

# 2024 Global Polyolefins Outlook Webinar

Navigating the dynamic landscape of international  
markets and emerging trends

28 March 2024

Global Polypropylene Market

# Polypropylene oversupply: is it only a demand problem?

Emiliano Basualto, Senior Polyolefins Analyst

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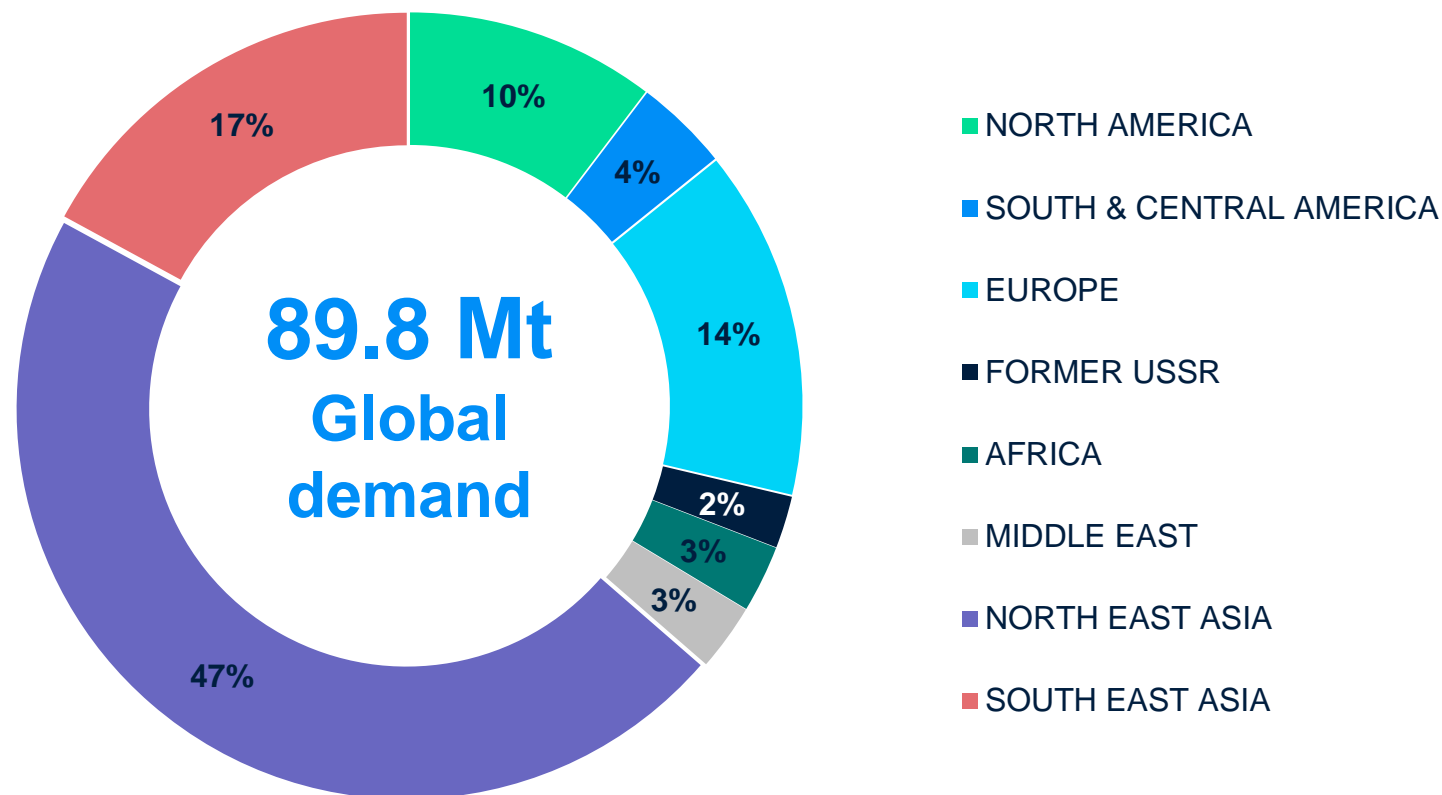
*Polypropylene oversupply: is it only a demand problem?*



## Agenda

- **Polypropylene Supply and Demand - Global outlook**
- **Polypropylene demand - before and after the latest black swan events**
- **Global PP oversupply – how about the industry entry barriers?**
- **Summary**

# PP demand by region 2023 | China drives global consumption



Share of China in global PP demand

**42%**

India surpassed the US as the 2<sup>nd</sup> largest PP consumer in

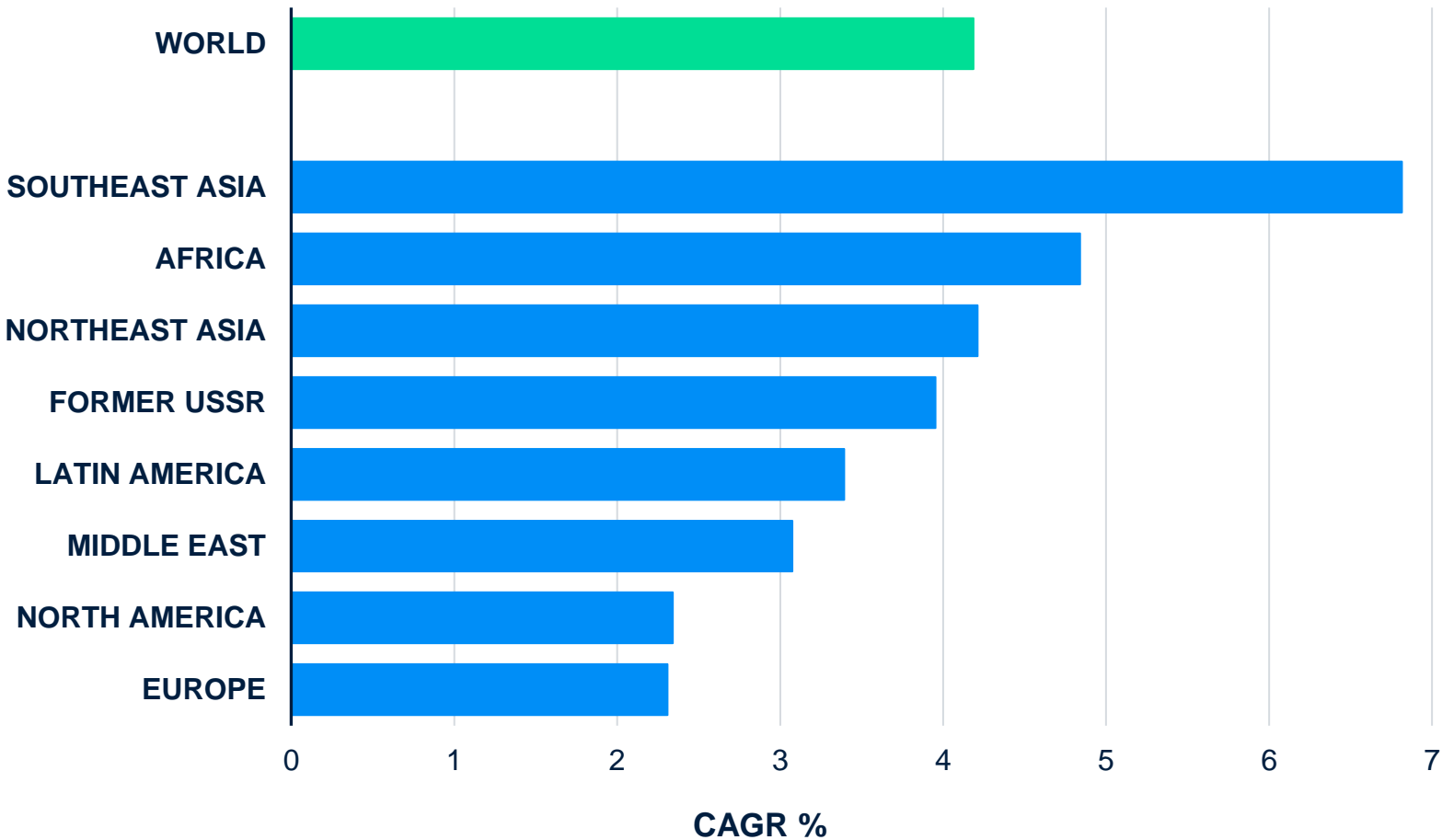
**2023**



# PP demand trend over 2024-2028 | SEA takes the lead



Regional CAGR % (2024-2028)



