

# Dynamics of LPG in Asia

March 2024

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## Price trend

'22 ot '23 Price trend of  
LPG and Naphtha

## LPG import

Imports statistics into  
China, Japan, South  
Korea

## Cracking Trend in NE Asia

'22 to '23 LPG and  
Naphtha cracking trend  
in NE Asia

## Trend of monthly CPs

Monthly CP trending  
downwards

## New PDHs and Crackers

An overview of upcoming  
units

## Look Ahead For 2024

Some positives to keep  
an eye out

## US-Origin LPG Flow into Asia

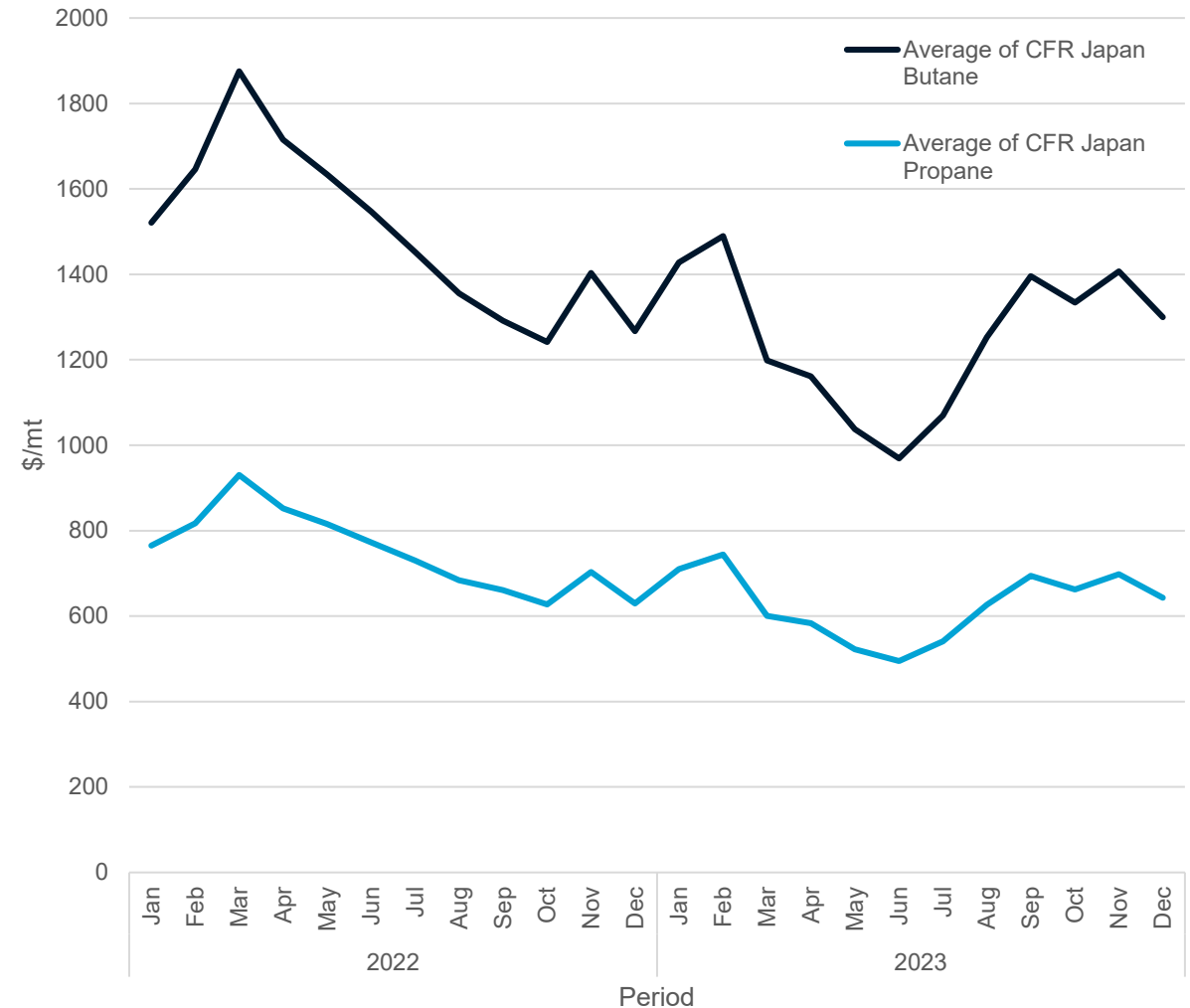
The flow of LPG into  
Asia, what lies ahead?

