

OPIS

A DOW JONES COMPANY

CHEMICAL
MARKET
ANALYTICS

Styrene market outlook

The tug of war between benzene and
styrene to survive the market downturn

May 16 2025

Brian Lee

Executive Director Asian Aromatics

Brian.lee@chemicalmarketanalytics.com



APIC
2025

Asia Petrochemical Industry Conference
Bangkok, Thailand

The accompanying materials were prepared by Chemical Market Analytics by OPIS, a Dow Jones Company (Chemical Market Analytics by OPIS) and are not to be redistributed or reused in any manner without prior written consent, with the exception of client internal distribution as described below.

Chemical Market Analytics by OPIS strives to be supportive of client internal distribution of Chemical Market Analytics by OPIS content but requires that:

- Chemical Market Analytics by OPIS content and information, including but not limited to graphs, charts, tables, figures, and data, are not to be disseminated outside of a client organization to any third party, including a client's customers, financial institutions, consultants, or the public.
- Content distributed within the client organization must display Chemical Market Analytics by OPIS legal notices and attributions of authorship.

Some information supplied by Chemical Market Analytics by OPIS may be obtained from sources that Chemical Market Analytics by OPIS believes to be reliable but are in no way warranted by Chemical Market Analytics by OPIS as to accuracy or completeness. Absent a specific agreement to the contrary, Chemical Market Analytics by OPIS has no obligation to update any content or information provided to a client.



Feedstock market overview

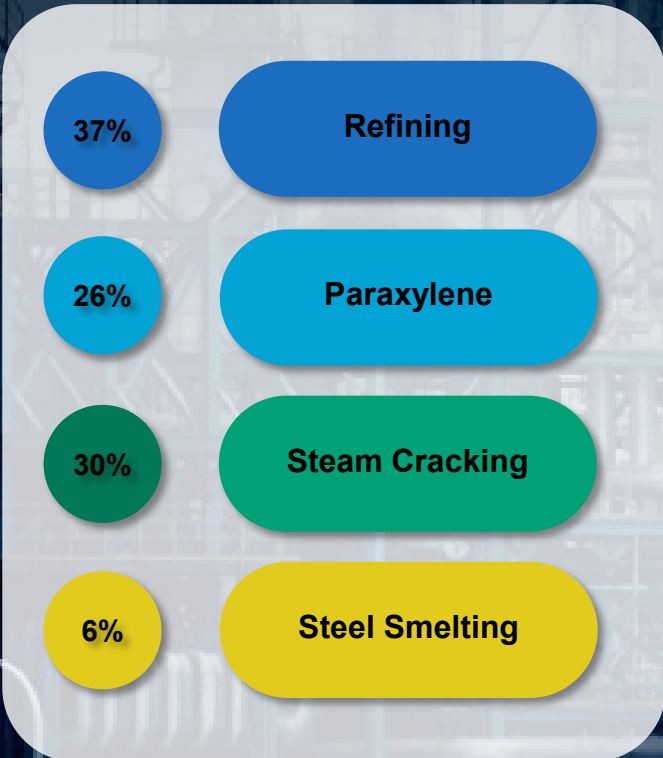
Current styrene market

Impact of tariffs

Key takeaways

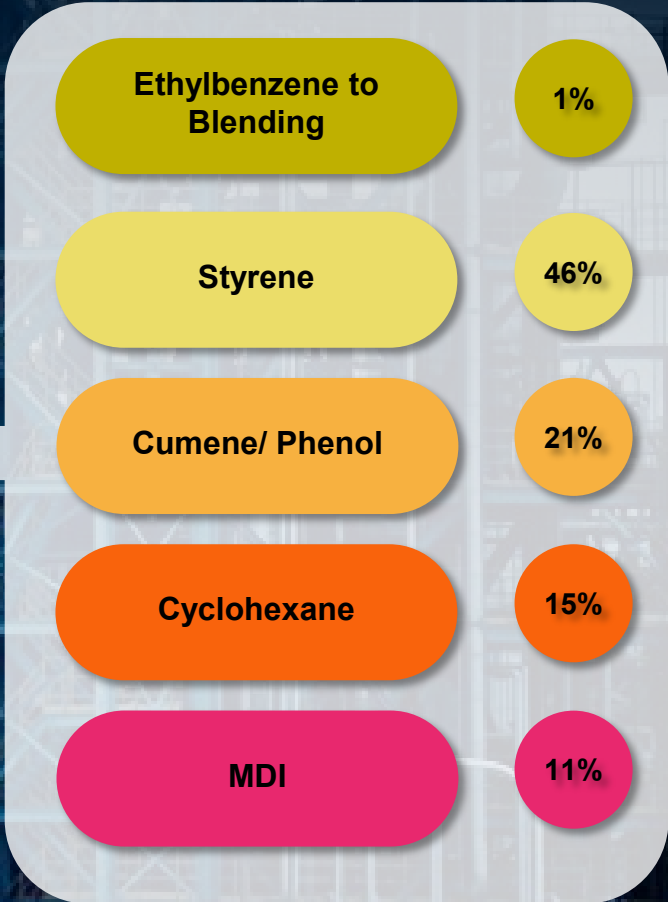
The benzene market is complex with multiple supply sources and a myriad of demand centers with different economic drivers

Global Production Sources



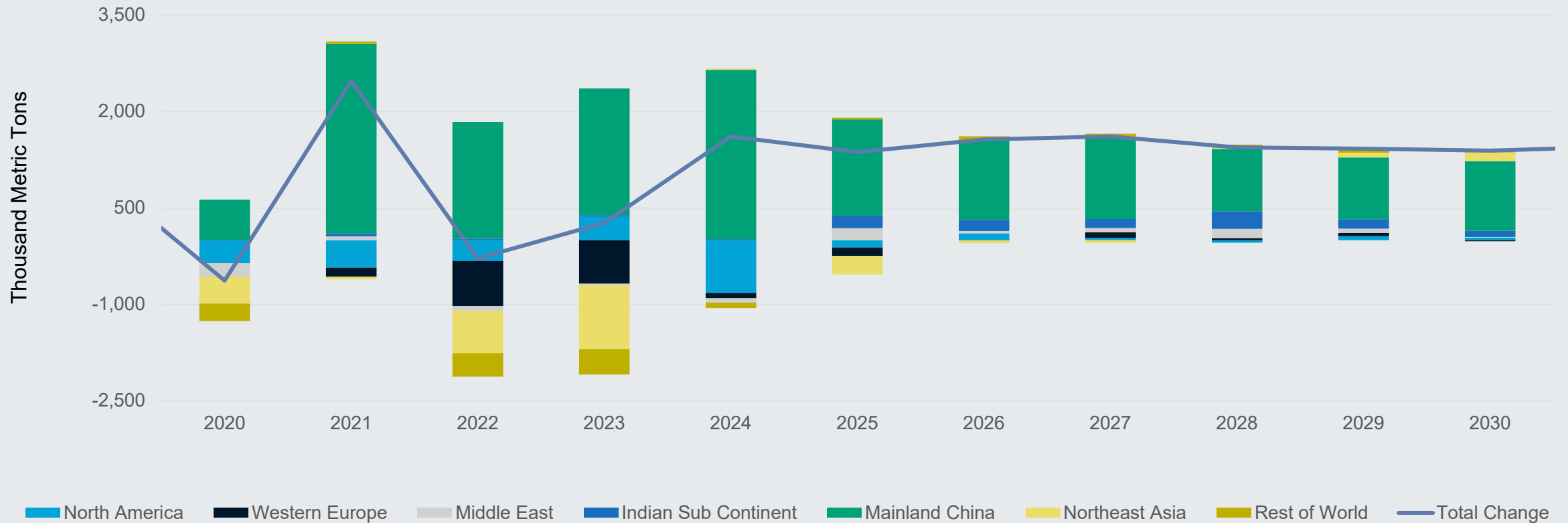
55.0 million mt (2024)

Global Demand Share



Global demand growth remains centered in mainland China

Demand change year-on-year by region

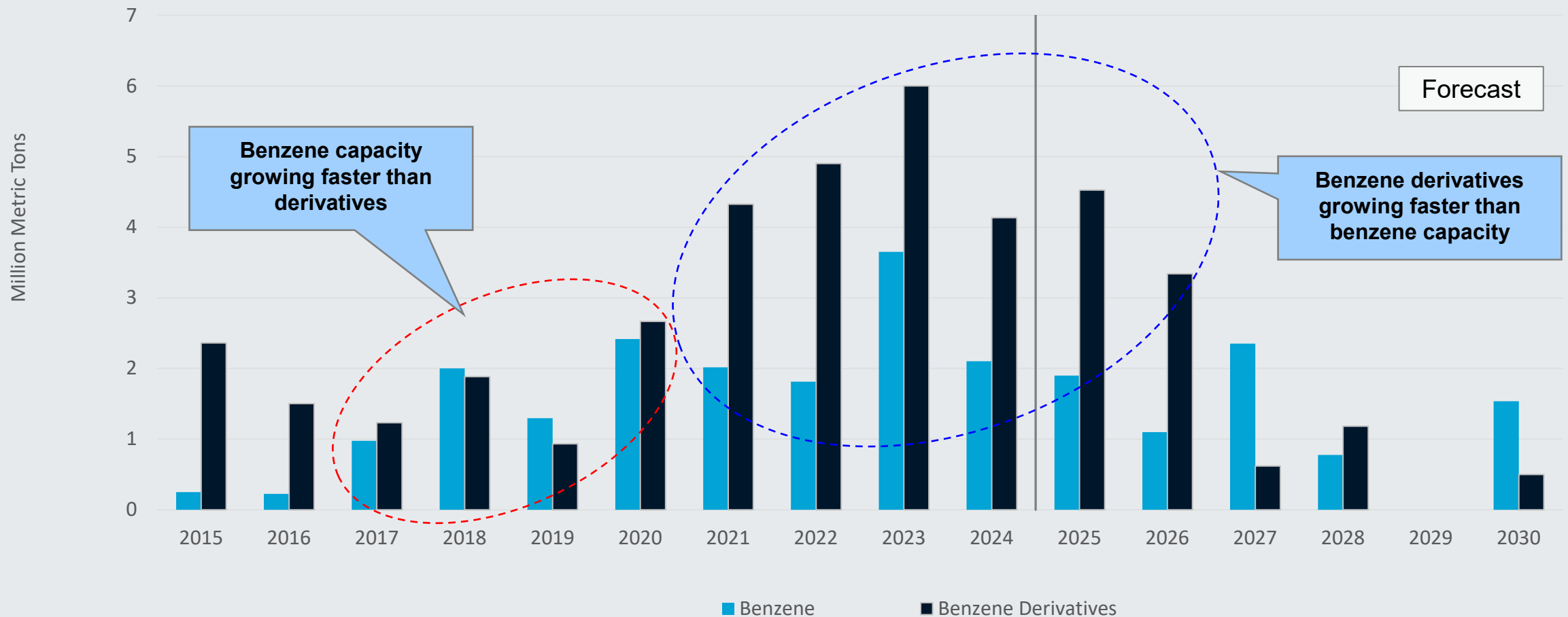


Source: Chemical Market Analytics by OPIS

© 2024 Oil Price Information Service, LLC.

