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Argus *Ethylene and Derivatives*

Issue 25-1 Wednesday 8 January 2025

HIGHLIGHTS

Americas

- US ethylene prices remain elevated as turnarounds set to begin
- US contract settles at over 1-year high
- Morgan's Point ethylene export terminal expansion completed

Europe

- A quiet start to the year following a quiet holiday period
- Cracker margins squeezed with natural gas and feedstock prices up
- Demand in the first quarter should be supported by cautious restocking but outlook for 2025 remains pessimistic

Asia-Pacific

- Cracker margin slip on higher feedstock costs.
- Ethylene prices stable, most talks still hovering at floating premium basis.
- Ports issues at South Korea might lead to supply crunch in February.

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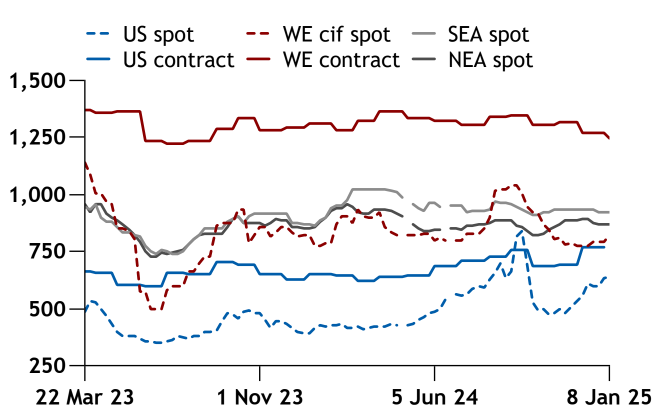
World ethylene prices $/t



MARKET SNAPSHOTS

Ethylene global prices				$/t
	Timing	Low	High	Mid
US				
Contract net transaction price	Dec			766
Pipeline del USGC spot		633.8	639.3	636.7
Month to date average spot prompt	Jan			636.9
Month to date average spot				616.9
Western Europe				
Contract MCP	Jan			1,247
NWE pipeline spot, del		845.1	881.2	863.1
Med spot, cif		775.0	840.0	807.5
NWE spot, cif		800.0	840.0	820.0
Asia-Pacific				
Taiwan contract	Oct			930
Southeast Asia spot, cfr		910.0	930.0	920.0
Northeast Asia spot, cfr		860.0	880.0	870.0
Northeast Asia spot, fob		825.0	855.0	840.0
China domestic truck ex-tank		885.0	909.0	897.0
Sinopec east China truck ex-tank				909.0

Polyethylene global prices				$/t
	Timing	Low	High	Mid
US, del EOR, 3 Jan				
LDPE liner film HC	Dec			1,323
LLDPE butene-1 film HC	Dec			1,213
HDPE blow mold HC del	Dec			1,235
Western Europe, del NWE, 3 Jan				
LDPE liner film	Dec			1,585
LLDPE butene-1 film	Dec			1,405
HDPE blow mold HIC	Dec			1,343
Asia-Pacific, cfr CMP, 3 Jan				
LDPE liner film spot		1,120	1,150	1,135
LLDPE butene-1 film spot		925	960	943
HDPE film spot		870	920	895

Related feedstocks				
	Delivery	Low	High	Mid
Ethane Mt Belvieu non-LST *¢USG*	Jan	25.88	27.25	26.56
Propane Mt Belvieu non-LST *¢USG*	Jan	85.00	87.13	86.06
Propane ARA large cargo *$/t*		585.50	591.50	588.50
Propane Argus Far East Index™ *$/t*				623.00
Butane Mt Belvieu non-LST *¢USG*	Jan	115.75	120.38	118.06
Naphtha full-range cif USGC *¢USG*		169.66	176.66	173.16
Naphtha 65 para NWE cif *$/t*		639.75	640.75	640.25
Naphtha Japan c+f *$/t*		659.00	663.00	661.00

Tables include hyperlinks to those values maintained in the Argus database.

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US/Canada

Prompt-month spot ethylene traded between 28.75-29¢/lb at the Enterprise Products Partners (EPC) system at Mont Belvieu, Texas. Prices have not traded above 29¢/lb since mid-September, as ethylene spot markets remain elevated on increasing natural gas prices and ethane costs. Some market participants were scratching their heads at why spot EPC ethylene was being bought at 29¢/lb, but the consensus remains that the heavier turnaround season is likely behind the need to buy spot ethylene.

Argus recorded six January EPC deals that totaled 18mn lb this reporting week. *Argus* also recorded one January Texas "other" deal at 29.25¢/lb. In Louisiana, *Argus* recorded just one February-March Choctaw deal at 30¢/lb, likely meant for covering a turnaround.

US prices				¢/lb
	Timing	Low	High	Mid
Ethylene				
Contract net transaction price	Dec			34.75
Contract net transaction price	Nov			31.50
Contract net transaction price	Oct			31.25
Pipeline del USGC spot		28.75	29.00	28.88
Month to date average spot prompt	Jan			28.89
Month to date average spot	Jan			27.98
Related assessments				
EDC export, fob USGC (calculated price)		5.00	6.00	5.50
Polymers, 3 Jan				
LDPE liner film HC del EOR	Dec			60.00
LLDPE butene-1 film HC del EOR	Dec			55.00
HDPE blow mold HC del EOR	Dec			56.00
S-PVC pipe HC del EOR	Dec			57.50

The US December ethylene contract settled higher by 3.25¢/lb to 34.75¢/lb, its highest settlement since September 2022, riding higher natural gas prices that pushed up key ethane feedstock values. The increase was the largest monthly gain for the US contract price since May 2022's settlement and more than offset this year's steepest decline of 3¢/lb in October's settlement. This put the US contract up by 6.25¢/lb compared with a year ago. A blast of unseasonably cold weather in December drove up feedstock costs.

That colder weather lasted into the start of January but had only a minimum impact on production. Dow's 726,000 t/yr ethane cracker in Orange, Texas, had minor flaring when cold temperatures impacted pressures on a relief value on 7 January. More significantly, Chevron Phillip Chemical's 871,000 t/yr (EU-1592) cracker in Cedar Bayou, had its cracked gas compressor shut on 5 December. Ineos' 930,000 t/yr No.1 cracker in Chocolate, Bayou, Texas, also had a compressor trip the next day.

