

# Charting a new course for Asian Polyolefins

**By Matthew Rajendra  
Chemicals Business Development Manager  
Asia and Middle East**

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# | Agenda

- Global Polyolefin Outlook
- Asset closures, M&As, JVs
- Tariff impacts
- Long term opportunities

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Argus publishes more than 42,000 daily and weekly spot and forward price assessments, along with commentary, news and analysis for global commodities and energy markets.

**Coverage includes markets for:**

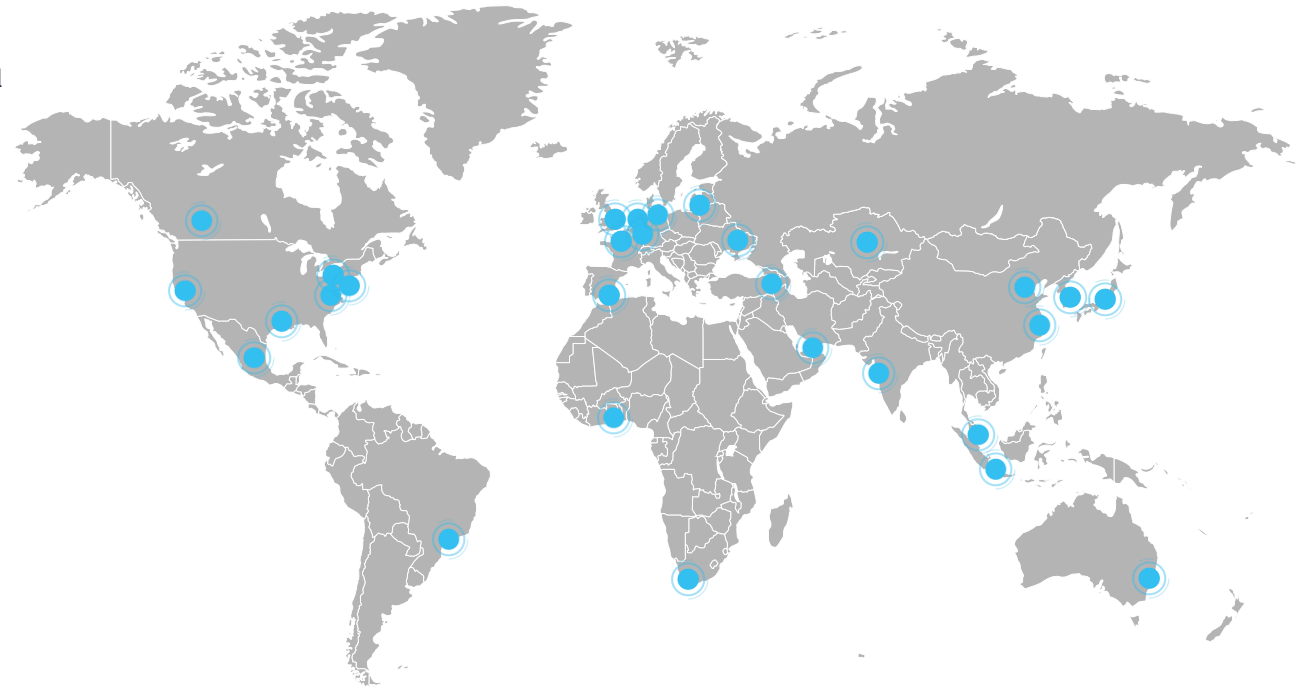
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- Fertilizers
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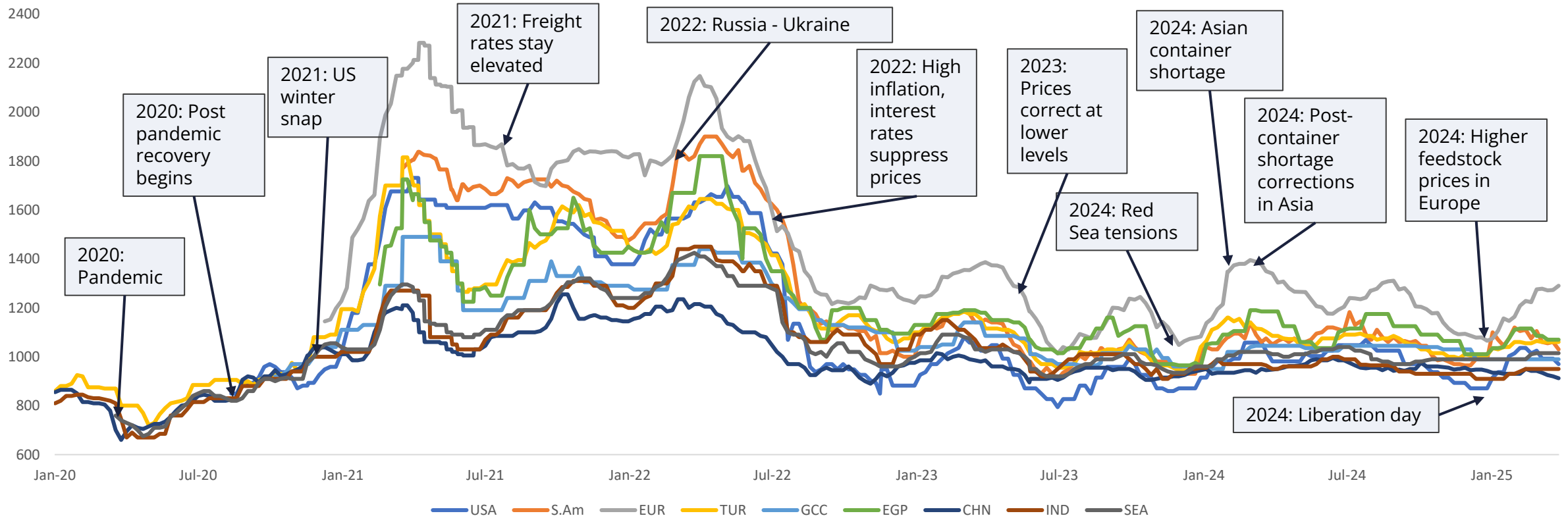


# Global Polyolefin Outlook



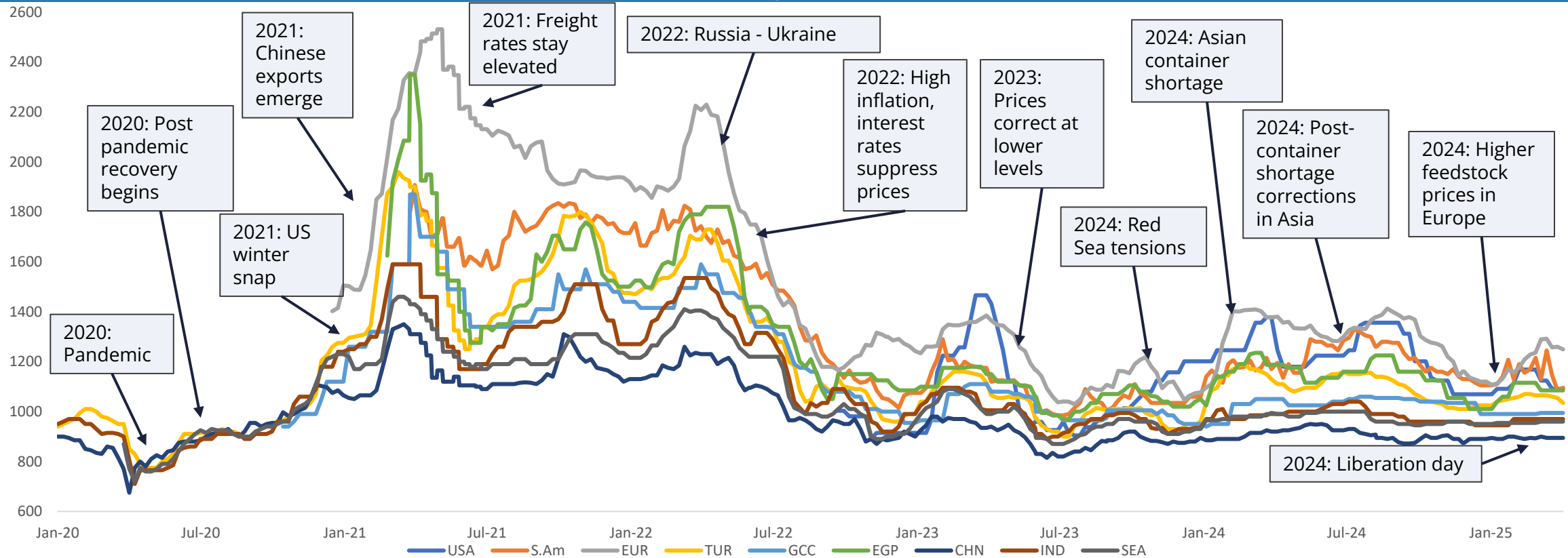
# Global LLDPE prices retreat following post-pandemic highs

Global LLDPE prices, \$/t



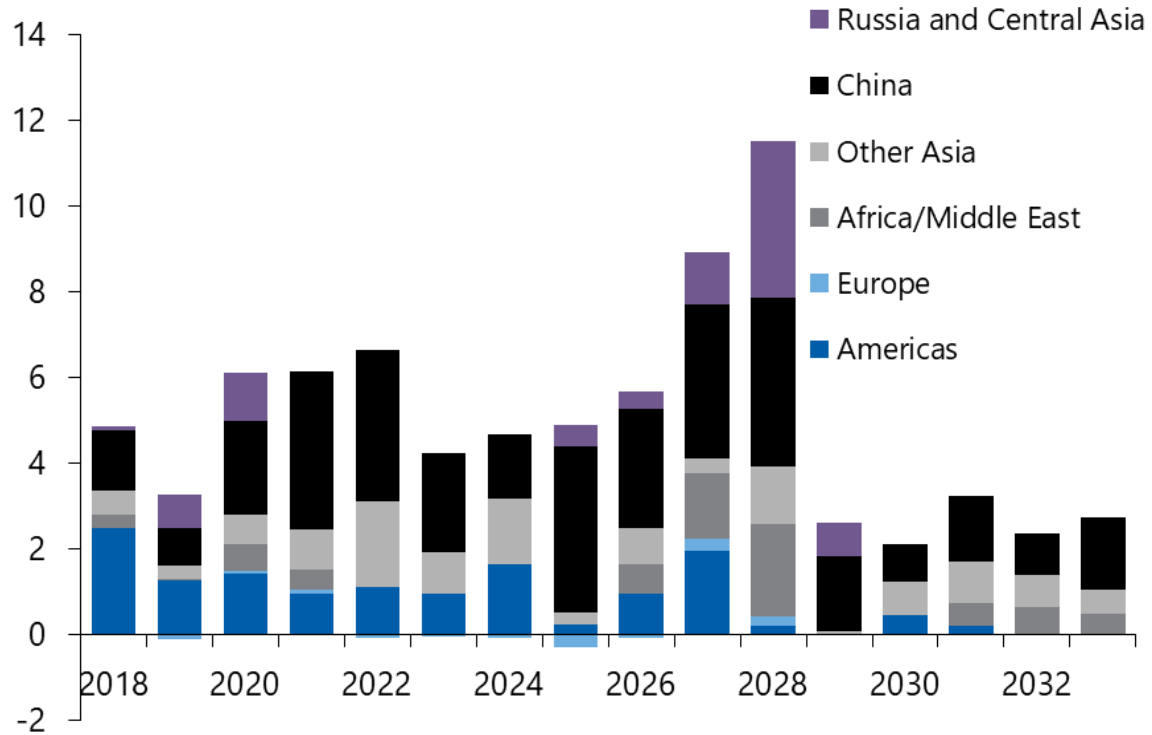
# Global PP prices ease post-pandemic as Chinese exports emerge

