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S&P Global

Commodity Insights

## Globalization of butadiene trading and its impact on Asia market

- Asia butadiene under pressure on deepsea supplies
- Outlook of China exports: Chinese suppliers accelerate exports?
- Prospect of Asia's naphtha cracker operations in 2024

Fumiko Dobashi

Senior Editor

Asia Chemicals

S&P Global Commodity Insights

May 2024

14:00 - 17:00 **Committee - 5: Synthetic Rubber**

**Chairman:**

Synthetic Rubbers & Butadiene – Untangling the Two Markets

*Ann Sun, Senior Analyst, ICIS*

How to survive the high butadiene feedstock cost era

*Fumiko Dobashi, Senior Editor, Petrochemicals Asia, S&P Global Commodity Insights*

Global Butadiene and Elastomer market outlook

*Anthony Song, Chemical Market Analytics*

## Key market development in APIC 2023

### Bullish

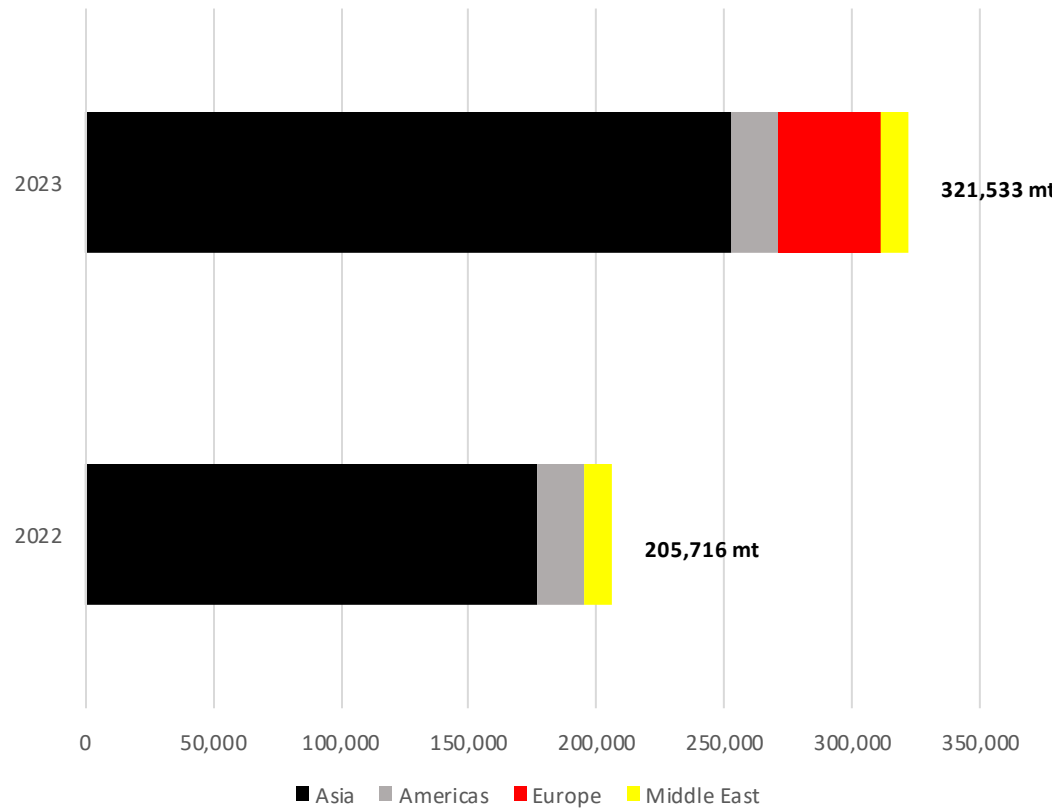
- Lower steam cracker operations since 2021
- Strong demand for ADN production in China
- Lower term contract volume in 2023 vs 2022
- Arbitrage window
- High naphtha/crude oil prices

### Bearish

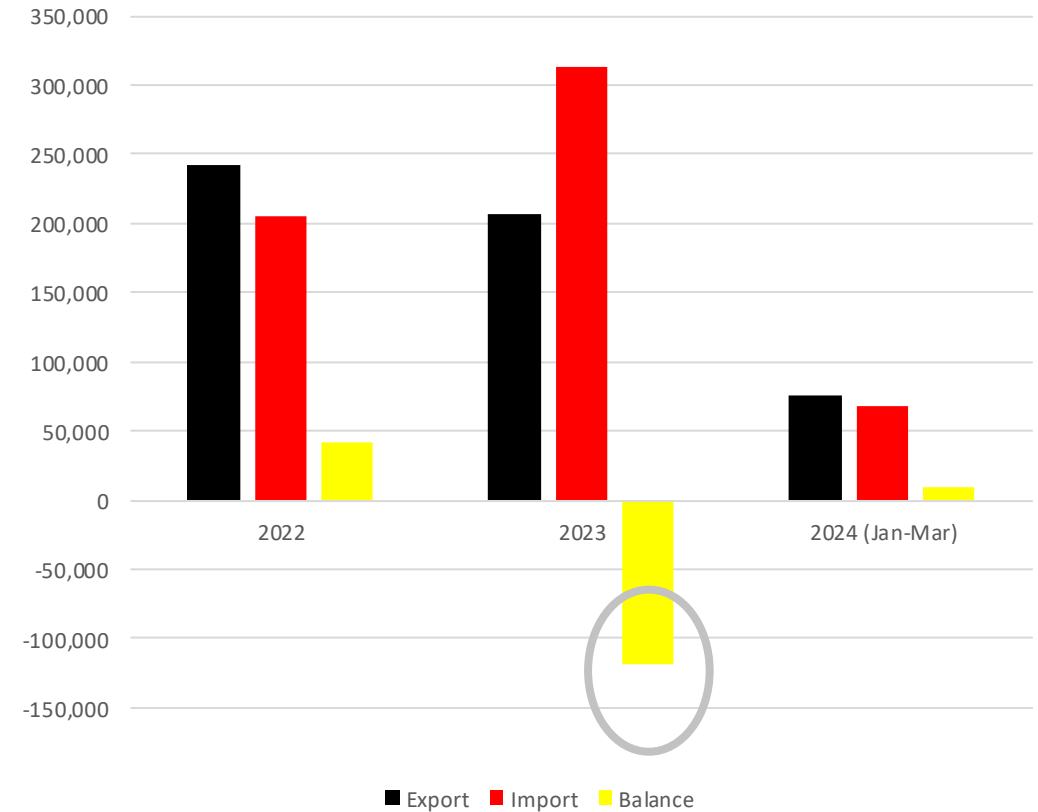
- Increasing exports from China
- Arbitrage window
- Constant supplies from SE Asia
- Lower rubber plant operations amid negative margins
- Influx of Russian SBR to Asia

# South Korea's butadiene in 2023 imports jumps to highest in two years; Trade balance turns deficit

South Korea's butadiene imports jumps in 2023 (mt)



