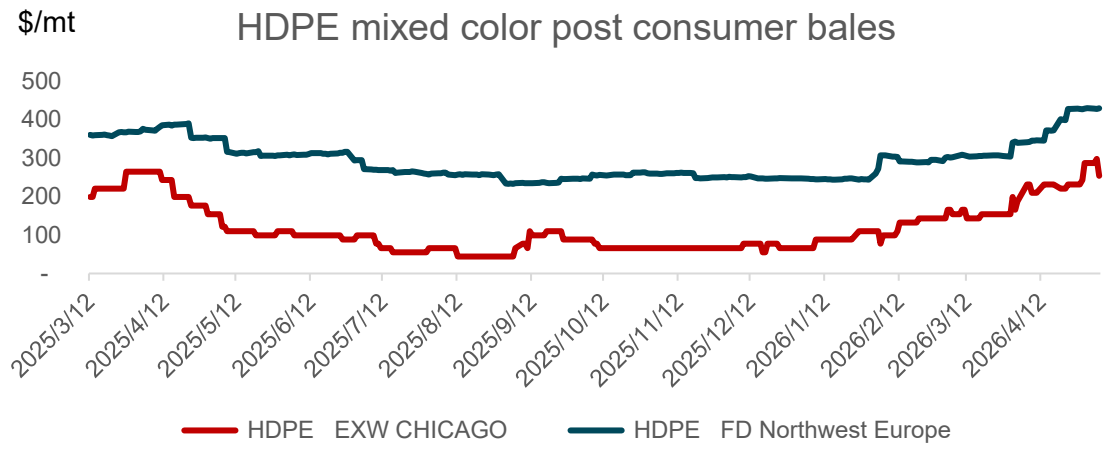
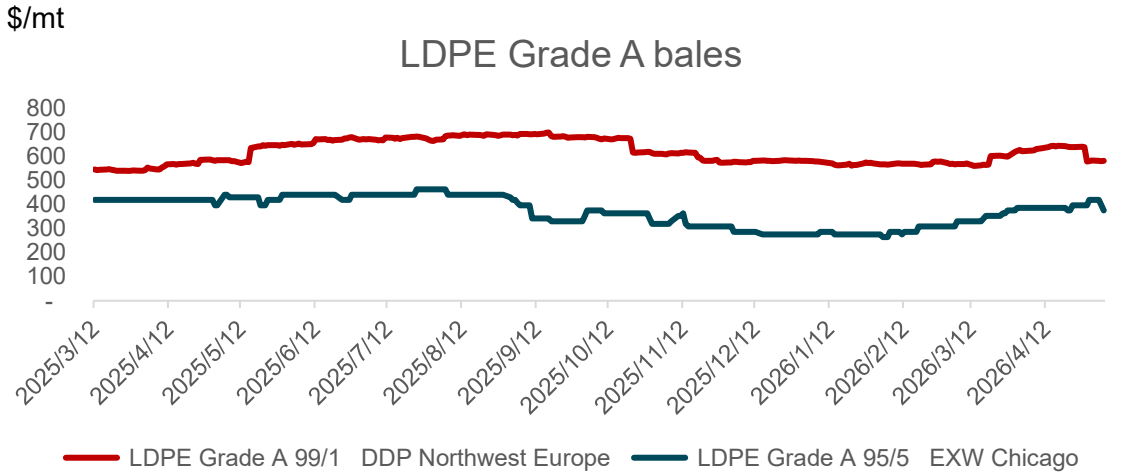
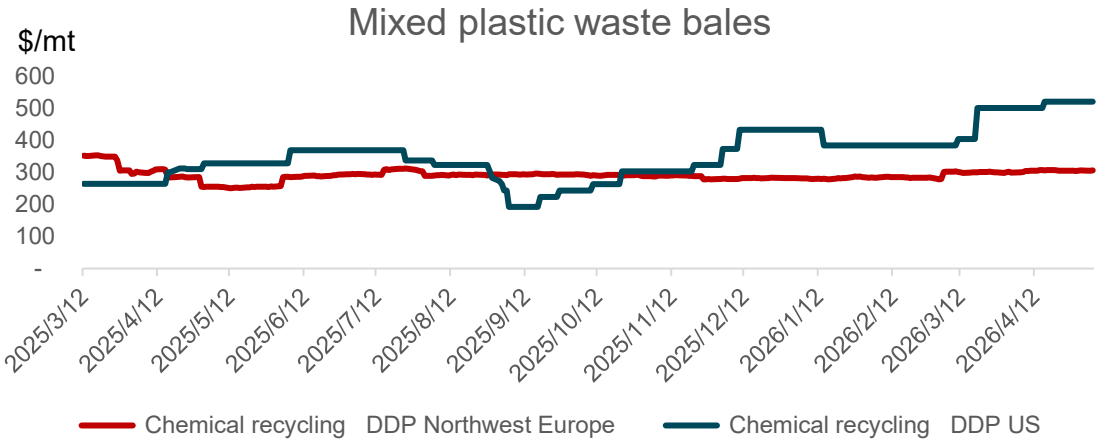
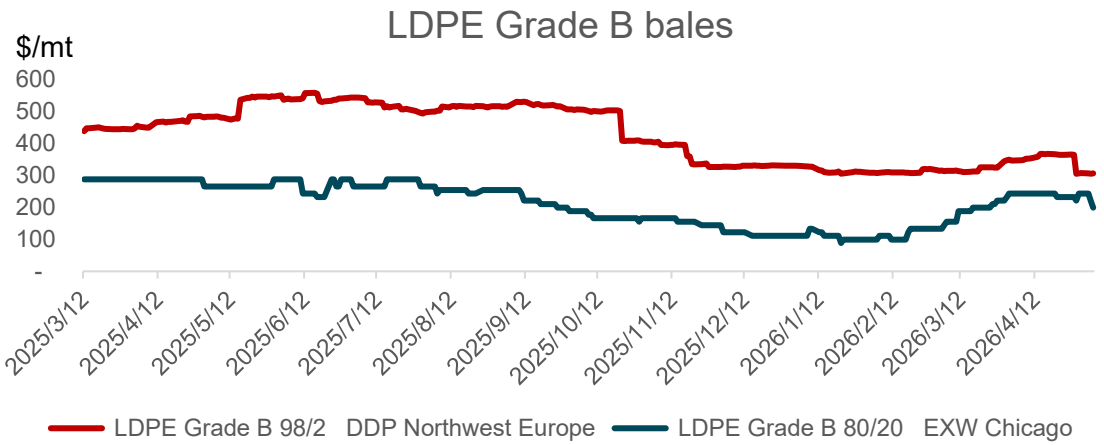
A different cost structure from virgin based on bale feedstock









Source: S&P Global Energy Platts

Iris.poon@spglobal.com

Development of sustainable investments is ramping up slowly

Examples of recent starts of industrial-scale chemical recycling plants

Schwechat, Austria
Project owner: OMV
Capacity: 16,000mt/year
Plant: Mixed plastics chemical recycling
Start date: March 20, 2025

Geleen, the Netherlands
Project owner and partner: Sabic, Plastic Energy
Capacity: 20,000mt/year
Plant: Mixed plastics chemical recycling
Start date: August 27, 2025

Grandpuits, France
Project owner and partner: TotalEnergies, Plastic Energy
Capacity: 15,000mt/year
Plant: Mixed plastics chemical recycling
Start date: March 19, 2026

Wesseling, Germany
Project owner: Lyondell Basell
Capacity: 50,000mt/year
Plant: Mixed plastics chemical recycling
Expected start date: 2027

Examples of recent starts of pyrolysis oil upgrade facilities

Moerdijk, Netherlands
Project owner: Shell
Capacity: 50,000mt/year
Plant: Pyrolysis oil upgrading facility
Start date: November 11, 2024

Porvoo, Finland
Project owner: Neste
Capacity: 150,000mt/year
Plant: Pyrolysis oil upgrading facility
Start date: March 16, 2026

Source: Company data, S&P Global Energy Platts

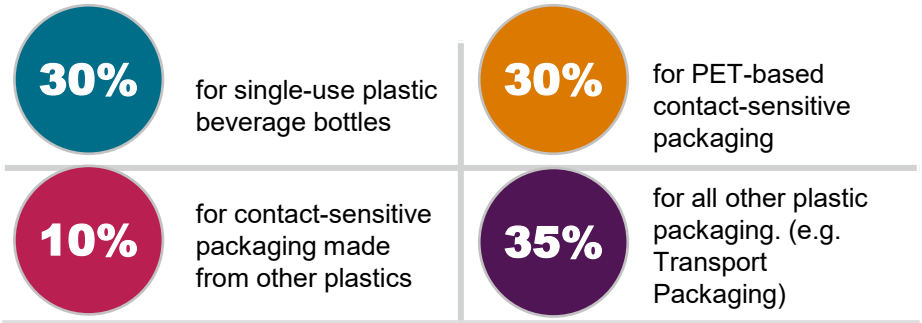
Iris.poon@spglobal.com

… while European recyclers continue to advocate for further legislative support

- **Single-use Plastics Directive**
  according to (EU) 2019/904, repealing Implementing Decision (EU) 2023/2683 released Feb 25, 2026

> *“*
>
> *In light of the different level of standards and capacities of infrastructure regarding the management of plastic waste in countries to which the OECD Decision applies, and considering the uncertainty of the impact of the prohibition on plastic waste trade flows,* ***recycled plastic from countries to which the OECD Decision applies should only start to be counted in the mandatory recycled content target for PET bottles as of 21 November 2027****. At that date, the Commission should have delivered its assessment and adopted its decision pursuant to Article 45(5) and (6) of Regulation (EU) 2024/1157, after having assessed the arguments of the affected third countries. This timeframe will also allow Member States to adjust their data collection and reporting.*
>
> *”*

- **Packaging and Packaging Waste Regulation**
  will require the below recycled content across applications by 2030, generally applicable from 12 August 2026



- **EU Waste Shipment Regulation**
  will require prior notification and consent procedures for plastic waste exports to non-OECD countries, effective May 21, 2026

Source: EU, S&P Global Energy Platts

Iris.poon@spglobal.com

What's next?

- As it stands now, European virgin polyolefins offer strong import arbitrage opportunities
- Middle East conflict boosts Europe's recycled polymer appeal through cost advantages
- Global players will watch closely for initial successes as new chemical recycling facilities come online
- A non-recognition policy for recycled content for R-PET import may inspire European PE/ PP recycling peers to advocate similarly

Iris.poon@spglobal.com

Price · Predict · Perform

Global Rationalisation and Evolving Trade Flows In an Increasingly Challenging Polyolefins Landscape

APIC 29 May 2026

Amy Yu
Senior Analyst, ICIS
Amy.yu@icis.com

Agenda

01 Supply Chain Disruptions Caused by the Strait of Hormuz Blockade

02 Capacity Rationalization Required to Restore the Global Supply-Demand Balance

03 Ripple Effects on Trade Flows Worldwide

04 New Demand Trends and Shifts in Producer Strategies

01

Supply Chain Disruptions Caused by the Strait of Hormuz Blockade

Middle East key feedstock supplier to Asia

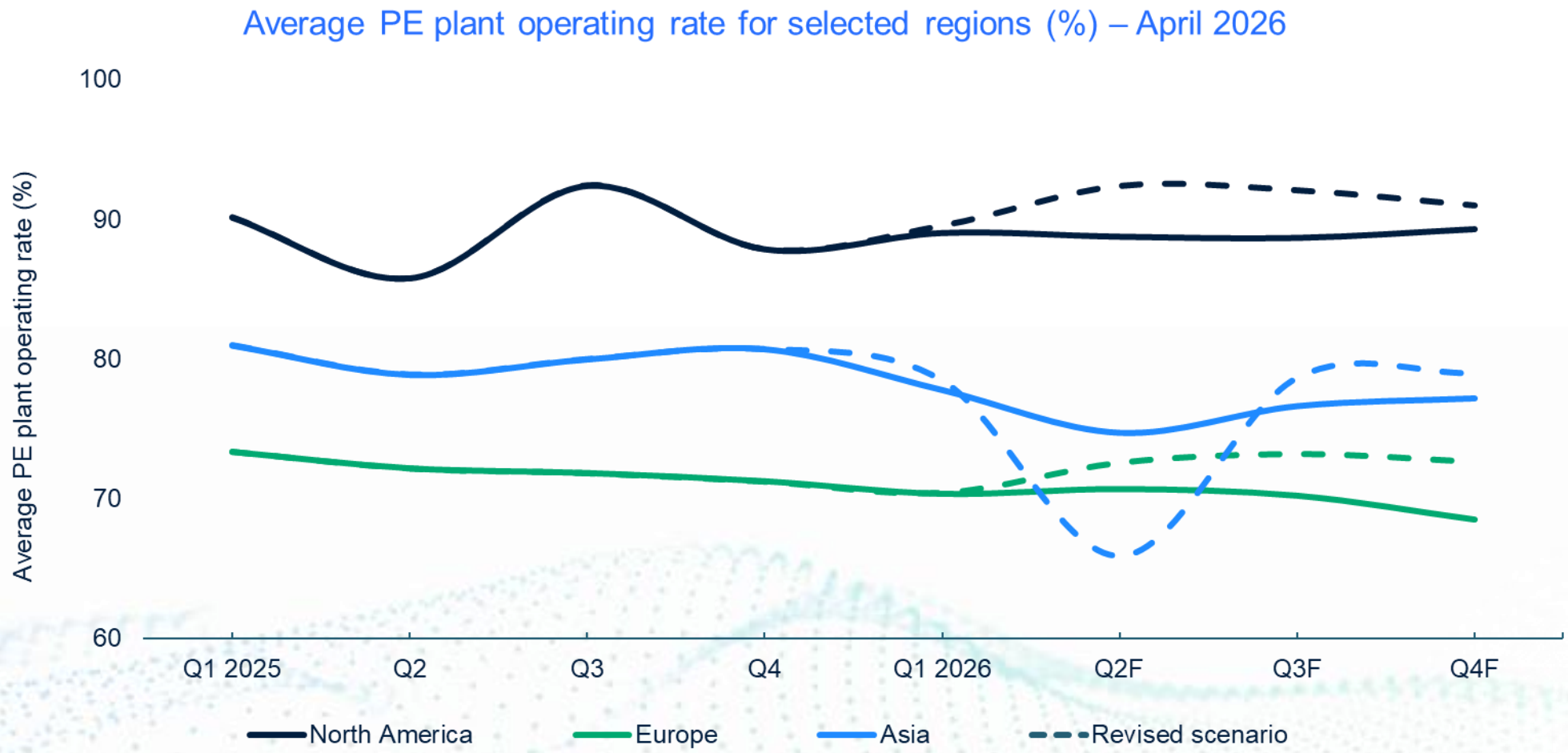
Middle East crude exports

Asian crude supply

Middle East naphtha and LPG exports

Source: ICIS Supply and demand database

Asia experiencing significant declines in operating rates due to feedstock shortages



Source: ICIS Supply and demand database

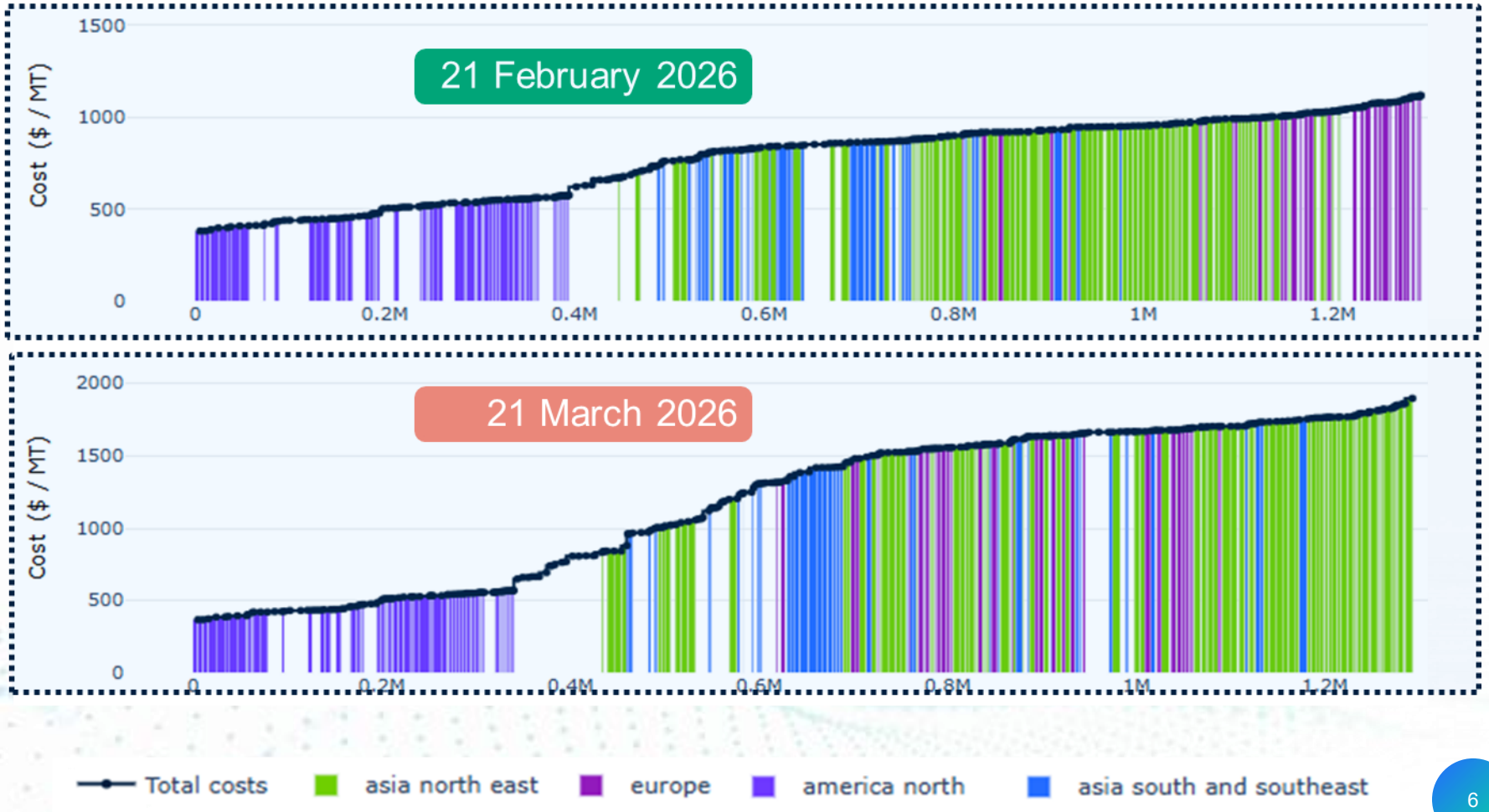
Production costs for polyolefins in Asia have risen by over 60%

MoM variation

SEA	NEA	Europe
+62%	+60%	+39%

April vs March

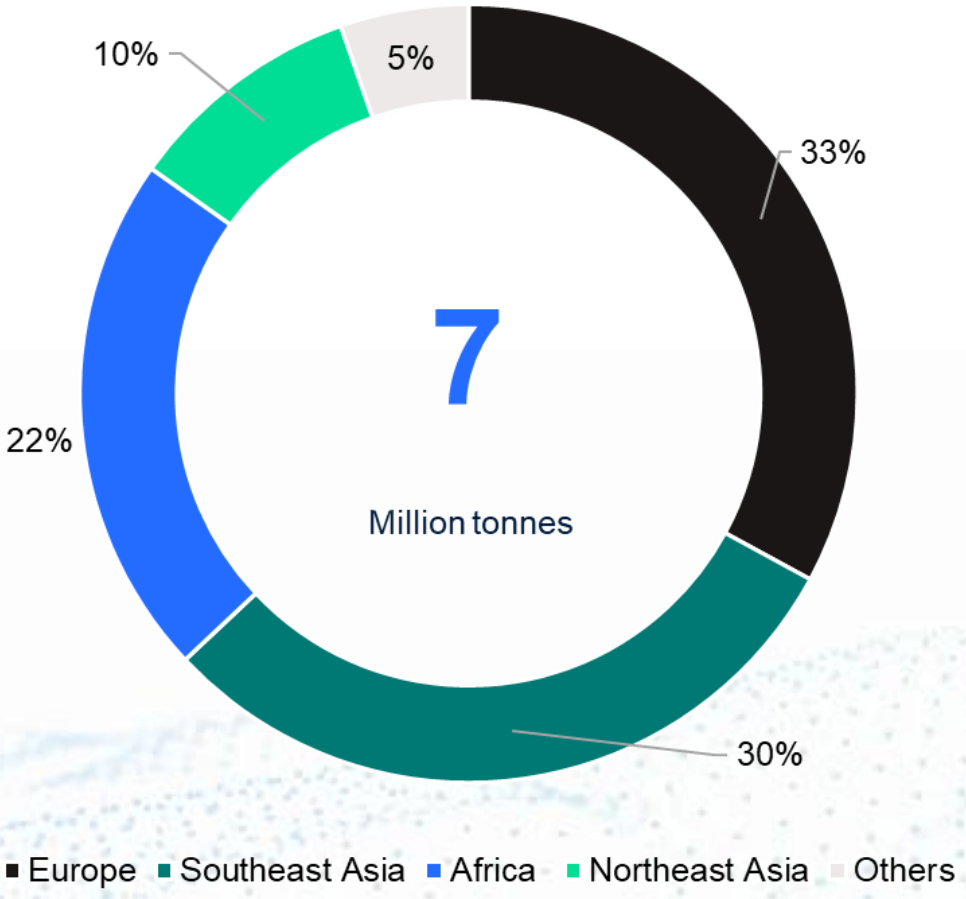
Global HDPE cost curve



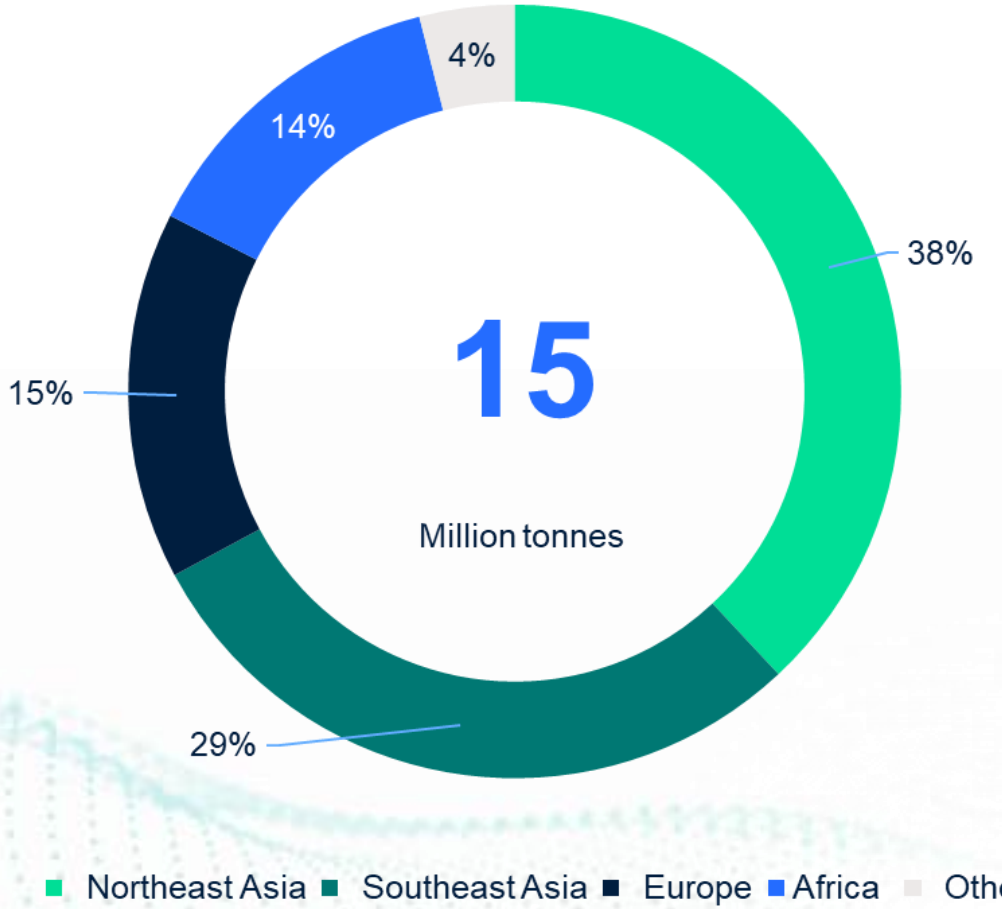
Source: ICIS Cost curves and ICIS ChemCast

The importance of Middle East on PE/PP global trade flow

Middle East PP exports, 2025



Middle East PE exports, 2025



Source: ICIS Supply and demand database

Long road to recovery
Recovery to take longer than war duration

War duration	Crude oil wells	Shipping logistics	Refineries	Chemical plants	Downstream industries
1-month	• Minimal shut-ins • Reservoir pressure retained • 2-3 weeks return to normality	• Tankers in wrong areas • Insurers reprice risk • 1-2 months return to normality	• Some run rate reductions • Minimal shut-downs • 2-3 weeks return to normality	• Some run rate reductions • Inventory limitations • 1-2 months return to normality	• Some run rate reductions • Focus on inventory management • 1-2 months return to normality
3-6 month return to normal					
3-months	• Some shut-ins likely • Potential maintenance required • 1-2 months return to normality	• Insurance terms to be rewritten, causing delays • 1-3 months return to normality	• Significant run rate reductions • Multiple shut-downs • 2 months+ return to normality	• Significant run rate reductions • Minimal damage & Repairs • 2 months+ return to normality	• Significant run rate reductions • Seek alternative suppliers / substitutes • Margins and behavior depend on company size and segment type • 1-2 months return to normality
6-9 month return to normal					
6-months	• Older plants struggle to return • Equipment degradation • 1-3 months return to normality	• Severe port backlog • Initial caution from charterers • 2-4 months return to normality	• Significant run rate reductions • Multiple full shut-downs (Asia) • 3+ month return to normality	• Extended run rate reductions • Damage & Repairs • 2–3 months+ return to normality	• Extended run rate reductions • Seek alternative suppliers / substitutes • Smaller businesses permanently close • Widespread demand destruction • 1–3 months+ return to normality
8-12 month return to normal					

Source: ICIS

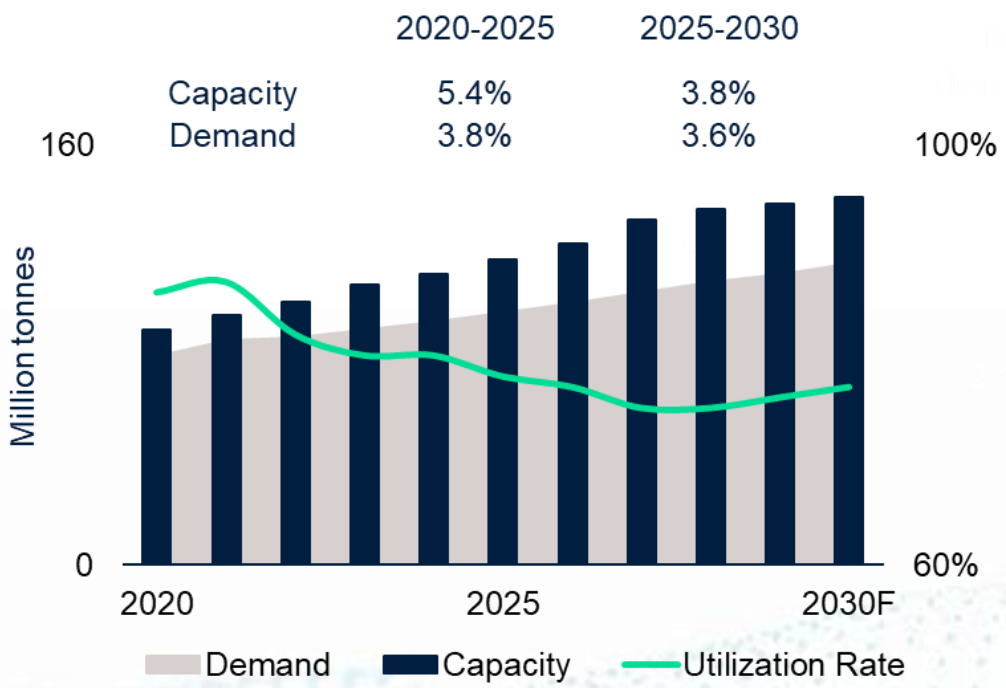
Will the US-Iran conflict speed up rationalization or keep markets tight enough to curb global oversupply?