The US ethylene market begins January with an active turnaround schedule ahead of it. According to market intelligence, *Argus* expects four US Gulf coast crackers to shut down for planned turnarounds this month. This includes ExxonMobil's 1,139,000 t/yr BOP-X unit in Baytown, Texas; Shintech's 500,000 t/yr unit in Plaquemine, Louisiana, and units at Dow's complex in Taft, Louisiana, and one of CP Chem's three crackers in Sweeny, Texas. The Sweeny turnaround is expected to be a pit stop turnaround of no more than two weeks, while the other turnarounds are expected to last into mid-February or March. With the last available inventory data showing the lowest US ethylene inventories since the second quarter of 2021, when the freeze took off one month of production from the preceding quarter, an active turnaround season could keep prices and spot margins high.

Ethane cracking margins remain around 16¢/lb, according to *Argus*' generic cracking model. Propane cracking margins fell to begin the year to around 2¢/lb, as colder weather caused propane costs to increase outright and relatively against crude. Butane cracking margins remain negative.

Navigator Gas completed an expansion project at its jointly owned ethylene export terminal in Morgan's Point, Texas, in late December and has purchased more ethylene carriers to meet growing offshore demand.

The expansion at the 50:50 joint venture with Enterprise Products Partners will raise export capacity by at least 550,000 t/yr to 1.55mn t/yr this year with potential total capacity reaching 3.2mn t/yr in future years. The expansion also tripled the terminal's ethylene refrigeration capacity from 125t/hr to 375t/hr. Refrigeration capacity is key to expediting loading times for vessels, especially during peak demand periods. The expanded refrigeration capacity is dual-use, for both ethane- and ethylene-carrying vessels. Some market sources said the expansion will advantage ethane carriers over ethylene in the near term, given wider arbitrage opportunities for ethane. Enterprise is also building the Neches River Terminal project near Beaumont, Texas, which will provide an alternate export terminal for ethane customers that currently use Mor-

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gan's Point. This move may ultimately free up the expanded refrigeration capacity at Morgan's Point for ethylene carriers. The first phase of the Neches River Terminal is scheduled to start up in the second half of 2025. The Navigator-Enterprise venture also said it agreed to supply more volumes to its largest offtaker starting in the current quarter.

Polyethylene (PE) operating rates in January are expected to be down somewhat from record levels seen in November, with a few operational issues and some upstream cracker turnarounds ongoing. Additionally, there was some discussion of railcar shortages as packaging warehouses remain full and there remains a possibility for another US Gulf and east coast port strike by mid-month.

Ineos in December declared force majeure on high density polyethylene (HDPE) blow molding following a mechanical issue at one of its Battleground, Texas units. It was not clear how long that unit was expected to be down. No other specific production issues were heard, but some PE plants were expected to take brief downtime coinciding with upstream cracker turnarounds.

The spot market has been fairly quiet since the start of the year, with few producers offering fresh product, and many buyers content with inventory they built in the last few months of 2024.

Final November data from the American Chemistry Council (ACC) showed total PE production in November rose to 5.628bn, up by 6pc from October levels, according to the ACC's Plastics Industry Producers' Statistics Group as compiled by Vault Consulting. Plants had an effective capacity of around 94pc in November, according to the ACC.

November sales totaled 5.283bn lb, up by 3.9pc from October, with exports up by 13.3pc and domestic sales down by 4.3pc over the period. Producers added around 346mn lb to inventories in November.

Demand in December was weak on seasonal factors, and activity has not yet picked up in early January. Market participants said they expect January to be a weaker sales month after many buyers loaded up on discounted material at the end of 2024.

December PE contracts are believed to be settling flat, with producers nominating increases of between 5-7¢/lb for January.

The US suspension-grade polyvinyl chloride (S-PVC) market has been quiet in the wake of the holiday season and start of the new year, but traders are bracing for the start of a potential dockworkers strike at ports along the US east coast and US Gulf coast that could be very disruptive to trade.

The strikes could begin if a new contract is not approved before the old contract expires on 15 January, and some shipping companies are threatening higher fees to cover storage costs for any cargo stuck at the ports, traders said.

Domestically, producers are focused on securing volume commitments from buyers now that recent capacity expansions have created a longer market. Buyers are cautious about accepting more volume without conditions due to concerns about modest growth in the first half of 2025.

Buyers are seeking sizable annual contract resets to begin the year as a result, but producers are wary of dropping prices too far after a sizable contract reset in 2024. The recent rise in ethylene prices and the decline of by-product caustic soda export prices could leave producers with higher operating costs and fewer alternative methods to generate considerable revenue, further pressuring them to at least stabilize PVC prices.

Buyers have more muted expectations than producers for demand in 2025. This is partly because many buyers believe interest rates that recently began to fall will take time to stimulate housing construction, potentially delaying a rise in PVC demand until late 2025 or even 2026. Lower interest rates can reduce homebuilders' borrowing costs and ease mortgage rates for prospective homebuyers.

The cautious outlook was already pervasive among PVC buyers and converters before the US Federal Reserve in December reduced its forecast for 2025 interest rate cuts to half a percentage point, down from a full point in the September projections.

Latin America

In South America, a recent political agreement reached between the EU and Mercosur celebrated in December in Montevideo, Uruguay, received the firm support of Germany to quickly implement commercial actions to stimulate industry expansion in the two regions. This would help the struggling German industry with gradual preferential access (lower tariffs) to export to the markets of Brazil, Argentina, Paraguay and Uruguay, giving it a clear advantage over its American and Chinese competitors, mainly.

Brazil closed 2024 with a resilient economy, with a 2.9pc

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GDP growth in 2023 and an expected 3.5pc in 2024. Industry, services, imports, investments, and consumption by families and the government expanded. Unemployment fell to 6.1pc, a record low, in the quarter concluded in November, tracked by an increased wage bill.