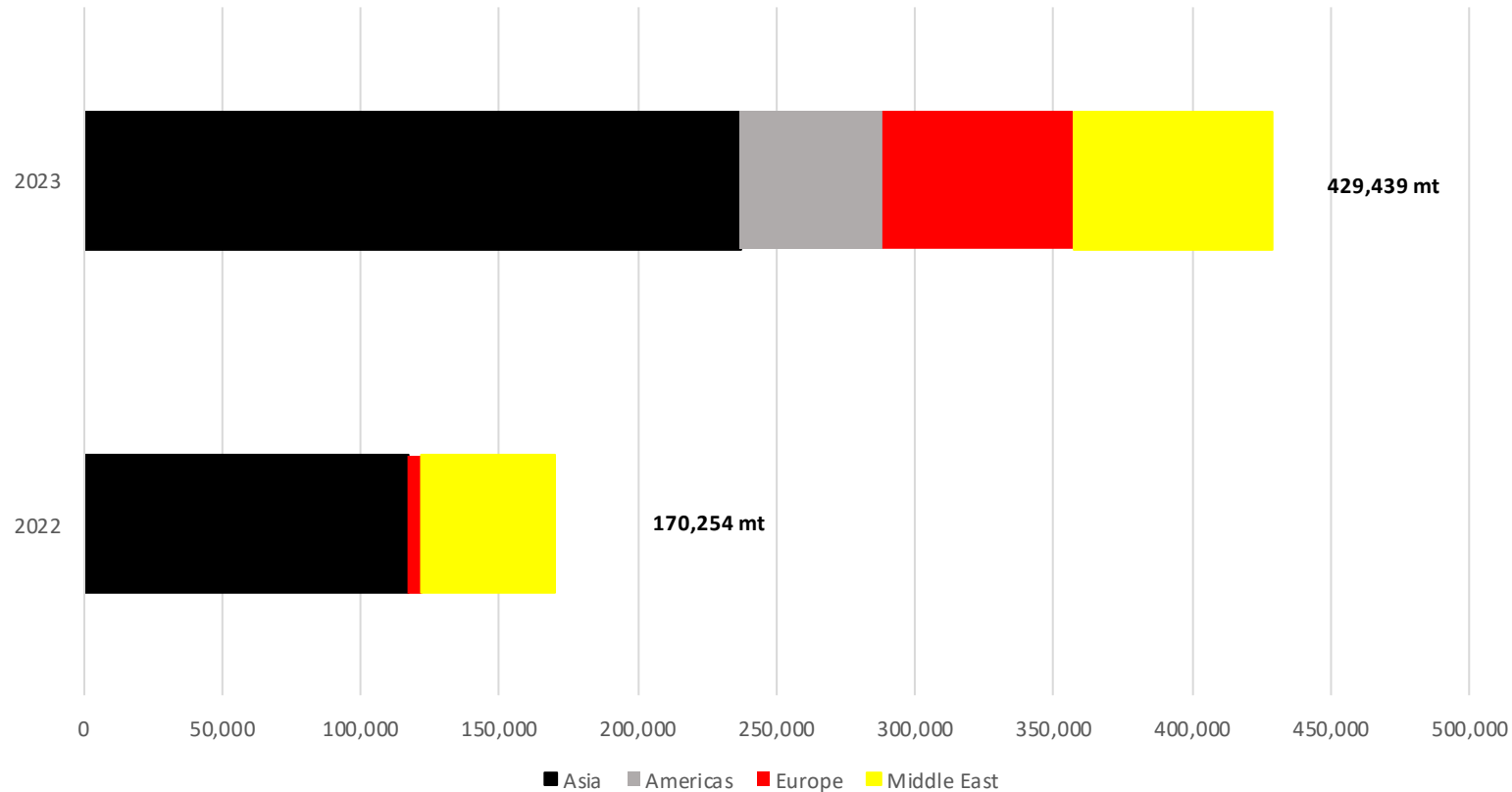
Korea's butadiene trade balance (mt)



Source: Korea Customs

# Asian butadiene: China's butadiene imports increase in 2023 amid high local China market

China's butadiene imports rise in 2023 (mt)



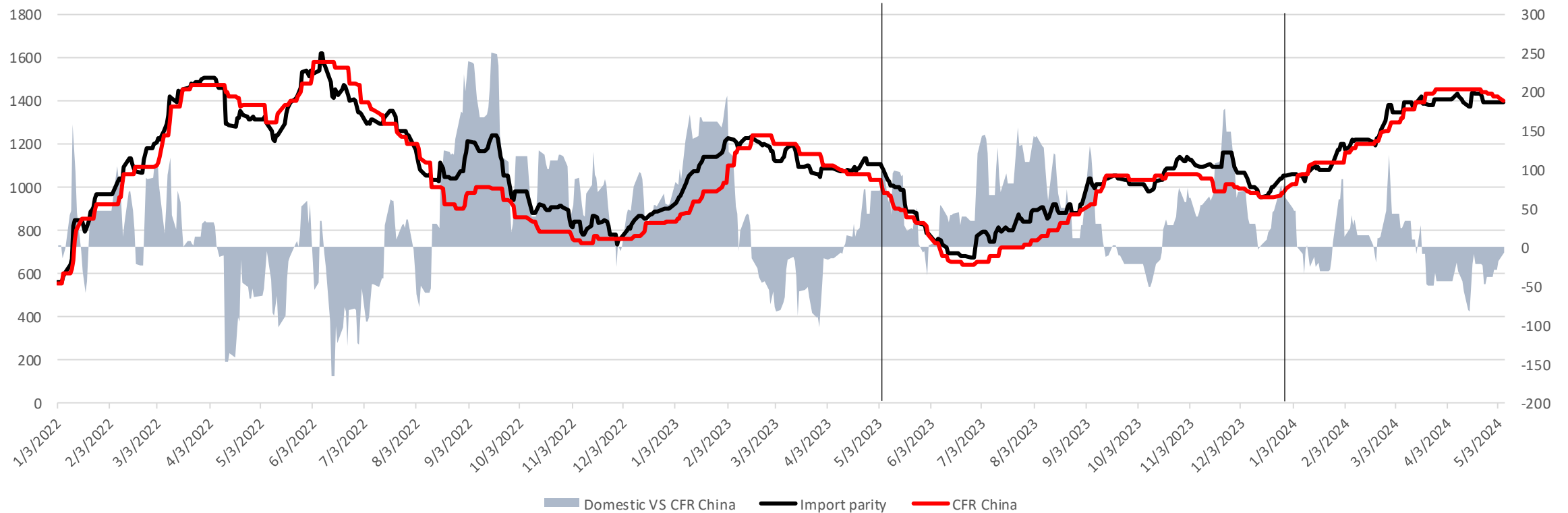
- China's butadiene imports hit the highest since 2020
- December imports hits highest since August 2020
- China's butadiene imports from Europe in December hits the highest since Jan 2021