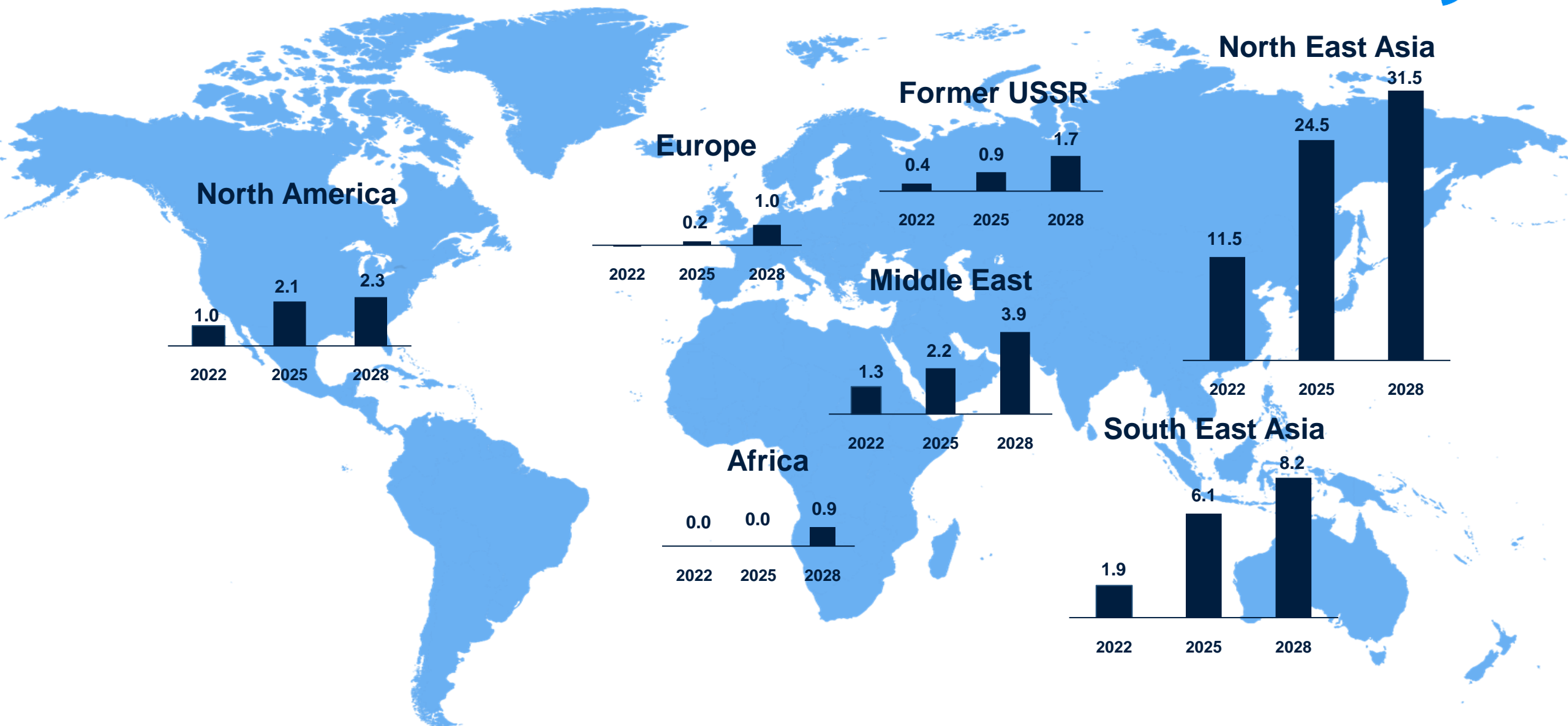
Global PP demand CAGR  
over 2024-2028

4.2%

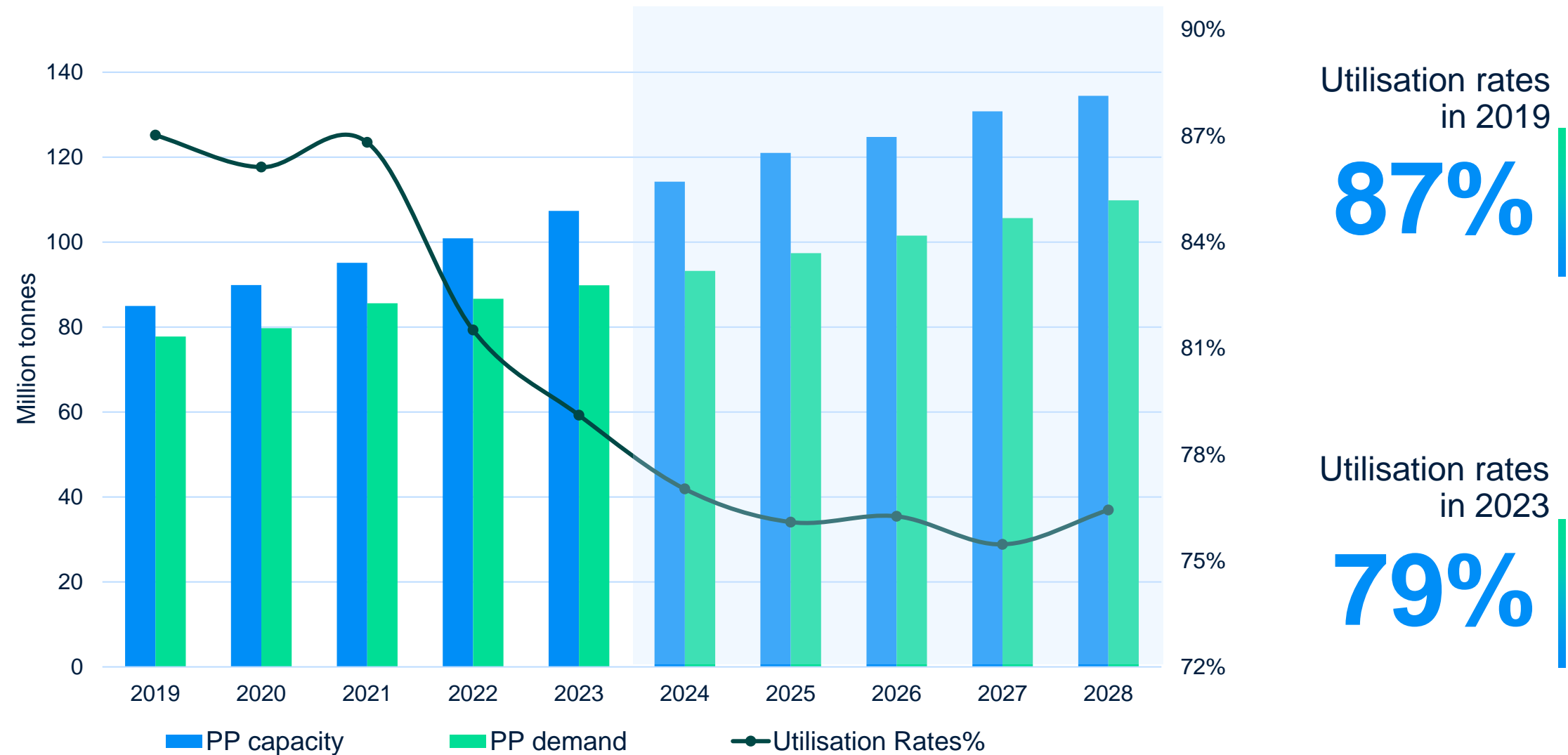
Global PP demand growth in  
2023

3.6%

# PP cumulative capacity additions from 2019 (Mt/year)



# Global supply and demand trend | Operating rates plunging



Utilisation rates  
in 2019

87%

Utilisation rates  
in 2023

79%



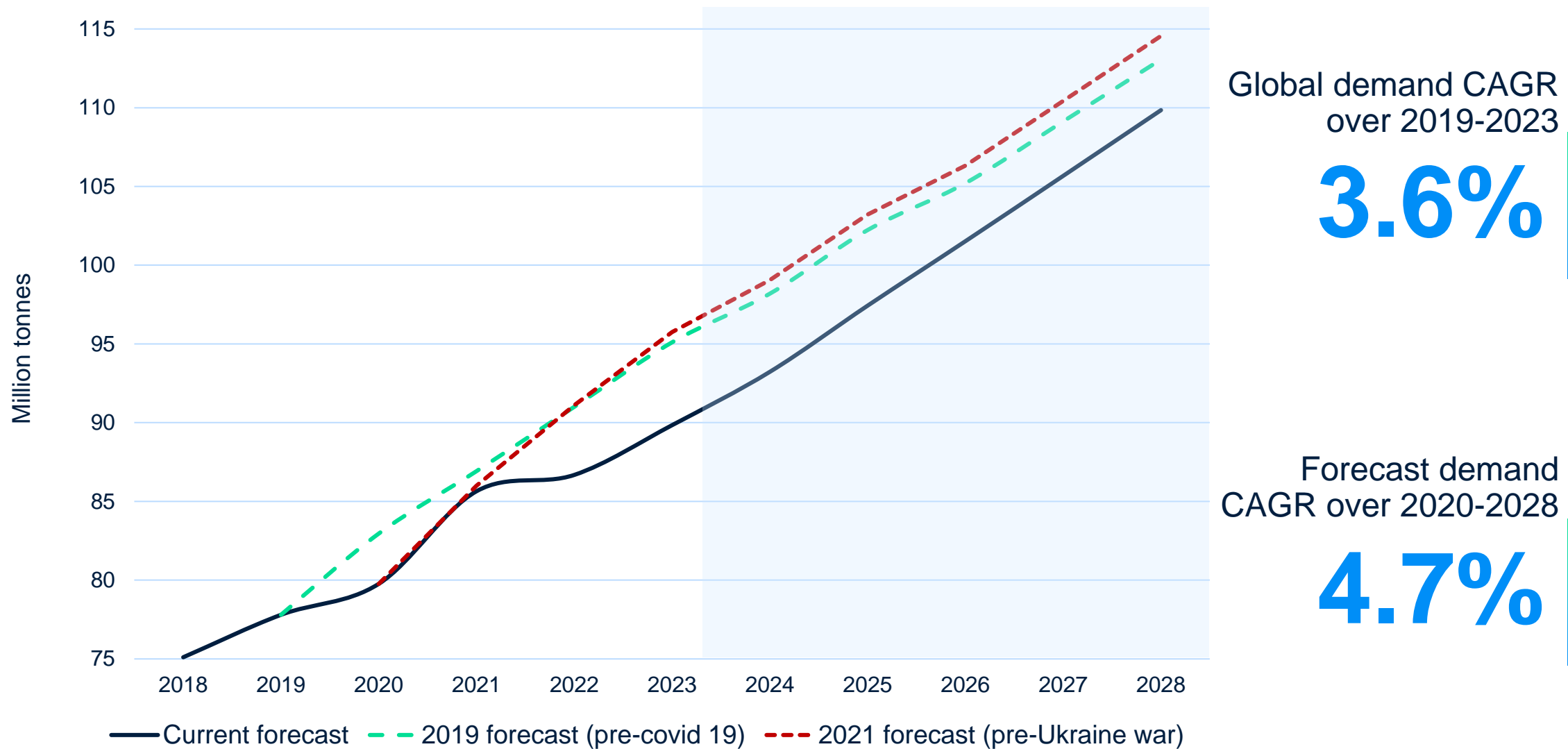
*Polypropylene oversupply: is it only a demand problem?*

## Agenda

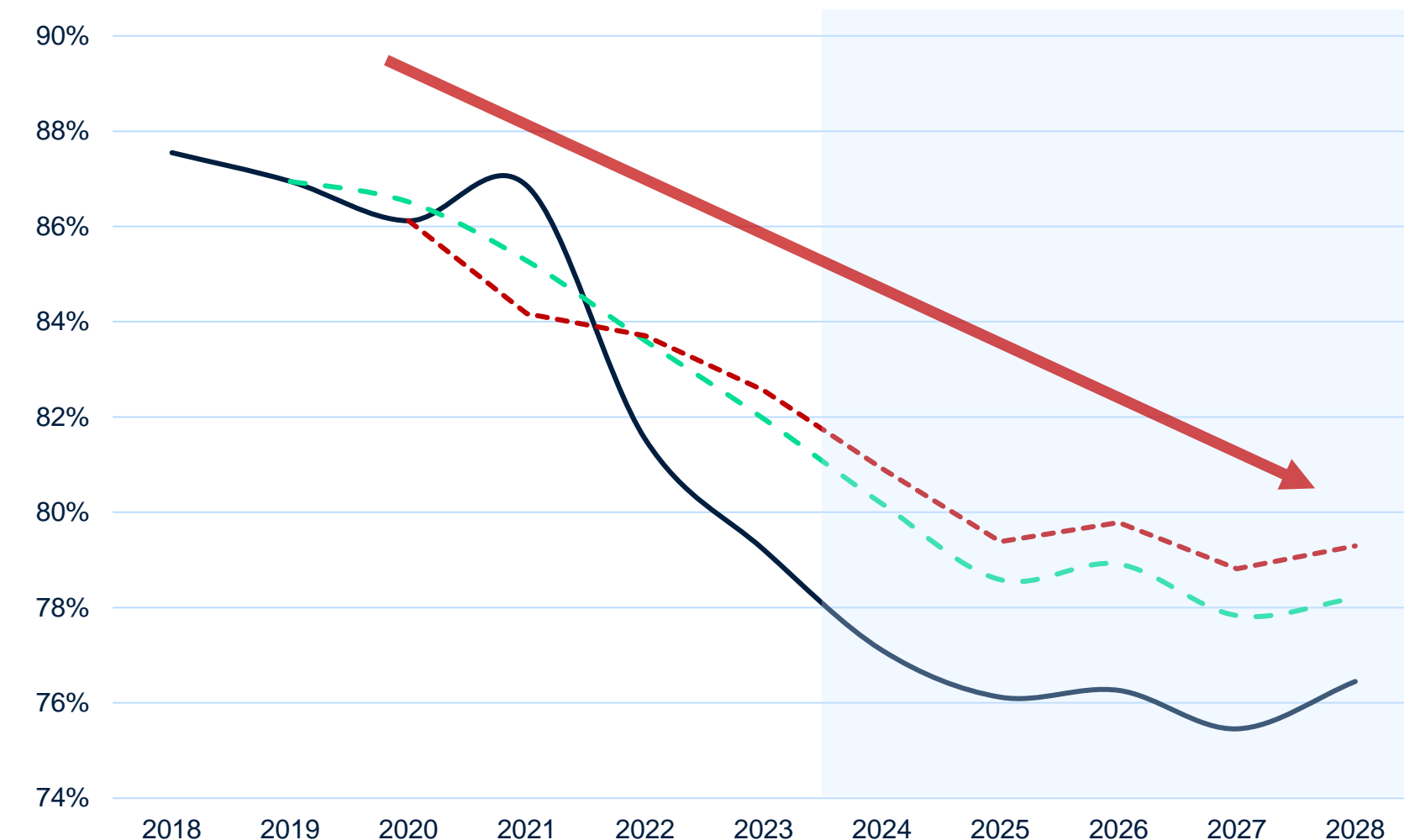
- Polypropylene Supply and Demand - Global outlook
- **Polypropylene demand - before and after the latest black swan events**
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# Global PP demand correction | The impact of black swans



# Utilisation rates and current capacity additions | The big “what if”



Estimated cumulative  
demand loss over  
2020-2028

**35 Mt**

Capacity additions  
confirmed since 2021

**8.5 Mt**

— UR% Current forecast    - - - UR% projection (pre-covid 19)    - - - UR% projection (pre-Ukraine war)



*Polypropylene oversupply: is it only a demand problem?*

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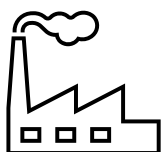
- Polypropylene Supply and Demand - Global outlook
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# PP industry entry barriers | The traditional ones



## **Regulatory**

Required support of local authorities, large projects on the feedstock side



## **Feedstock**

Access to propylene from steam crackers/refineries



## **Investment**

Large investments needed, specially on the feedstock side (crackers, refineries)







## **Technology**

Proprietary technology for polymer production

# The irruption of PDH units | Lowering investment barriers



CAPEX [MUS\$/tonne]				
	USA	Europe	South Korea	China
Steam Cracker (*) (**)	9.0	9.6	7.4	5.2
PDH unit	1.8	2.4	1.8	1.3
PP unit (tonne PP)	1.5	2.0	1.5	1.1

PDH/PP Integrated facility  
cheaper than Steam Cracker/PP

x2.9

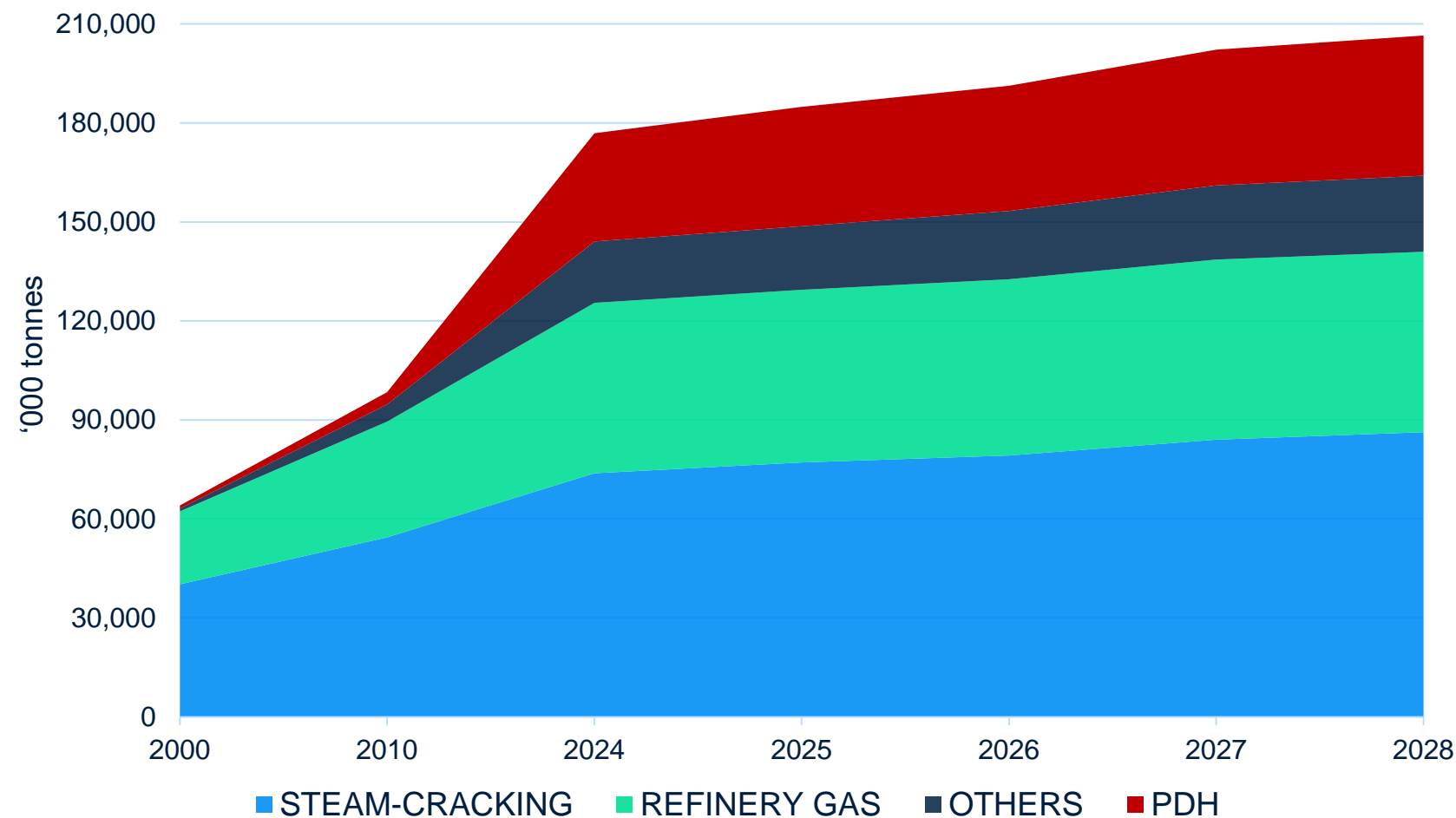
(\*) Normalised to standard propylene yield – The US mostly focused on ethane crackers with quite low C3= yield.

