

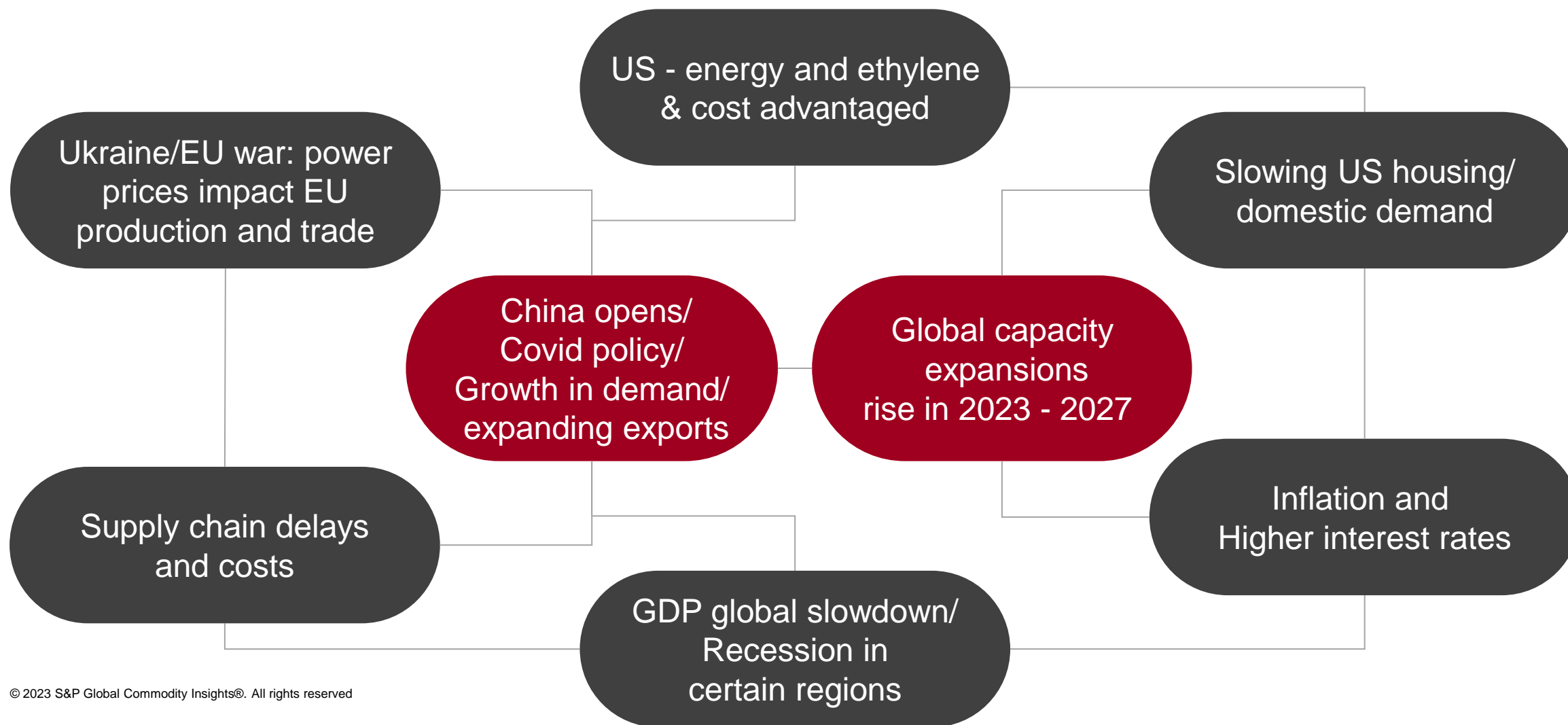
EDC/VCM/PVC Global Overview

Headwinds leading new regional shifts in opportunity and risk

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Inorganics

EDC/VCM/PVC – Headwinds, shifts in opportunity and risk



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The global economic expansion continues at a slower pace in 2023



Downside risks

- Stress in financial markets and asset price corrections
- Persistently high inflation, forcing more aggressive monetary policy tightening
- Escalation of the Russia-Ukraine war
- Rising trade and geopolitical tensions between the United States and mainland China
- Lower-than-predicted labor force participation



Upside risks

- Inflation quickly subsides as supply conditions improve
- Mainland China rebounds strongly, supported by pent-up consumer demand
- Trade and regulatory restrictions are reduced, leading to faster productivity gains

Real GDP (% change)