Source: China Customs

# China butadiene: Active imports in 2023 amid higher domestic price vs CFR China

Unit: \$/mt

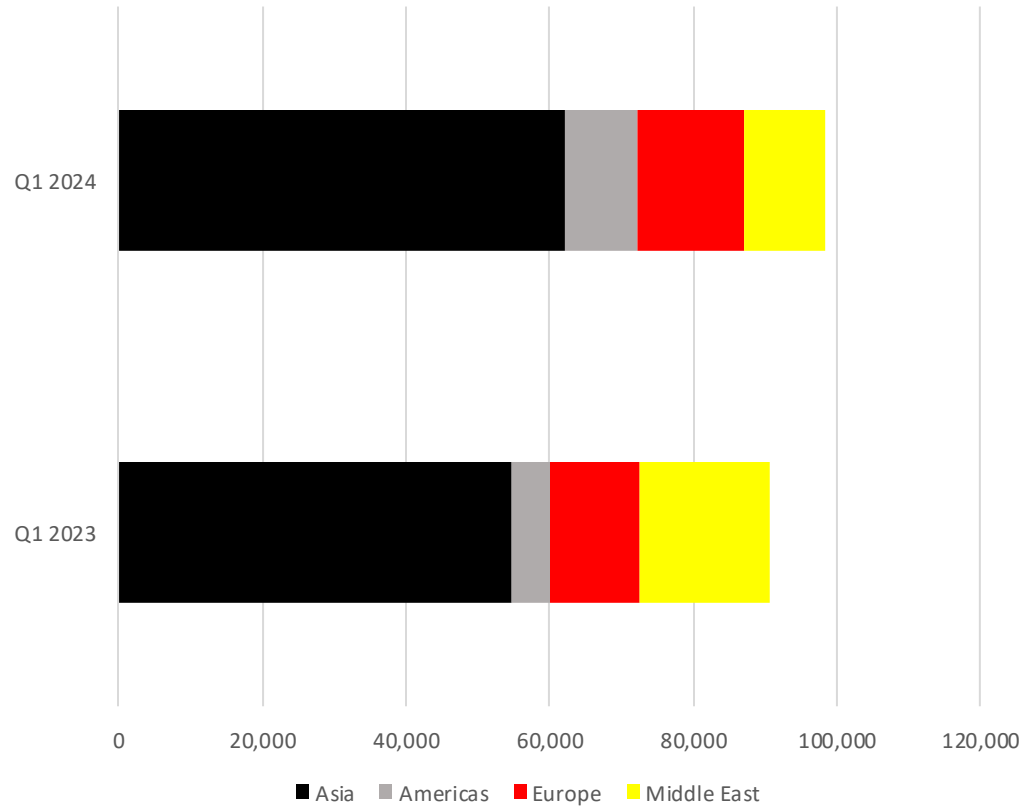
CFR China vs domestic market



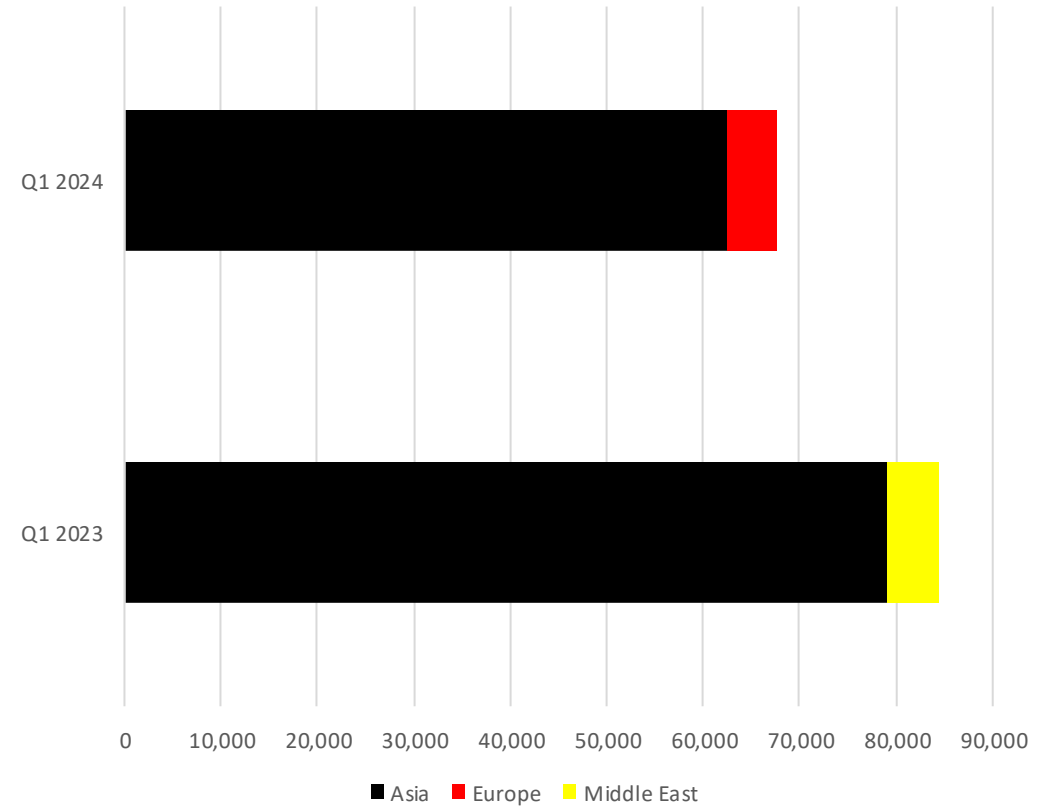
Source: S&P Global Commodity Insights

# Q1 import trend: Deepsea supplies continue but some delays were heard

### China's butadiene imports in Q1 (mt)



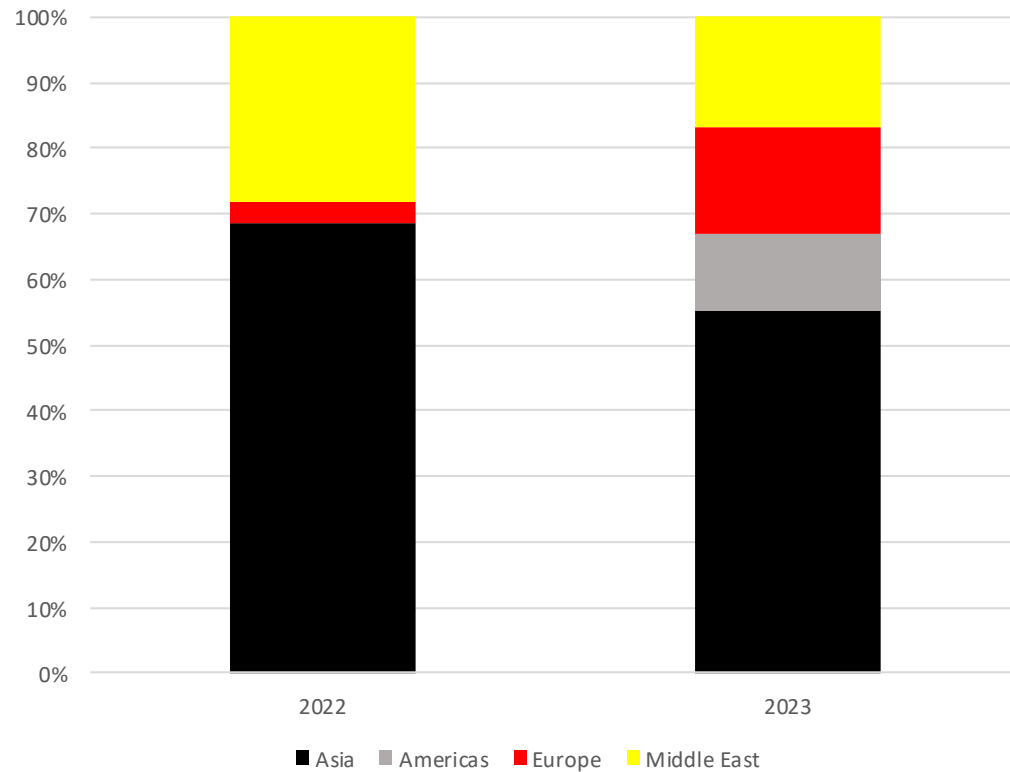
### South Korea's Q1 butadiene imports (mt)