(\*\*) Produces more products such as ethylene, butadiene, pygas, etc.

Integrated facility in China  
cheaper than in Europe

~x2

# The irruption of PDH units | Increasing installed capacity



Share of propylene from PDH in 2010

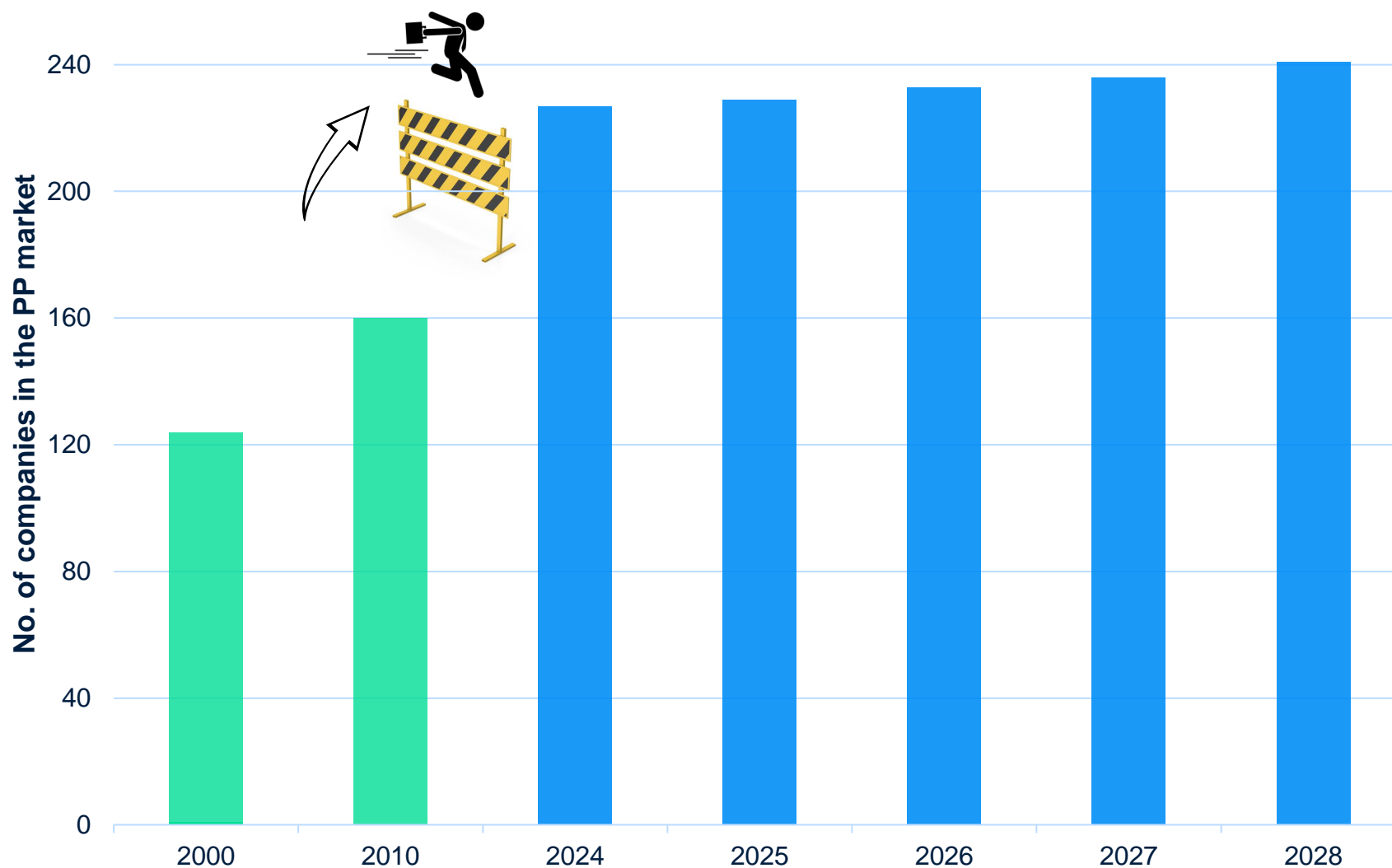
4%

Share of propylene from PDH in 2024

19%



# Lower entry barriers | New entrants in the PP market



No. of new entrants  
since 2000

**103**

Of which, from China  
are

**~80%**



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# Summary | Headwinds are not only a business cycle



- Asia will continue leading the global PP demand, with a **growing population** and countries transitioning from **low to mid-income economies** as the main drivers.
- The **oversupply** in the PP market is **structural**, demand recovery will help, but it won't be enough to return to business as usual
- **Lower market entry barriers** have reshaped the competitive landscape – propylene availability from on-purpose PDH units playing a key role
- A significantly higher number of market players – **increased competition** - may make it difficult for producers to recover historical margin levels.

# Competitiveness in the global PE market intensifies: Who will be winners and losers?

Lorenzo Meazza, ICIS Senior Analyst  
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# Agenda



- Why is the global PE market facing oversupply?
- What can we expect in the near future?
- Who will be winners and losers?



Why is the global PE  
market facing oversupply?

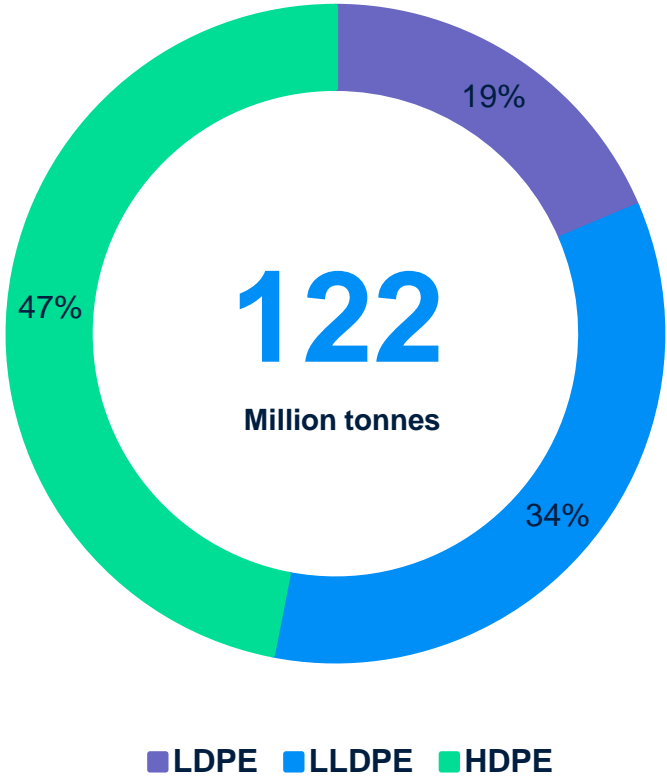




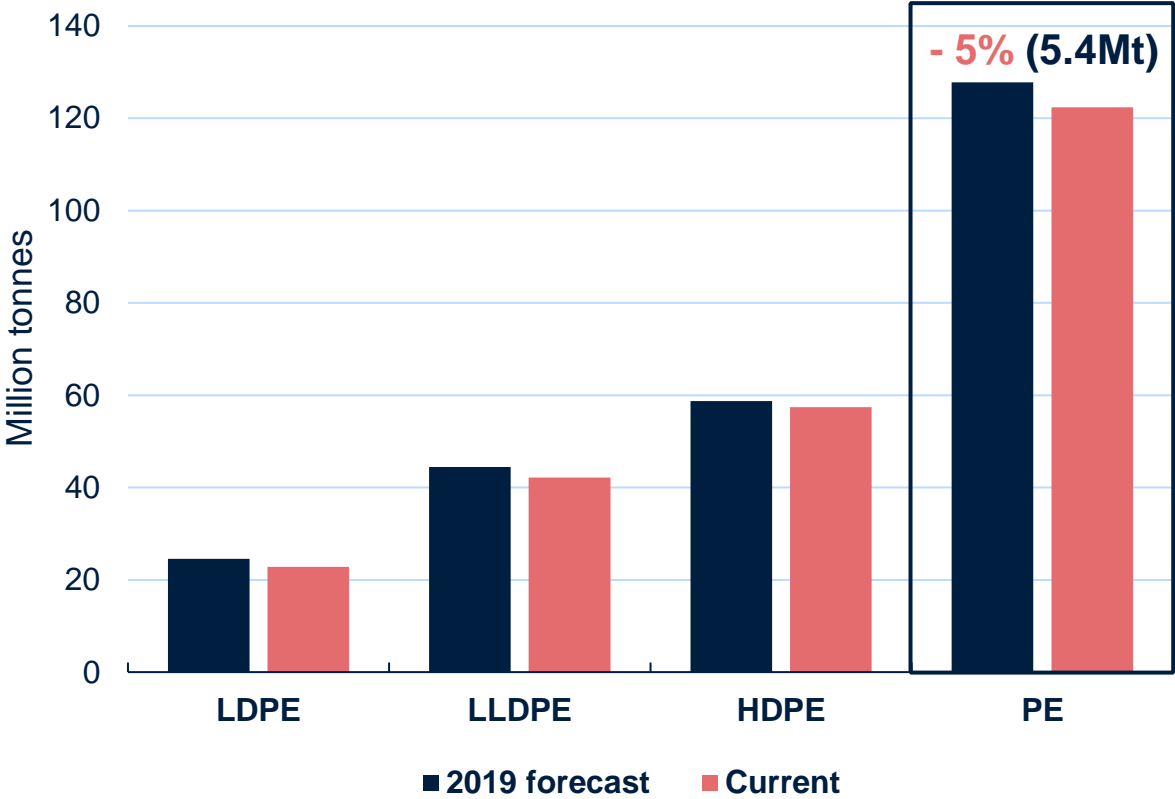
# Global PE demand - reality vs expectations



PE demand by type, in 2023



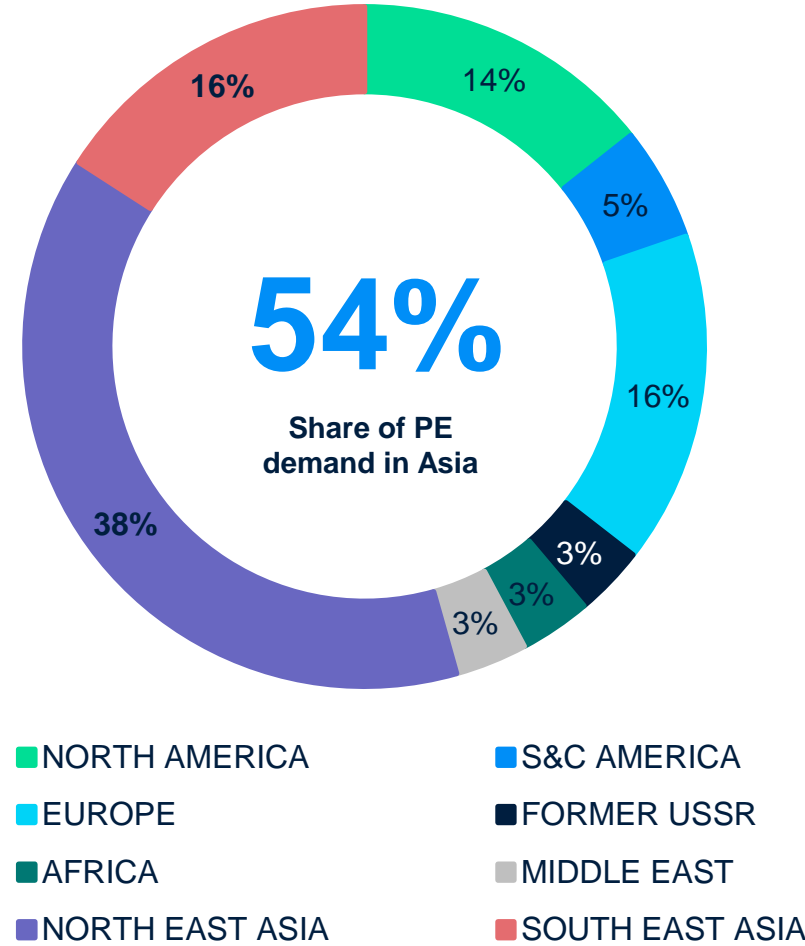
Demand in 2023, 2019 forecast versus current