	2022	2023	2024	2025
World	3.0	2.2	2.8	2.9
United States	2.1	1.0	1.5	1.5
Canada	3.4	1.0	1.5	1.8
Eurozone	3.6	0.6	1.2	1.8
United Kingdom	4.0	-0.2	0.6	1.3
Mainland China	3.0	5.3	5.5	5.0
Japan	1.0	1.1	1.2	1.0
India*	6.7	5.1	6.2	5.9
Brazil	2.9	1.7	2.3	3.2
Russia	-2.2	-1.3	2.1	1.8

EU record Power Prices impacting chemical production

Chlorine ends late 2022 38% off 2021 rates - Impacting production and global trade of vinyls

Euro Chlor - Chlorine production (000 MT)

	2019	2020	2021	2022	2023
January	863	828	856	852	581
February	788	799	793	774	612
March	820	786	805	735	
April	789	705	771	708	
May	746	705	801	748	
June	751	699	794	683	
July	818	796	851	689	
August	829	768	851	657	
September	747	731	731	581	
October	753	769	763	579	
November	746	782	797	550	
December	761	807	821	514	
ANNUAL PRODUCTION	9,411	9,175	9,634	7,006	

EU Chlorine at new century annual low

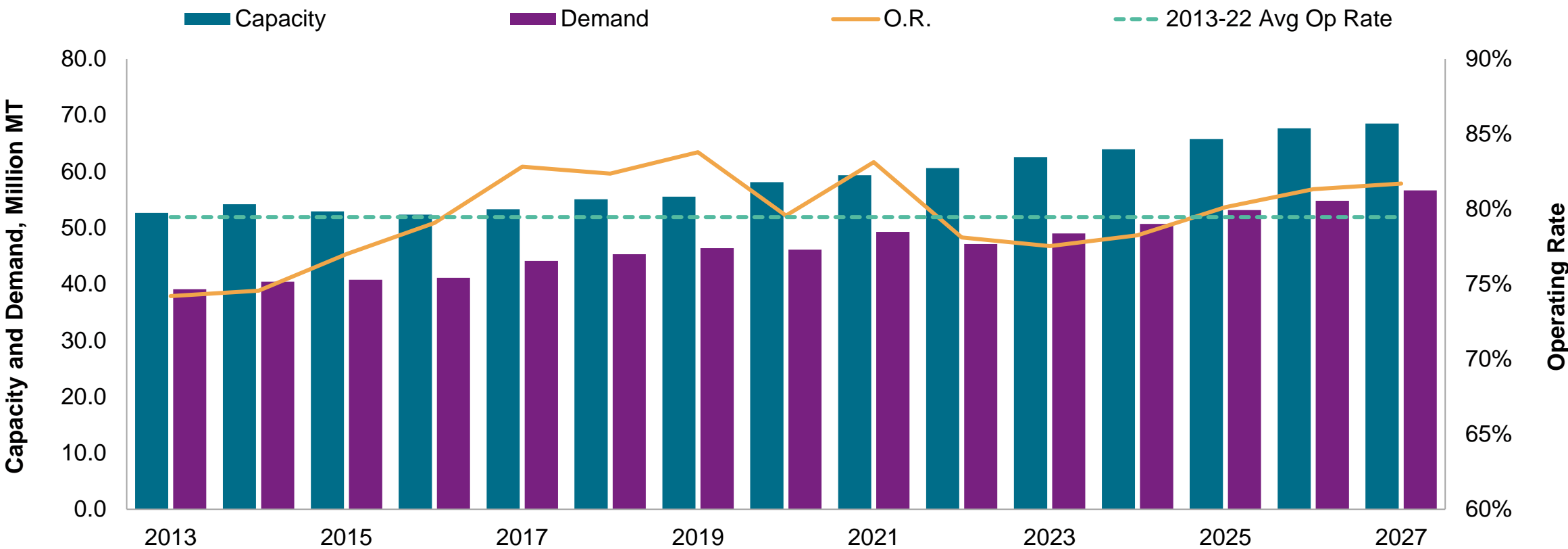
Dec 2022 sets new century monthly low

PVC production and export volume from Europe decline

Vinyls represents 40% of EU chlorine consumption

PVC capacity to meet demand growth and improved reinvestment forecast

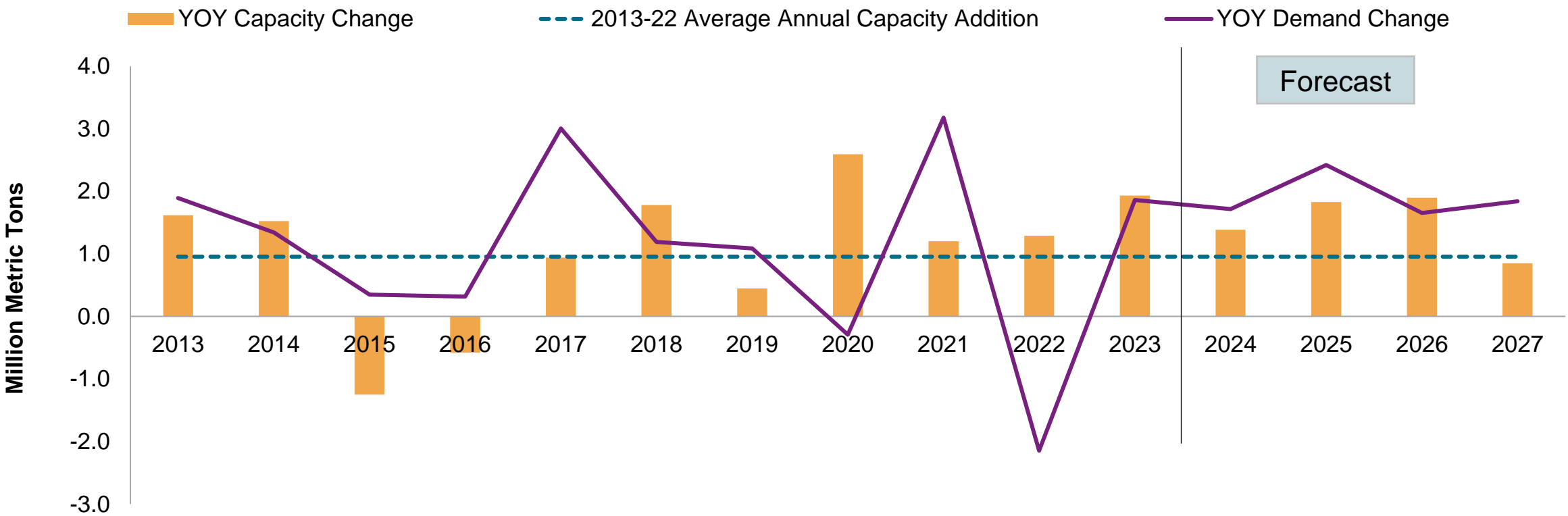
Global PVC Capacity, Demand & Operating Rate



Source: S&P Commodity Insights
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PVC global supply & demand

Global PVC Capacity and Demand Additions

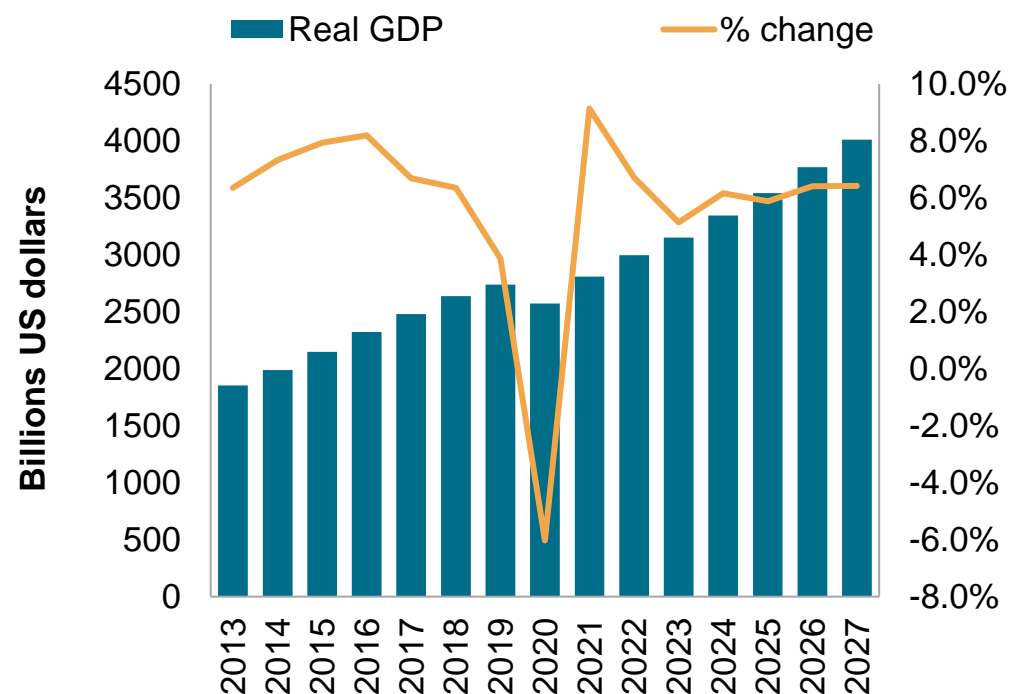


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Indian Economic Overview

- Real GDP growth expected to slow from 6.7% in fiscal year (FY) 2022 to 5.1% in FY 2023
- CPI inflation expected to moderate from 6.7% in 2022 to 5.2% in 2023
- Persistent inflation and tightening global financial conditions are the key risks to India's growth outlook