However, for 2025, the central bank projects a country's economic decline due to its tight monetary policy to balance public accounts, currently at a record of $177.4 bn. This week, the central bank projects a 2025 GDP growth rate of 2.02pc, with annual inflation of 4.99pc, an interest rate at a record high of 15pc, and a real/dollar rate of 6.

In Brazil, there were no imports or exports of ethylene in 2024. Imports of the main ethylene derivatives from January to December were:

- Ethylene Dichloride (EDC): there were no imports in December. In 2024 imports were 72,300t, 7pc below 2023, mostly from the US at the average monthly price of 359/t cif, 4pc above year-on-year.
- Ethylene Glycol (EG): with 22,900t imported in December, 99pc from the US at $550/t cif, in 2024 Brazil imported 268,600t of EG, 20pc higher than in 2023. The US had 99pc of the market share at the average monthly price of $541/t cif, 13pc more than in 2023.
- Styrene (SM): in December, Brazil imported 23,300t from the US, at $1,105/t cif. In 2024, 226,000t were bought, 5pc more from 2023, with 85pc acquired from the US at the average monthly price of 1,274/t cif and 13pc from Asia-Pacific at $1,416/t cif.

In 2024, Brazil imported 1.959mn t of polyethylene (PE), 40pc more year-on-year, with 77pc bought from North America at the average monthly price of $1,153/t cif, 1pc lower than in 2023. With an expressive volume imported from the US and Canada, Braskem and associate chemical chambers have opened an anti-dumping investigation against the two countries. The result is expected for the first quarter of this year.

PE exported from Brazil in 2024 grew 9pc from 2023, totaling 588,800t. South American bought 61pc paying an average monthly price 2pc higher than in 2023, at $1,147/t fob. Asia-Pacific acquired 22pc at $1,475/t fob, and Europe 15pc at $1,862/t fob.

In 2024, the PE trade balance pended to imports at 1.370mn t or $1.559mn, growing 59pc in volume and 53pc in value.

Braskem pricing policy in January is to increase R$800/t ($130/t) for high-density PE (HDPE) and linear-low-density PE (LLDPE). Braskem's low-density PE (LDPE) increased by R$1,000/t ($165/t). Since August 2024, Braskem's PE prices have remained steady after increasing by R$250/t, or $45/t for all PE-grade families.

In Argentina, ethylene imports totaled 43,300t from January to November, shared between February and April, in line with YPF maintenance from March to May, and in October, during a 15-day maintenance at the Bahia Blanca cracker. The US sold 36,700t at an average monthly price of $958/t, and Libya 6,600t at 871/t.

Ethylene derivatives import in Argentina have been dropping in the last few years. Looking to force domestic prices down by competition with imported products, the government cut import taxes on 2 September from 12.6pc to 7.5pc. In November, PE imports of 21,800t fell 6pc from November 2023, reverting the growth of 39pc on October month-on-month, when imports reached a total of 24,300t.

Still, from January to November, PE imports continued below 2023, falling 18pc to 248,600t, with 43pc acquired from North American sellers at the average of $1,442/t cif, 8pc lower than in 2023. South Americans increased its market share from 20pc to 40pc at $1,462/t cif, reducing 19pc from 2023 price.

On the other hand, amid a weak domestic market, PE exports increased this year with a surplus not consumed domestically. From January to November, PE exports climbed 54pc year-on-year to 150,500t, with an average monthly price 2pc lower at $1,195/t.

Last year, the PE trade balance in Argentina from January to November still pended to imports at 98,100t and $188.9mn but reduced 52pc in volume and 50pc in value year-on-year.

EUROPE

The European ethylene market was quiet over the holiday and buyers/producers have started 2025 hoping for improved demand but plan for no recovery. The year has started slowly with little change to demand or operating rates, but there is an expectation that both will increase in the second half of January. There is a need for stock levels to move back to a workable level and even with overall lower demand, spring is the peak season for many markets. Europe should benefit from a major maintenance programme in the US and the ongoing freight issues early this year because of actions by the Houthi rebels in the Red Sea. But the industry remains very cautious about the overall outlook for the new year.

There is some optimism for the first quarter as supply chains need to get back to a working stock level having been severely depleted by aggressive targets for the end of year. Europe will gain some support from a heavy US cracker maintenance programme in the first quarter which we estimate will reduce overall capacity by at least 10pc. This along with the unusually cold weather in Texas has the potential to disrupt production and limit exports of ethylene and derivatives from the US. Cold weather has driven up the price of natural gas and ethane, with US ethylene at 34.75¢/lb last week, translating to over $1,000/t on a cif Amsterdam-Rotterdam-Antwerp (ARA) basis. Prices have eased slightly since then, but this is well above the European spot cif ARA price of $810-845/t.

European logistics will be further challenged because of maintenance at one of the main import storage tanks in the first quarter. The producer who owns and operates the tank will need to source ethylene and other terminals will see a high utilisation rate during the maintenance period. Imports will still be available from the US, north Africa and Saudi Arabia where a sales tender for ethylene has been issued to traders for late January, despite the restart of a PE unit, but ships will need to be smaller and vetted.

Cold weather and the cut-off of Russian natural gas flows via Ukraine into Europe have also increased European gas prices, in turn increasing producer costs. But the market has been prepared for the cut-off and price rises have been moderate, despite a higher-than-forecast stock-draw, and no higher than in a cold snap at the end of 2023. Higher gas prices and the need to ensure supplies are secured could be limiting the ethane extracted from some European sources. Higher gas prices could become more embedded as Europe tries to replenish stocks in the warmer months.