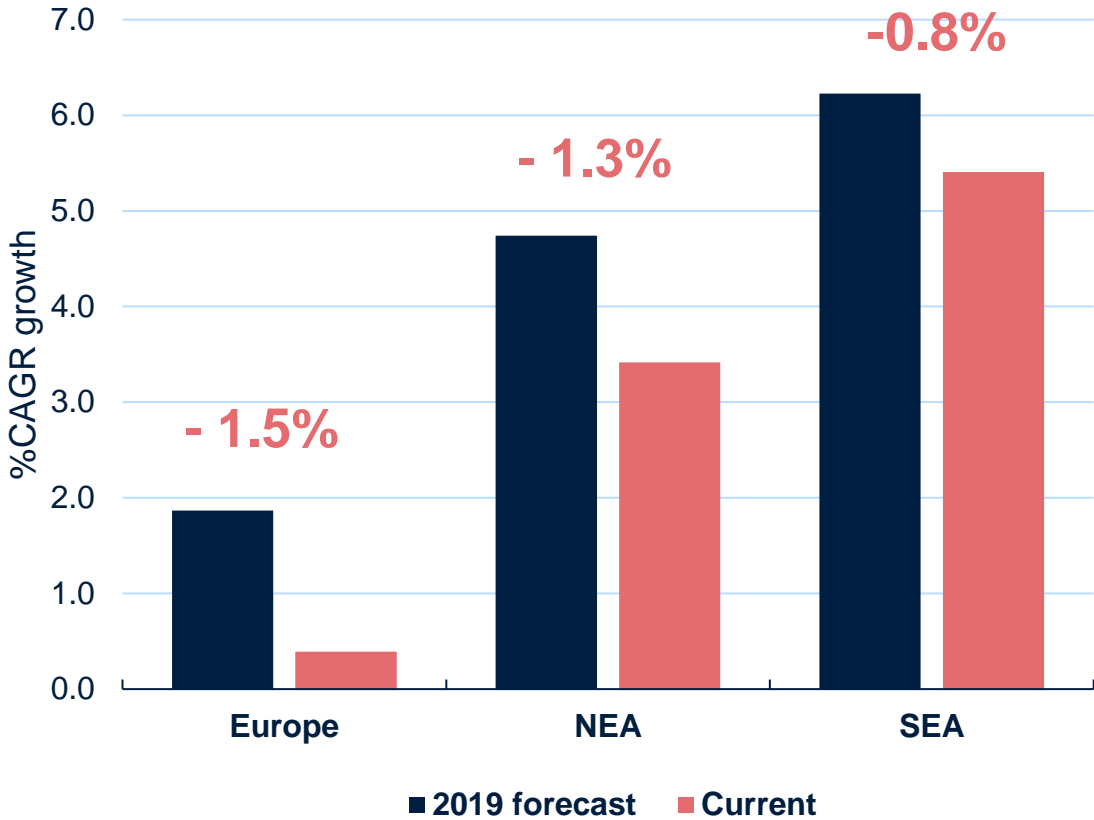
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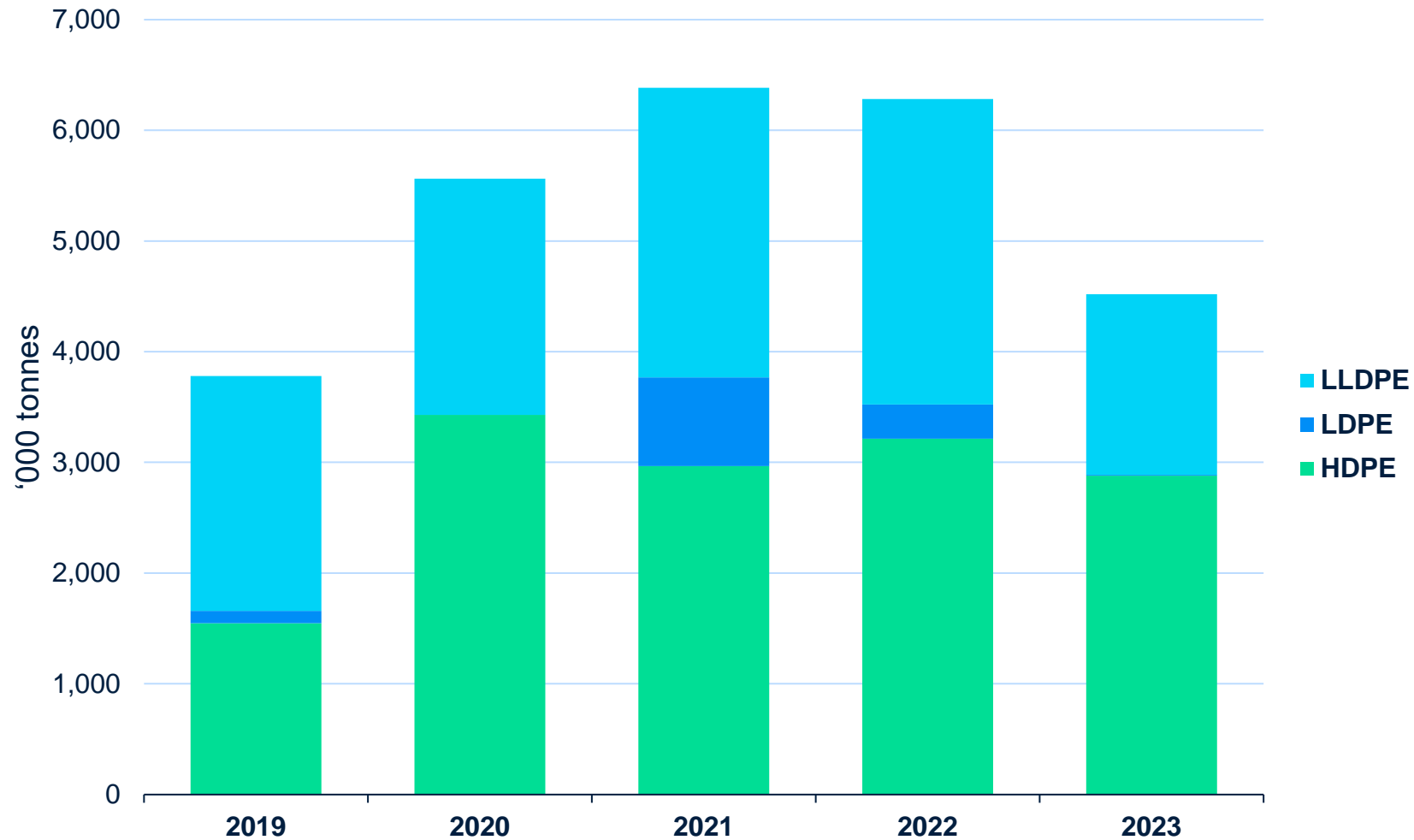
PE demand by region, 2023



2019-2023 demand %CAGR, 2019 forecast vs current



# PE incremental capacity 2019-2023



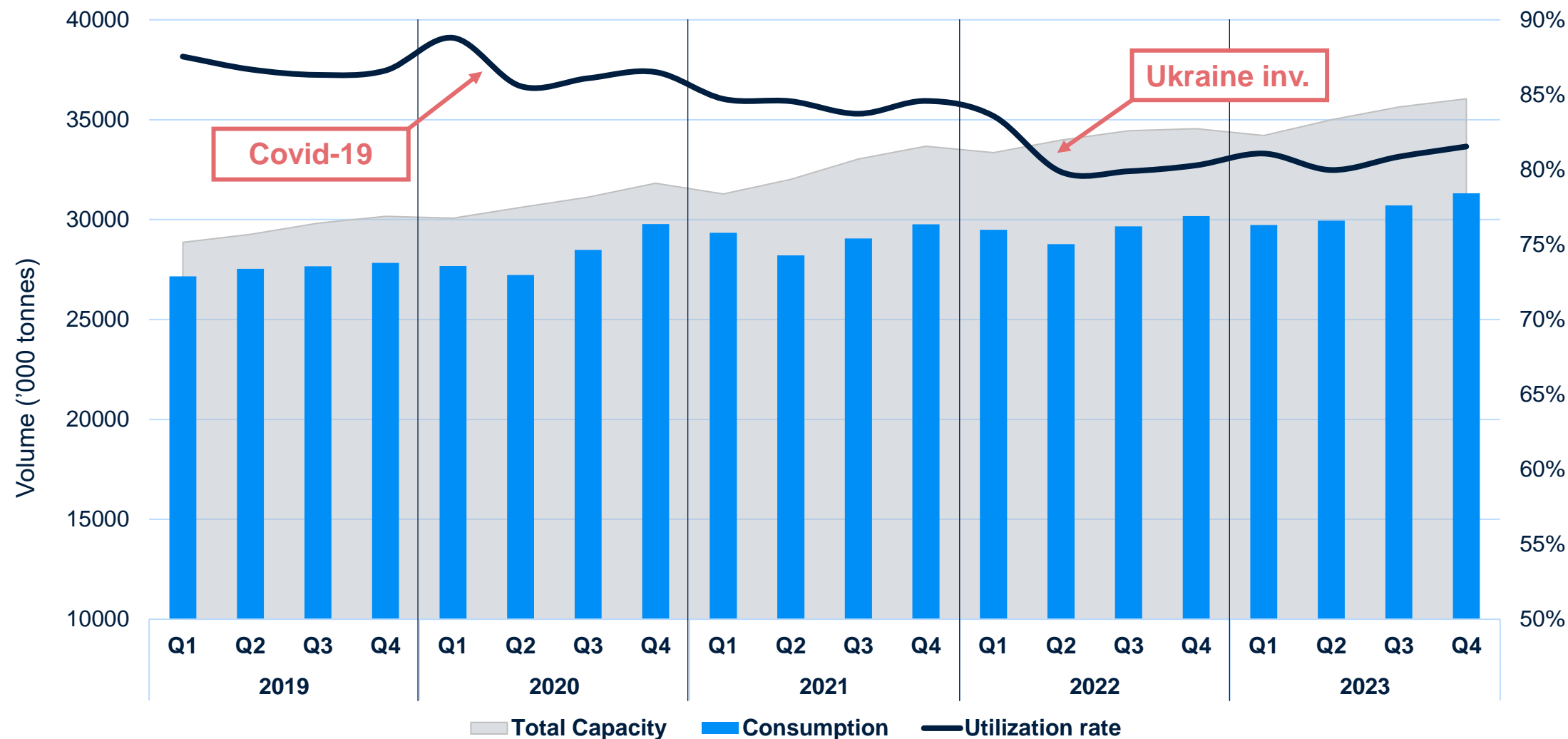
PE capacity increase,  
2019-2023

**23Mt**

PE capacity increase,  
2019-2023

**19%**

# Global PE S&D 2019-2023



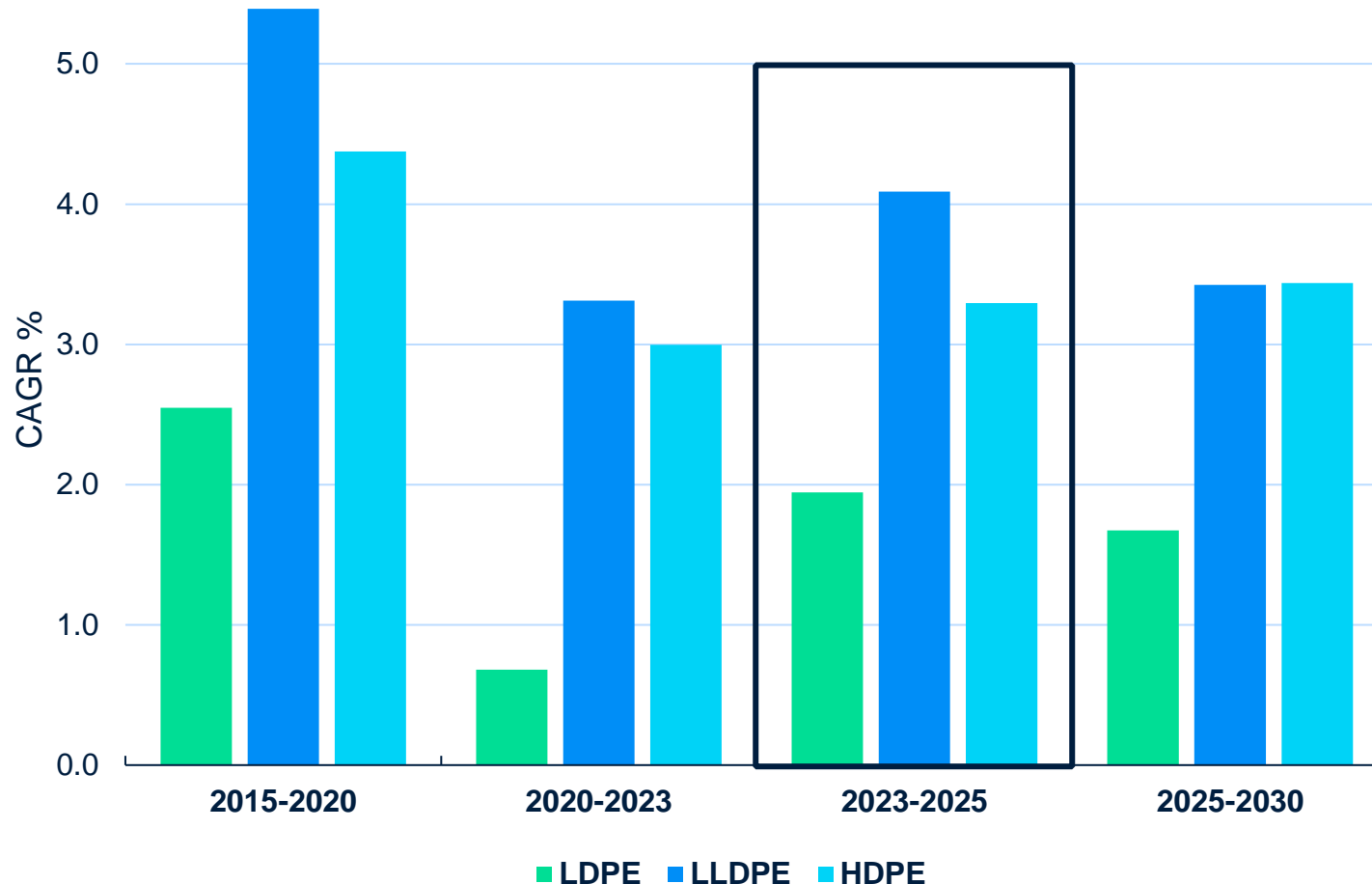
What can we expect in  
the near future?