## Upcoming Events

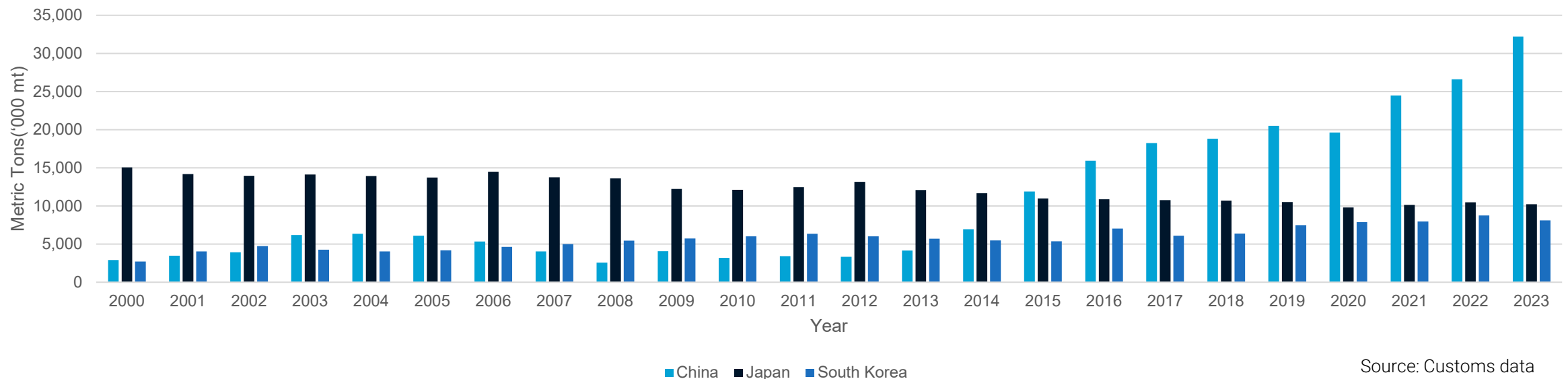
Come join us in Las  
Vegas or in Tokyo

# Negative petchem margins weighs down on LPG prices

- CFR Japan Propane and Butane prices
  - Reference prices for Asia LPG
  - Both propane and butane prices have come down in 2023 vs 2022
- January 2023 vs December 2023
  - January propane - \$709.96/mt
  - December propane - \$640.44/mt
  - Drop of 9.8%
- Overall demand still hampered by negative petchem margins