Western Europe prices

	Timing	Low	High	Mid
Ethylene				
Contract MCP €/t	Jan			1,205.00
Contract MCP €/t	Dec			1,205.00
Contract MCP €/t	Nov			1,212.50
NWE pipeline spot, del €/t		820.0	855.0	837.5
Med spot, cif $/t		775.0	840.0	807.5
NWE spot, cif $/t		800.0	840.0	820.0
Related assessments, del NEW				
EG fiber grade contract €/t	Nov			775.00
EG fiber grade contract €/t	Oct			760.00
EG fiber grade contract €/t	Sep			780.00
Polymers, 3 Jan				
LDPE liner film €/t	Dec			1,540.0
LLDPE butene-1 film €/t	Dec			1,365.0
HDPE blow mold HIC €/t	Dec			1,305.0
HDPE injection mold €/t	Dec			1,295.0
HDPE HMW film €/t	Dec			1,335.0
S-PVC pipe €/t	Dec			1,121.0

Western Europe feedstock prices

	Price	Diff to previous month
Naphtha para 65 cif NWE barge averages (€/t)		
Jan (Month-to-Date)	629	+45
Dec	584	-3
Nov	587	-7

Cracker margins have been squeezed by the higher gas prices and an increase in North Sea Dated crude oil prices since the January ethylene contract prices (MCP) settled at a rollover. Spot prices reflect this with discounts to the monthly CP of 30pc on the pipeline and a notional discount of 32-35pc for cif ARA, although no deals have been confirmed. Prices in the Mediterranean are at a similar range to northwest Europe. If feedstock and gas prices remain as they are, producers will be more reluctant to increase operating rates for spot opportunities as the month progresses. Although producers with feedstock flexibility into LPG or ethane will have more margin to play with.

There is little to report operationally as crackers with unplanned operational issues in December in the Netherlands, Germany, north Africa and France have all restarted. Plants that have been offline for a longer period to manage market length in Germany and Iberia remain offline, as does a UK unit

EUROPE

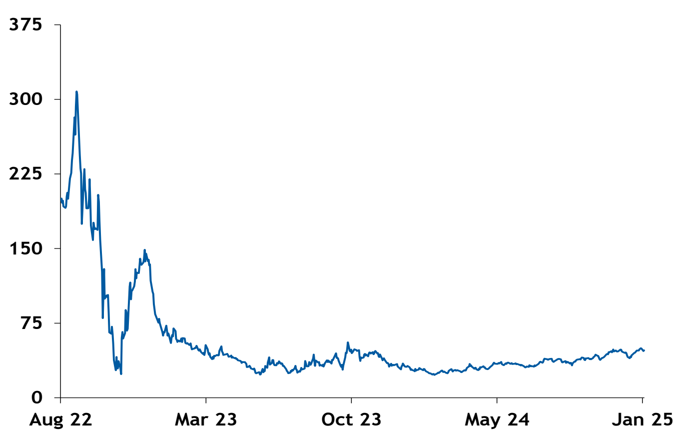
were the likely restart has been pushed back further. Strike action, which had restricted access to the Eastern France ethylene pipeline, by the CGT union against the management of Vencorex in southwest France appears to have been resolved. This should allow crackers and derivative producers in the area to return to normal operations and restock. Strike action has also been threatened in Antwerp, but the workers are considering a revised offer and so the imminent likelihood of a strike averted.

There is little indication yet of PE demand in January. Contractual offtake would have mainly been placed before the holiday at the low end of the volume range and buyers may need more but will wait for a week or two before committing. Producers will increase rates gradually to at least get their own stock back to an operational level. CPs will not be settled for a few weeks but producers intend to raise prices despite the rollover to the ethylene CP. If feedstock prices remain elevated compared with December, buyers might be willing to increase order intake in January, but it is still too early to say.

A cold January feeds through to low PVC order intake. Most constructions sites will still be shut down and the weather could further delay restarts. Producers will be building stocks in readiness for the spring peak but will remain wary. Plants in France which had been impacted by the Vencorex strike will want to catch up, while another French plant that has made a major chlorine investment is preparing to restart, although it will continue to toll some EDC to PVC for a US producer. PVC demand into the auto sector remains constrained and will be further reduced with the closure of an Audi car plant in Belgium and a likely closure in Germany.

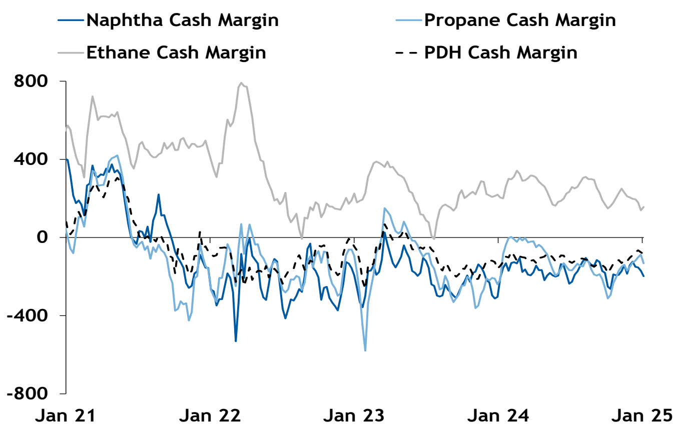
The European monthly contract price for monoethylene glycol (MEG) fully settled at €762.50/t del for December, down from €775/t del in November. The decrease was driven by lower upstream ethylene costs for the month and slower demand for MEG in the European market in December compared with November. The initial settlement for December emerged in the first half of the month but was only confirmed by a second seller-buyer pair on 2 January. Demand for MEG into PET is seasonally limited but cold weather across Europe will support the de-icer segment.