# Global PE demand trend (2015-2030)



Demand growth for HDPE, LDPE and LLDPE, selected years



LLDPE demand CAGR%  
between 2023 and 2025

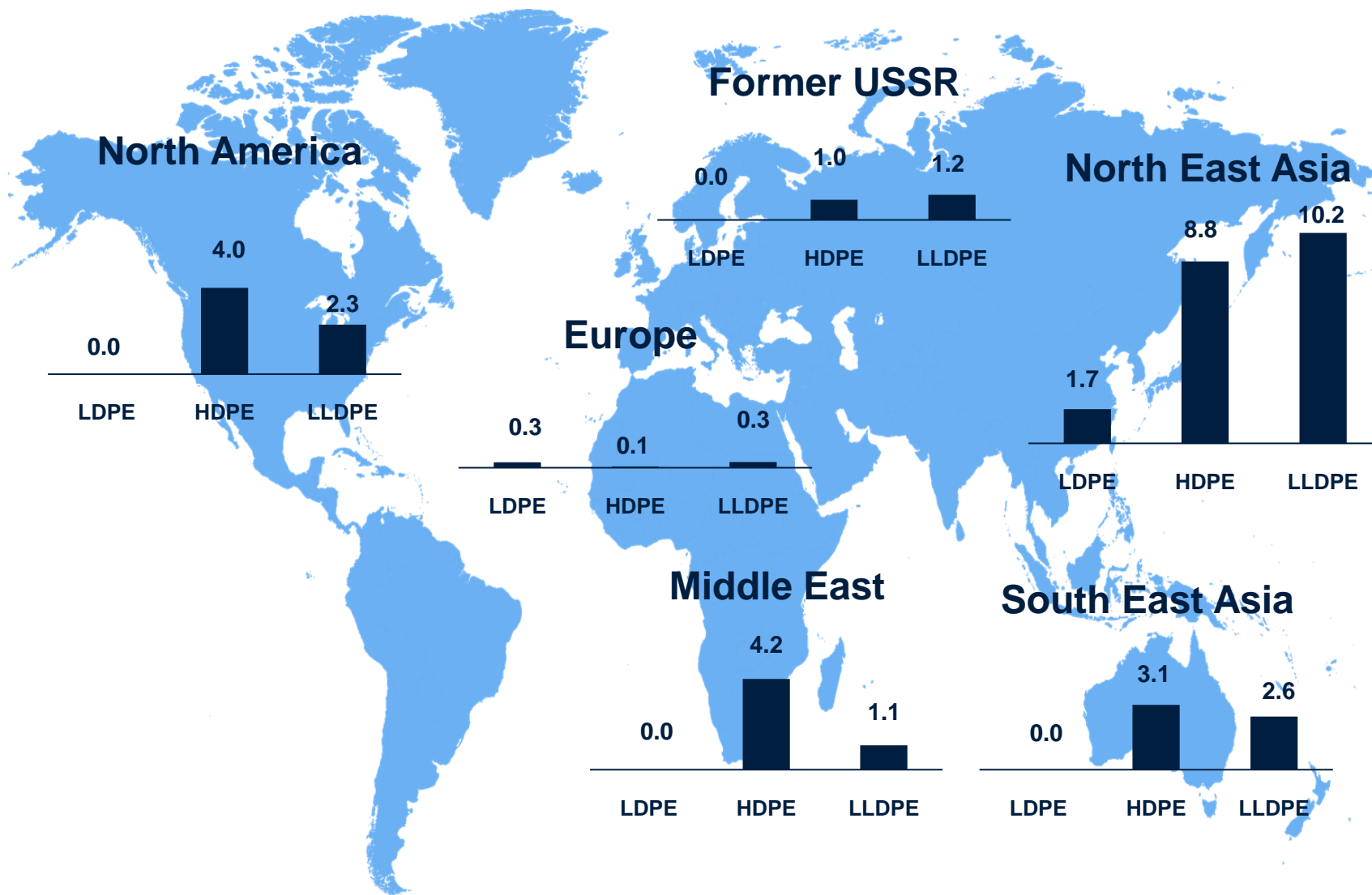
**4.1%**

LDPE demand CAGR%  
between 2023 and 2025

**1.9%**



# Main PE capacity additions 2022-2030 (Mt/y)



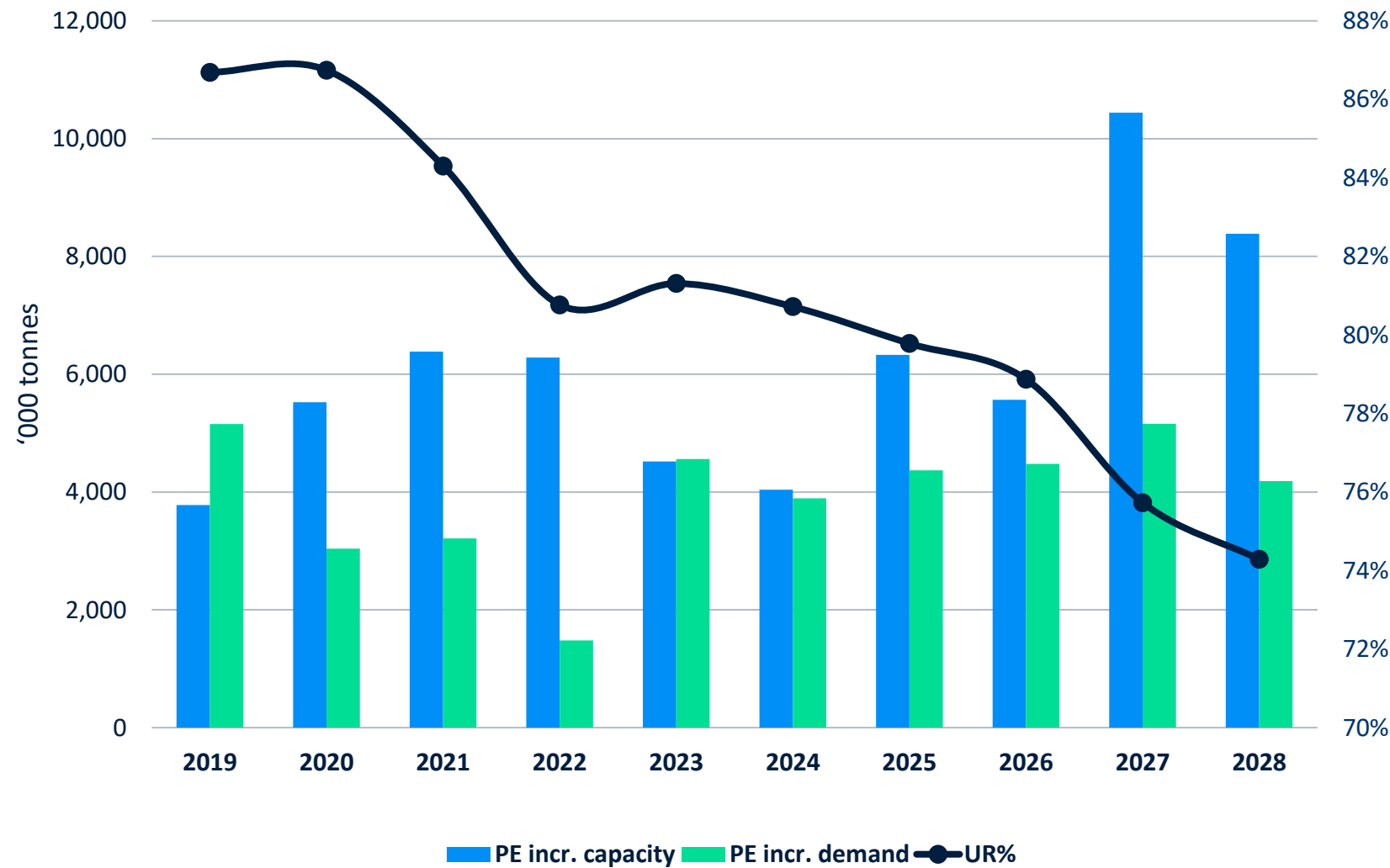
China share of global PE capacity increase

**47%**

PE capacity increase in NEA between 2023 and 2030

**51%**

# Global PE S&D trend (2019-2028)



Global %UR in 2019

87%

Global %UR in 2023

81%

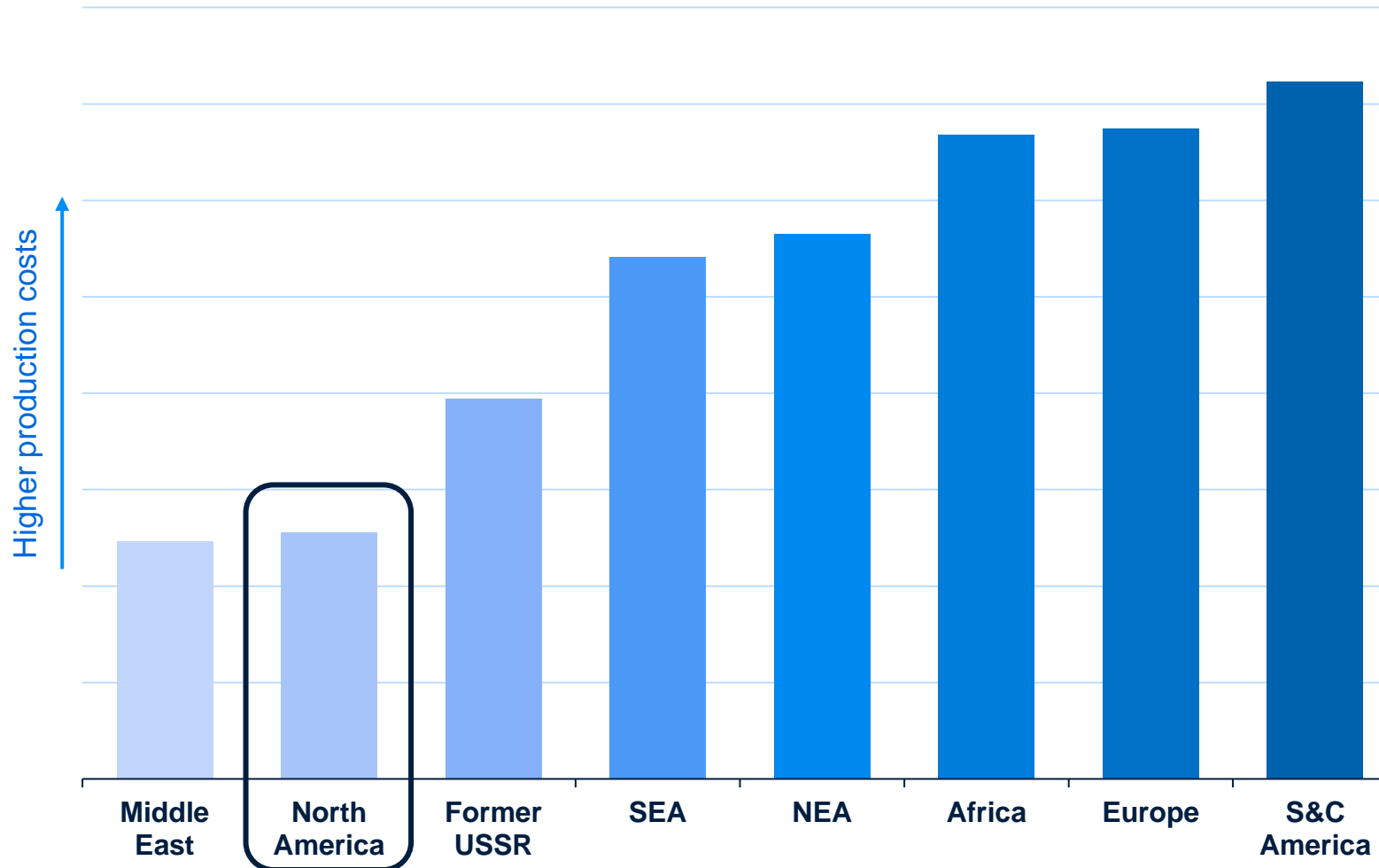
Who will be winners and losers?



# Regional PE production costs



Regional HDPE production costs, normalized by capacity (March 2024)



NA PE capacity increase in  
2023 versus 2022

4%

NA PE output change in  
2023 versus 2022

9%

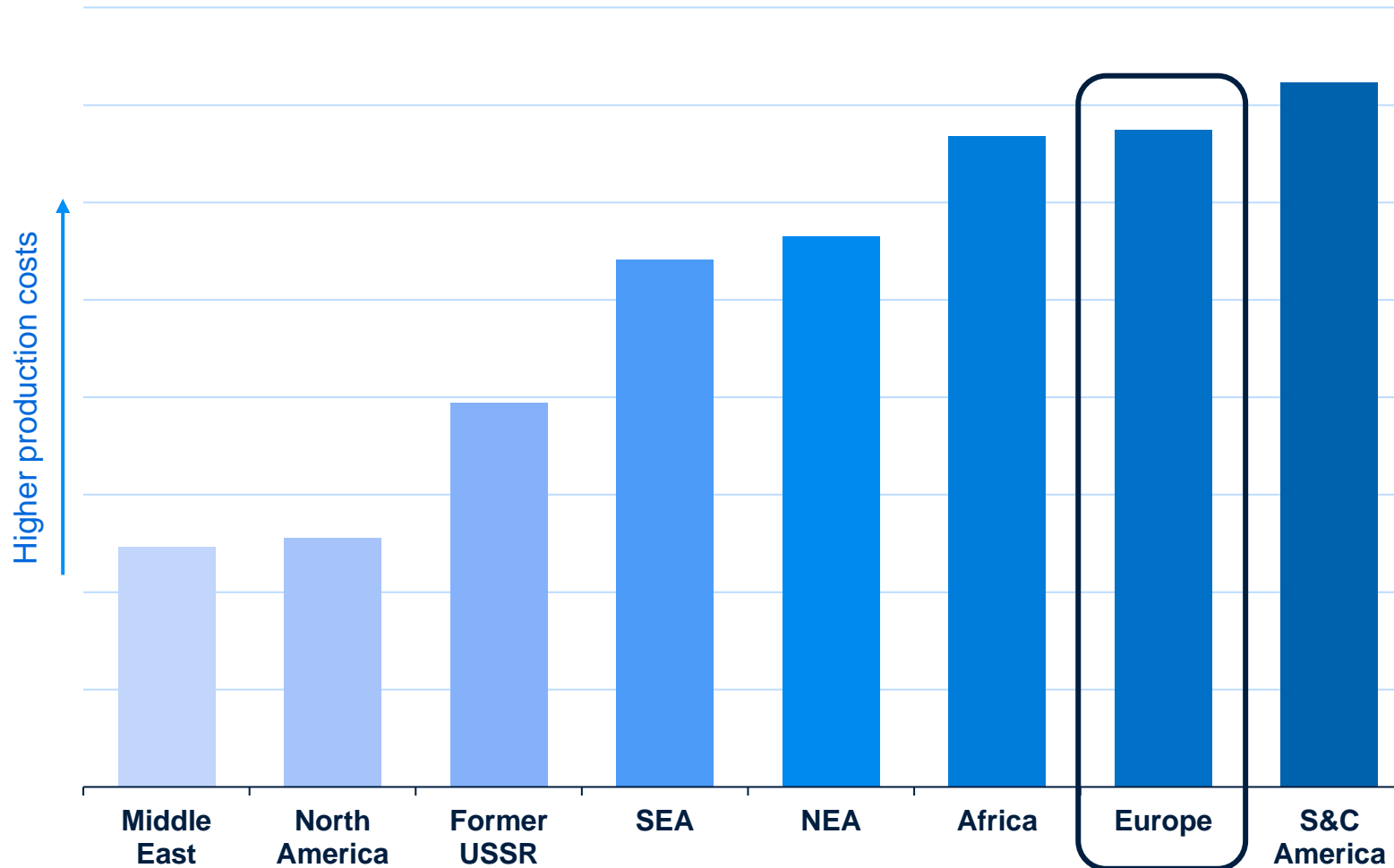
NA PE %UR in 2023

87%

# Regional PE production costs



Regional HDPE production costs, normalized by capacity (March 2024)