02

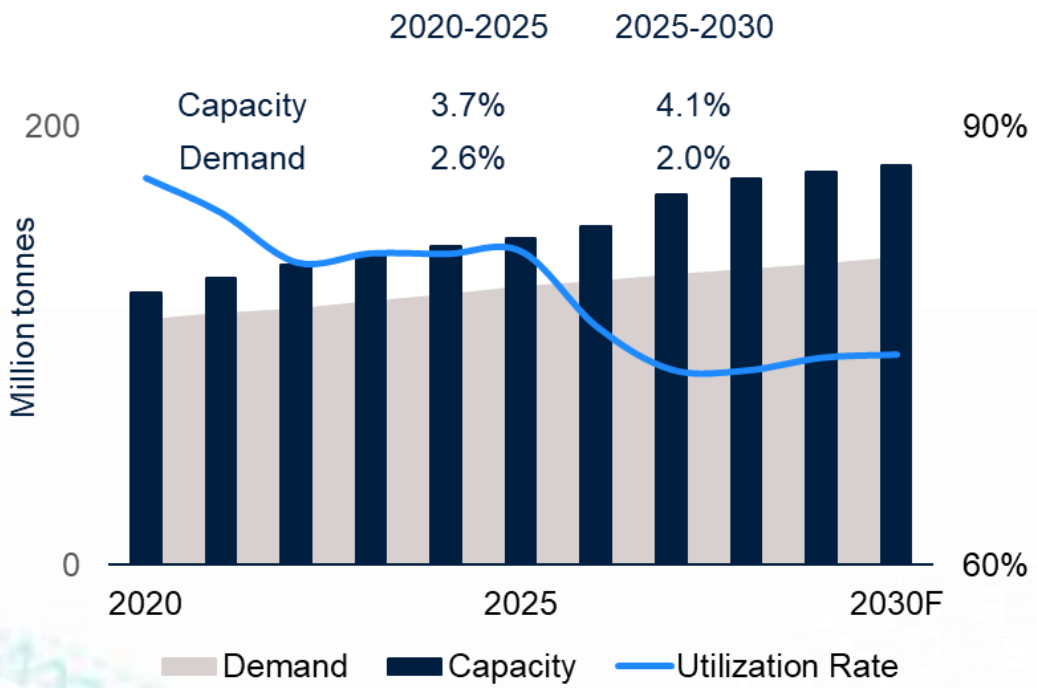
Capacity Rationalization Required to Restore the Global Supply-Demand Balance

The global polyolefins industry is confronting severe and persistent challenge of structural overcapacity

Global PP balance trend *(2020, 2025, 2030)*



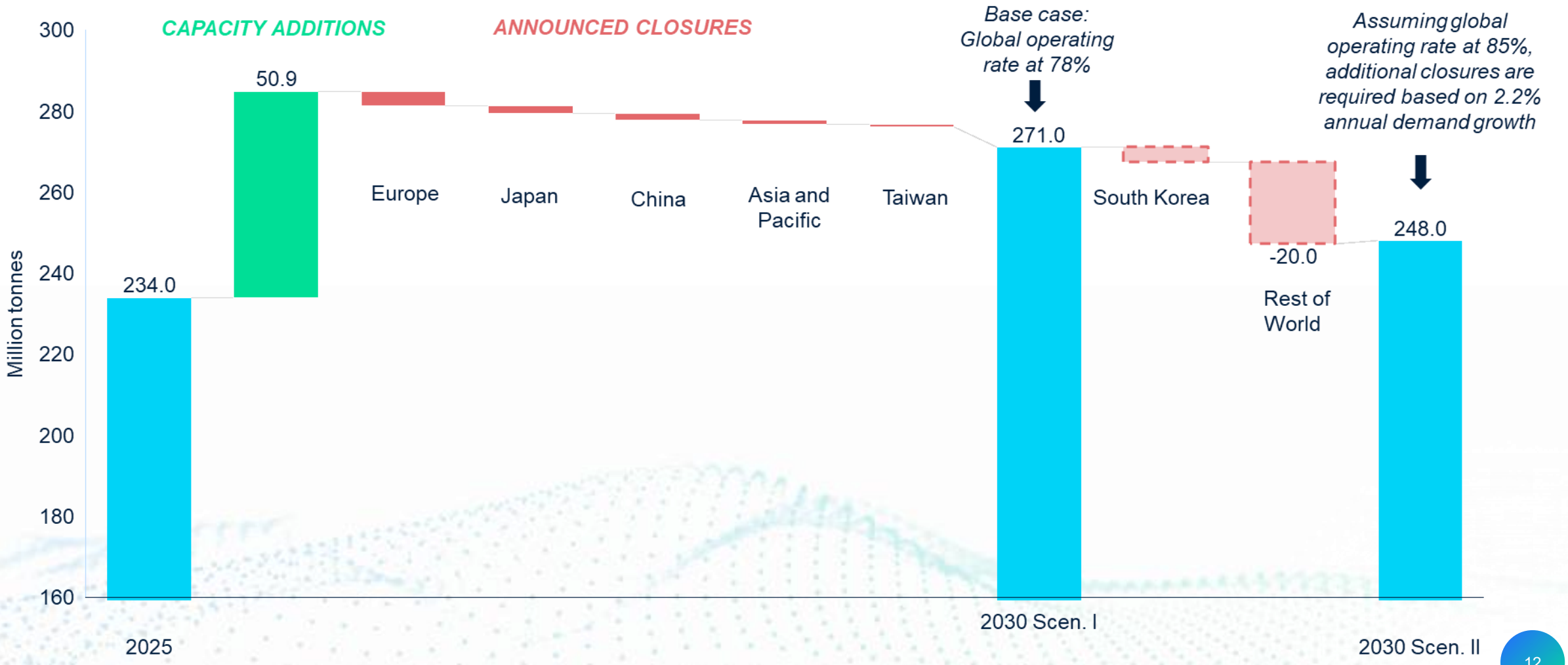
Global PE balance trend *(2020, 2025, 2030)*



- Global PP/PE capacity growth from 2020 to 2030 outpaces demand growth, exacerbating the supply-demand imbalance
- The operating rates are expected to decline as the market attempts to rebalance

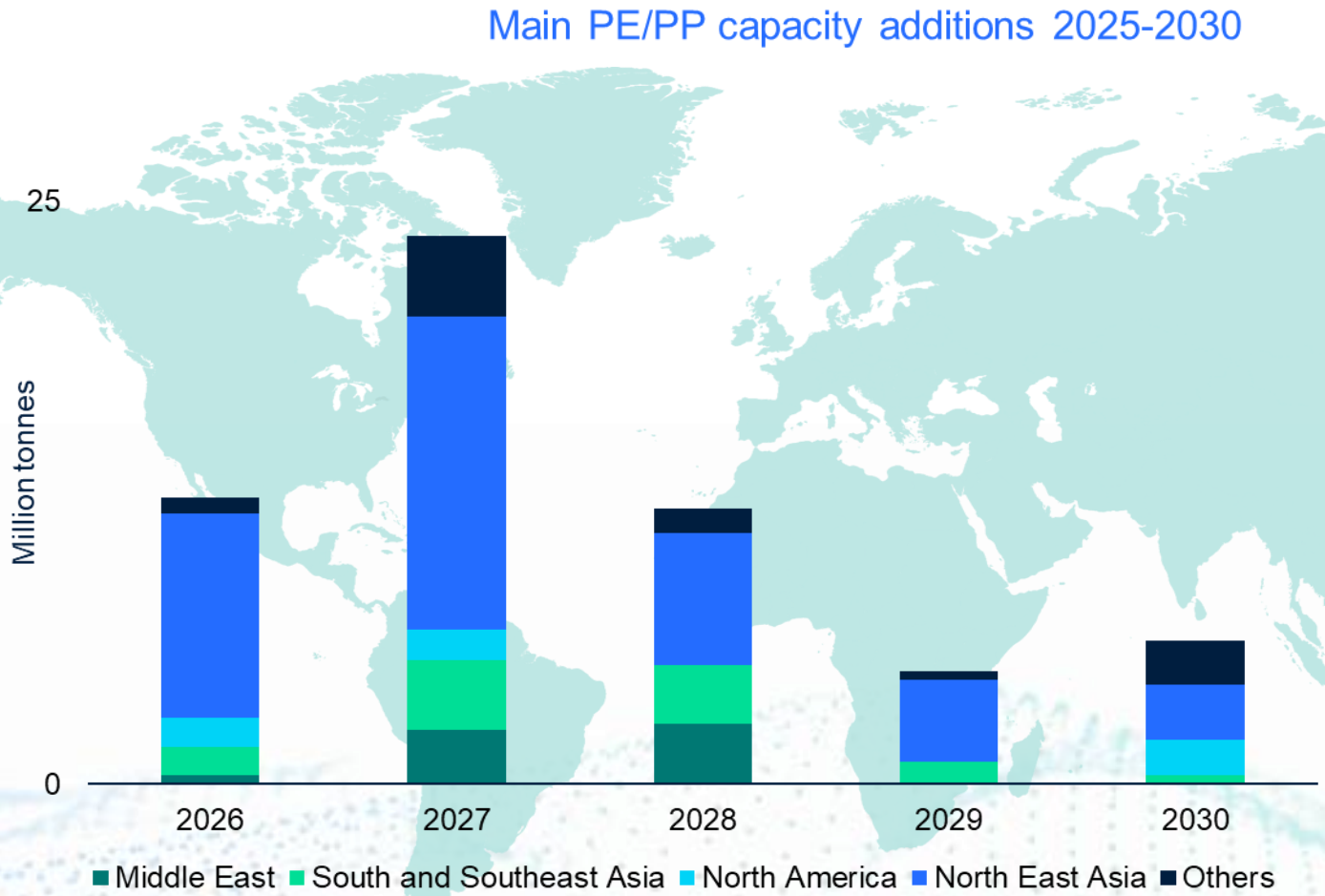
Source: ICIS Supply and demand database

The trend of shutting down aging, small-scale facilities in “high-cost regions” set to accelerate



Source: ICIS Supply and demand database

Rising risk of delays to new capacity startups



Impact and challenges

- **Short Term:** The commissioning of new polyolefin capacity scheduled for 2026 is at high risk of delay due to supply chain disruptions and rising raw material costs
- **Long Term:** Producers likely to reassess projects; include restructuring feedstock sourcing strategies, adjusting polyolefin product portfolios, and reconsidering investment locations

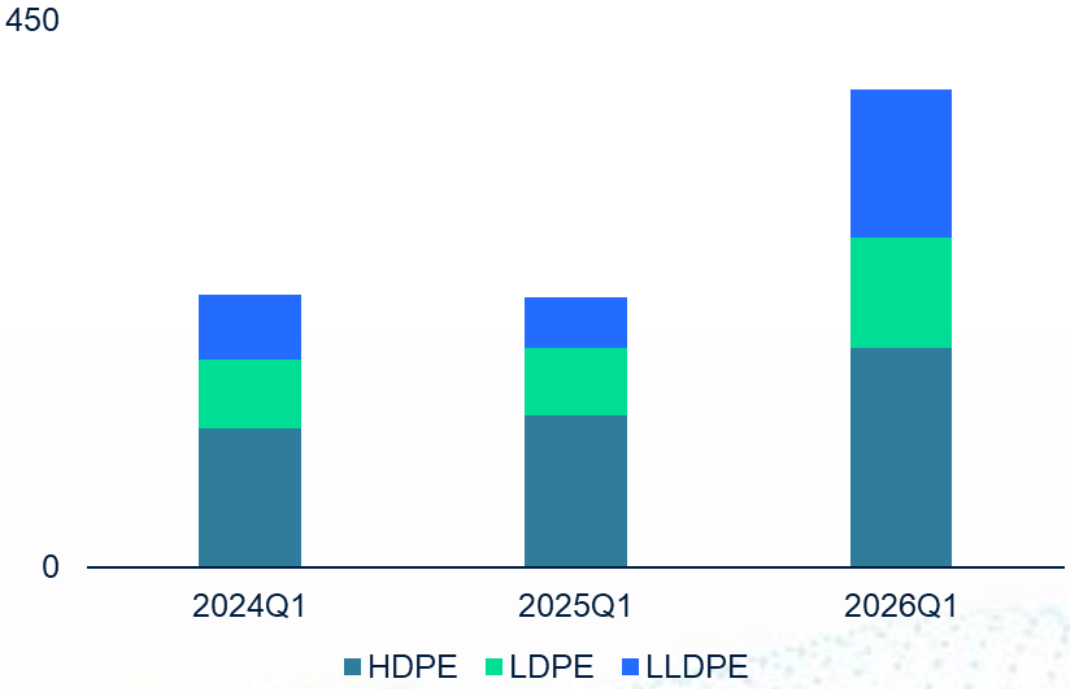
Source: ICIS Supply and demand database

03

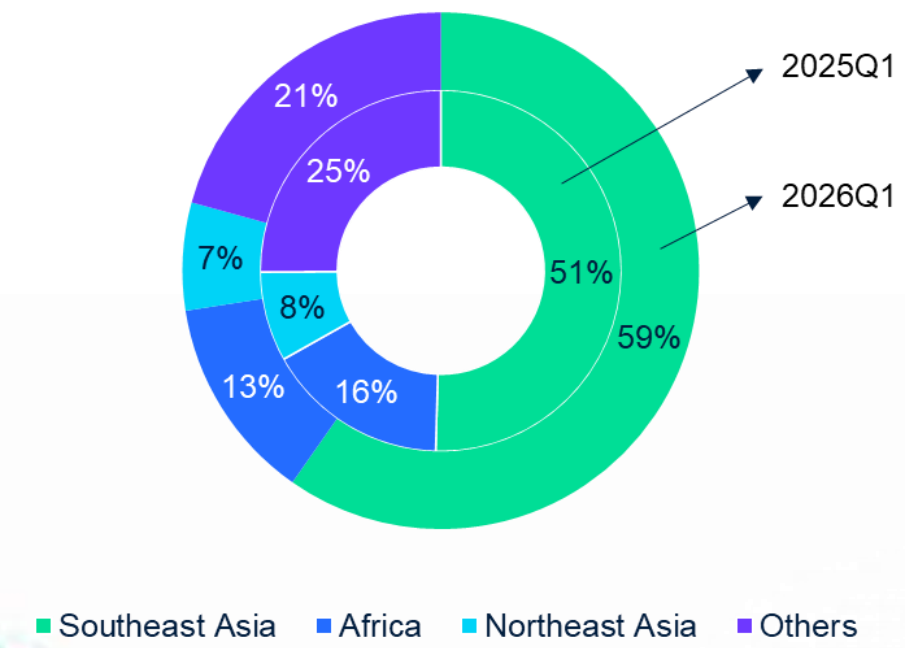
Ripple Effects on Trade Flows Worldwide

Geopolitical uncertainties accelerate China’s growth in PE exports

China PE exports
(’000 tonne,2024Q1,2025Q1,2026Q1)



The main destinations of China's exports
(2025Q1,2026Q1)



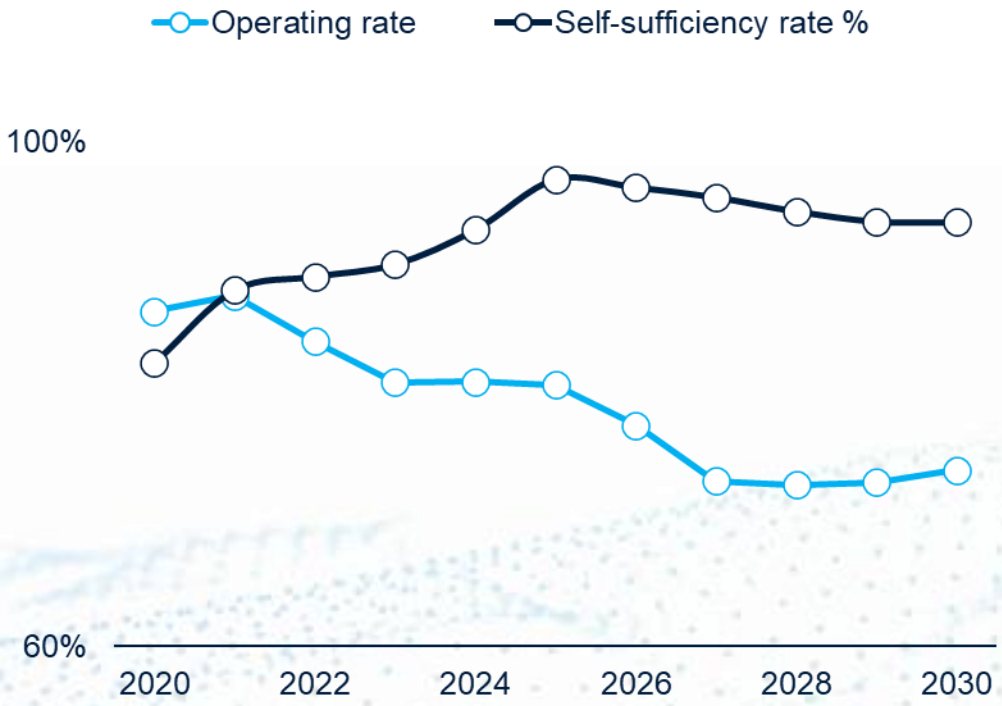
- China leverages stable production to fill the supply gap left by the Middle East; in Q1, China’s PE exports surged dramatically, marking its emergence as a regional supply balancer and exporter
- Southeast Asia remains the major destination for Chinese exports. Despite export volumes are expected to decline sharply once conflicts ease, this event is expected to accelerate China’s long-term growth in PE exports.

Source: ICIS Supply and demand database

From importer to exporter: the shift in China's role in PP markets

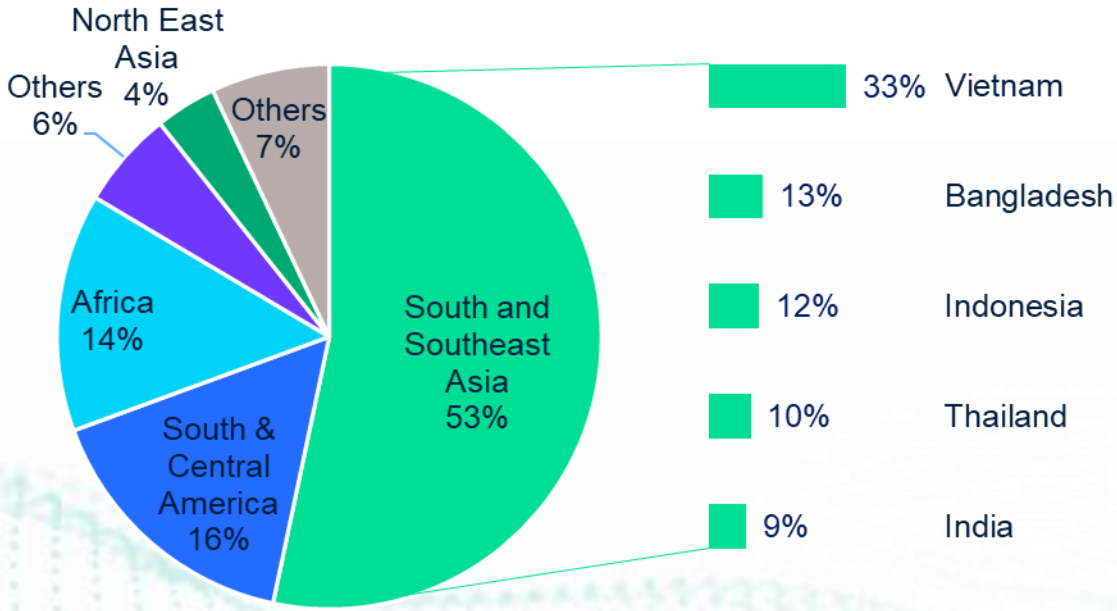
- China exported 2.9 million tonnes in 2025 (yoy +23%); imports fell to 3.3m tonnes (yoy-10%)
- PP exporters aim to change mode from relying on arbitrage opportunities to regular business

China PP operating rates and self-sufficiency rate
(%, 2020-2030)



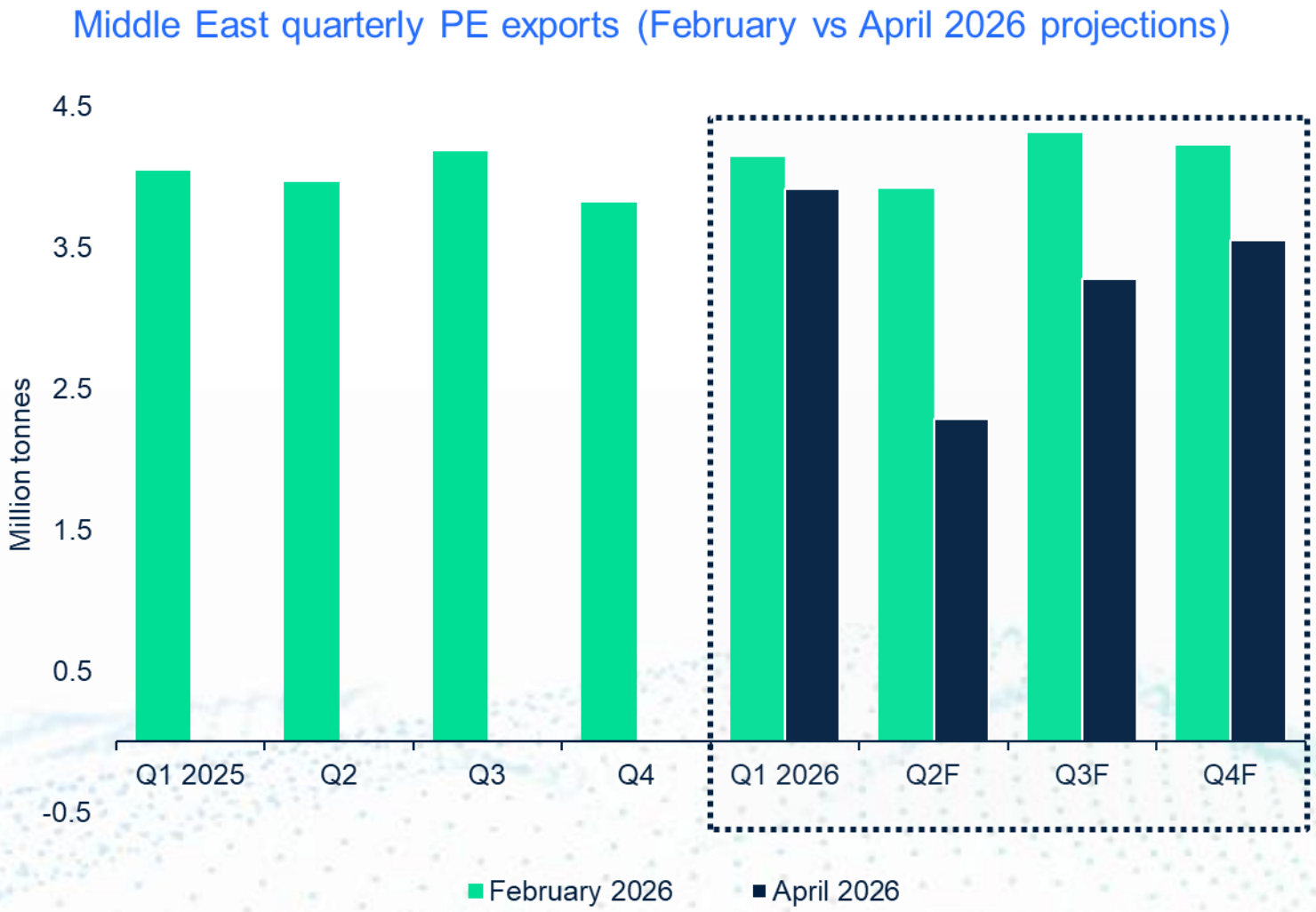
Source: ICIS Supply and demand database

China PP major export destinations
('000 tonnes, 2025)



Note: The combined export volume of the five countries on the right accounts for 78% of China's total exports to southeast and south Asia

Middle East PE exports to decrease sharply in 2026



Total Middle East **PE export**

-3.6Mt

Middle East PE exports to **Asia**

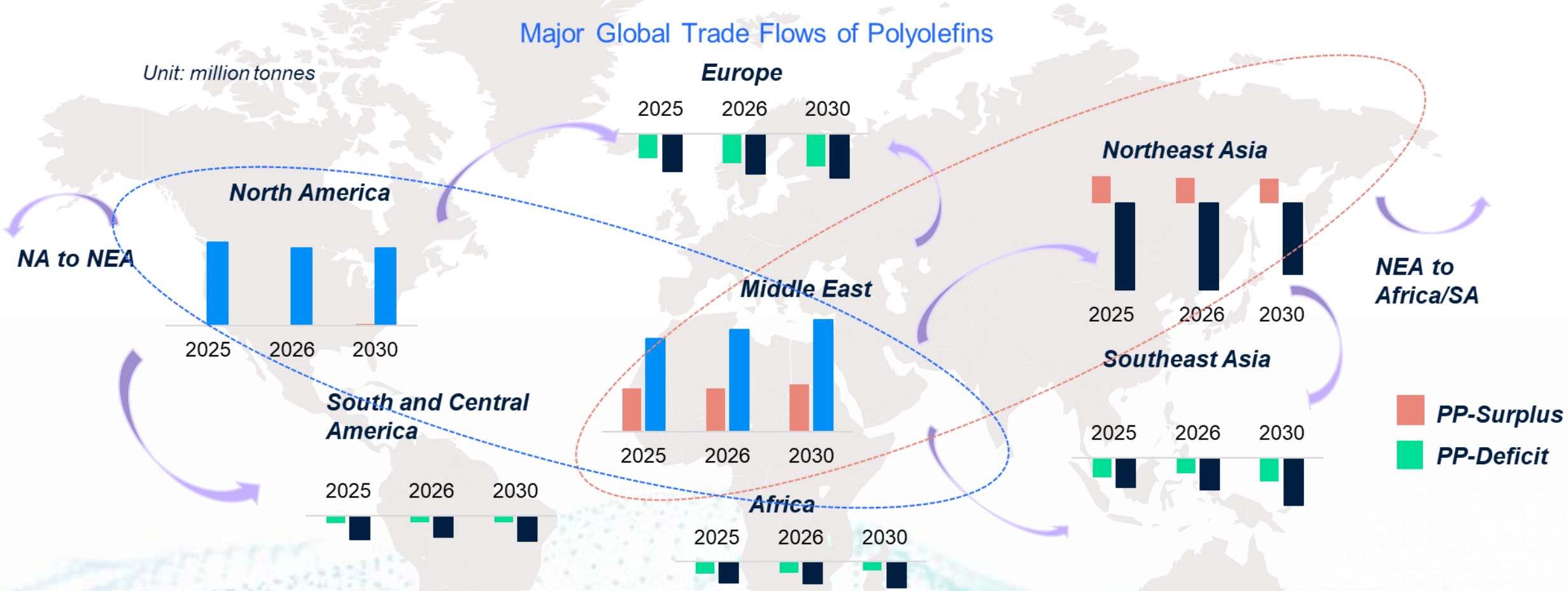
-2.8Mt

Middle East PE exports to **Europe**

-0.3Mt

Source: ICIS Supply and demand database + analyst inputs

Middle East conflicts accelerate global shift in polyolefin trade



- The importance of the traditional "Middle East-Asia" main shipping route may relatively decline
- New routes such as "China-Southeast Asia/Africa" will increase

Source: ICIS Supply and demand database

04

New Demand Trends and Shifts in Producer Strategies

Polyolefins: market headwinds offset by demand pockets

New energy applications

- UHMWPE and microporous PP ensure EV battery safety with strength, heat resistance, and insulation
- POE enhances solar panels' efficiency and durability
- High-purity polyolefins improve lithium batteries' safety and performance

