

# Argus report sample

## Argus Benzene Outlook

May 2024

**Benzene outlook executive summary**  
Recent high benzene prices in Europe have impacted consumption, while US fundamentals remain stable. Naphtha costs in Asia-Pacific have eased but demand has been impacted.

**Global benzene prices** \$/t

Two-year price forecast

**Global styrene prices** \$/t

Two-year price forecast

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onal BTX markets.  
high costs.

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**Argus Benzene Outlook**  
May 2024

illuminating the markets®



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**Talk to our benzene experts**

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**Monica Egoy** covers overseas coverage reports. She joined an editor at S&P she has years of experience covering the energy and financial markets, having worked at AFX Financial News, Thomson Financial News, and ThomsonReuters in Europe and Asia. Monica holds a master's degree in Global Politics from Birkbeck College, University of London, and a bachelor's degree in Accounting and Management from the Polytechnic University of the Philippines.

**Jeff Eickholt** is a Senior Analyst in the chemicals sector supporting

**Now available: interactive Benzene Outlook Workspace on [Argus Direct](#)**

**3-month forecast**

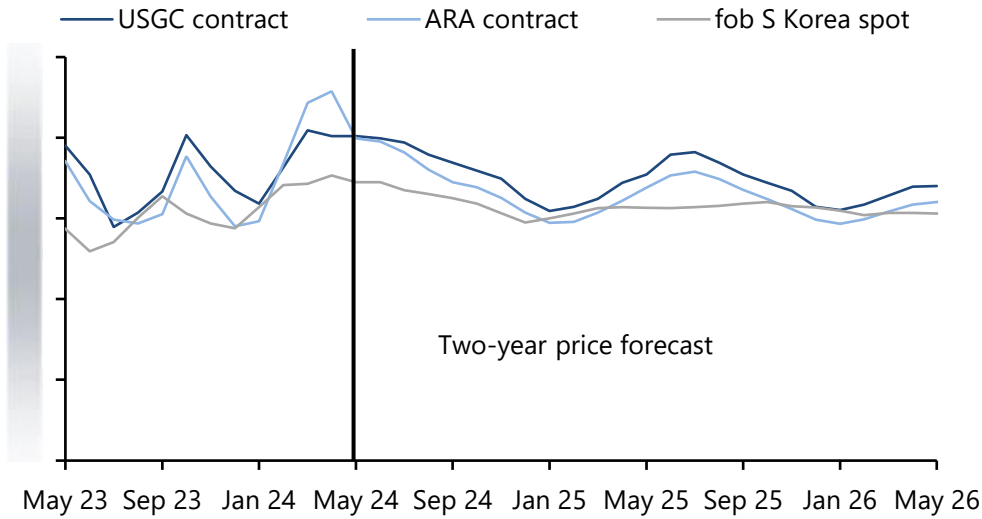
Description
South Korea fob M1
South Korea fob M2
South Korea fob M3
US Gulf Coast fob co
US Gulf Coast fob co
US Gulf Coast fob co
NWE cif contract M1
NWE cif contract M2
NWE cif contract M3

# Benzene outlook executive summary

Recent high benzene prices in Europe have impacted consumption, while US fundamentals remain stable. Naphtha costs in Asia-Pacific have eased but demand has been impacted.

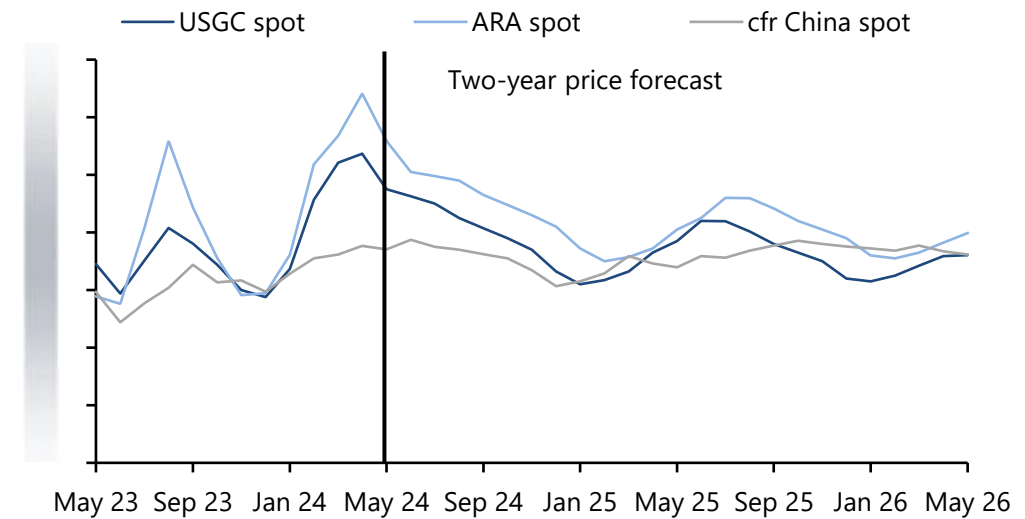
## Global benzene prices

\$/t



## Global styrene prices

\$/t



### What's Changed

- The crude forecast is reduced to account for profit taking but unchanged thereafter.
- Global naphtha prices are moderating as high prices undermine any recovery in petrochemicals.
- Despite residual refinery maintenance, US gasoline and octane prices likely have limited upside.
- Scheduled maintenance in Asia is limiting the supply pressure on international BTX markets.
- European benzene consumption continues to slow, due, in part, to recent high costs.



# Benzene outlook executive summary

Flows of intermediates and polymers into western markets continue to build while recent high feedstock prices have also accelerated polymer substitution.

## Crude and products

### Near-term outlook

The crude price forecast trajectory has been lowered in the very short-term to reflect recent profit taking but otherwise has been held steady. The WTI discount below North Sea Dated is unchanged. Product cracks have weakened across the board. Naphtha demand in Asia has slowed while European product imports are higher. US octane values have not followed through on recent gains.

### Longer-term outlook

The longer-term crude outlook is once again unchanged, with the WTI differential holding steady. The degree of backwardation to year-end 2024 has been moderated. The gasoline backwardation to early 2025 remains steep and the 2025 season has been strengthened. Accordingly, the wider naphtha-gasoline spread has now been carried over to 2025. The gasoline basis for 2025 now looks similar to this year but octane values are still projected to be more moderate.

## Global benzene and styrene

### Near-term outlook

The support under the markets from US gasoline has been subsiding as the energy complex has retreated. High octane valuations turned out to be fleeting. The market could still turn but it appears less likely now. Europe continues to slow as recent high costs take their toll and import volume builds. Asia has seen a reprieve in costs, but again recent elevated naphtha prices have impacted underlying demand.