EU PE capacity increase in  
2023 versus 2022

0%

EU PE output change in  
2023 versus 2022

-2%

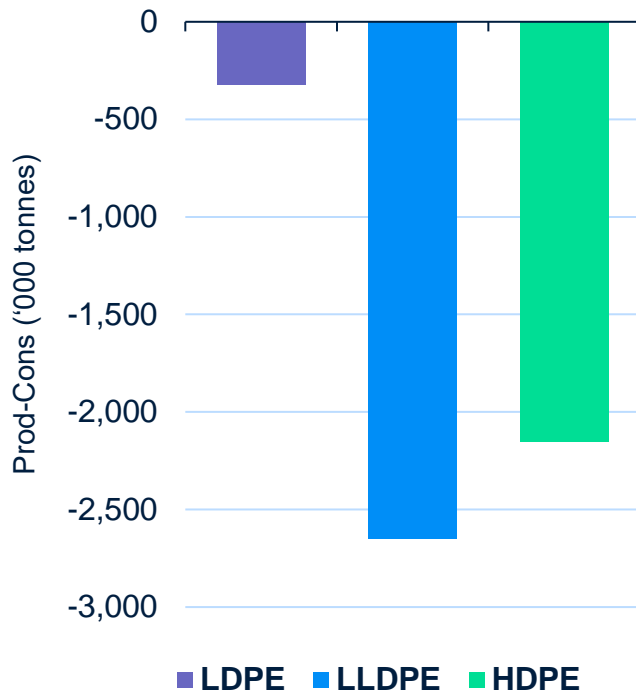
EU PE %UR in 2023

72%

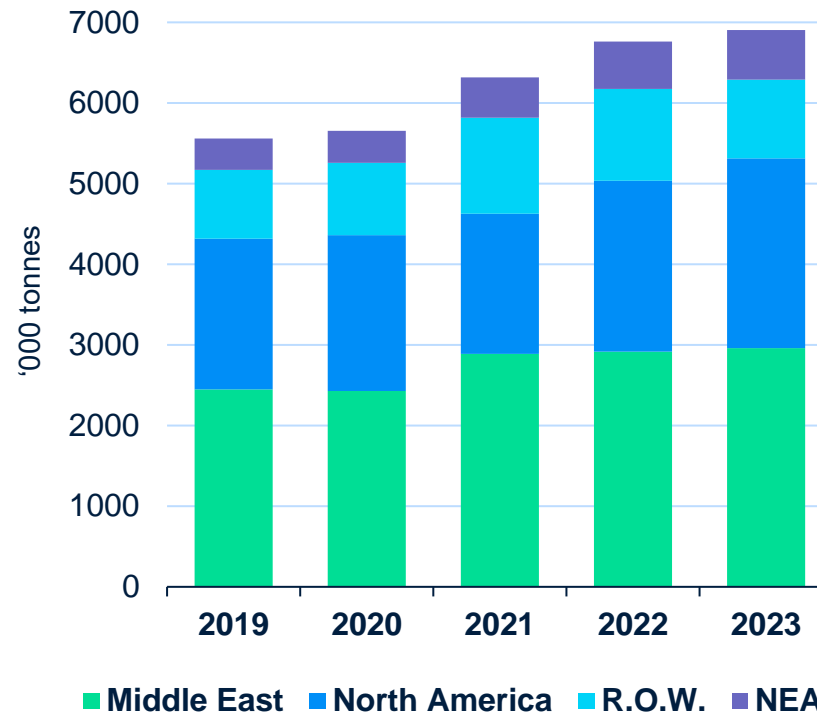
# European competitiveness at risk



Europe PE net balance, in 2023



European PE imports, 2019-2023



PE imports increase,  
2019-2022

**22%**

PE imports increase,  
2022-2023

**2%**



# Summary



- Global PE demand to continue to grow but at declining pace in the next years
- Global PE incremental capacity also expected to slow down in 2024 and 2025
- Some stability, on the low side, for global PE plant %UR in the short term
- However, overcapacity is not a temporary issue but something that may get even worse in 2027/2028
- Competitiveness will further increase in the longer term, impacting PE production mainly where operating costs are higher

# Thank you



Lorenzo Meazza

On LinkedIn



# US polyethylene market: An advantage amidst global oversupply

Harrison Jacoby, Director of Polyethylene Americas  
[Harrison.Jacoby@icis.com](mailto:Harrison.Jacoby@icis.com)

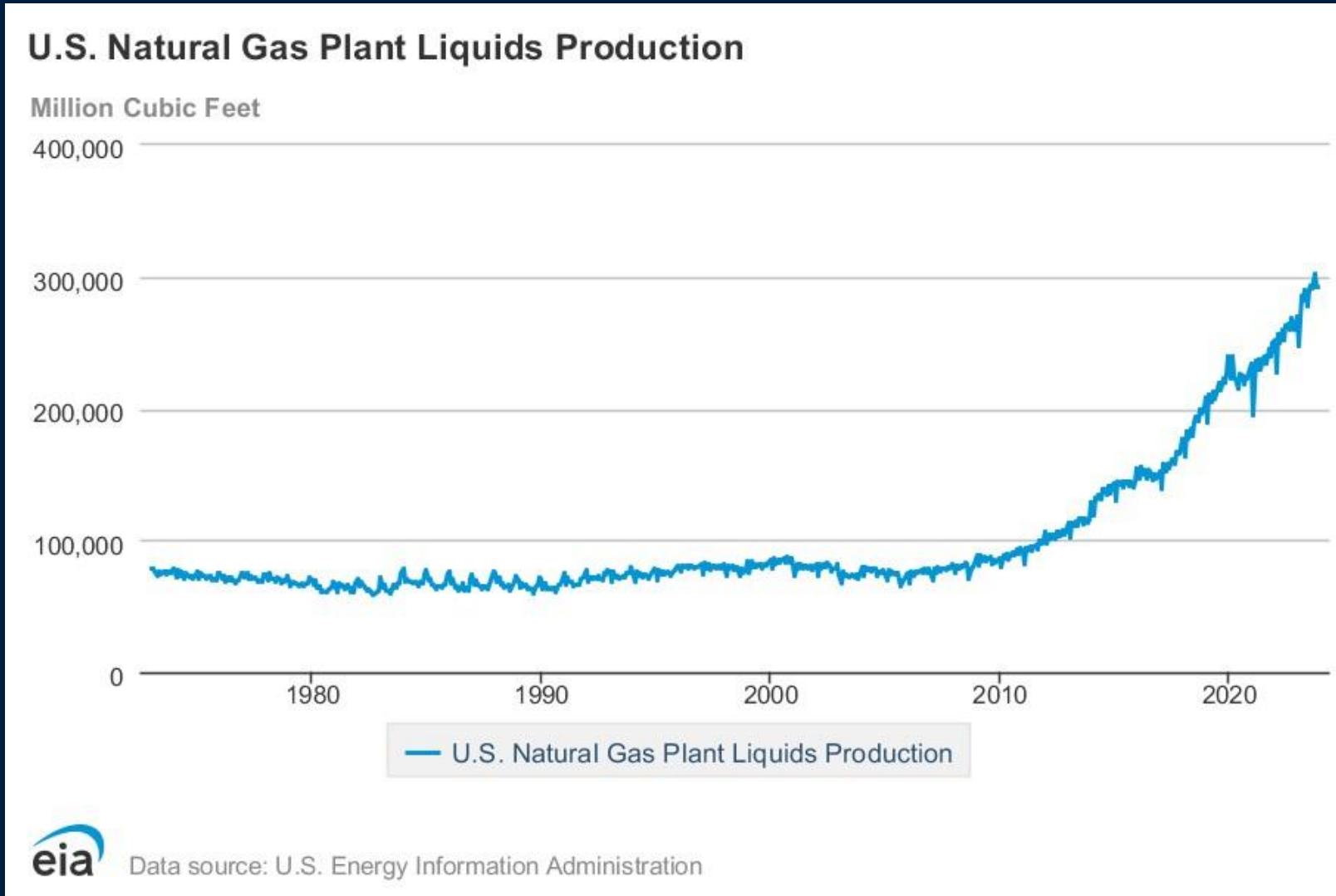




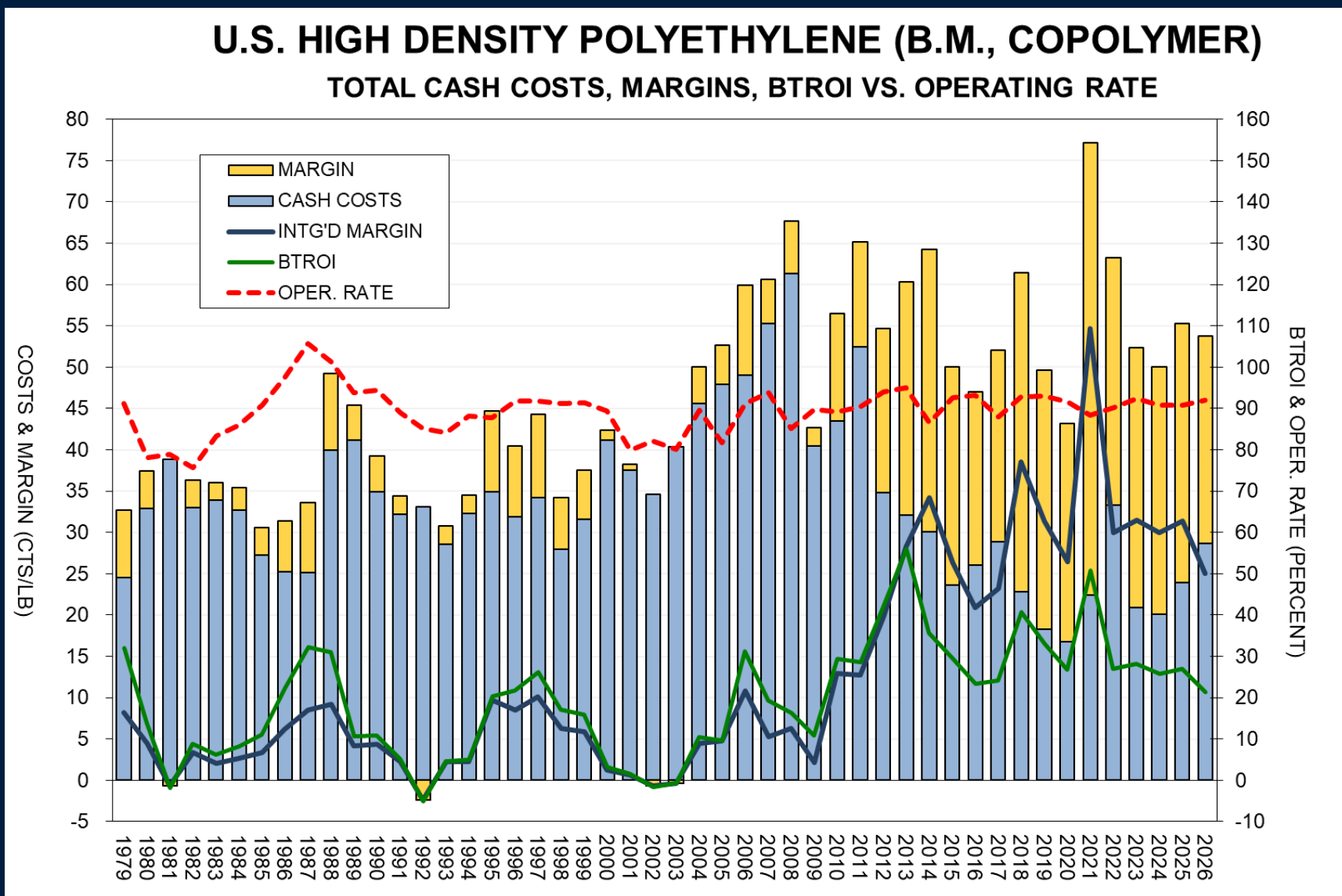
- 01 US/Canada polyethylene cost structure
- 02 Capacity builds
- 03 Polyethylene demand
- 04 Summary