Automotive lightweighting trend

- Require materials that are lightweight, high-strength, and resistant to fatigue
- Traditional steel components are replaced with plastic to reduce weight and improve efficiency

Medical and packaging industries

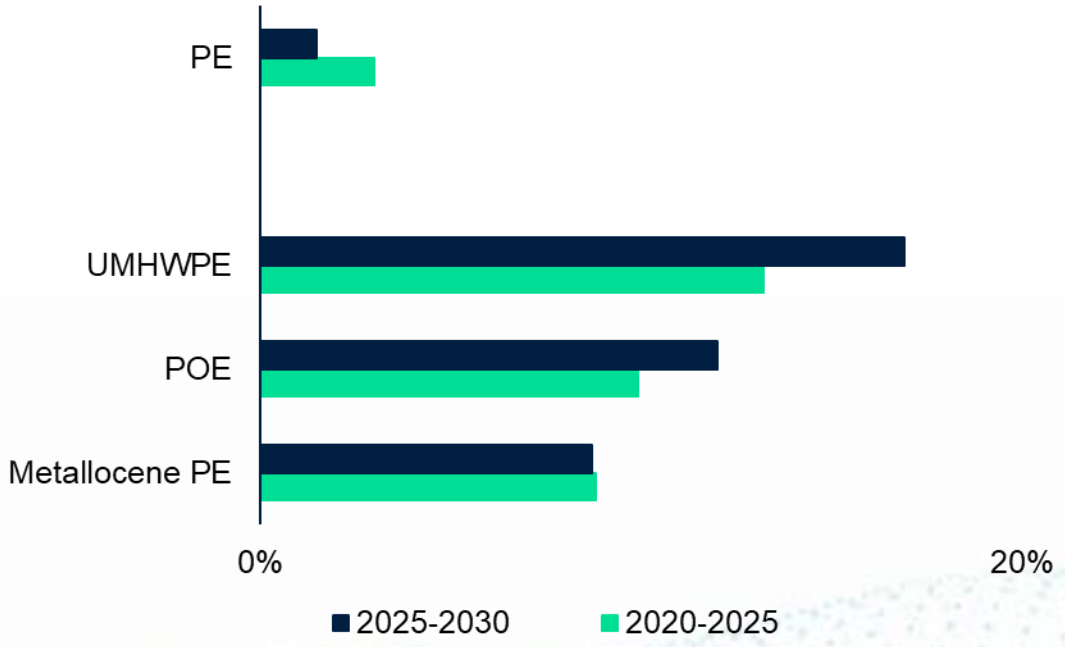
- The aging population trend and medical industry advancements are driving increased demand for high-transparency polyolefins to meet stricter healthcare standards
- Consumption upgrade drives high-performance packaging and daily necessities

Green packaging and circular economy

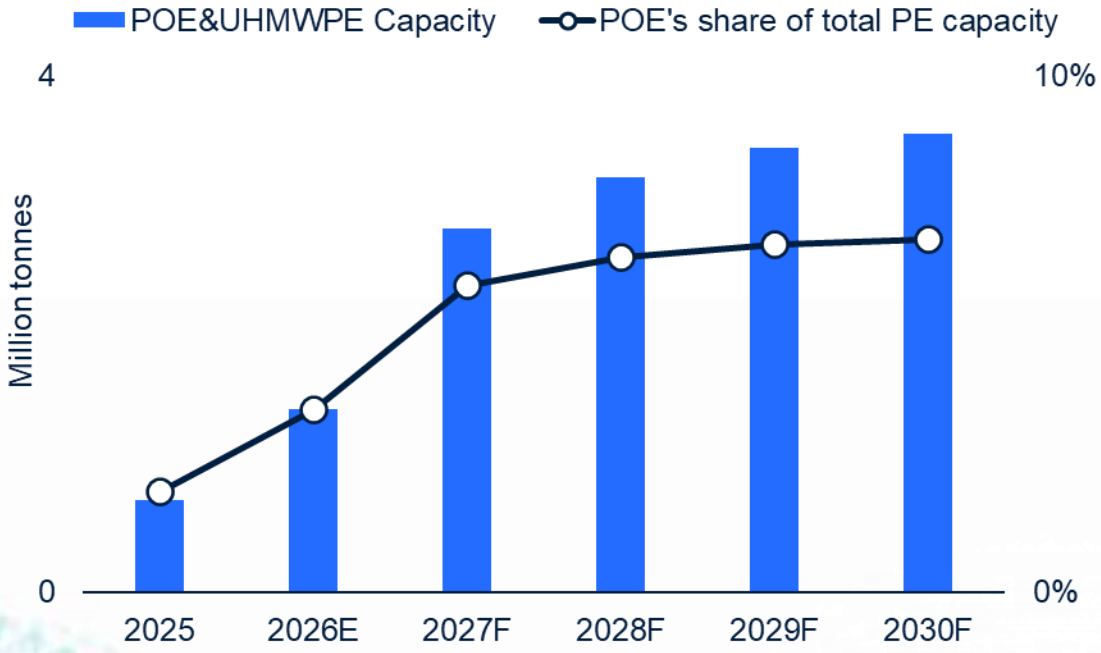
- Stricter environmental regulations are increasing the demand and potential for recyclable and bio-based polyolefins in the new energy sector
- Bio-based polyolefins contribute to carbon emission reductions, supporting sustainability goals

Market involution drives suppliers toward high-end segments

China PE demand growth: specialized materials vs. overall market



China POE & UHMWPE capacity *(2025-2030)*

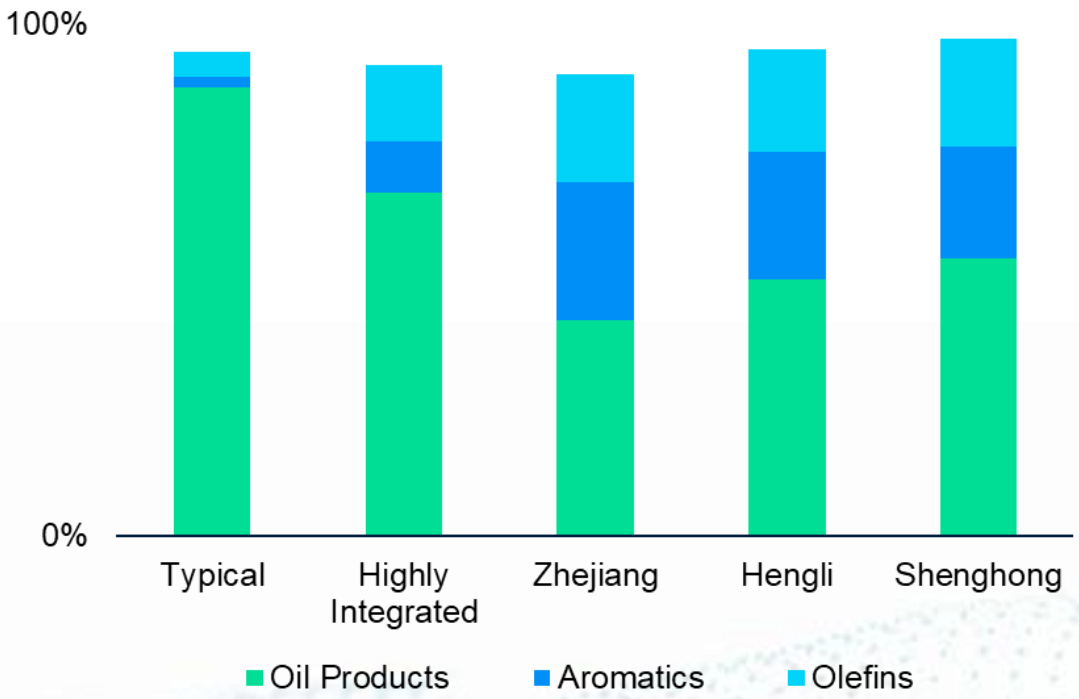


- Rising self-sufficiency heightens market competition
- High-growth segments are becoming key areas for Chinese producers to increase their market share
- Technology advancements drive POE, metallocene, and UHMWPE localization

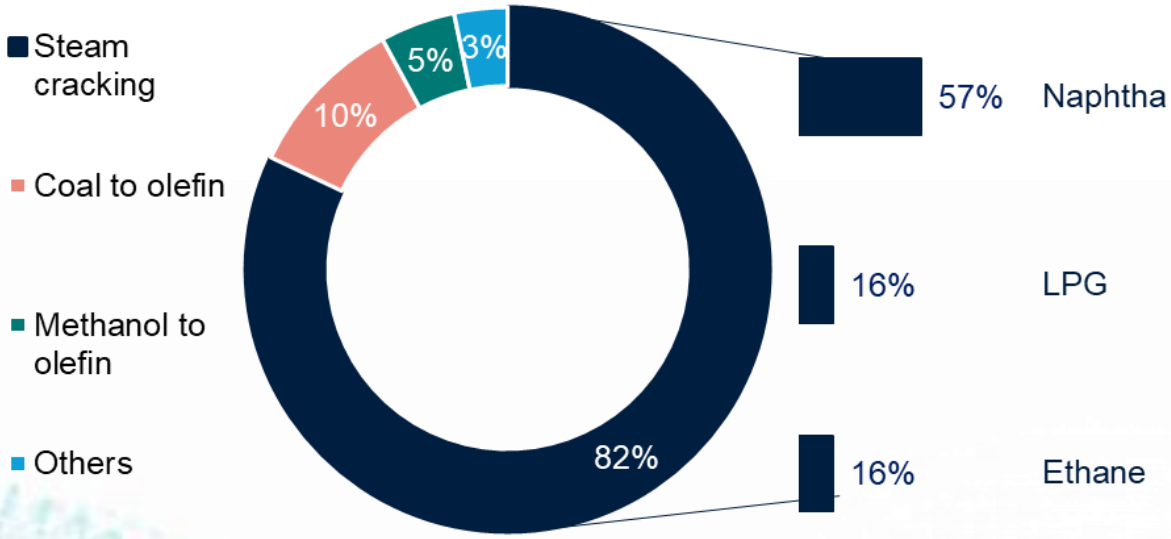
Source: ICIS Supply and demand database

Producers boost competitiveness through integration and feedstock diversification

New Chinese refineries are aiming at >40% petrochemical yields



China ethylene capacity by diversified feedstock *(2025)*



- Adoption of highly integrated operational models improves production efficiency
- Diversified feedstock sourcing reduces dependence on single raw materials

Source: ICIS Supply and demand database

Summary

- Geopolitical disruption and supply chain impact

- Causes major disruptions in the polyolefin markets
- Structural supply chain breakdowns lead to ongoing shortages and regional imbalances, increasing price volatility and disparities
- Industry faces extended price, cost, supply, and demand shocks in H2 2026

- Pace of capacity rationalization is accelerating

- Despite notable outages in the Middle East, underlying global overcapacity has not been structurally resolved
- More capacity closures globally towards 2030
- Start-up of some new projects to be delayed

- Reshaping the trade balance

- China's emergence as a regional supply balancer
- The rapid increase in Chinese exports heightens competition across the region
- Trade routes are undergoing long-term transformations

- Producers pursue high-quality development path for industry value chain

- New demand growth drivers are emerging across industries including new energy, healthcare, packaging, automotive, and the circular economy
- Diversified feedstock structure
- Develop high value-added products

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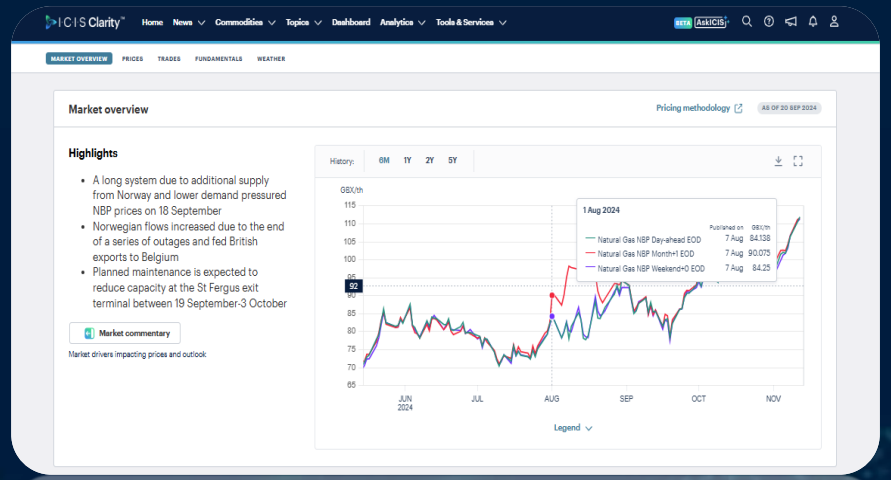

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- Streamlined insights: Key insights presented upfront, with in-depth analysis stored in flyouts

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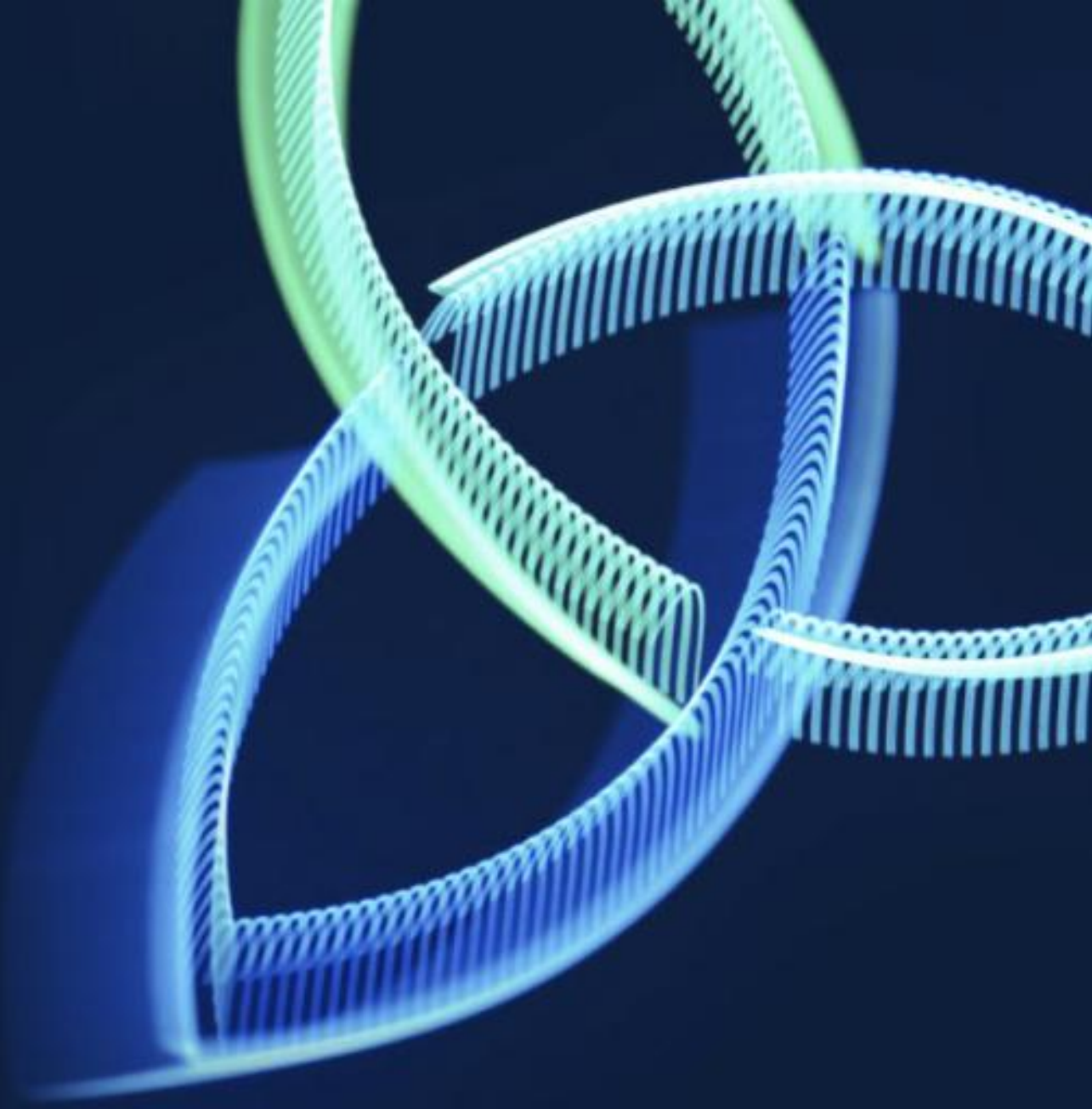

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APIC 2026 Asia Petrochemical Industry Conference FUKUOKA, JAPAN

Evolving Trends in the Chinese Demand and Capacity for Performance Polyolefins

29 May 2026

Yi Ling Tan
Director, Polyolefins Asia
Yiling.Tan@chemicalmarketanalytics.com

PE capacity additions exceeds demand growth until 2030

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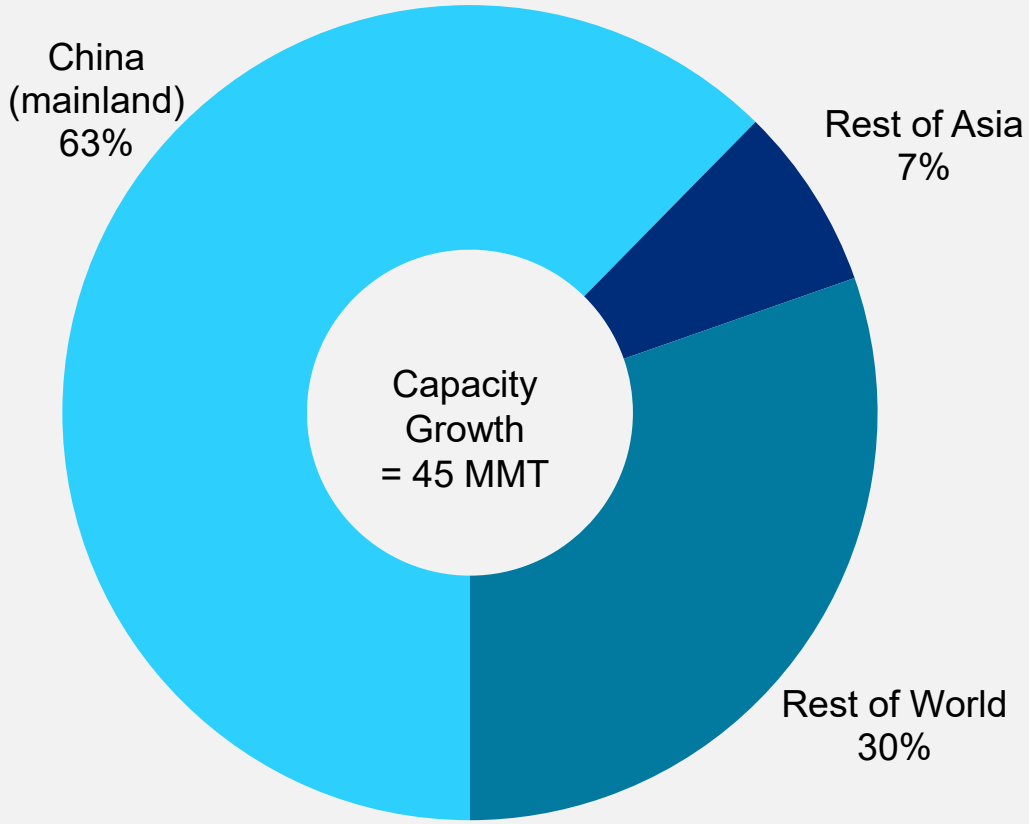
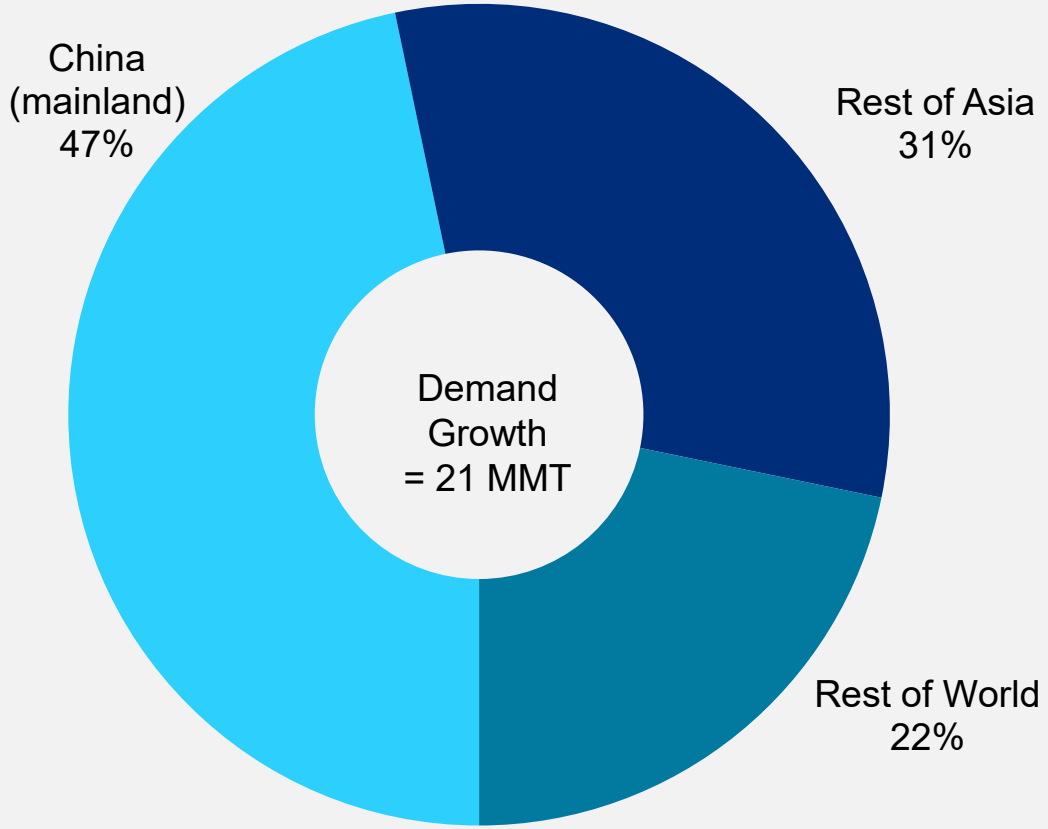
PE incremental nameplate capacity, 2025 - 2030



Source: Chemical Market Analytics by OPIS

PE incremental demand, 2025-2030



Source: Chemical Market Analytics by OPIS

Mainland China will remain the leading PE importer, despite massive new capacity additions

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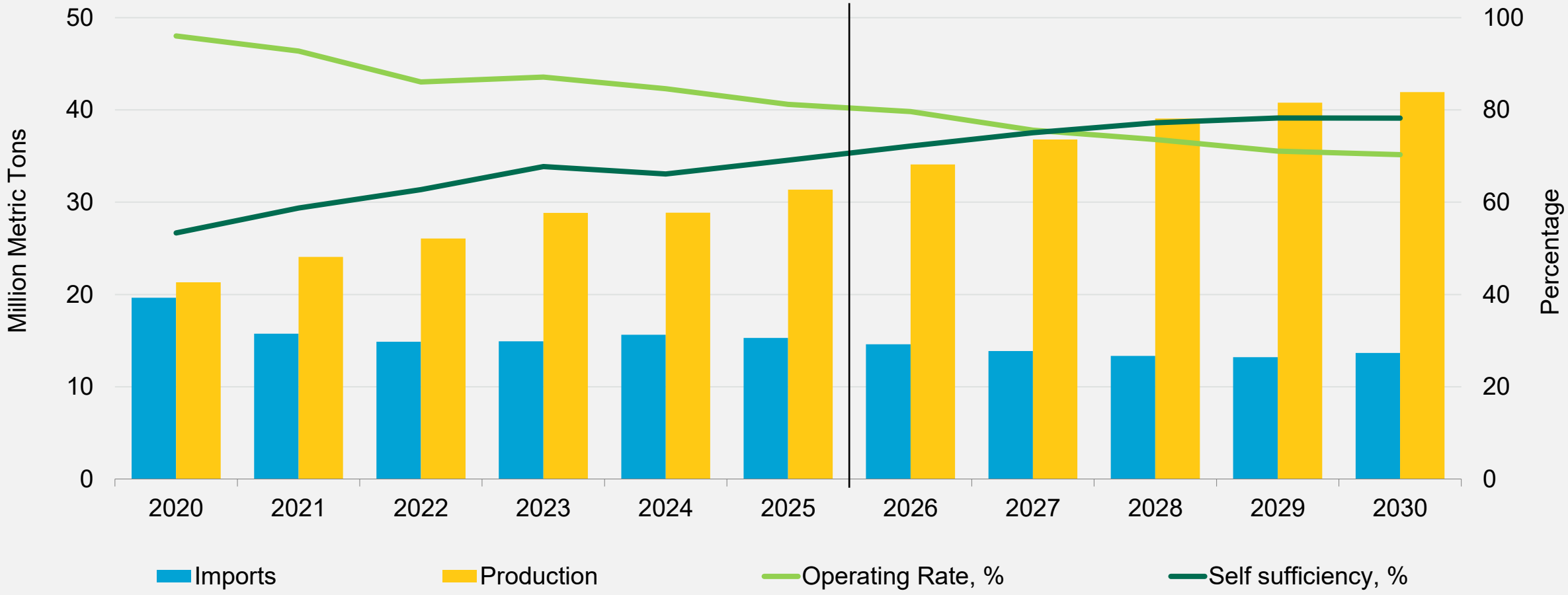
Mainland China PE Self-Sufficiency Rate & Import Volumes