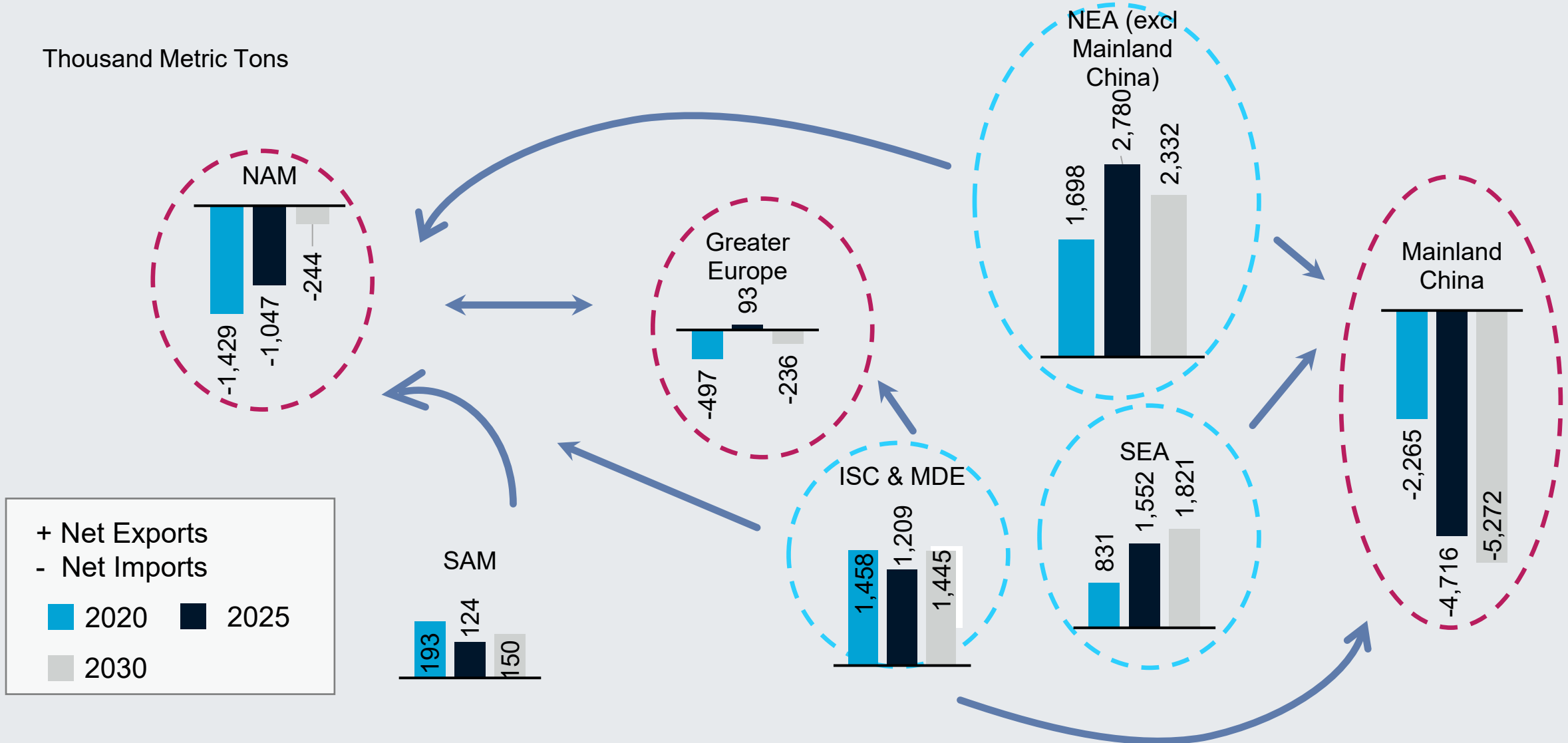
Mainland China benzene demand is forecast to be strong with new styrene, phenol and caprolactam plant expansions

Mainland China Benzene & Derivatives New Capacities



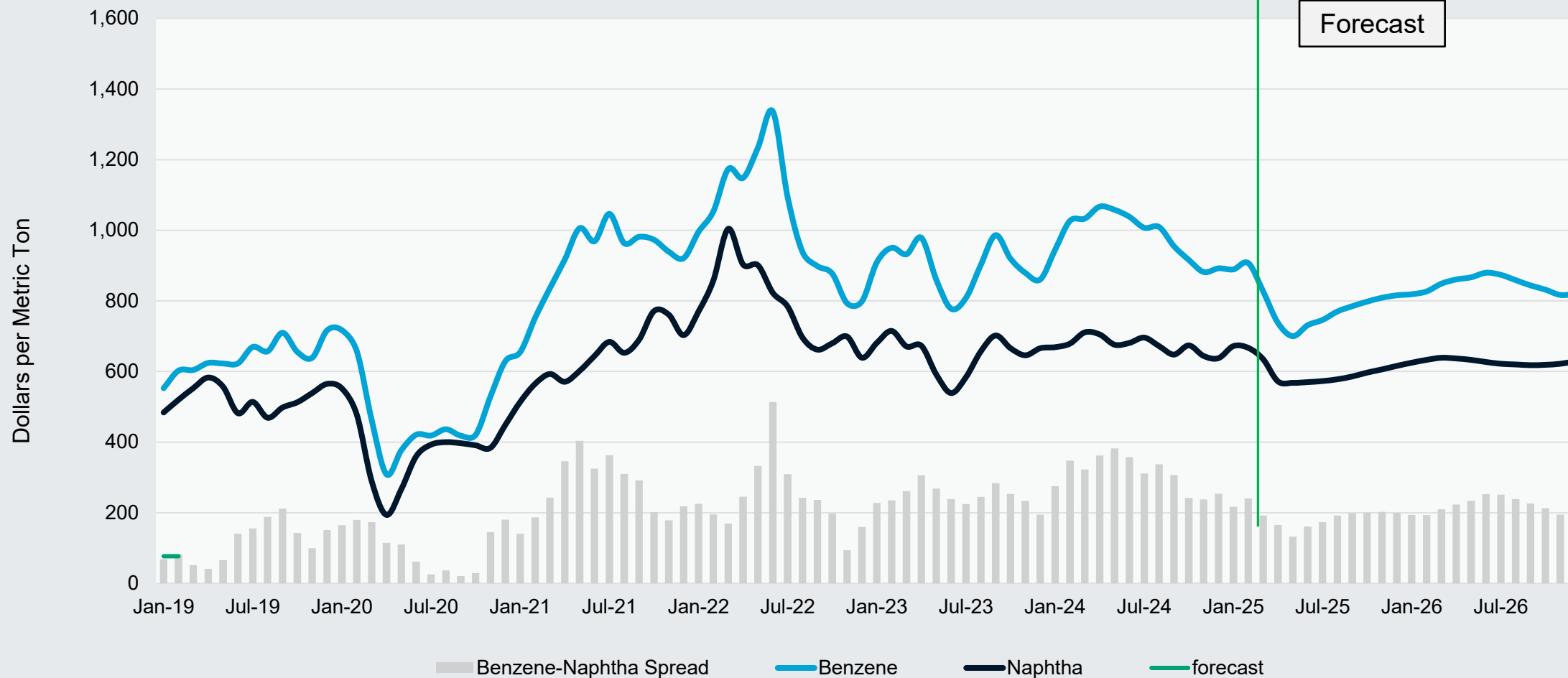
As balances shift, mainland China benzene shortfall increases

Thousand Metric Tons



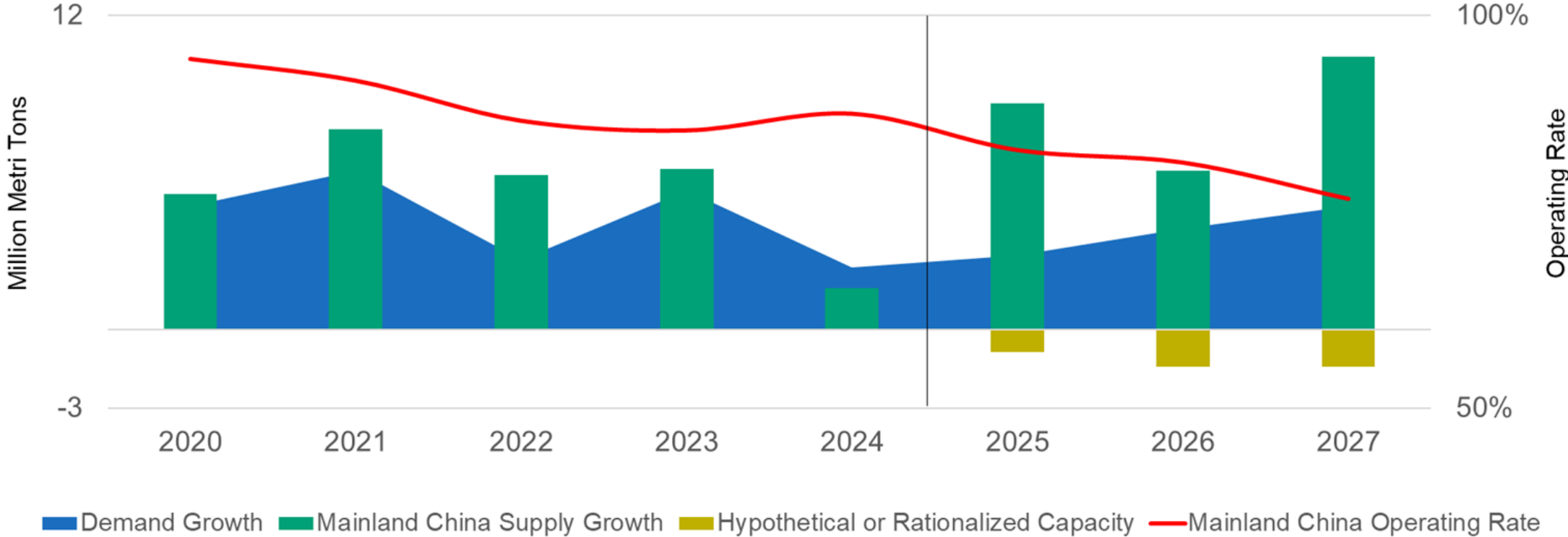
Benzene margins will remain steady

Asian Benzene vs Naphtha



Capacity addition continues to outpace the demand growth with rationalizations on-going as well