India: Real GDP

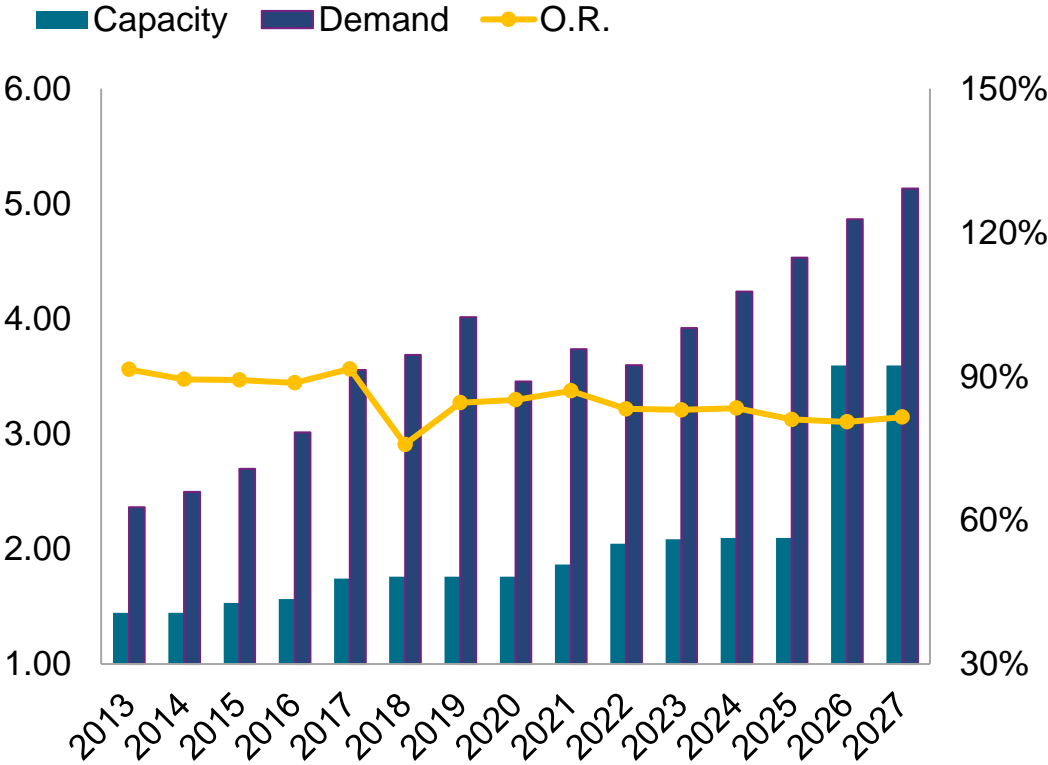


India CPI Inflation Rate (YoY % Change)