### Longer-term outlook

Monomer consumption in Europe is undoubtedly being eroded as intermediate and polymer imports recover. US producers are hoping for some margin to creep back into aromatics recovery, but downstream competitive pressure remains intense. Overcapacity in Asia continues to build as yet more mega-complexes come to market.



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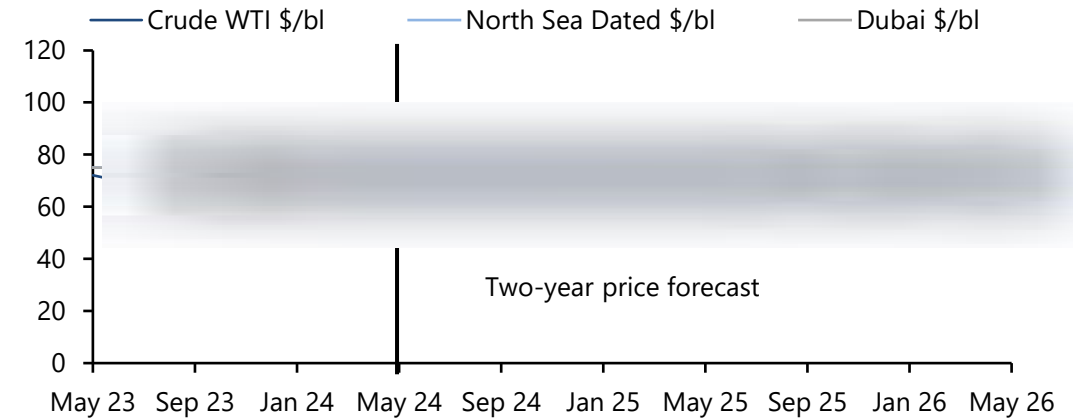
# Global crude forecast

The forecast trajectory is kept steady, although near-term prices have been adjusted lower.

## Market commentary and outlook

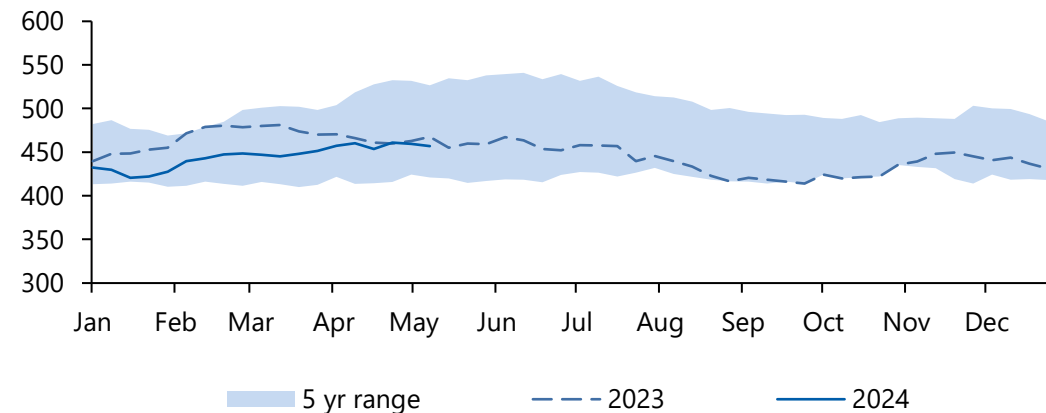
- The crude price forecast has been lowered in the short-term (3-mo) to reflect recent profit taking and some de-escalation in Middle East tensions. The longer-term outlook and the WTI discount below North Sea Dated however have been left unchanged. Overall, NSD and WTI averages for 2024 are down  $\text{---}$  'bl, while both are unchanged for 2025. The backwardation through the remainder of 2024 has been moderated to just over  $\text{---}$  'bl, June to December.
- The de-escalation of tensions between Israel and Iran means the market is no longer pricing in the possible loss of up to  $\text{---}$  mn b/d of Iranian crude and condensate exports, nor the potential disruption of up to  $\text{---}$  mn b/d of crude and products which flow through the Strait of Hormuz.
- On the macroeconomic level, flows of containerized products into Europe continue to rise, and the threat is increasing as domestic petrochemical demand in Asia weakens. European manufacturing activity remains low, although there has been some improvement in confidence levels. US consumption continues to surprise to the upside, but consumer cost pressures remain elevated and inflation data remains disappointing.
- The outlook for crude remains mixed, but overall, it is believed that production restraint will continue to be forthcoming. Accordingly, Argus

## Crude price forecast



## Weekly Crude Inventories (US)

mn bl



# Global products and aromatics feedstock forecast

Slowing demand into the petrochemical sector in Asia-Pacific has moderated the naphtha outlook.

## Naphtha market and outlook

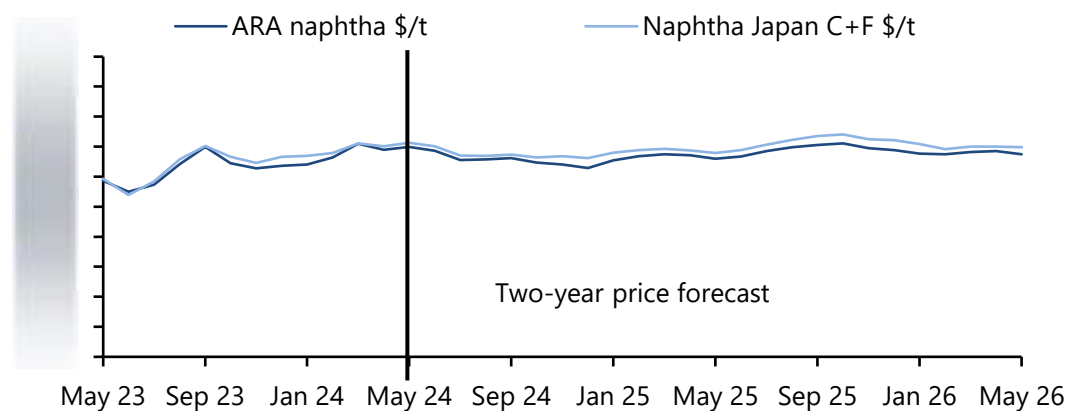
- The naphtha forecast have been moderated in the short-term as demand into petrochemicals in Asia has succumbed to elevated prices. Farther out, forecasts for 2025 remain comparatively strong, but high costs will constrain demand.
- Recent constraints on naphtha supply due to turnarounds in the Middle East have boosted US exports and provided decent netbacks for refiners. This has absorbed any surplus US supply and capped naphtha blending into gasoline. This in turn, limits the need for incremental aromatic octane. Some natural gasoline remains available for blending but discounts are modest.
- US naphtha prices remain forecast at a more moderate discount level to global prices, which again limits the likely incentive for incremental gasoline blending.