Global PP prices, \$/t

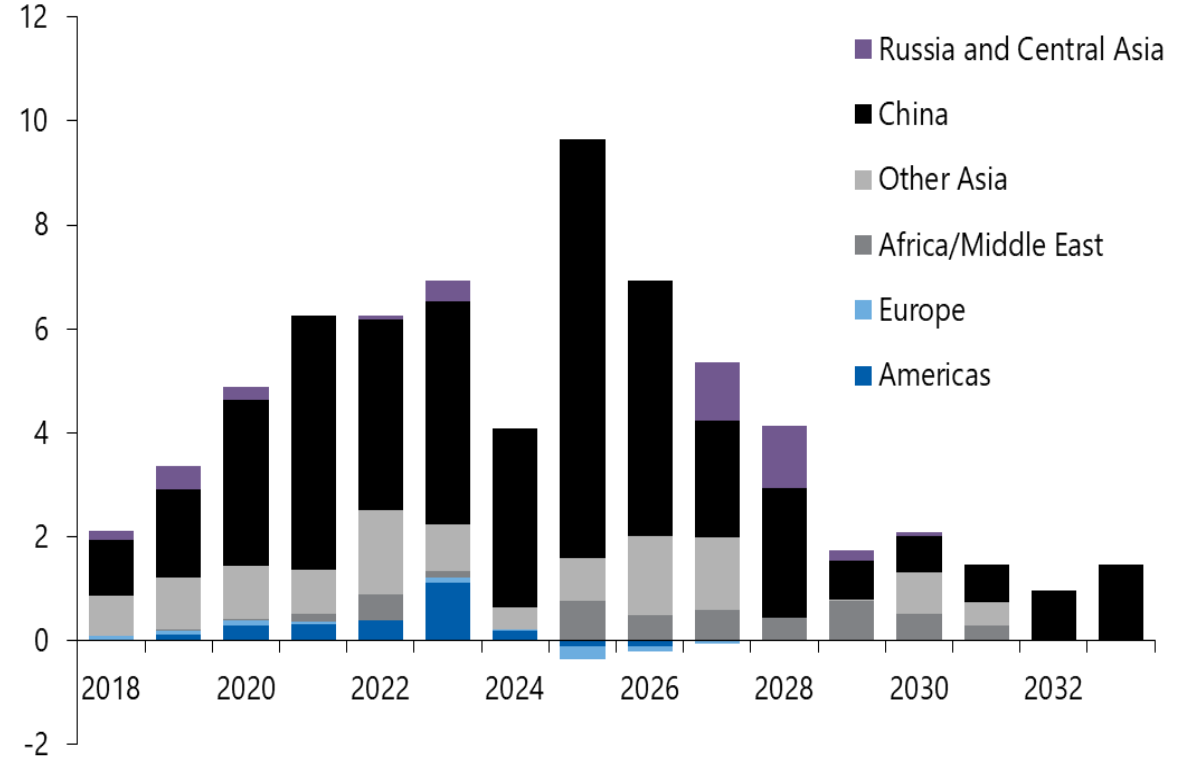


# China set to lead the way in PE and PP capacity additions

Global year-on-year PE capacity additions, mn t

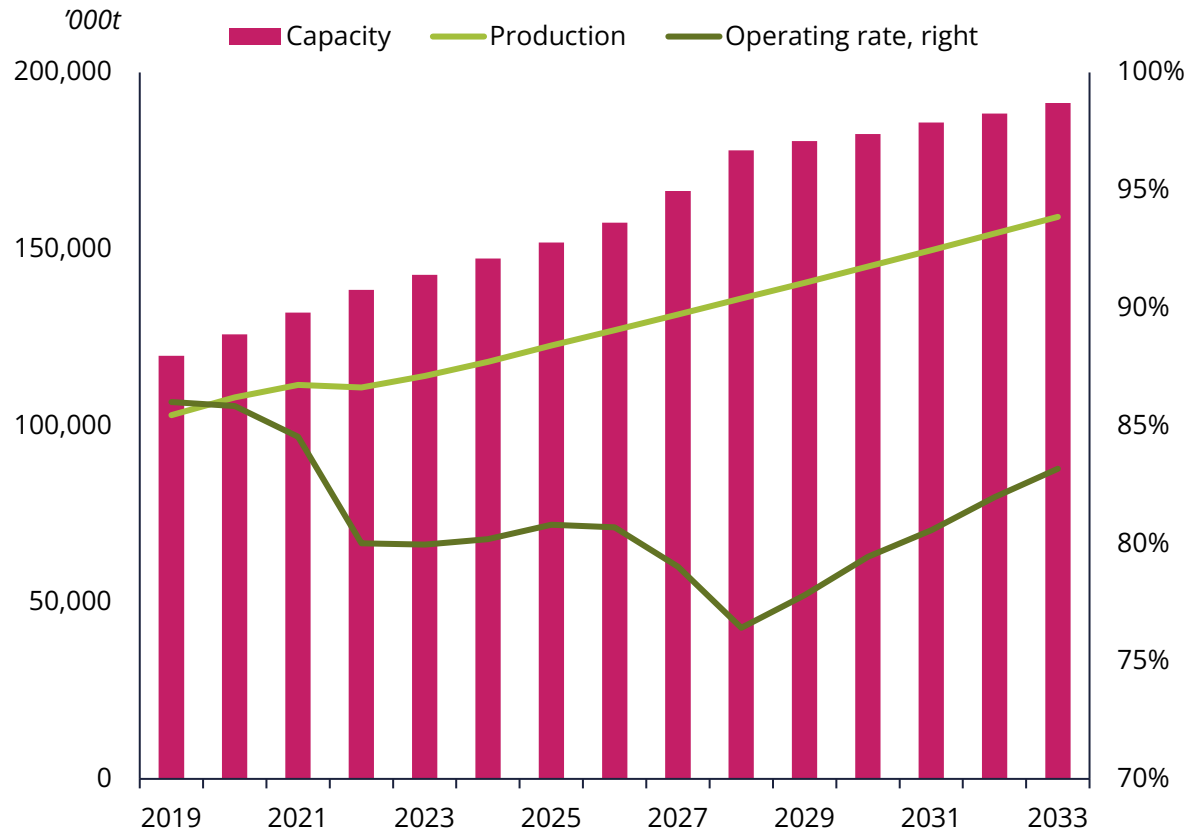


Global year-on-year PP capacity additions, mn t

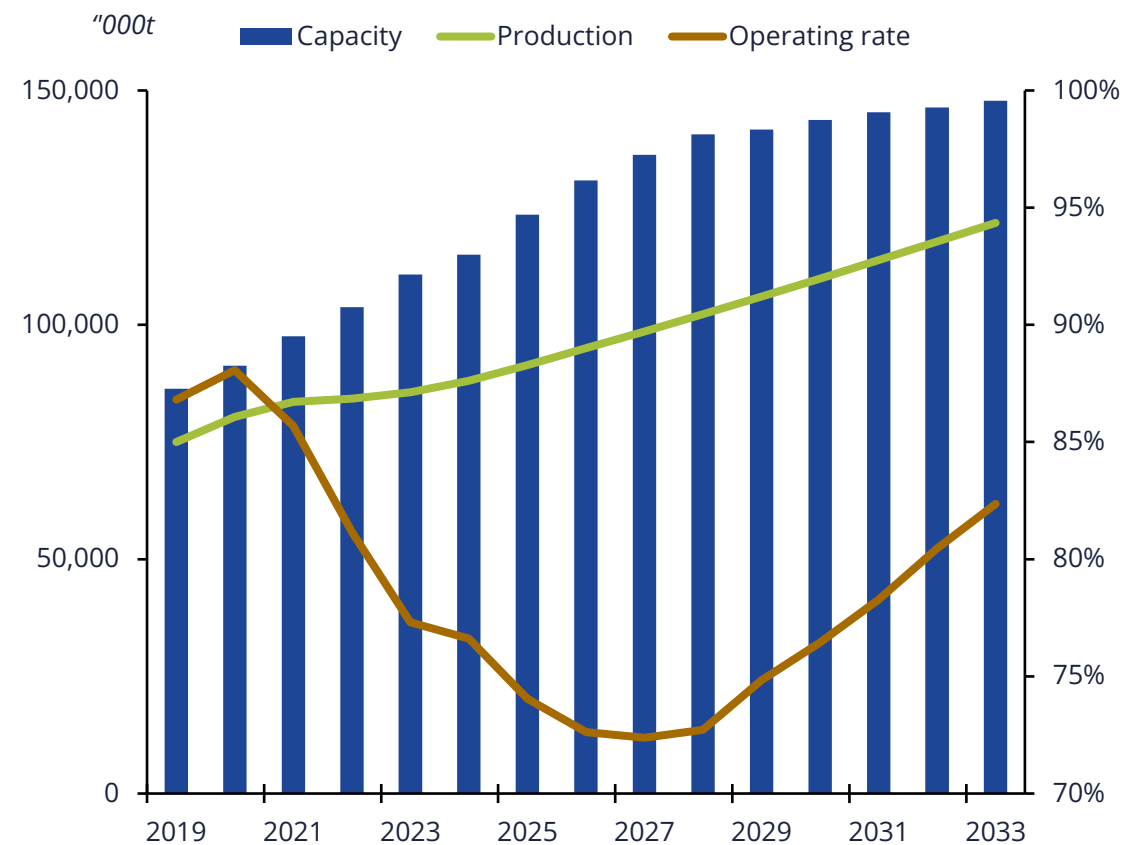


# PE operating rates are forecast to fall to a low of 76pc in 2028 while PP has a longer trough through 2026-28

Global PE production and operating rate



Global PP production and operating rate

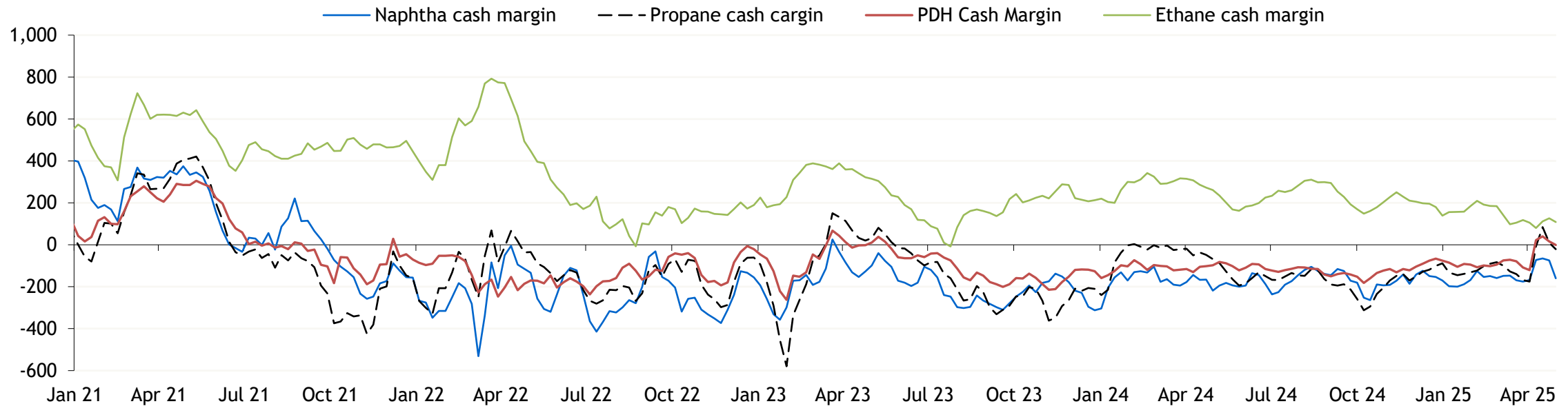


# Asset closures, M&As, JVs



# Cracker margins in Asia remain stressed

Yearly average feedstock to olefin cash margin, \$/t



## China PDH-PP production capacities on the rise

- Ease of obtaining permits, good propane margins from 2017-2021 supported investment decisions by private sector.
- Uncertainties around propane have seen prices fall in recent weeks. But tariffs are making LPG imports more expensive, forcing Chinese PDH players and crackers to look elsewhere.