Natural gas TTF day-ahead, London close *€/MWh*

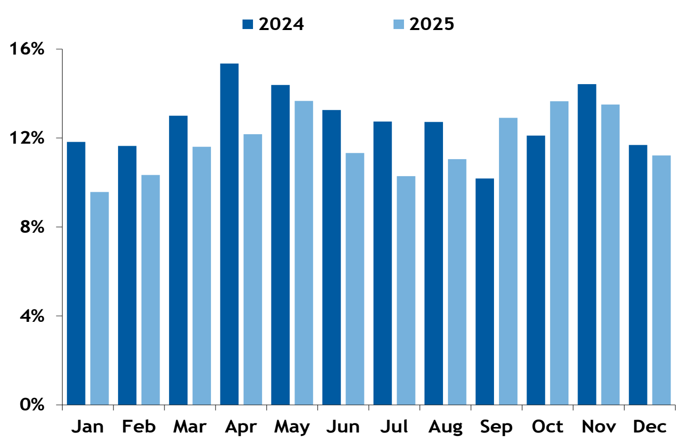


ASIA-PACIFIC

Feedstock cash margin comparison　$/t



Asia ethylene capacity loss 2025 vs 2024　%



Asia-Pacific prices					$/t
	Timing	Low	High	Mid	±
Ethylene					
Taiwan contract	Oct			930	-1
Taiwan contract	Sep			931	-1
Taiwan contract	Aug			943	-1
Southeast Asia spot, cfr		910	930	920	0
Northeast Asia spot, cfr		860	880	870	0
Northeast Asia spot, fob		825	855	840	0
China domestic truck ex-tank		885	909	897	-14
Sinopec east China truck ex-tank				909	-15
Related assessments					
MEG spot weekly cfr China		550	563	557	10
SM spot weekly cfr China		980	1,015	998	-35
EDC cfr Asia	Dec	300	310	305	40
Polymer assessments, cfr, 3 Jan					
LDPE liner film, CMP		1,120	1,150	1,135	-8
LLDPE butene-1 film, CMP		925	960	943	-5
HDPE injection mold, CMP		840	900	870	0
HDPE film, CMP		870	920	895	0
S-PVC pipe cfr China		670	740	705	0

Upstream and cracker margins

Crackers margin inched lower because of higher feedstock costs. Naphtha prices rose to an average of $665/t cfr Japan this week, up by $25/t compared with two weeks ago. Propane prices climbed to an average of $622/t cfr Japan, up by $24/t compared with two weeks ago. Naphtha cracker margin dropped to -198/t this week, down by $45/t. Propane cracker margin was also lower at -$132/t, down by $31/t compared with two weeks ago.

Production losses for ethylene in December closed at 11.7pc, up by 0.5 percentage points compared with initial forecast because of the extension maintenance at Huatai Shengfu's cracker and shutdown at Zhejiang Xingxing's MTO unit. Production losses for January 2025 is expected to be at 9.6pc. Most crackers will continue to run at reduced rates because of margin concerns. Upcoming plants turnaround includes YNCC No.2 cracker from mid of February to end March and a 10-day maintenance at Ningbo Fund's MTO unit in February.

Ethylene

Deals and discussions:

- Tradable range: $5-10/t premiums to cfr northeast Asia assessments on a cfr China main ports basis for end January/February arrivals.
- Buying idea: $860-870/t cfr China main ports, end January/February arrivals.

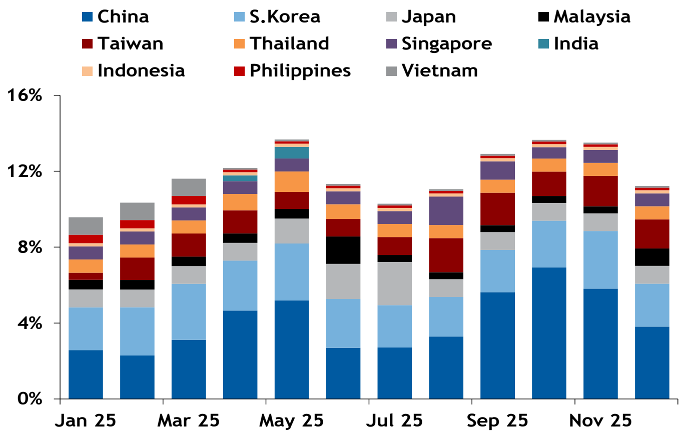
Asia ethylene prices in the northeast Asia market remained stable this week because of limited discussions.

Most of the discussions were based on a floating price. Quotations for premium discussions on a cfr China basis for main ports were at $5-10/t to cfr northeast Asia assessments for end January/February arrivals cargoes. For fixed price discussions, buying ideas were at $860-870/t cfr China for main ports.

In east China, Wanhua issued a tender to buy for a cargo

ASIA-PACIFIC

Asia ethylene capacity loss 2025 by countries %



Outages			
Shutdown	Plant	KTA	Duration
Restarted			
Sinopec SK Wuhan	Cracker	1,100	10Oct-8Dec
Shandong Luxi Chemical	CTO	130	endNov-midDec
Idemitsu Kosan Tokyuama	Cracker	623	9Aug-earlyDec
Huatai Shengfu	Cracker	600 to 850	10Oct-2Jan
Fujian Refinery & Petrochemical	Cracker	1,100	1Nov-22Dec, 52days
Ongoing			
Formosa No.2	Cracker	1,035	1Aug, restart unclear
PTTGC I1	Cracker	461	earlyOct, 3mths
Long Son Petrochemical	Cracker	1,000	endOct, likely 6mths
JG Summit	Cracker	480	lateDec-endQ12025
Zhejiang Xingxing	MTO	300	lateDec, 1mth
Lotte Titan No.1	Cracker	290	15Dec24, restart unclear
Sinopec Shanghai	Cracker	300	3Sep23-1Apr25
Expected			
YNCC No.2	Cracker	915	midFeb-endMar
Ningbo Fund	MTO	300	Feb, 10days
New plants			
Ineos Tianjin Nangang	Cracker	1,200	Onspec 1H Nov
Shandong Yulongdao	Cracker	1,500	Onspec in mid Dec
Shandong Chambroad	KCOT	200-300	late 2024, delayed

scheduled to arrive in February on a cfr China basis on 7 January, with the requirement for bids to be submitted by 8 January. Wanhua aims to start up its new 300,000 t/yr linear density polyethylene and 300,000 t/yr ethylene oxide units by the second half of January, highlighting the need to procure spot ethylene.

Apart from Wanhua's a tender to buy, key buyers in China, including those along the Yangtze River, are mostly importing on a need-to basis. Main buyers in Tianjin, Qingdao and south China are likely not buying currently as a result of upcoming downstream turnarounds and reduced downstream operating rates, market participants said.