Mainland China Annual Ethylene Capacity Addition VS. Demand Growth

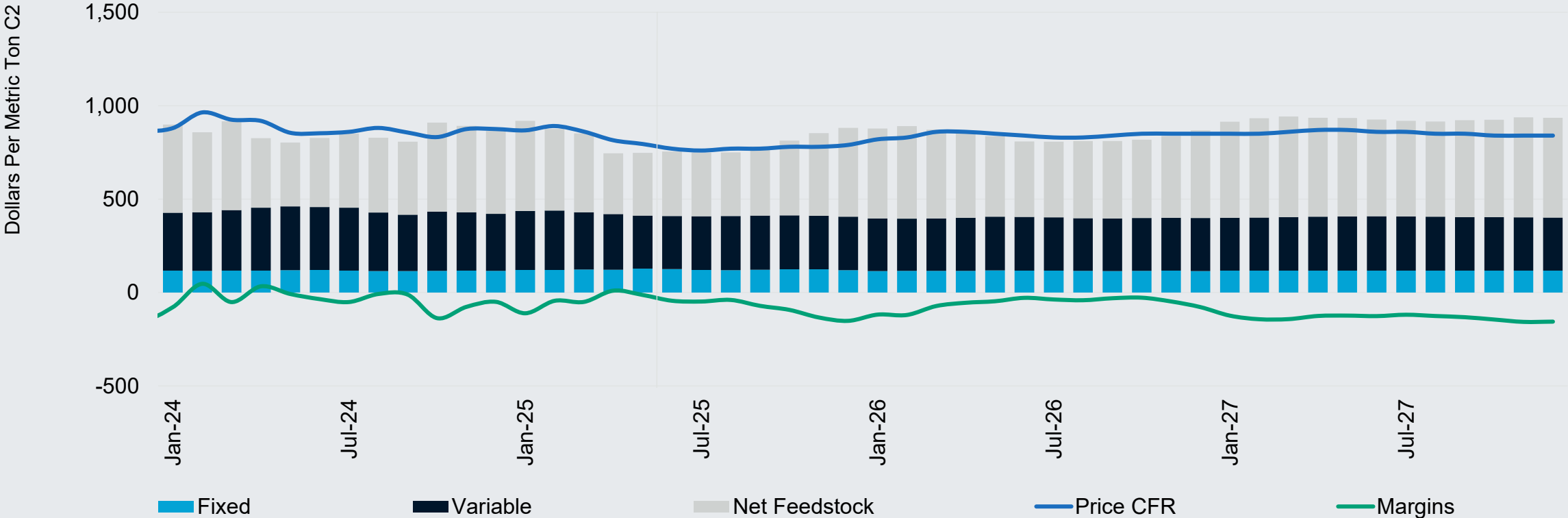


Source: Chemical Market Analytics by OPIS

© 2025 Oil Price Information Service, LLC.

Naphtha cracker margin expected to remain depressed amid growing capacity in the region

NE Asia Integrated Naphtha Cracker (BDE/ BTX)



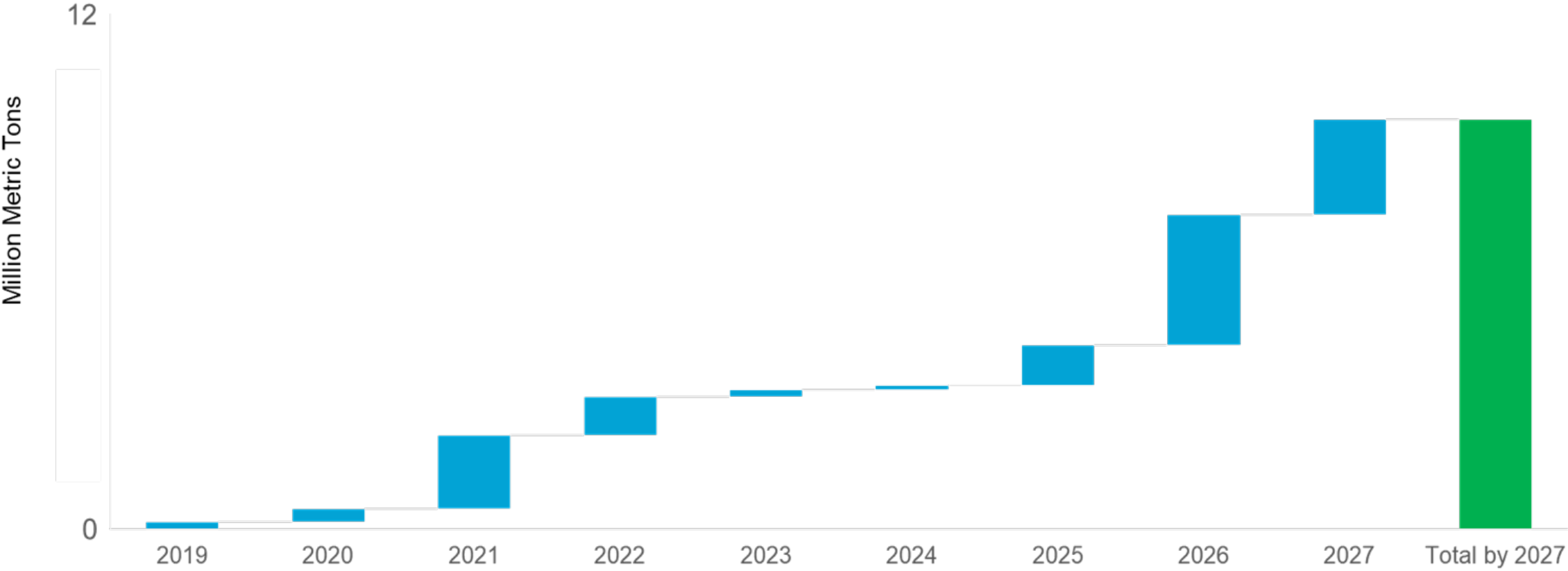
Notes: 94% of crackers are integrated based on C2 capacity per location

Source: Chemical Market Analytics by OPIS

© 2025 Oil Price Information Service, LLC.

Ethane imports from the U.S are surging.
What factors can restrict this growth further?

Imported Ethane Needed based on Ethylene Nameplate Capacity in mainland China



Source: Chemical Market Analytics by OPIS

© 2025 Oil Price Information Service, LLC.

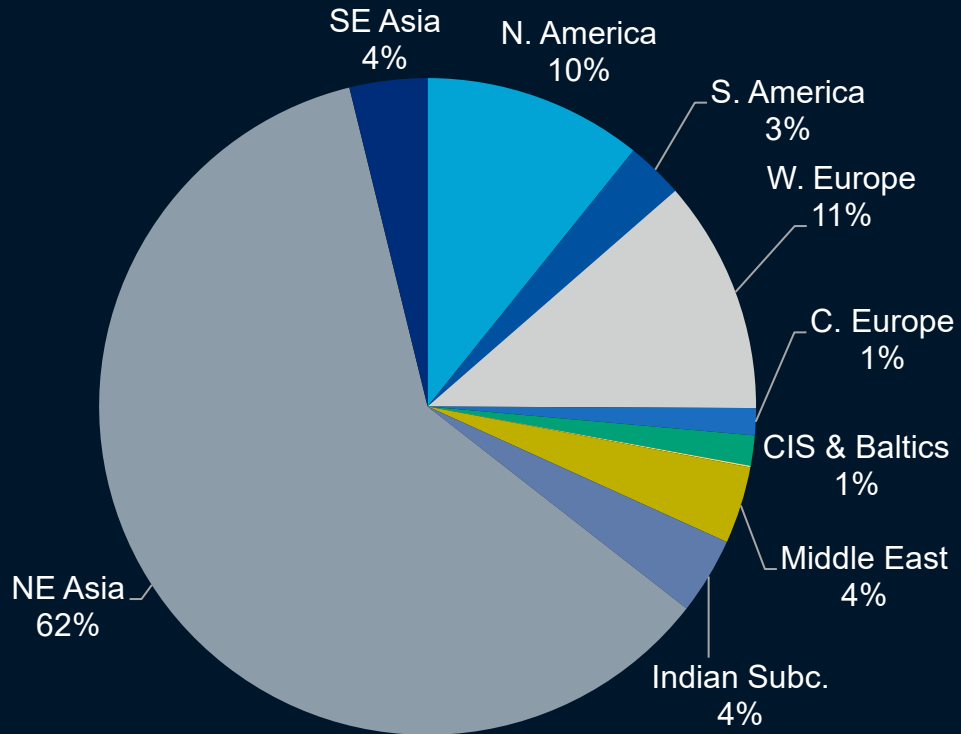
Challenges facing the styrene industry

- Volatile feedstock prices
 - Strong naphtha prices
 - Competition in benzene with other derivatives
- Over capacity structure
 - Ongoing expansion in mainland China
 - Negative margins and rationalization
- Slow demand growth
 - Demand growth concentrated in mainland China
 - Aggressive sustainability targets, particularly in the West
- Tariffs and regulatory burdens
 - New tariffs and restrictions in trading of styrene and polymers
 - Carbon taxes, Net zero targets



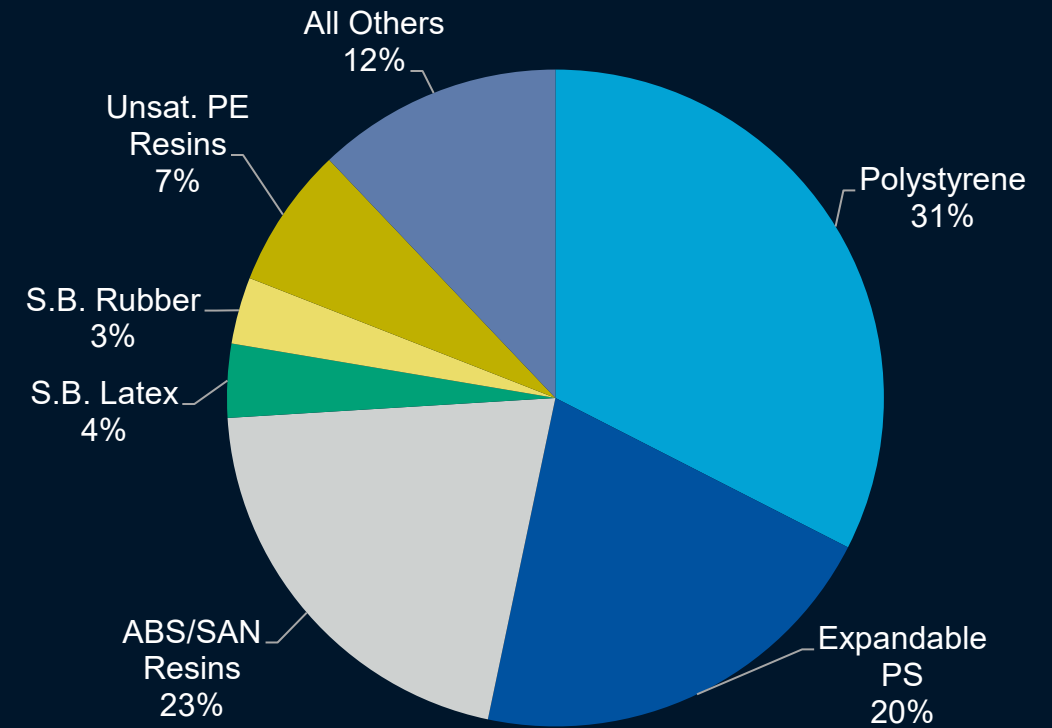
Styrene demand shifts to Asia and away from PS

