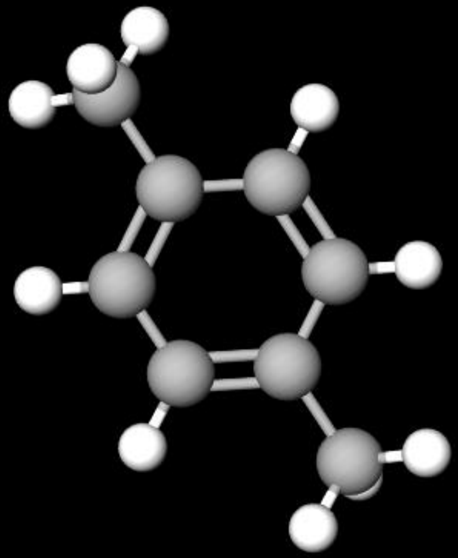
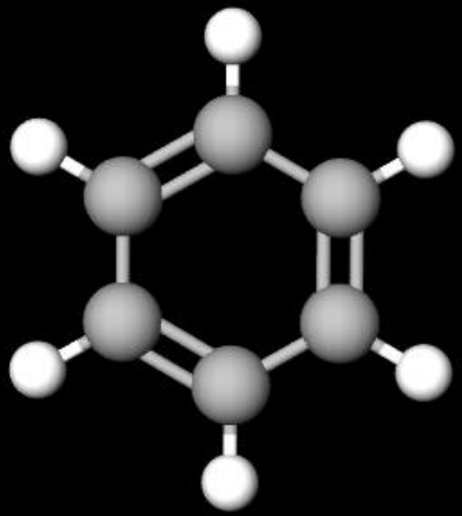
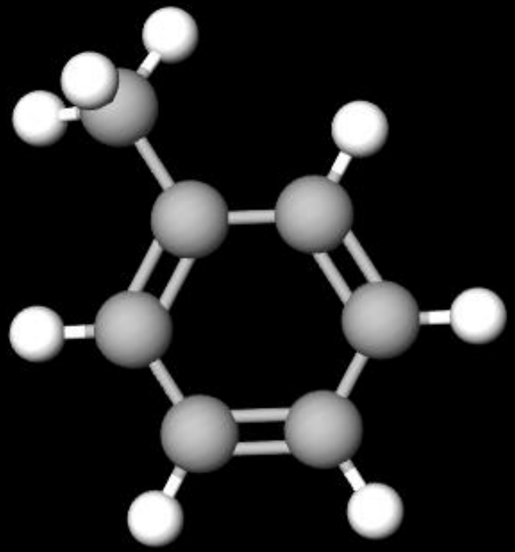


Paraxylene



Benzene



Toluene

AROMATICS IN THE INVISIBLE EMPIRE






Purified Terephthalic Acid: PTA

Styrene

Phenol

Cyclohexane

Solvent

Paraxylene

Benzene

Toluene
Mixed Xylene

AROMATICS in Mayhem :

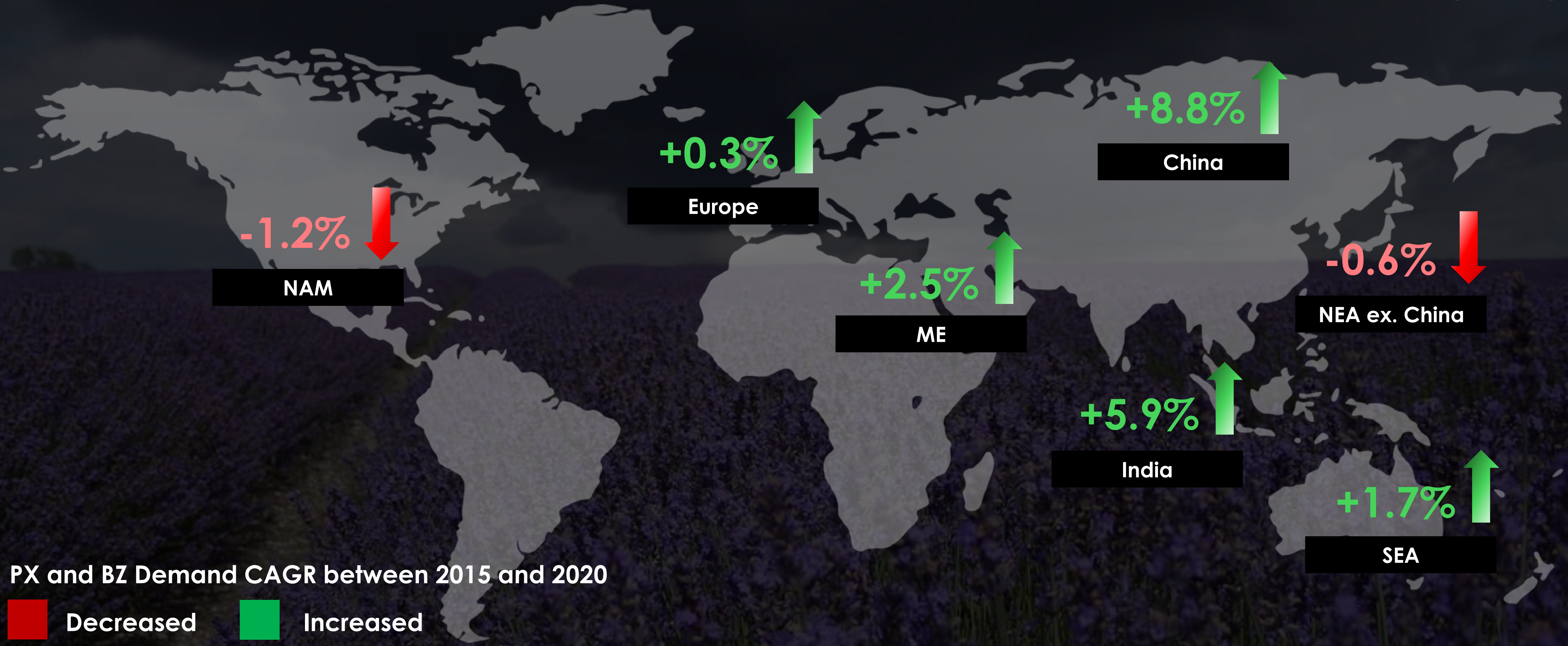
Time to Steady or Time to Survive

The 17th PTT Group Petrochemical Outlook Forum

Wednesday, 26 August 2026

THE FIRST SIGN OF MAYHEM

CAGR World: +4.0% (2015-2020)