## Gasoline market and outlook

- US gasoline prices continue to trade at a modest premium over global pricing, but US prices are expected to hit their peak shortly. US gasoline inventories have been steady at a time when they customarily tend to decline.
- US gasoline is forecast slightly lower for the balance of 2024, reflecting weaker cracks. The forecast remains  $\$1$  backward August through December.
- Premium gasoline forecasts have been revised lower for 2024, with the peak regrade spread from RUL being reduced to 36USC/USG. The average regrade for 2025 has also been reduced by a penny.
- The risks to gasoline supply highlighted in recent months are continuing to moderate, and this has been reflected in the market. Component inventories are recovering. This being said, this market can easily flip, just as peak blending season is called done. The outlook for 2025 remains more moderate, despite higher forecast gasoline prices, as we expect refiners to be further optimized.

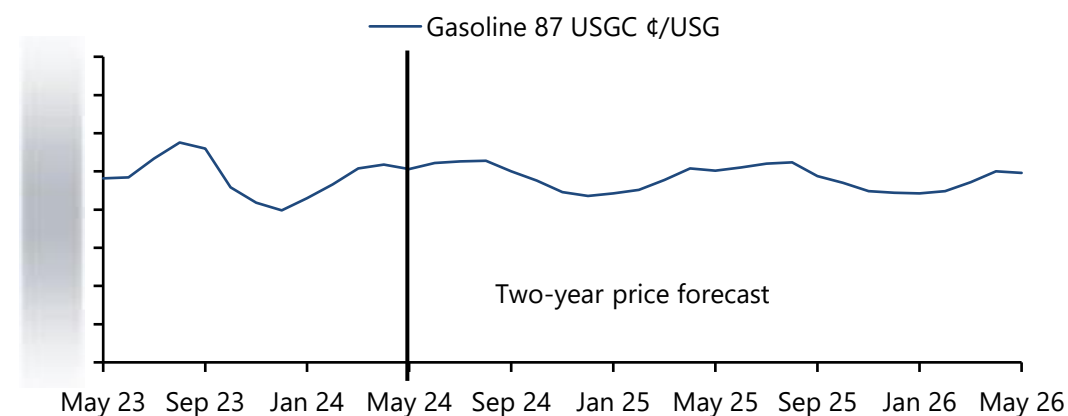
## Naphtha price forecast

\$/t



## Gasoline price forecast (US)

¢/USG





# Energy pricing differentials and alternative values

US premium-to-regular gasoline spreads have corrected, and the outlook has been moderated.

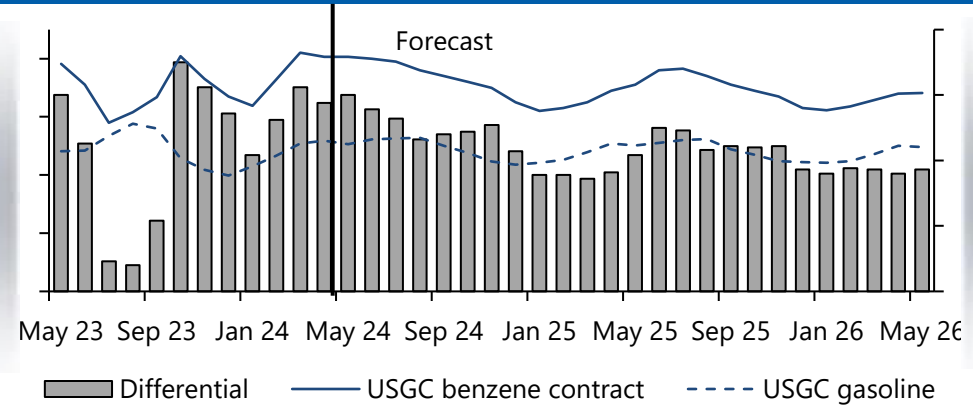
## Forecast price spreads and alternative values

- As suspected, the recent blowout of the US premium to regular gasoline spread, which is a key driver of the value of aromatic octane, was indeed temporary and has corrected lower again. Limited liquidity in the premium market makes adjustments based on one-off deals unreliable, so some caution is always exercised. The peak of the forecast has also been moderated back into the [redacted] range, although in actuality we are running slightly ahead of 2023.
- The naphtha gasoline spread, which is another indication of the incremental value of aromatic octane, is now running slightly below this time last year, but primarily due to relative strength in naphtha. The bloom is coming off naphtha's rose however, as prices weaken in Asia. For the moment, the [redacted] y
- Reformat spreads over gasoline have been comparatively firm so far in 2024 as the impact of 1Q24 refinery maintenance on upgrading capability has been pronounced. There are indications however, that spreads may be under pressure as blendstock supply recovers. Accordingly, the forecast shows limited upside over the current [redacted] which keeps floor values for aromatic octane somewhat range bound.
- Blend value alternatives for aromatics kicked off the year decently, with slightly wider premiums over gasoline than in 2023, but again there are signs of weakening. Also recall, that these blend values are theoretical calculations based upon a rather illiquid premium gasoline cash market, and true market prices are struggling to get anywhere close to these calculated values.



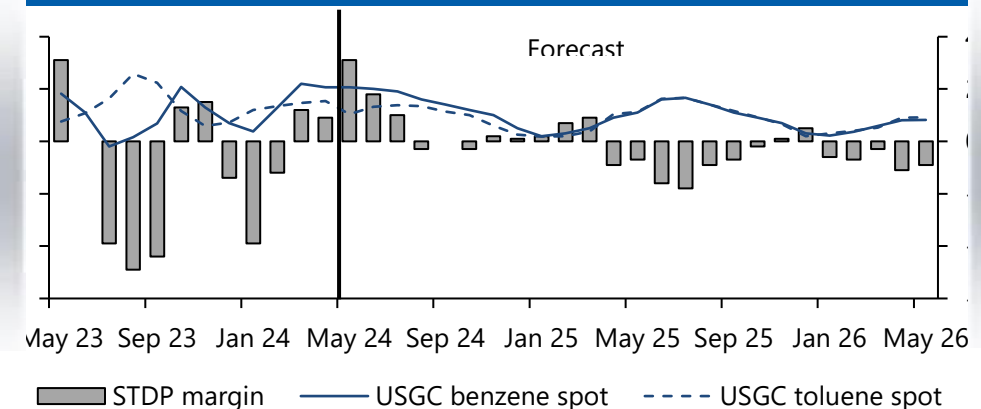
## USGC benzene contract vs USGC gasoline