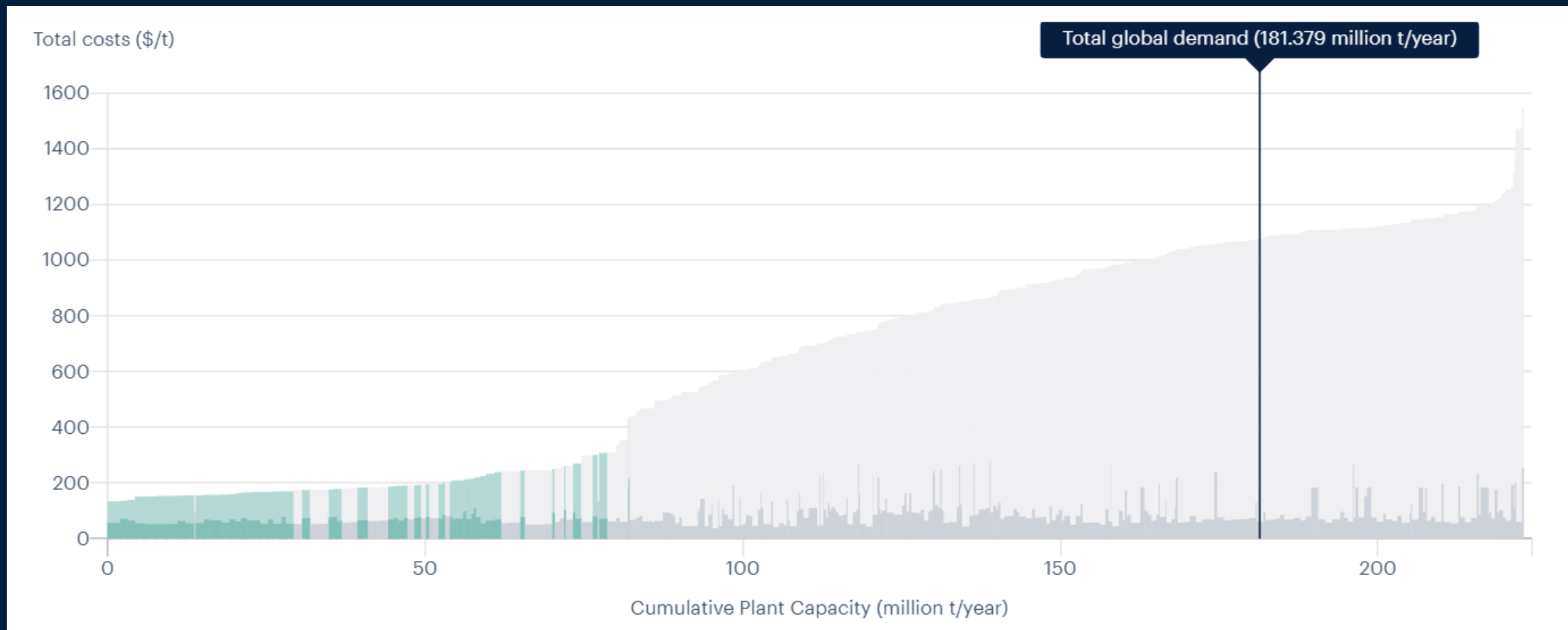
# Unconventional natural gas production



# US HDPE economics

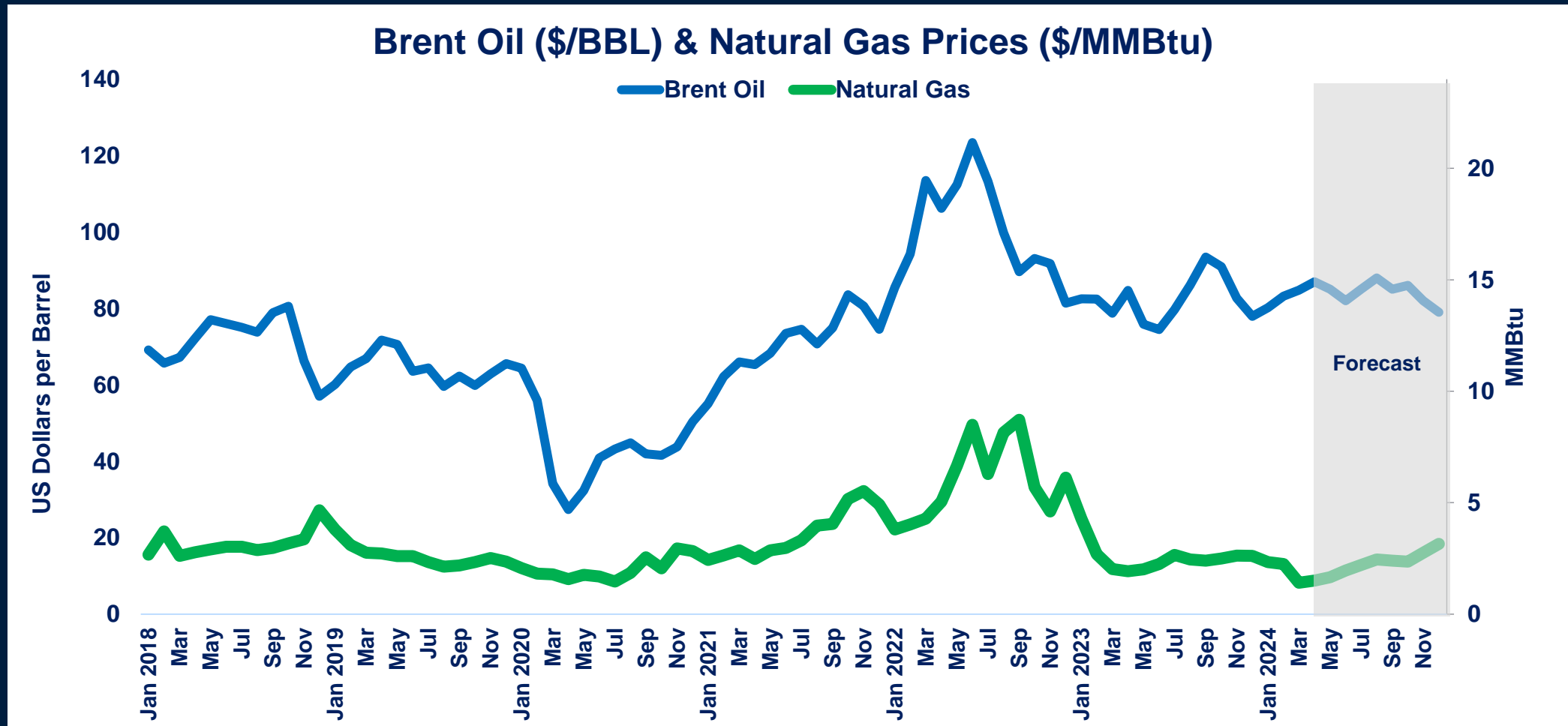


# Global ethylene costs



SOURCE: ICIS Cost Curves

# Brent prices to remain elevated, natural gas stable



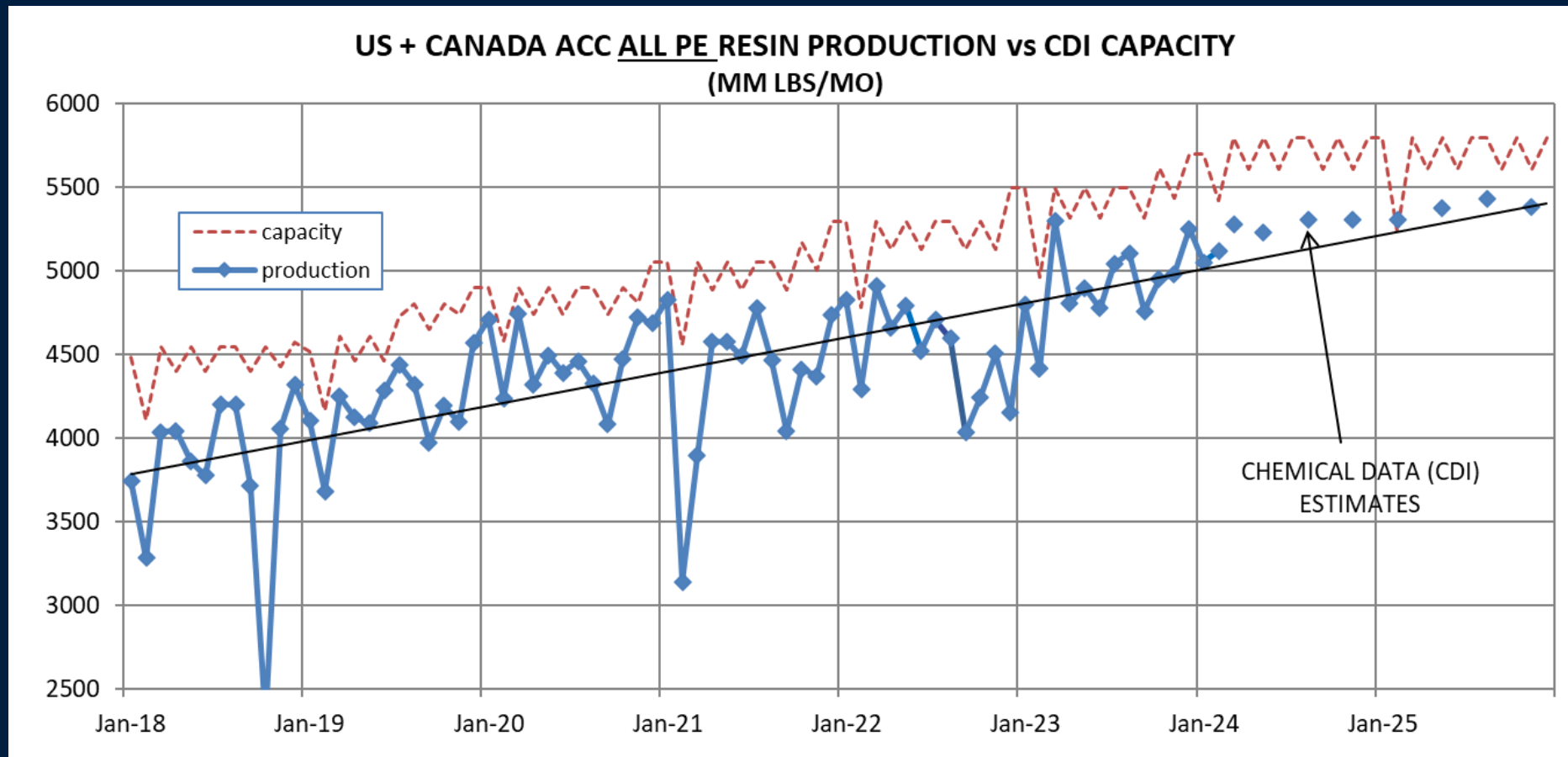


## US polyethylene market: An advantage amidst global oversupply



- 01 US/Canada polyethylene cost structure
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# US/Canada capacity expansions