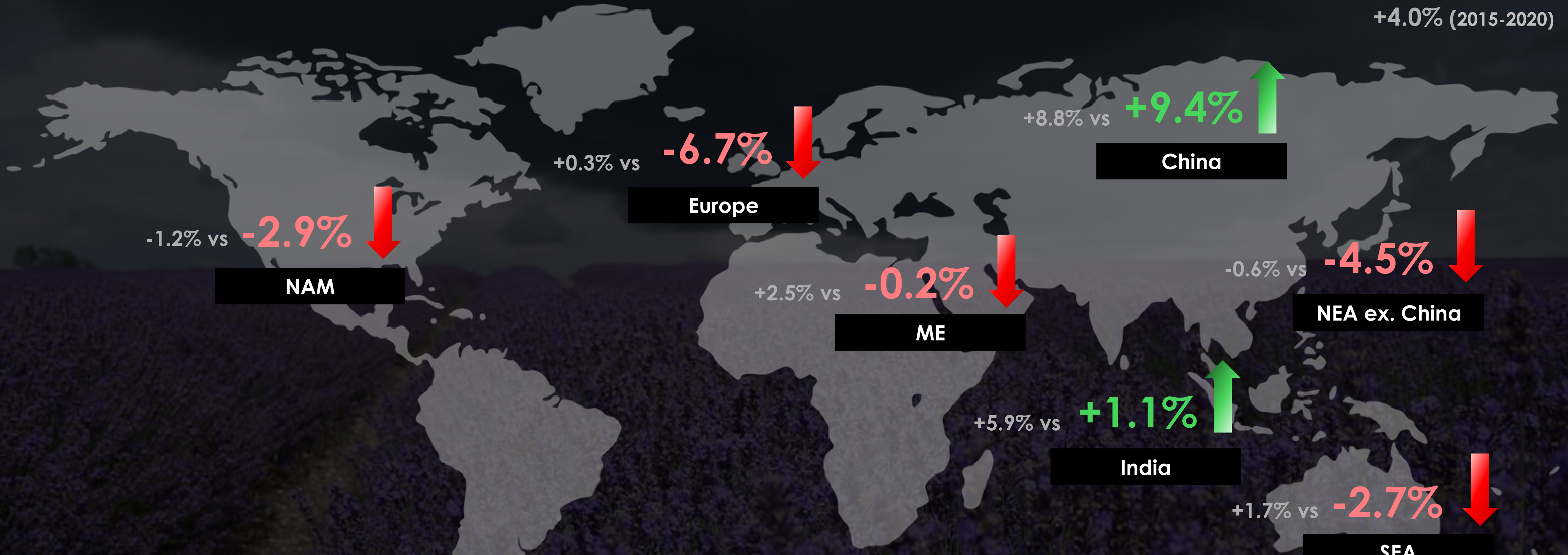
PX and BZ Demand CAGR between 2015 and 2020

Decreased Increased

THE FIRST SIGN OF MAYHEM

Demand That Once Grew Together, Now Beginning to Fracture

CAGR World: +3.6% (2020-2025)
+4.0% (2015-2020)



PX and BZ Demand CAGR between 2020 and 2025

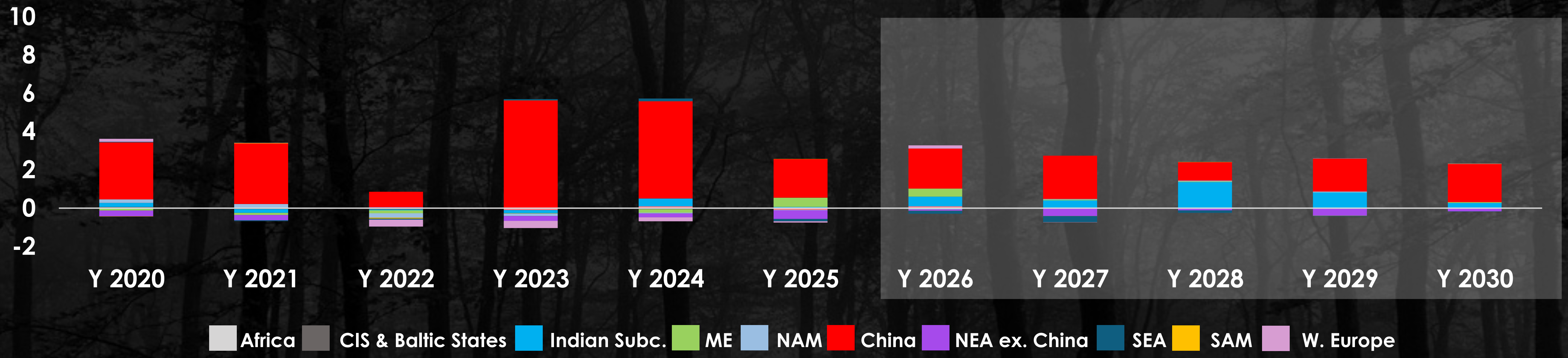
Decreased   Increased   Previous

GLOBAL PARAXYLENE DEMAND:

PX → PTA → PET / Polyester

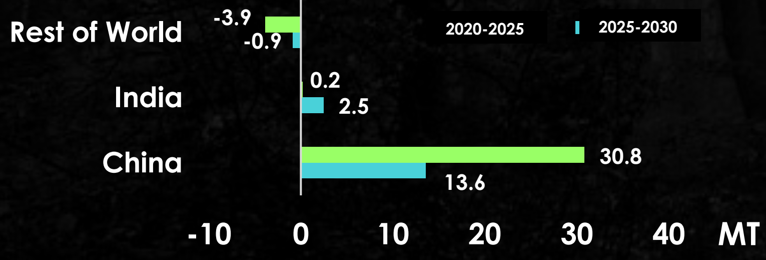
China Leading PX Demand Growth, India Emerging as the Next Growth Engine

Global PX Demand Changes



Polyester Demand Growth: CHINA & INDIA Continue to Drive the Next Growth Phase

World PTA Expansion (2020-2030)



CHINA & INDIA
Continue Expanding
PTA Capacity,
Supporting PX Demand Growth

"MADE IN INDIA"
Incentives Support Textile Industry Growth

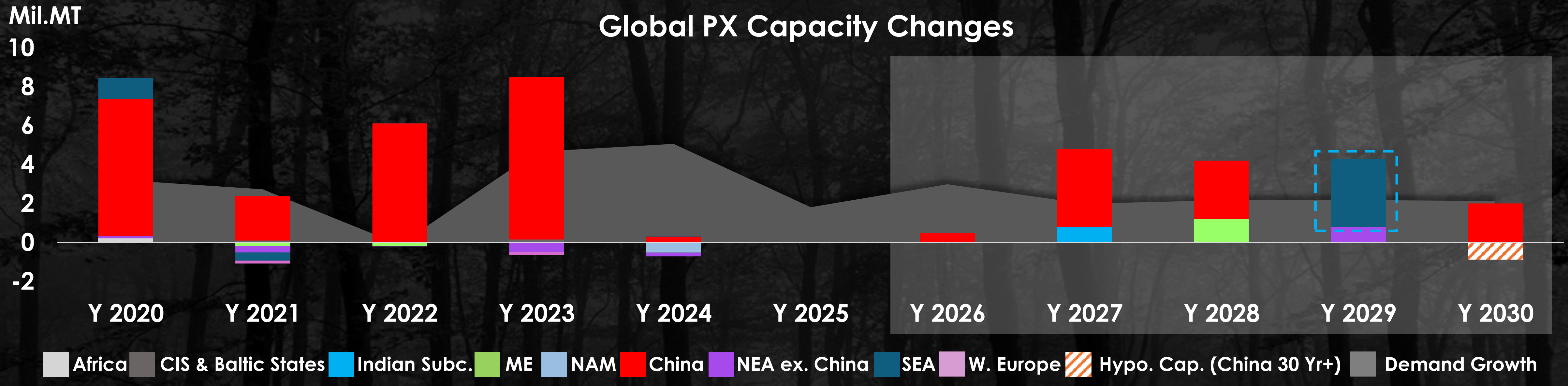
INDIA

CHINA
"MADE IN CHINA" & Integrated Supply Chain,
Drive PFY & PSF Export Competitiveness

