

# Maximizing opportunities: Adapting to the shifting trends in the chlor-alkali market



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# Agenda

1. Looking at key trends for PVC in Asia
2. Rising protectionism and its effects on markets
3. How are Asian producers coping?
4. Examining a crucial product in the chlor-alkali chain
5. Present and forward-looking considerations

Maximizing opportunities in the chlor-alkali markets

# Looking at key trends for PVC in Asia



# PVC prices in Asia affected by China availability



950

Q2 2024 price spikes, especially in India, due to container shortages

- Prices dip amid global uncertainties
- Ample supply from China
- India's premiums over SE Asia vanish

600

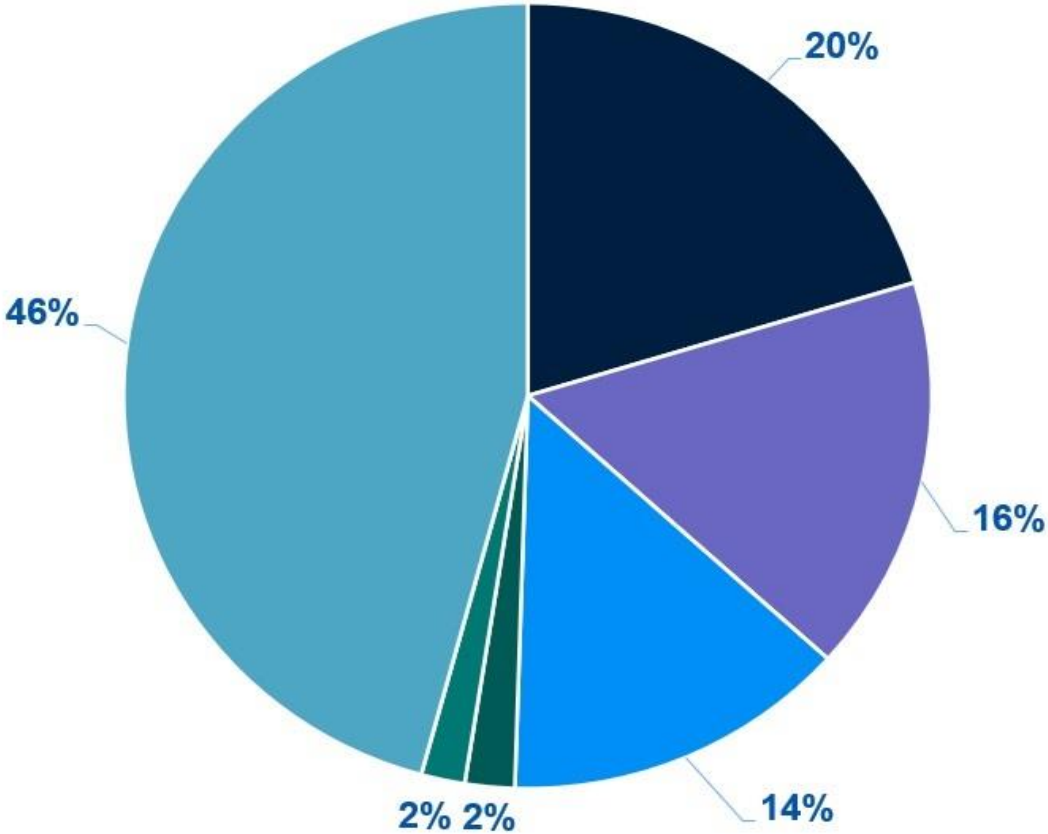


Source: ICIS

# US and NE Asia are major exporters



PVC top exporters (2024)



- The US is the biggest PVC exporter globally
- A large proportion of PVC exports come from Asia
- China is second-largest PVC exporter globally at 16% of market
- South Korea, Japan and Taiwan markets make up 14% of global PVC exports

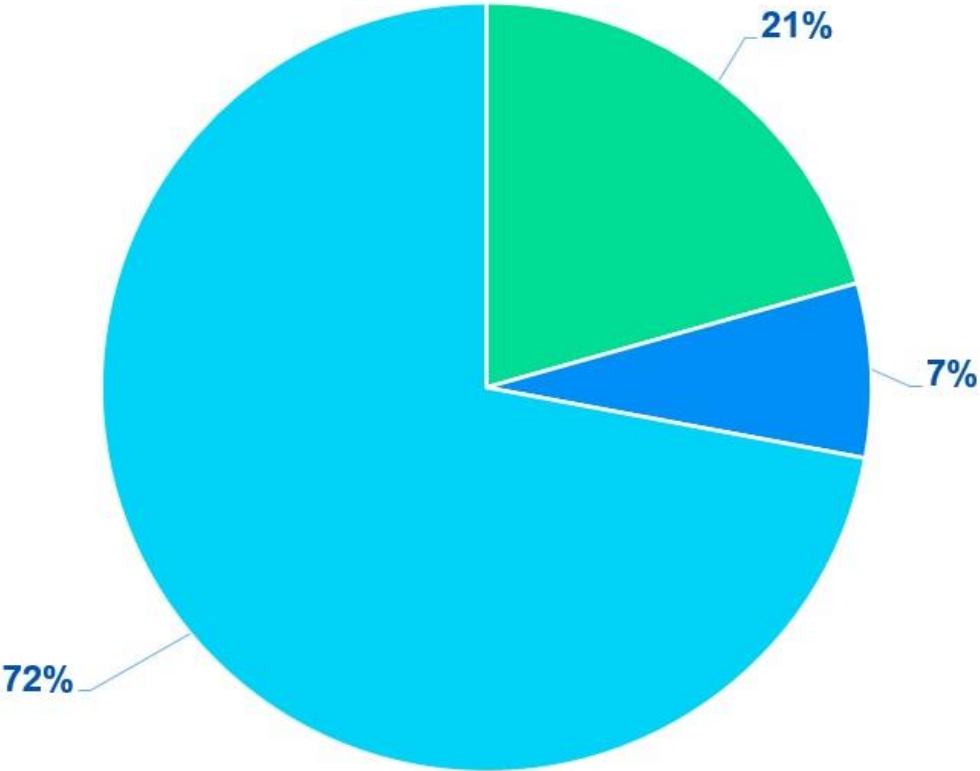
■ US ■ China ■ NE Asia ex. China ■ Indonesia ■ Thailand ■ Rest of world

Source: ICIS Supply and Demand Database

# India and Vietnam heavily dependent on PVC imports



PVC top importers (2024)