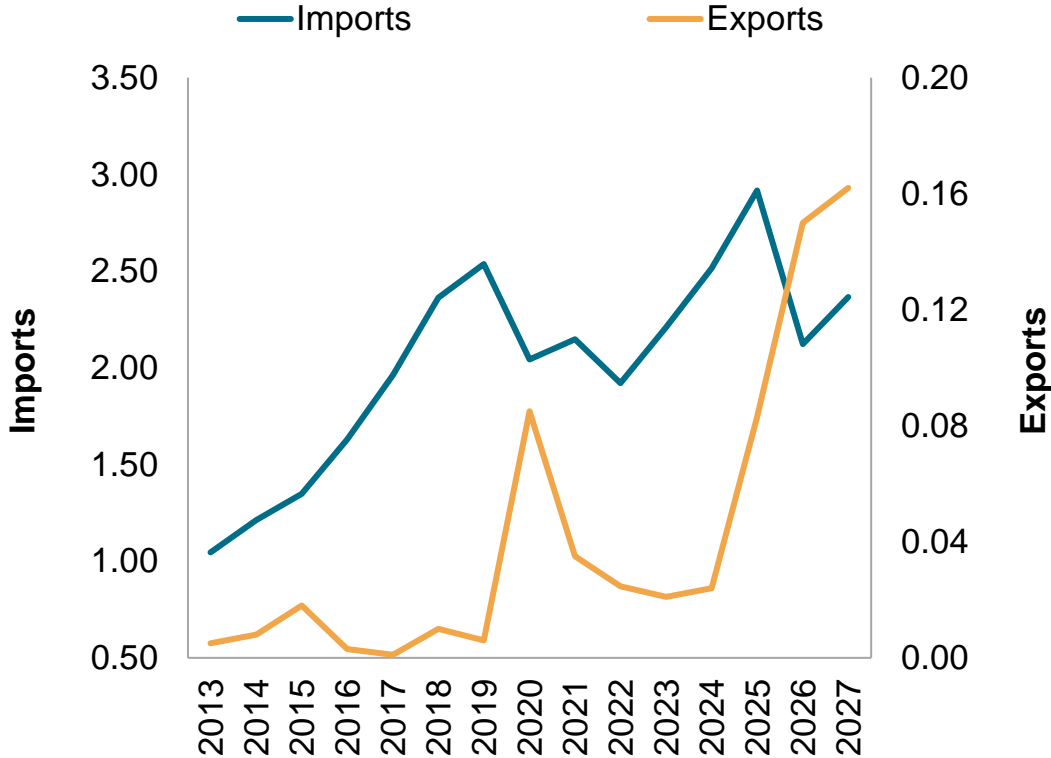
South Asia PVC Supply Demand

South Asia PVC Supply-Demand (Million Metric Tons)



Source: S&P Global [Division].
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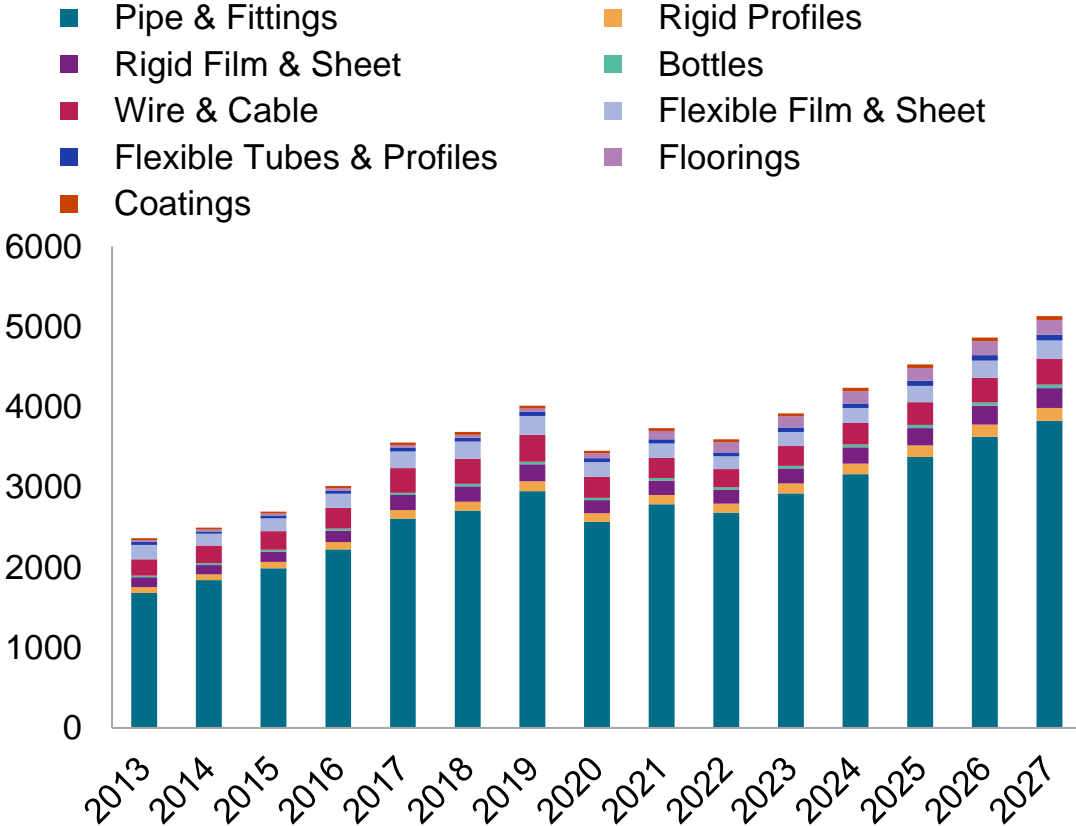
South Asia PVC Trade (Million Metric Tons)