## Ethane margins have been the best

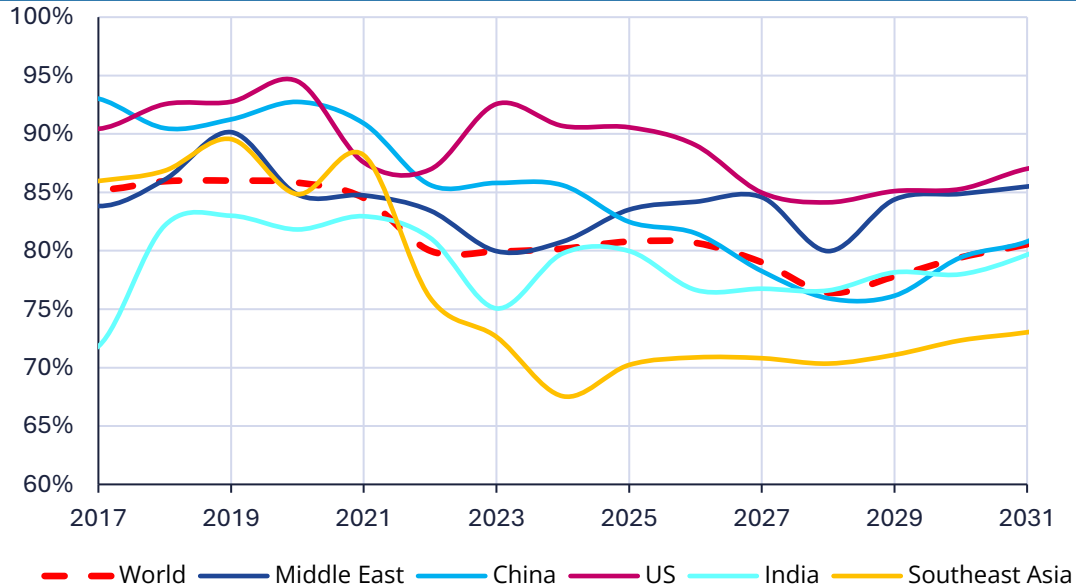
- Ethane costs have been low thanks to shale gas production from the US.
- Asian producers with ethane crackers import ethane from the US. Reliance is one example.

## Naphtha/propane margins negative in recent years

- Unlike ethane, naphtha/propane margins have mostly been negative.
- Southeast Asian and Chinese crackers that are not integrated with a refinery are mostly naphtha-based. These petchem producers are bleeding.

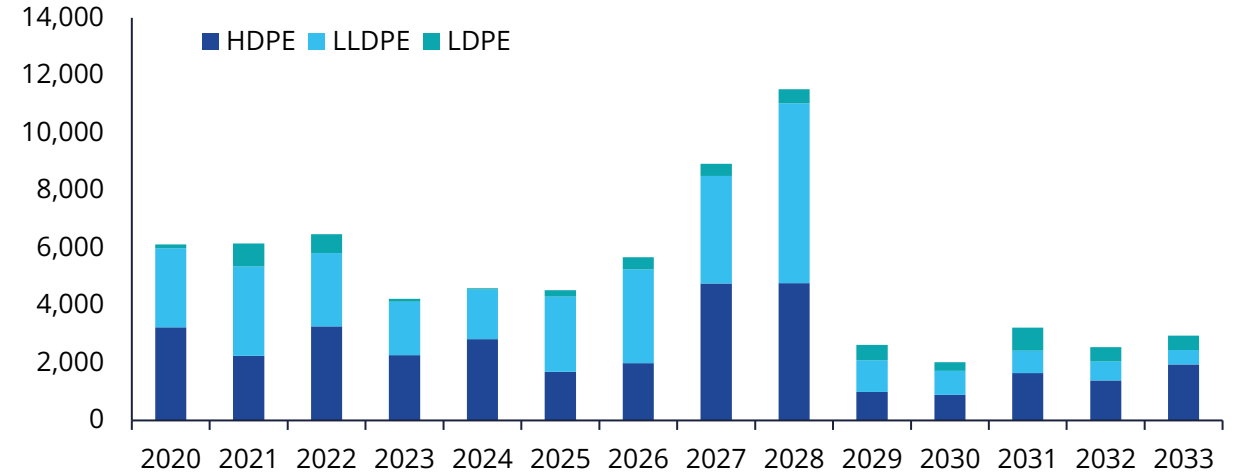
# 3mn t of PE to be rationalized from 2024-2027

Global PE operating rate %

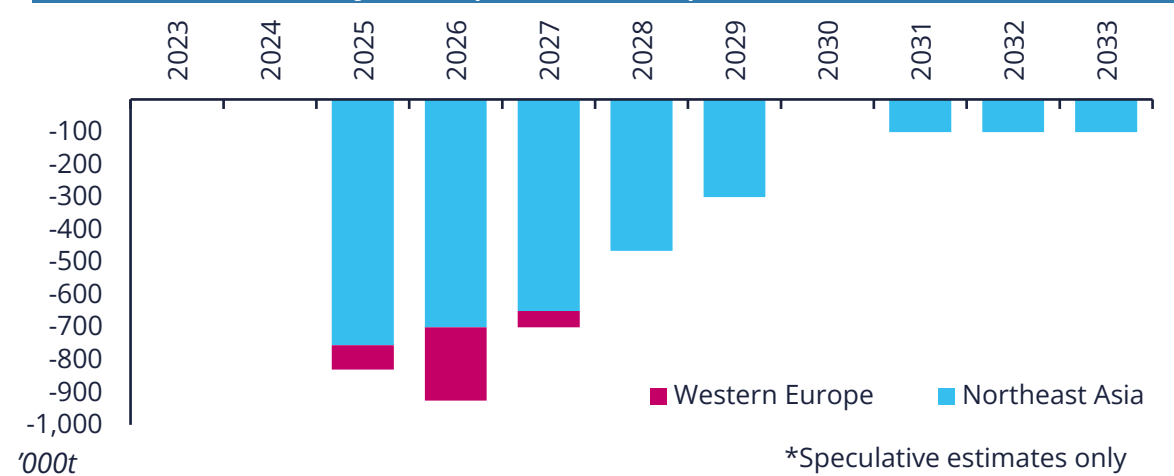


- Argus forecasts 3mn t of PE capacity will be rationalized from 2024 - 2027.
- No major impact on operating rates expected on a global basis from the forecasted 3mn t/yr.
- Rationalization expected in high-cost regions; assets with outdated and small-scale facilities will either need to be upgraded or closed.
- Some new cracker projects are investing in high value derivatives such as UHMWPE and POE, but the rest of the downstream will still be concentrated at common PE grades.

Global PE capacity yoy changes, 000t



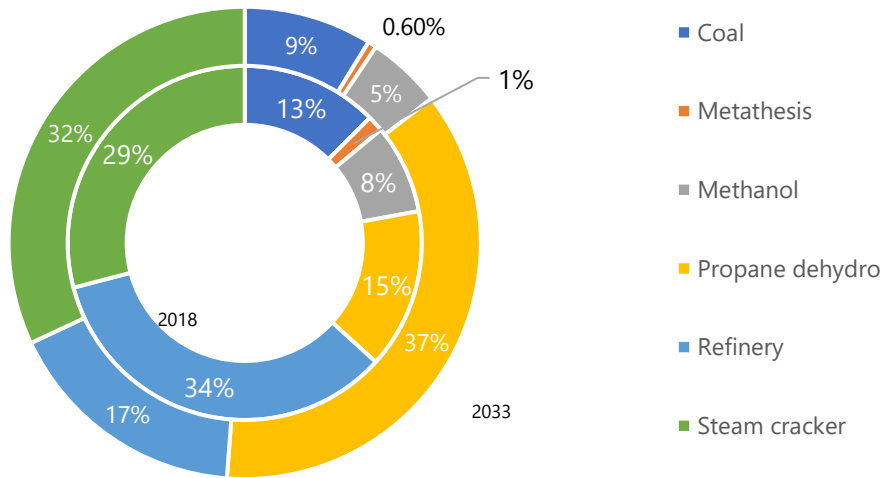
Year-on-year speculative plant rationalization