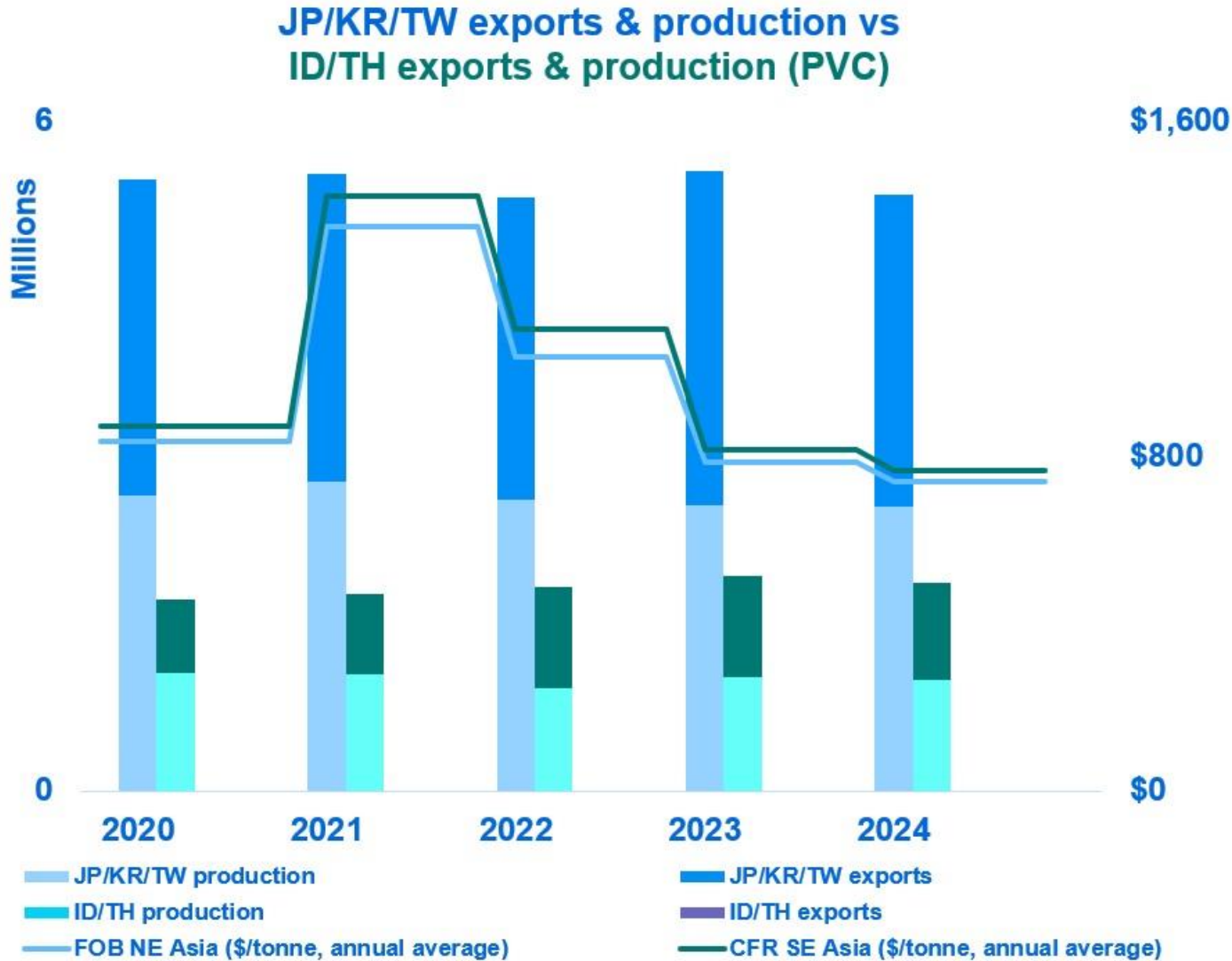


■ India ■ Vietnam ■ Rest of world

- The two largest importers of PVC are in Asia, taking a combined 28% share of the market
- India is world’s largest importer by far
- India PVC imports are mostly for domestic end-use
- Vietnam has significant demand for both domestic end-use and re-export of finished goods