Source: Chemical Market Analytics by OPIS

Capacity growth outside mainland China is falling behind demand growth

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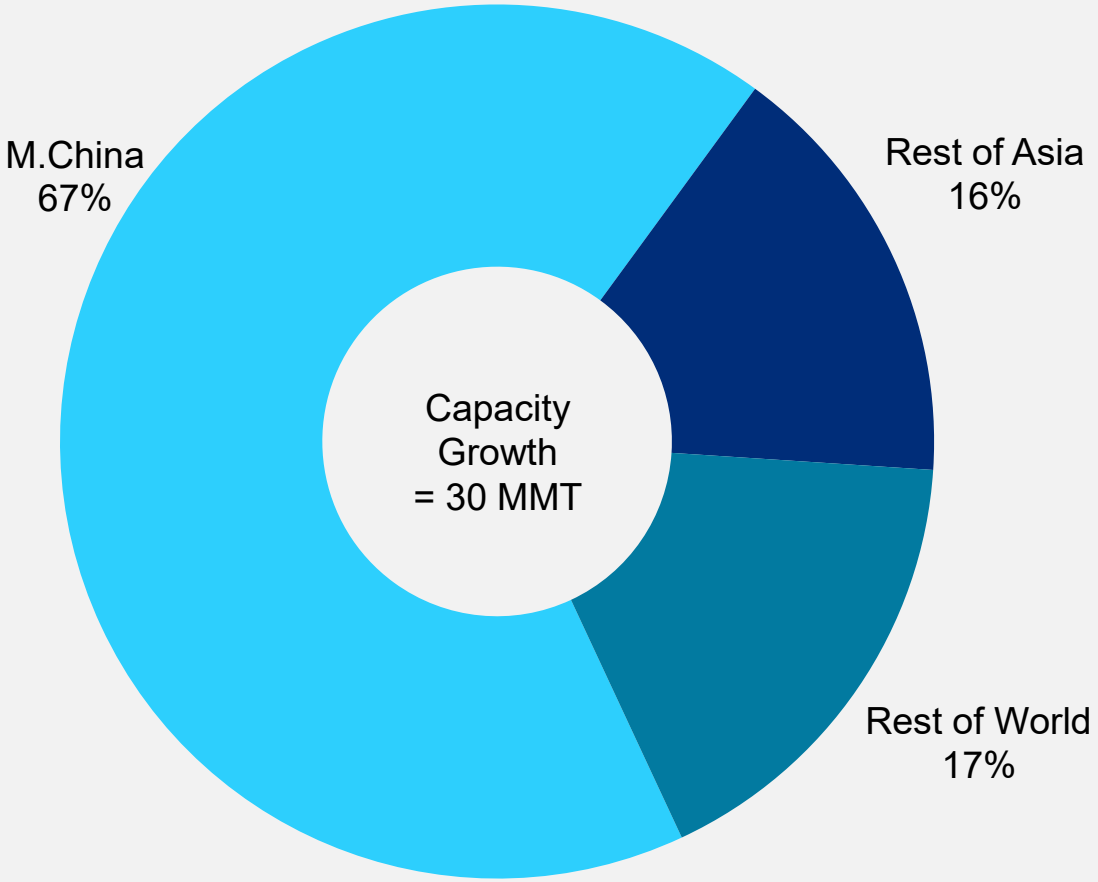
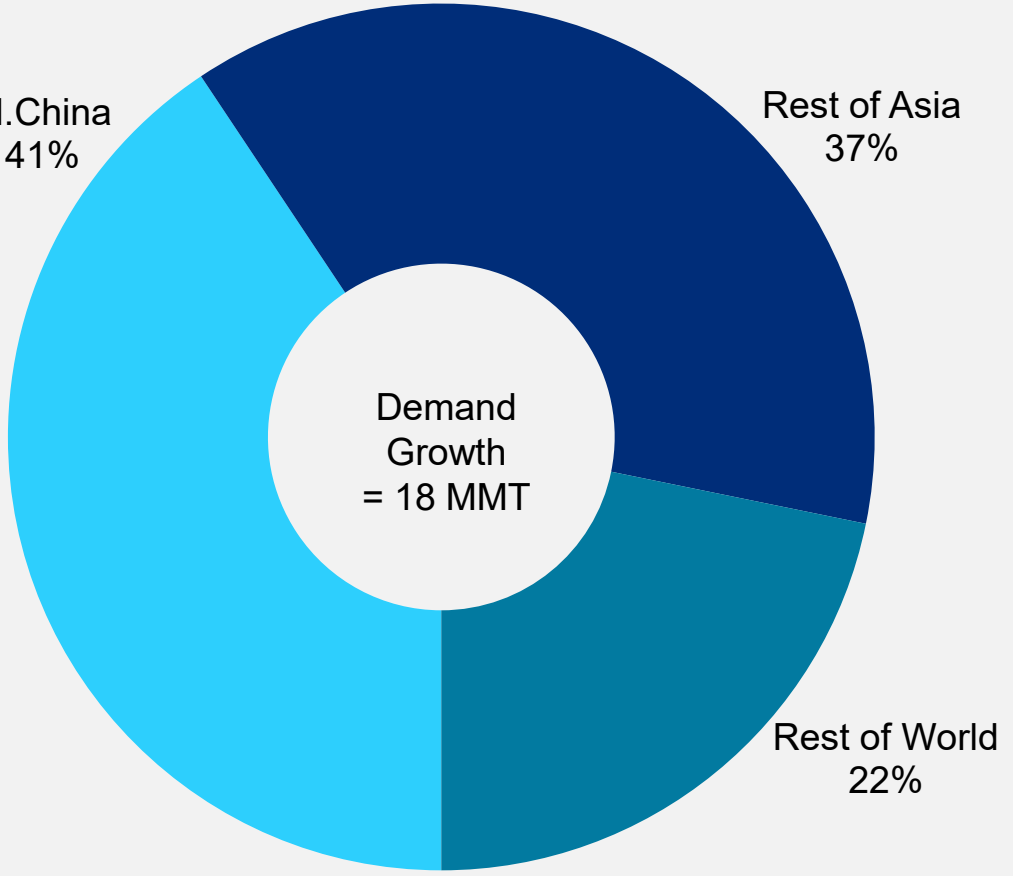
Global PP Incremental Nameplate Capacity, 2025-2030



Source: Chemical Market Analytics by OPIS

Global PP Incremental Demand, 2025-2030



Source: Chemical Market Analytics by OPIS

Mainland China's New Capacity Additions Continue to Dominate Globally, Though Growth Slows in the Outer Years

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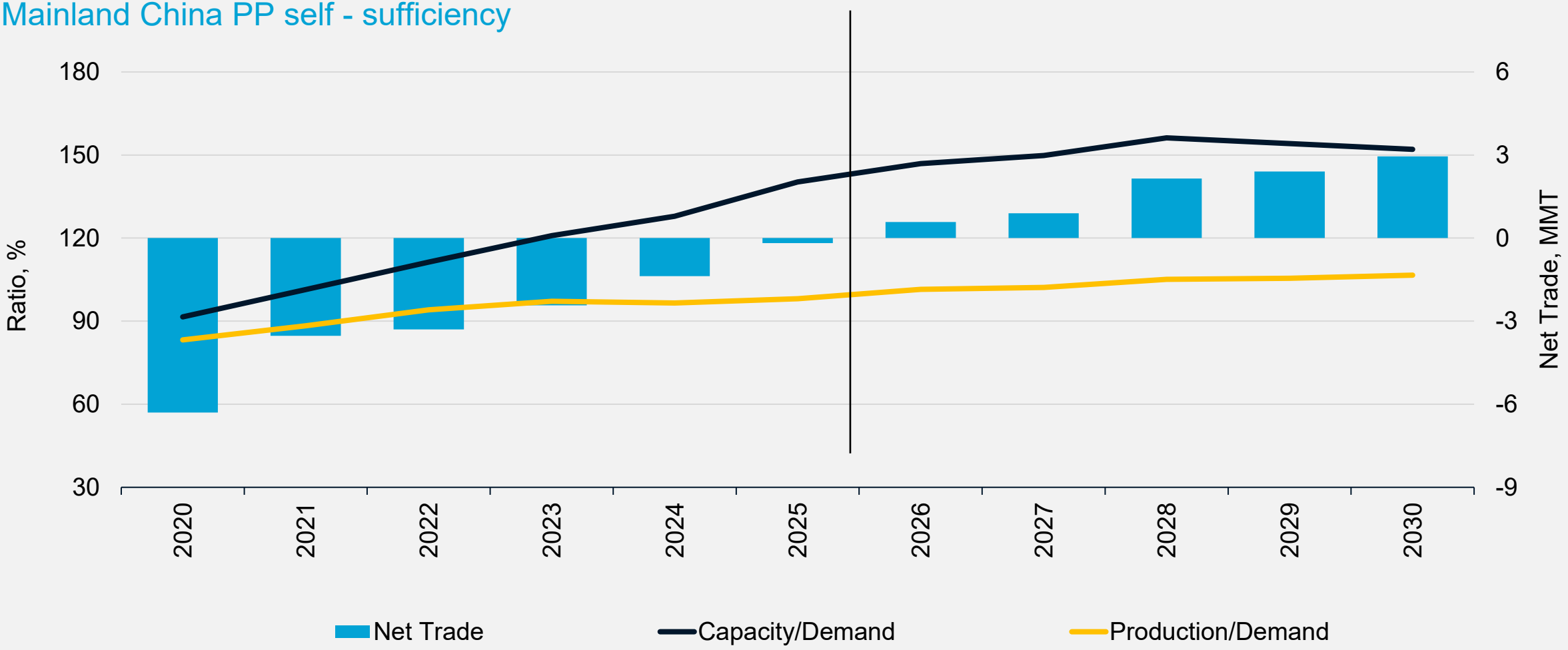
Mainland China PP self - sufficiency



Source: Chemical Market Analytics by OPIS

Emerging End-Use Sectors Are Reshaping Polyolefin Demand and Performance Requirements

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Segments	New Energy Vehicles (NEVs)	Solar (PV)	High- end Packaging	Silver Economy
Demand Growth Drivers	• Government incentives and carbon emission reduction targets • Electrification and fuel economy regulations • Battery cost declines improving affordability • Consumer shift toward green mobility • Expansion of charging infrastructure	• Global decarbonization and renewable energy targets • Falling solar generation costs • Policy support and subsidies • Energy security concerns • Rapid installation growth	• Consumption upgrade (quality, safety, convenience) • Growth in e-commerce and food delivery • Demand for longer shelf life (high-barrier packaging) • Expansion of ready meals and pet food (retortable packaging) • Cold chain development (frozen and fresh food logistics)	• Aging population and longer life expectancy • Rising healthcare and elderly care demand • Growth in disposable income among seniors • Expansion of medical and care services • Policy support for elderly welfare
Material Specs to fit	Lightweight, low VOC, high stiffness, flame retardancy, impact resistance	Weather resistance, low permeability, transparency, anti-aging, insulation	High barrier, retort resistance, puncture resistance, recyclability	Hygienic grade, safety, softness, durability, ease of processing

Growth in key end-use sectors is accelerating demand for higher-performance polyolefins

Energy Transition Accelerates “New Three” Industries, Boosting Advanced Materials Demand

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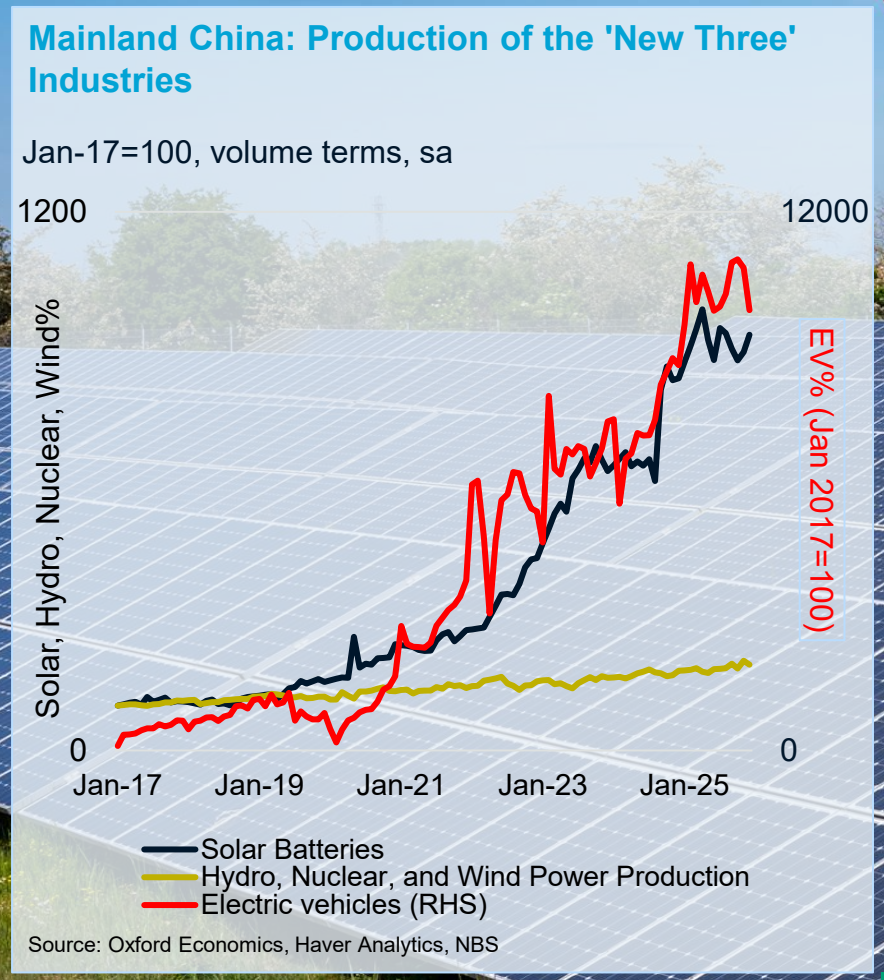

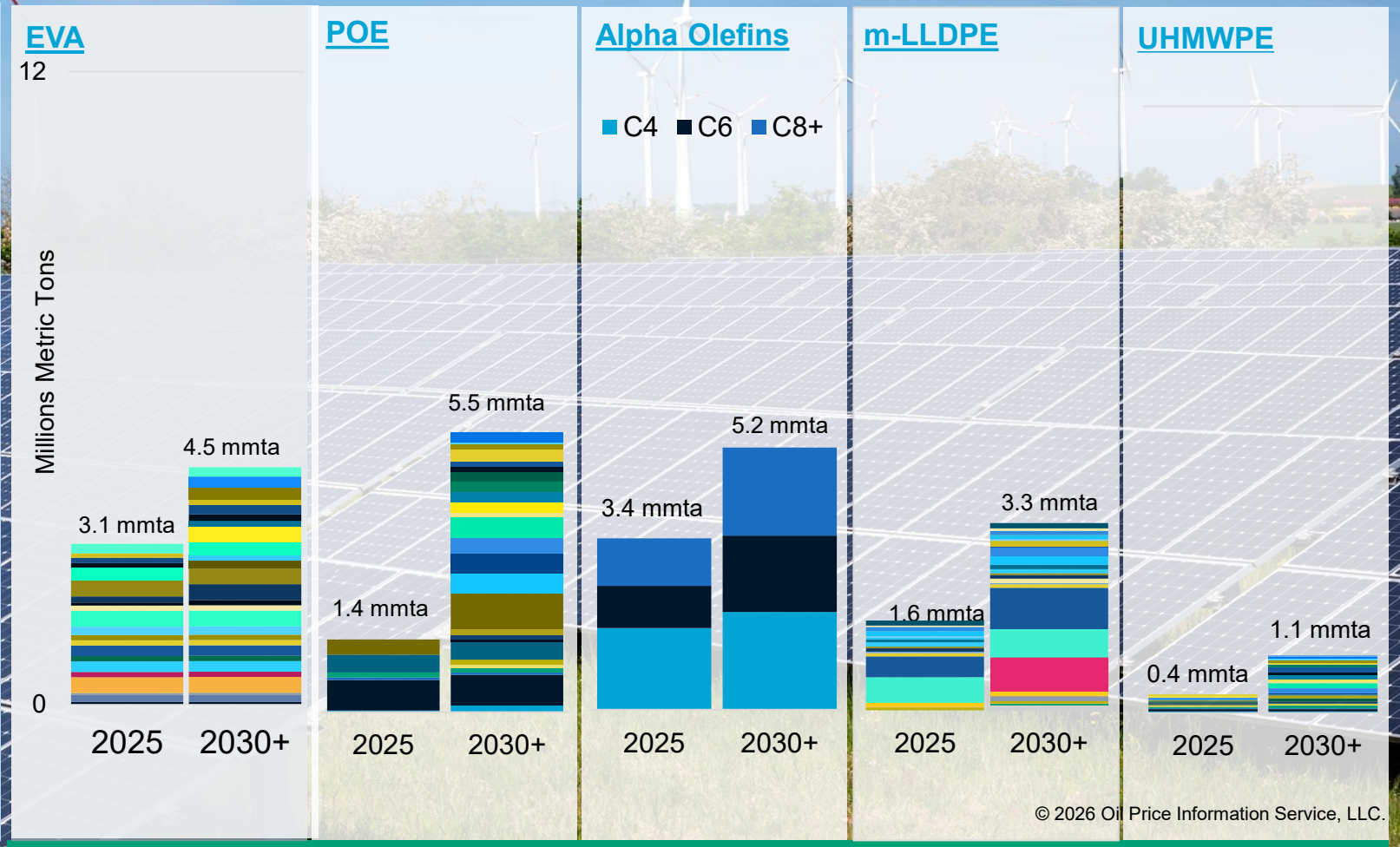

Note: 1. For EVA, POE, and UHMWPE, different color represents different company
2. Total Capacity 2030+ include early planned projects

Progress in the localization of high-performance polyolefins in China: a dual test of opportunities and challenges

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mLLDPE

- Advanced catalyst systems required for high-performance film applications
- Market dominated by overseas petrochemical producers
- Rapid product innovation is accelerating the need for domestic technological breakthroughs

POE/POP

- Immature metallocene catalyst and polymerization technology
- High-carbon LAO localization still pending
- Limited product and application targeting

EVA

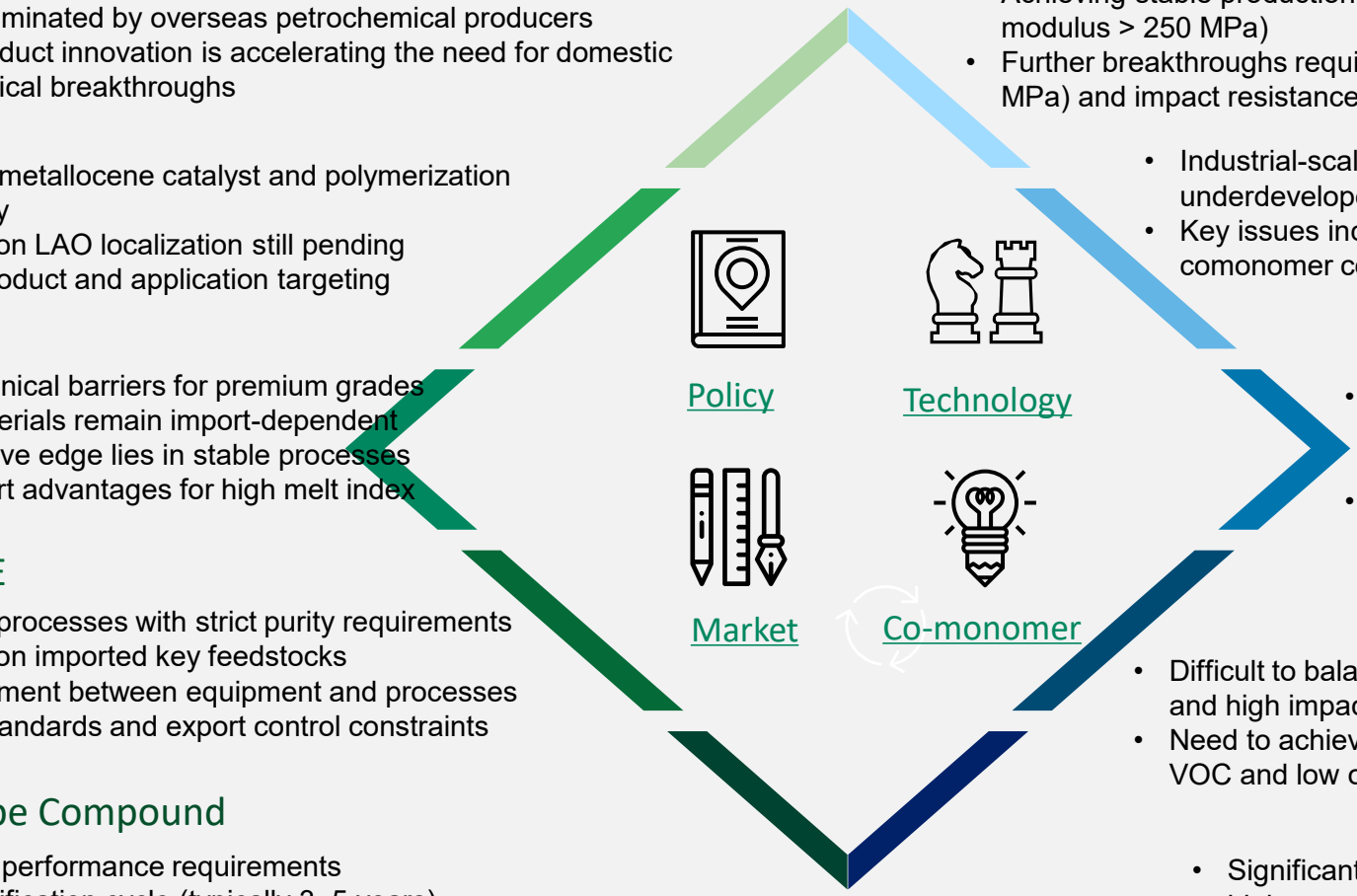
- High technical barriers for premium grades
- Core materials remain import-dependent
- Competitive edge lies in stable processes and export advantages for high melt index products

UHMWPE

- Complex processes with strict purity requirements
- Reliance on imported key feedstocks
- Low alignment between equipment and processes
- Lack of standards and export control constraints

PE100 Pipe Compound

- Stringent performance requirements
- Long certification cycle (typically 3–5 years)
- Increasing pressure from global competition



High Melt Strength

- Need to overcome challenges in catalyst–process integration
- Achieving stable production of high melt strength (flexural modulus > 250 MPa)
- Further breakthroughs required in high modulus (>1700 MPa) and impact resistance

mPP

- Industrial-scale production technology remains underdeveloped
- Key issues include catalyst activity and comonomer control

Spunbond Fiber-Grade

- Requires optimization of molecular weight distribution and processability
- Performance gap versus international benchmarks

"Three Highs, One Low" Impact Copolymer

- Difficult to balance high melt index, high modulus, and high impact strength
- Need to achieve high ethylene content with low VOC and low odor

Terpolymer

- Significant technical barriers in industrializing high comonomer content products

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Asia's Polyolefin Market:

Rebalancing Amid Capacity Flood and Industrial Challenges

Elaine Shen
Argus Polymer Asia
Senior Analyst
Email:elaine.shen@argusmedia.com

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- European steel
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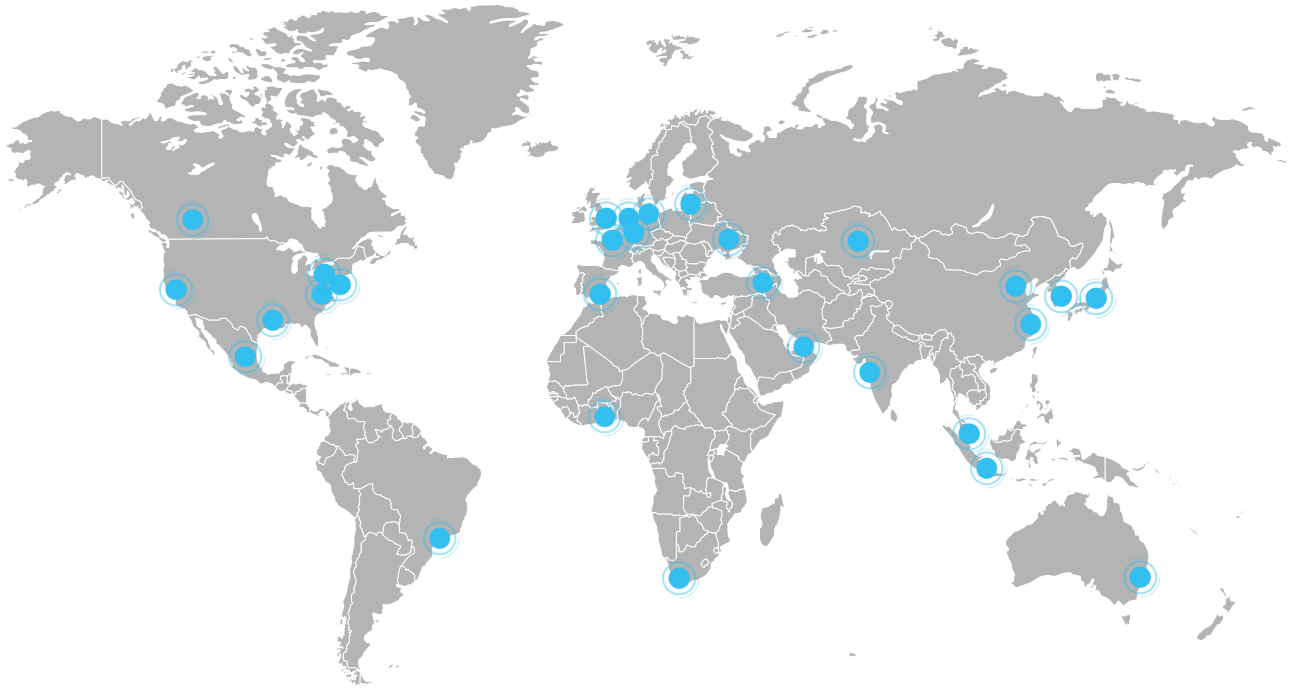
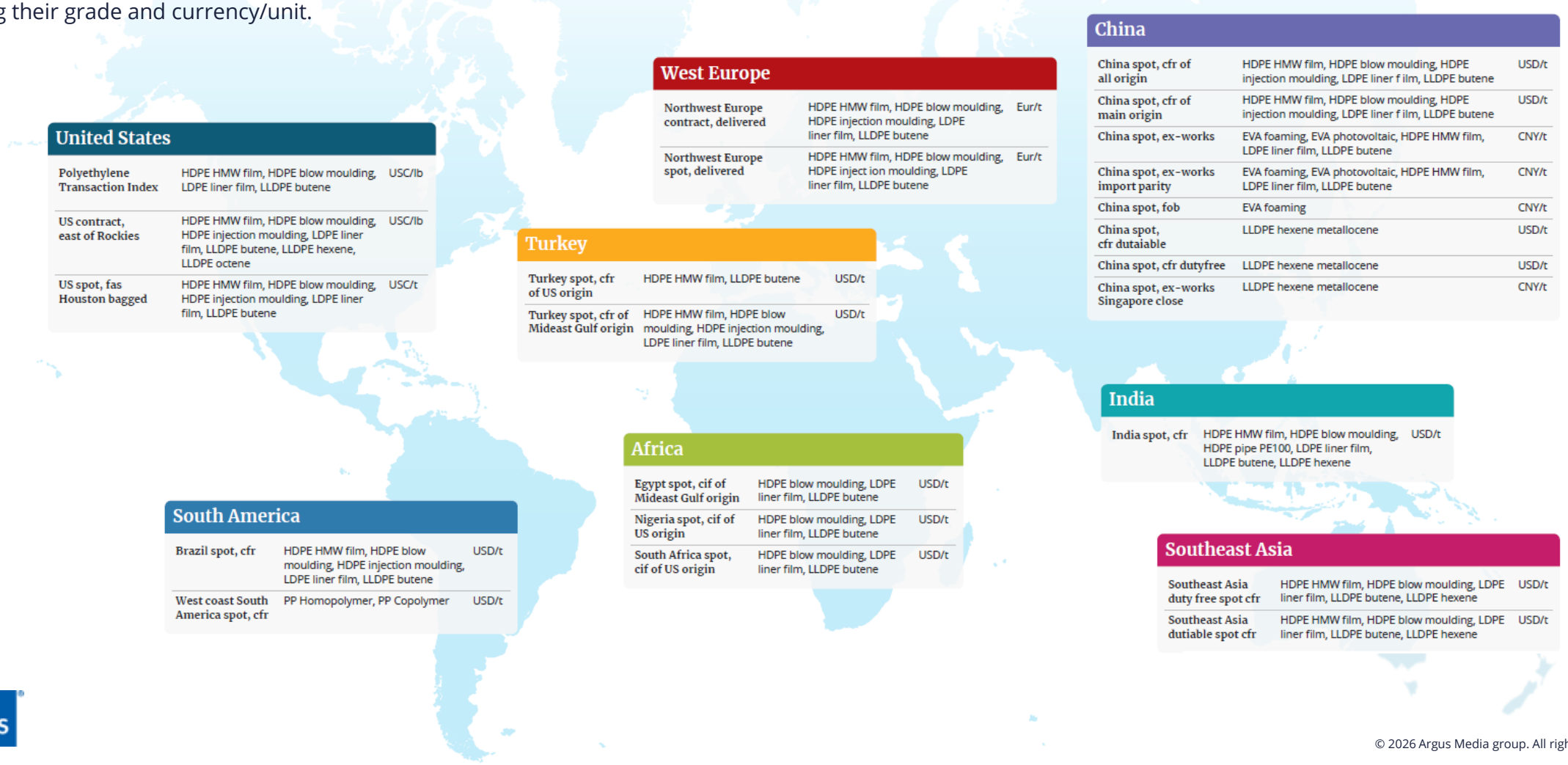


Argus Global Polyethylene – key prices map

The Argus Global Polyethylene service delivers leading polyethylene contracts and spot benchmarks, global industry news and analysis of key economic drivers, in a single service. Our prices are used by market participants directly indexing them in supply contracts or for internal benchmarking of commercial performance. They also serve as trusted reference points for risk management, strategic analysis and annual planning. Here we've outlined our key price assessments in the global polyethylene market including their grade and currency/unit.