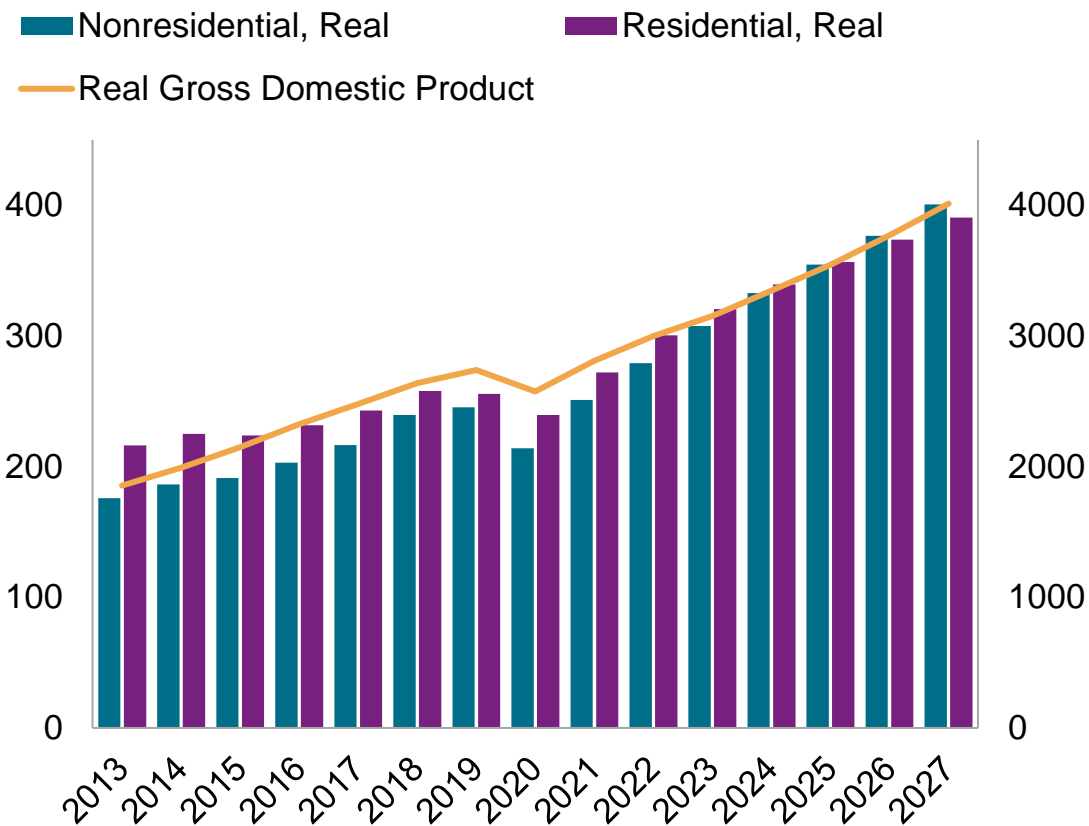
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South Asia Sectoral Consumption ~75% by Pipe & Fittings

South Asia PVC Sectoral consumption



South Asia Sector (Billions US Dollar)