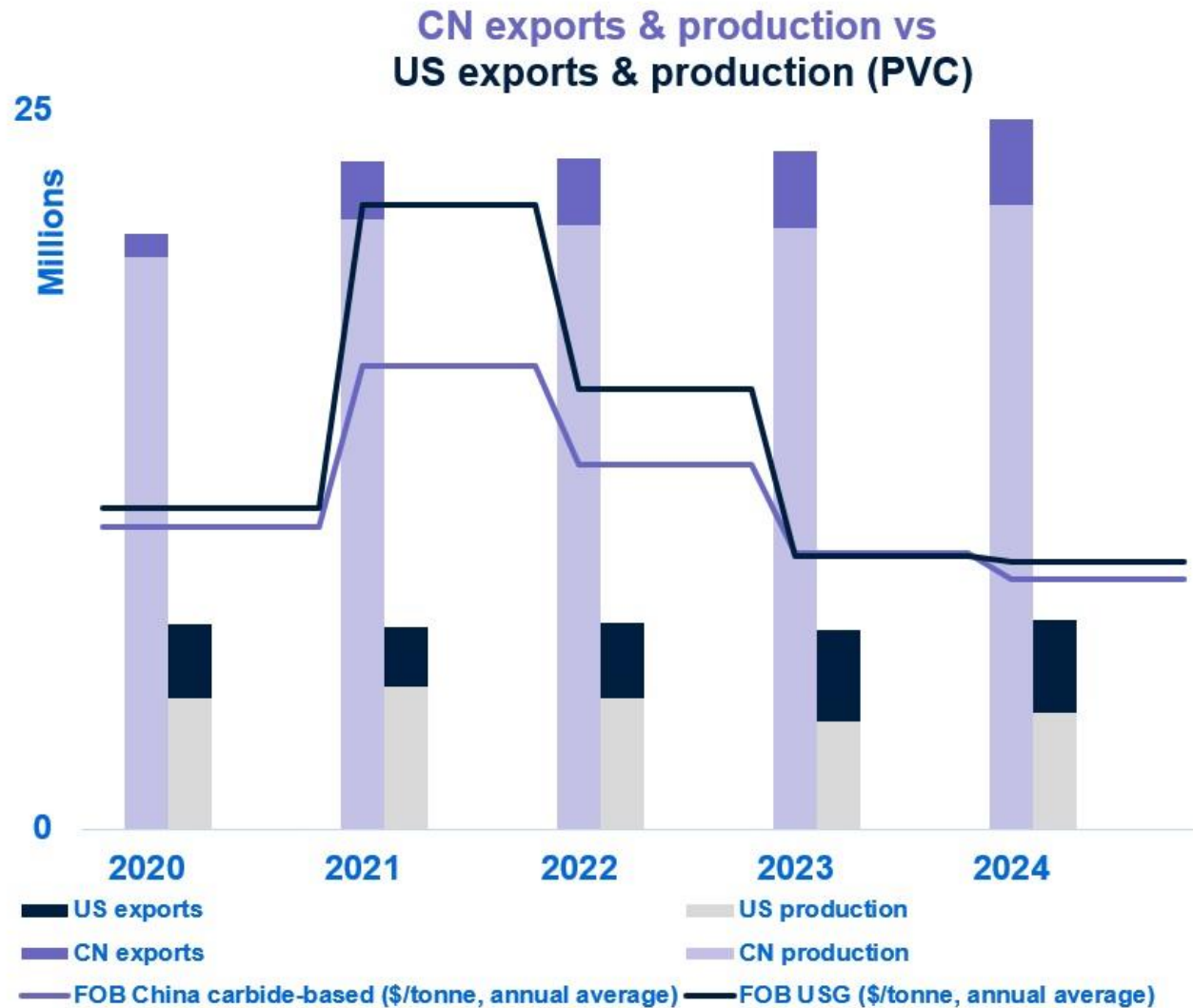
Source: ICIS Supply and Demand Database

# Asia (excluding China) sees small production changes



- Japan, S Korea, Taiwan producers export **about 50%** of PVC produced annually
  - Production capacities capped or even dropped slightly
  - Local consumption steady due to mature economies
- Indonesia, Thailand producers exported **46% (~0.8 million tonnes)** of PVC produced in 2024
  - Up from 38% in 2020
- Production capacities in these markets mostly stable
- **Why the large swing in prices between 2021 and 2024?**

# China, US PVC markets increasingly export-focused



- \$2,000 • China producers exported **12% (3 million tonnes)** of PVC produced in 2024
  - Exports up annually since 2020 due to sluggish local uptake
  - Small shifts in local consumption affect export volumes significantly
- \$1,000 • US producers exported **44% (3.2 million tonnes)** of PVC produced in 2024



Maximizing opportunities in the chlor-alkali markets

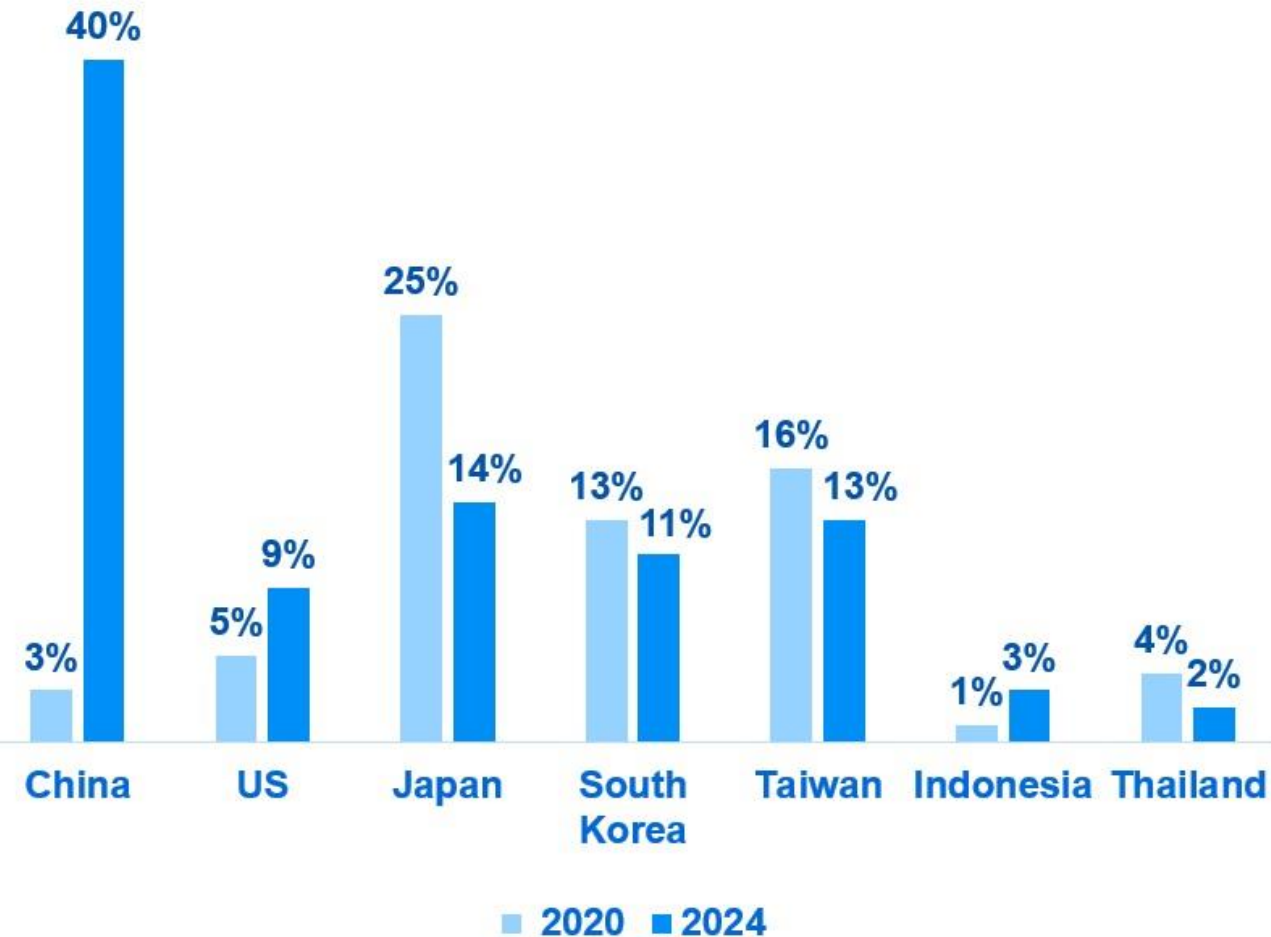
# Rising protectionism and its effects on markets



# >90% of India's 2024 PVC imports provided by 7 suppliers



India's PVC imports from seven origins on which ADDs are proposed



- China's share of imports surged after ADDs ended in Feb 2022
- Imports from the US also rise significantly
- These same seven origins are the subject of ADD investigations