World: 2025 Styrene demand by region



Total Demand = 31.2 Million Metric Tons

World: 2025 Styrene demand by derivative

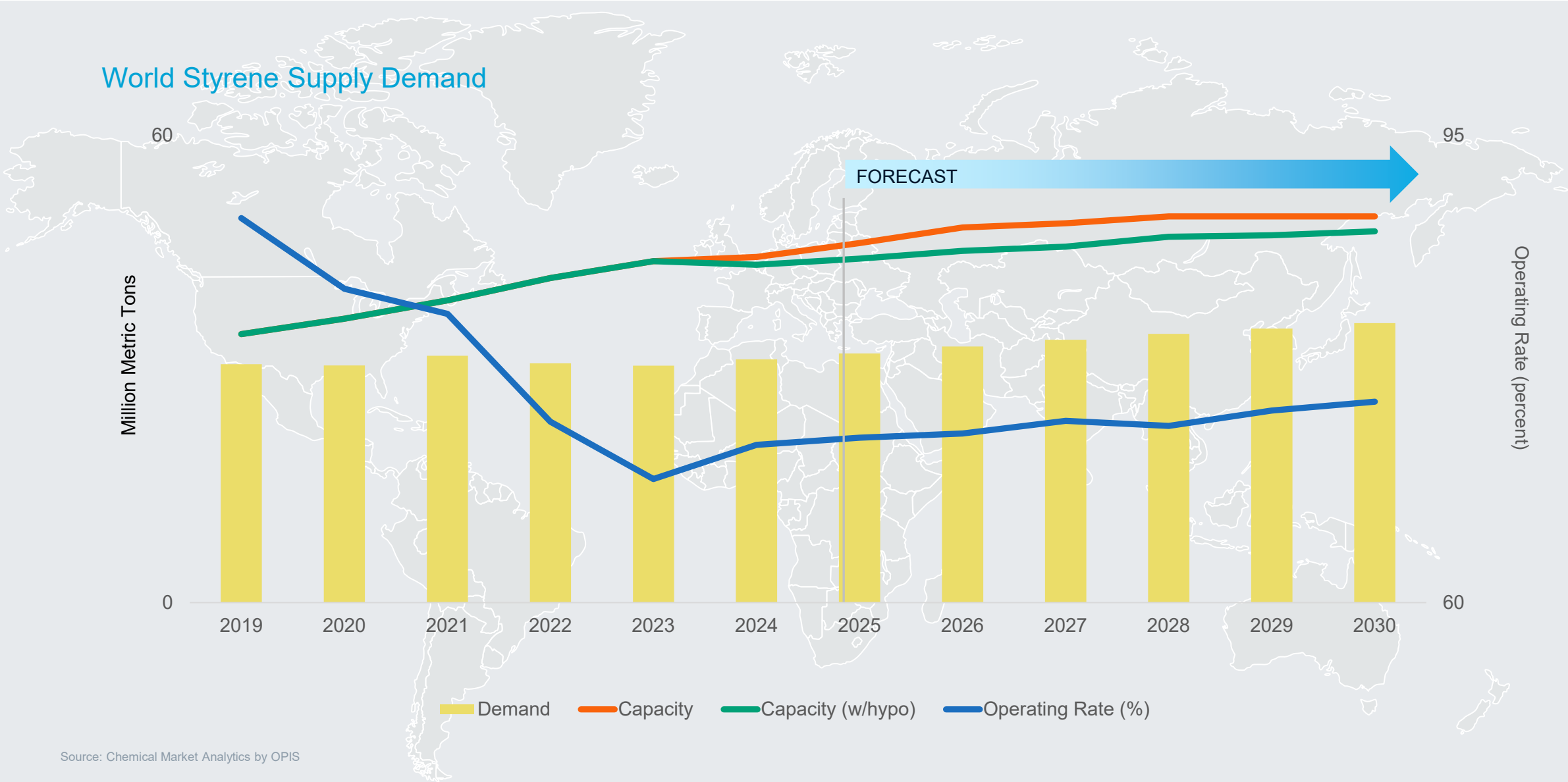


Total Demand = 31.2 Million Metric Tons

Source: Chemical Market Analytics by OPIS

© 2025 Oil Price Information Service, LLC.

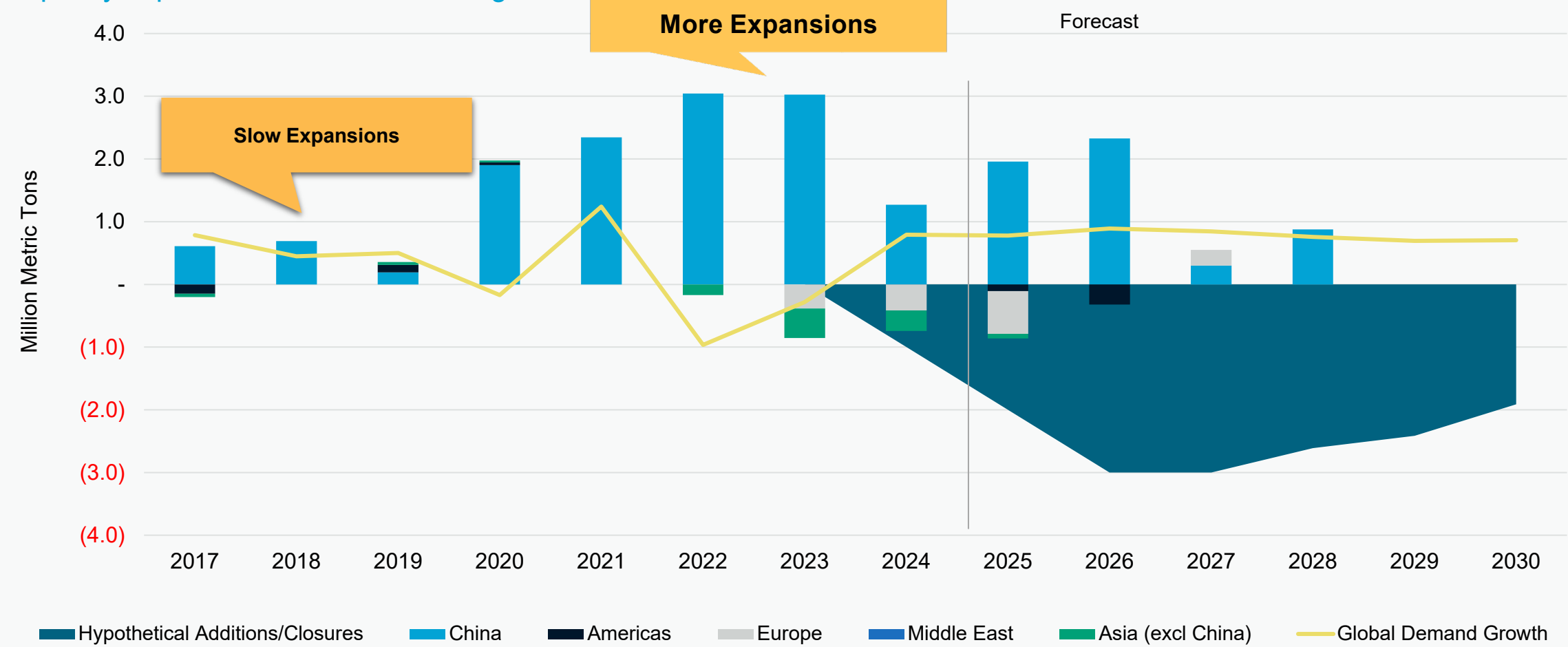
Styrene is in the midst of an extended trough



Source: Chemical Market Analytics by OPIS

Rationalization is needed to rebalance the styrene market

Capacity expansions versus demand growth

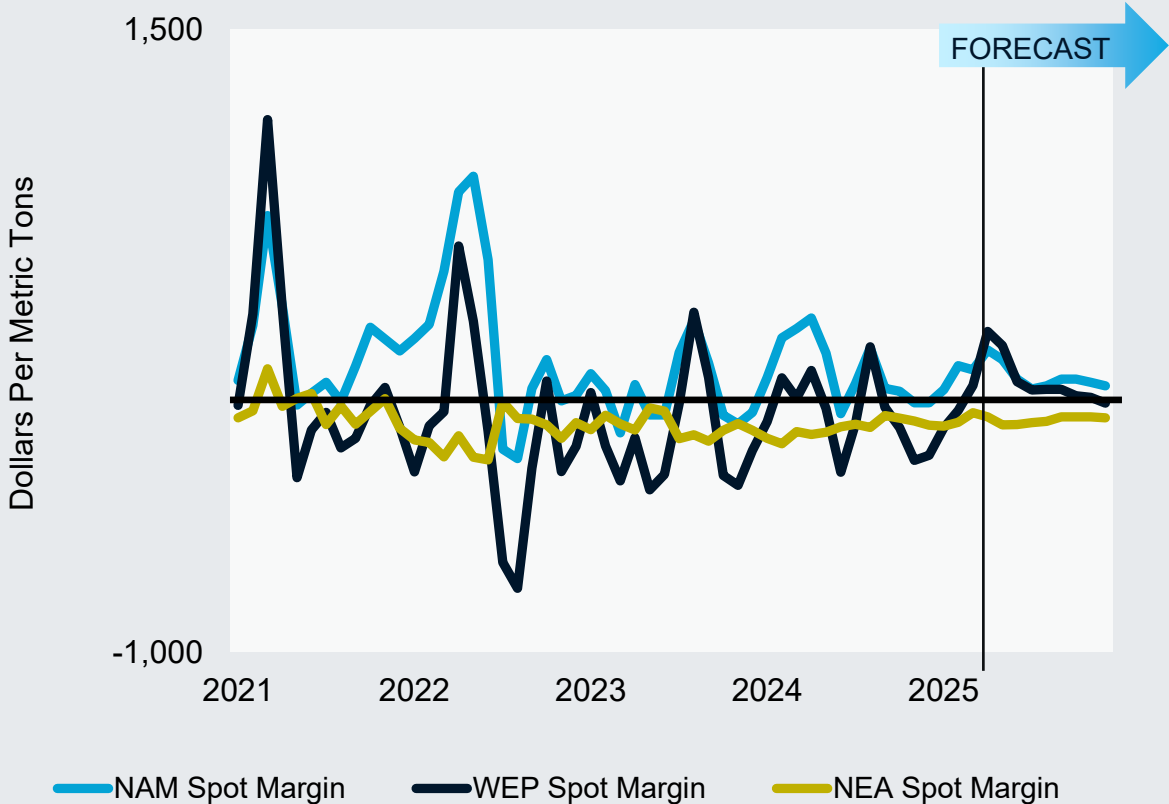


Source: Chemical Market Analytics by OPIS

© 2025 Oil Price Information Service, LLC.