¢/USG



## USGC benzene contract vs USGC toluene spot

¢/USG

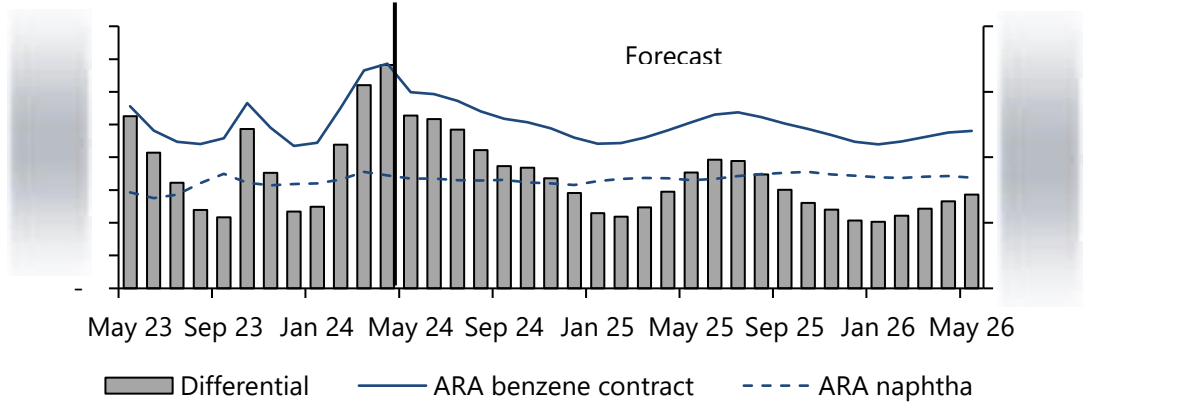




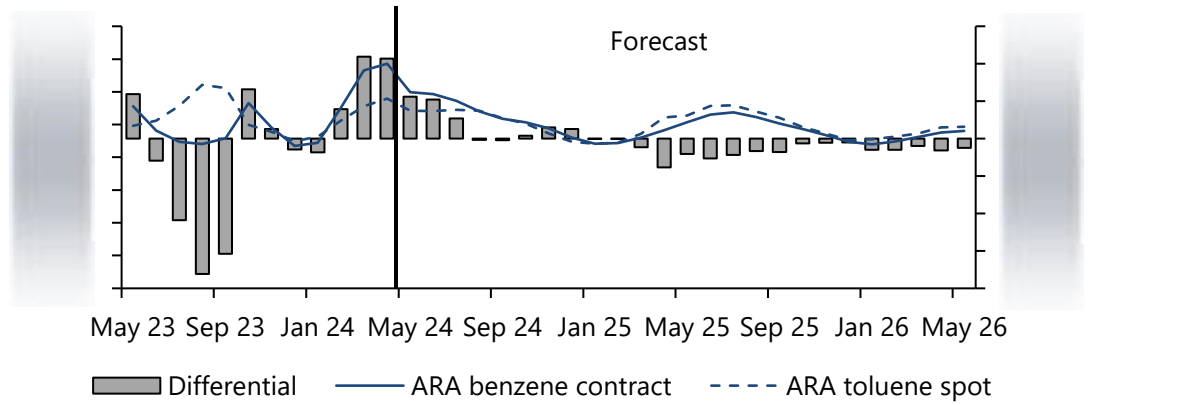
# Energy pricing differentials and alternative values

The probability of higher returns for aromatics in the octane pool in the US is beginning to wane, and freight enquiries from east of Suez are slowing. This may be a false indicator, but it increases risks.

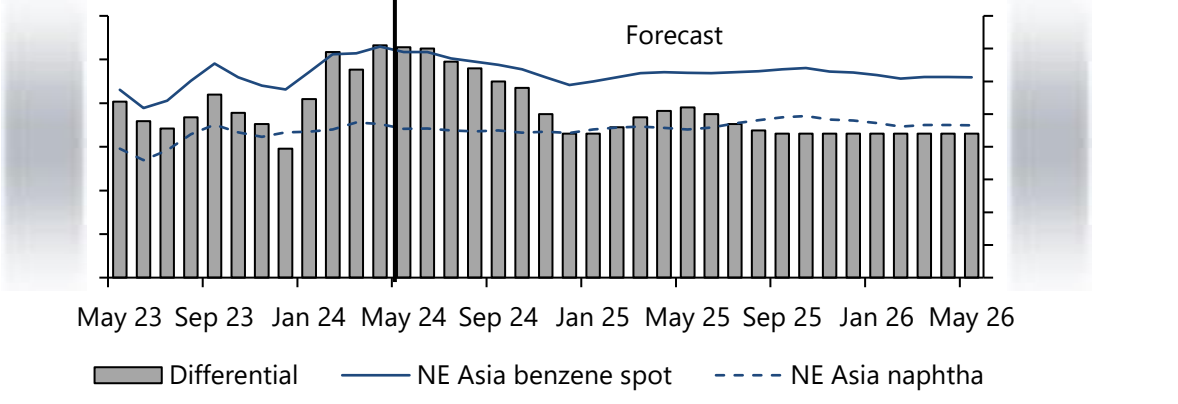
ARA benzene contract vs. ARA naphtha \$/t



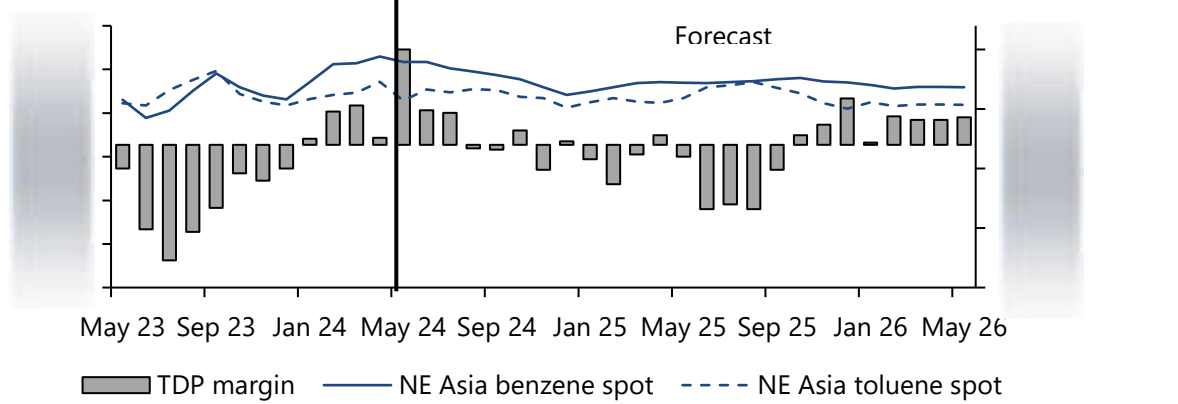
ARA benzene contract vs NWE toluene spot \$/t