# India's proposed ADDs: Will they work?



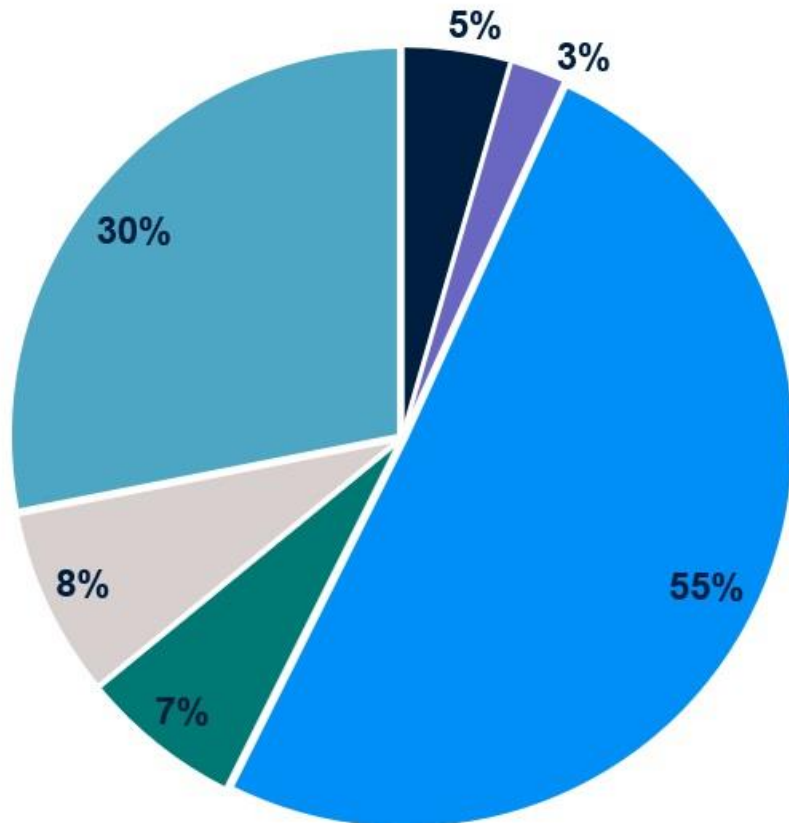
Origin (listed companies)	Anti-dumping duties (\$/tonne)
<b>China</b>	<b>82-125</b>
<b>The US</b>	<b>104-164</b>
<b>South Korea</b>	<b>0-51</b>
<b>Taiwan</b>	<b>25-74</b>
<b>Japan</b>	<b>54-73</b>
<b>Thailand</b>	<b>53-80</b>
<b>Indonesia</b>	<b>61-73</b>
Non-listed companies (All 7 origins)	147-339

- Highest anti-dumping duties imposed on China and the US
- South Korea, Taiwan sees lighter proposed duties than most
- Duties on Japan, Indonesia, Thailand offset by advantageous import tax duties

# Will post-ADD India PVC imports revert to 2020 levels?



India PVC imports (2020)



- US
- Asia and Pacific
- China
- Europe
- NE Asia (Ex. China)
- Rest of the world

- SE and NE Asia likely to continue exports to India, especially Japan
- Europe may attempt inroads into India
- What about BIS for:
  - China?
  - Vietnam?



# Vietnam's import demand falters on tariffs

Moving average (MA) analysis of PVC CFR SE Asia

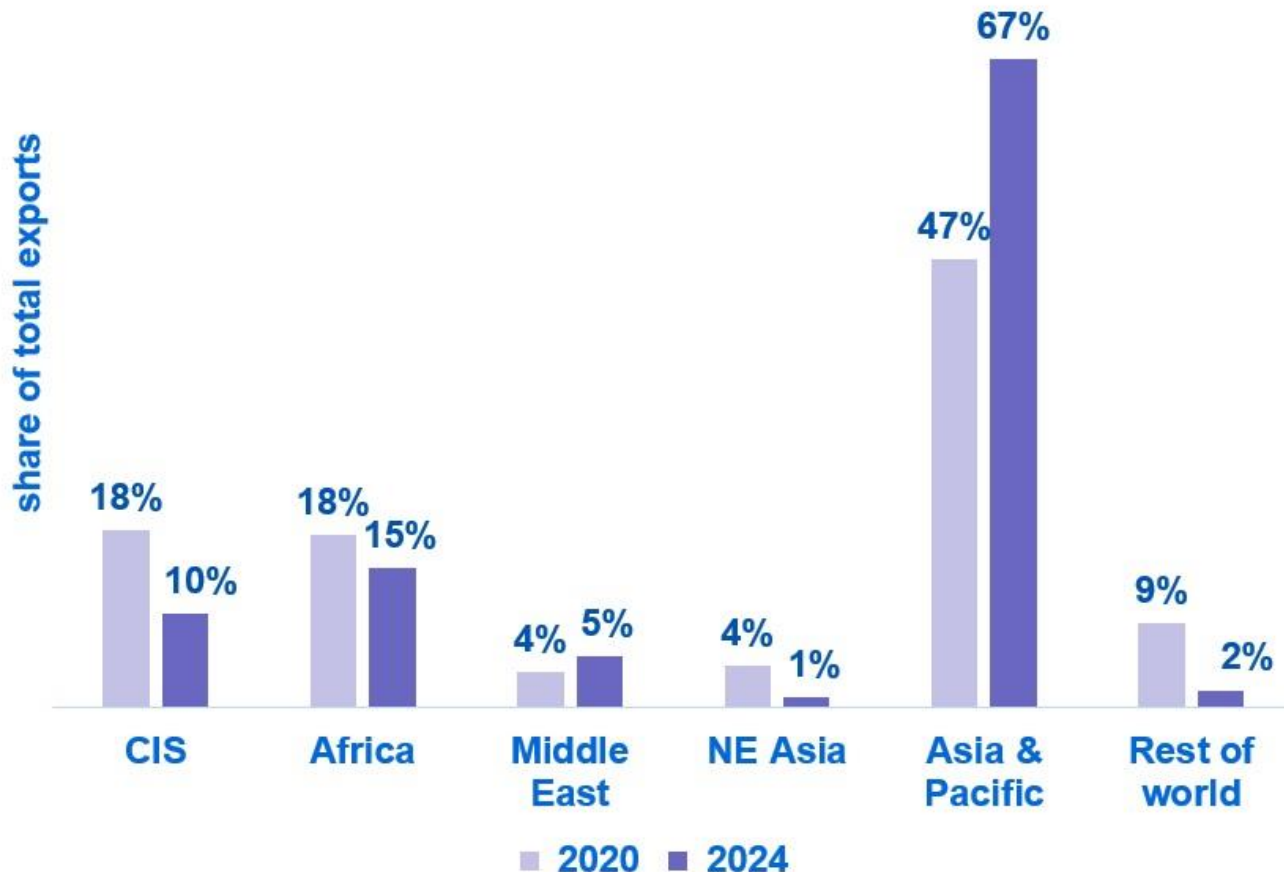


- Vietnam's domestic demand strong, but...
- Trump's proposed 46% tariff adversely affects re-exports for flooring products
- Vietnam's vinyl flooring exports to US worth \$1.1bn (2023)
- Ample supply from China affects sentiment
- Negative trendline for CFR SE Asia shows no signs of abating