\*Speculative estimates only

# 16mn t/yr of closures needed to balance PP

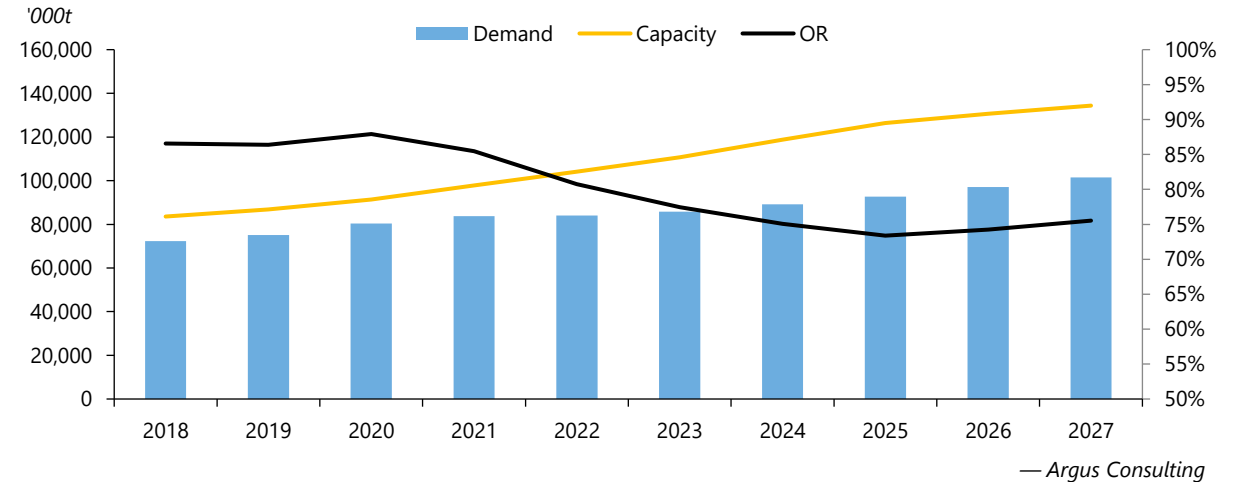
Global propylene source



Argus Analytics

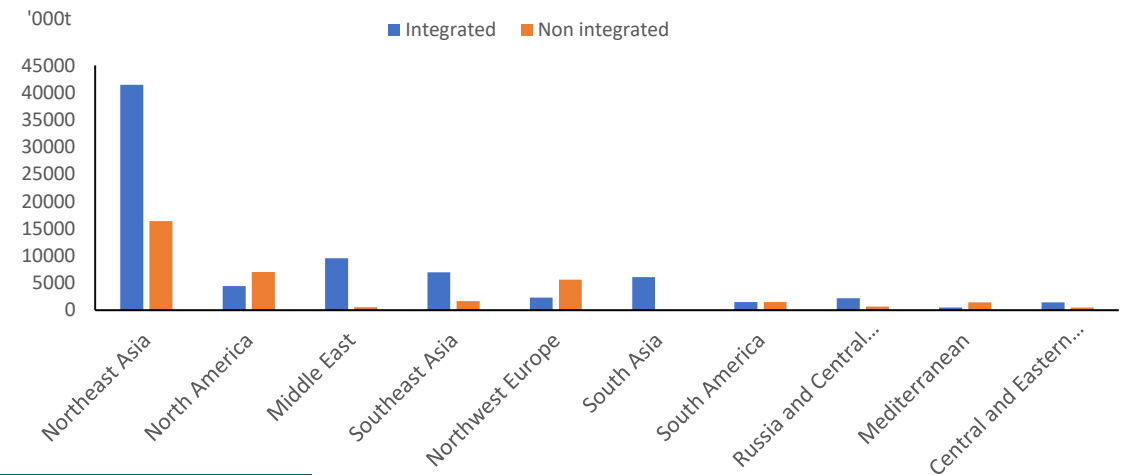
- Rationalization is likely, but unlikely to hit 16mn t/yr.
- 46% of the non-integrated PP capacity is located within China, equivalent to 16mn t/yr. China represents 15% of global capacity.
- Chinese PDH players under threat – but exemptions, certifications could salvage the situation.
- Like in PE, specialty grade PP producers will likely continue operating. But demand for these grades are low, and margins must be high enough to encourage continued production.

Global PP capacity and operating rate



— Argus Consulting

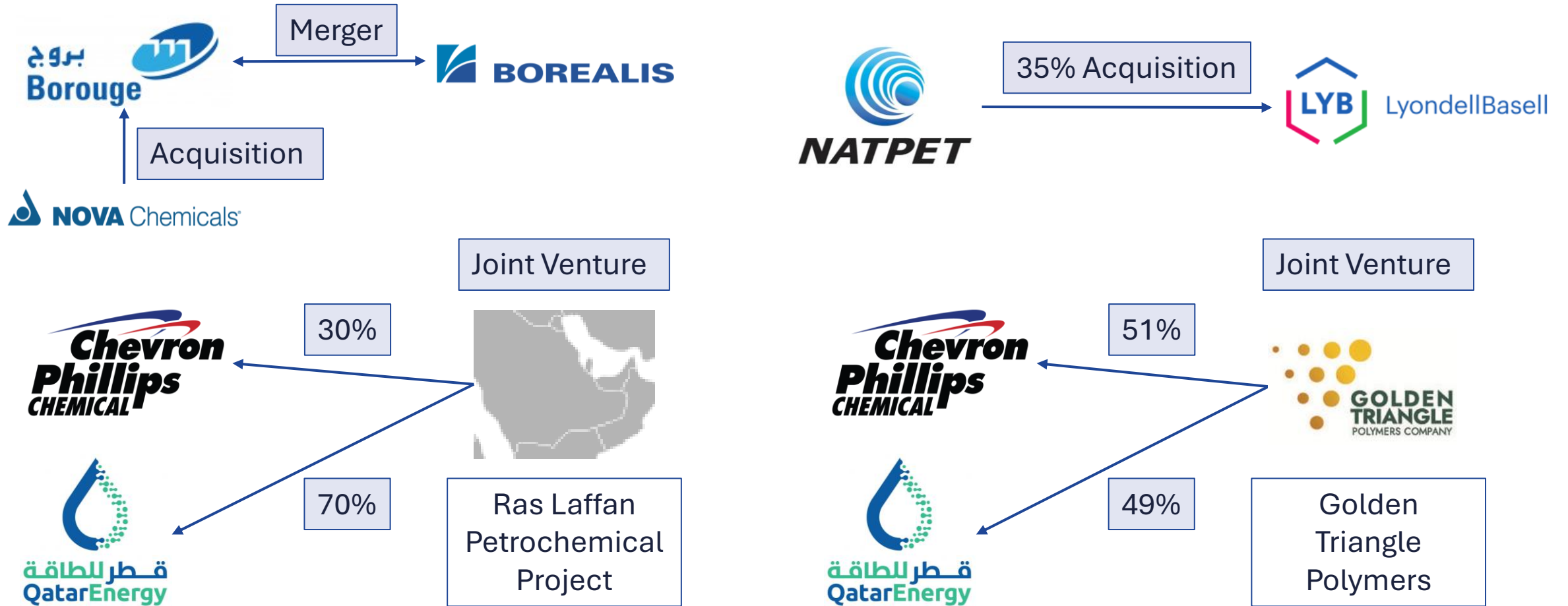
Integrated vs non-integrated PP capacity



Data from Argus Outlooks and Analytics

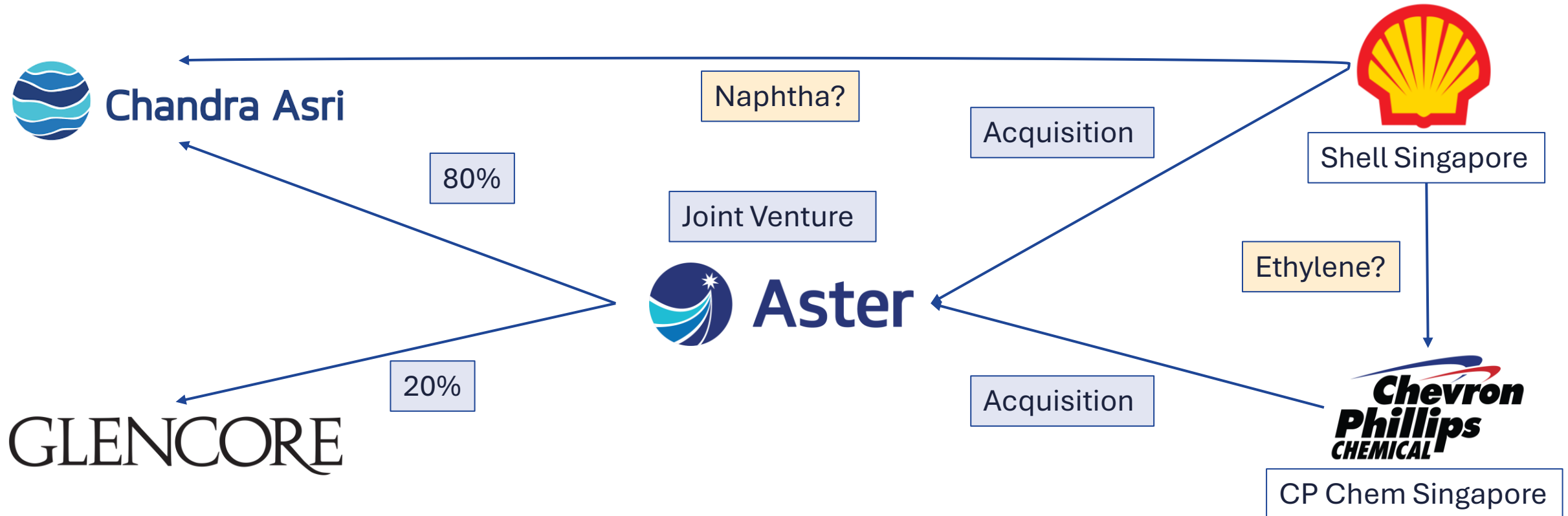
# Silver linings or just dark clouds? Polyolefin M&As, JVs

Optimizing global distribution – Key inter-regional Middle East moves



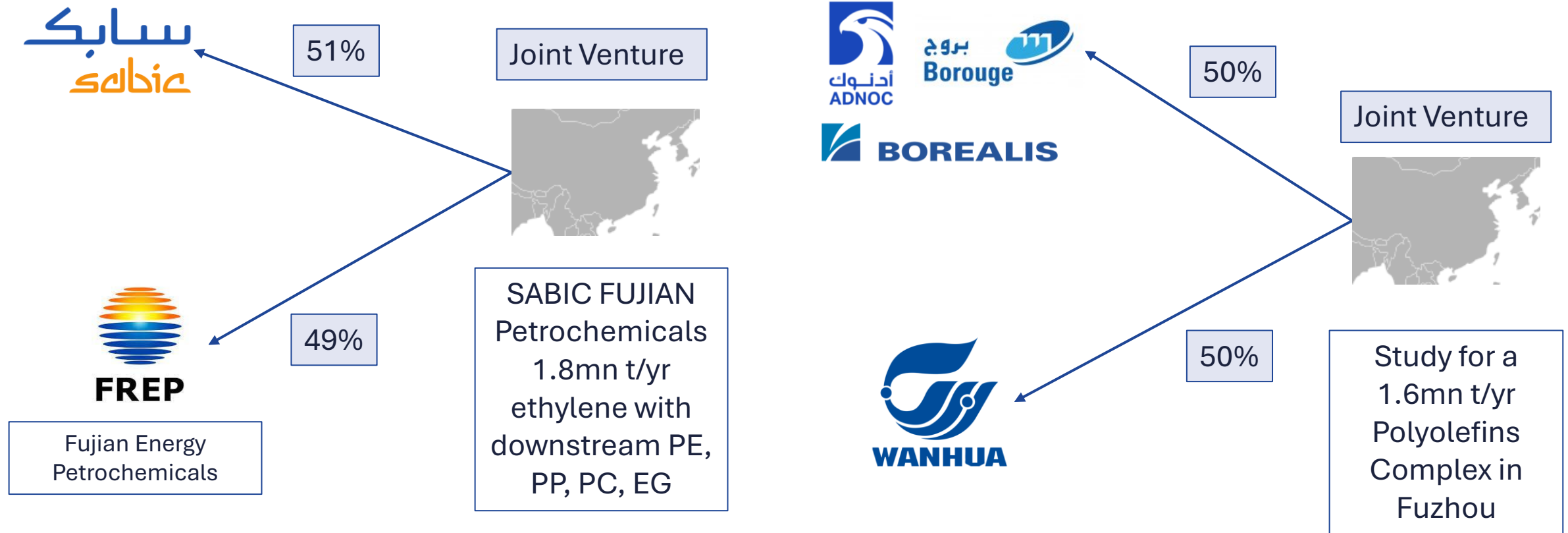
# Silver linings or just dark clouds? Polyolefin M&As, JVs

Managing costs to improve margins – Key Asia Pacific moves; more to come?