NE Asia benzene spot vs NE Asia naphtha \$/t



NE Asia benzene spot vs NE Asia toluene spot \$/t



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# Arbitrage forecast benzene

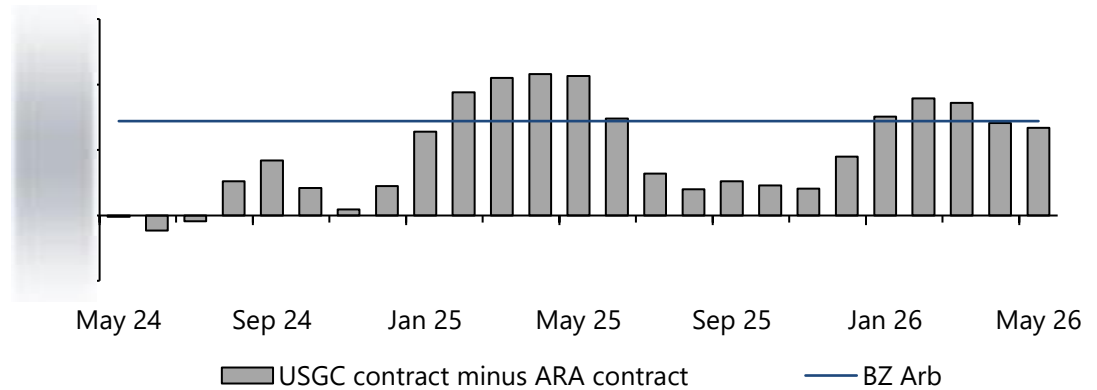
Shipping costs are beginning to ease, but the incentive to move containerized derivatives into higher-priced western markets remains. This is displacing local consumption of BTX and monomers, especially in Europe.

## Trade lane commentary

- BTX fixtures ex-Korea have fallen on scheduled maintenance outages in the region and greater destination value risk in the US gasoline market. Fixtures are still being made but total volumes are down. Owners continue to route more charters via the Panama Canal, offering lower fixed-rate charter costs and shorter voyage times. Latest MR quotes are still around [redacted] below the recent peaks in early April, when charters were going around the COGH.
- Korean benzene exports have slowed, with loadings in April showing a 20pc decline month-on-month, and in May to date running around a rateable [redacted]. Turnaround activity is expected to impact regional trade flows through July. The regional focus on the impact of increasing monomer, intermediate and polymer exports from China continues. The Korean anti-dumping investigation specific to styrene monomer imports from China continues. Owners are now routing most voyages via the Panama Canal, improving supply chain reliability.
- European domestic prices are correcting from recent highs but in many eyes, the damage has been done. Shipments of containerized intermediates and polymers into Europe have jumped close to the levels seen prior to the crisis in the Gulf of Aden. This is washing back up the value chain and eroding regional monomer demand. Recent announcements of rationalization and strategic reviews may also encourage derivative shipments as local supply is reconfigured.

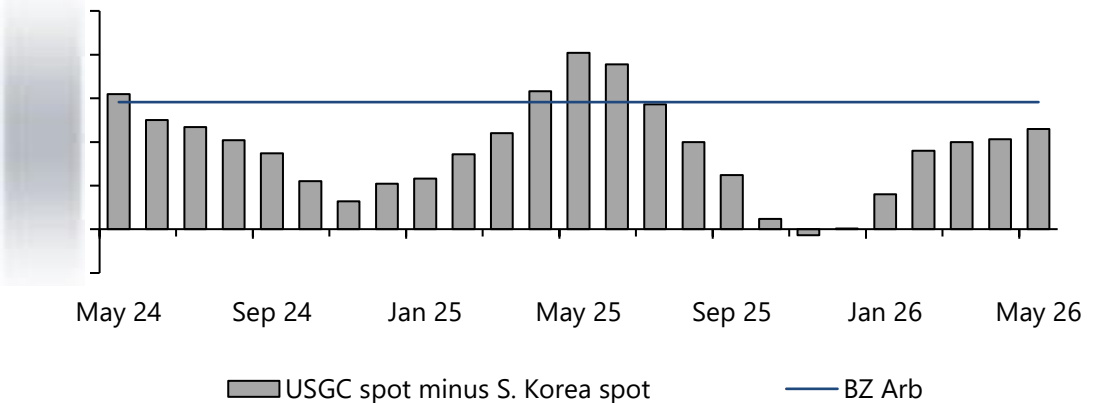
## Benzene: Europe to US

\$/t



## Benzene: Asia-Pacific to US

\$/t



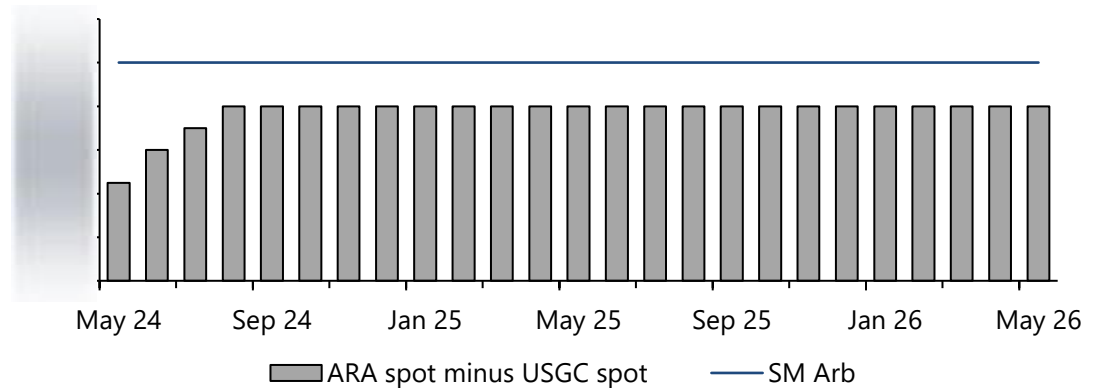
# Arbitrage forecast styrene

As US styrene plants return from scheduled maintenance, so the prospect of limited export disposition looms large. Disruption in south America and increasingly intense competition from Asia may limit outlets for SM.