Participants anticipate that supplies might decrease for February arrival cargoes as a result of the current congestion at Yeosu port in South Korea. Daesan port is also closed from 7-10 January because of bad weather, causing delays in olefins loading. A key trader anticipated that premium discussions might rise to above $10 s/t level on a cfr China basis for February loading cargoes as a result of ports issues.

In the domestic China market, prices were on a downward trend this week as demand decreased ahead of Lunar New Year holiday. Buyers were only purchasing ethylene on a need-to basis and truck-based ethylene prices fell to 7,400-7,600 yuan/t this week, down by Yn87.5/t compared with last week. Sinopec also lowered its list price to Yn7,600/t, down by Yn100/t.

Supplies are also increasing in the domestic Chinese market. Huatai Shengfu restarted its 850,000 t/yr cracker after completing maintenance in early January. Shandong Yulongdao and Tianjin Nangang were also heard to be offering ethylene supplies in the domestic market after successfully starting up their respective crackers late last year, market participants say.

Selected term negotiations in the fob South Korea market are likely to be completed soon, but prices were not immediately confirmed. For cfr China main port, term negotiations for key producers were possibly concluded at $5-10/t premiums to cfr northeast Asia assessments. For downstream producer along the Yangtze river, a key buyer concluded term contracts at $20-25/t premiums to cfr northeast Asia assessments on a cfr China basis.

There have been more tenders from Petronas's PRefChem since late December. A 5,000t ethylene cargo for 4-5 January loading was likely sold to a key buyer in Qinzhou in late December. Another tender also emerged for 10-11 January loading for a 3,000-5,000t ethylene cargo late last week. The pricing levels for both the sell tenders could not be confirmed. The excess supplies from PRefChem could be because of the shutdown of its ethylene glycol unit since the second half of December.

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Some sellers quoted selling ideas in the fob southeast Asia market at low-$800 s/t this week, which is also equivalent to low-$900s/t cfr southeast Asia after factoring in a $100s/t intra-regional freight rate among southeast Asia countries. No deals were concluded this week. The cfr southeast Asia prices remained stable at $910-930/t this week.

Polyethylene (PE)

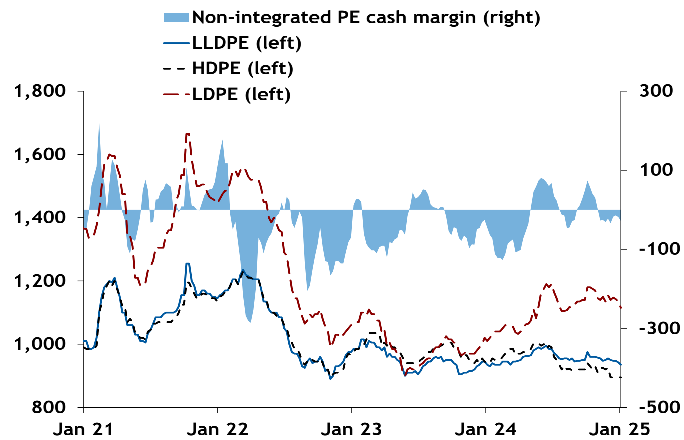
China's linear low density-polyethylene (LLDPE) main contract futures declined sharply this week from closing price of 8,083 yuan/t in last Friday to around Yn7,850/t as of 8 January, which was around Yn1,000/t lower than physical prices. Physical cargoes' high premium against futures gave traders great opportunities to do hedging by shorting physical LLDPE and longing futures. Some traders directly oversold physical cargos without longing futures as protection. These cargoes were generally sold at a premium of around Yn300/t against main contract, equal to around Yn8,100-8,200/t, and would be delivered before late May. End-users were inspired to restock by the deep discount though they can only be delivered several month later.

Spot cargoes, which could be delivered in around 5 days, faced increasing pressure as more cargoes from new plants were flowing into market. Market expected their tightness in the previous month would be eased gradually. Transaction for those spot cargos were limited by high prices.

Spot LLDPE prices withdrew to Yn8,750-9,300/t ex-works in east China, down by Yn50/t. Low density-polyethylene (LDPE) prices dropped by Yn75/t to Yn10,100-10,400/t ex-works in east China. High density-polyethylene (HDPE) film prices went down by Yn50/t to Yn7,700-8,250/t. Import hexene metallocene linear low-density polyethylene (mLLDPE) prices rolled over at Yn9,300-10,000/t ex-works in east China.

Middle Eastern-origin LLDPE was offered at $920/t cif China, loading in late January. Another Middle Eastern-origin LLDPE was sold at $950/t cif China, loading in late January or February. US-origin LLDPE was transacted at $930/t cif China, loading in February. After factoring into other deals among traders, negotiations of LLDPE ranged between $920-950/t cfr China, down by $5/t from last week. Singapore-origin mLLDPE with zero duty was offered at $1,180/t cif China. Considering domestic deals, negotiations of duty free hexene mLLDPE ranged between $1,105-1,190/t cfr China, down by $8/t, and workable level for hexene mLLDPE with 6.5pc duty ranged between $1,040-1,120/t cfr China, down by $5/t.

Asia non-integrated PE cash margin *$/t*



Northeastern Asian-origin LDPE was transacted at around $1,090-1,100/t cif China, loading in February. Middle Eastern-origin LDPE was sold at $1,130 /t cif China, loading in late January. Another Middle Eastern producer offered its LDPE at $1,110 /t cif China, loading in late January. Taking other deals among traders into consideration, tradeable level for LDPE was assessed at $1,090-1,140/t cfr China, down by $5/t from last week.

Middle Eastern-origin HDPE film was offered at $920/t cif China, loading in late January. Another Middle Eastern producer sold its HDPE film at $915/t cif China, loading in January or February. Taking other deals among traders into consideration, workable level for HDPE was assessed at $870-920/t cfr China, flat with last session.

Sinopec-SK Wuhan Petrochemical restarted its three Polyethylene plants early this week, including two 300,000 t/yr HDPE units and one 300,000 t/yr LLDPE unit after around three-month of maintenance. Sinopec SABIC Tianjin also brought back its 300,000 t/yr LLDPE unit online early this week after a 20-day long of maintenance. Sinopec Yanshan Petrochemical shut its 200,000 t/yr LDPE unit for a short maintenance.