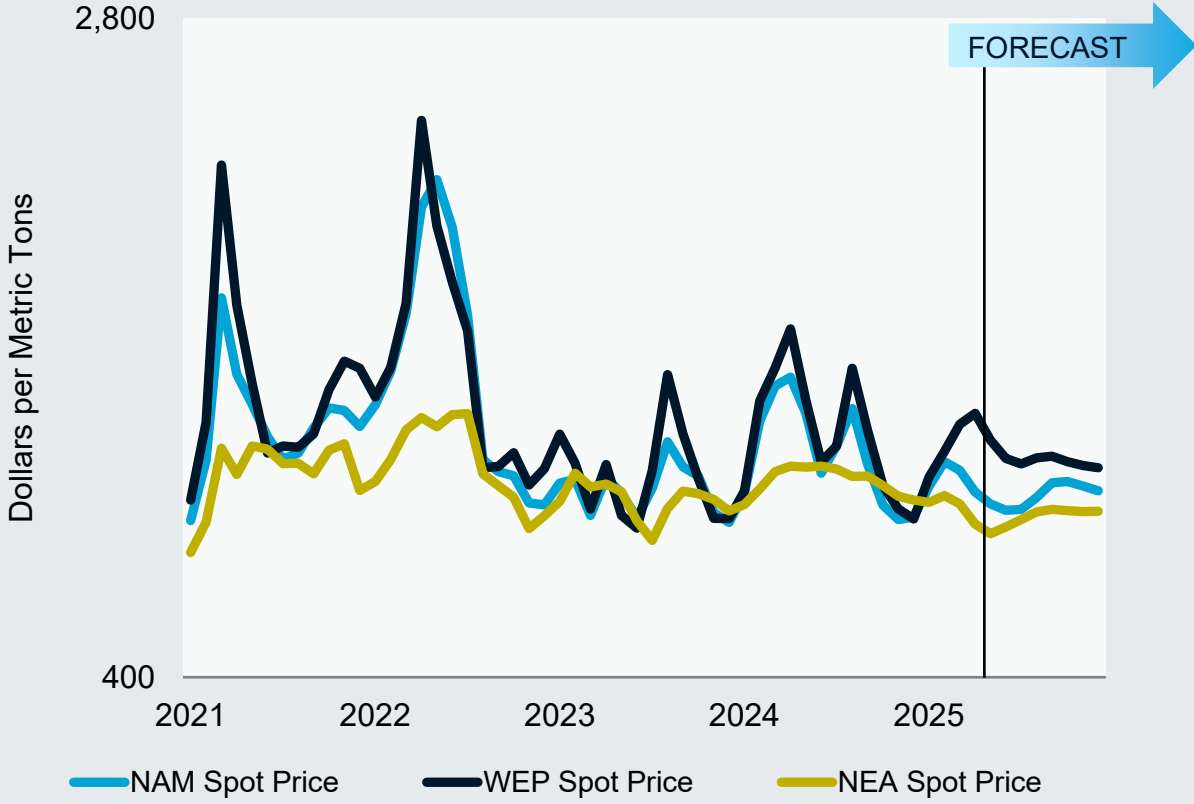
Markets in the west have separated from the east

Global Styrene Spot Margin Comparison



© 2025 Oil Price Information Service, LLC.

Global Styrene Spot Price Comparison



Source: Chemical Market Analytics by OPIS

Supply outages drive price volatility in the West

Outages vs. Spot SM Prices in the West



Source: Chemical Market Analytics by OPIS

© 2025 Oil Price Information Service, LLC.

Key unique characteristics in every region and rationalization

West Europe

- Cost disadvantaged
- Stagnant demand growth
- Competition from imports
- Single Use Plastics ban

Mainland China

- Many small plants without feedstock
- Severe competition with new capacities
- + Stronger demand growth

North America

- Net long balance
- Stagnant demand growth
- + Cost competitive

Middle East

- Net long balance
- + Cost advantaged
- + Steady export demand

Northeast Asia (ex China)

- Net long balance
- Cost disadvantaged
- Slow demand growth

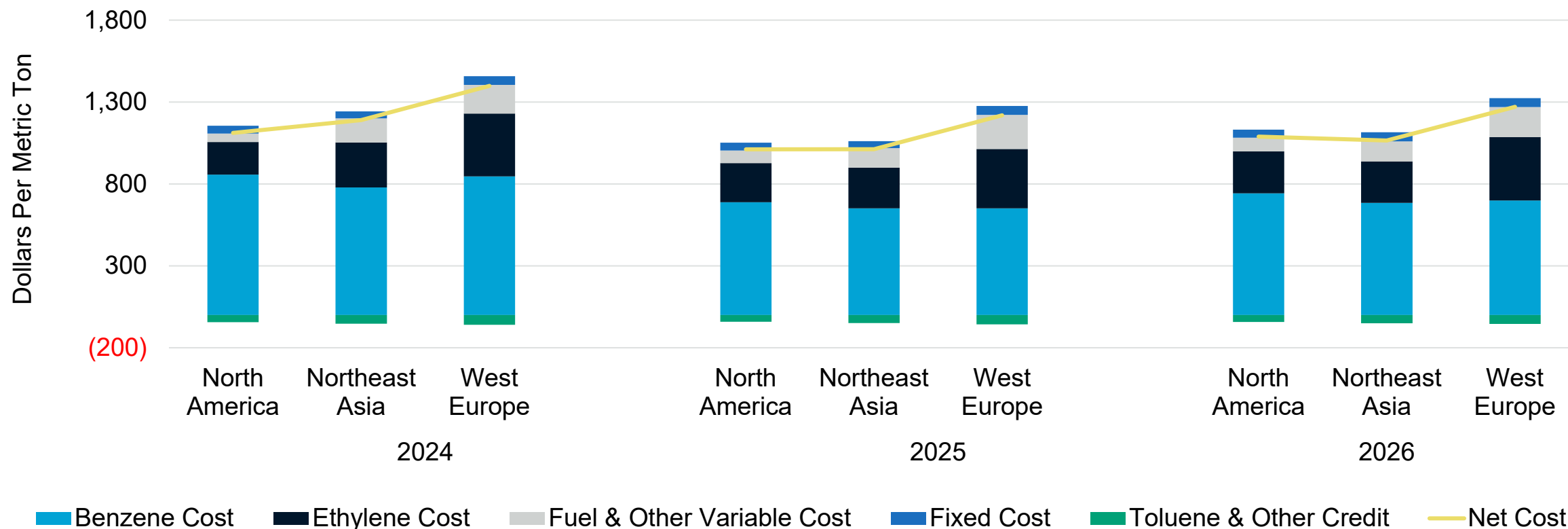
Southeast Asia

- Net long balance
- Cost disadvantaged
- Slow demand growth

Company name	location	Capacity (KT)	Timing
Abel	Taixing, China	250	Jan-21
Donghao	Changzhou, China	210	Oct-21
LG Chemical	Daesan, South Korea	170	Oct-21
Sinopec Maoming	Maoming, China	100	Jun-22
Trinseo	Böhlen, Germany	300	Jul-22
Taiyo	Ube, Japan	370	Nov-22
LG Chemical	Yeosu, South Korea	200	May-23
Trinseo	Terneuzen, Netherland	500	Nov-23
LG Chemical	Yeosu, South Korea	300	Mar-24
Styrolution	Sarnia, Canada	431	Apr-24
Total		2,831	

European cost structure is significantly disadvantaged

Styrene EBSM Cost Comparison Across Regions

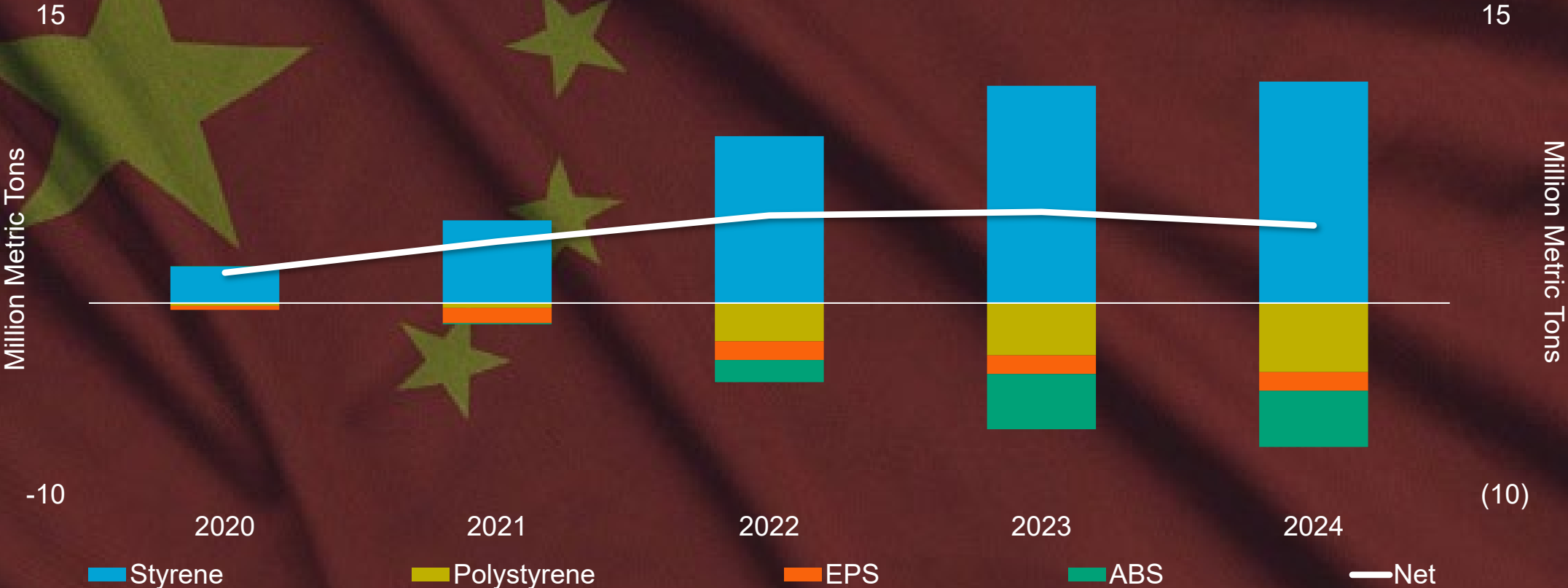


Source: Chemical Market Analytics by OPIS

© 2025 Oil Price Information Service, LLC.