United States

Polyethylene Transaction Index	HDPE HMW film, HDPE blow moulding, LDPE liner film, LLDPE butene	USC/lb
US contract, east of Rockies	HDPE HMW film, HDPE blow moulding, HDPE injection moulding, LDPE liner film, LLDPE butene, LLDPE hexene, LLDPE octene	USC/lb
US spot, fas Houston bagged	HDPE HMW film, HDPE blow moulding, HDPE injection moulding, LDPE liner film, LLDPE butene	USC/t

West Europe

Northwest Europe contract, delivered	HDPE HMW film, HDPE blow moulding, HDPE injection moulding, LDPE liner film, LLDPE butene	Eur/t
Northwest Europe spot, delivered	HDPE HMW film, HDPE blow moulding, HDPE inject ion moulding, LDPE liner film, LLDPE butene	Eur/t

China

China spot, cfr of all origin	HDPE HMW film, HDPE blow moulding, HDPE injection moulding, LDPE liner f ilm, LLDPE butene	USD/t
China spot, cfr of main origin	HDPE HMW film, HDPE blow moulding, HDPE injection moulding, LDPE liner f ilm, LLDPE butene	USD/t
China spot, ex-works	EVA foaming, EVA photovoltaic, HDPE HMW film, LDPE liner film, LLDPE butene	CNY/t
China spot, ex-works import parity	EVA foaming, EVA photovoltaic, HDPE HMW film, LDPE liner film, LLDPE butene	CNY/t
China spot, fob	EVA foaming	CNY/t
China spot, cfr dutaiable	LLDPE hexene metallocene	USD/t
China spot, cfr dutyfree	LLDPE hexene metallocene	USD/t
China spot, ex-works Singapore close	LLDPE hexene metallocene	CNY/t

Turkey

Turkey spot, cfr of US origin	HDPE HMW film, LLDPE butene	USD/t
Turkey spot, cfr of Mideast Gulf origin	HDPE HMW film, HDPE blow moulding, HDPE injection moulding, LDPE liner film, LLDPE butene	USD/t

India

India spot, cfr	HDPE HMW film, HDPE blow moulding, HDPE pipe PE100, LDPE liner film, LLDPE butene, LLDPE hexene	USD/t

Africa

Egypt spot, cif of Mideast Gulf origin	HDPE blow moulding, LDPE liner film, LLDPE butene	USD/t
Nigeria spot, cif of US origin	HDPE blow moulding, LDPE liner film, LLDPE butene	USD/t
South Africa spot, cif of US origin	HDPE blow moulding, LDPE liner film, LLDPE butene	USD/t

South America

Brazil spot, cfr	HDPE HMW film, HDPE blow moulding, HDPE injection moulding, LDPE liner film, LLDPE butene	USD/t
West coast South America spot, cfr	PP Homopolymer, PP Copolymer	USD/t

Southeast Asia

Southeast Asia duty free spot cfr	HDPE HMW film, HDPE blow moulding, LDPE liner film, LLDPE butene, LLDPE hexene	USD/t
Southeast Asia dutiable spot cfr	HDPE HMW film, HDPE blow moulding, LDPE liner film, LLDPE butene, LLDPE hexene	USD/t

Argus Global Polypropylene – key prices map

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United States

US contract, del east of Rockies	PP Homopolymer, PP Copolymer	USC/lb
US spot, fas Houston bagged	PP Homopolymer	USC/lb
US spot, dap Laredo railcar	PP Homopolymer	USC/lb

West Europe

Northwest Europe contract, delivered	PP Homopolymer, PP block copolymer	Eur/t
Northwest Europe spot, delivered	PP Homopolymer, PP block copolymer, PP raffia	Eur/t

Turkey

Turkey spot, cfr of Mideast Gulf origin	PP raffia, PP fibre, PP non-woven fiber, PP block copolymer	USD/t
Turkey spot, cfr of South Korea origin	PP block copolymer	USD/t

China

China spot, cfr	PP raffia, PP block copolymer	USD/t
China spot, ex-works	PP raffia, PP block copolymer	CNY/t
China spot, ex-works import parity	PP raffia, PP block copolymer	USD/t
China spot, fob	PP raffia, PP block copolymer	USD/t

India

India spot, cfr	PP raffia, PP copolymer	USD/t

Africa

Egypt spot, cif of Mideast Gulf origin	PP raffia, PP fibre	USD/t
Nigeria spot, cfr of Mideast Gulf origin	PP raffia	USD/t
South Africa spot, cfr of Mideast Gulf origin	PP raffia	USD/t

Southeast Asia

Southeast Asia spot, duty free cfr	PP raffia, PP block copolymer	USD/t
Southeast Asia spot, dutiable cfr	PP raffia, PP block copolymer	USD/t

South America

Brazil spot, cfr US/Canada origin	PP Homopolymer, PP Copolymer	USD/t
Brazil spot, cfr China origin	PP Homopolymer, PP Copolymer	USD/t
West coast South America spot, cfr US/Canada origin	PP Homopolymer, PP Copolymer	USD/t
West coast South America spot, cfr China origin	PP Homopolymer, PP Copolymer	USD/t

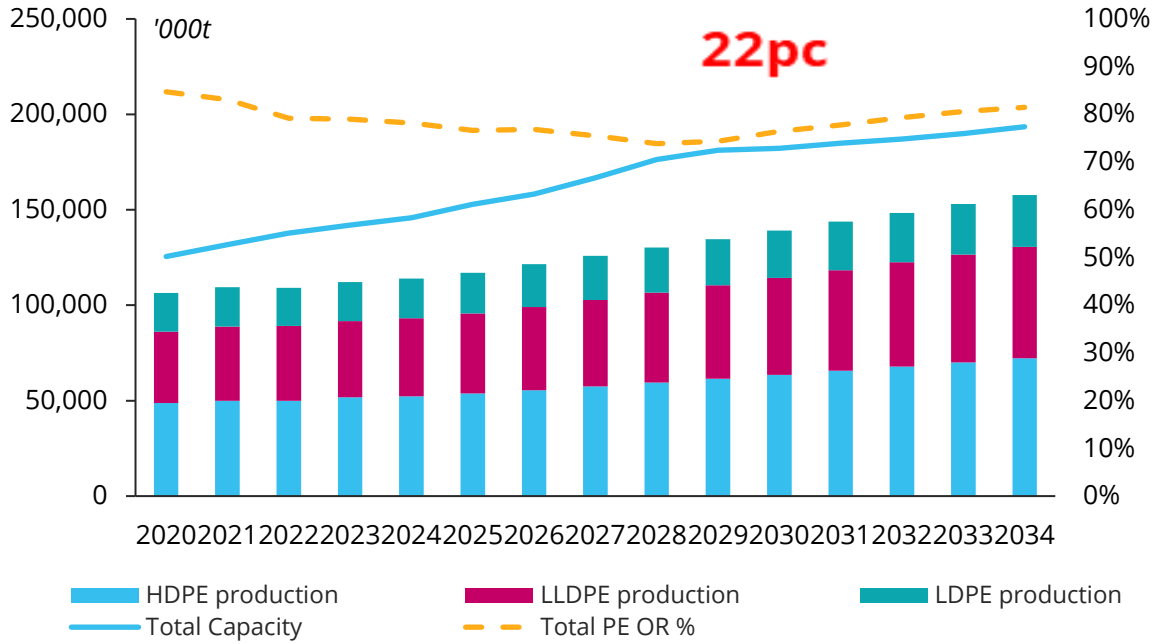
1. Polymer supply overflood
2. Industrial challenges amid supply-demand imbalance
3. Global Polymer rebalance and outlook

1. Polymer supply overflood

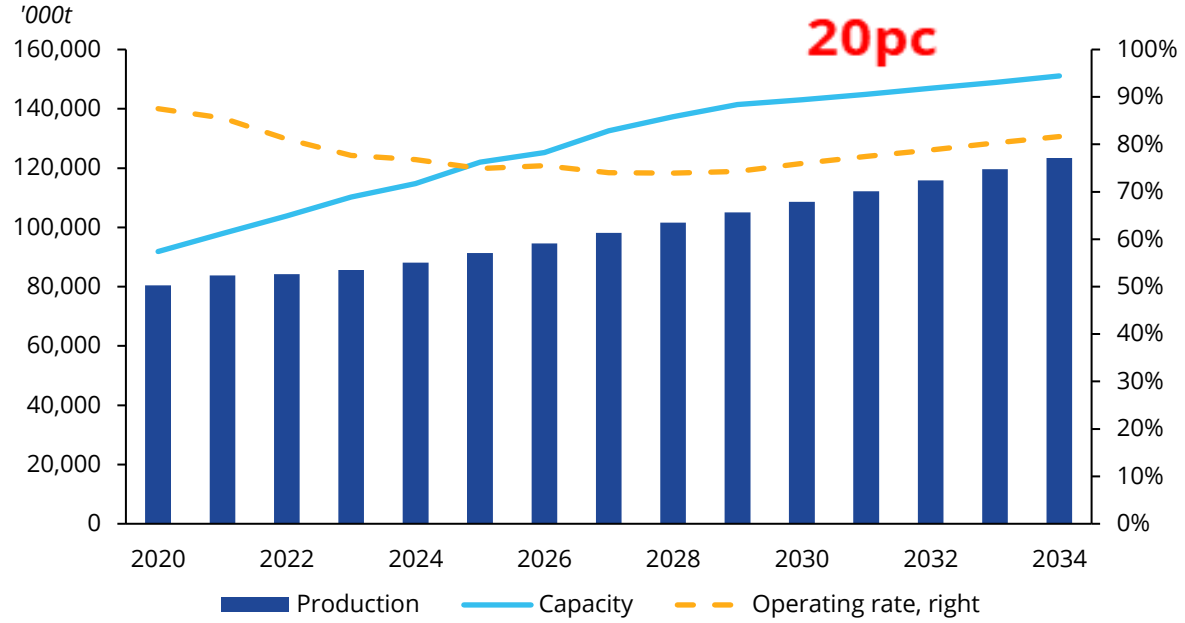
Global capacity expansion

- **Globally the PE capacity will grow 22pc by 2034 versus 2026 with total caps up158 mn t to 193mn t. HDPE global capacity increase estimated at 22% from 2026 – 2034; LLDPE global capacity up by 27% and LDPE global capacity up by 12% over the same period.**
- **Globally the PP capacity will grow 20pc by 2034 versus 2026 with total caps up125 mn t to 151mn t.**
- **Globally rapidly-expanded capacity need to be balanced via lower operation rates, and trade flow changes.**
- **Argus expect global operation rate will decrease from current 77pc for PE to 74pc in 2028 and then gradually bottom out; operation rate will decrease from current 76pc for PP to 74pc in 2028 and then gradually bottom out.**

PE



PP

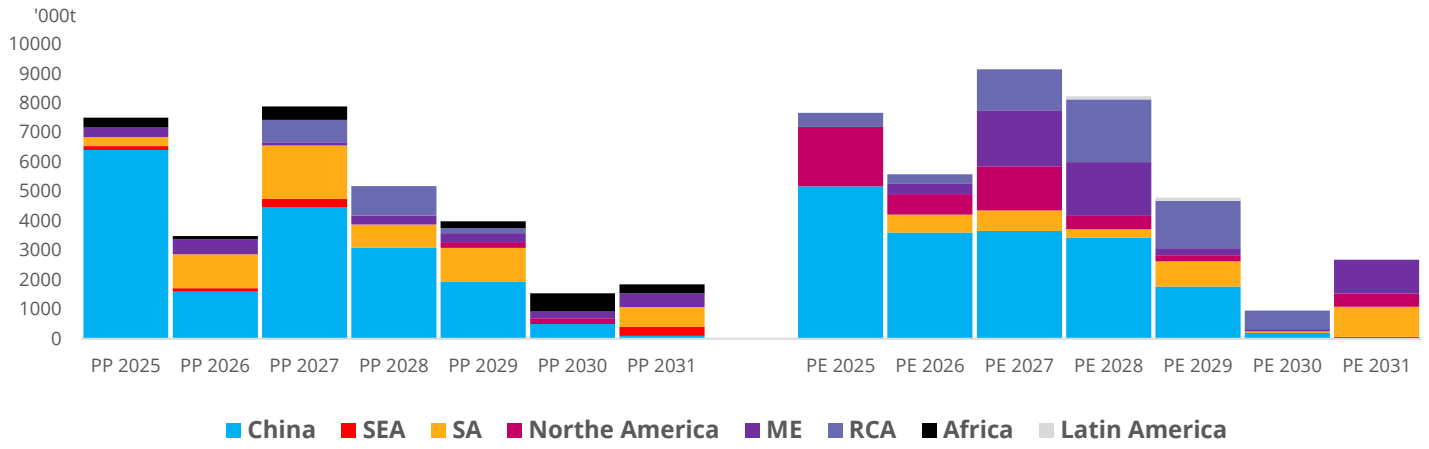


Source: Argus

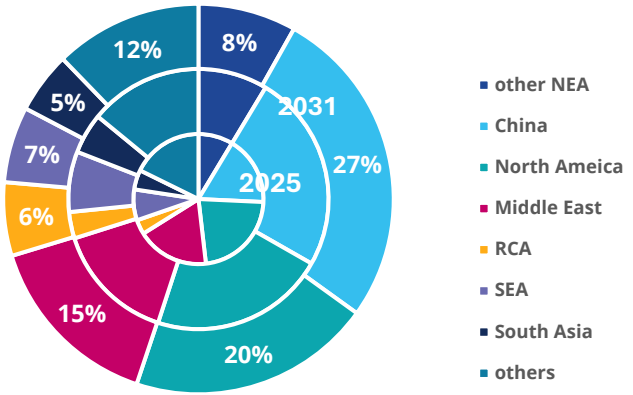
Global capacity expansion–China taking the lead

Additional capacity

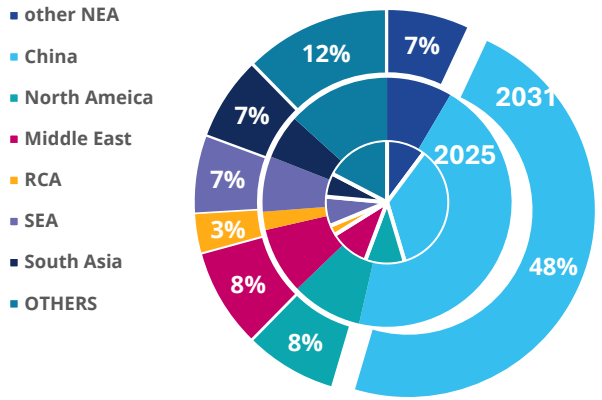
- Which regions or countries contribute most of the additional capacity.
- In Southeast Asian countries, the commissioning of new PE and PP capacities has largely concluded by 2025.
- U.S. PE capacity is concentrated between 2025 and 2028. Middle Eastern capacity is concentrated between 2027 and 2030.
- For PP, aside from China, India is another major driver of global PP capacity expansion.
- China contributes about half of global additional capacity. After 2028, as the growth rate of China's capacity slows, global capacity expansion will decelerate.



PE Capacity share



PP Capacity share

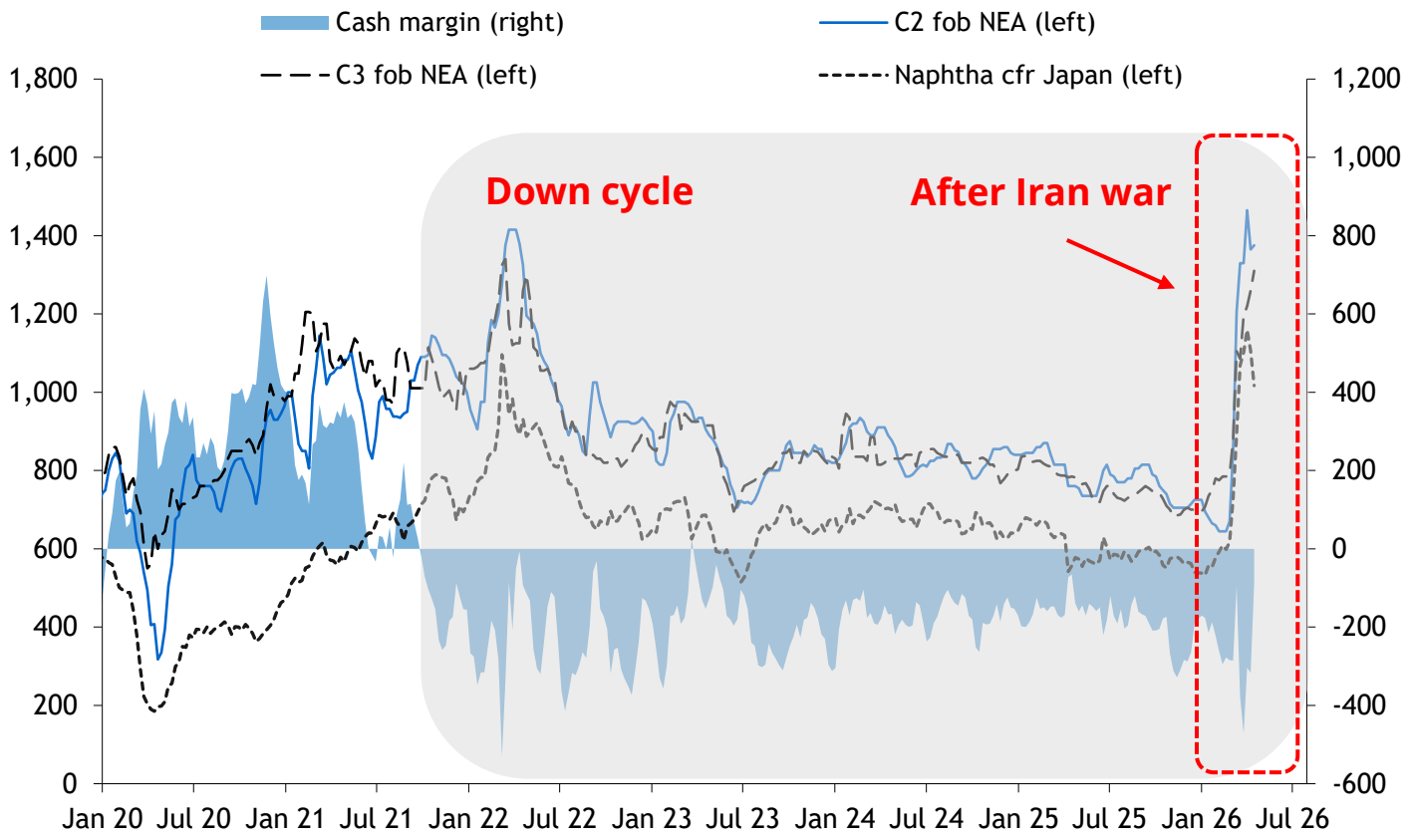


Source: Argus

2. Industrial challenges amid supply-demand imbalance

Suppressed industrial margin amid capacity expansion

Asia cracker margin



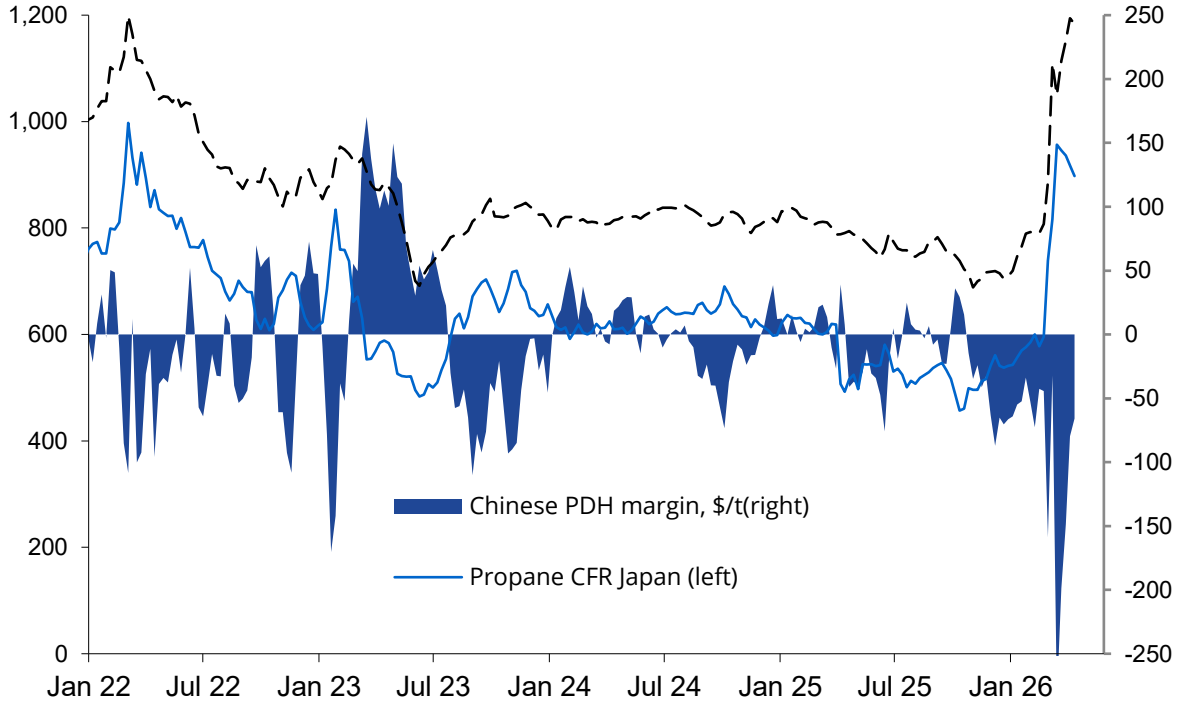
- **China chemical entered down cycle since 2021 after large scale of capacity expansion commissioned.**
- **During the 13th Five-Year Plan period (2026-2020), China opened the refining sector to private capital.**
- **Large-scale private refining and chemical integration projects, such as Hengli Petrochemical (400,000 bpd), Zhejiang Petrochemical (800,000 bpd), and Shenghong Refining (320,000 bpd), were successively launched, collectively releasing over 1.52 million barrels per day (bpd) of new refining capacity during this period.**
- **After the Iran's conflict in end February 2026, cracker margin rapidly deteriorated from -$200 to -$400/t.**
- **This might accelerate the rationalization or restructuring progress given feedstock costs are putting more pressures on each producer.**

Source: Argus

Suppressed industrial margin amid capacity expansion

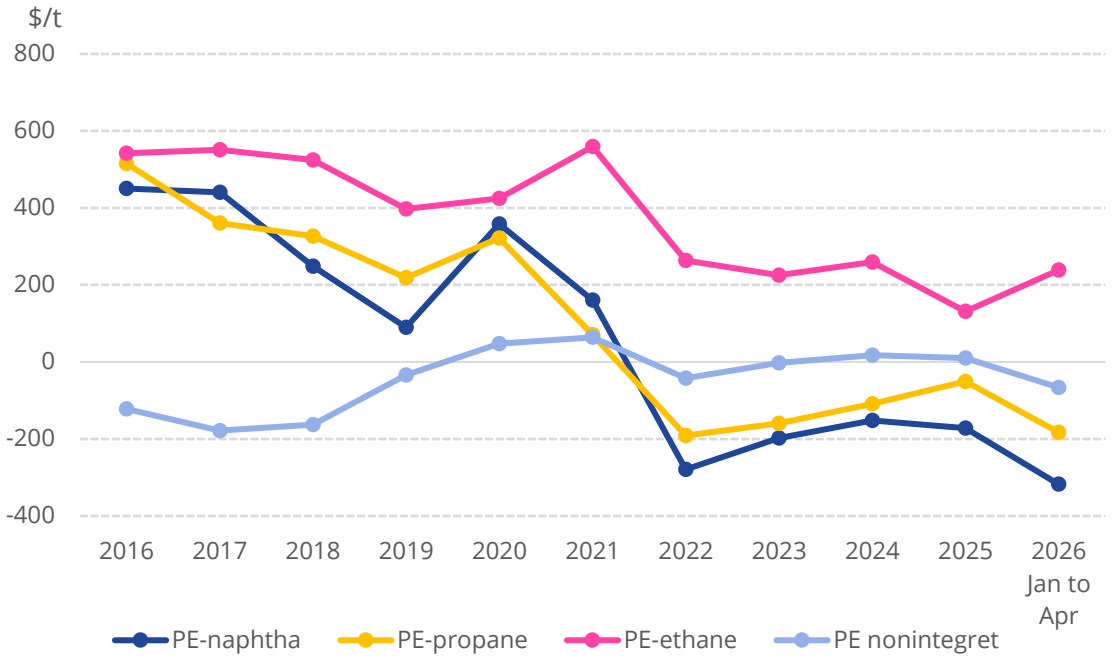
PDH margin

PDH margin have lowered to -$20/t in 2025 from above $200/t before capacity overflood since 2022.
Recent Iran war pushed the margin remained below -$200/t.



Integrated and non-integrated polymer margins

Chemical industrial showed unhealthy development—blind expansion, low-level redundant development, and homogenized low-price competition. Polymer margin based on naphtha went down to -$200/t. Iran war further suppressed it to the recent lowest level of $702/t on 26 March.

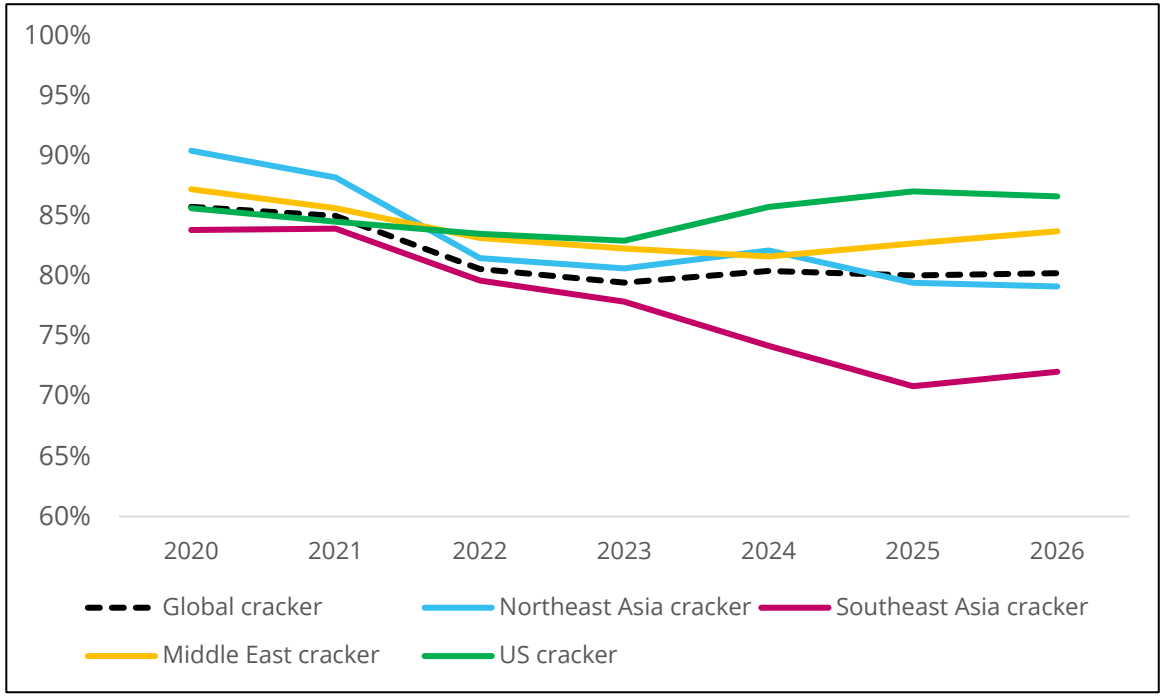


Source: Argus

Lower Asian run rates

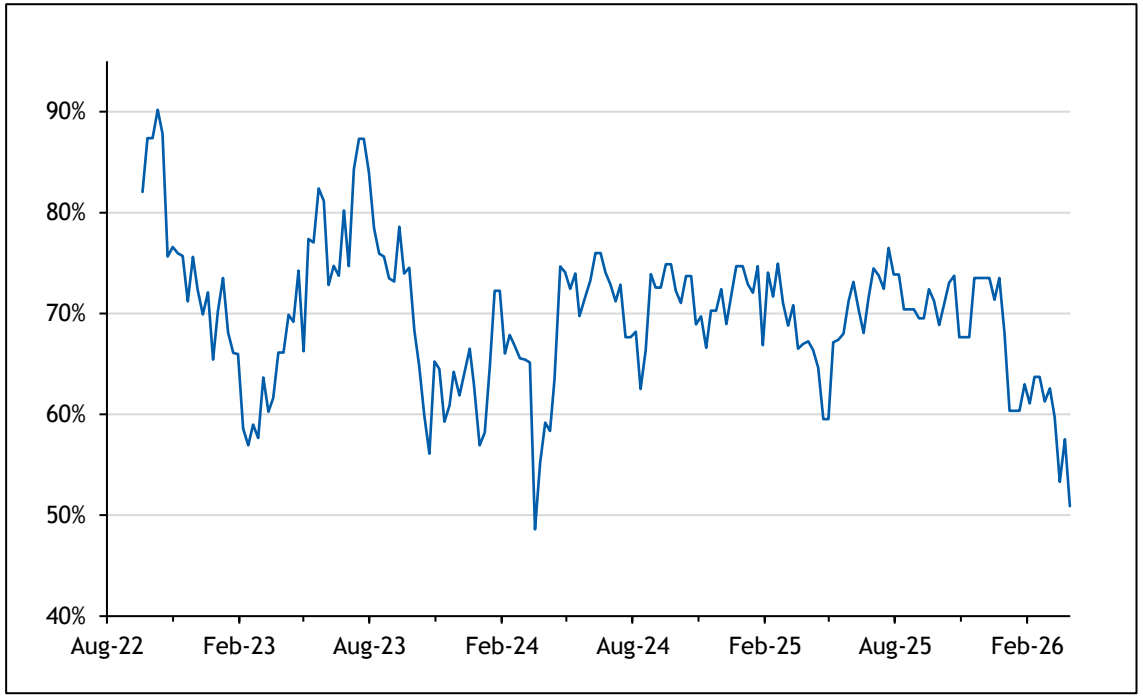
Global cracker run rates %

Asia cracker operation rates generally went down amid poor margins.
SEA which relied most on naphtha had the worst situation.
Northeast Asia showed more resilience which was lifted by China where most of the plants are integrated ones use crude as feedstocks.