# Silver linings or just dark clouds? Polyolefin M&As, JVs

Unlocking Asia's potential – Upcoming JVs between China and the Middle East



# Tariff impacts

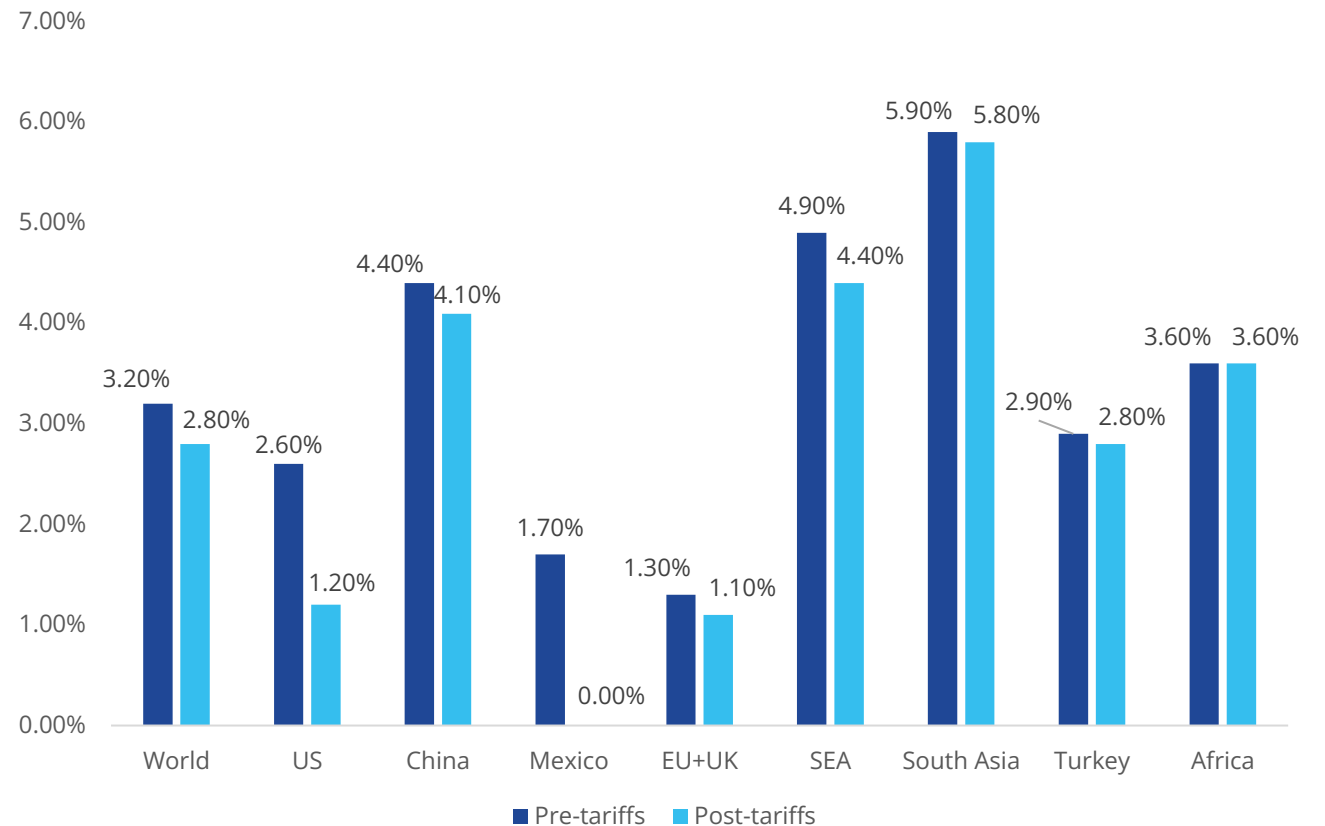


# Economic outlook

US GDP growth almost halved; Chinese economy not expected to face significant impact .

- Whilst Oxford Economics sees US GDP PPP growth slashed to 1.2pc in 2025 as a result of the tariffs, China sees a much less significant downgrade for several key reasons:
  - Chinese exports to the US account for just 3pc of China's GDP
  - China's overall trade surplus provides policy space to respond to a trade war
  - Devaluing the renminbi will cushion the impact of facing higher US tariffs
  - A prolonged trade with the US may provide the stimulus to transition the country more so towards a consumption-led economy rather than a production-focused economy

2025 GDP PPP Growth



# Impact of tariffs on polymers – an overview

## Feedstocks

- Propane and ethane prices to rise as US is a key producer of all.
- Naphtha crackers likely to raise operating rates because of relative affordability.

## Polymers

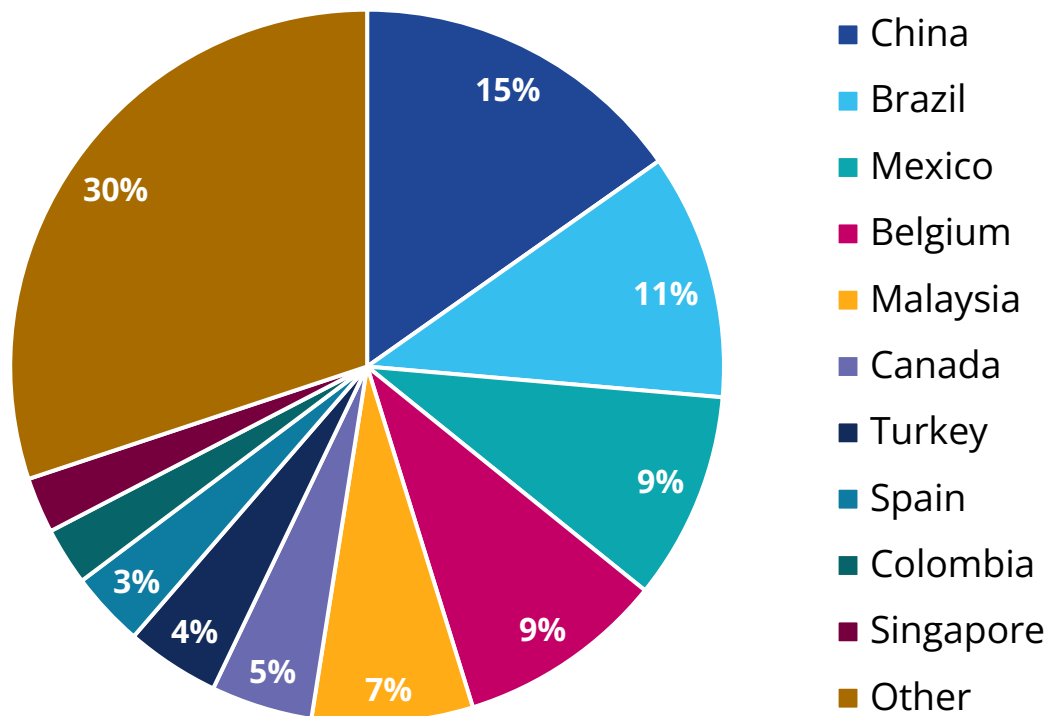
- Margin squeeze will continue to challenge producers.
- Change in tradeflows.
- Plant closures likely with declining margins.

## Finished goods

- Acceleration in geographical shifts from traditional centres of production.
- New tradeflows to the US with China being ruled out as a key import origin.

# Supply gap forms as US-China trade erodes with tariffs

US LLDPE Exports in 2024



Country	% LLDPE Imports from US
China	20%
Brazil	70%
Mexico	82%
Belgium	25%
Malaysia	61%
Canada	98%
Turkey	35%
Spain	22%
Colombia	86%
Singapore	8%

The retaliatory tariffs that China introduced on US imports could also cause a significant supply gap. China imported a total of 13.8mn t of PE in 2024, of which 2.4mn t or 20pc was from the US. This is up from 2017, when PE imports from the US accounted for only 5pc of China's total imports.

# Long term opportunities



# Could the plastic problem spark a change in consumption?

## Microplastics consumption

- Microplastics are increasingly being found in our food supply – in fish, hot dogs, vegetables etc.
- Accumulation of microplastics in human body; studies are now showing accumulation of microplastics in the body.
- Associated health risks include hypertension, diabetes, stroke.

## Chemical exposure

- Bisphenol-A (BPA), phthalates consumption.
- These chemicals are used to preserve the integrity of the plastic product made to make it fit for function.
- But studies have shown that these chemicals are now leaking into our food. These become endocrine disruptors in the human body, causing more health problems.

## Plastic waste in oceans, environment

- Accumulation of plastic waste in oceans are threatening marine and aquatic life.
- Large initiatives by NGOs such as the Ocean Cleanup are starting initiatives to remove plastic waste in oceans.
- Forests are also prone to plastic waste, with ecosystems being disrupted and animals now also consuming microplastics.

## Carbon and climate change

- Carbon production has been a significant driver of climate change.
- Plastic production has been a significant contributor – from wellhead to factory.
- Governments globally have been cracking down on carbon emissions to manage the pace of climate change.

# Could the plastic problem spark a change in consumption?

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- Reduction in Single Use Plastics

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- Reduction in Single Use Plastics

## Plastic waste in oceans, environment

- Accumulation of plastic waste in oceans are threatening marine and aquatic life.
  - Landfills are also prone to plastic waste, with ecosystems being disrupted and animals now also consuming microplastics.
- Improve waste management

## Carbon and climate change

- Carbon production has been a significant driver of climate change.
- Barriers to plastic production
- Governments globally have been cracking down on carbon emissions to manage the pace of climate change.