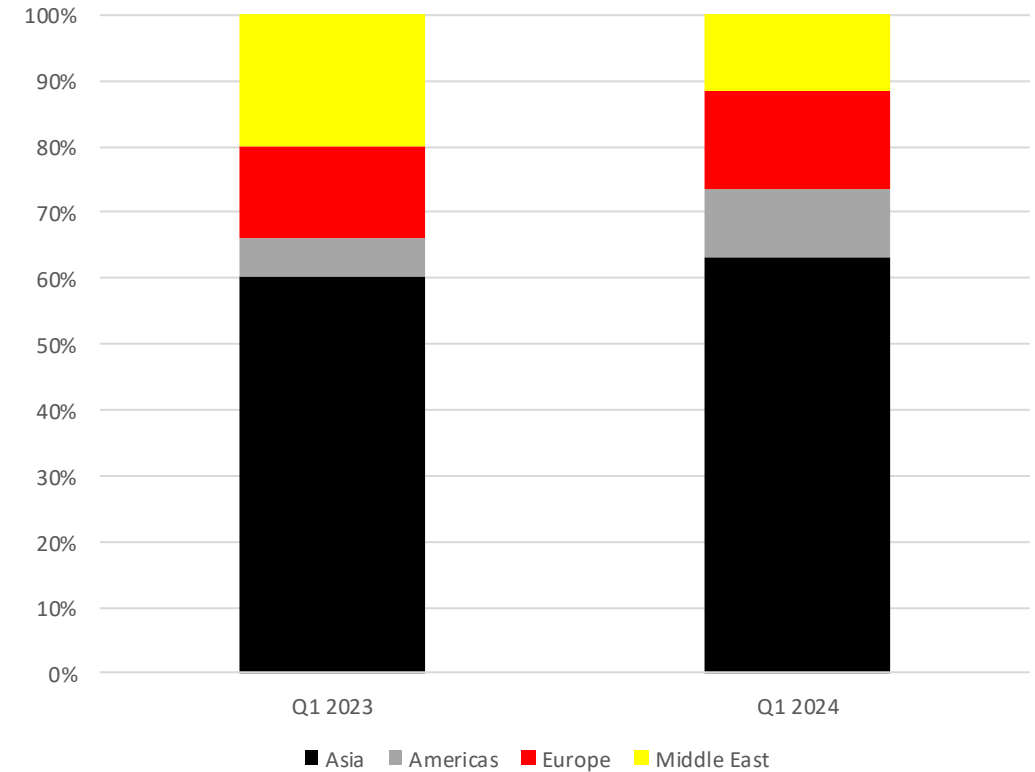
Source: China Customs, Korea Customs

# China's butadiene imports: Deepsea supplies increase in 2023

China's butadiene imports in 2023: Regional breakdown



China's butadiene imports in Q1 2024: Regional breakdown

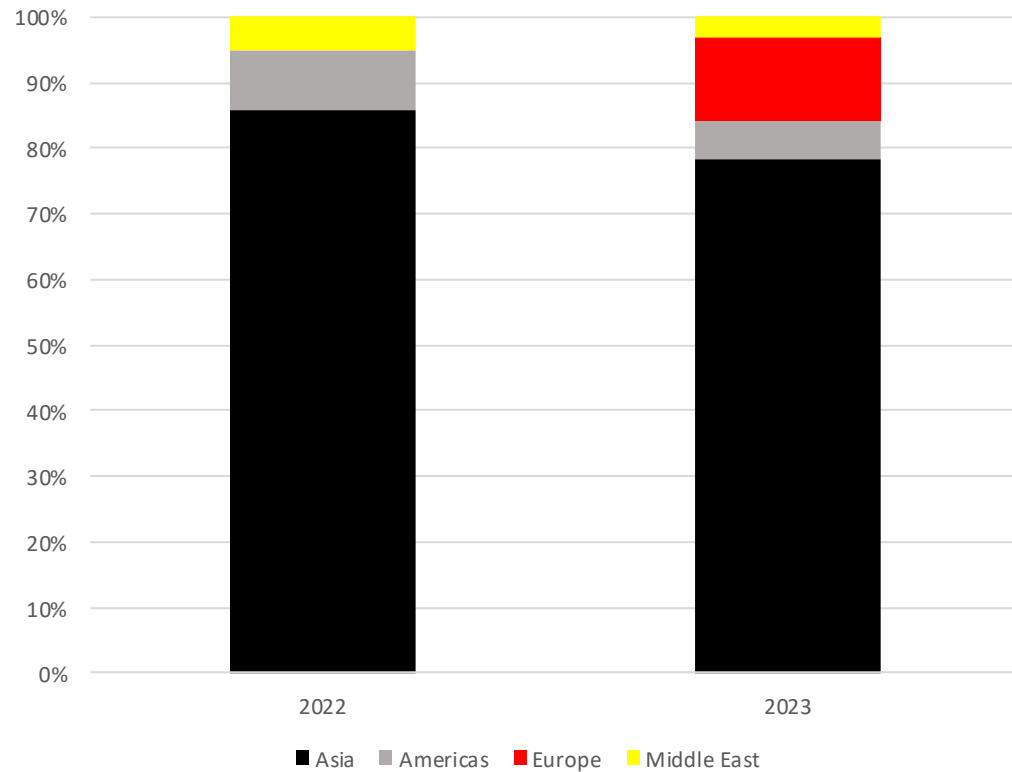


Source: China Customs

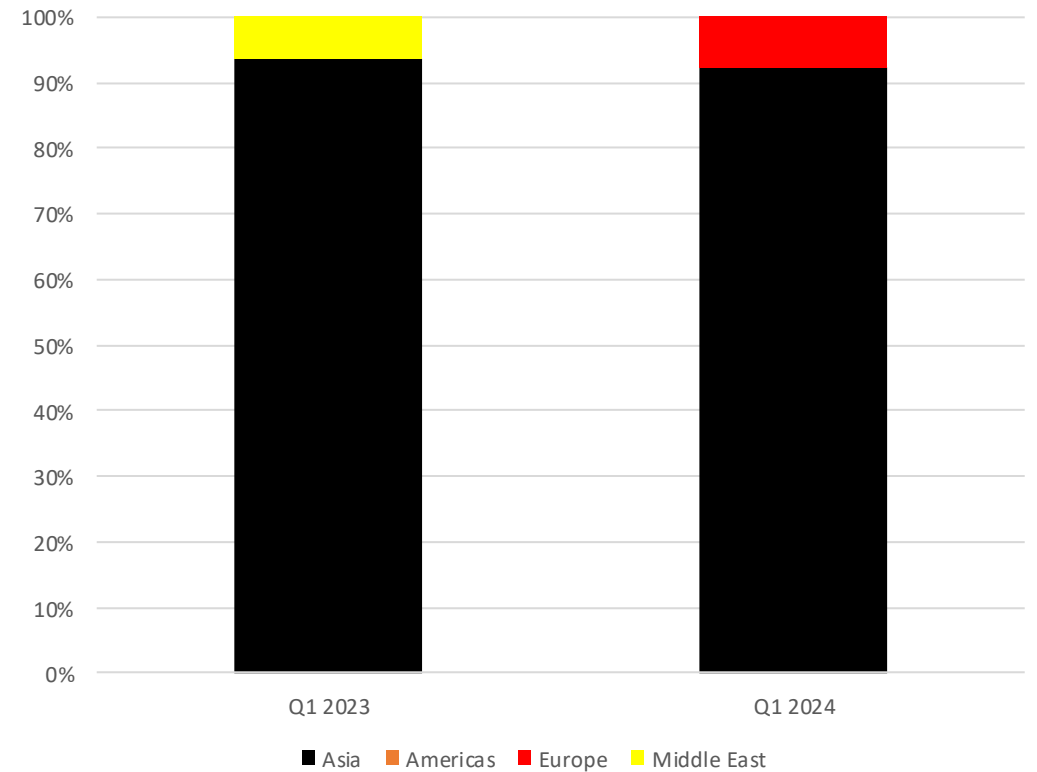


# Korea's butadiene imports: Asia origin remains dominant in 2023

South Korea's butadiene imports in 2023: Regional breakdown



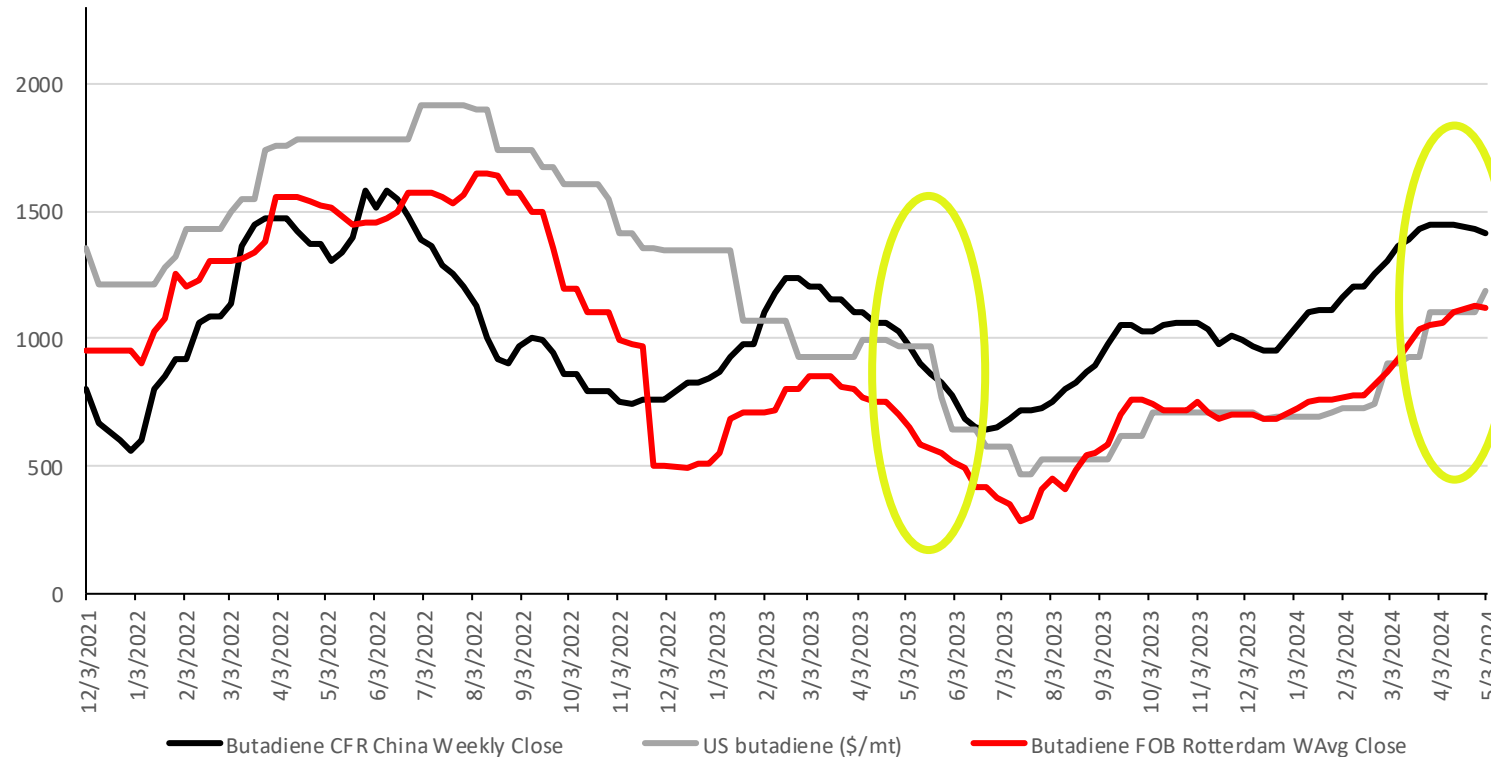
South Korea's butadiene imports in Q1 2024: Regional breakdown



Source: Korea Customs

# Global butadiene market overview: Arbitrage to Asia from Europe remain open but supplies delay due to logistics concerns

Unit: \$/mt



- Asian butadiene has been moving higher than Europe and the US
- Strong buying from endusers for import materials, particularly deepsea cargoes, amid limited Asia origin supplies due to lower steam cracker operations
- For June, around 20,000 mt deepsea cargoes to arrive to Asia
- Deepsea supplies for July maybe limited vs June