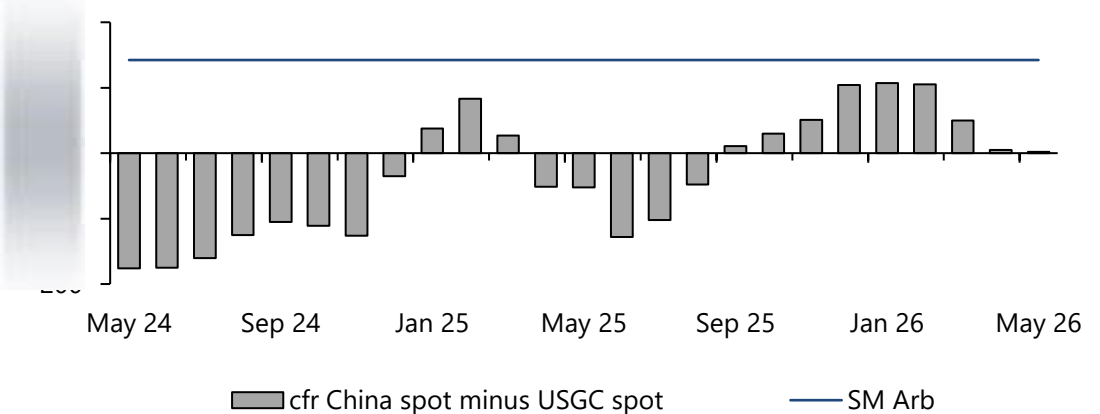
## Trade lane commentary

- Movements of containerized styrene intermediates and polymers into Europe are approaching the levels seen prior to the shipping crisis in the Gulf of Aden. The rebound has been rapid, as high local prices in Europe attracted the attention of both Middle East and Asian suppliers. On the other hand, bulk liquids freight from Asia and the Middle East Gulf remains disadvantaged into Europe and keeps the focus on containerized product. Styrene is still tending to move east from the Middle East, but competition in Asia is intense as Chinese product shows up in traditional export markets.
- European styrene prices have at long last corrected lower and to the point where, even on a prompt basis, the arbitrage incentive from the US is closed. This raises a concerning prospect for US styrene producers as their capability returns following recent scheduled maintenance. US producers need to be able to participate in the European market, as well as in the Mediterranean Sea, but high benzene costs are limiting their competitiveness. Ideally, they would prefer to see European SM producers shut in some of their plants, increasing European styrene netbacks while also facilitating benzene exports and as such lowering benzene costs in the US. A nice plan if it works but for now Europe continues to produce the styrene it needs.
- Also concerning are weather-related disruptions in Mexico, where water rationing is limiting derivative operations, and in Brazil, where flooding has shutdown many operations in the south of the country. Argentina is also reducing trade protections, which might encourage SM supplies from Asia.

## Styrene: US to Europe \$/t



## Styrene: US to Asia-Pacific \$/t





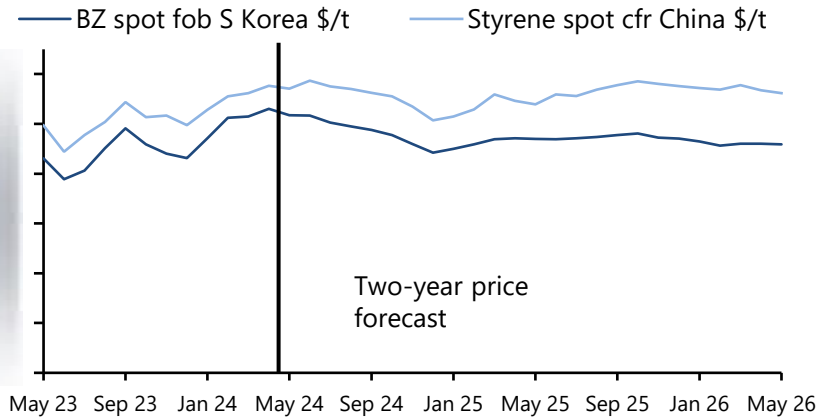
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# Asia-Pacific: Market outlook and price forecast

A narrowing of the naphtha-benzene spread is likely with the impending end of turnaround season.

## Asia benzene and styrene price forecast

\$/t



Apr 24

May 24

Jun 24

Jul 24

Aug 24

Sep 24

Oct 24

BZ spot fob S Korea \$/t

Styrene spot cfr China \$/t

### Forecast summary

- Wider gasoline cracks, with potential limited utilization of China's gasoline export quota.
- On the other hand, driving season everywhere else is coming to an end.
- This might be counterbalanced by low inventories present in China, which stood at a [redacted] in crude throughputs in China, leading to potential [redacted]
- Narrowing arb with the US would limit the benzene upside.

### Upside risk

- LPG cracking to continue to limit benzene recovery from pygas and to put incremental pressure on naphtha prices.
- Lower benzene inventories in China could prop up demand in the short term.
- OPEC+ commitment to further crude production cuts could restore upward pressure on all the liquid petrochemical value chains.

### Downside risk

- End of driving season in the US could lead to waning aromatic spreads over naphtha.
- Construction sector in China continue to remain in stasis, putting at risk the recovery of styrene monomer associated derivatives. This along with tepid credit data would add more pressure on the economy.

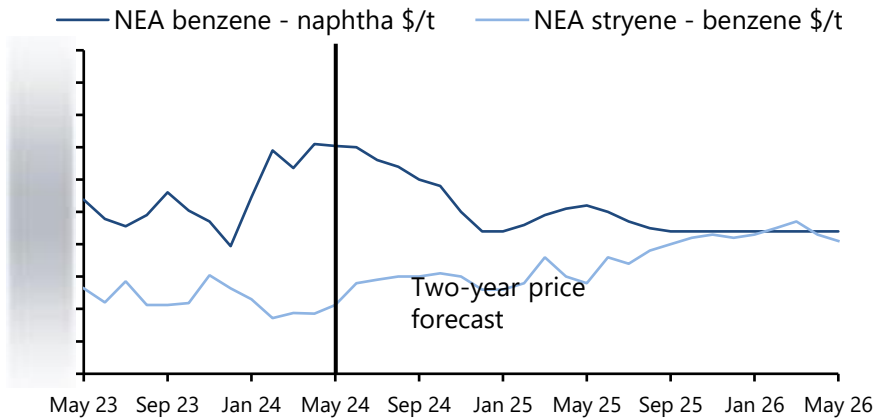




# Asia-Pacific: Cost and margin outlook

Naphtha discounts are projected to remain wide, with regional crackers still cracking LPG.

Asia benzene-naphtha and benzene-styrene spreads \$/t



Apr 24 May 24 Jun 24 Jul 24 Aug 24 Sep 24 Oct 24

NEA benzene - naphtha \$/t

NEA styrene - benzene \$/t

## Costs

- Naphtha feed: Naphtha discounts are projected to remain wide, with regional crackers still cracking LPG. However, with Chinese refiners securing extra export quotas, naphtha margins dropped to a one-month low.
- Benzene: BZ-naphtha is expected to narrow, with impending end of turnaround season to lengthen supplies. Driving season demand starts to wane in the US as well, potentially limiting arbitrage opportunities. Lower inventories would balance it out. Average figure stood a
- Ethylene: With supply outstripping demand in the region, ethylene prices have been trending downwards. Southeast Asia prices fell along with northeast Asia.
- Natural gas: Demand from northeast Asian importers have remained weak. Japanese utilities have remained unruffled by upstream issues reported that may have affected production at Petronas' Bintulu LNG complex.