China PDH operating rates, %

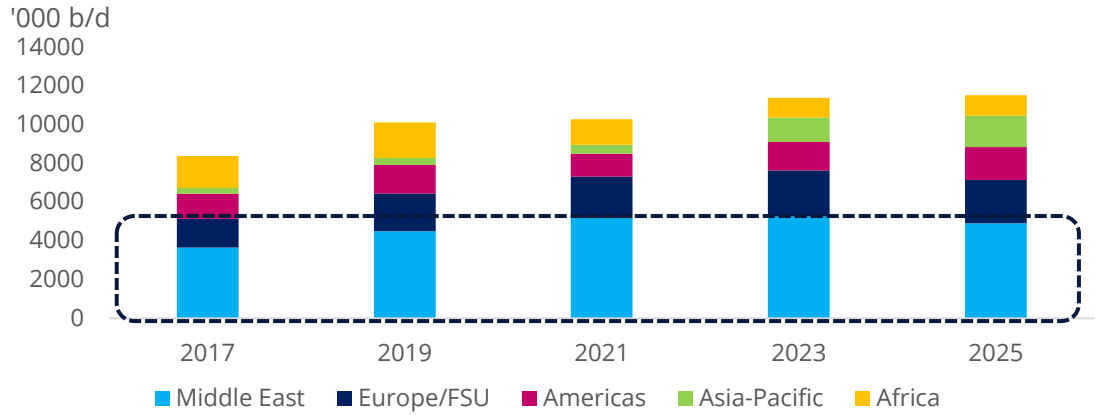
PDH run rates dropped from above 80pc in 2022 to current blow 60pc amid PDH capacity expansion over the recent five years.
Recent Iran war driven it to a second historical low, around 50pc, as propane prices surged to $936/t, around 57pc compared to be level before the war.



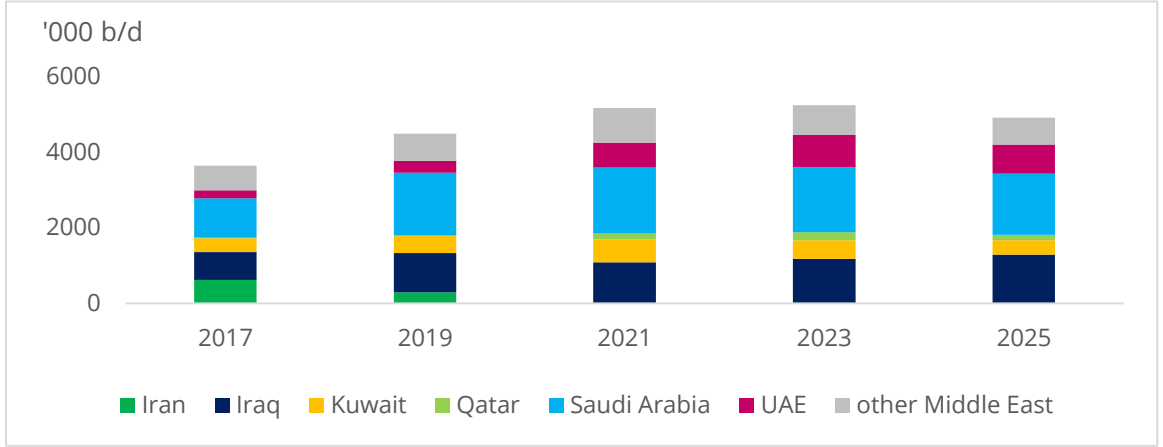
Source: Argus

Asia feedstock securities-crude

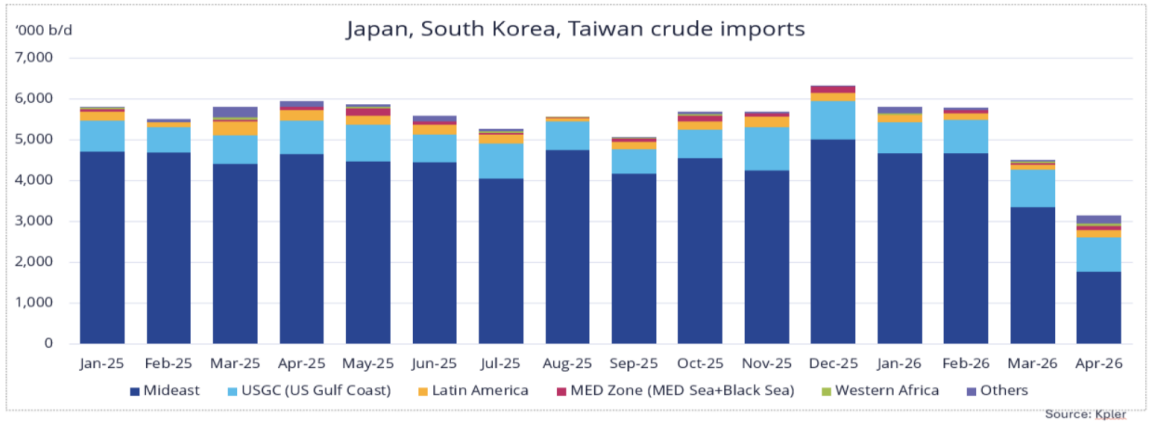
China crude import



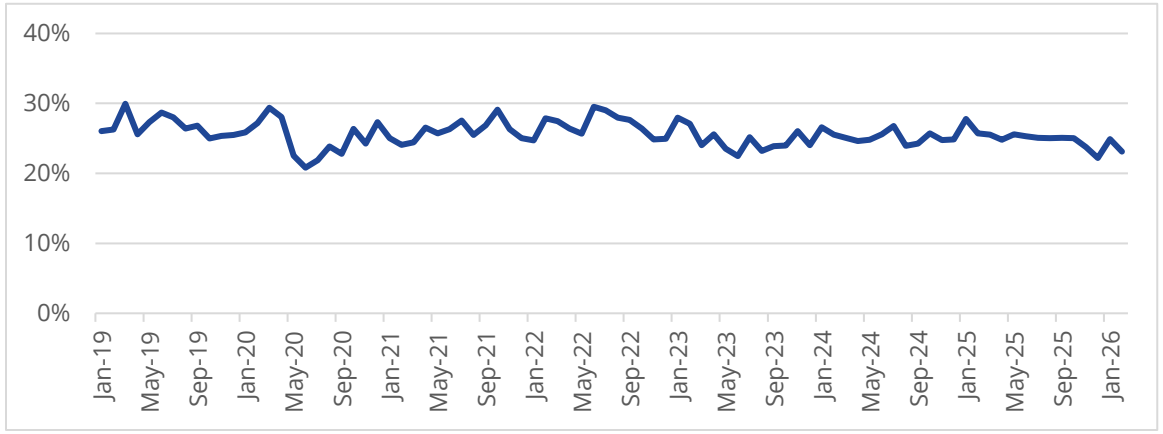
China crude import from Middle East



North Asia (ex. China) imports plunge on Mideast shortage



China crude production vs demand

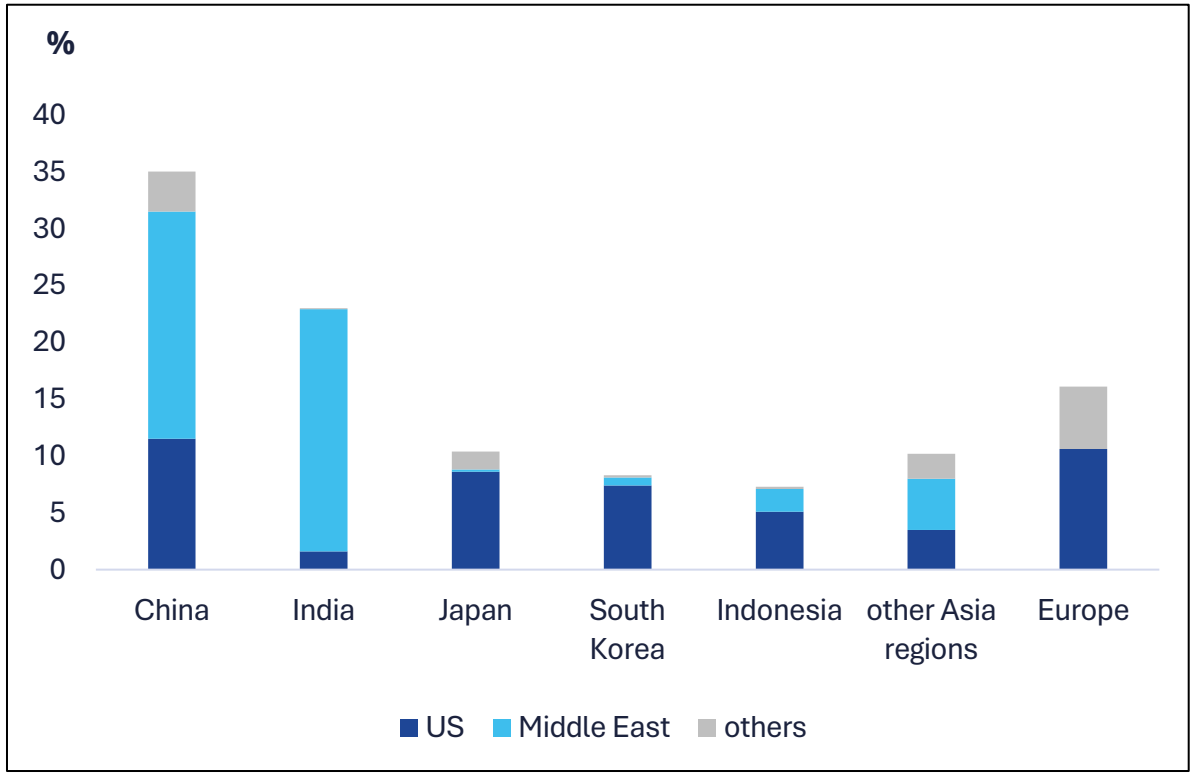


Source: Argus ; Kapler

Asia feedstock securities–LPG

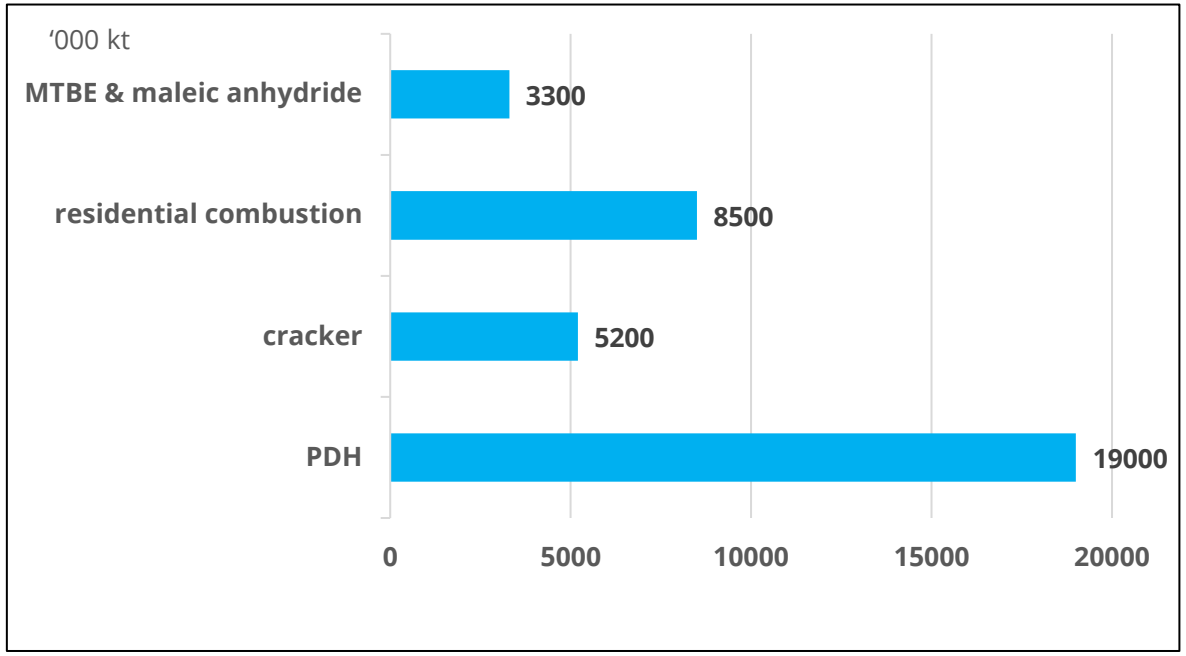
Asia LPG origins

Dependence on Middle East LPG: China 57%, India 93%; PDH output is expected to decrease significantly if Middle East LPG supply faces persistent disruption.



China LPG downstream applications

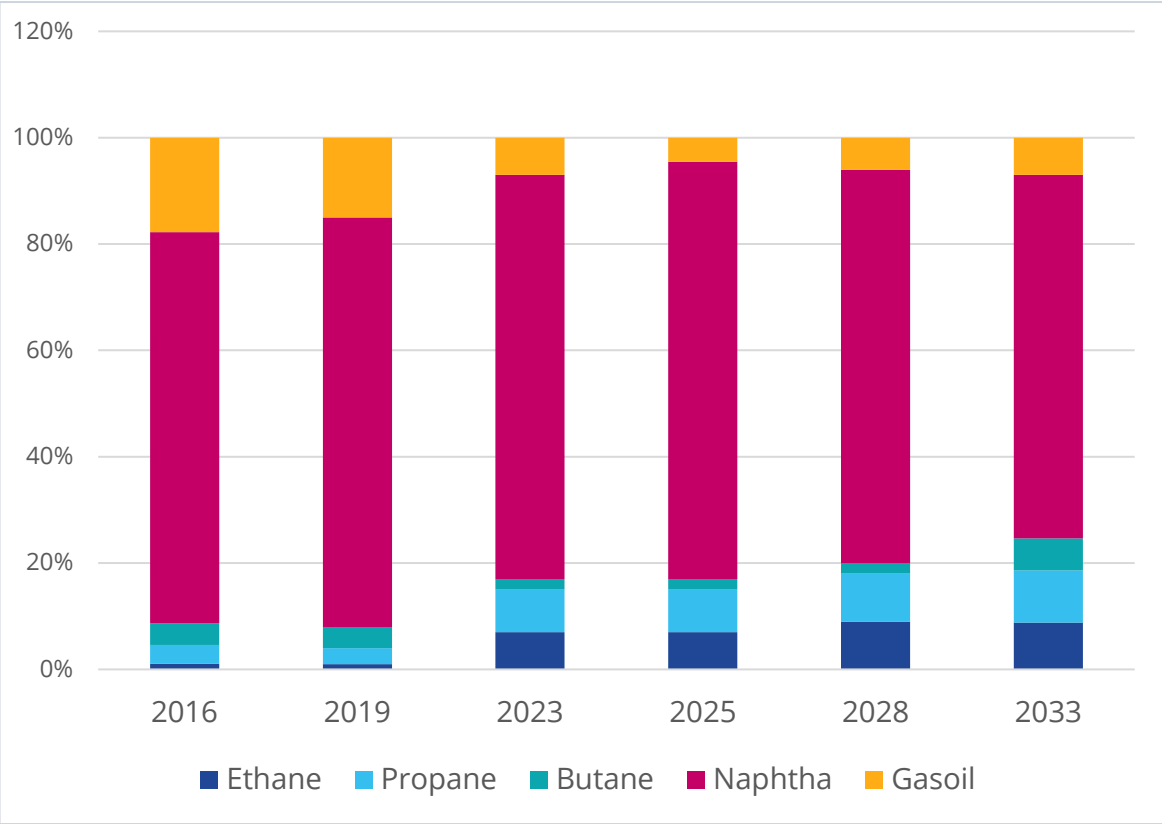
In 2025, global LPG seaborne trade volume is 150 million metric tons, with the Middle East accounting for 30% of this share. Within this region, Iran exported 11 million metric tons, with over 90% directed to China.
If Middle Eastern exports remain absent. The US faces bottlenecks in LPG export capacity for 2026 and is unable to fill the supply gap in the short term.



Source: Argus

Feedstock diversification

China cracker feedstock split



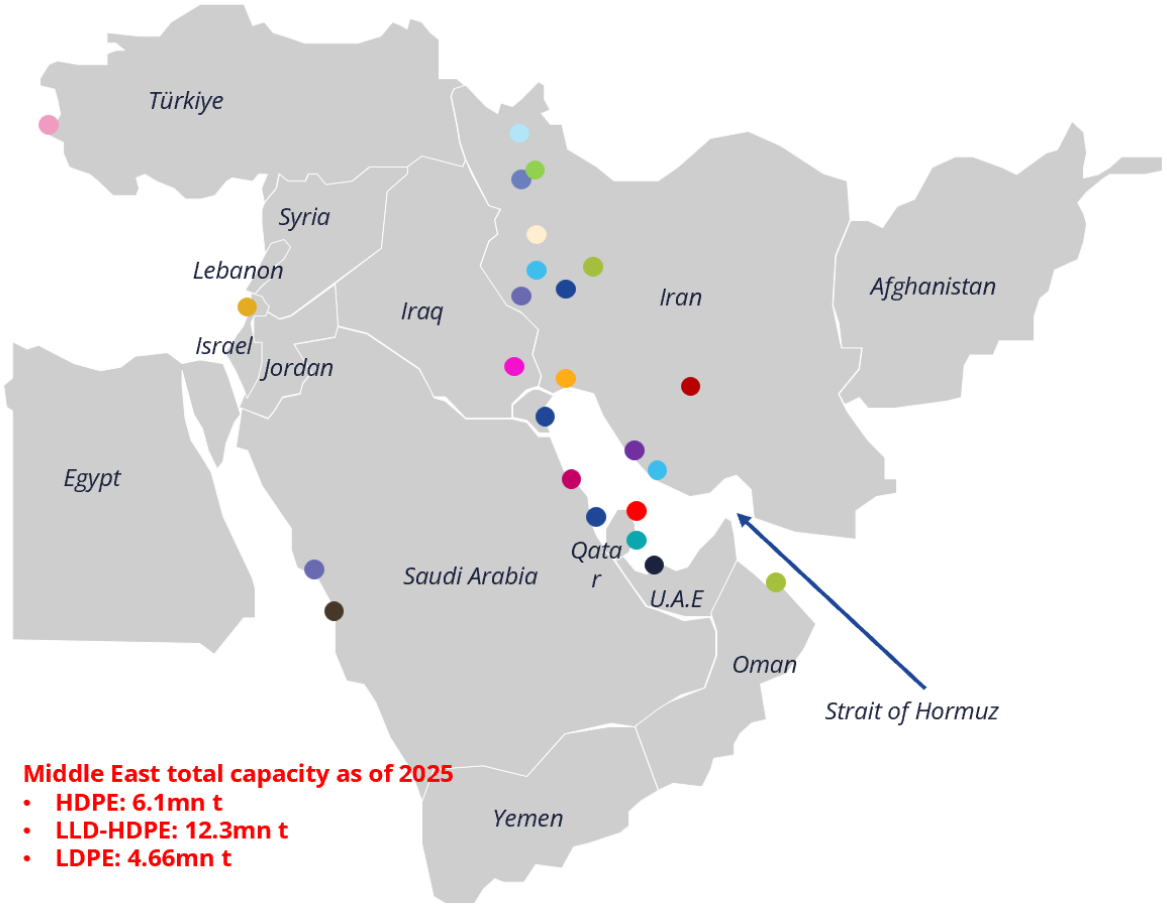
China remain a naphtha-based producer

- ***Guidelines for Energy Conservation and Carbon Reduction Upgrading in the Ethylene Industry issued in 2022 encouraged*** **Low-carbon, light, and high-quality cracking feedstock to increase ethylene yield ;**
- **China's movement to reduce oil products and increase chemicals also increase demand for light feedstocks ;**
- **While China has been moving toward feedstock lightening, it will remain a naphtha-based producer of olefins for the foreseeable future. The general feedstock structure would not change.**
- **While most of China's plants are integrated ones equipped with CDUs and it has high crude inventories, which made it more resilient compared to other Asian plants facing feedstock shortage.**
- **However, China's low self-sufficiency of Crude also made it just a time problem to cut runs.**

Source: Argus

High polymer reliance on ME for China and SEA

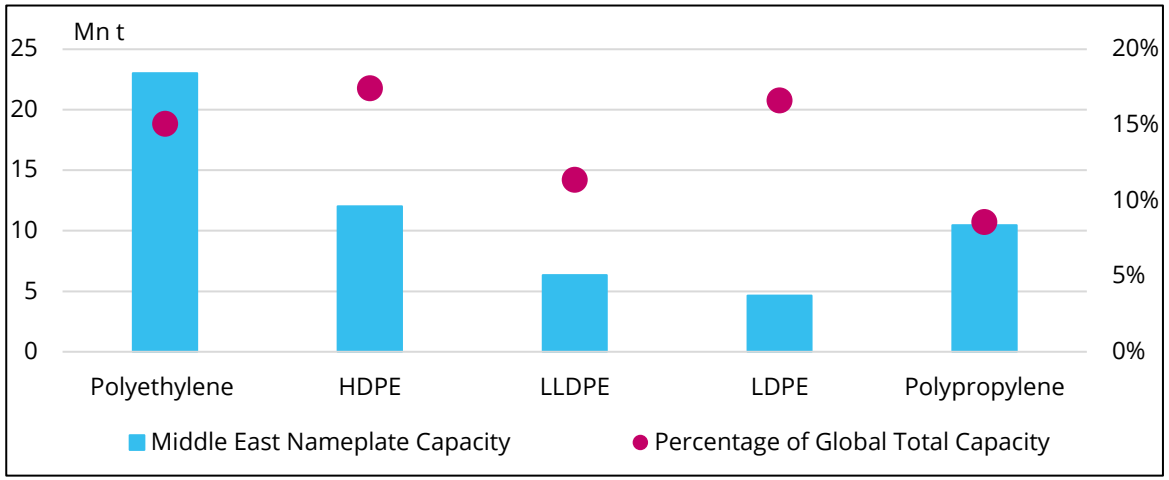
Middle East PE Capacity

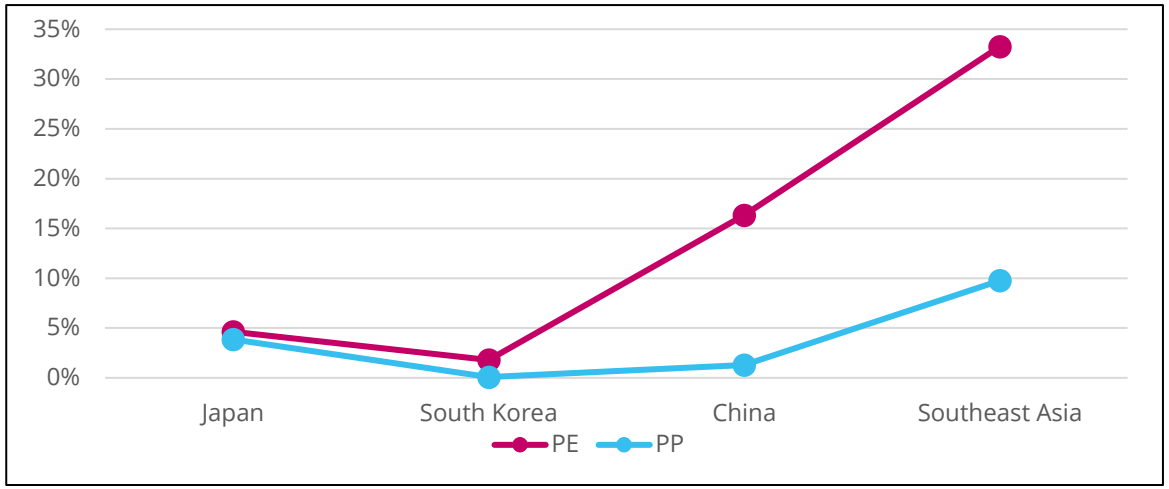


Middle East total capacity as of 2025

- **HDPE: 6.1mn t**
- **LLD-HDPE: 12.3mn t**
- **LDPE: 4.66mn t**

Polymer import from ME vs domestic demand





Source: Argus

3. Global Polymer rebalance and outlook

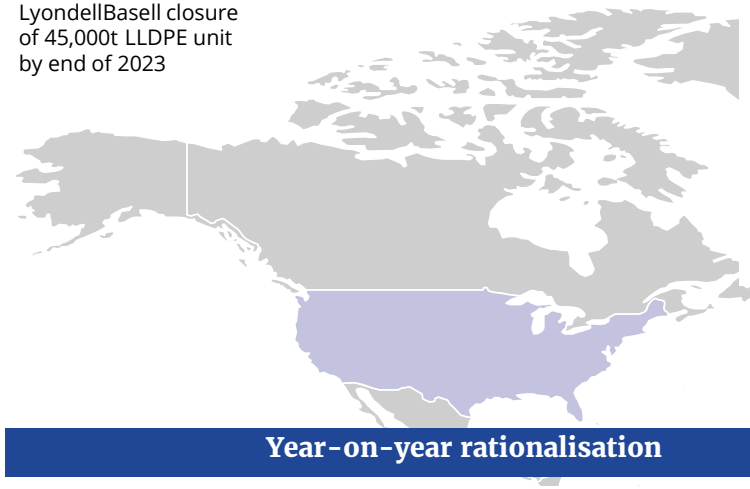
Rebalance: by global rationalization

Rationalisation in Northeast Asia, where global oversupply capacity additions are concentrated, will support recovery of operating rates from 2028.

Global polyethylene capacity rationalization

US

LyondellBasell closure of 45,000t LLDPE unit by end of 2023



Europe

French: ExxonMobil 420,000t LLD-HDPE unit by Q4 2024.

Italy: Versalis closed its 160,000t LDPE unit in Q2 2025.

Germany: LyondellBasell closed 100,000t LLD-HDPE capacity and SABIC closed 100,000t HDPE capacity in 2023.

In Total: 780,000 t.

China

Sinopec Yanshan closed 520,000t PE unit in 2025.

At present, around 1.5 million tons of polyethylene facilities in China have already been dismantled, are permanently idle, or are under consideration for shutdown.

Speculative rationalization of 3 million t PE capacity by 2028.

Japan

Japan Polyethylene Corporation 30,000t HDPE capacity closing by end of 2025.

Japan's PE OR at 60%.
To achieve profitability in the industry, cracker operating rates need to be increased to 85%–90%, eliminating around 1.3 mn t.