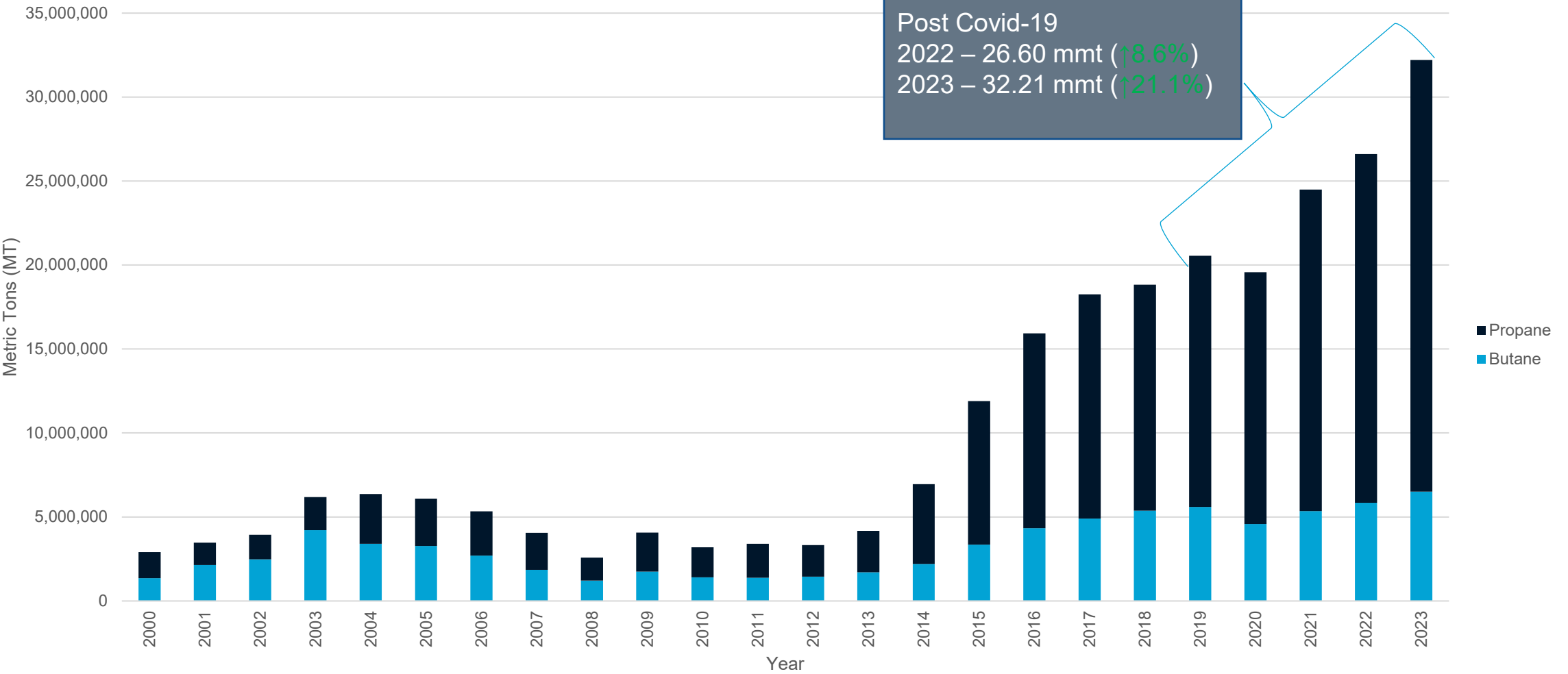


- China still holds the title of biggest importer of LPG in Far East, followed by Japan then South Korea
- China: '23 vs '22 import up 21.1%
  - Start-up of new PDH plants and crackers, and likely pent-up demand from retail sector from post-Covid added to the increased import figures
- Japan: '23 vs '22: down 2.3%
  - Limited LPG cracking demand was attributed as one of the main factors
- South Korea: '23 vs '22: down 7.4%
  - Limited petrochemical demand has plagued South Korea