## Margins

- Reformate/pygas recovery: Gasoline values are forecast to remain firm, with limited utilisation of China's gasoline export quotas given strong domestic demand. On the other hand, driving season expected to end in July everywhere else, thus capping the upsides from limited China's gasoline exports.
- Toluene conversion: TDP and SDTP margins narrowed noticeably compared to March and April, indicating that the driving season has sufficient clout to divert toluene away to gasoline blending.
- EBSM: SM-BZ spread is expected to widen, with longer benzene supplies following the end of turnaround maintenance. Arbitrage prospects to other regions continued to be slim on high freight costs and long shipping periods, with uncertainties in domestic demand outlook at the end of the driving season fanning further apprehensions from the region's importers .



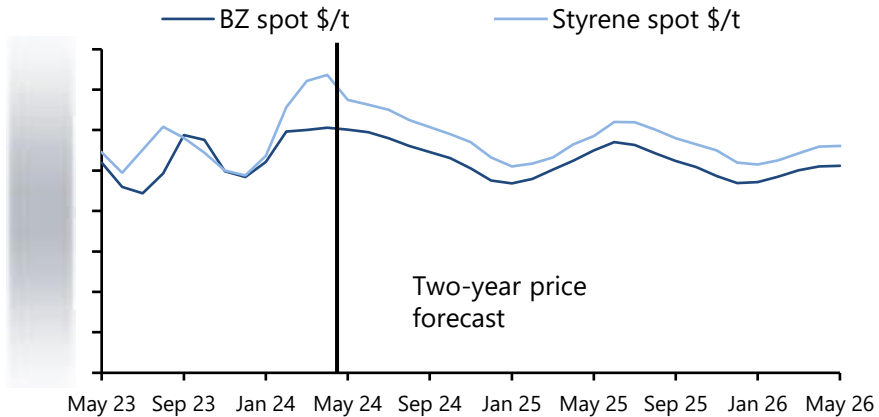
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# Americas: Market outlook and price forecast

A period of unusually stable benzene prices is impacting the competitiveness of US derivative producers as international prices fall. This will have implications for benzene consumption during 2H 2024.

## US benzene and styrene price forecast

\$/t



Apr 24

May 24

Jun 24

Jul 24

Aug 24

Sep 24

Oct 24

BZ spot \$/t

Styrene spot \$/t

### Forecast summary

- Gasoline support under the market is waning as underlying energy values have fallen, and the recent strength in octane values was not sustained. The market can be very fickle, but gasoline may have seen its peak.
- Planned derivative plant maintenance is coming to an end, but disruption to benzene consumption is still being seen in Canada, where a rail workers strike is looming and one EBSM complex remains shutdown.
- Longer-term, feed costs and alternative values in gasoline should moderate further in 2025-2026. Producers hope that this should allow some margin to return to the primary value chains, but competition is intense.

### Upside risk

- Refinery maintenance in Padd 2 is ongoing, with a risk that restarts may not proceed as planned.
- Benzene shipments out of Asia are being restrained by planned maintenance in the region.
- US gasoline markets may turn on a dime as we enter peak driving season.

### Downside risk

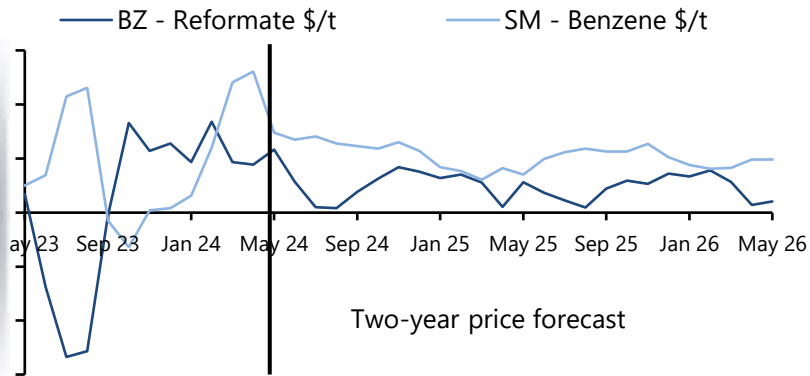
- Inventories of gasoline and components are holding steady, when seasonally they tend to fall.
- Recent lackluster gasoline prices might persist and further reduce the support under the market.
- High benzene prices might further impact local consumption and encourage more imports of containerized downstream products.



# Americas: Cost and margin outlook

Cost pressures on benzene are easing, with some margin starting to accrue. The lack of pull-through for PX however will likely continue to impact conversion operations.

US benzene-reformate and benzene-styrene spreads \$/t



Apr 24    May 24    Jun 24    Jul 24    Aug 24    Sep 24    Oct 24

BZ - Reformate \$/t

SM - Benzene \$/t

## Costs

- **BTX recovery costs:** Despite 2Q24 Padd 2 refinery maintenance, reformate costs have been easing, which is lowering the feed cost for USGC aromatics recovery operations. Pygas costs have also eased slightly.
- **Conversion costs:** Alternative values for toluene in gasoline have come off, with the chances of significant seasonal upside somewhat reduced. Conversion costs to benzene have therefore eased, but operators remain cautious in taking on too much risk when costs could still turn on them. It is likely that producers will continue to take a wait and see approach, rather than wade into the market with incremental volume the minute some margin appears.

## Margins

- **BTX recovery from reformate:** Volume-weighted BTX yield value over reformate has shown some modest improvement but not as much as first thought. Toluene and xylenes prices have fallen with reformate and represent the lion's share of the recovered volume. This is limiting any significant recovery in BTX margins.
- **Toluene conversion:** On paper, STDP/TPX margins have improved but co-product contributions remain vulnerable as the polyester value chain continues to be pressured by downstream imports.
- **Styrene chain margin:** Despite high feed costs, styrene margins have remained decent on continued disruption to supply. Ethylbenzene is uncompetitive into the gasoline blend pool due to high benzene costs. The ongoing nature of disruptions in Canada may help maintain margins but with plants now restarting on the Gulf coast following recent scheduled maintenance, it is likely that some margin erosion now begins to take hold.

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# Europe: Market outlook and price forecast

Local consumption in the region continues to soften as demand falters and intermediate and polymer imports continue to regain their footing.