Polymer news is so far limited. Mitsui is considering closing one PE facility in the future. Sumitomo Chemical and Prime Polymer are planning to consolidate their polyolefin capacities.

Southeast Asia

The JG Summit cracker and 570,000t of PE capacity has been idled since late 2024, with no official announcement regarding restart plans.

South Korea

Lotte closes its HDPE in Daesan in 2025.

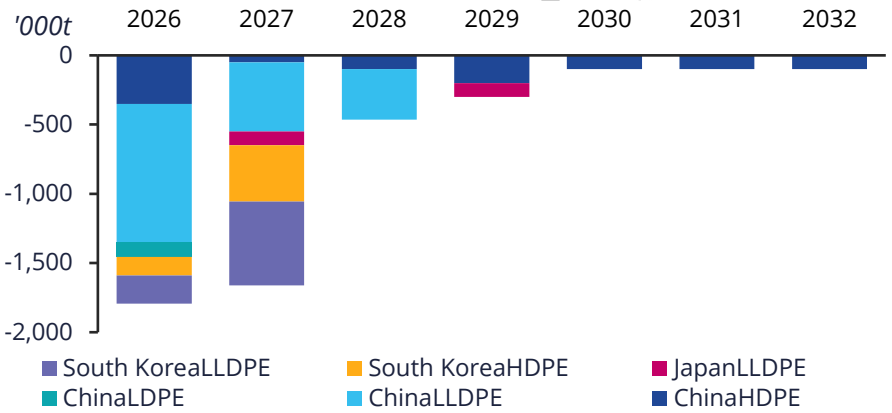
South Korea plans to reduce ethylene cracking capacity by 2.7 to 3.7 million tons annually.

Speculative closure of around 1.3 million t of PE capacity by 2028.

Australia

Qenos closed all 3 PE units, 325,000t total capacity, by mid-2024

Year-on-year rationalisation

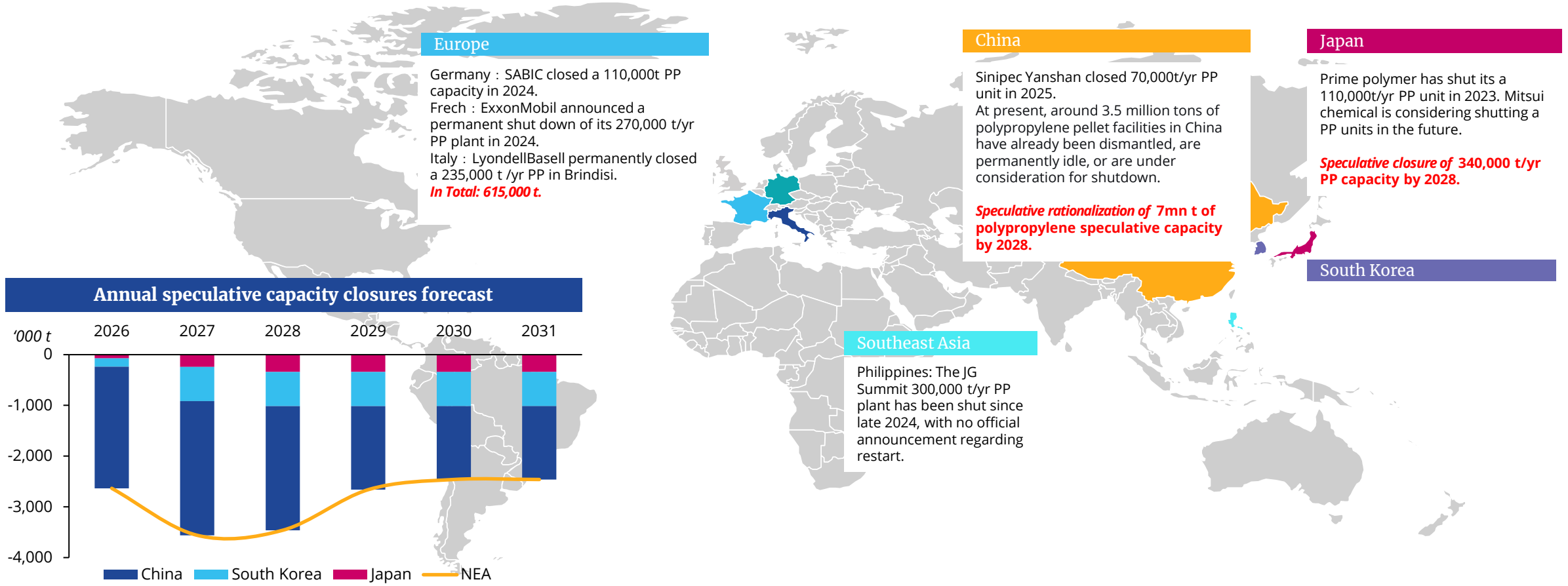


Source: Argus

Rebalance: by global rationalization

Rationalisation in Northeast Asia, where global oversupply capacity additions are concentrated, will support recovery of operating rates from 2028.

Global polypropylene capacity rationalization



Europe

Germany：SABIC closed a 110,000t PP capacity in 2024.
Frech：ExxonMobil announced a permanent shut down of its 270,000 t/yr PP plant in 2024.
Italy：LyondellBasell permanently closed a 235,000 t /yr PP in Brindisi.
In Total: 615,000 t.

China

Sinipec Yanshan closed 70,000t/yr PP unit in 2025.
At present, around 3.5 million tons of polypropylene pellet facilities in China have already been dismantled, are permanently idle, or are under consideration for shutdown.

***Speculative rationalization of* 7mn t of polypropylene speculative capacity by 2028.**

Japan

Prime polymer has shut its a 110,000t/yr PP unit in 2023. Mitsui chemical is considering shutting a PP units in the future.

***Speculative closure of* 340,000 t/yr PP capacity by 2028.**

South Korea

Southeast Asia

Philippines: The JG Summit 300,000 t/yr PP plant has been shut since late 2024, with no official announcement regarding restart.

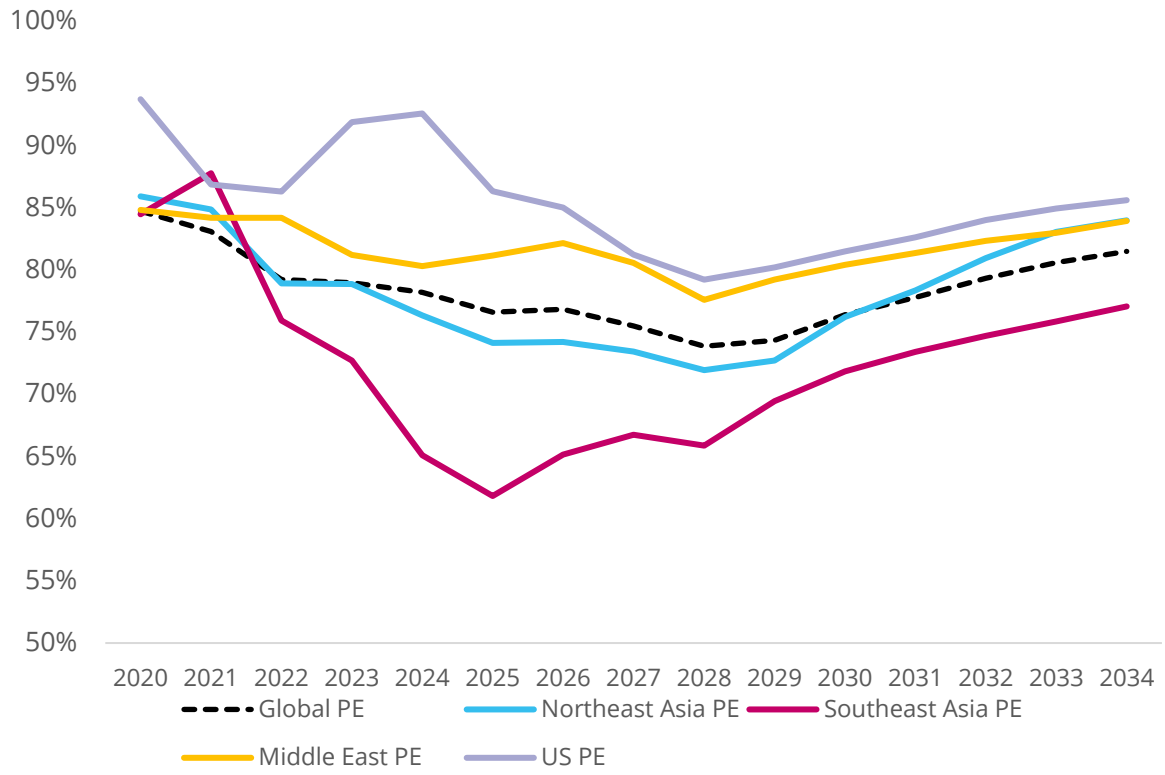
Annual speculative capacity closures forecast

Source: Argus

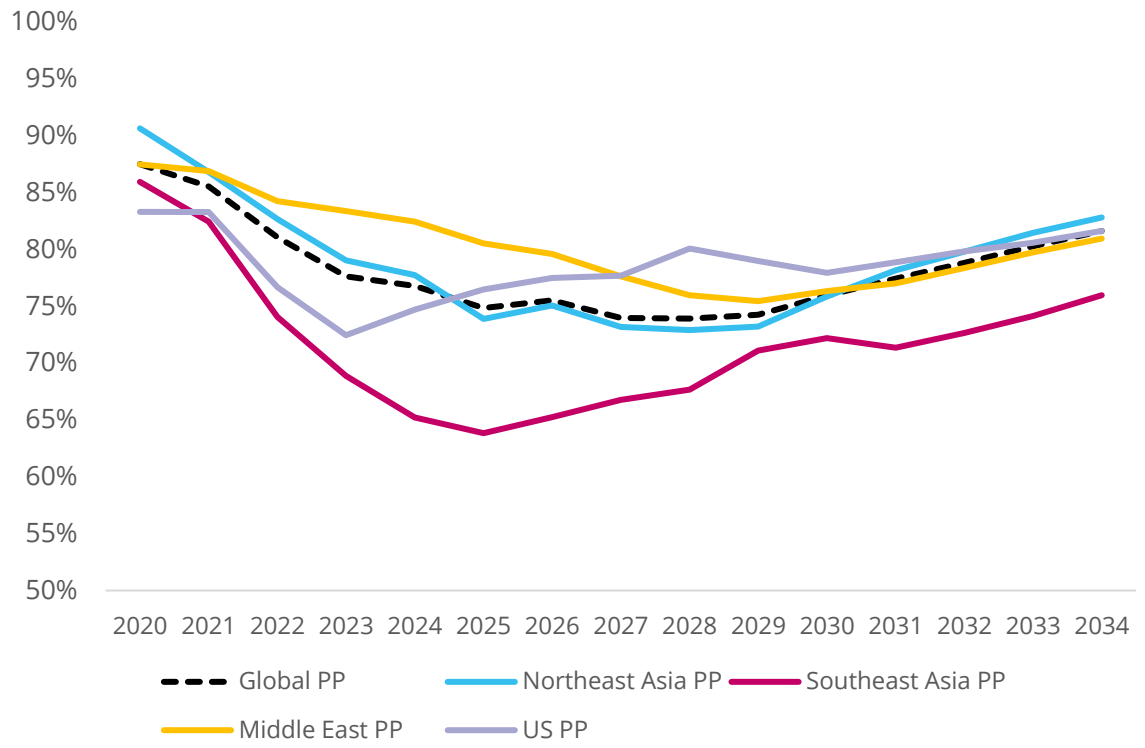
Rebalance: by longer-term lower run rates

Oversupply and poor margin discouraged existing producers to run at higher rates. After this wave of new capacity expansion, operation rates are likely to recover with improved margin, but if it still difficult to go back to pre-expansion levels, around 90pc.

PE Operate Rate



PP Operate Rate

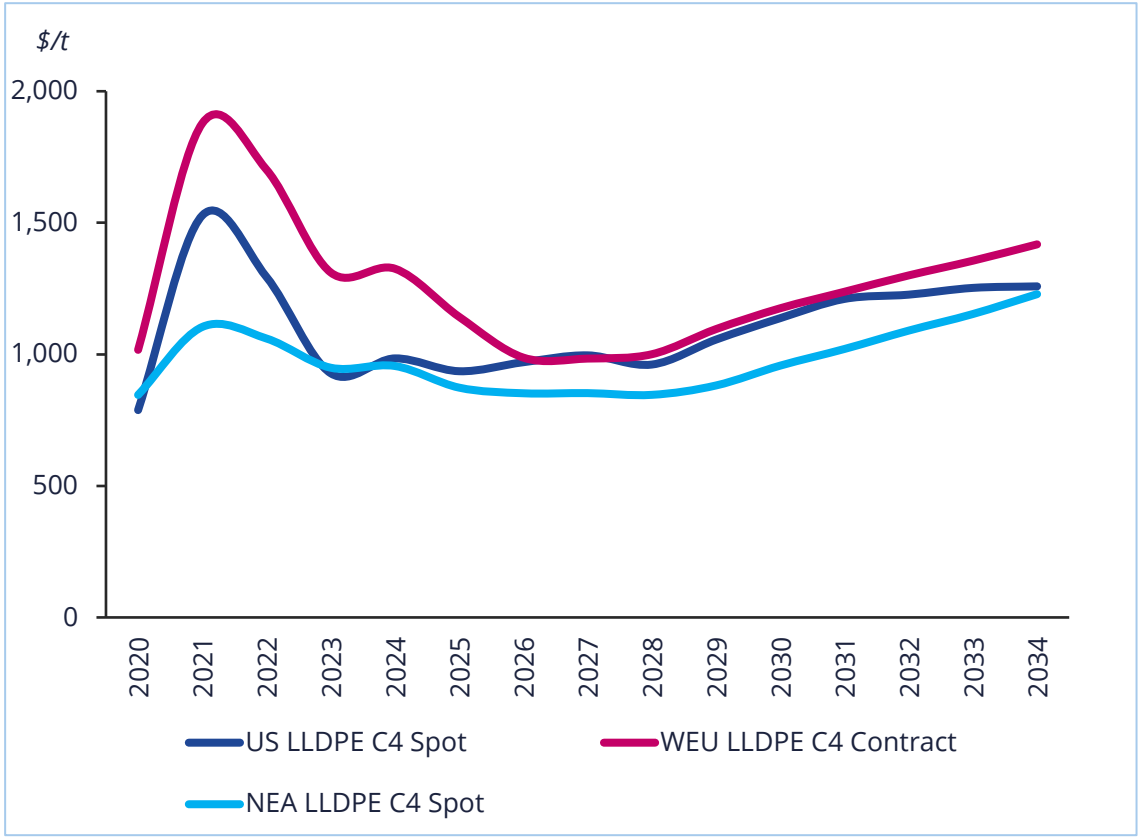


Source: Argus

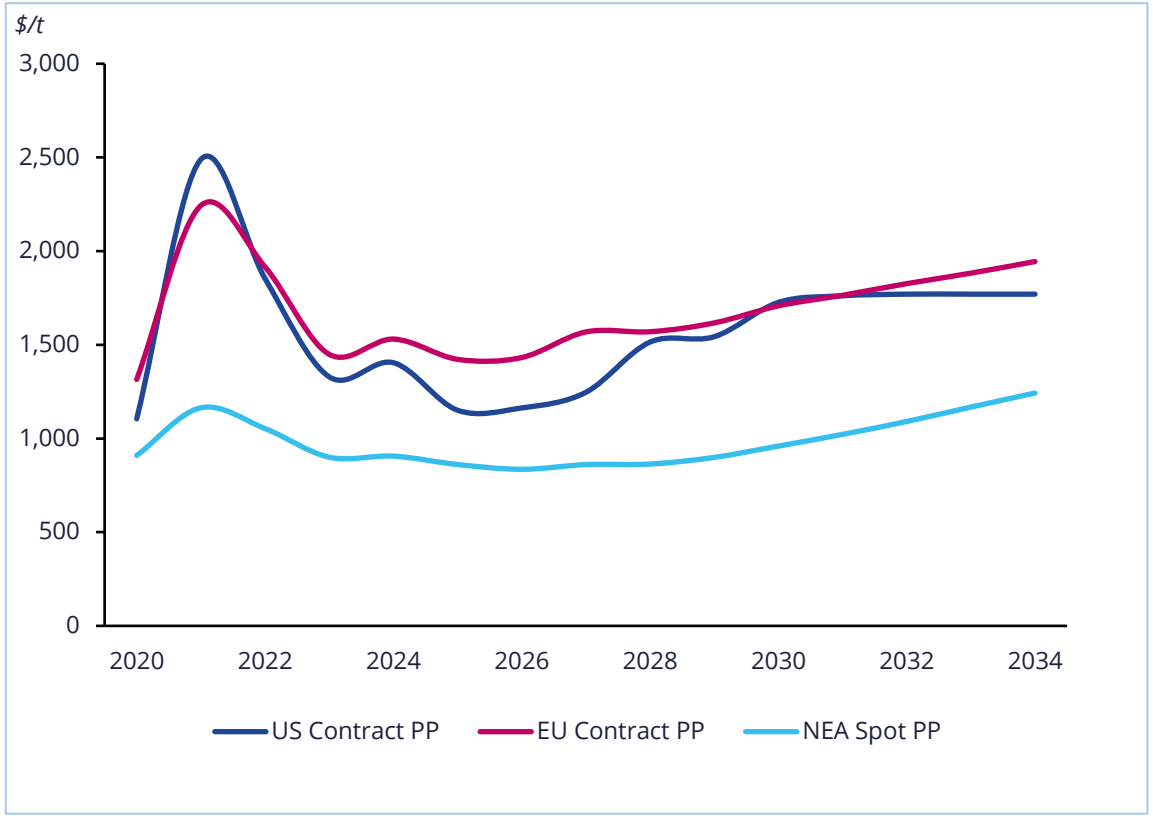
Rebalance: by suppressed prices and margins

Global prices will remain suppressed until this wave of capacity expansion come to end; the prices are likely to bottom out after 2028-2029.

Global Polyethylene Prices



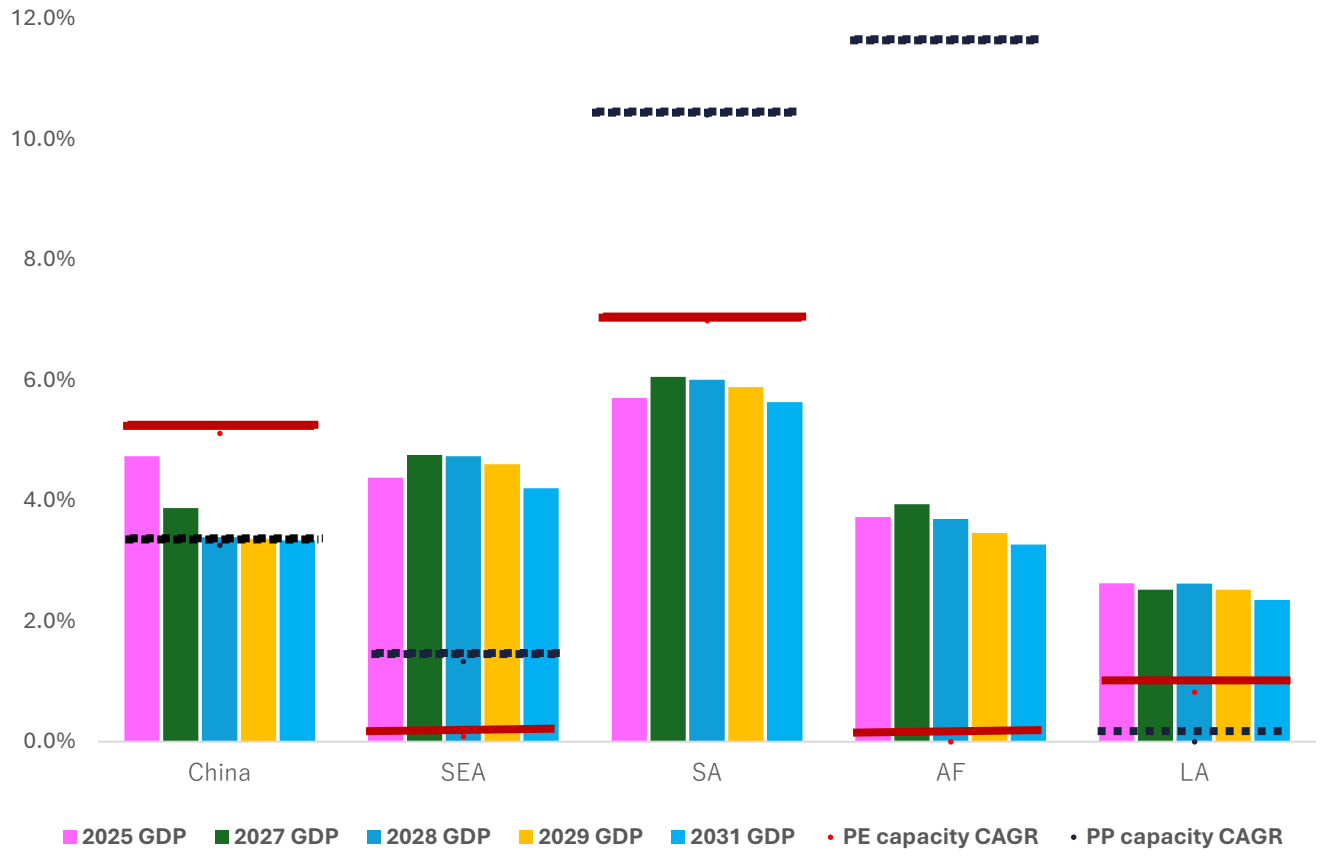
Global polypropylene prices



Source: Argus

Rebalance: by trade flow changes

Major areas GDP growth rates vs capacity CAGR 2025~2031



Rapidly expanded capacity need to be balanced via aligned increased demand, lower operation rates, old capacity elimination and less import volume.

- **In China, Argus expect its PE import volume will have mild increase and PP import will reduce gradually.**

- **For India, its PP capacity growth far outpaces its GDP growth, which may lead to a decline in PP imports.**
- **Its PE import may increase considering less new capacity.**

- **For SEA, the commissioning of new PE and PP capacities has largely concluded, leading to more imports.**

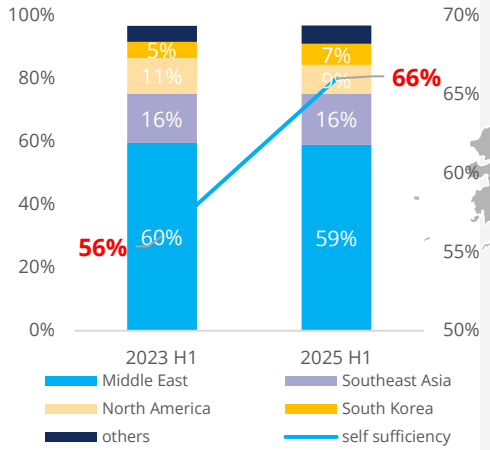
- **For Africa, Africa planned to add 2 million tons of PP capacity, which may gradually reduce its import dependence in the long term and keep PE imports.**

Source: Argus, Oxford economics

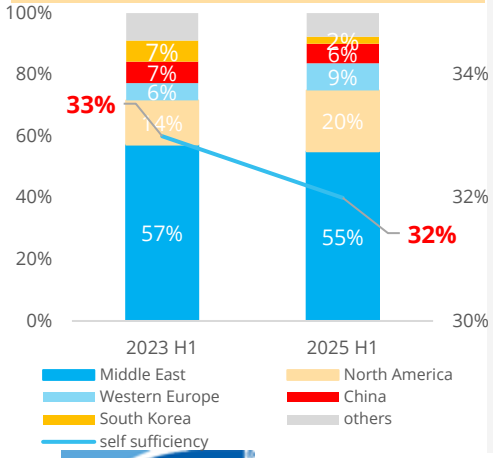
Trade reshaping amid supply-demand rebalance-PE

2025 Jan to Jun export flows

SA import shares



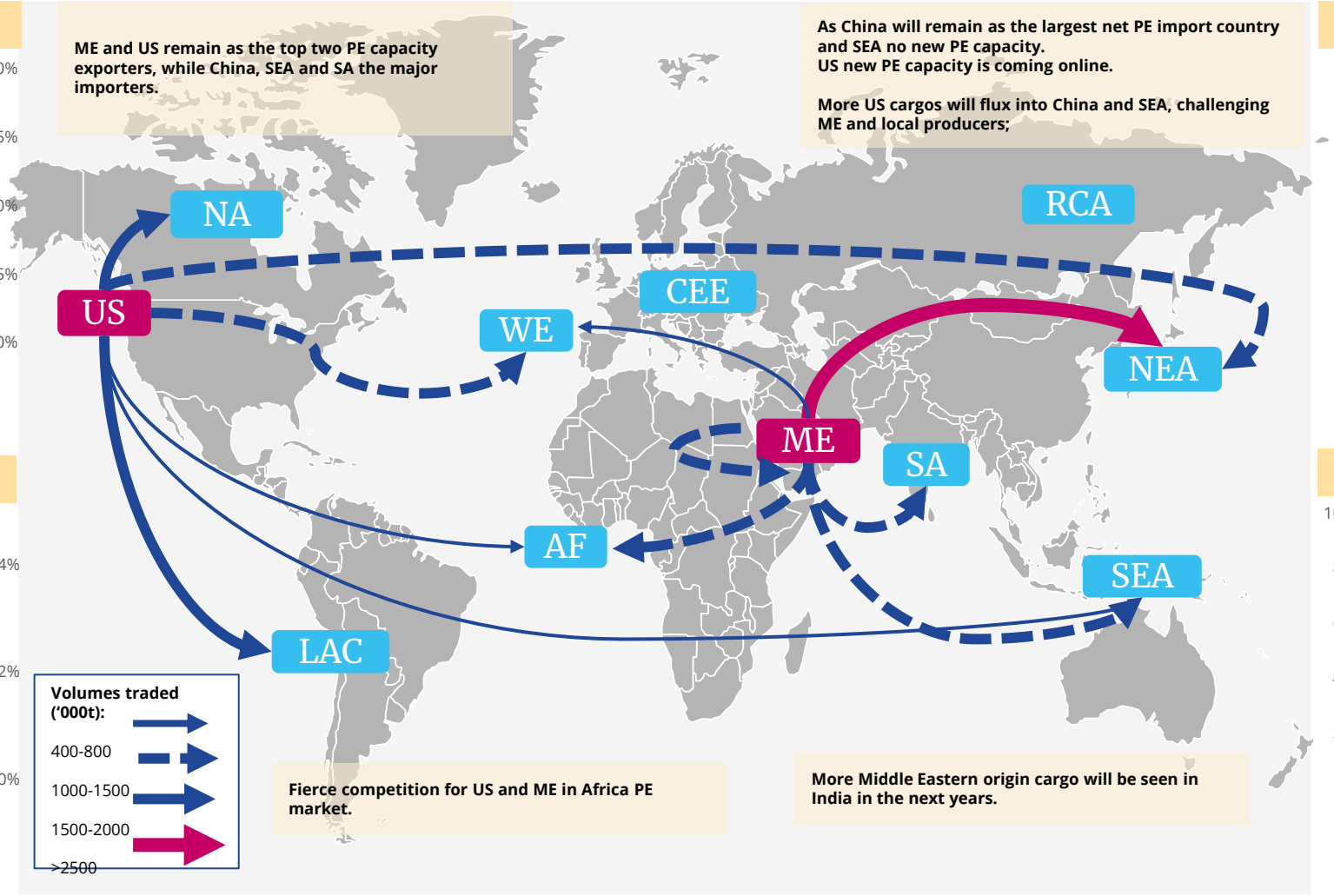
AF import shares



ME and US remain as the top two PE capacity exporters, while China, SEA and SA the major importers.

As China will remain as the largest net PE import country and SEA no new PE capacity.
US new PE capacity is coming online.