## Ex-Europe supplies to fall amid steam cracker outages

### Global Production Update

| Company         | Location                            | Product | Capacity | Timing                          | Status |
|-----------------|-------------------------------------|---------|----------|---------------------------------|--------|
| <b>Europe</b>   |                                     |         |          |                                 |        |
| TotalEnergies   | Gonfreville                         | C2      | 520      | 5/1/2024                        | UN     |
| TotalEnergies   | Gonfreville                         | C3      | 260      | 5/1/2024                        | UN     |
| TotalEnergies   | Gonfreville                         | BD      | 60       | 5/1/2024                        | UN     |
| HIP PetroHemija | Pancevo                             | C2      | 200      | May 2, 2024                     | PL     |
| HIP PetroHemija | Pancevo                             | C3      | 85       | May 2, 2024                     | PL     |
| HIP PetroHemija | Pancevo                             | CC4     | 45       | May 2, 2024                     | PL     |
| SABIC           | Geleen (Olefins 3 cracker)          | C2      | 530      | April 12, 2024                  | PS     |
| SABIC           | Geleen (Olefins 3 cracker)          | C3      | 325      | April 12, 2024                  | PS     |
| ExxonMobil      | Gravenchon                          | C2      | 425      | Targeted in 2024                | PS     |
| ExxonMobil      | Gravenchon                          | C3      | 290      | In 2024, pending govt. approval | PS     |
| LyondellBasell  | Wesseling (OM6 cracker)             | C2      | 738      | In 2024, pending govt. approval | PL     |
| LyondellBasell  | Wesseling (OM6 cracker)             | C3      | 150      | September-November 2024         | PL     |
| BASF            | Ludwigshafen                        | C2      | 650      | September-October 2024          | PL     |
| BASF            | Ludwigshafen                        | C3      | 345      | September-October 2024          | PL     |
| Evonik          | Marl                                | BD      | 220      | September 2024                  | PL     |
| BP              | Gelsenkirchen<br>(Olefin 3 cracker) | C2      | 484      | Third-quarter 2024              | PL     |
| BP              | Gelsenkirchen<br>(Olefin 3 cracker) | C3      | 310      | Third-quarter 2024              | PL     |

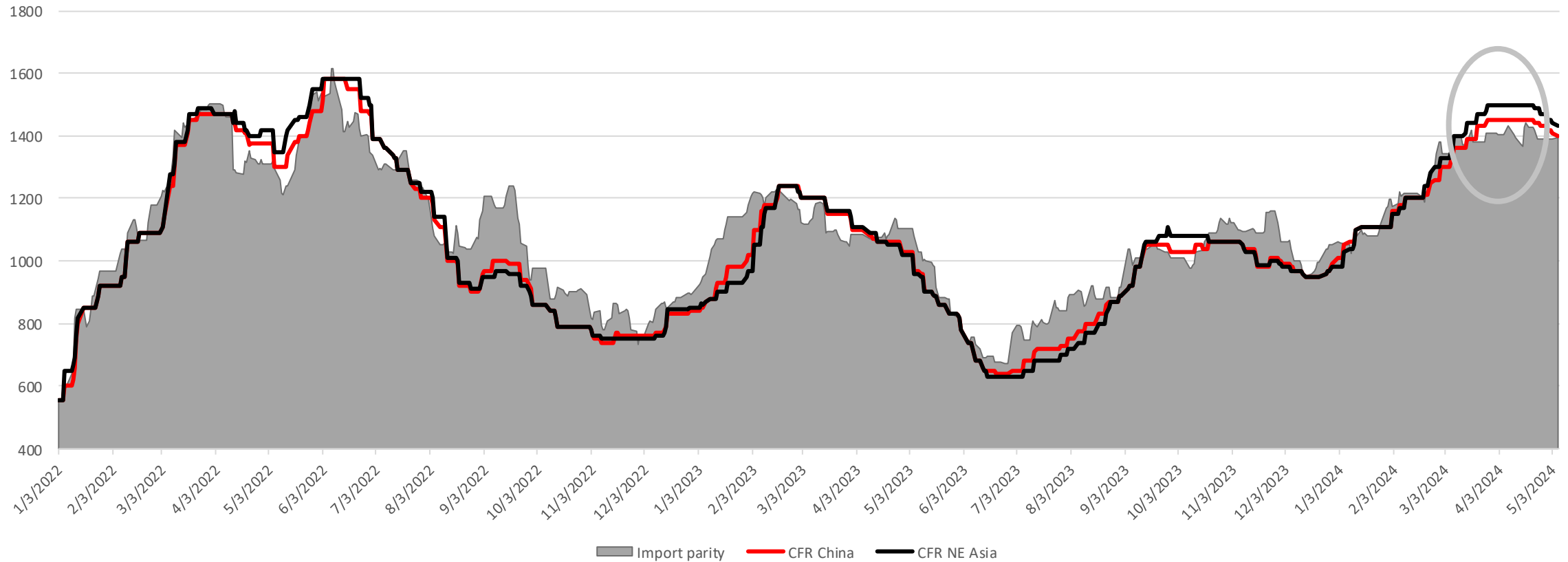
Source: S&P Global Commodity Insights

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# Q1 import activity: China accelerates exports as demand emerges amid deepsea delivery delay

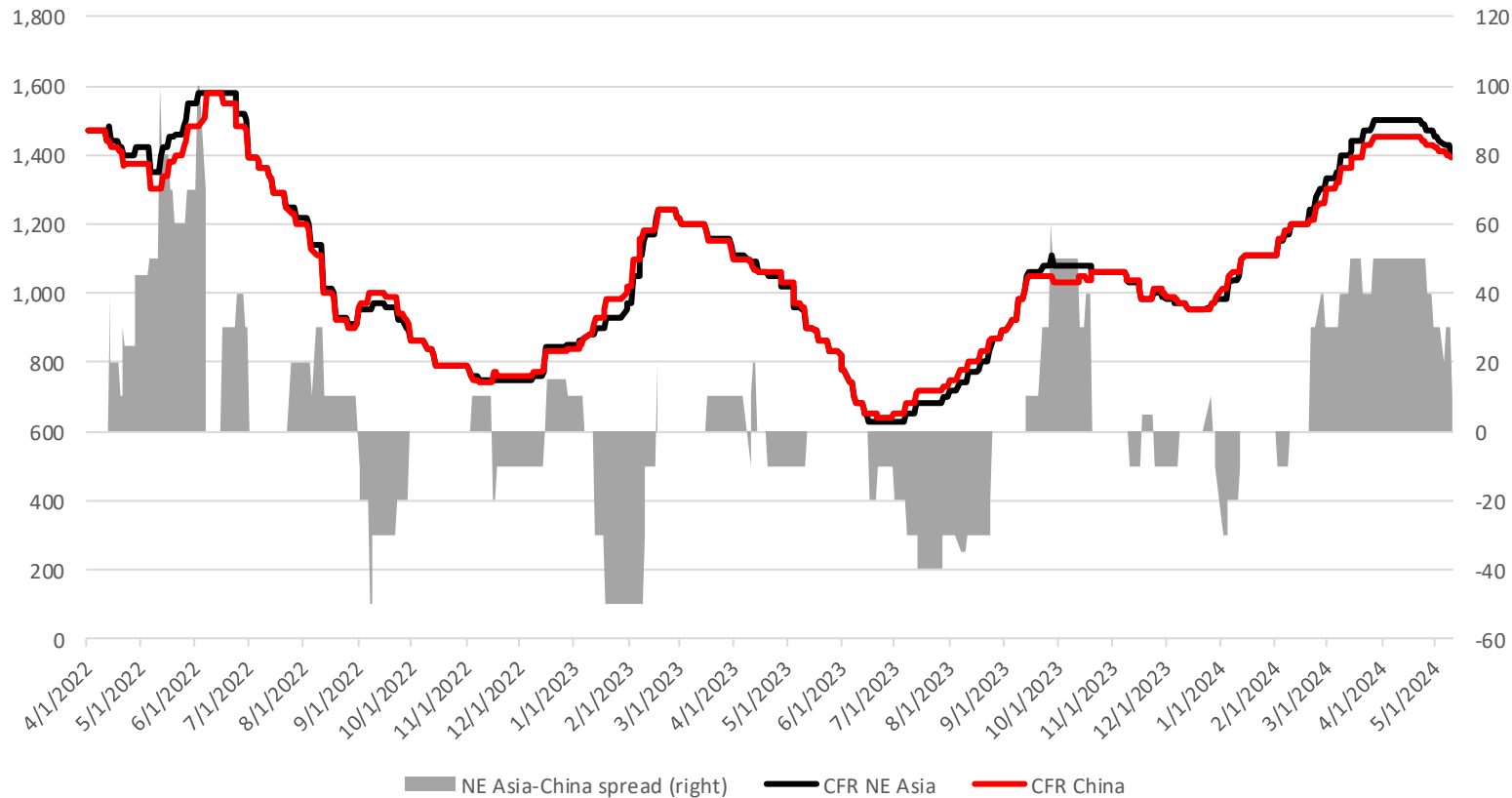
Domestic China market vs CFR China, CFR NE Asia (\$/mt)