Mainland China's styrene capacity expansion is integrated with polymers

Mainland China's Net Styrene Capacity Expansion

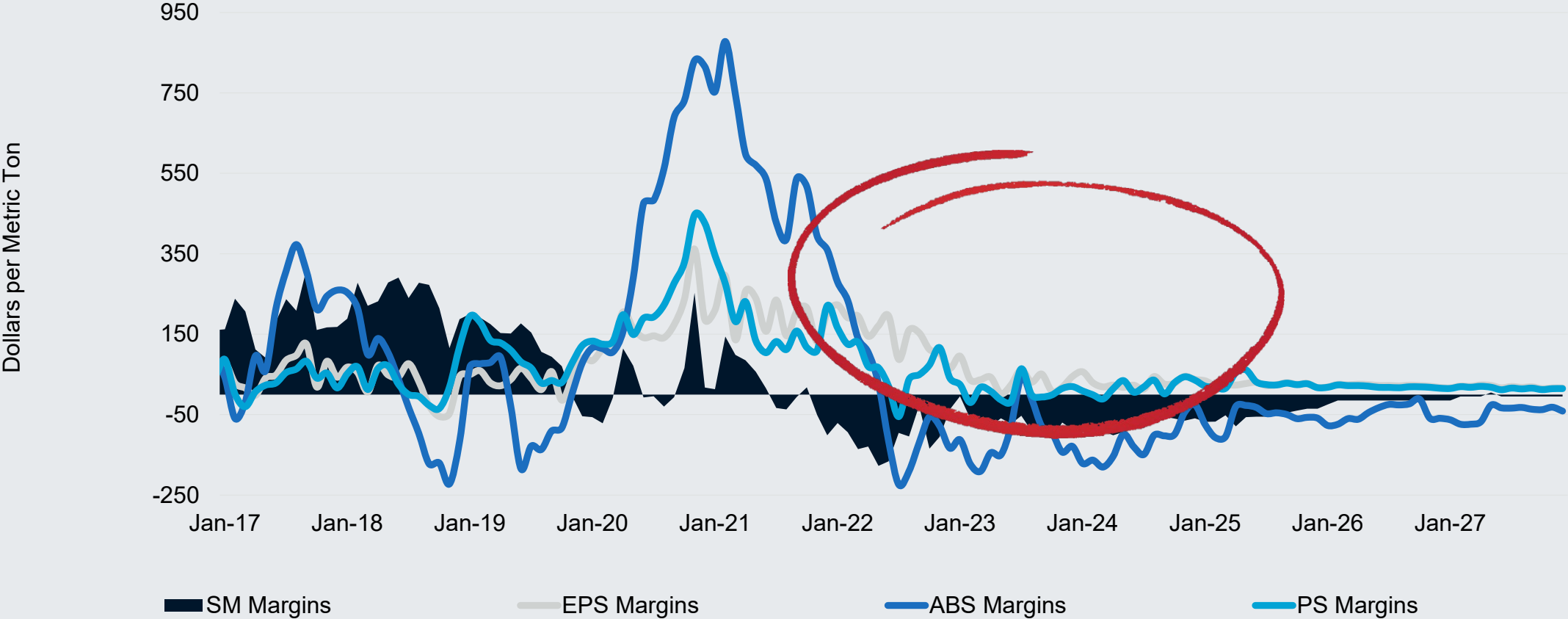


Source: Chemical Market Analytics by OPIS

© 2025 Oil Price Information Service, LLC.

Styrene margins have been negative since 2022, while polymer margins have fluctuated

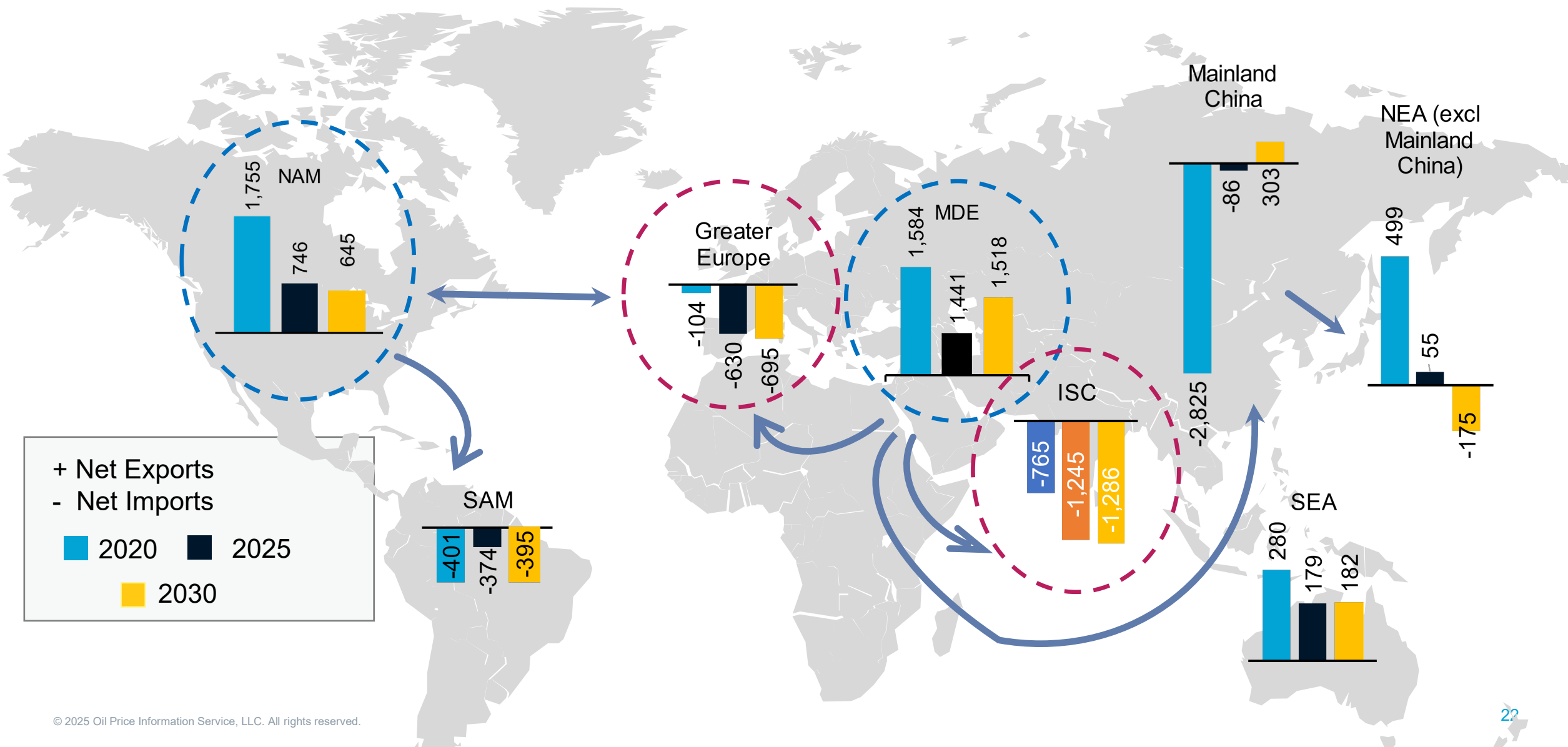
Northeast Asia: Styrenics Margins



Source: Chemical Market Analytics by OPIS

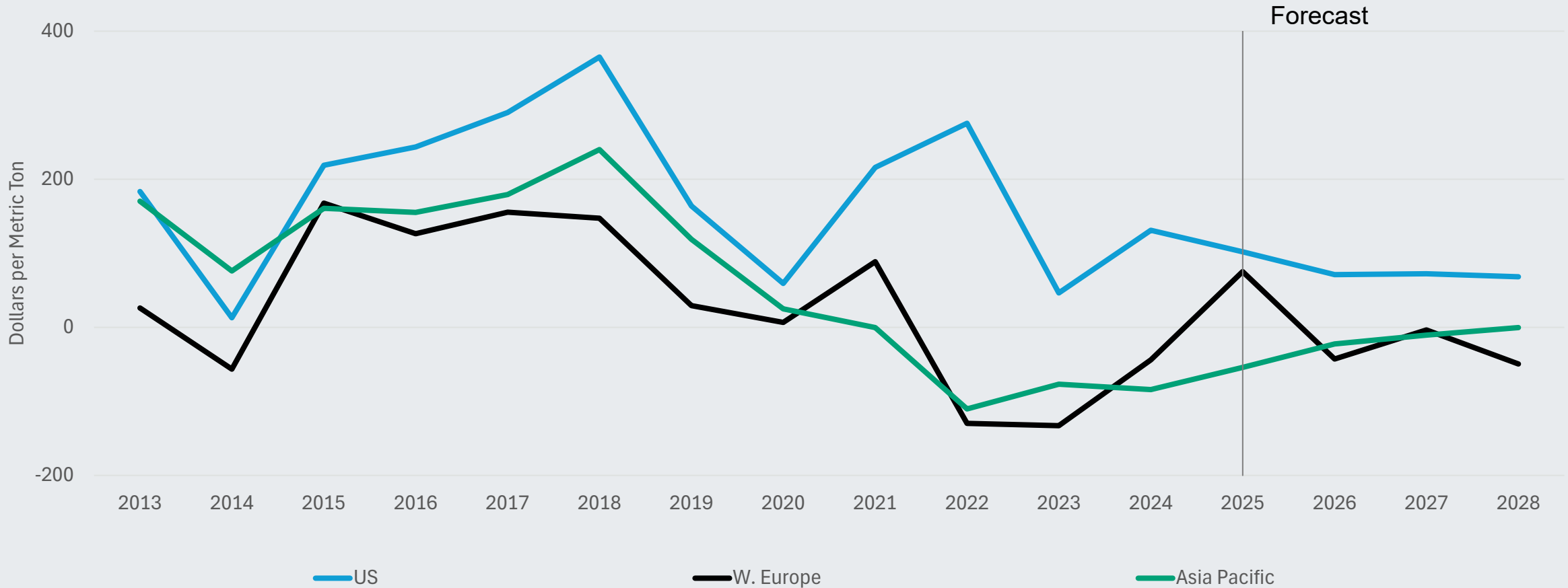
© 2025 Oil Price Information Service, LLC.

Styrene exporters face challenges



Asian styrene margins will improve slowly but will still be challenged for the next few years

Styrene Spot Margins



The growing threat of tariffs

How will it impact your business?