## US polyethylene market: An advantage amidst global oversupply

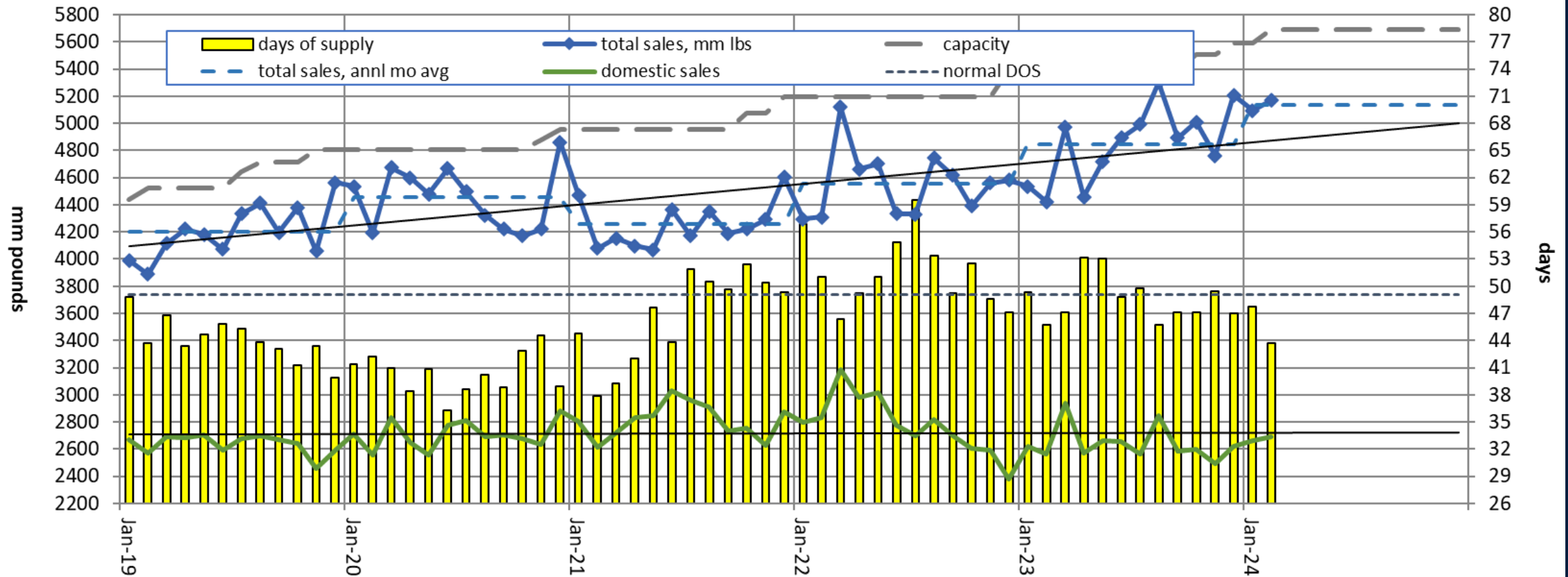


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# US/Canada domestic demand



## CHEMICAL DATA (CDI) - U.S./CAN ALL PE RESIN SALES vs CAPACITY & INVENTORY

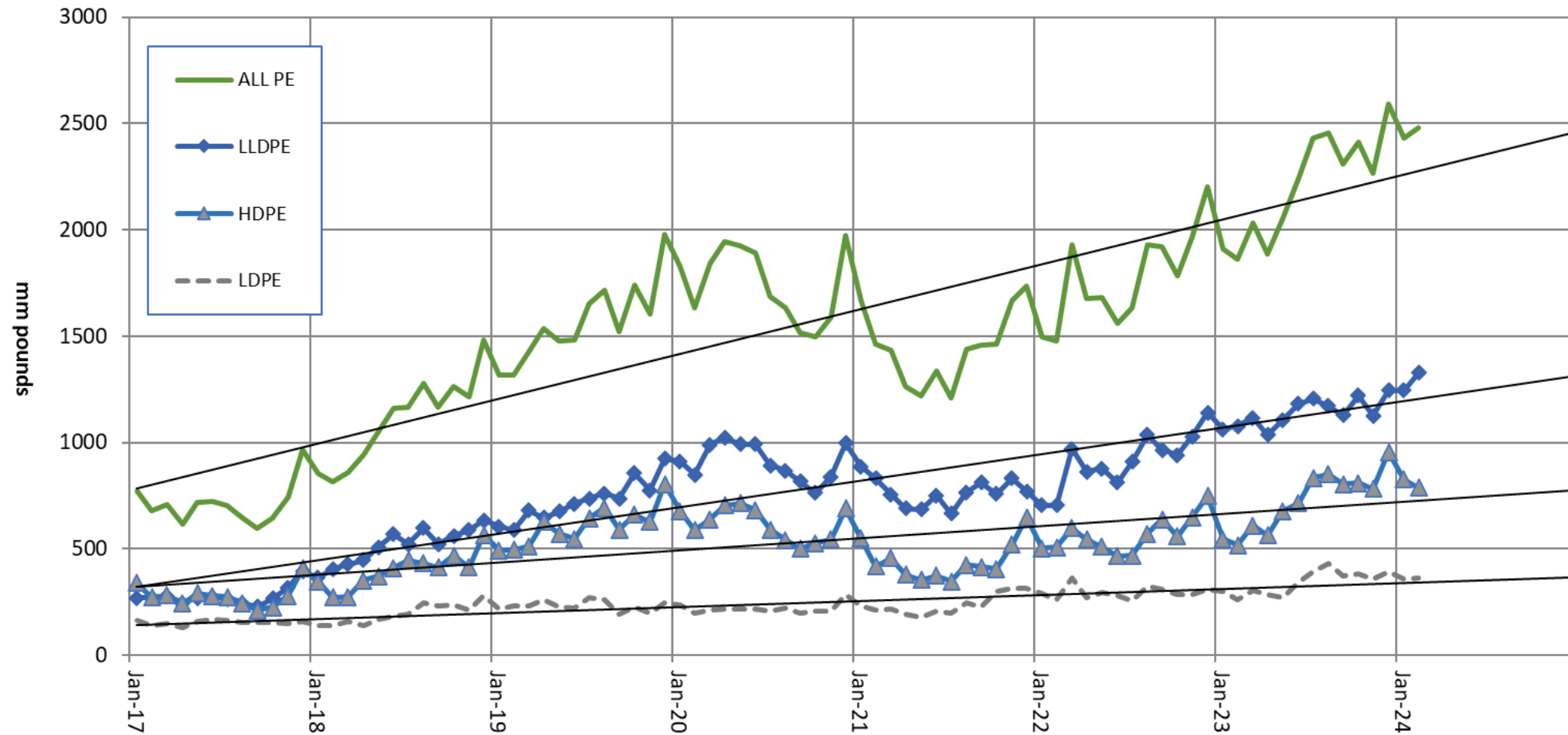


SOURCE: ACC, ICIS/CDI Estimates

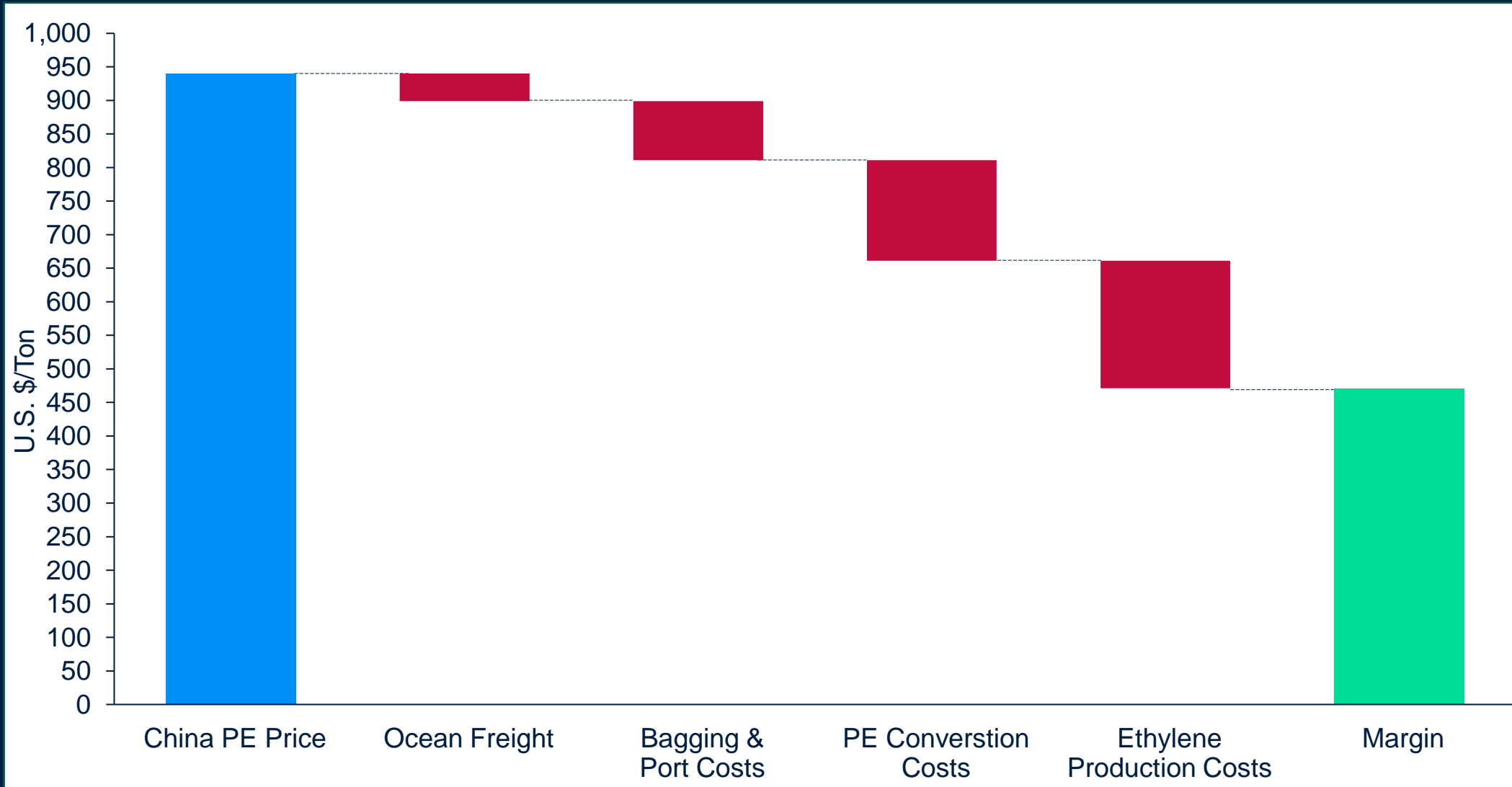
# EXPORTS!



## U.S./CAN PE EXPORTS

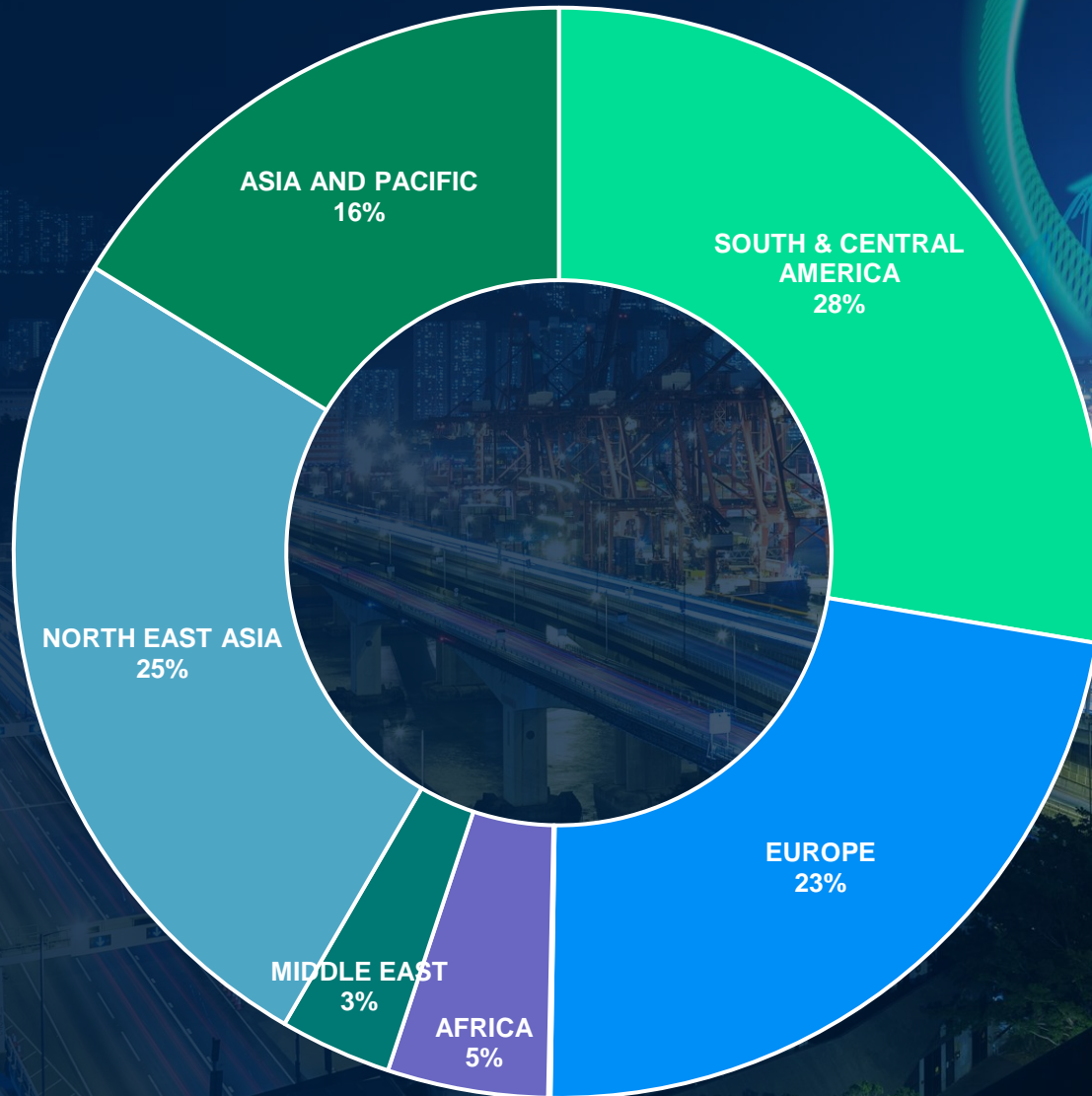


# US/Canada, a low-cost region with global reach





# North America PE export destinations





## US polyethylene market: An advantage amidst global oversupply



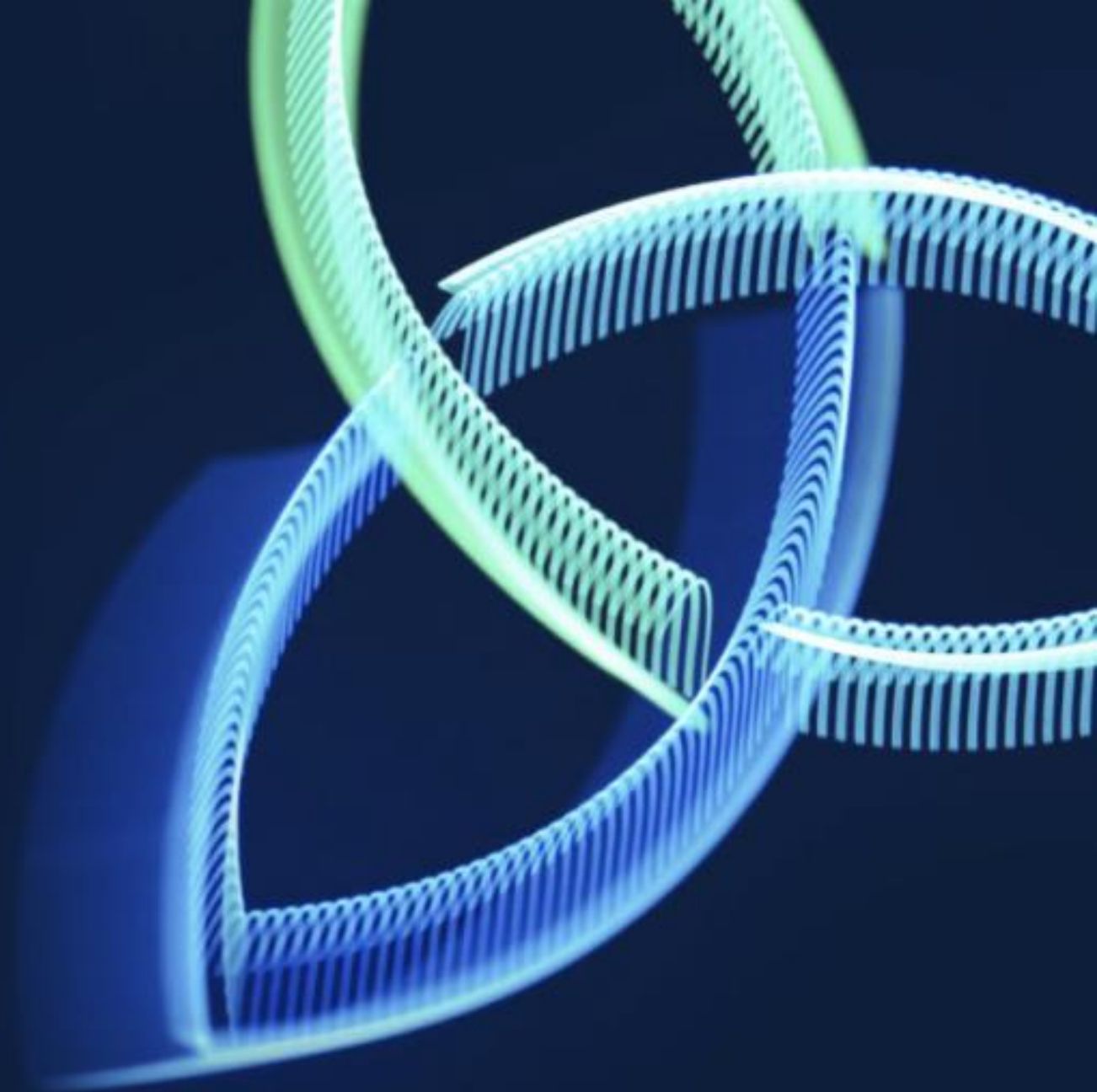
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# Summary | US/Canada PE industry resilience



- Hydraulic fracturing revolution solidified US/Canada's cost position for polyethylene
- Producers have added the first two waves of PE plant expansions with additional capacity coming later this decade
- Domestic demand growth prospects are quite limited
- US/Canada PE industry will continue to enjoy world-class operating rates via access to international markets
- Given global PE oversupply, higher cost regions will continue to face significant cost headwinds

Thank you





# 10<sup>th</sup> ICIS World Polyolefins Conference

The Ritz Carlton Hotel | Vienna

Conference: 10-11 April 2024 | Training: 9 April 2024

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