Source: S&P Global Commodity Insights

# Asia butadiene: Spread between CFR NE Asia and CFR China widens amid firm demand in Korea

CFR NE Asia vs CFR China (\$/mt)

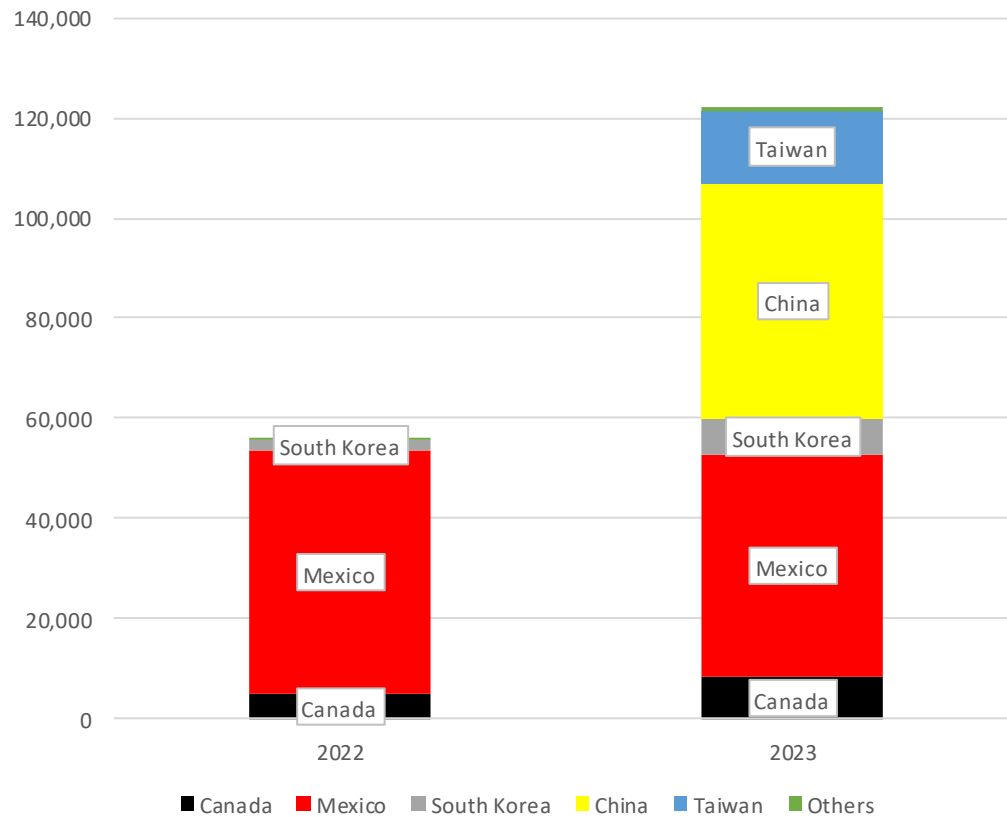


- The typical CFR NE Asia-NE Asia spread is \$10/mt
- Firm demand in NE Asia, particularly Korea, widened the price spread

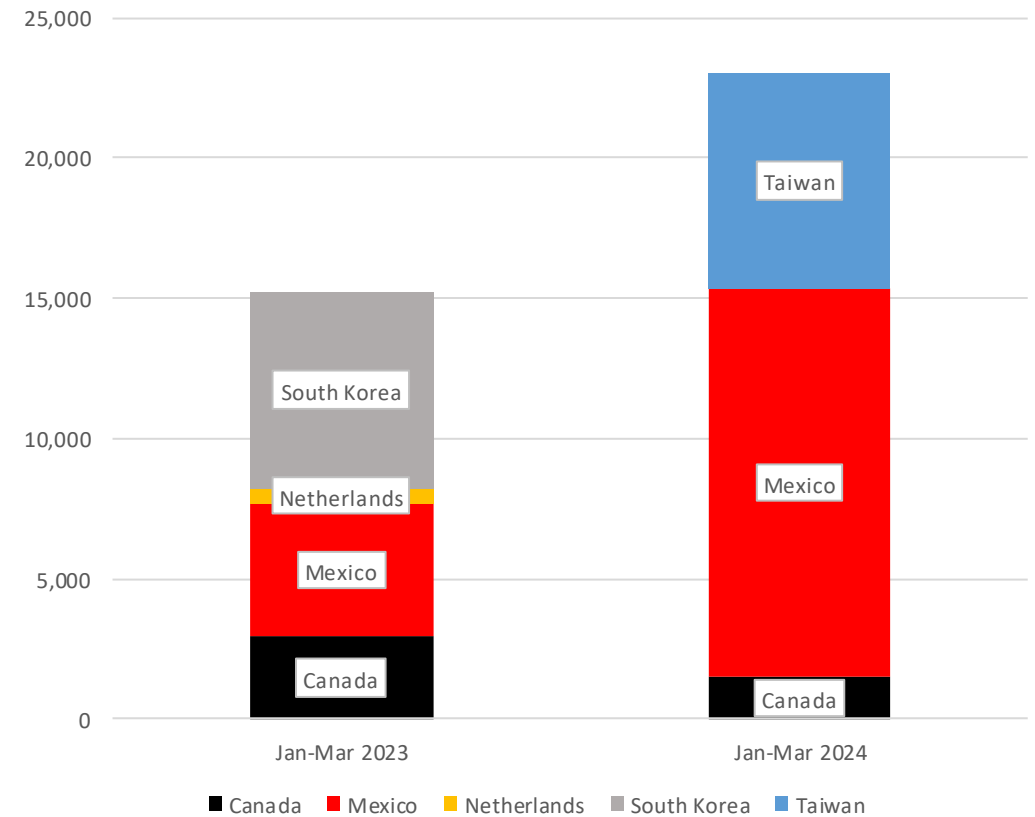
Source: S&P Global Commodity Insights

# US butadiene: US supplies to Asia increase in 2023

US butadiene exports rise to Asia in 2023 vs 2022 (mt)