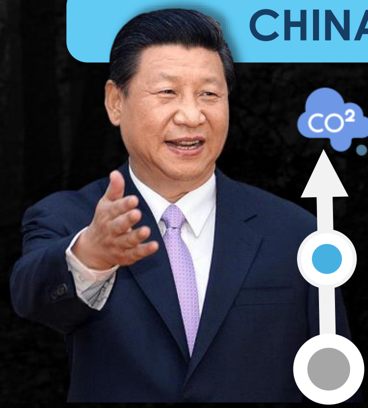
Source: CMA (2026), Ministry of Textile (India), TOP's Estimate

GLOBAL PARAXYLENE SUPPLY:

China's Carbon Peak Policy Limiting New Investments, Accelerating the Investment Shift



CHINA's 15th Five-Year Plan



- CO^2 2030: Peak Carbon
- 2026: Continuous S/U
- 2020: Limit Coal

+9.5 Mil.MT

Chinese Capacity Addition (2026-2030)

CHINA's Investment Shift Beyond China

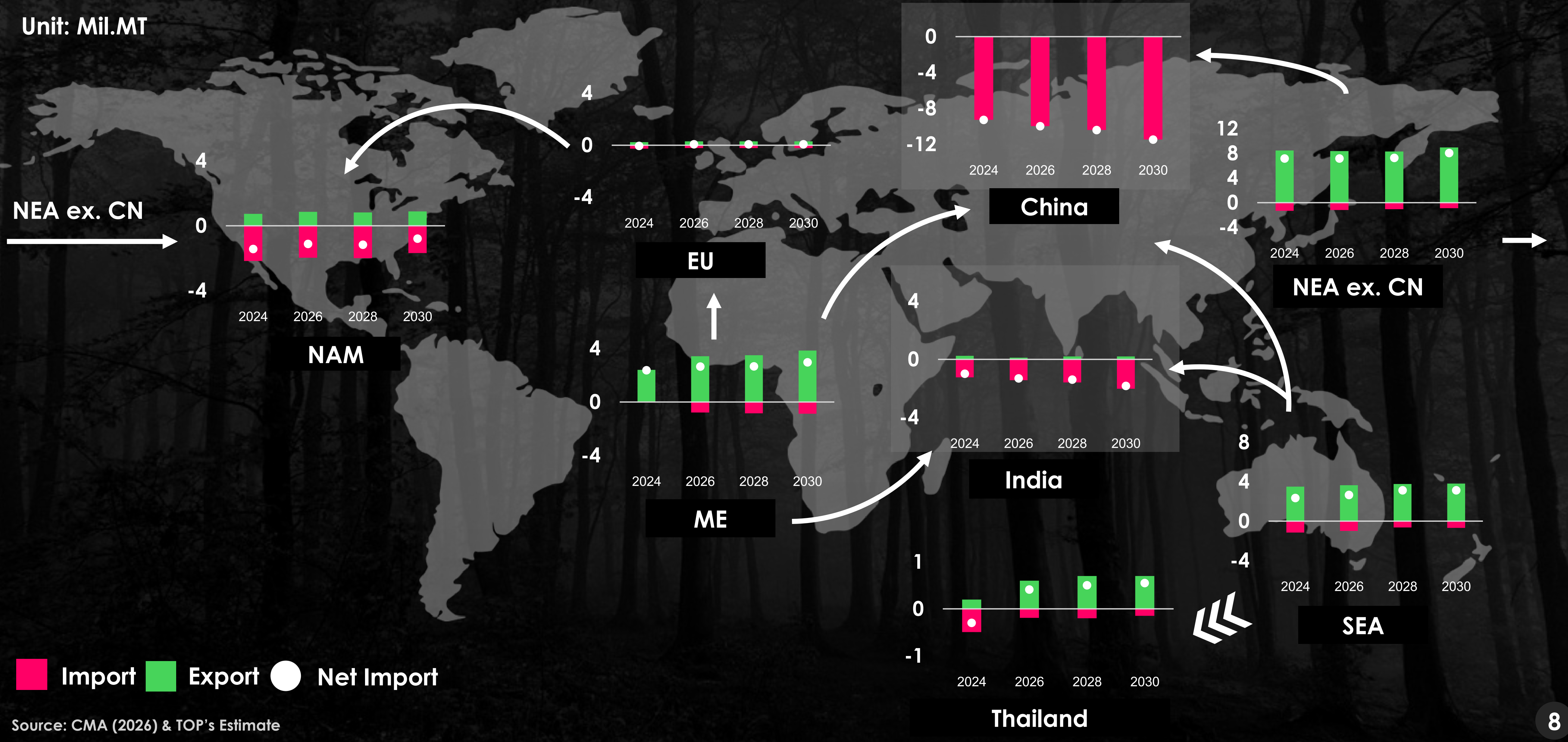
Hengli Phase 2 (Brunei), COD 2029
Capacity: 2 Mil.MT of PX
Strong Chinese Funding & Official Project Launched

Taikun (Indonesia), COD Unknown
Capacity: 2 Mil.MT of PX
Feasibility Study Completed & NDRC Approval Secured

Source: CMA (2026), S&P Global (2026), & TOP's Estimate

GLOBAL PARAXYLENE TRADE FLOW:

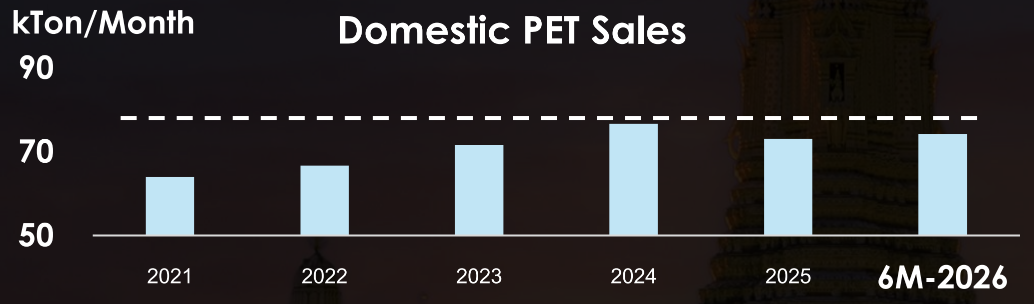
China-Dominated Imports, India-Driven Demand Growth, and Thailand's Shift to Exports