# Could the plastic problem spark a change in consumption?

Microplastics consumption

Chemical exposure

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- Producers must
  - Get ahead of these trends.
  - Target markets where plastics will be used more and needed.
  - Focus on growth.
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- animals now also consuming microplastics.

product  
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health

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# Electric vehicle fleet forecast

The global passenger car fleet grows at 1.2pc CAGR in 2020-45, compared to EV fleet growth of 25pc CAGR to 2035 and then 7.5pc CAGR to 2045;

## Total fleet growth:

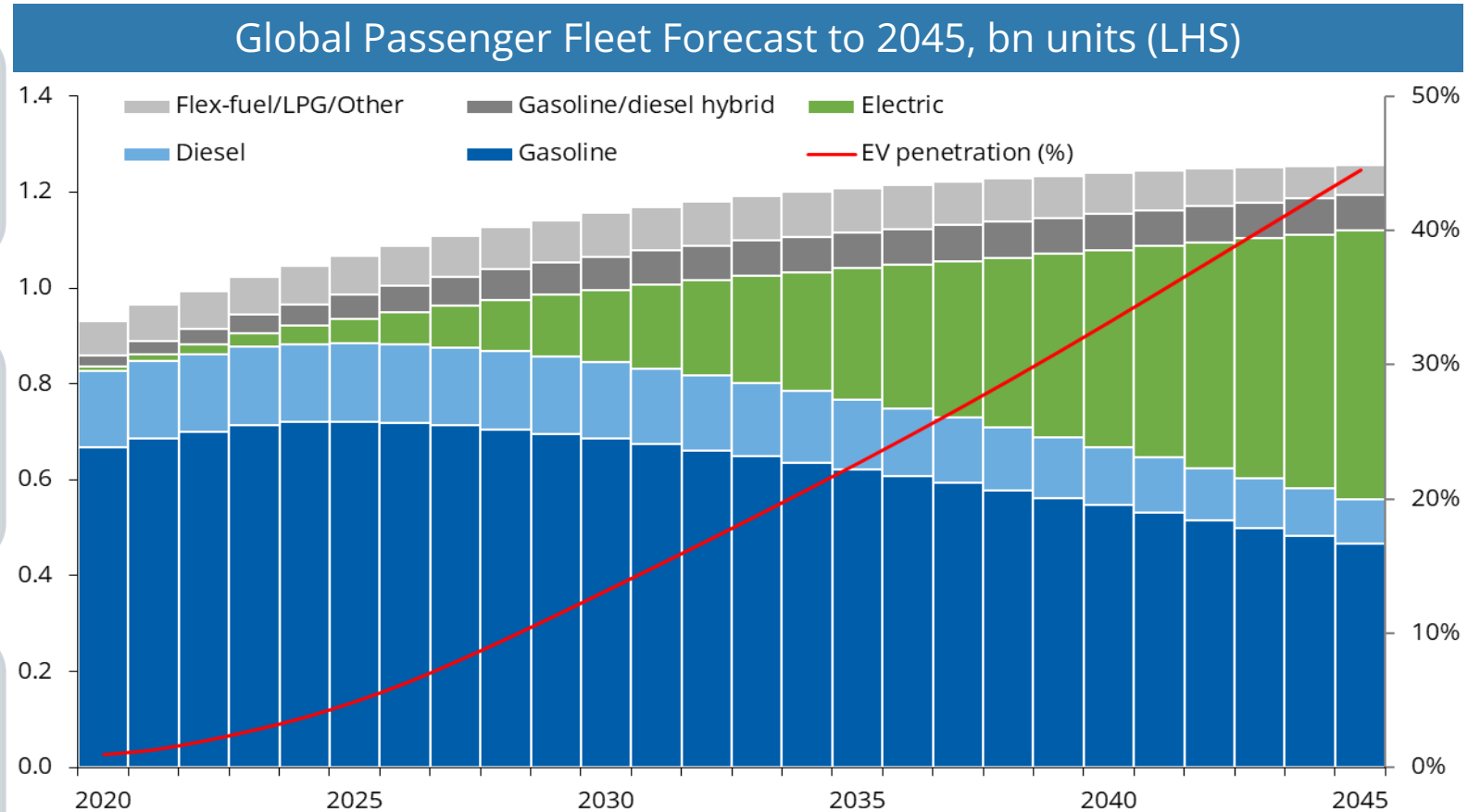
- CAGR of 1.75pc from 932mn units in 2020 to 1,208mn units in 2035
- Growth then slows to only 0.4pc/yr to 1,257mn units by 2045.

## Electric vehicle growth:

- Forecast at 25pc/yr from 8.6mn in 2020 to 273mn in 2035
- Growth then moderates to 7.5pc/yr to 559mn by 2045

## Electric vehicle penetration:

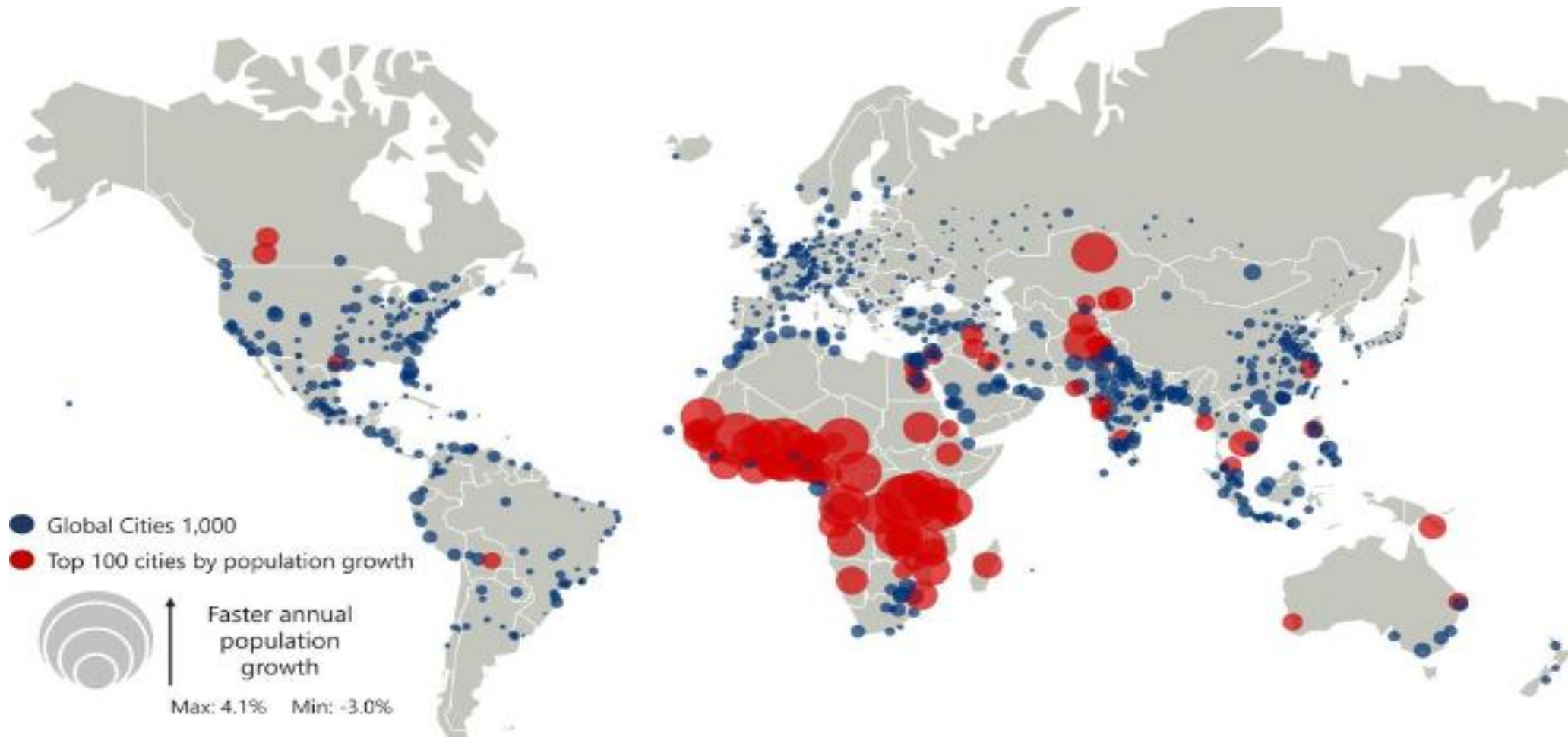
- 1pc in 2020
- 5pc in 2025
- 23pc in 2035
- 44pc in 2045



On average, plastics make up less than 10% of a vehicle's weight but make up 50% of its volume

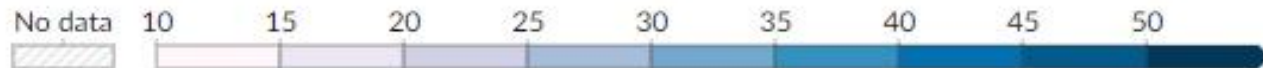
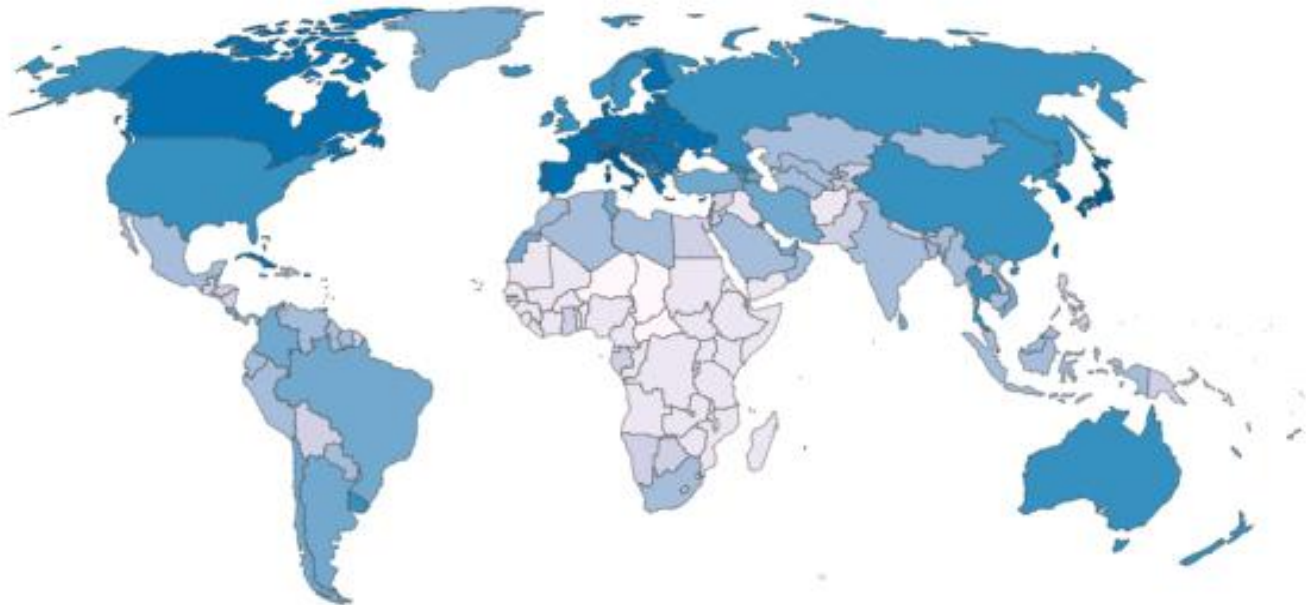
# Urbanisation is a driver for polymer use; low-value manufacturing diversifies away from China to other regions

Global cities: Population change, 2024-2050



# Population size matters but age profile is also important

United Nations, World Population prospects 2022



West European / Japanese populations are aging

US has a relatively good demographic partially accounted for by immigration

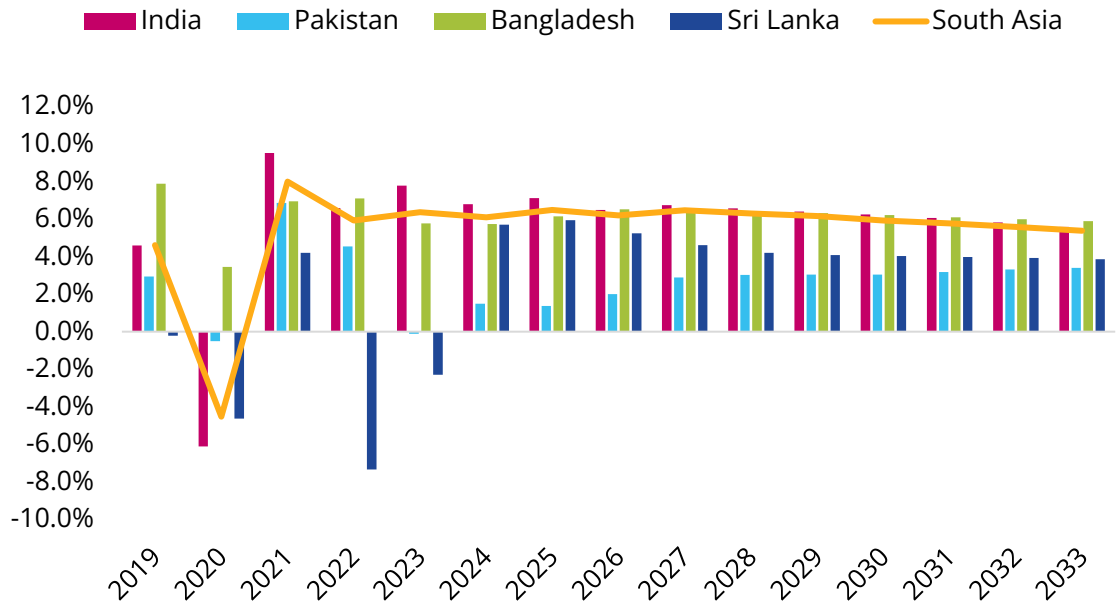
China – like the US has a reasonable age profile but the population is falling because of the one child policy

Middle East / South America and parts of Asia have younger profile

While Africa, India and parts of south-east Asia have the youngest profiles.