Average operating rates at Chinese PE plants remained at 90pc. Major Chinese PE and polypropylene producers' inventories slightly went to 580,000t on 8 January, up by 10pc from 31 December 2024. The major producers' inventories were 19pc lower year-on-year.

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Ethylene oxide (EO)

Chinese EO prices remained unchanged this week as supply and demand stayed stable. Ex-tank prices in East China stayed flat at 7,000 yuan/t.

However, the market will be weighed down by the declining demand for water-reducing agents with the arrival of the lunar new year holidays, and by increasing supply as Wanhua Chemical's new 300,000 t/yr EO unit is planned to be operational in late January.

Operating rates among EO producers in China were estimated to be 1pc higher at 64pc compared with the previous session. Sinopec SK Wuhan's 210,000 t/yr EO united returned to production this week after completing a three month of planned turnarounds.

EO demand in the ethanolamine remained weak since last year due to severe oversupply in ethanolamine market. In December 2024, the Brazilian Secretariat of Foreign Trade announced to initiate an anti-dumping investigation on ethanolamine imported from China. Brazil is China's third-largest export destination for ethanolamine, with 8,660 tons exported to Brazil from January to November 2024, accounting for 14pc of China's total exports. Although market participants believed that Brazil's anti-dumping investigation will not significantly impact China's ethanolamine market, it still reflects the significant low prices and overall profit margins in the industry caused by oversupply.

As a result of declining feedstock domestic ethylene prices, the production margin for non-integrated EO producers using domestic ethylene rose to -$3/t, an increase of $16/t compared with end December. For producers using imported ethylene, the production margin decreased by $1 to $19 this week.

Styrene monomer (SM)

Asian styrene monomer (SM) prices saw slight downturns amid cooling upstream benzene prices and high supply expectations.

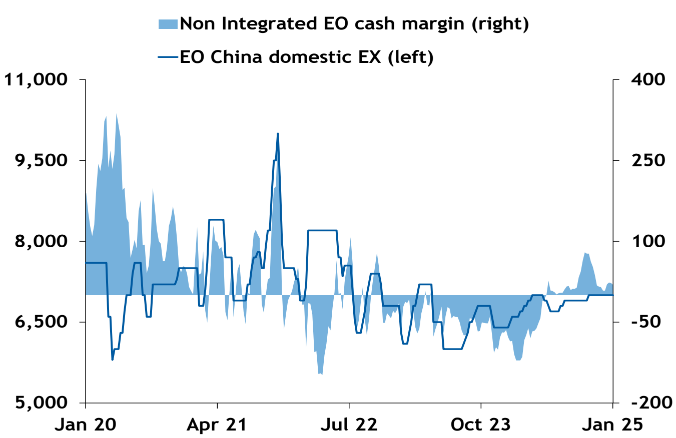
The *Argus* Asia SM market averaged $997/t cfr China during the first three days of the week, down slightly from an average of $999/t over the previous week. Domestic Chinese SM prices fell slightly by 6 yuan/t to an average of Yn8,340/t during the first three days of the week, equivalent to an import parity of $988/t.

This represented a $9/t discount to published cfr China assessments and a drop of around $17/t compared with the previous week's average.

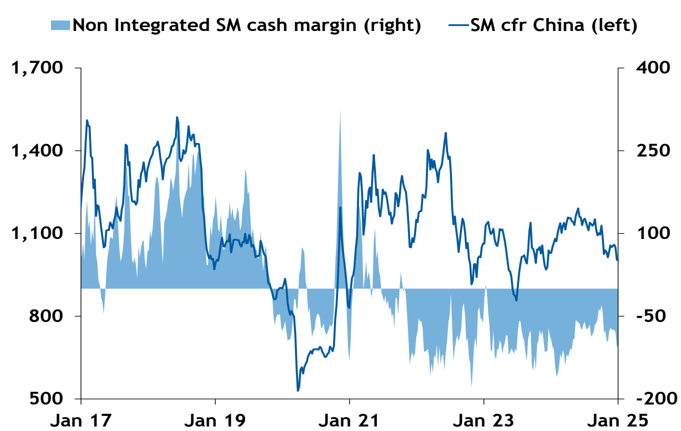
Losses in the Chinese market led price downturns amid demand projections softened ahead of the Lunar New Year holidays. Chinese Ethylbenzene futures tumbled this week despite low SM inventory levels at east China ports as an expected pre-holiday stock buildup weighed on prices. Production at China's SM plants typically continue despite production halts at downstream styrenics plants, sources shared, leading to high feedstock inventories post-holiday.

In the spot market, higher-than-expected cfr China bids at the start of the week cushioned week-on-week price downturns, but the price floor could not hold amid an overall bearish market complexion. Trade sources noted that low upstream

China EO non-integrated cash margin $/t



NEA SM non integrated cash margin $/t



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benzene prices and greater supply expectations kept a lid on prices, while continued uncertainties regarding trade tariffs ahead of the new US administration also tampered downstream sales expectations in the region. Chinese prompt spot supplies are also higher than usual as a recently commissioned SM plant in China was discussed to be selling off feedstock SM before its associated acrylonitrile butadiene styrene (ABS) commissions in Q2-2025.

At the turn of the year, average Chinese polystyrene operation rates were at around 63pc, with production rates for Chinese expanded polystyrene and acrylonitrile butadiene styrene at around 42pc and 74pc respectively, according to market sources. SM production margins averaged $62.90/t so far this week, compared with last week's average of $55.19/t.

Market fundamentals were more bullish elsewhere in Northeast Asia. In South Korea, cfr prices rose to around flat to $23/t premiums to assessed cfr China assessments as buying appetite from styrenics producers improved after turnarounds in Q4-2025, with one major buyer expected to procure around 15,000-18,000t of SM for February. A tightening of South Korean and Taiwanese production also supported prices. Hanwha TotalEnergies Petrochemical expected to keep its 450,000 t/yr No. 1 SM unit in Daesan, South Korea offline in 2025, according to market sources. Meanwhile, Taiwan's Formosa Chemicals and Fibre Corporation is also halting production at its 250,000 y/yr No. 1 SM unit in Mailiao, Taiwan, although the company has recommissioned its 350,000 t/yr no. 2 SM unit this week after a planned maintenance that started in mid-October 2024. SM operation rates have generally been low due to profitability issues, with some northeast Asian producers discussed to be running at below 50pc capacity.