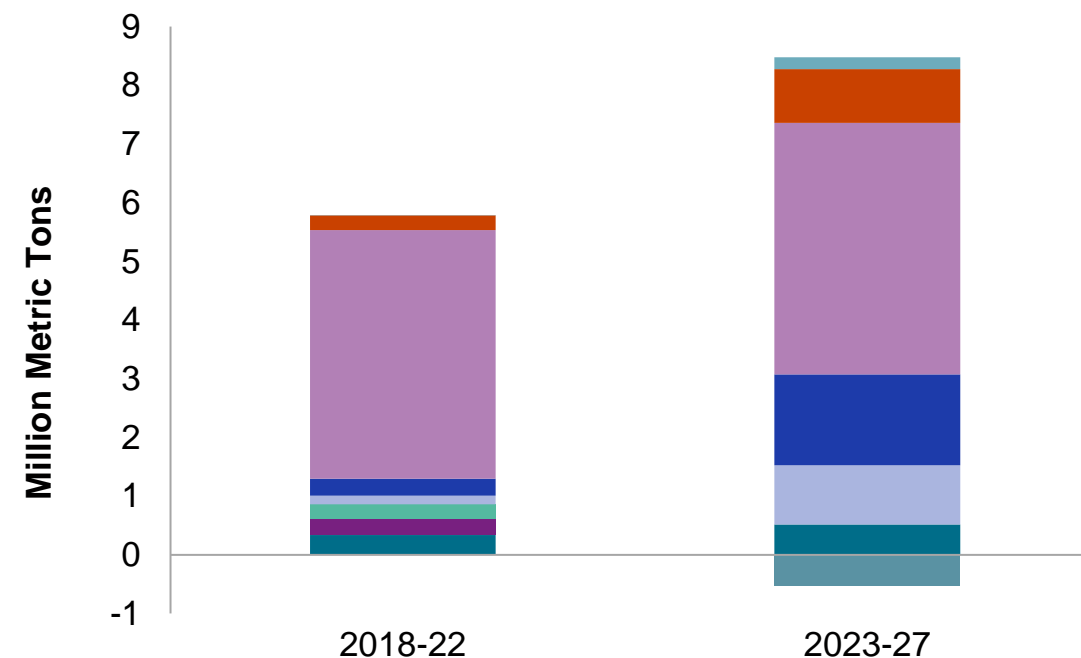


2023-2027 PVC expansions increase via projects in China, India and ME

Country	Company	Capacity (KTA)	Startup date
US	Formosa Plastics	136	2023
US	Shintech	380	2024
China	Inner Mongolia Zhonggu Mining Industry	300	2023
China	Ningbo Oceanking Chemical Development	300	2023
China	Shaanxi Jintai Chlor-Alkali Chemical	600	2023
China	Wanhua Chemical (Fujian) Chemical	400	2023
China	Wuhai Zhonglian Chemical	500	2023
China	Xinjiang Huatai Heavy Chemical	1000	2024
Iran	Arvand Petrochemical	300	2024
Vietnam	Duc Giang Chemicals Group	150	2025
China	Qinghai Salt Lake Industry	240	2025
Thailand	Vinythai Public	400	2025
China	Wanhua Chemical (Fujian) Chemical	400	2025
Qatar	Qatar Vinyl	350	2025
Ruwais	Taziz EDC & PVC	360	2025
Egypt	TCI Sanmar Chemicals SAE	225	2025
India	Reliance Industries	1500	2026
India	Indian Oil Corp	TBD	TBD

PVC Capacity Additions by Region

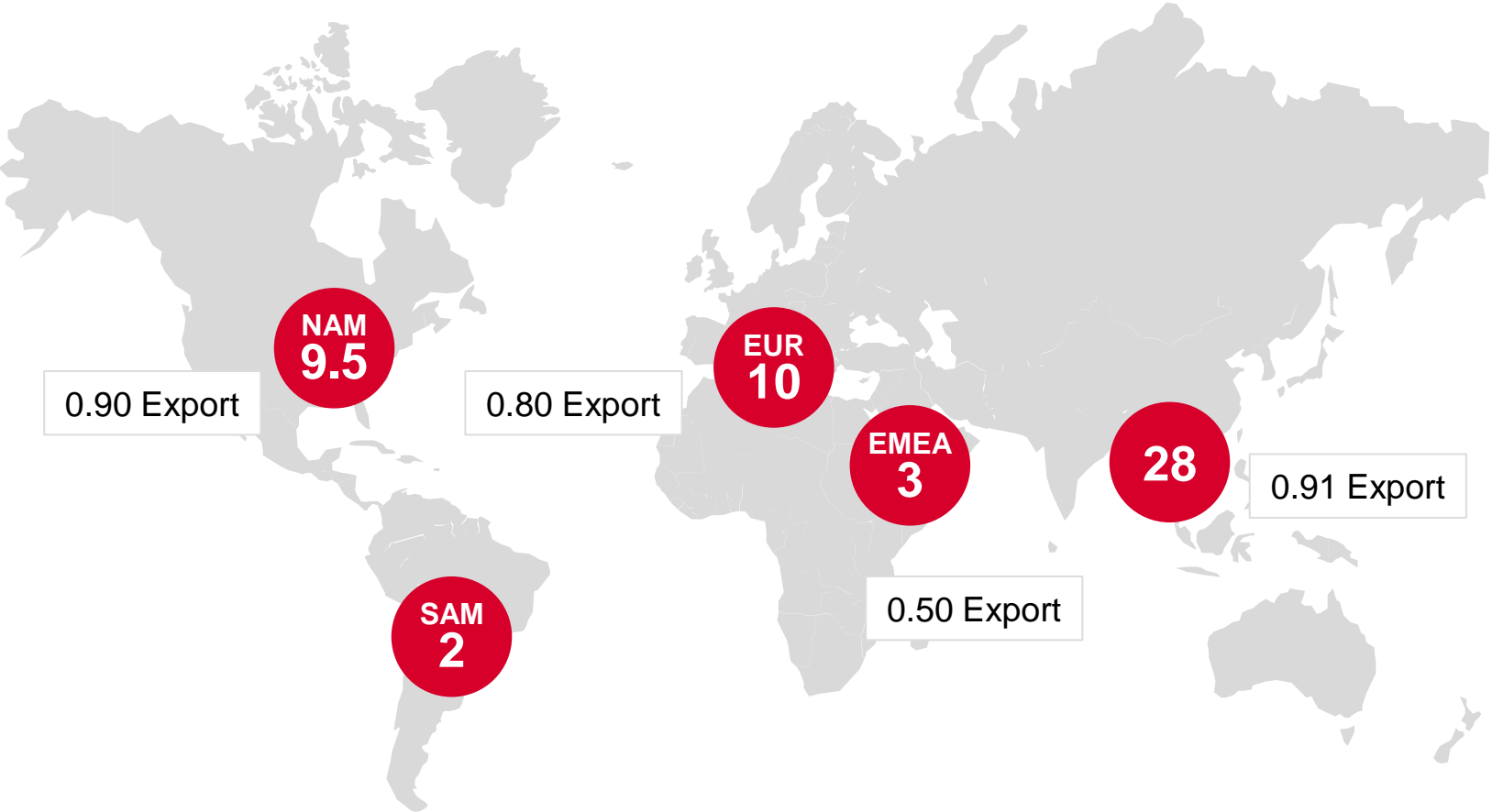
■ NAM ■ WEP ■ CIS ■ MDE ■ SOUA
■ MCHI ■ SEA ■ NEA ■ OTHER