Source: Customs data

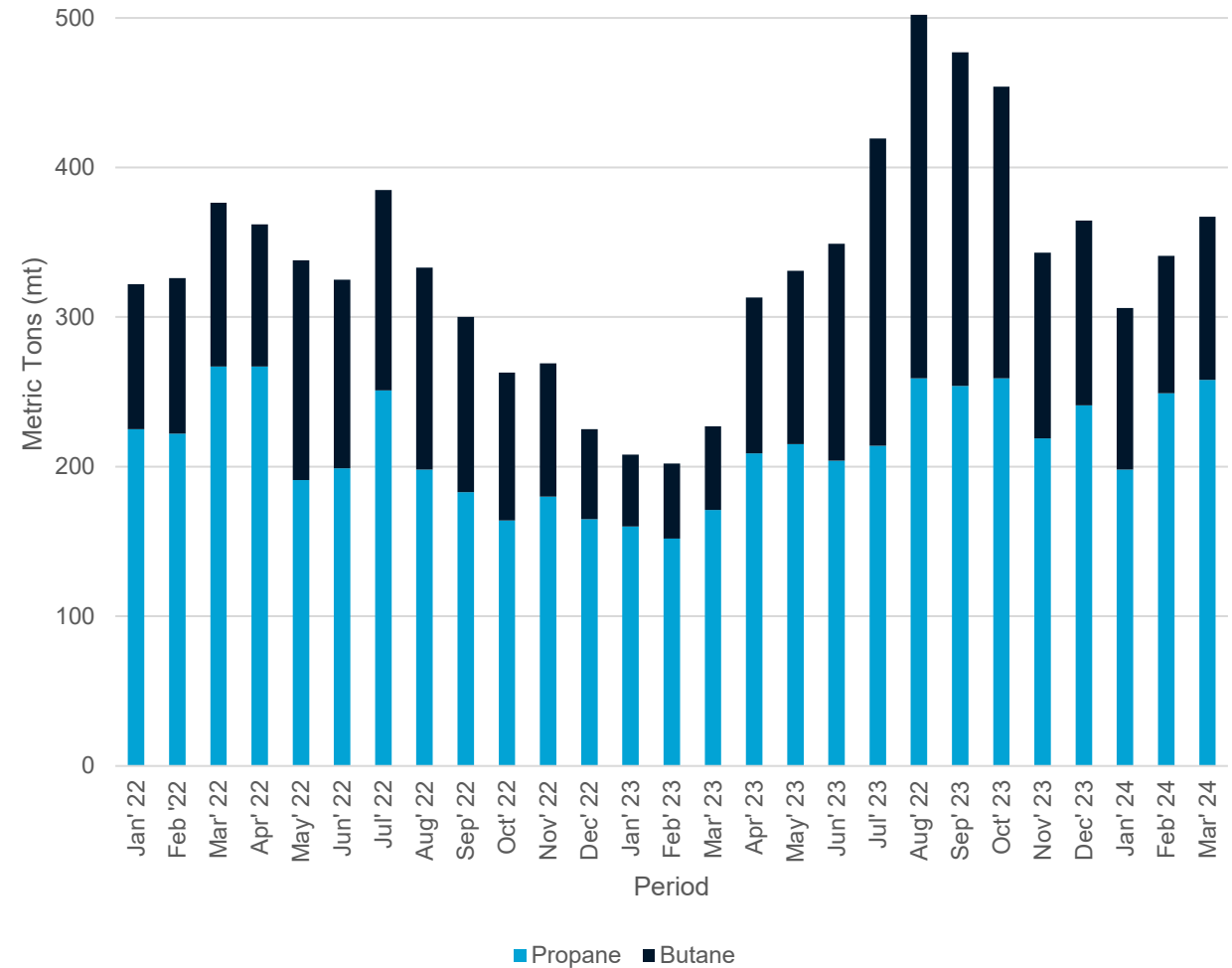
# China LPG Imports Between 2000-2023



Source: China customs

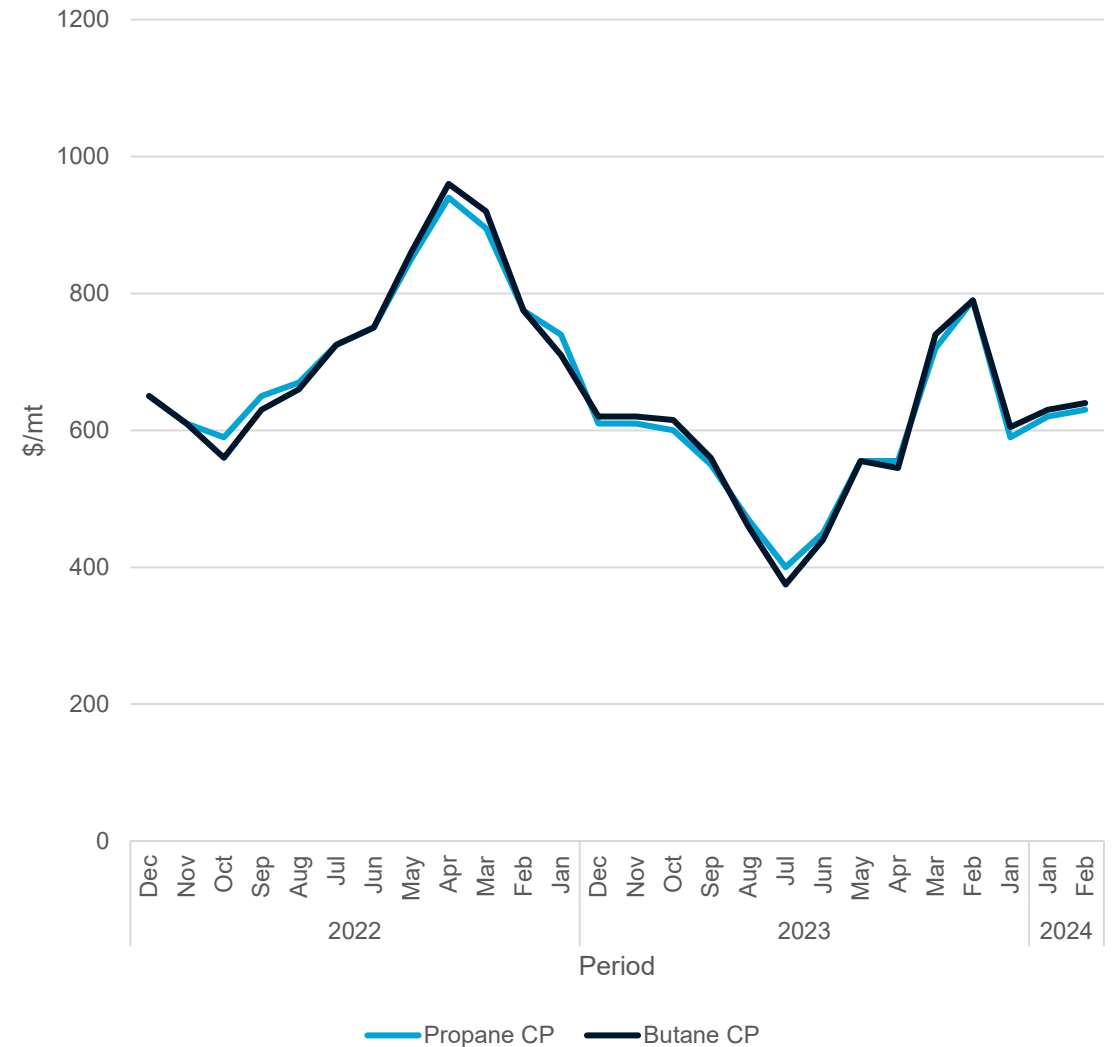
# Brief Positive Margins Lends Support to LPG Cracking Volume IN NE Asia

- Annual average for 2023 at around 350,000 mt or up 9.7% from 319,000 mt in 2022
- Petchem margins flipping into the positive territory briefly at end-Q2 2023 was a factor
- However, most market participants remained cautious, full demand recovery from the petchem segment was still not in sight for 2024
- Margins anticipated to remain sensitive towards the price movements of both LPG and naphtha



# Trend of Saudi Aramco's CP

- Monthly CP averaged \$575/mt for propane and \$577/mt for butane, down from last year's average of \$737/mt and \$734/mt, respectively
- Limited demand from the Far East was the driving factor for the drop
- Anticipated uptick on monthly CPs in Q1 2024 amid Chinese buyers likely to stock up inventories ahead of the Lunar New Year celebrations and post-holiday
- LPG export volume from Saudi Arabia anticipated to be at around 600,000 mt/month over Q1 2024 and it might increase to 700,000 mt/month from Q2 2024
- Subject to whether any further cuts on crude will be announced by OPEC+
- Limited vessel booking slots at Panama Canal lend a lift to the CPs