# Many regions bracing for inflows from China



China's PVC exports



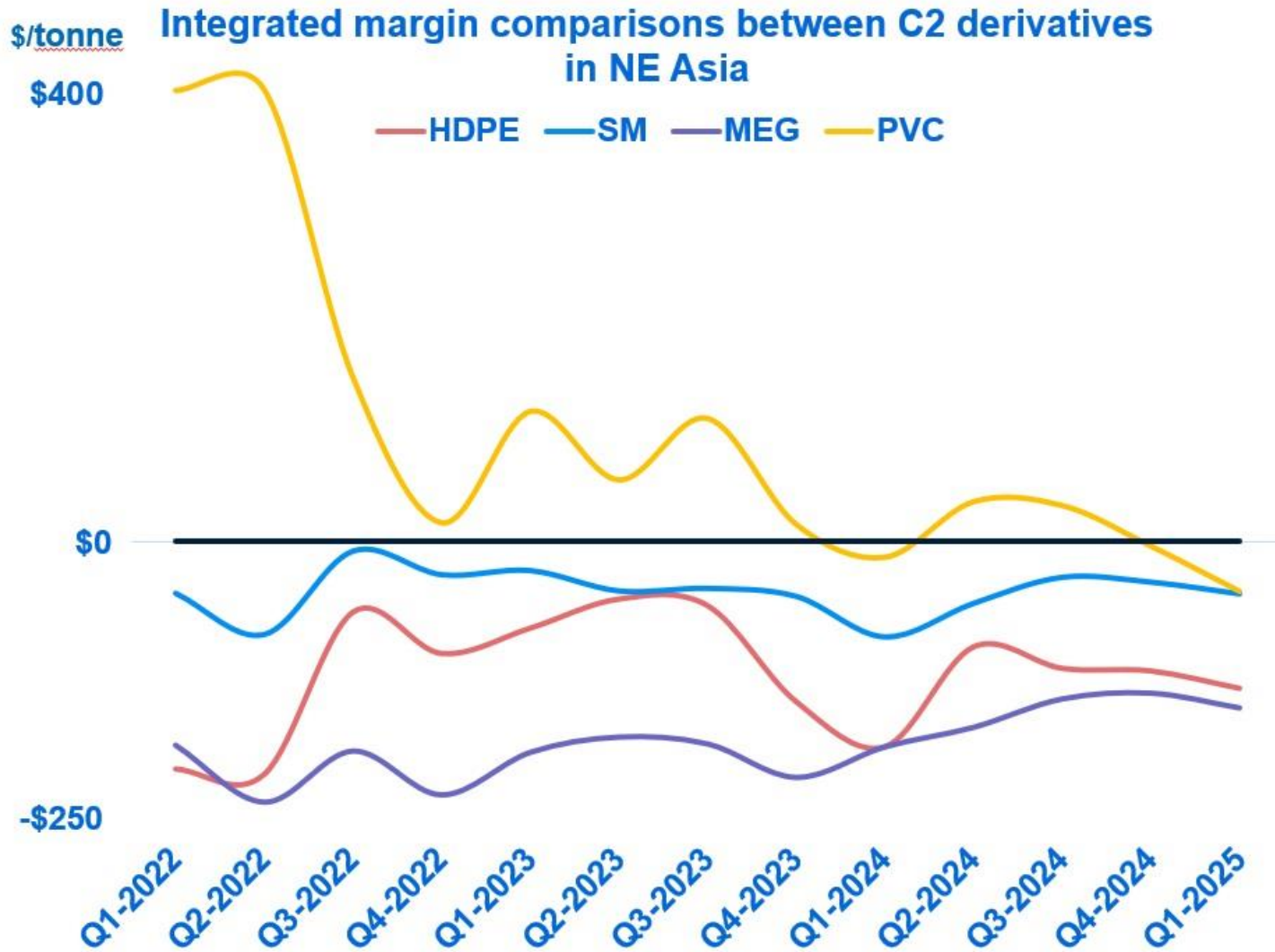
- Chinese PVC export markets face challenging times
- Limited export avenues of carbide-based material
- Exports to SE Asia likely to remain robust
- Export window to US, Europe likely closed
- Potential redirection of exports to all other regions