# Robust GDP and population growth keep most bullish on India

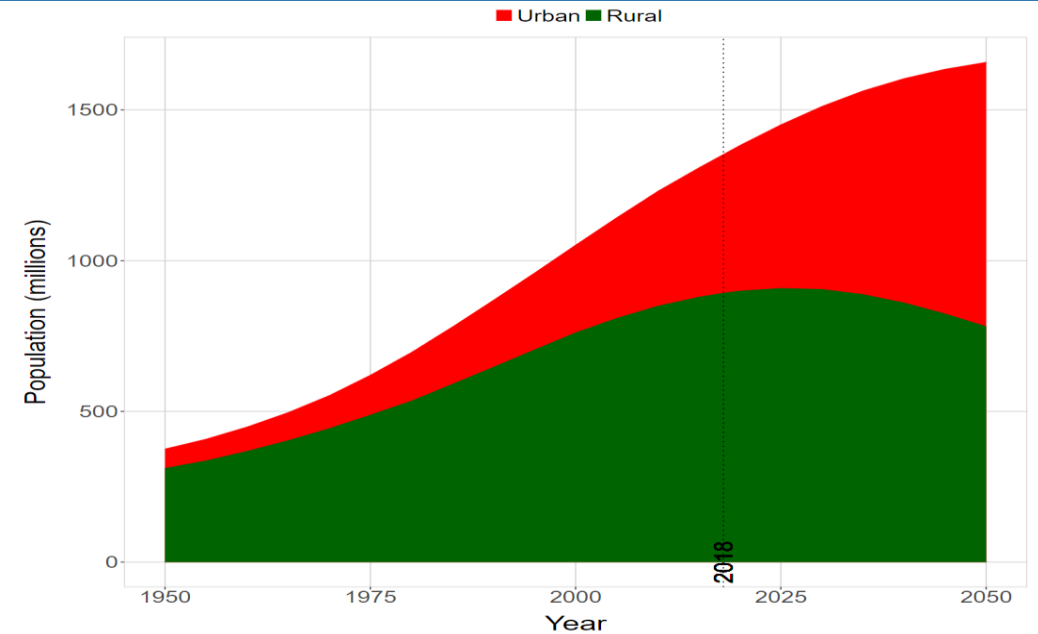
South Asia GDP forecast, %



— Argus Chemical Services, Oxford Economics

- India's GDP growth shows a strong strength and sustainable growth during next 5 years.
- GDP expected to stay above 5pc in 2024 and rose to as high as 7.8pc in 2026.

India urban and rural population, mn



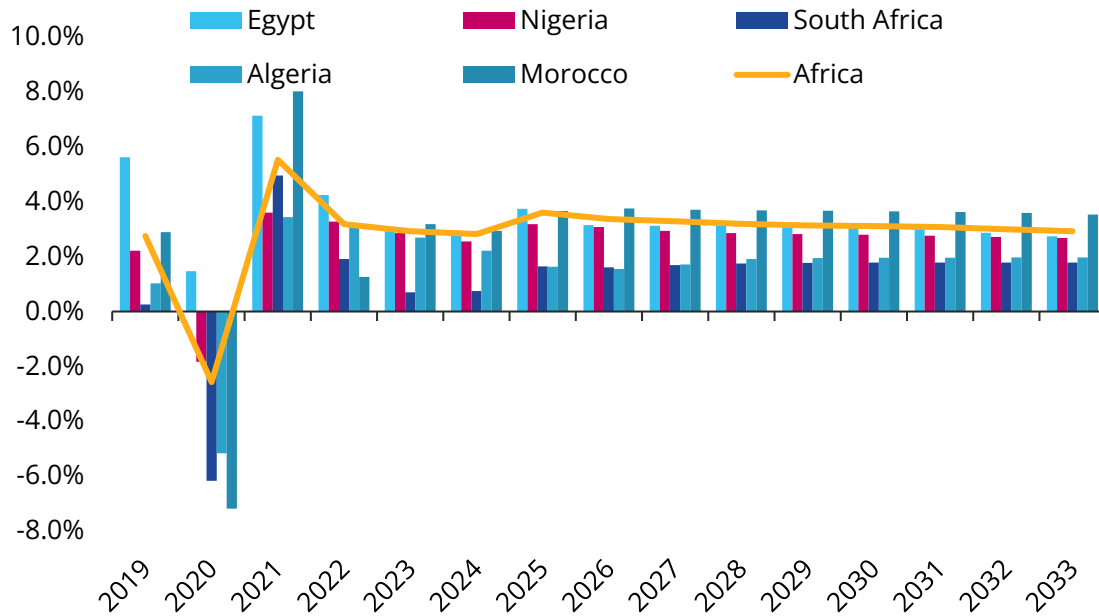
© 2018 United Nations, DESA, Population Division. Licensed under Creative Commons license CC BY 3.0 IGO.

Note: Urban and rural population in the current country.

- By 2030, more than 40pc of the population is expected to live in urban India, up from 33pc currently.
- United Nations projects India's population to be 1.64 bn by 2047. 0.82 Bn (around 50pc) will be in urban areas.

# North Africa to lead African PP consumption growth

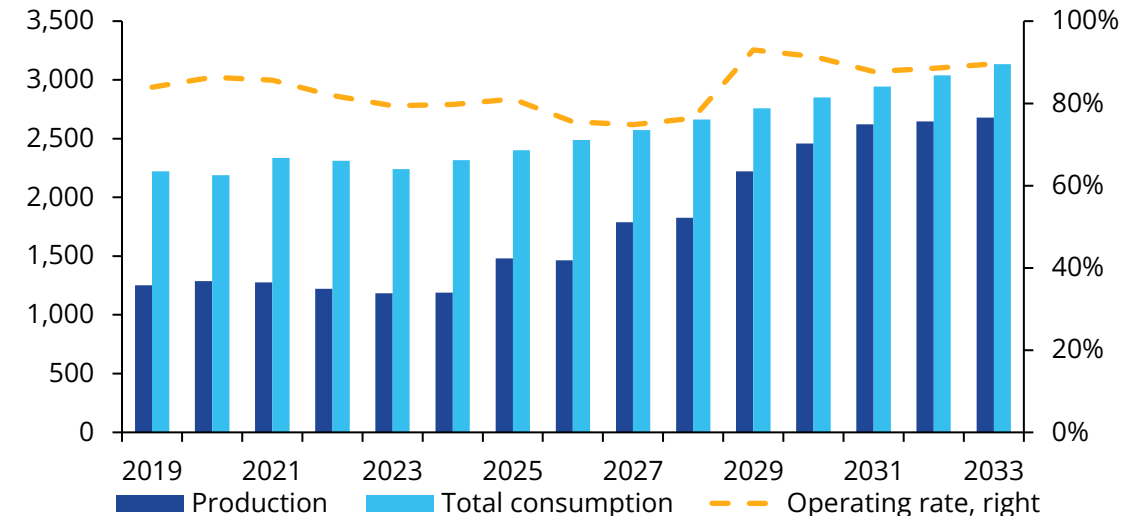
Africa annual GDP growth



New African capacities

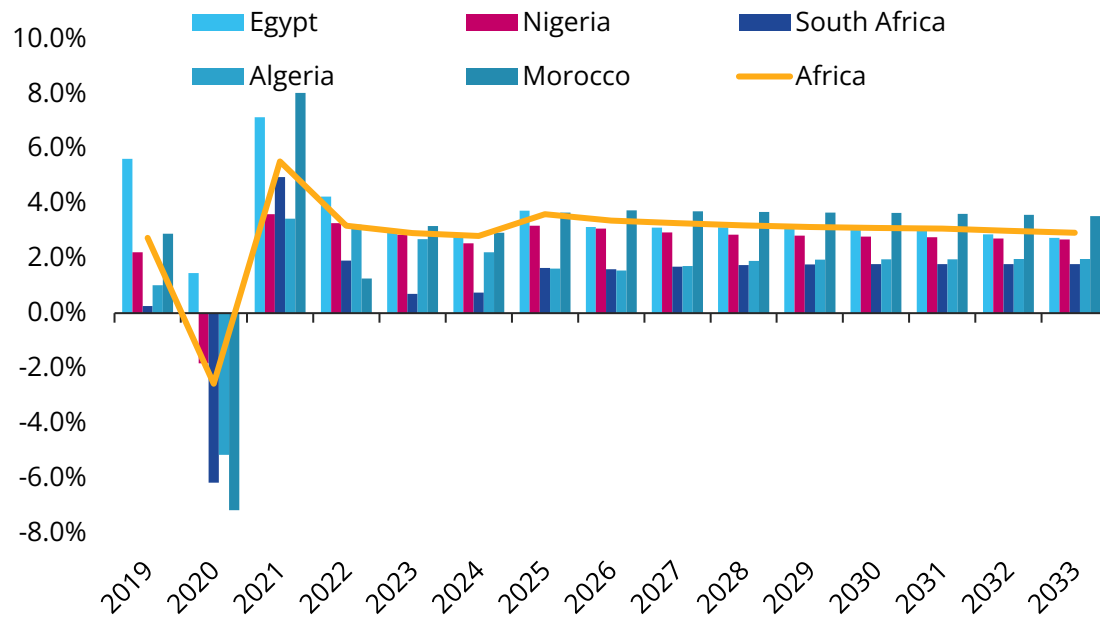
Product	Country	Company	Capacity (kt)	Startup
PP	Nigeria	Dangote	450	2025
PP	Algeria	Arzew	550	2028
PP	Egypt	Anchorage	600	2030