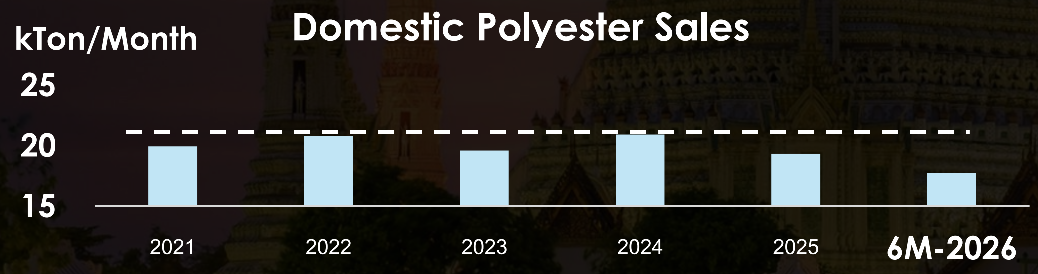


Source: CMA (2026) & TOP's Estimate

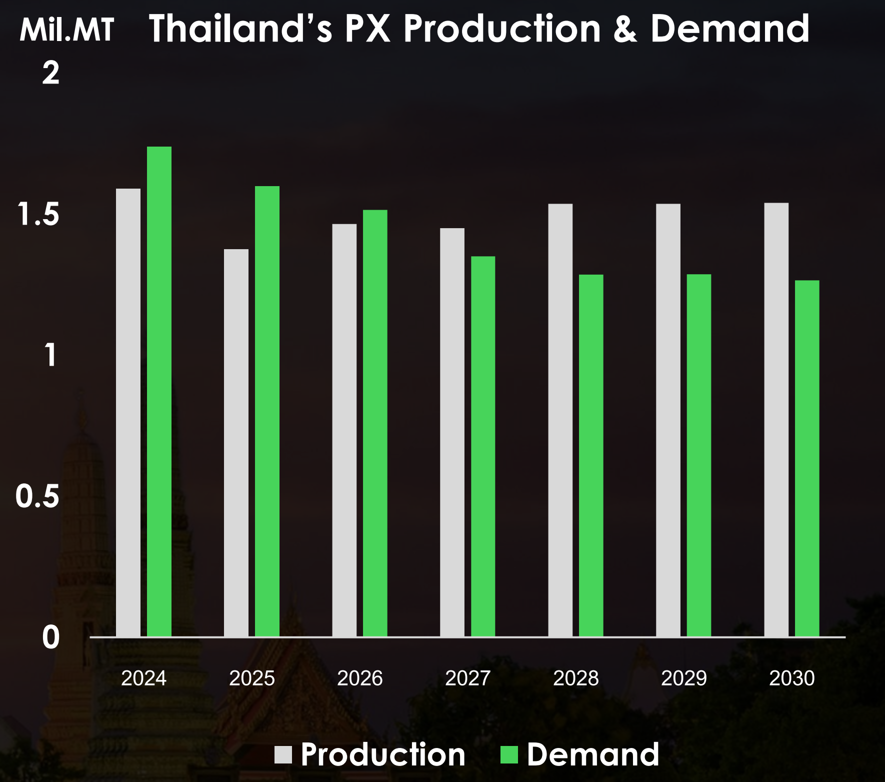
THAILAND PARAXYLENE OUTLOOK:

Stable Domestic PET Sales and Slower Polyester Consumption Weaken PX Demand Growth





- - - Peak demand as of 2024



Production Growth: -0.5% (2024-2030)

Demand Growth: -5.2% (2024-2030)

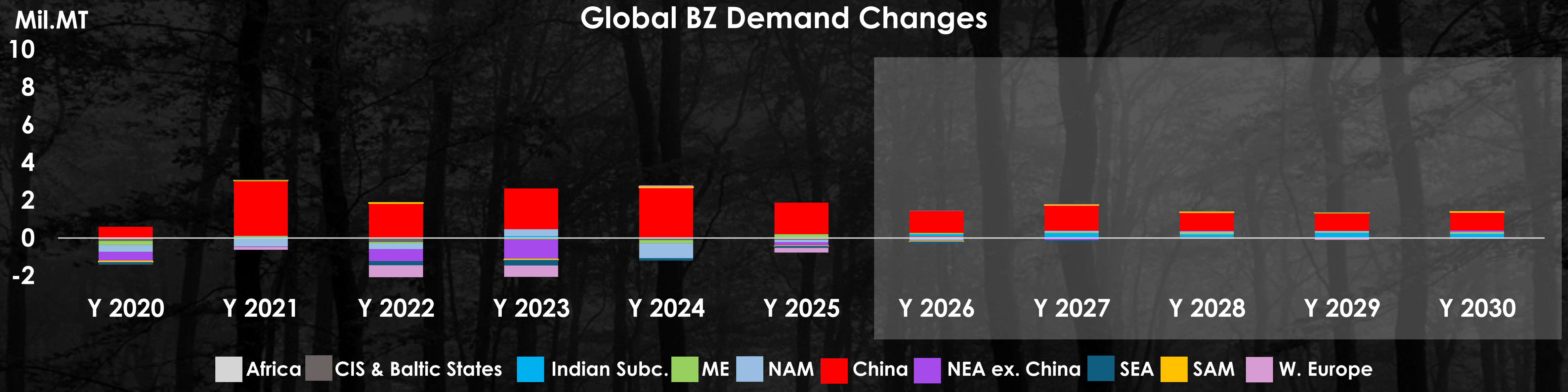
Source: e-Statistic (Ministry of Industry), CMA (2026), & S&P Global (2026)

GLOBAL BENZENE DEMAND:

BZ → Styrene, Phenol, Caprolactam

China Leading BZ Demand Growth Amid Weak Downstream Market

Global BZ Demand Changes



Downstream Overcapacity Accelerates Rationalization

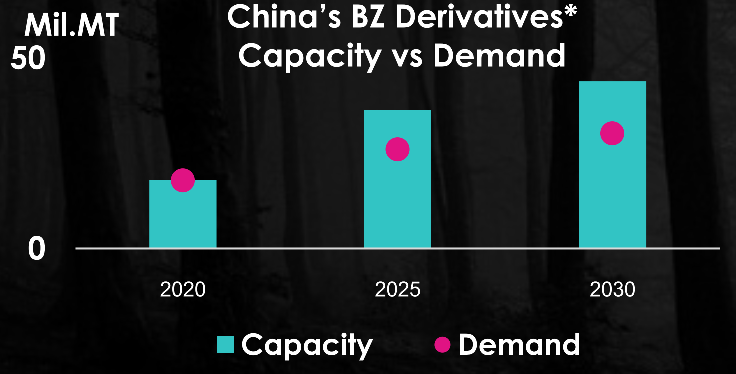
BZ Derivatives **Closure**

> 3.5 Mil.MT of Intermediate &

> 2.5 Mil.MT of Downstream

Capacity Shutdown During 2020-2025

China's BZ Derivatives* Capacity vs Demand

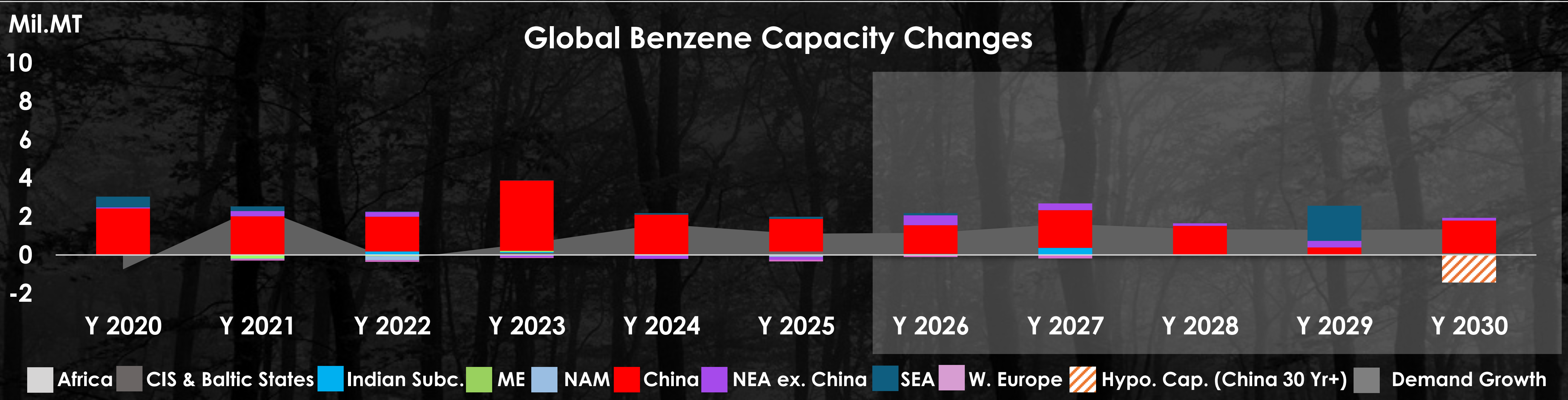


Source: CMA (2026), ICIS (2026) & TOP's Estimate

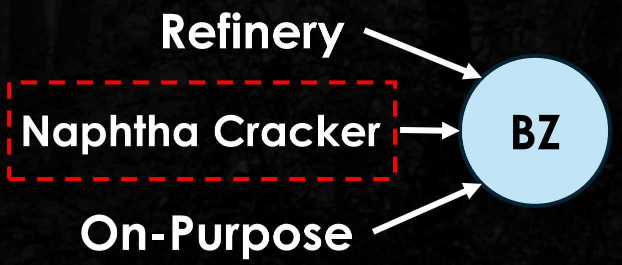
* Derivatives = Styrene + Phenol + Caprolactam

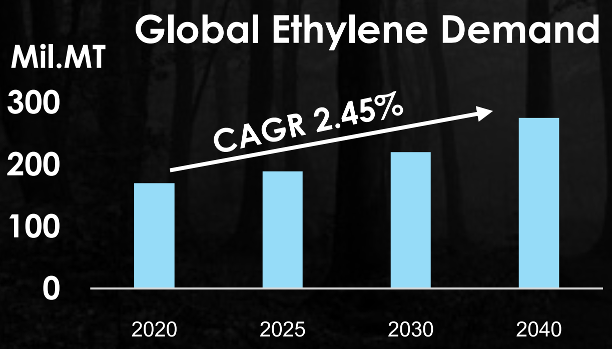
GLOBAL BENZENE SUPPLY:

China-Driven Supply Growth Through the Cracker Route

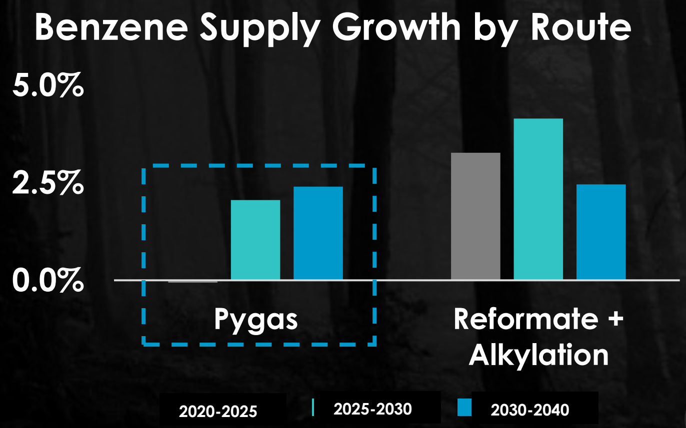


Pygas (Product from Cracker) : The Next Major Source of Benzene Supply





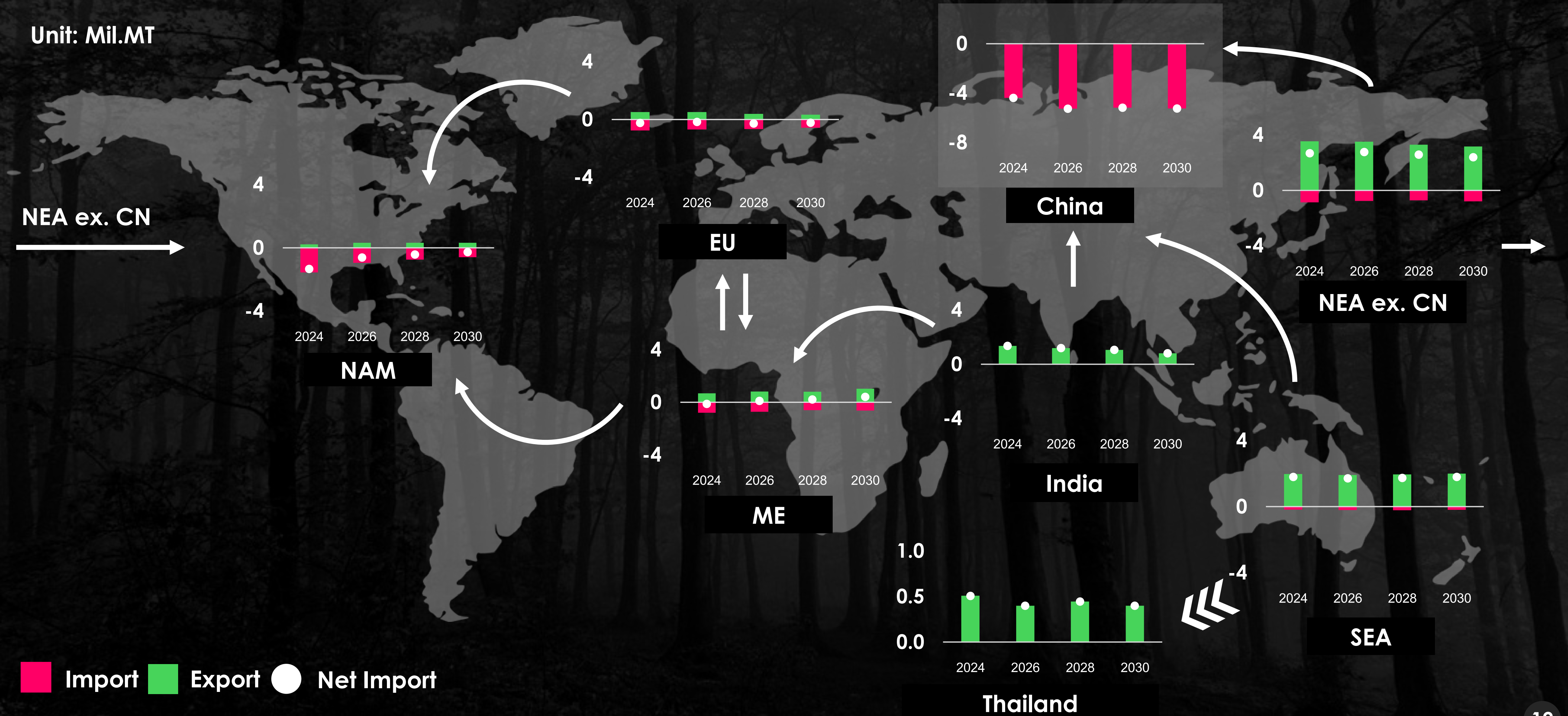
Global Ethylene Consumption Continues **To Grow**



Source: CMA (2026), ICIS (2026) & TOP's Estimate

GLOBAL BENZENE TRADE FLOW:

China Remaining a Key Benzene Importer, with SEA and Thailand as Key Exporters

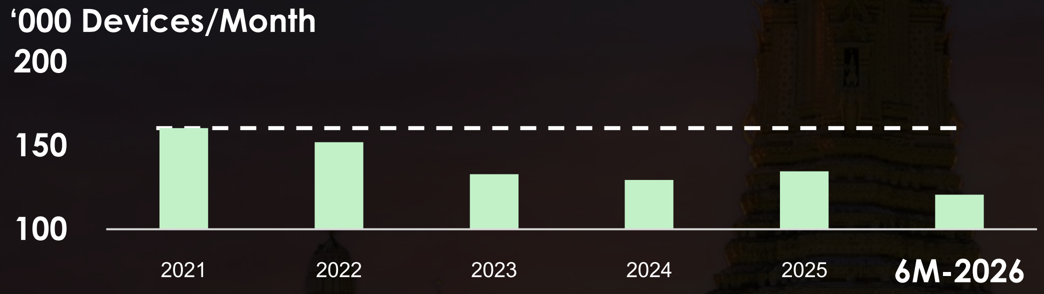


Source: CMA (2026) & TOP's Estimate

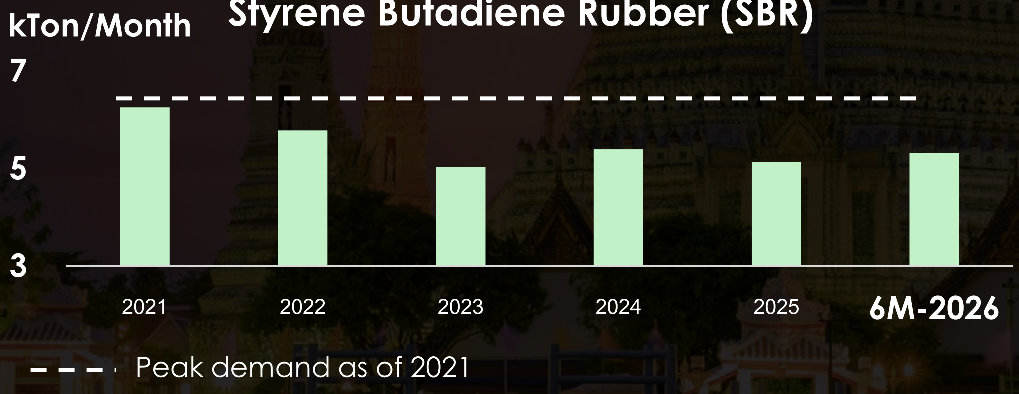
THAILAND BENZENE OUTLOOK:

BZ Downstream Weakness Driving Lower Domestic Production

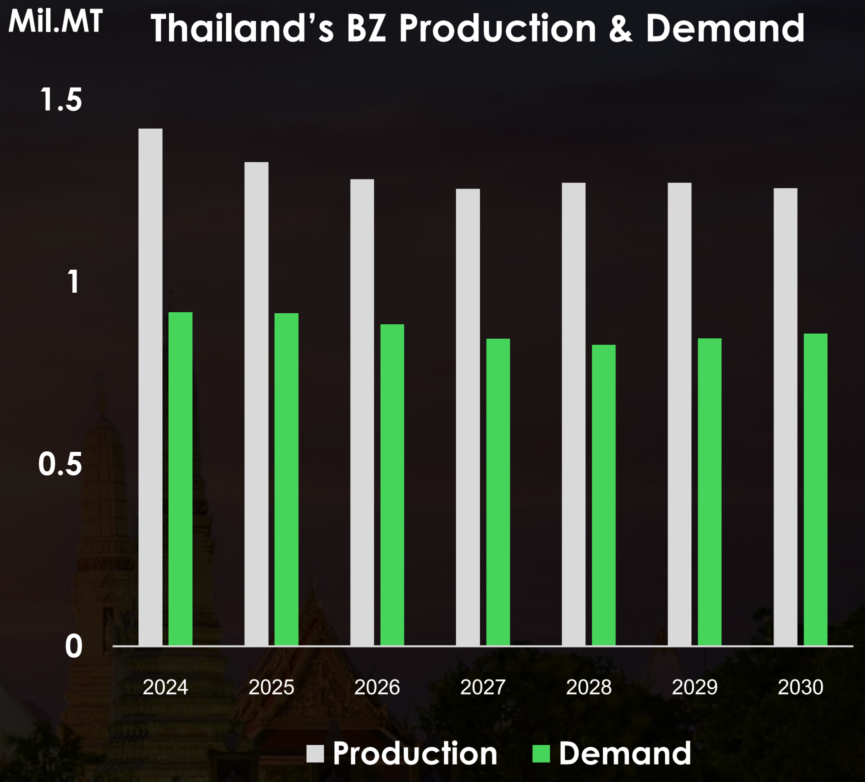
Domestic Refrigerator Sales



Styrene Butadiene Rubber (SBR)



Thailand's BZ Production & Demand



Production Growth: -2.0% (2024-2030)

Demand Growth: -1.1% (2024-2030)

Source: e-Statistic (Ministry of Industry), CMA (2026), & S&P Global (2026)