Maximizing opportunities in the chlor-alkali markets

# How are Asian producers coping?



# PVC expansions ongoing despite negative margins

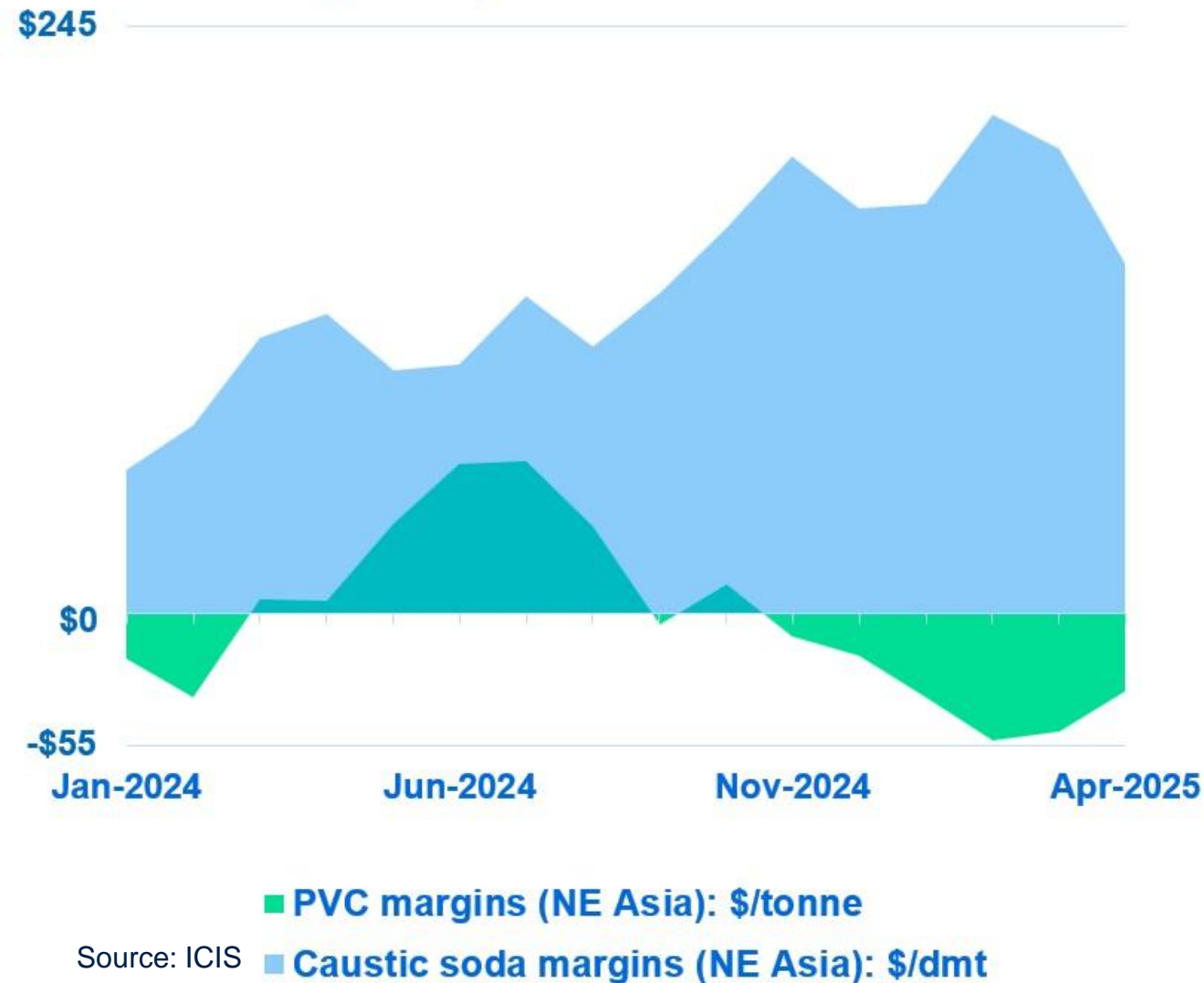


- Margins for PVC have weakened
- Some producers forced to mothball production in since 2024 (-400kt/yr)
- But far more PVC production came online during the same timeframe, especially in China
- **Why?**

# NE Asian producers' margins largely from caustic soda



Margins comparison: Caustic soda vs PVC



Source: ICIS

- NE Asia PVC production running at net loss for the past 30 of 52 weeks (~60%)
- Recently softened prices for ethylene unable to bring PVC back to positive margins
- Nevertheless, caustic soda margins offsets PVC losses
- This is due to different end-use sectors between caustic soda and PVC

Maximizing opportunities in the chlor-alkali markets

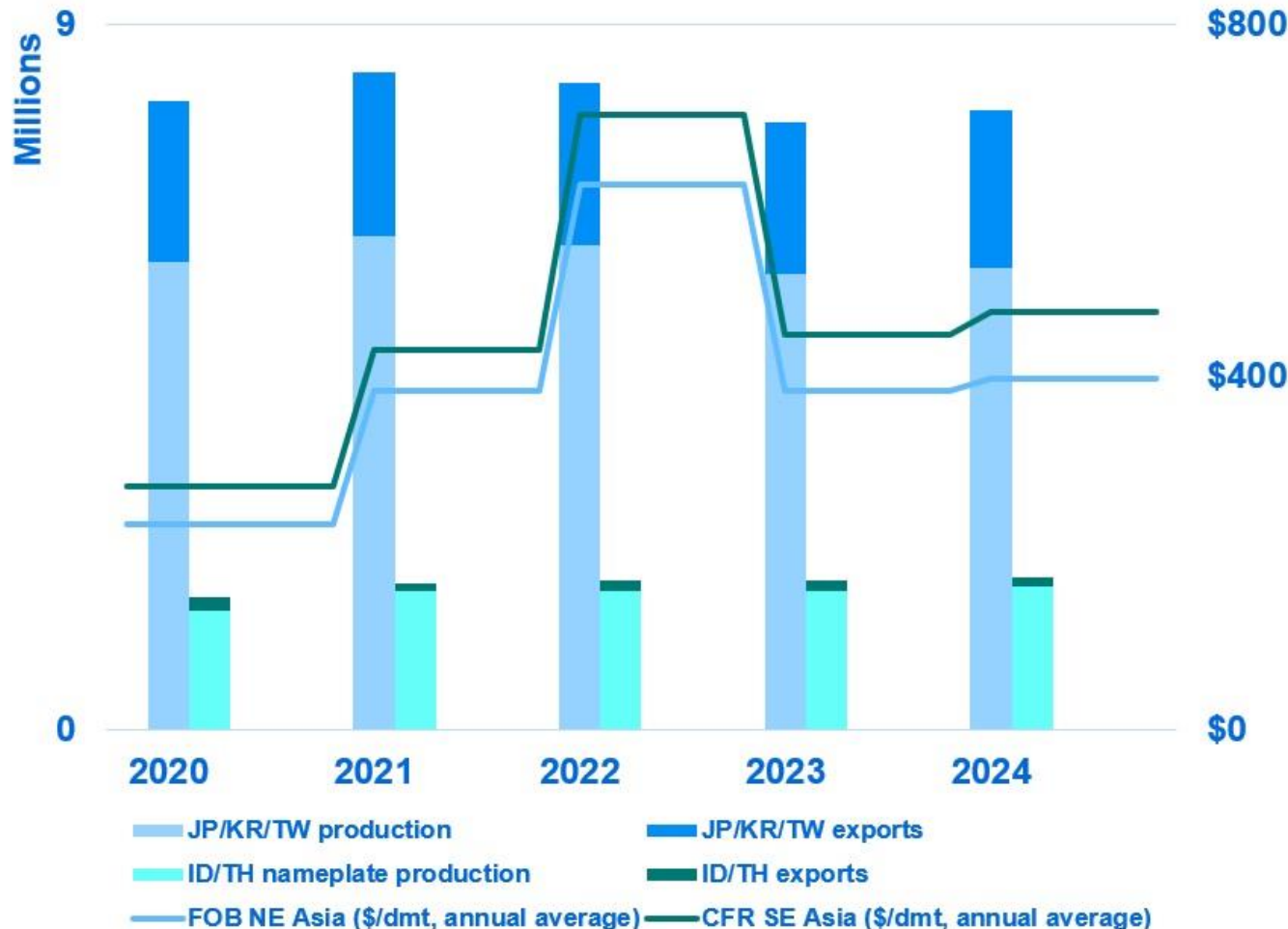
# Examining a crucial product in the chlor-alkali chain



# Much of Asia's caustic soda structurally for local use



JP/KR/TW exports & production vs ID/TH exports & production (caustic soda)