Market participants are currently monitoring arbitrage possibilities to South Asia. SM prices have been firming in India as lower term volumes for 2025 led to increased spot buying, buoying import prices. Domestic prices. Cfr India prices rose from $10/t premiums to published cfr China assessments in December to around $30-40/t premium levels this week, sources shared. Regional traders noted that arbitrage prospects are still slim considering prevailing freight rates, although protracted production issues in the middle East could widen interregional price spreads in the near-term.

Selected downstream outages

Shutdown	Plant	KTA	Duration
Formosa Chemical and Fibre	SM	600	midOct, 45 days
Ningbo Keyuan	SM	150	earlyJun, restart unclear
Tianjin Bohua	SM	450	25Jun, restart unclear
Xuyang Petrochemical	SM	300	midNov, 10days
SP Chemical	SM	320	25Nov, 1 mth
Zhejiang Petrochemical	SM	1,800	27Oct-19Nov
Huatai Shengfu	SM	450	10Oct, 2mths
Ningbo Daxie	SM	360	10Oct, 2mths
Anhui Jiaxi New Material	SM	350	20Nov, 15 days
Qingdao Refinery	SM	80	21Nov, few days
Sinopec Zhenhai No.2	EO/EG	200/800	16Mar24, restart unclear
Sinopec SK Wuhan	EO	210	endSep-2 Jan 25
OUCC Yangzhou	EO	170	earlyOct-earlyNov
Fujian Refining & Chemical	EO	180	13Oct, 18 Dec 24
Jiangsu Jurong	EO	260	15Oct, 25days
Shenghong Petrochemical	EO	100	4Dec, 12 Dec 24
Sinope Maoming	EO	300	3-11Dec
LG Bohai Chemical	PVC	400	2Nov, 7-10 days
Guangxi Huayi	PVC	400	18Nov, 6 days
Ningbo Zhenyang	PVC	150	27Nov, 3-5 days
Ningbo Hanwha	PVC	400	8 - 23 Dec
Sinopec Qilu	PVC	360	23 Dec 2023 - 17 Aug 2024, half restarted
Jvlong Chemical	PVC	400	Running at low rate of around 30pc
Guangxi Huayi	PVC	400	mid-Feb for one month
Ningbo Oceanking	PVC	300	Feb for one month
Shenghong Petrochemical	PO/SM	200/450	midSep
Shenghong Petrochemical	EVA	200	earlyNov
Wanhua Chemical	EO	300	Target startup in 2HJan
Wanhua Chemical	LDPE	300	Target startup in 2HJan

Polyvinyl chloride (PVC)

Domestic PVC prices were on a downward trend with abundant supply over waned demand. Import price rolled over in the absence of fresh offers.

PVC futures fell after an earlier steadiness, mainly suppressed by ample supply attributed to high operating rates at PVC producers. And downstream demand was in a seasonal lull and downstream operating rates were expected to drop in the second half of January because of the upcoming lunar new year. Average operating rates downstream converters were 45pc, up by one percentage point from previous week.

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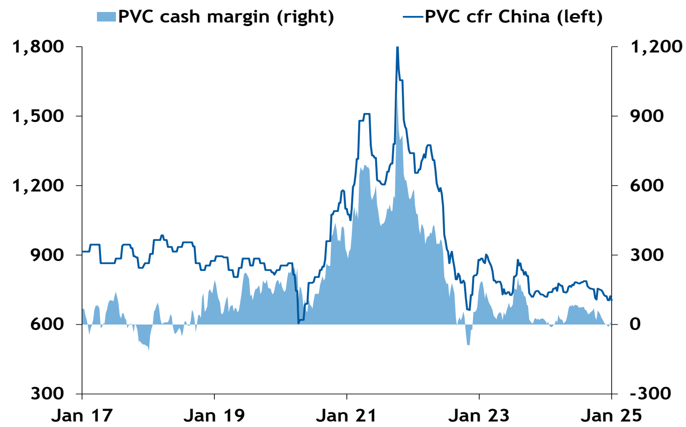
Meanwhile, the decreasing feedstock costs also contributed to lower spot prices.

Ex-works prices for carbide-based PVC ranged between 4,800-5,000 yuan/t this week, down by Yn100/t from last week. Ethylene-based PVC prices were noted between Yn4,950-5,700 yuan/t ex-works, down by Yn55/t on the previous week.

Exports remained active as India came out to restock because of extension of Bureau of Indian Standards (BIS) quality controls on import PVC from 24 December 2024 to 24 June 2025. Offers for carbide-based PVC exports were noted at $615-622/t fob China, with deals concluded at $610-620/t fob China, $10/t lower than the previous range. Ethylene-based PVC exports were offered at $635-655/t fob China, with transactions concluded at this price level, unchanged from last week. Traded cargoes were mainly destined to India and southeast Asia. Freight costs from northern China into Vietnam were at $45-48/t, to India were at $90-95/t this week, largely stable from the ones in December 2024.

Average PVC production rates were at 80pc this week, the same as previous week. Carbide-based PVC production was noted running at an average of 81pc, up by one percentage point from last week, resulting from Shaanxi Jintai resumed production at 300,000t/yr PVC plant on 2 January.

Asia non-integrated PVC cash margin *$/t*



The average operating rates at ethylene-based PVC plants were noted at 79pc, unchanged from previous week. As for production front, Guangxi Huayi is going to have one-month maintenance starting from mid-February. Zhejiang Oceanking will conduct planned maintenance for one month in February.

Import price rolled over in the absence of fresh offers. And the majority of domestic ethylene-based producers held their prices steady. The workable price level for import PVC into China at $670-740/t cfr China, unchanged from last week.

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