Aromatics Market Under Dual Long-Term Pressures

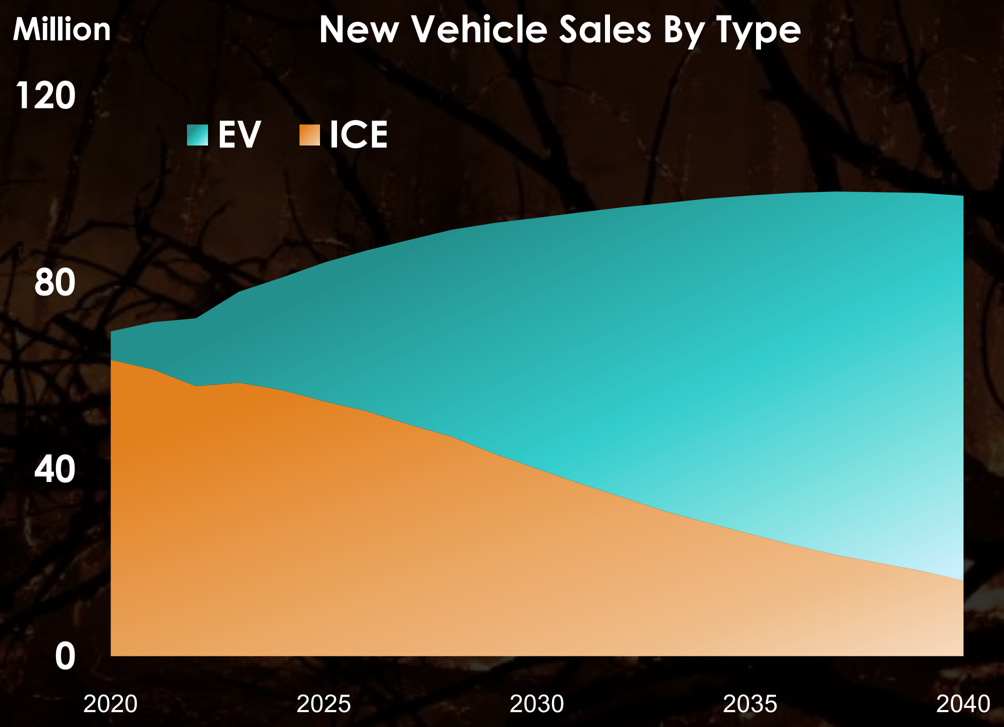
Long-Term Feedstock Supply

Sustainability Transition

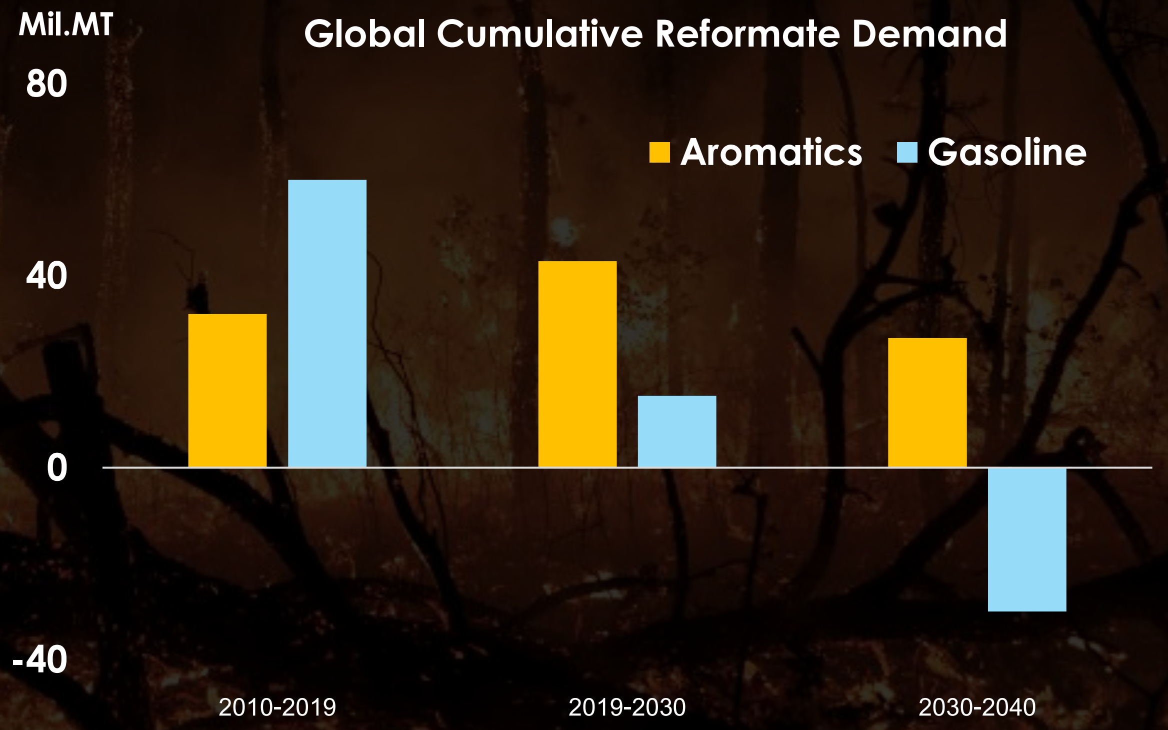
LONG-TERM FEEDSTOCK SUPPLY:

Peak Oil Demand-Triggered Reformate Shift Toward Aromatics

EV Adoption Weakens Gasoline Demand



Aromatics Hold Firm, While Gasoline Collapse



Will the Shift of Reformate to Aromatics Become the Next Supply Challenge?

Source: CMA (2026), S&P Global (2026), IEA Global EV Report (2026) & TOP's Estimate

SUSTAINABILITY TRANSITION:

Sustainability Regulations Accelerating the Shift Toward Recycled PET

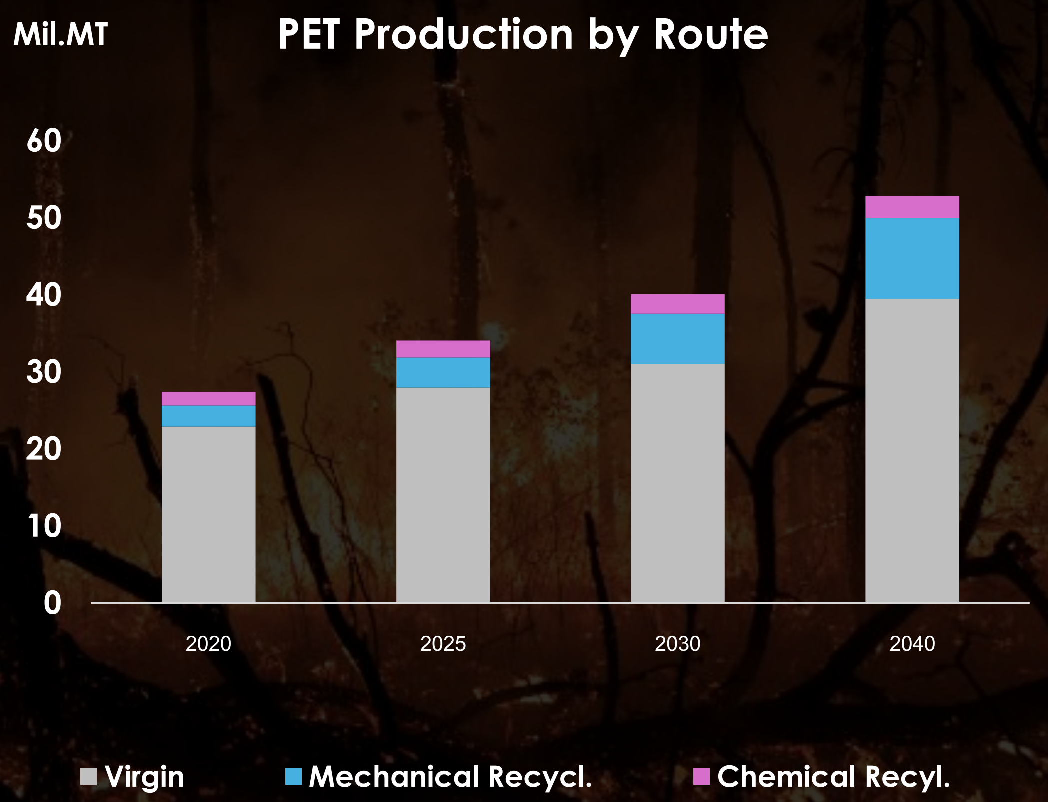
European Union
> 30% Recycle content in all plastic beverage bottles by 2030

U.K.
More plastic packaging tax with less than 30% recycled plastic.