- Feedstocks (Benzene, Ethylene)
- Intermediates (SM)
- Polymers (PS, EPS, ABS, etc)
- Finished Goods
- Customers

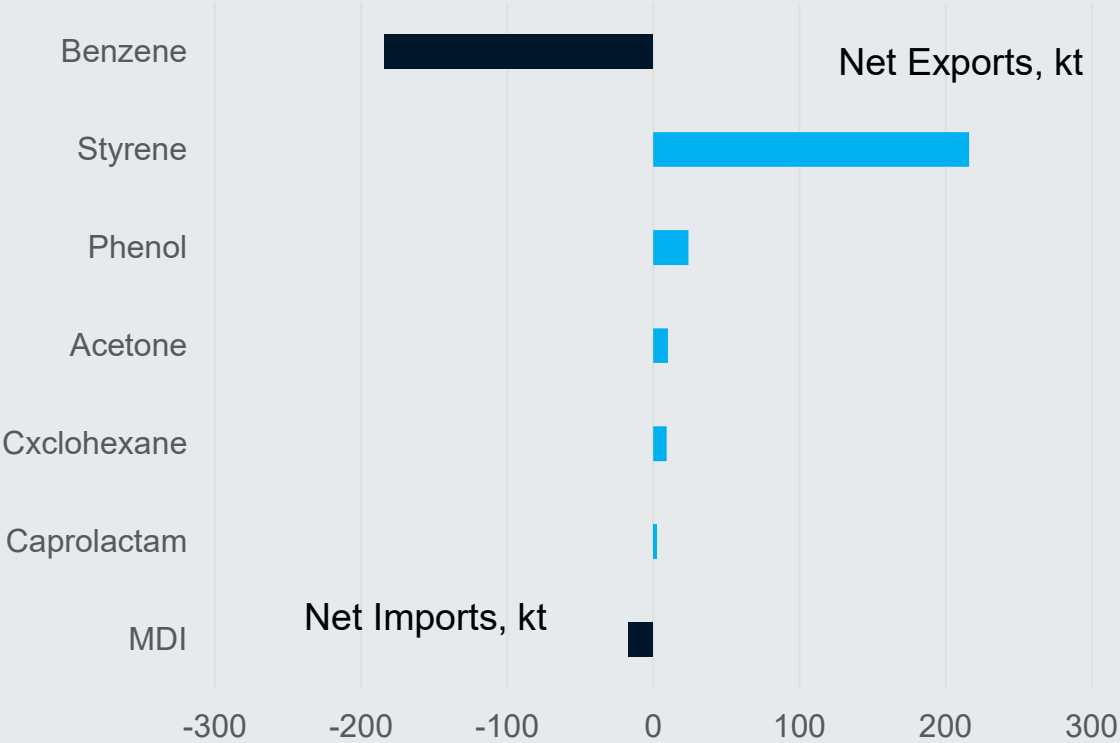


OPIS
A DOW JONES COMPANY

CHEMICAL
MARKET
ANALYTICS

Imports susceptible to US tariffs, Exports susceptible to retaliation

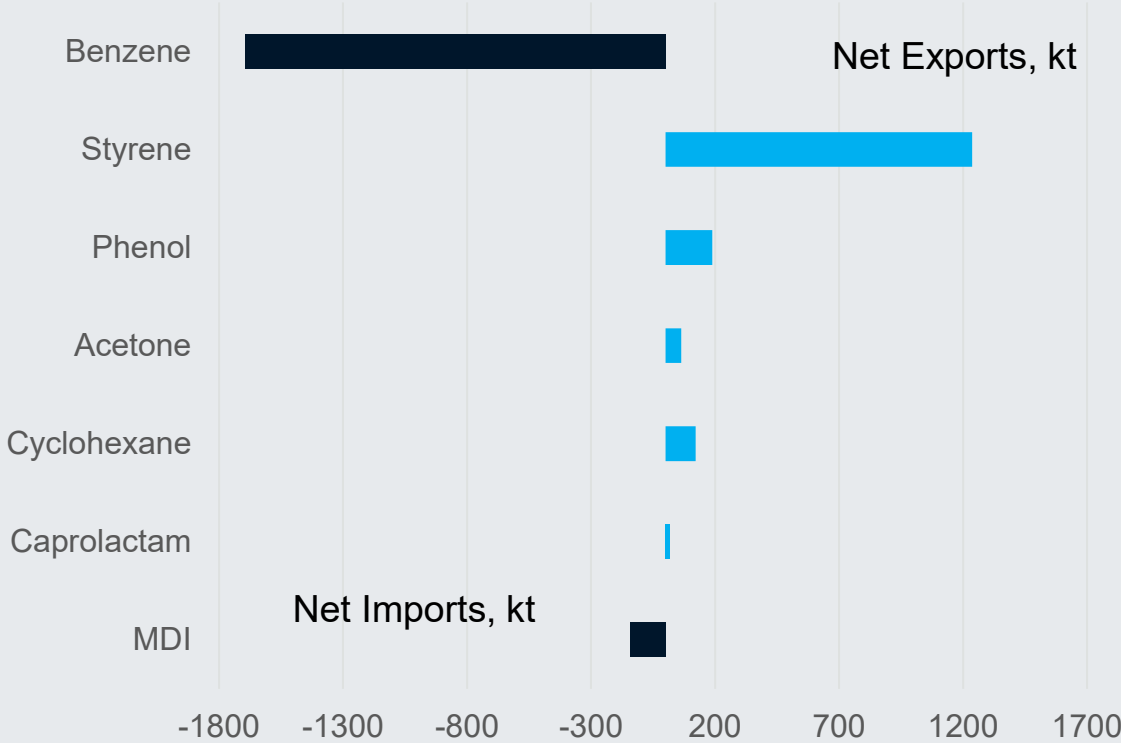
2025 (Jan-Feb) US Benzene and derivatives Trade



Source: Chemical Market Analytics by OPIS

© 2025 Oil Price Information Service, LLC.

2024 US Benzene and derivatives Trade Position

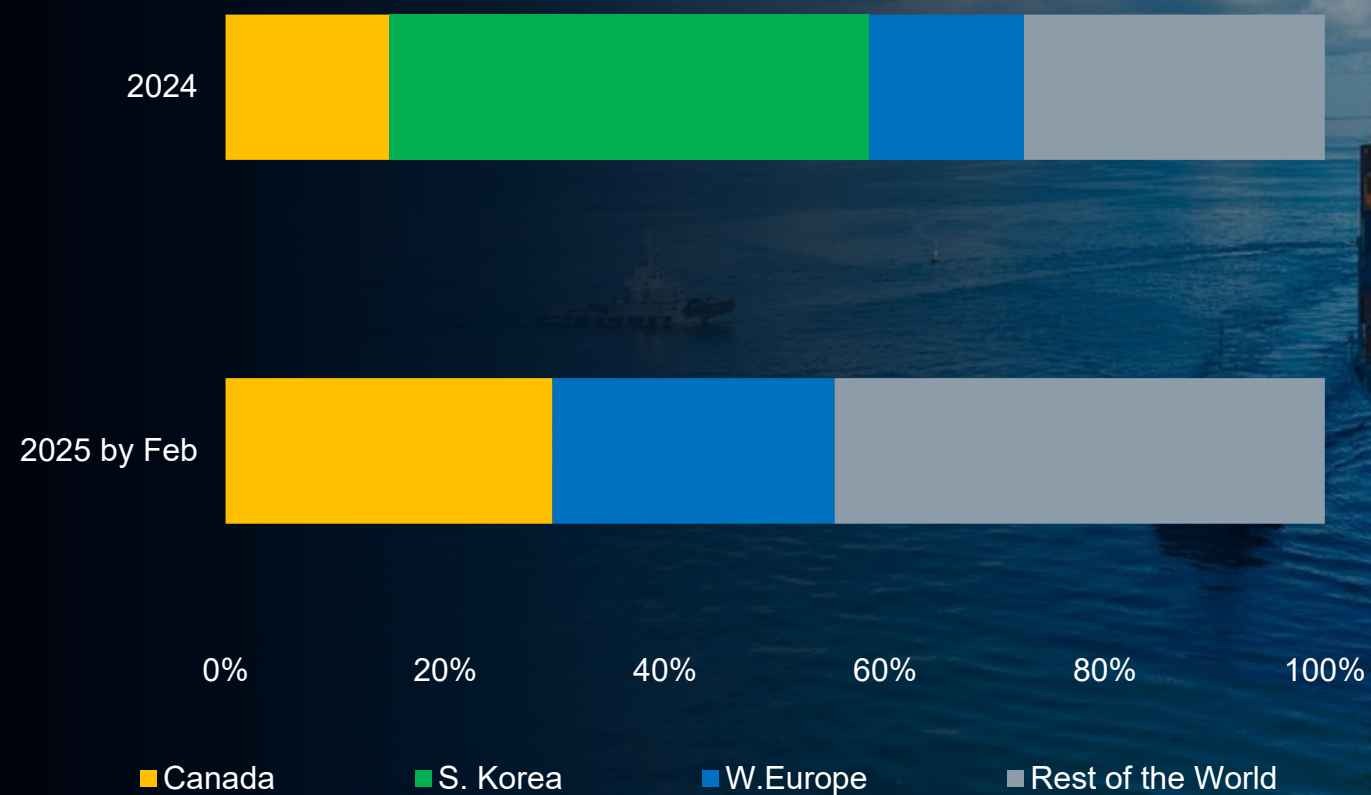


Source: Chemical Market Analytics by OPIS

© 2025 Oil Price Information Service, LLC.

The new tariffs will impact on benzene import in the US

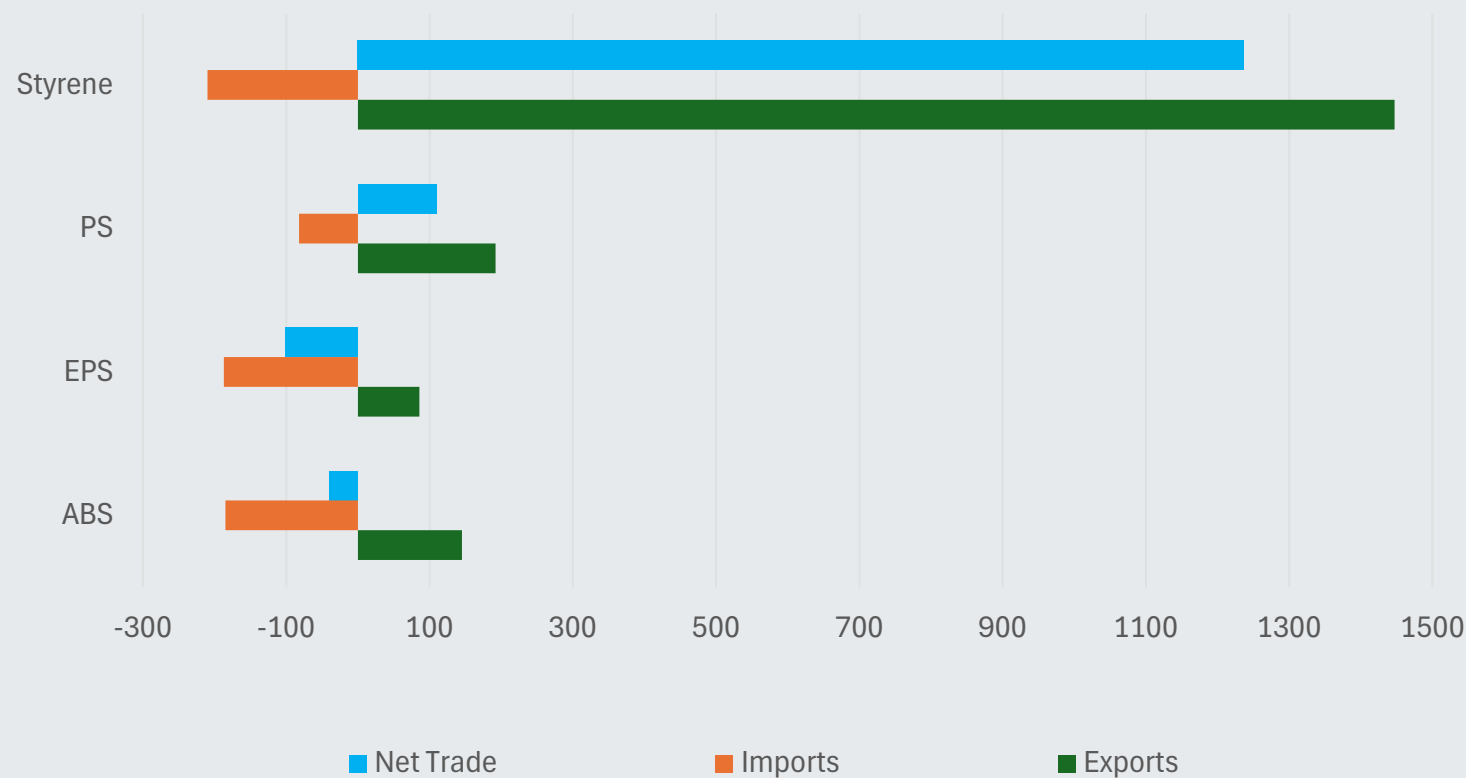
US import partners for Benzene in 2024 and 2025 by February