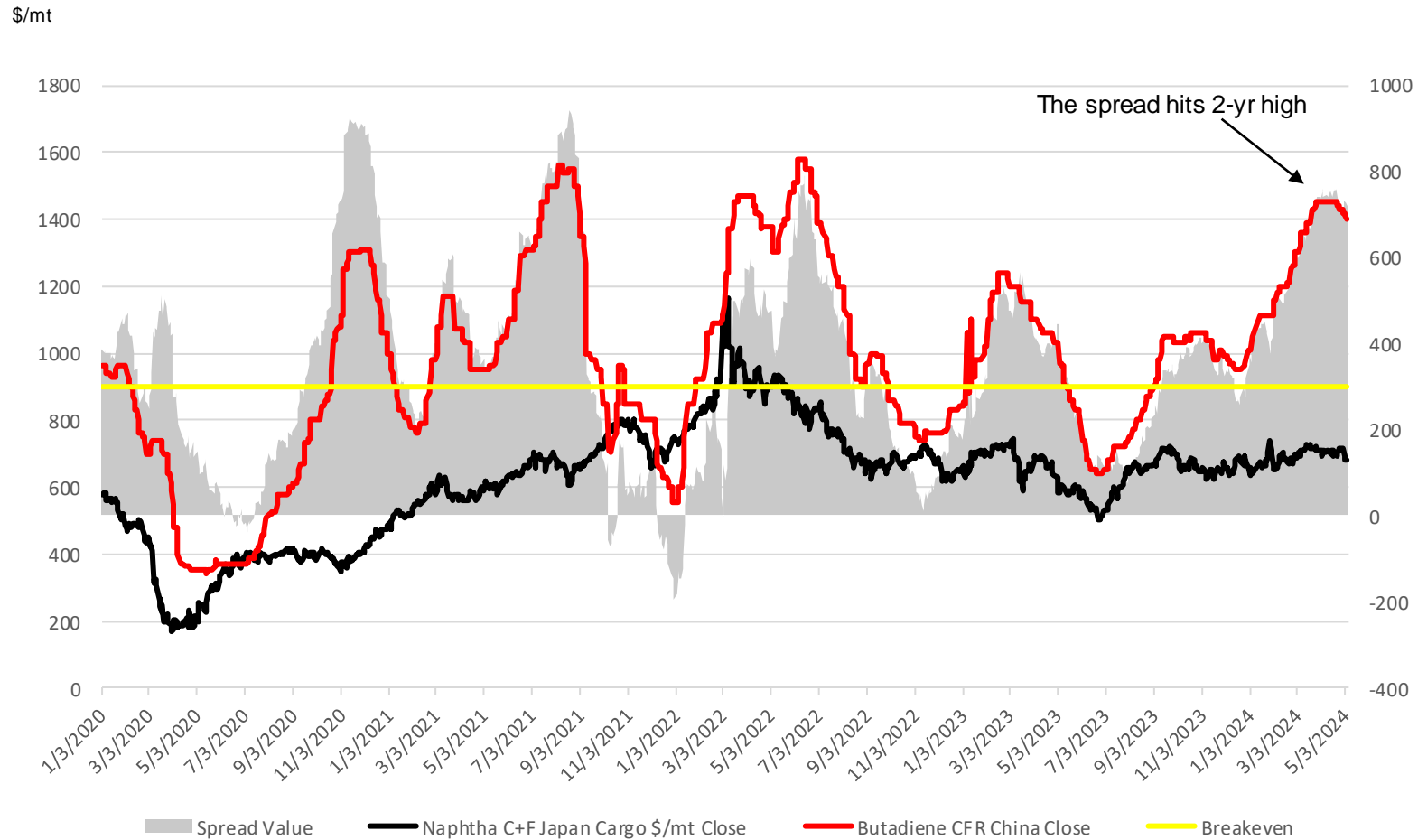


US butadiene exports in Q1 (mt)



Source: USITC

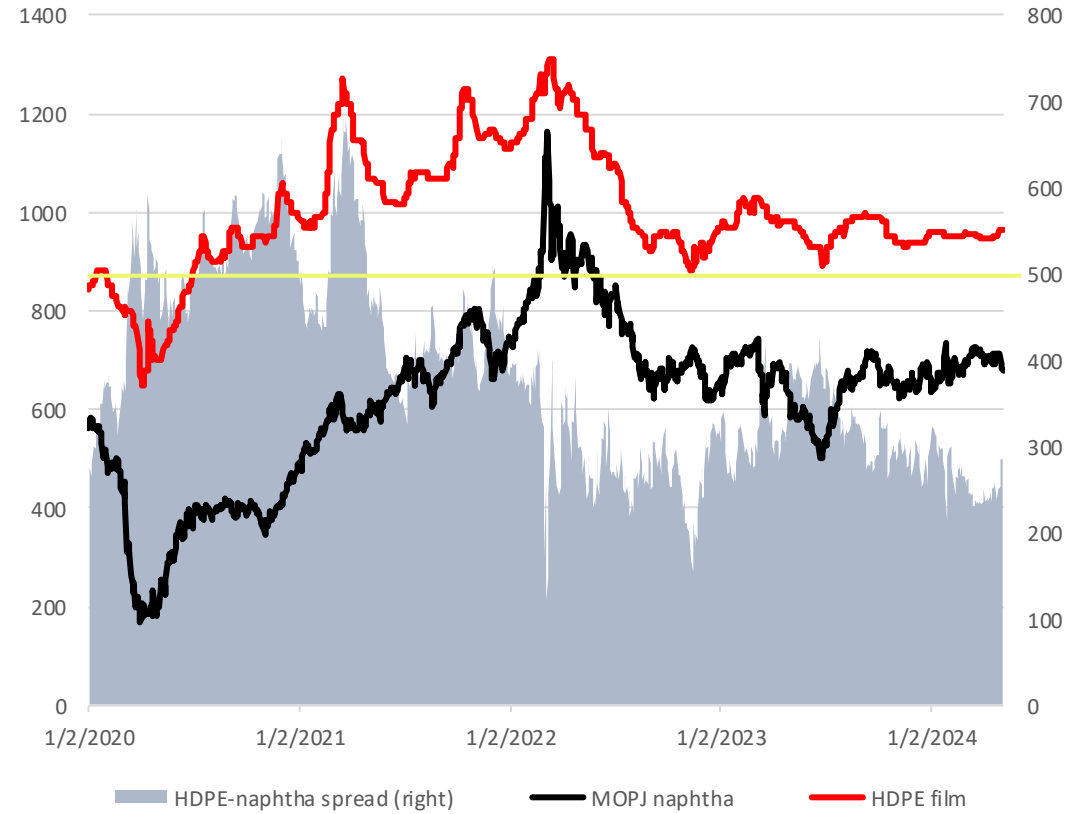
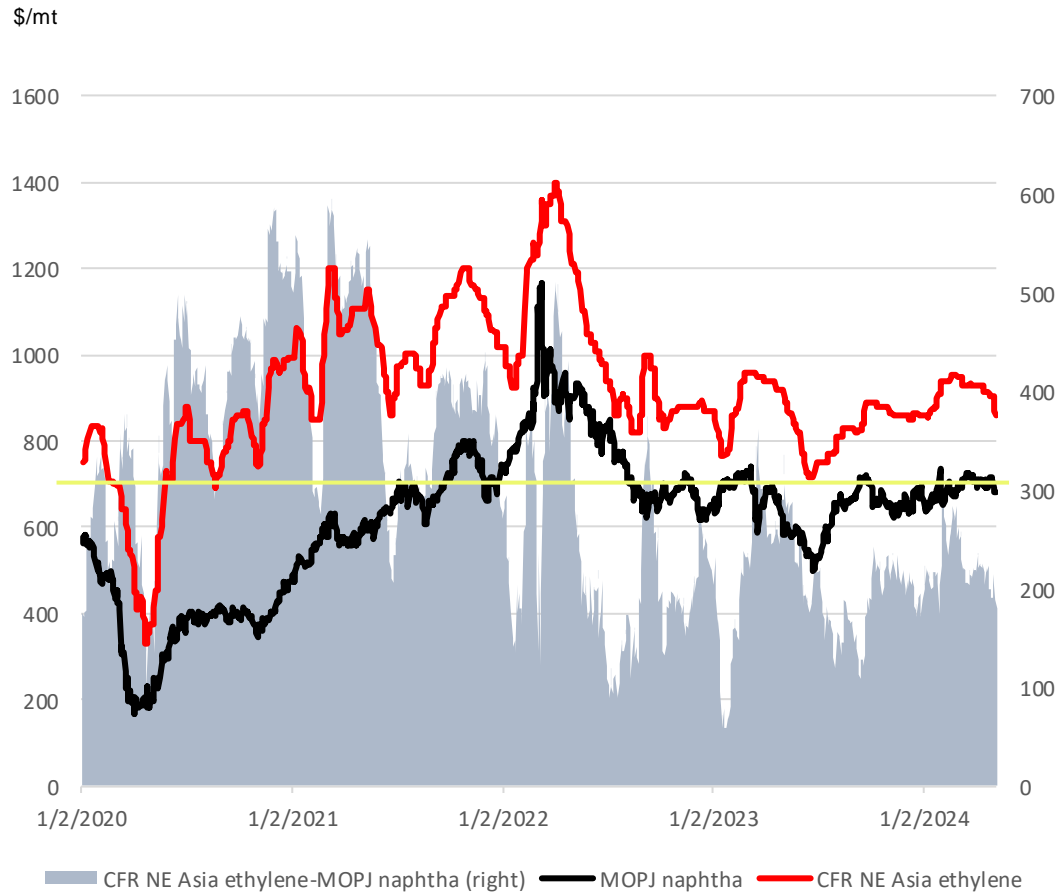
# Asian butadiene-naphtha spread higher than breakeven



Asia's butadiene-naphtha spread above breakeven

Lower steam cracker operations, LPG cracking reduced butadiene output in Asia

# Asia's steam cracker runs to remain below 100% and LPG cracking reduces butadiene production yield further



Source: S&P Global Commodity Insights



## Steam cracker restructuring ongoing globally

### **SABIC to permanently shut Geleen Olefins 3 cracker as part of three-month maintenance work**

Saudi Arabian multinational petrochemical producer SABIC has announced the beginning of maintenance work at its Chemelot Industrial Park in Geleen, the Netherlands, under which the site's Olefins 3 cracker will be permanently shutdown, according to an April 10 announcement.

### **ExxonMobil to shut Gravenchon steam cracker and derivative units in France**

ExxonMobil will be permanently closing its primary chemical production unit at its Gravenchon site in Port Jerome, France due to financial losses, the company announced in a statement April. 11.