## Europe benzene and styrene price forecast

\$/t

Apr 24

May 24

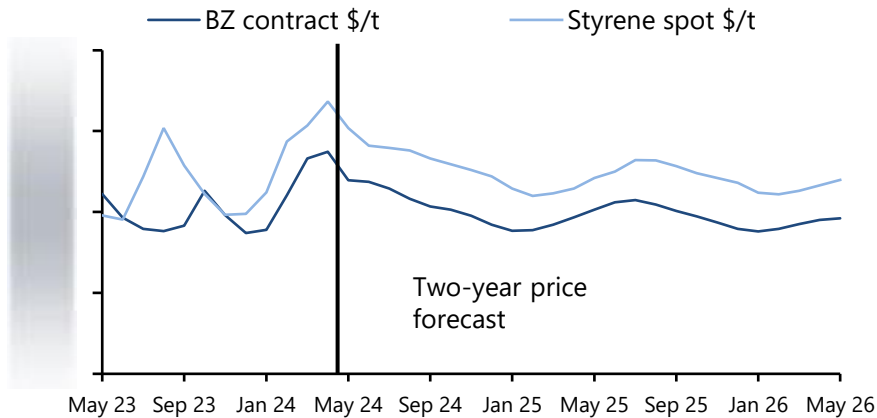
Jun 24

Jul 24

Aug 24

Sep 24

Oct 24



BZ contract \$/t

Styrene spot \$/t

### Forecast summary

- Benzene in Europe showed resilience from the steep falls in North Sea Dated crude as the market rebalanced.
- Domestic benzene production dropped further in 2Q24, but this has been offset by renewed slowdown in demand following the stronger growth in 1Q24.
- Planned cracker closures by ExxonMobil and Sabic, along with LyondellBasell's strategic review of European assets, highlight the perilous state of the petrochemicals industry in Europe.

### Upside risk

- Cracker operating rates dropped to below of capacity, further curbing pygas supply.
- Styrene production will continue to rise as units return from a spate of disruptions.
- The contraction in the manufacturing output PMI started to ease in April, while the recovery in the services sector continued in 2Q24.

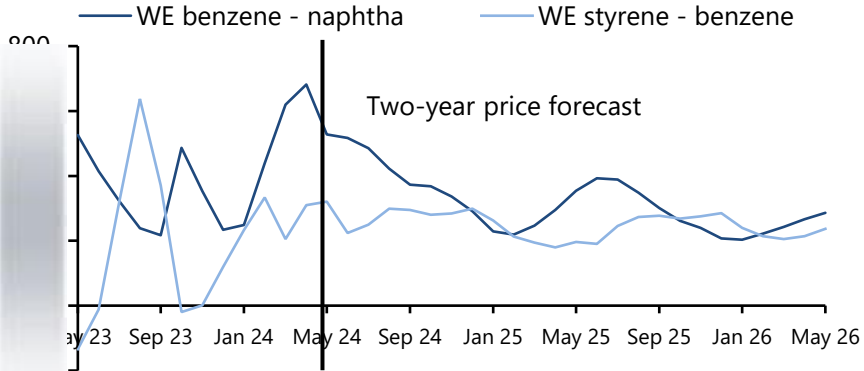
### Downside risk

- Rerouted imports of benzene derivatives and intermediates from Asia are starting to arrive.
- The recession in the construction industry in the eurozone, particularly in Germany and France, persisted and is starting to take hold in Italy.
- Strategic reviews may have implications for both benzene supply and consumption.

# Europe: Cost and margin outlook

Despite reductions in baseline crude and naphtha costs, regional costs remain uncompetitive. Derivative margins have expanded slightly but lower costs have not benefitted consumption.

Europe benzene and styrene spread to naphtha \$/t



Apr 24 May 24 Jun 24 Jul 24 Aug 24 Sep 24 Oct 24

WE benzene - naphtha

WE styrene - benzene

## Costs

- Crackers with feedstock flexibility continue to shun naphtha, which commands a significant premium to propane and butane, further curtailing pygas supply in Europe.
- The steep fall in the monthly benzene and styrene contract prices in May helped improve downstream production margins but failed to revive demand.
- Gas prices firmed in May from April but should start to ease seasonally as temperature rises in the summer.

## Margins

- The gasoline-naphtha spread is firm above [redacted], supporting blending demand. But the blending season has not been as strong as initially forecast. Blending economics for benzene feedstocks and derivatives have been unattractive. The Dangote refinery in Nigeria is expected to start gasoline production in June, further weighing on European gasoline demand.
- Styrene production margins have eased after peaking in April and will be under pressure as supply rose and demand faltered from 1Q24.
- E: [redacted]





# Argus aromatics experts



**Simon Palmer**  
Vice President  
Global Aromatics

Simon Palmer joined Argus as VP, Global Aromatics in 2021, and is based in Texas. He has broad experiences from across the petrochemical industry. He has worked in both petrochemical and plastics operations, market consulting, petrochemical trading, major project management, and strategy and business development. He spent his formative years in Europe working for ICI plc before moving to ICI Americas in the US. Since then, he has spent close to 10 years in industry and over 20 years in market consulting, primarily specializing in aromatic hydrocarbons. Prior to joining Argus, he worked in Strategy and Business Development with Motiva Enterprises, a wholly-owned affiliate of Saudi Aramco.



**Monicca Egoy**  
Editor,  
Europe Aromatics

Monicca Egoy is Editor in charge of covering the aromatics markets in Europe and is based in London. She primarily covers benzene and styrene, as well as overseas coverage and publication of Argus' daily and weekly aromatics reports. She joined Argus in 2013 during the formation of the petrochemicals team and integration of DeWitt & Company. Prior to joining Argus, Monicca was an editor at S&P Global Platts, covering polymers and olefins. Additionally, she has many years of experience covering the energy and financial markets, having worked at AFX Financial News, Thomson Financial News, and ThomsonReuters in Europe and Asia. Monicca holds a master's degree in Global Politics from Birkbeck College, University of London, and a bachelor's degree in Accounting and Management from the Polytechnic University of the Philippines.



**Brian Leonal**  
Associate Editor,  
Asia Aromatics

Brian Leonal is responsible for covering the benzene and styrene in Asia-Pacific and is based in Singapore. He has ten years of experience in the hydrocarbon industry. Most recently he was a corporate banker in DBS Bank covering oil and gas as well as petrochemical markets. He has been involved in a diversity of transactions, including asset-backed, project, trade, and M&A financing, as well as clean corporate loans. He started his career in Argus in 2015 as part of the petrochemical team, with exposures across olefins, aromatics, and polymers.



**Santosh Navada**  
Senior Analyst

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