The new tariffs will impact on some polymer exports from Asia

- Styrene is exposed to retaliatory tariff, but it may be able to “run around the tariff”
- PS is only inconvenienced by tariffs
- EPS is exposed to US tariffs on Mexico, Canada, Taiwan, China and South Korea
- ABS is exposed to US tariffs on South Korea, Taiwan, China and Mexico

2024 US Styrene and derivatives Trade Position



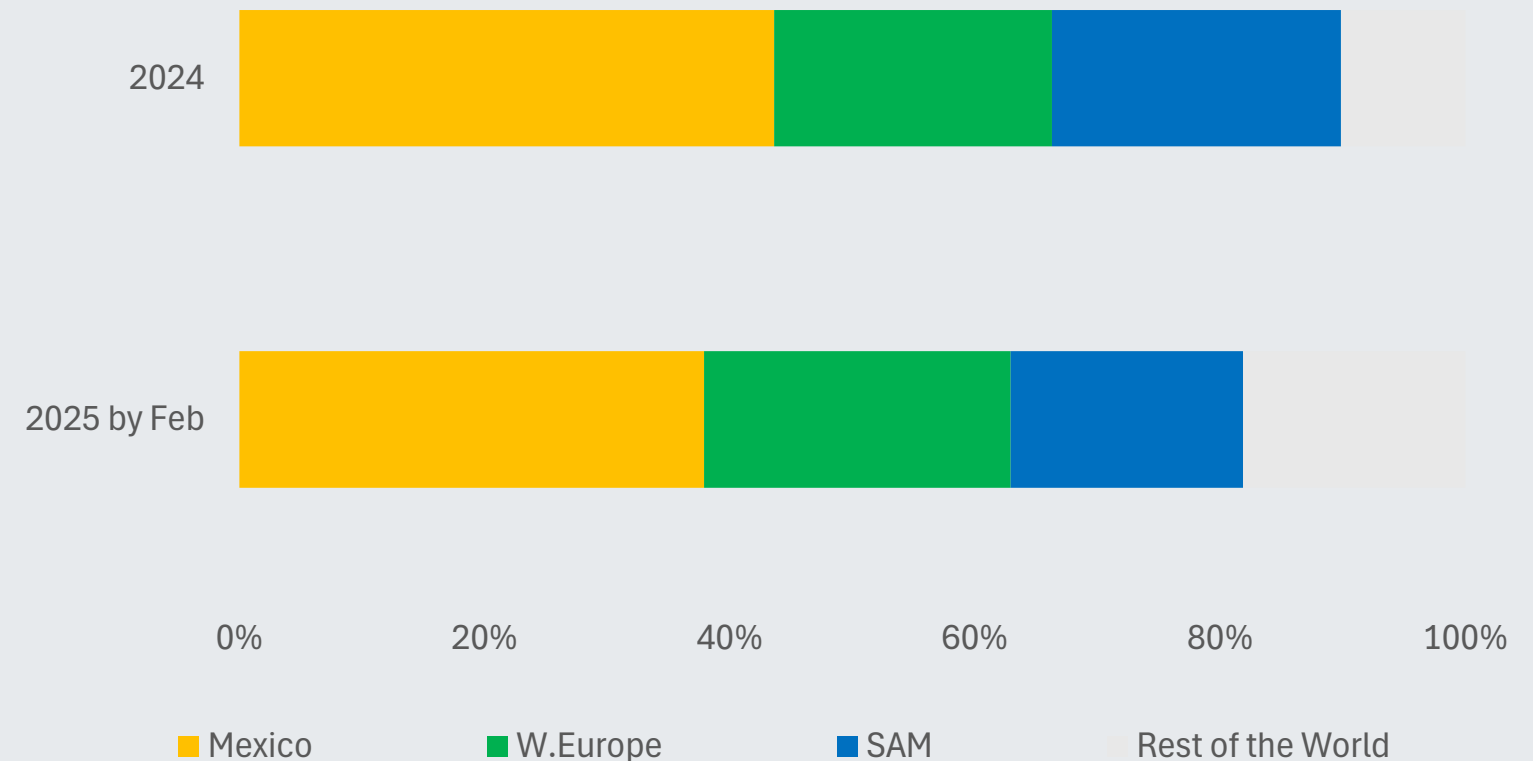
Source: Chemical Market Analytics by OPIS

© 2025 Oil Price Information Service, LLC.

Styrene is exposed to retaliatory tariff

- Major volume of U.S styrene is exporting to Mexico while importing polymers
- West Europe is importing more styrene from the U.S in 2025
- South America is looking for alternative importing source.
- U.S exports to Turkey has increased in 2025

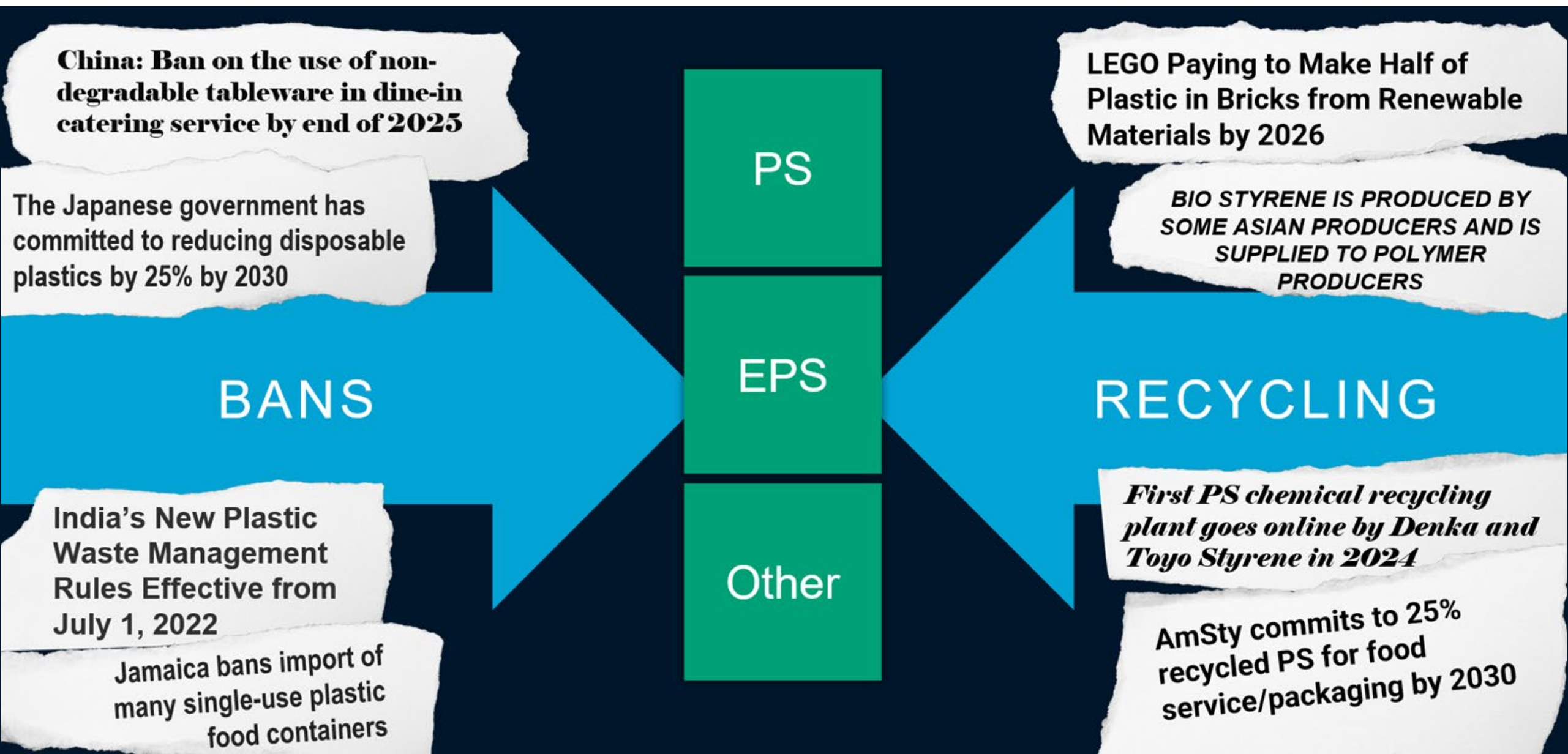
US export partners for Styrene in 2024 and 2025 by February



Source: Chemical Market Analytics by OPIS

© 2025 Oil Price Information Service, LLC.

Sustainability pressures continue



Key takeaways

- Benzene demand growth in mainland China will support benzene price while ethylene market will remain long for the time being
- Globally styrene is in a deep trough, but regional markets are progressing differently
- Growing threat of tariffs. It will impact trade and styrenics demand
- Sustainability pressure continues

OPIS
A DOW JONES COMPANY

CHEMICAL
MARKET
ANALYTICS

Customer Service

support@chemicalmarketanalytics.com

North America: +1 888.301.2645 (toll-free within the U.S.)

<https://www.opisnet.com/contact/contact-us/>

The information contained in this presentation is confidential and proprietary. Any unauthorized use, disclosure, reproduction, or dissemination, in full or in part, in any media or by any means, without the prior written permission of OPIS or any of its affiliates ("OPIS") is strictly prohibited. OPIS or its affiliates own all logos and trade names contained in this presentation and any use of such logos or trademarks by any third party without permission is strictly prohibited. Any opinions, statements, estimates, and projections in this presentation are solely those of the individual author(s) at the time of writing. Neither OPIS nor the author(s) has any obligation to update this presentation in the event that any content, opinion, statement, estimate, or projection (collectively, "information") changes or subsequently becomes inaccurate. OPIS makes no warranty, expressed or implied, as to the accuracy, completeness, or timeliness of any information in this presentation, and shall not in any way be liable to any recipient for any inaccuracies or omissions. Without limiting the foregoing, OPIS shall have no liability whatsoever to any recipient, whether in contract, in tort (including negligence), under warranty, under statute or otherwise, in respect of any loss or damage suffered by any recipient as a result of or in connection with any information provided, or any course of action determined, by it or any third party, whether or not based on any information provided. The inclusion of a link to an external website by OPIS should not be understood to be an endorsement of that website or the site's owners (or their products/services). OPIS is not responsible for either the content or output of external websites. © 2025 Oil Price Information Service, LLC. All rights reserved. All rights reserved and all intellectual property rights are retained by OPIS and its affiliates.