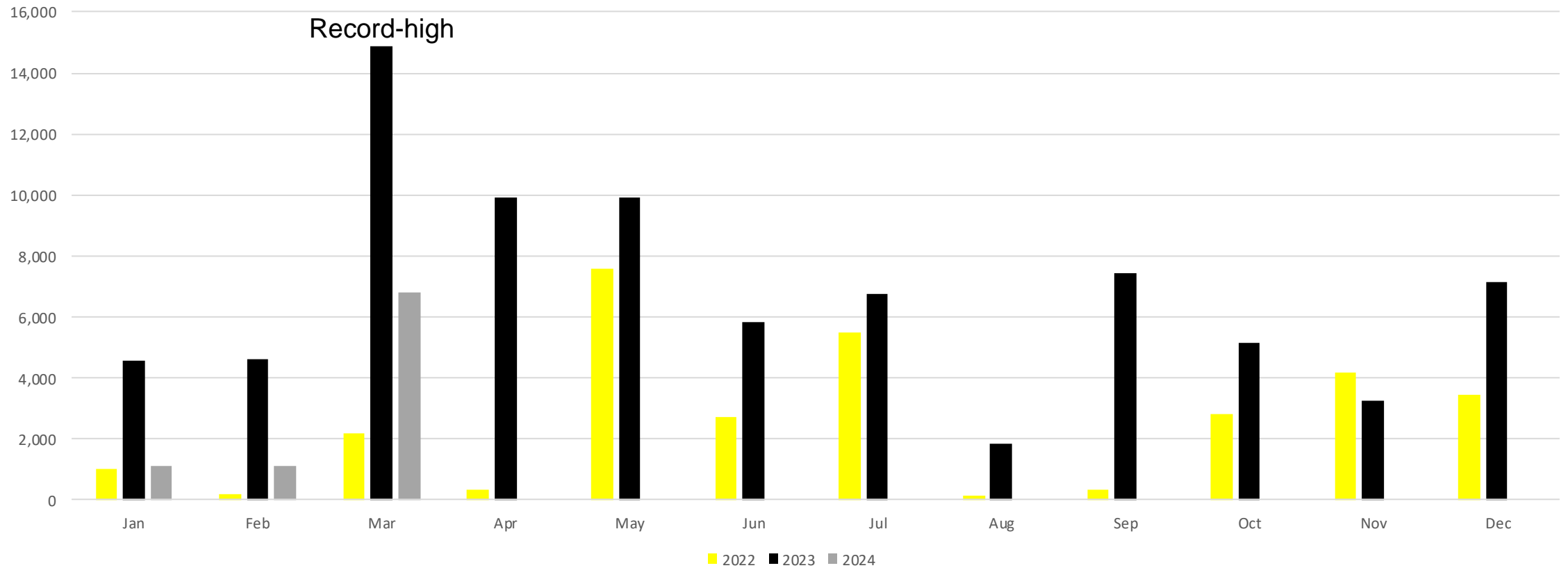
### **Japan's Idemitsu. Mitsui Chemicals to merge Chiba steam cracker operations**

Japanese refiner Idemitsu Kosan and chemical producer Mitsui Chemicals agreed to start jointly considering optimizing the production of their naphtha-fed steam crackers in Chiba, the companies said in a joint statement March 27.

According to the premise of deliberations, the companies will consolidate their steam cracker operations in Chiba to Mitsui Chemicals' existing plant, while it will mothball Idemitsu's unit. The company targets to complete the consolidation in fiscal year 2027 (April 2027 to March 2028), they said.

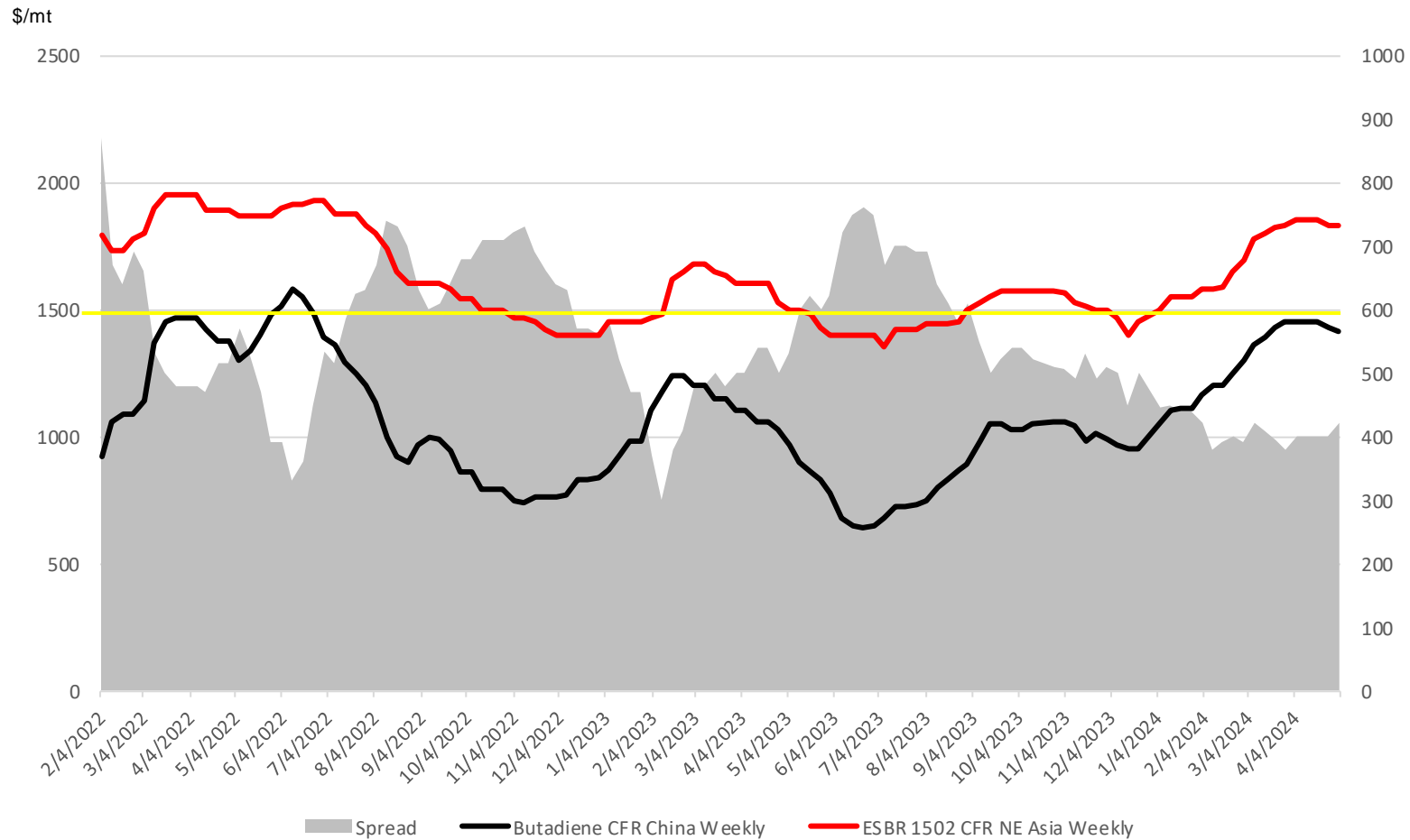
# Ex-Russian SBR continue coming into Asia

## China's SBR imports from Russia (mt)



Source: China Customs

# Asian SBR margin remains below breakeven



Asia's SBR margin remains negative

Asia's rubber plant operations below 100%

## How the market evolved after APIC last year – bullish factors

### 2023

- Lower steam cracker operations since 2021
- Strong demand for ADN production in China
- Lower term contract volume in 2023 vs 2022
- Arbitrage window
- High naphtha/crude oil prices

### 2024

- Steam cracker operations remain low and LPG cracking lowered butadiene production yield
- Not much hearing active butadiene demand for ADN production
- Term contract volume increased in 2024 vs 2023
- Arbitrage window remains open but supplies tend to delay amid steam cracker issues in Europe
- Feedstock naphtha price high but butadiene-naphtha spread turns healthy

## Key market development in 2024 – bearish factors

2023

- Increasing exports from China
- Arbitrage window
- Constant supplies from SE Asia
- Lower rubber plant operations amid negative margins
- Influx of Russian SBR to Asia

2024

- Increasing exports from China
- Arbitrage window is seen closing
- Constant supplies from SE Asia but recent plant hiccups may reduce spot offers
- Lower rubber plant operations amid negative margins
- Influx of Russian SBR to Asia

## **Asia**

Fumiko Dobashi  
Senior Editor  
fumiko.Dobashi@spglobal.com

## **Europe**

Abdulaziz Ehtaiba  
Editor  
abdulaziz.ehtaiba@spglobal.com

## **US**

Daniel Perez  
Editor  
daniel.perez@spglobal.com