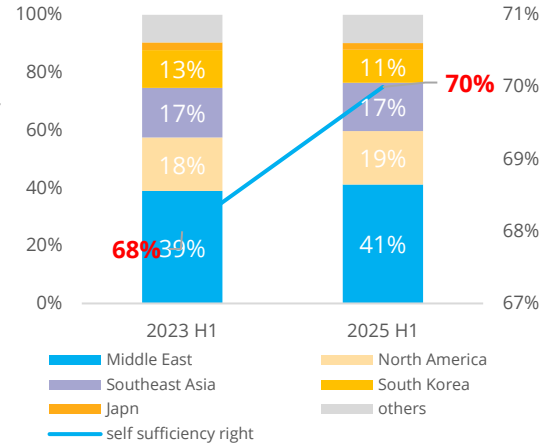
More US cargos will flux into China and SEA, challenging ME and local producers;



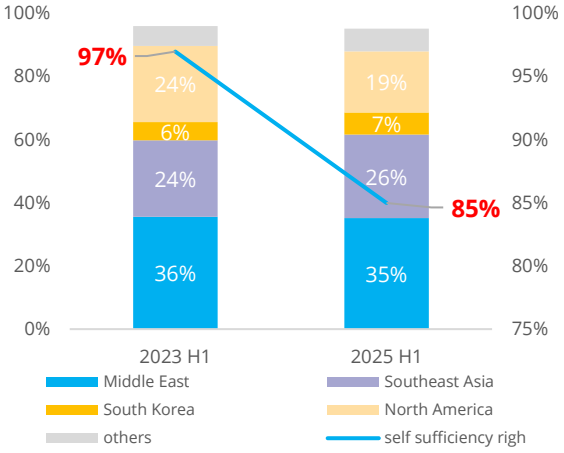
Fierce competition for US and ME in Africa PE market.

More Middle Eastern origin cargo will be seen in India in the next years.

China import shares



SEA import shares

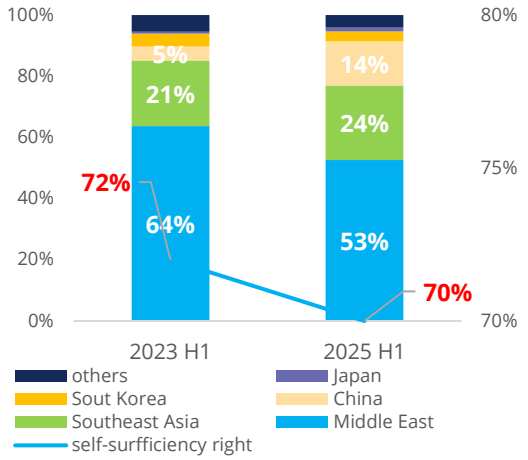


Source: Argus; GTT

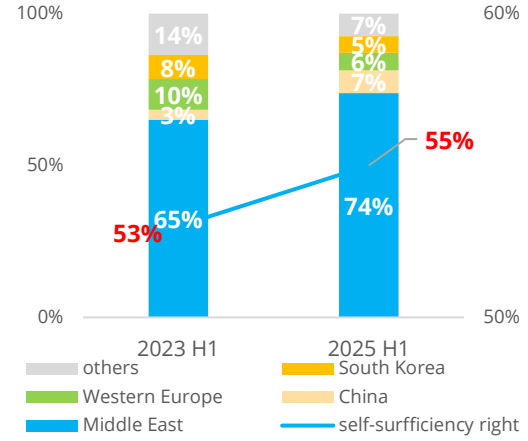
Trade reshaping amid supply-demand rebalance-PP

2025 Jan to Jun export flows

SA import shares



AF import shares

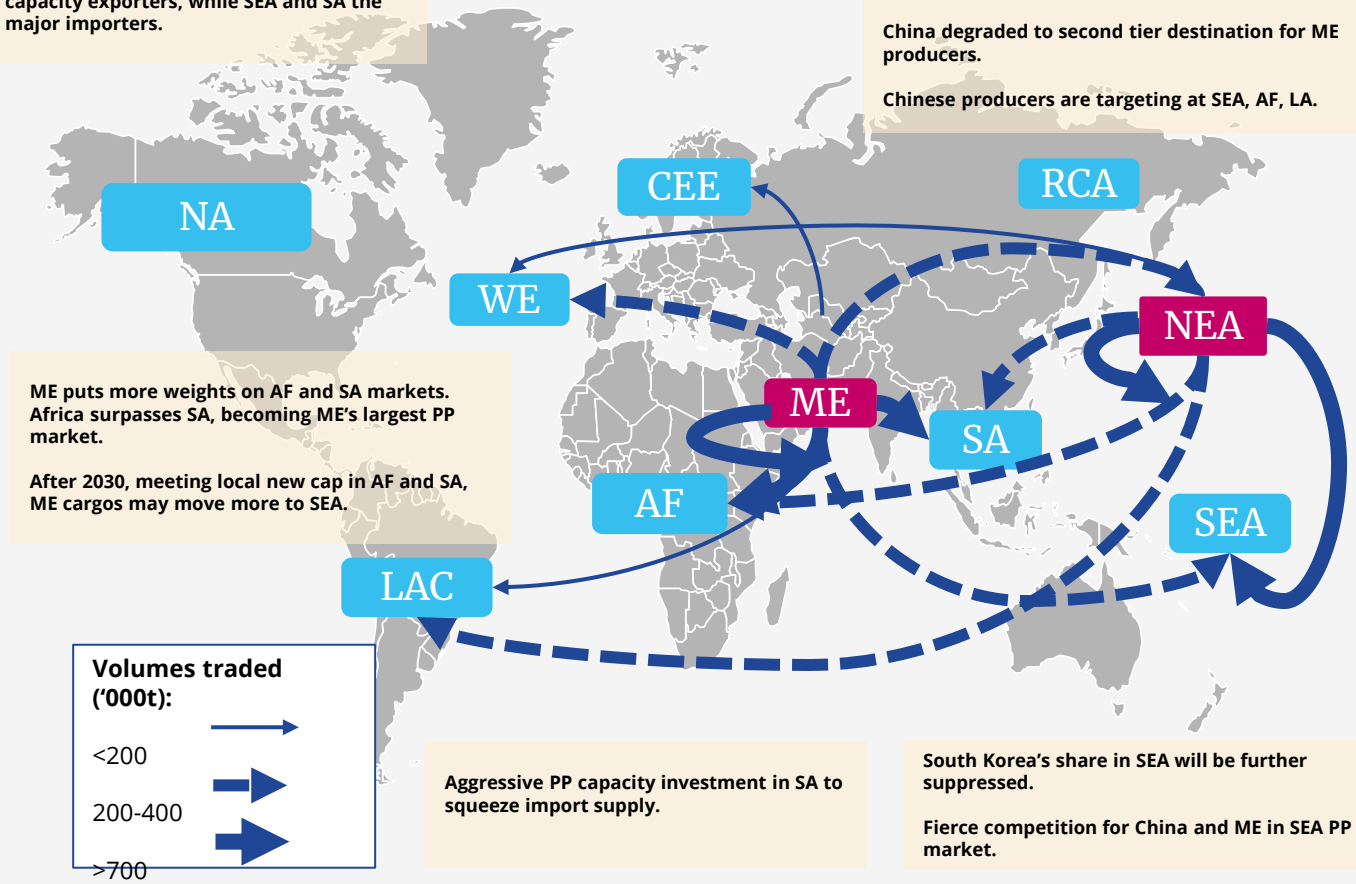


ME and NEA remain as the top two PP capacity exporters, while SEA and SA the major importers.

China is turning from PP net import to net exporter Asia market is dominated by local producers.

China degraded to second tier destination for ME producers.

Chinese producers are targeting at SEA, AF, LA.



ME puts more weights on AF and SA markets. Africa surpasses SA, becoming ME's largest PP market.

After 2030, meeting local new cap in AF and SA, ME cargos may move more to SEA.

Volumes traded ('000t):

<200

200-400

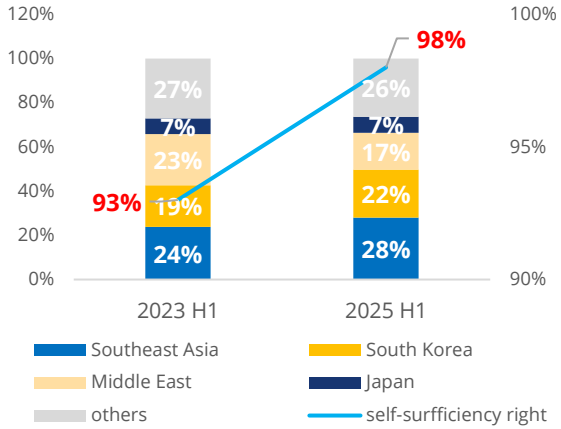
>700

Aggressive PP capacity investment in SA to squeeze import supply.

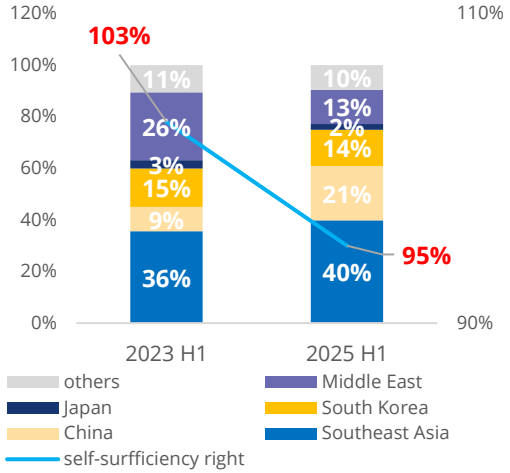
South Korea's share in SEA will be further suppressed.

Fierce competition for China and ME in SEA PP market.

China import shares



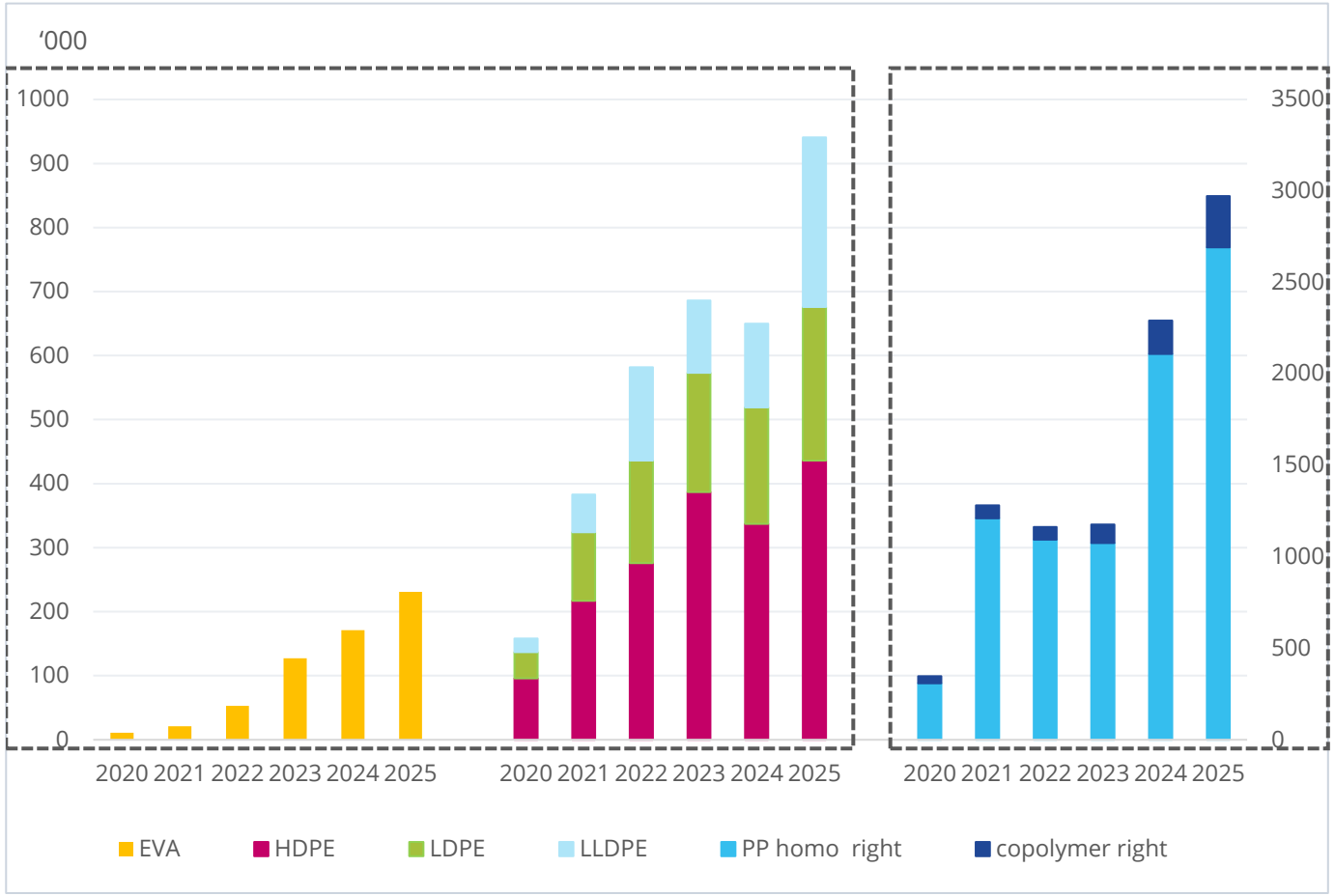
SEA import shares



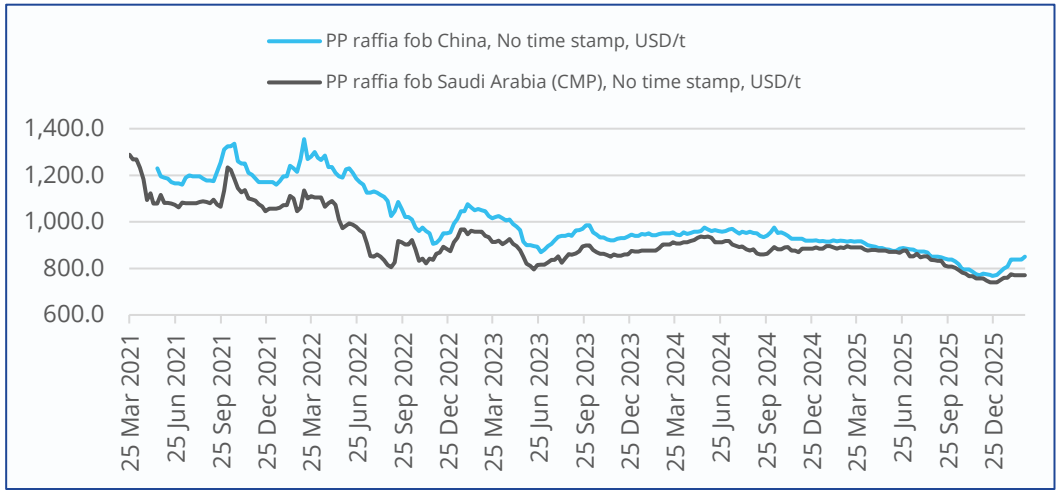
Source: Argus; GTT

Focusing on China export

China EVA PE and PP export trends



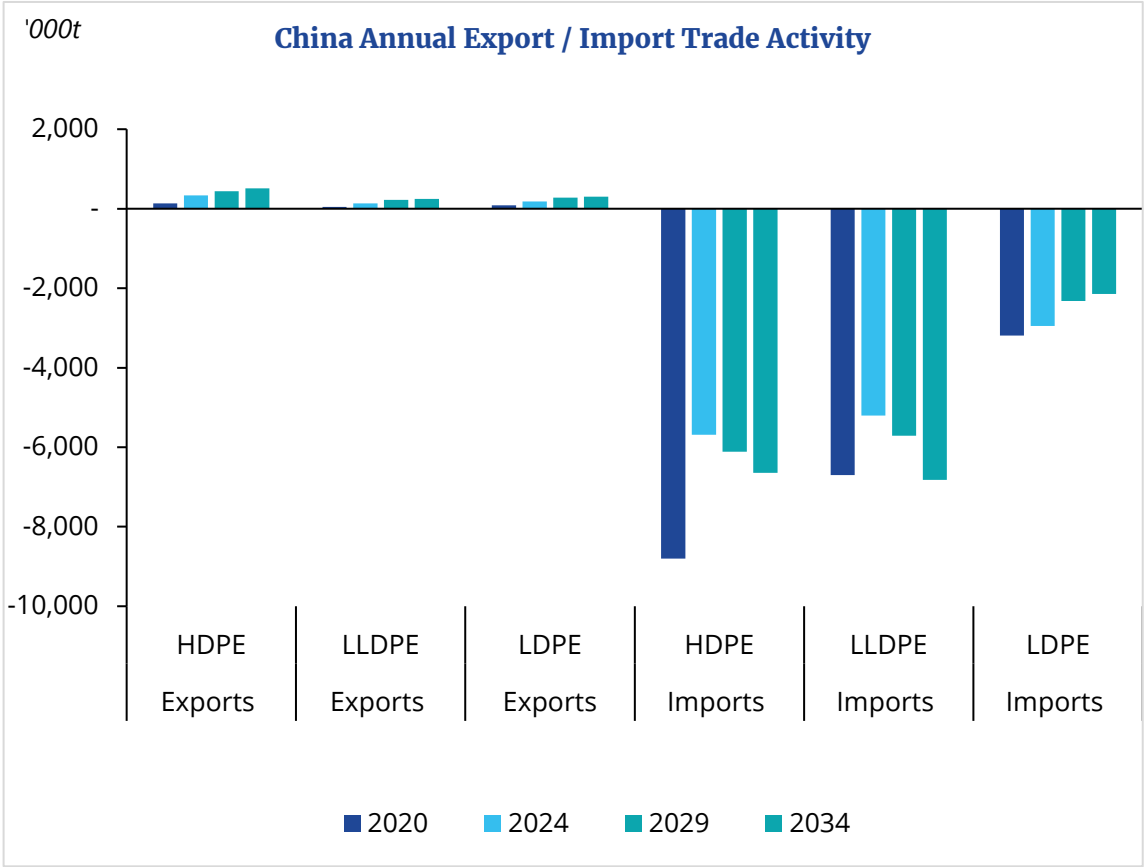
- **China became the third largest PP exporter in 2025 after Saudi Arabi and South Korea as its PP capacity increased from 32 million tons in 2020 to 55 million tons in 2025.**
- **China is approaching a turning point to become a polypropylene (PP) net exporter as its export surged to 2.97 million tonnes in 2025, up by 29pc year on year, while imports fell 8.6pc to 3.31 million tonnes over the same period.**
- **China PP prices hit a five-year low and turned more competitive in the Asia export markets.**



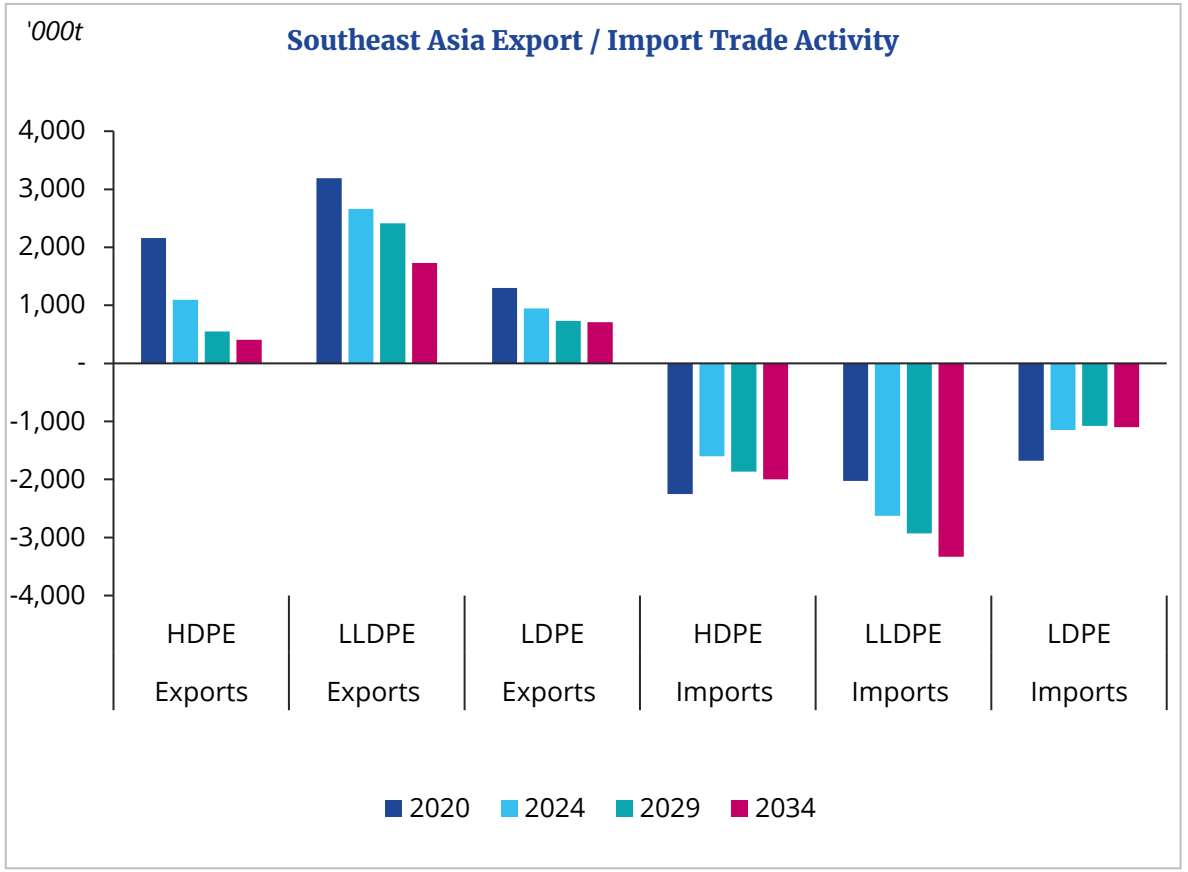
Source: Argus; GTT

PE trade flow forecast

China Polyethylene



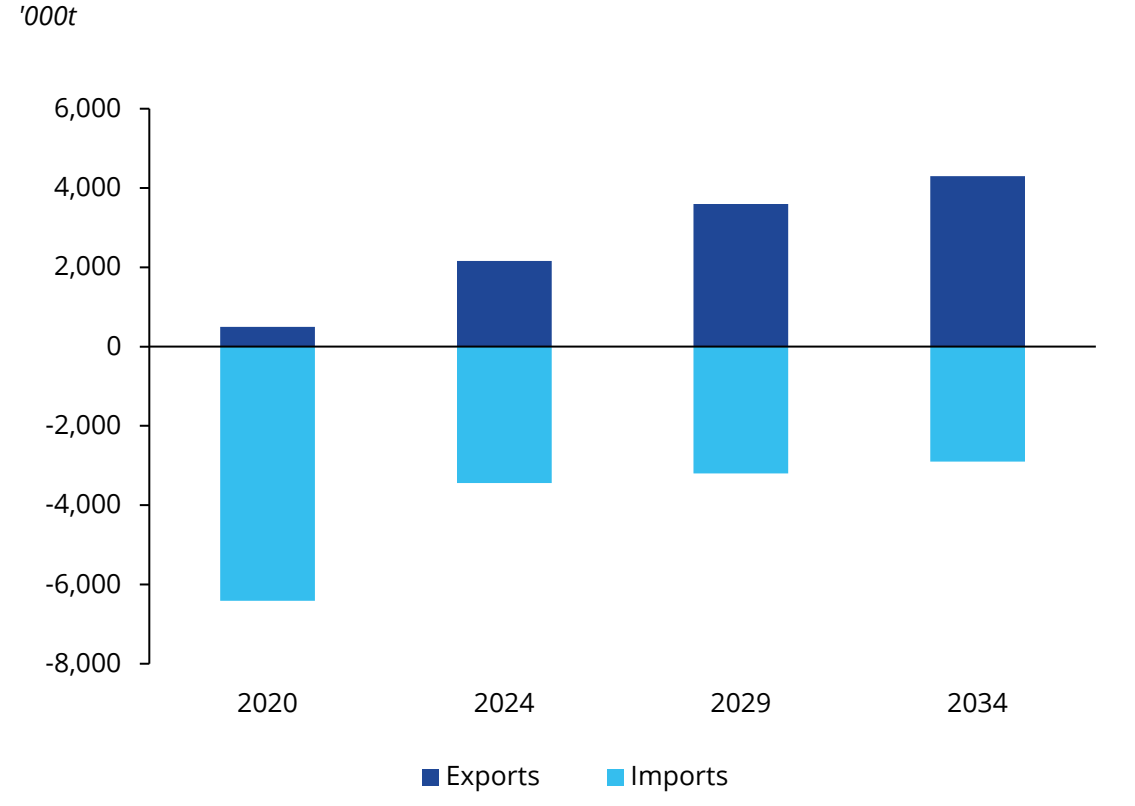
SEA Polyethylene



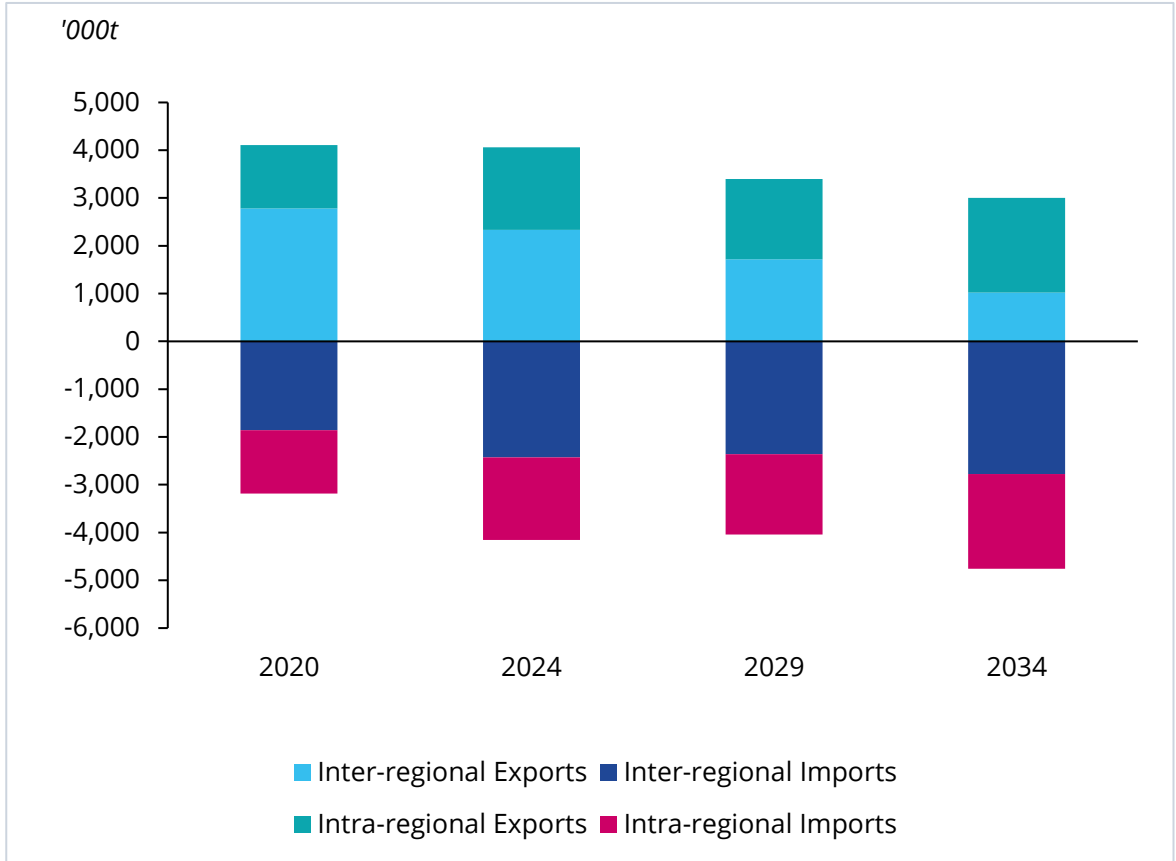
Source: Argus; GTT

PP trade flow forecast

China Polypropylene



SEA polypropylene



Source: Argus; GTT

Thank you

Further information

In the first instance please contact:

Elaine Shen
Email: elaine.shen@argusmedia.com

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