African PP production statistics, 000t

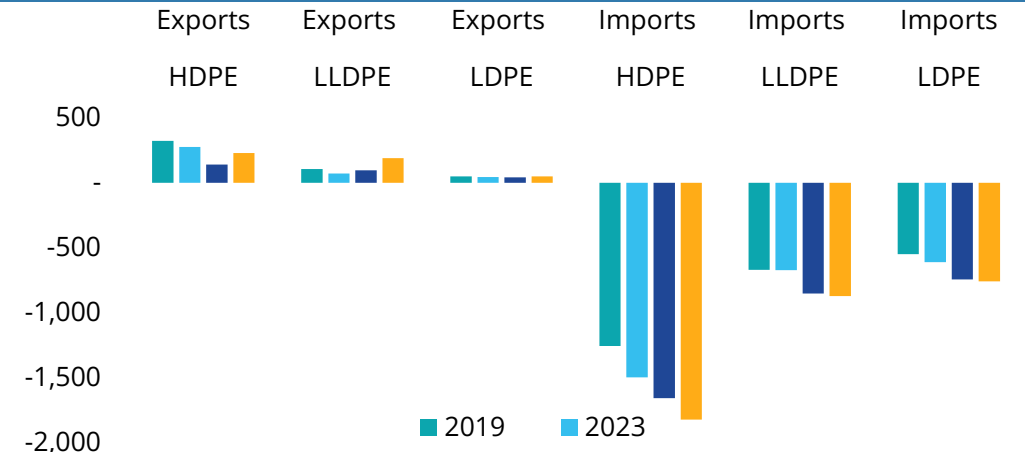


# African population and economic growth to drive PE imports

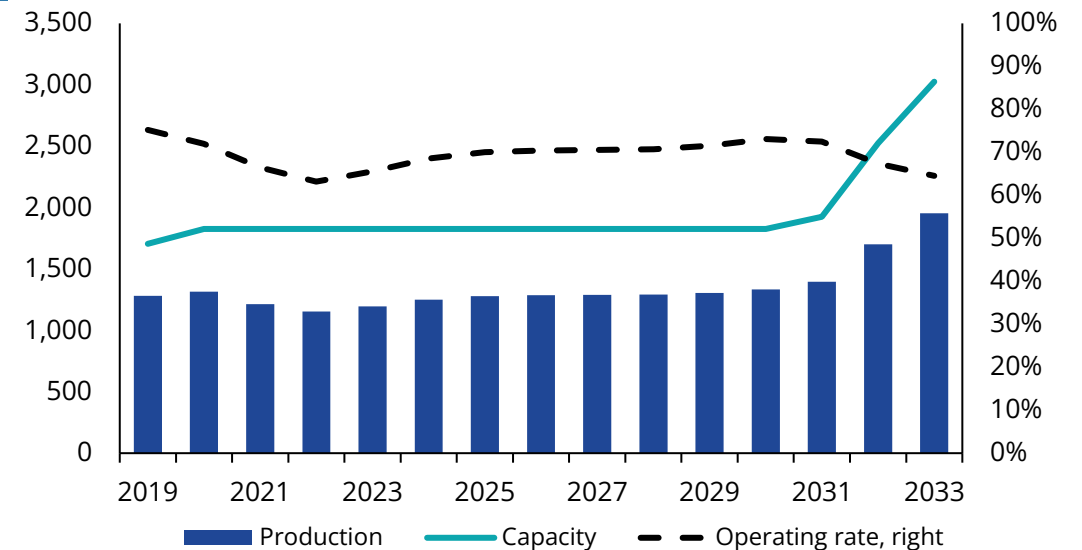
Africa annual GDP growth



Africa Export / Import Trade Activity, 000t

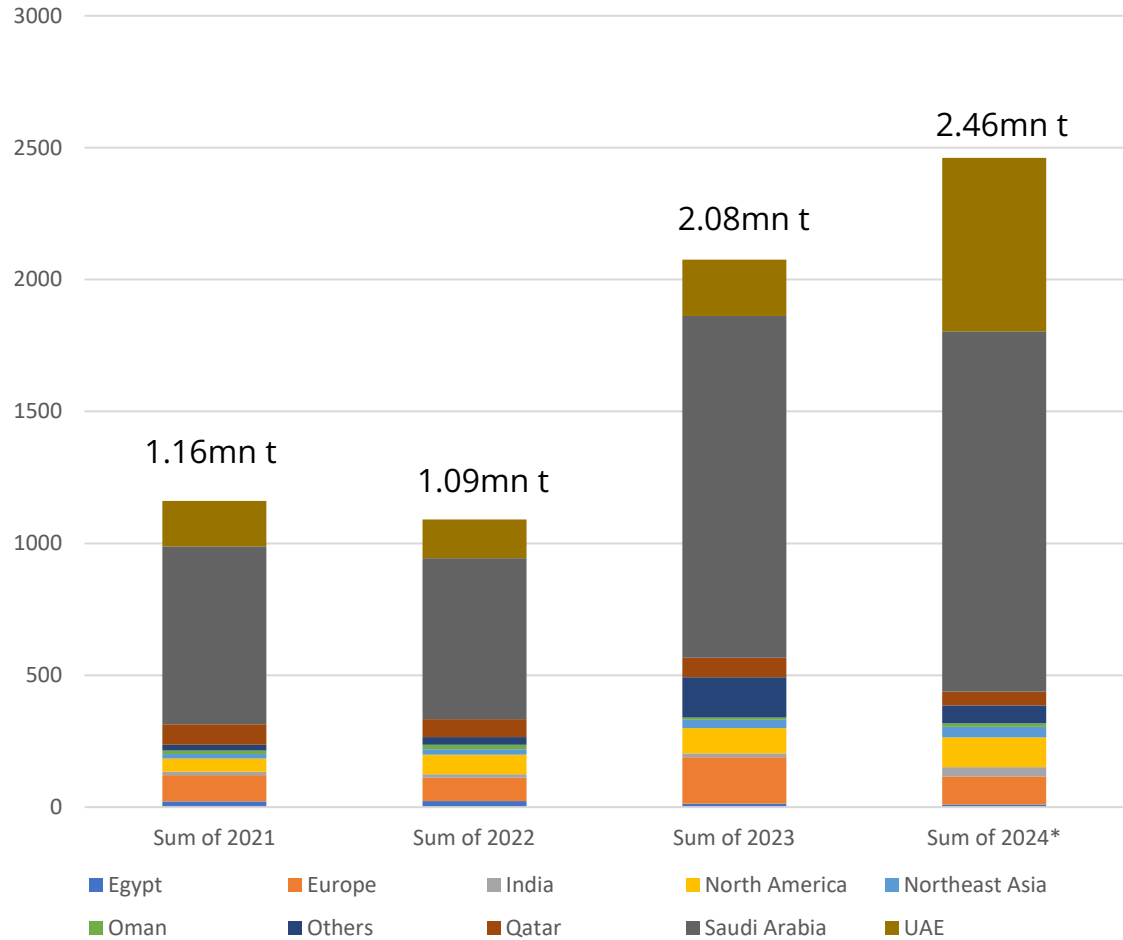


African PE production statistics, 000t

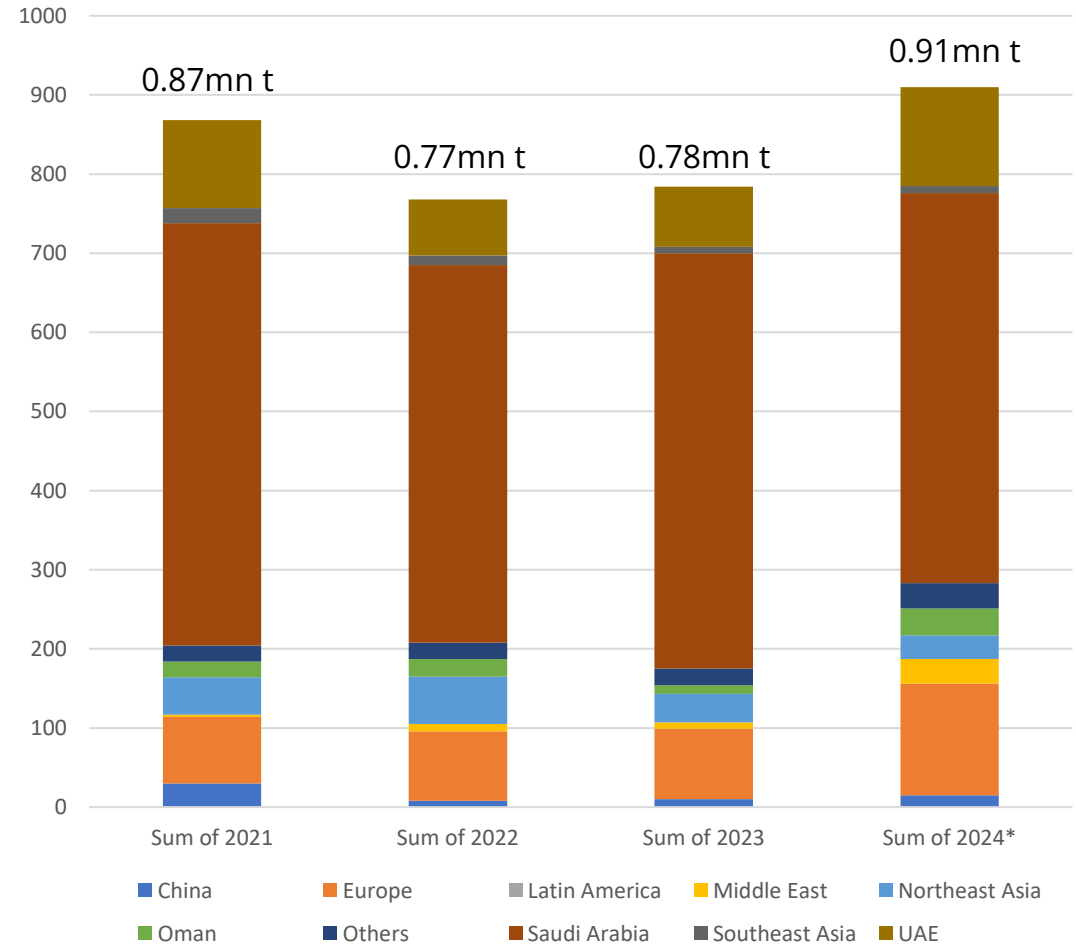


# North Africa remains poised for growth as imports rise

North Africa PE imports, kt



North Africa PP imports, kt



# But...it would be wrong to leave the impression that it is all good news

## Bulls



Polymers integral in extending life spans bringing food, clean water and medicine to millions.



Urbanization to drive infrastructure spending and construction.



Key material in construction and growth of renewable energy.



Polymers will allow cars to be lighter while maintaining strength and safety.



Capacity rationalization in some regions will create trade opportunities.



Agricultural use of polymers for irrigation will rise with an increasing population.

## Bears



Volumes used in disposable packaging will fall.



Producers will need to ensure recyclability of materials.



Consumers and brand-owners will demand consistency in supply around the world.



Polymer producers will have to invest in lower carbon technologies / feedstocks.



Stringent recycling legislations- leading to less recyclable alternatives.



Excess capacities will keep operating rates low.

**Some polymers are likely to grow faster than others – PET / EVA / PVC are examples where a stronger growth trajectory is likely – polymers are part of the problem but also a part of the solution**

# Thank you



# Further information

In the first instance please contact:

**Matthew Rajendra**

Email:

[matthew.rajendra@argusmedia.com](mailto:matthew.rajendra@argusmedia.com)