## New PDHs

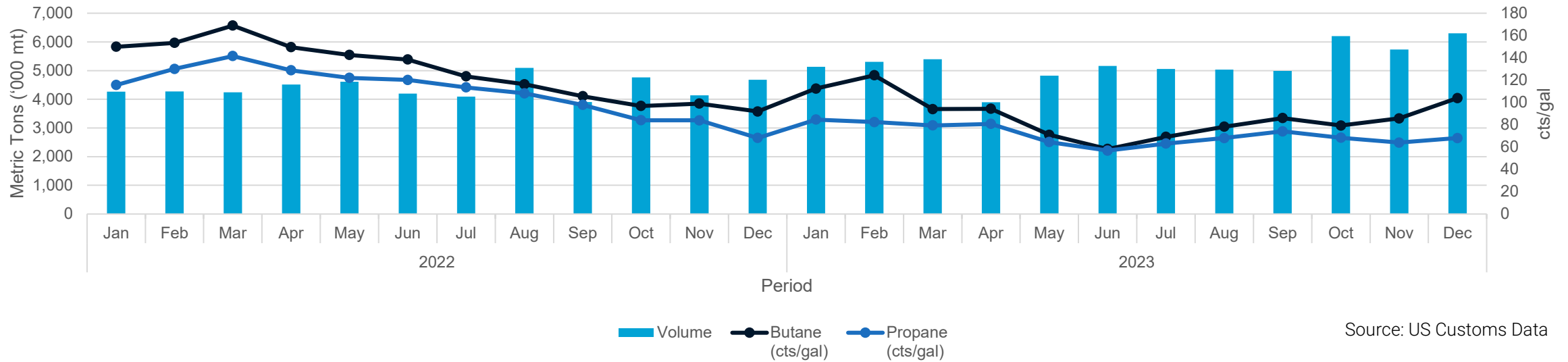
- 2023 Total new propylene cap added: 3 mil mt/yr
  - Shanghai Huayi Acrylic Acid 750kt/yr (Started Feb)
  - Jiangsu Yanchang China Gas Chemical 600kt/yr (Started May)
  - Dongguan Grand Resource Science & Technology 600kt/yr (Started May)
  - Befar Group 600kt/yr (Started July)
  - Zhejiang Huahong New Materials 450kt/yr (Started July)

## New Crackers

- 2023 Total new C2 cap 2.99 million mt/yr, C3 cap 380kt/yr
  - CNPC/PDVSA Guangdong Petrochemical C2: 1.2 million mt/yr, C3: 436kt/yr (Started Feb)
  - Shandong Jinhai Chemical C2: 448kt/yr, C3: 233kt/yr (Started March)
  - Zibo Junchen New Material Technology C2: 190kt/yr, C3: 80kt/yr (Started April)
  - China Sanjiang Fine Chemicals C2: 1 million mt/yr, C3: 330kt/yr (Started May)
  - Ningxia Baofeng Energy Group C2: 150kt/yr, C3: 50kt/yr (Started September)

Source: Chemical Market Analytics

# Higher US Exports Amid Lower MB Prices



Source: US Customs Data

- 2023: 63.04 million mt

- 2022: 52.78 million mt

- '23 vs '22: Up 19.4%

- 2022 MB averages:

- Propane: 109.513 cts/gal

- Butane: 128.003 cts/gal

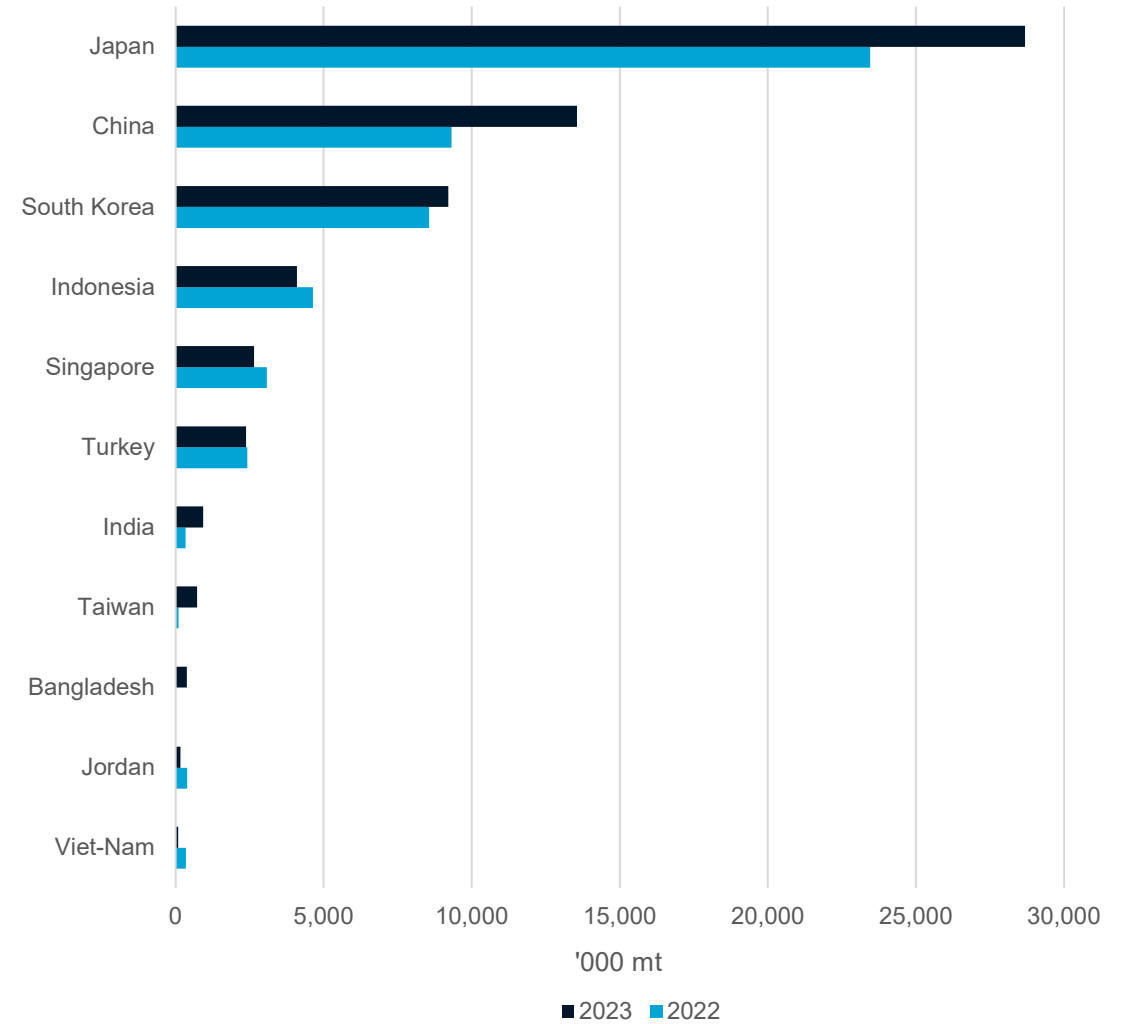
- 2023 MB averages:

- Propane: 71.176 cts/gal (down 35% y-to-y)

- Butane: 88.067 cts/gal (down 31.2%)

# Ex-US LPG Asian Destinations

- Main outlet for US-origin LPG is Japan, followed by China and South Korea
- Exports from the US likely to dampen potential demand recovery in Asia, adding to the supply long
- Analysts believe the cargo flowing into Asia from the US will continue to grow especially if the arbitrage window stays open



Source: US Customs Data

- 4 PDHs start up postponed from 2023 to 2024
  - Oriental Energy's Maoming project 600kt/yr
  - Jiangsu Ruiheng New Material Technology 600kt/yr
  - Lihuayi Lijin 600kt/yr
  - Formosa Industries' Ningbo project 600kt/yr
- 7 new PDHs planned to start up in 2024 adding a potential 4.56 million mt/yr of propylene cap
- 4 new crackers planned to start up in 2024 adding a potential 9.21 million mt/yr ethylene cap and 1.97 million mt/yr propylene cap
- There is still some potential upside for LPG demand in the Far East
- Most PDH and cracker operators will still be focused on keep costs low than ramping up operating rates amid margins being in the red

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Tokyo, Japan

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March 14, 2024

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