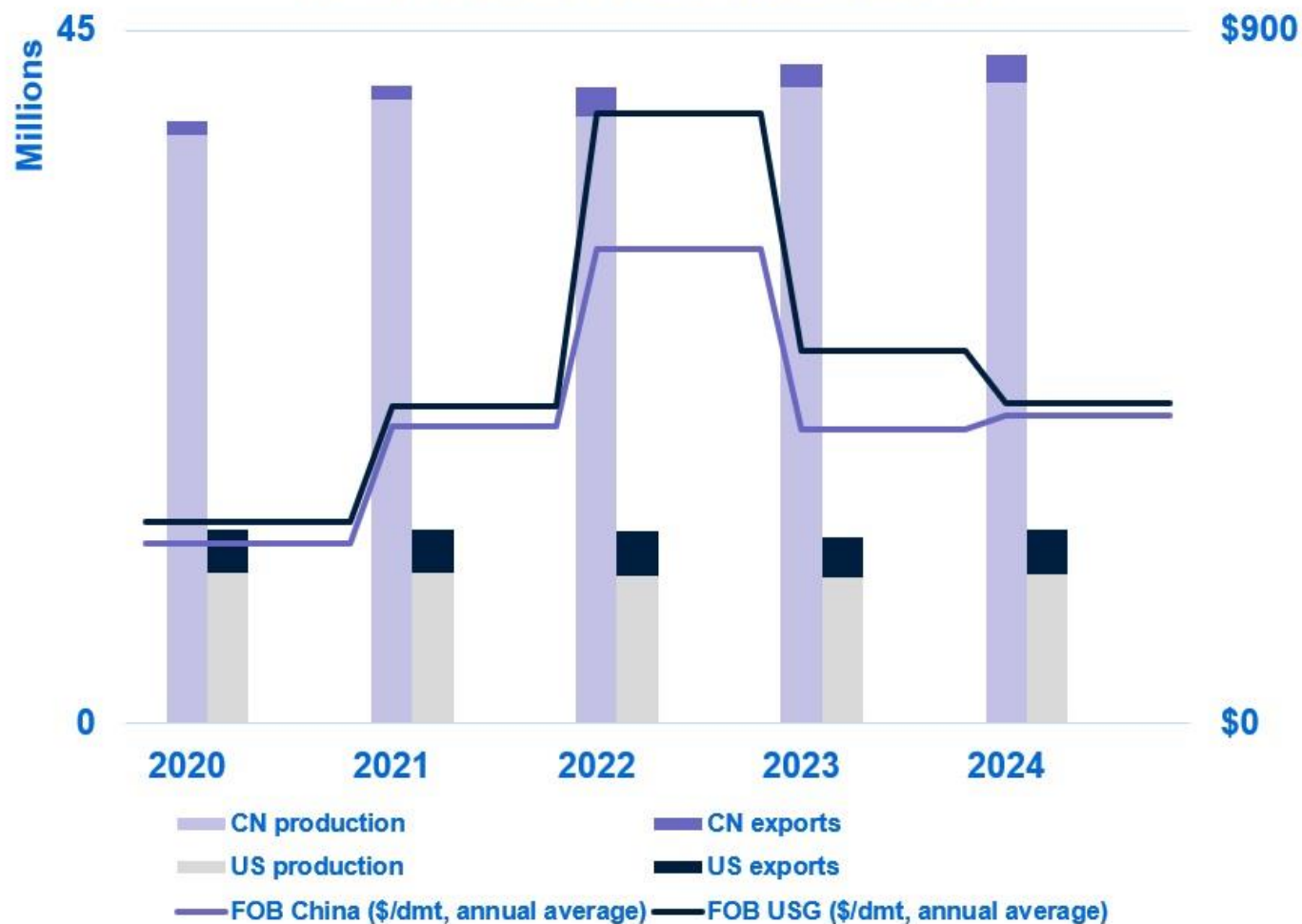


- Japan, S Korea, Taiwan caustic soda exports are constantly ~**25%** of total production annually
  - No new chlor-alkali expansions
  - Steady customer base in SE Asia, Australia
- Indonesia, Thailand caustic soda mostly for domestic consumption
  - Only **5%** of caustic soda produced was exported in 2024
  - Strong, growing local downstream sectors (especially Indonesia)
- Caustic soda is not as dependent on exports as PVC

# Asia's caustic soda prospects are bright on paper

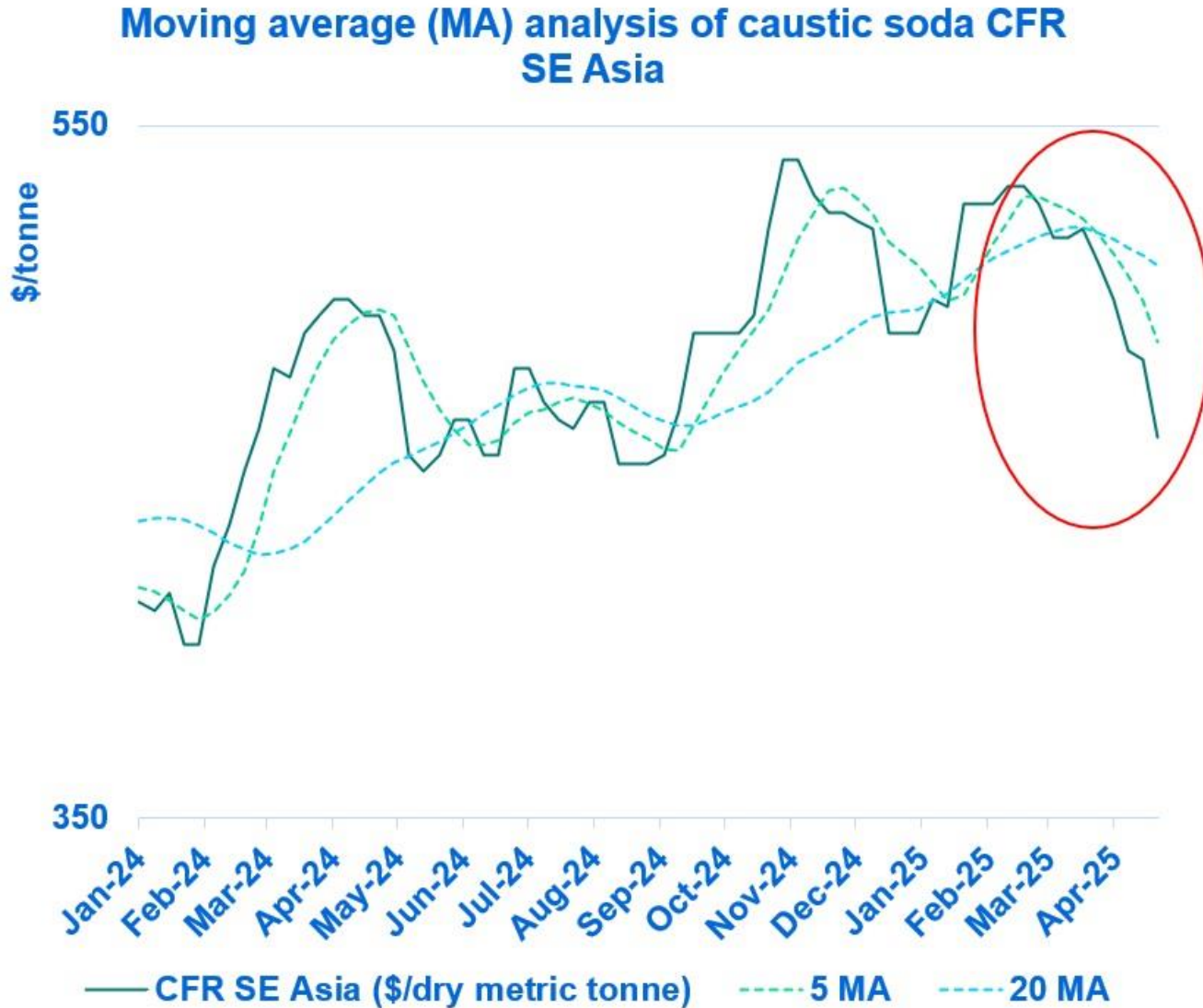


CN exports & production vs  
US exports & capacity (caustic soda)