Canada
60% Recycle content in rigid beverage bottles by 2030

South Korea
30% Recycle content in PET in 2030

India
> 60% Recycle content in rigid packaging for 28-29 onwards



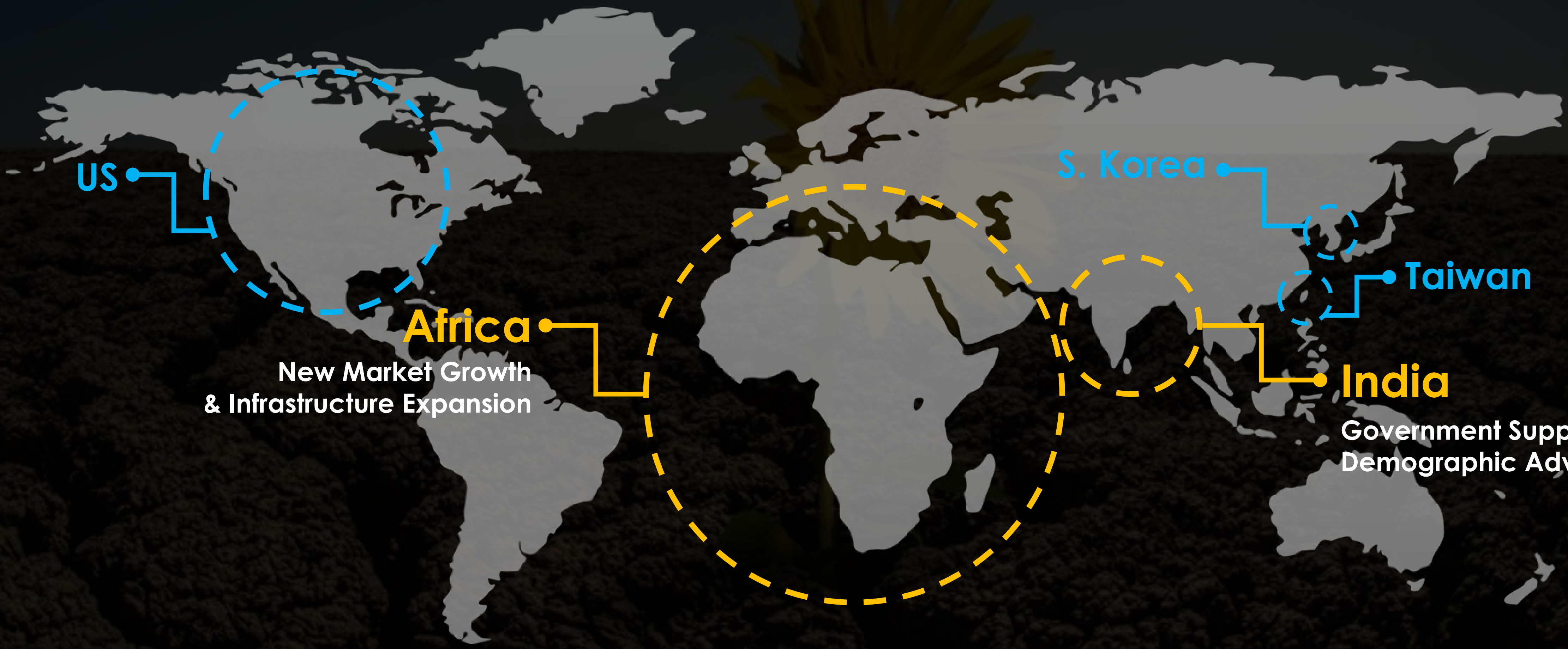
Both Chemical and Mechanical Recycling are accounted for 25% of total PET Production by 2040.

Source: S&P Global (2026), MCEE Korea, CPCB India, European Union, GOV UK, GOV Canada, & TOP's Estimate

What Could Be Next?

NEW MARKET EXPLORATION:

Urbanization and Industrialization as Key Drivers of Aromatics Growth



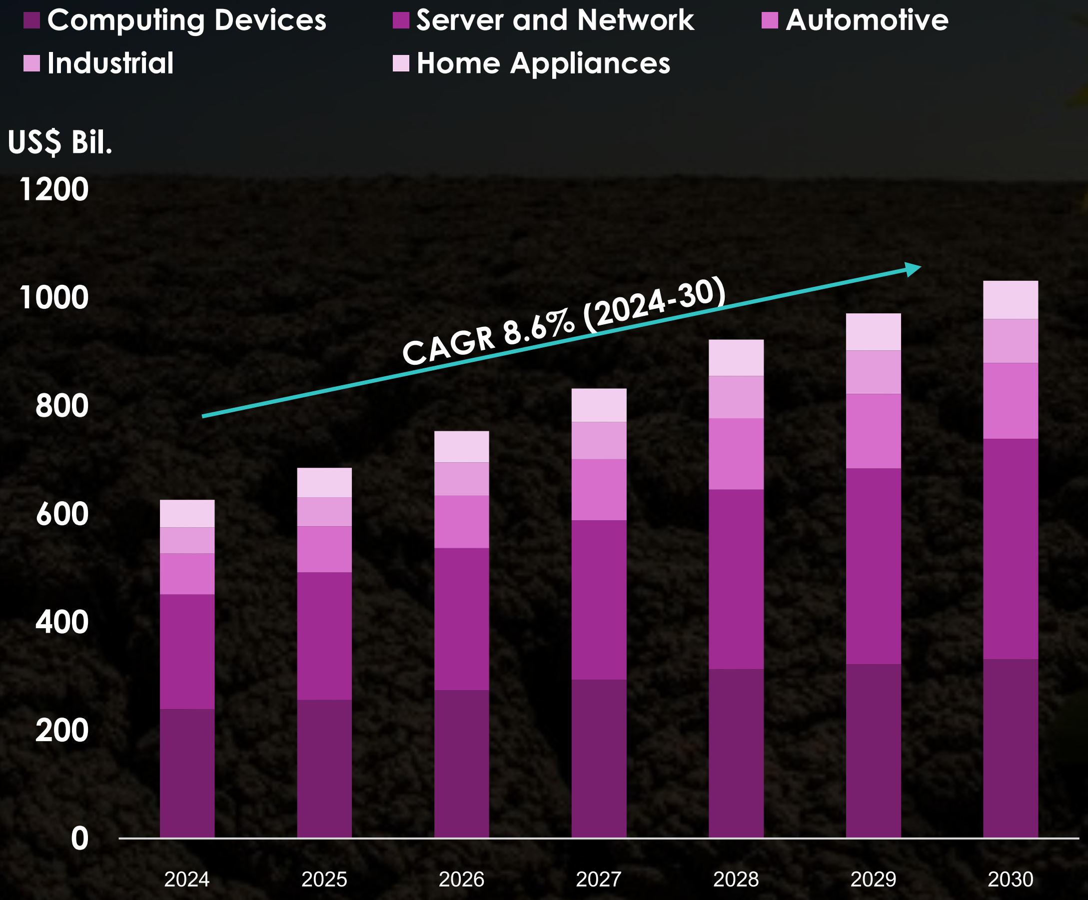
New Market Capturing Opportunities in Trendy Market

Source: CMA (2026), TOP's Estimate

OPPORTUNITY IN TRENDY MARKET:

AI-Driven Semiconductor Growth Creating New Opportunities for Aromatics

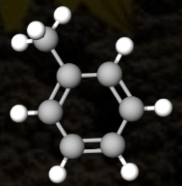
Global Semiconductor Demand by End-Market



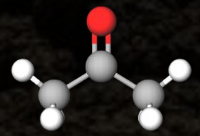
Aromatics Play a Key Role in Semiconductor Fabrication

Capacity is Expected to Grow at a 7% CAGR from 2024 to 2030. → AI Requires Faster Processing & More Complex Logic

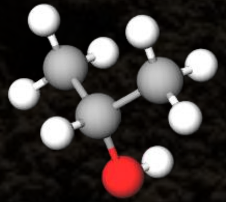
Semiconductor Fabrication Requires "High-Purity Solvents" for Coating/ Thin-Film Applications and Cleaning



High-Purity Toluene (99.9%)



Acetone (Co-Product of Phenol Production)



Isopropyl alcohol: IPA (Downstream of Acetone)

Source: Pwc (2026), International Sematech, Semiconductor Industry Association

FINALE:

Adaptation No Longer Optional, but Essential for Survival

Supply

Supply Growth from China will Continue amid "Overcapacity"

Demand

Although Demand is Growing but It's Dominated by "China"

External Driving

"Pressuring Factor" are Feedstock Availability & Sustainable Development

Adaptation

New Market Exploration is "Survival Way"

“Only the Paranoid Survive”

- Andrew Grove | Ex-CEO Intel