- China producers exported **4%** of caustic soda produced in 2024
- US producers exported **23%** of caustic soda produced in 2024
- **2024 average FOB NE Asia, FOB China, CFR SE Asia** saw year-on-year gains due to structurally healthy demand

# Recent US tariffs threaten caustic soda's bullish run

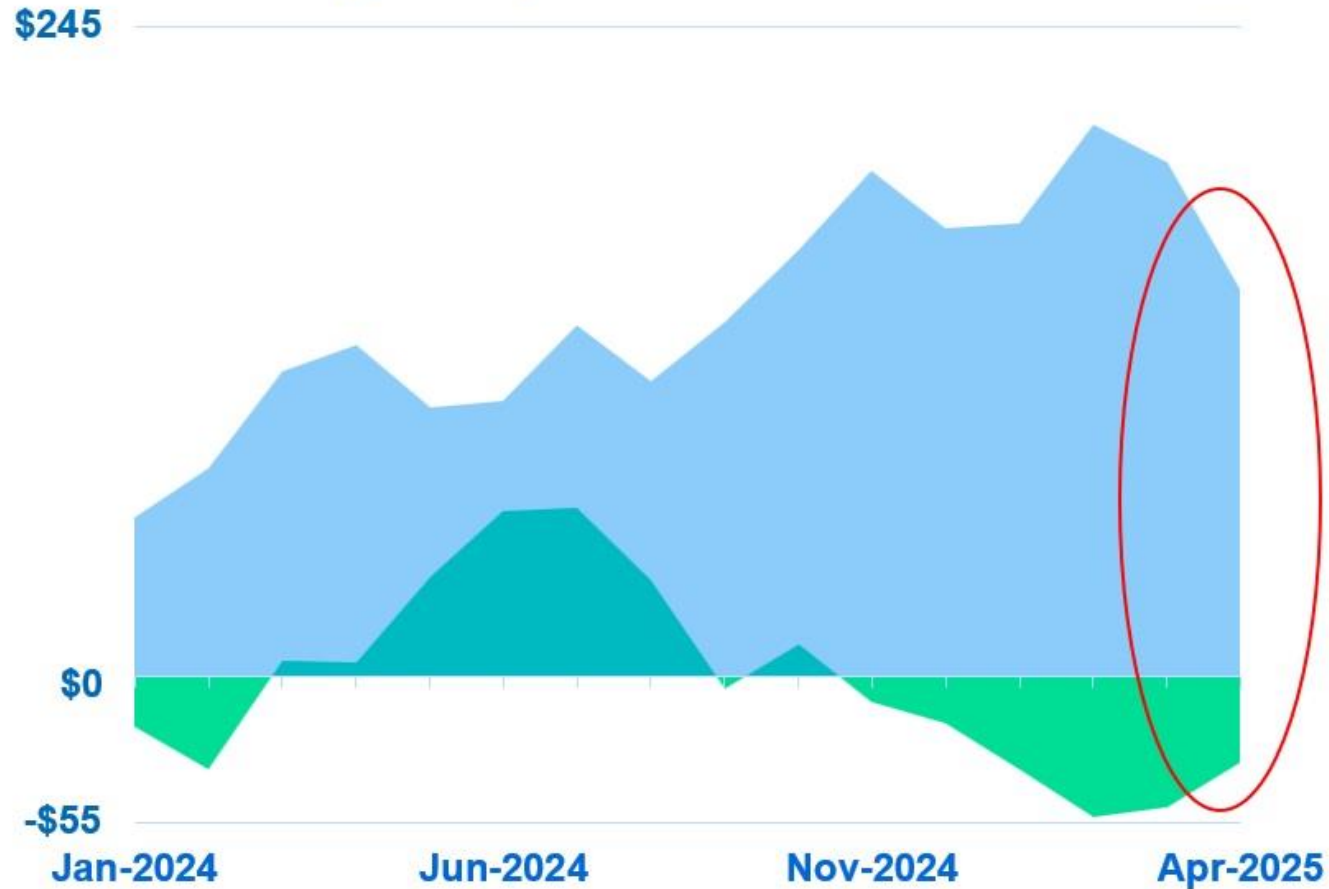


- Current caustic soda prices are still profitable
- Is this trend sustainable?
- Trend recently turns bearish for CFR SE Asia
- US tariffs affects end-use demand

# How will Asian producers fare in 2025?



Margins comparison: Caustic soda vs PVC



■ PVC margins (NE Asia): \$/tonne  
■ Caustic soda margins (NE Asia): \$/dmt

Source: ICIS

Caustic soda margins to remain pressured...

Will PVC be able to recover to positive margins?

Maximizing opportunities in the chlor-alkali markets

# Present and forward-looking considerations



# PVC to face challenges with ample supply



## Supply woes

- Regional oversupply to continue



## Exports from China

- China's PVC exports to spill over to many regions



## Chlorine off-take

- Some PVC producers may sell precursor VCM instead
- Isocyanates market sees shifting trade



# Caustic soda remains integral to producers' margins



## Rocky demand

- More exposure to US tariffs due to caustic soda's diverse end-use



## 2025 GDP forecasts

- World 2.8% (↓0.5)
- China 4.0% (↓0.6)
- ASEAN-5 4.0% (↓0.6)
- India 6.2% (↓0.3)



## Considerations

- Some producers may be prompted to adjust plant operating rates
- Geopolitics, regulations to continue affecting price trends

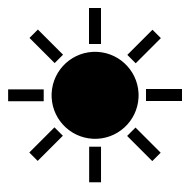


# Imagine a world with “unlimited” power...



## What if...

- Nuclear fusion made power costs negligible?



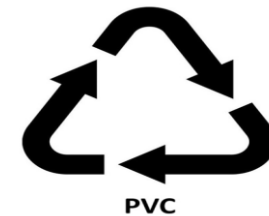
## Producers can...

- Consider to use bio-attributed feedstock



## Sustainability efforts

- Encouraged to close the PVC production life-cycle



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# In summary



- Asia market continues to be weighed by excess supply of PVC
- India's trade barriers to significantly affect PVC suppliers, particularly China
- US tariffs to have widespread effects on demand for both PVC and caustic soda
- Caustic soda provides most of chlor-alkali margins, but worries remain
- Trade in intermediate products may increase
  - Producers not able find PVC outlets may start to sell intermediates



# What's new to support your strategy

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## 28th ICIS & ResourceWise World Chlor-Alkali Conference

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