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2022 Global EDC Overview

65MMT



45 MM
2013 global production

53 MM
Est.2022 global production

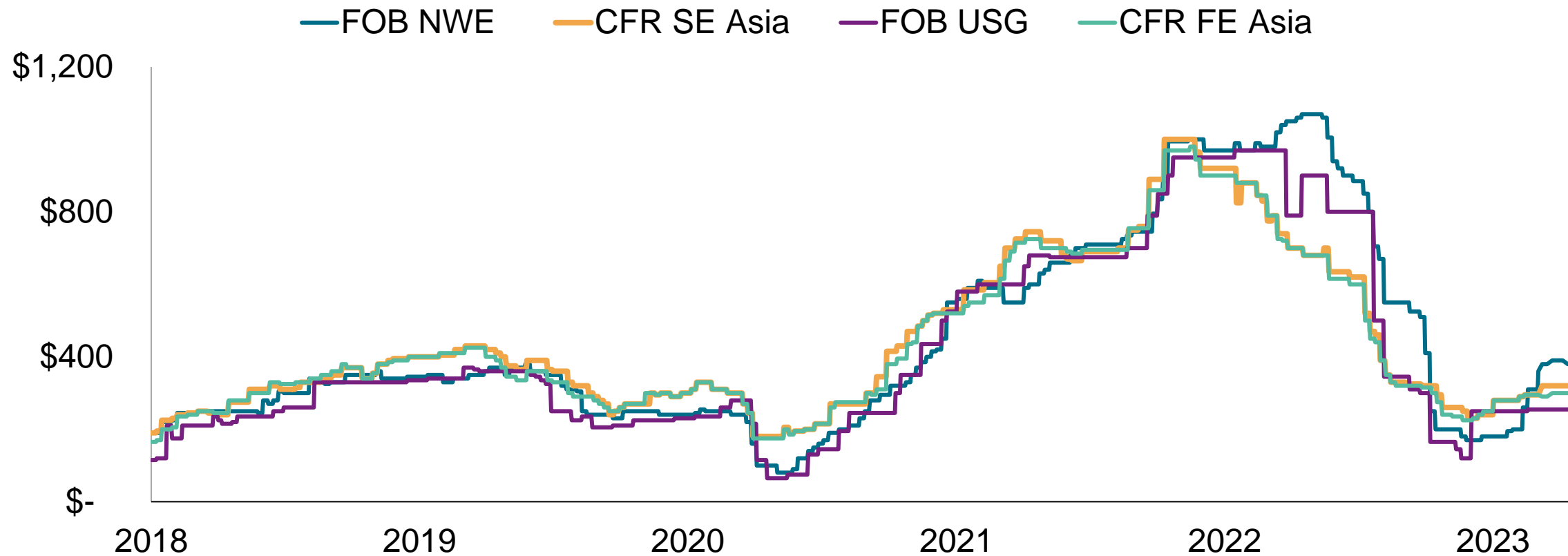
2.7 MM
2013 global trade

3.1 MM
Est. 2022 global trade

EDC global prices fell below pre covid levels and dampened volume

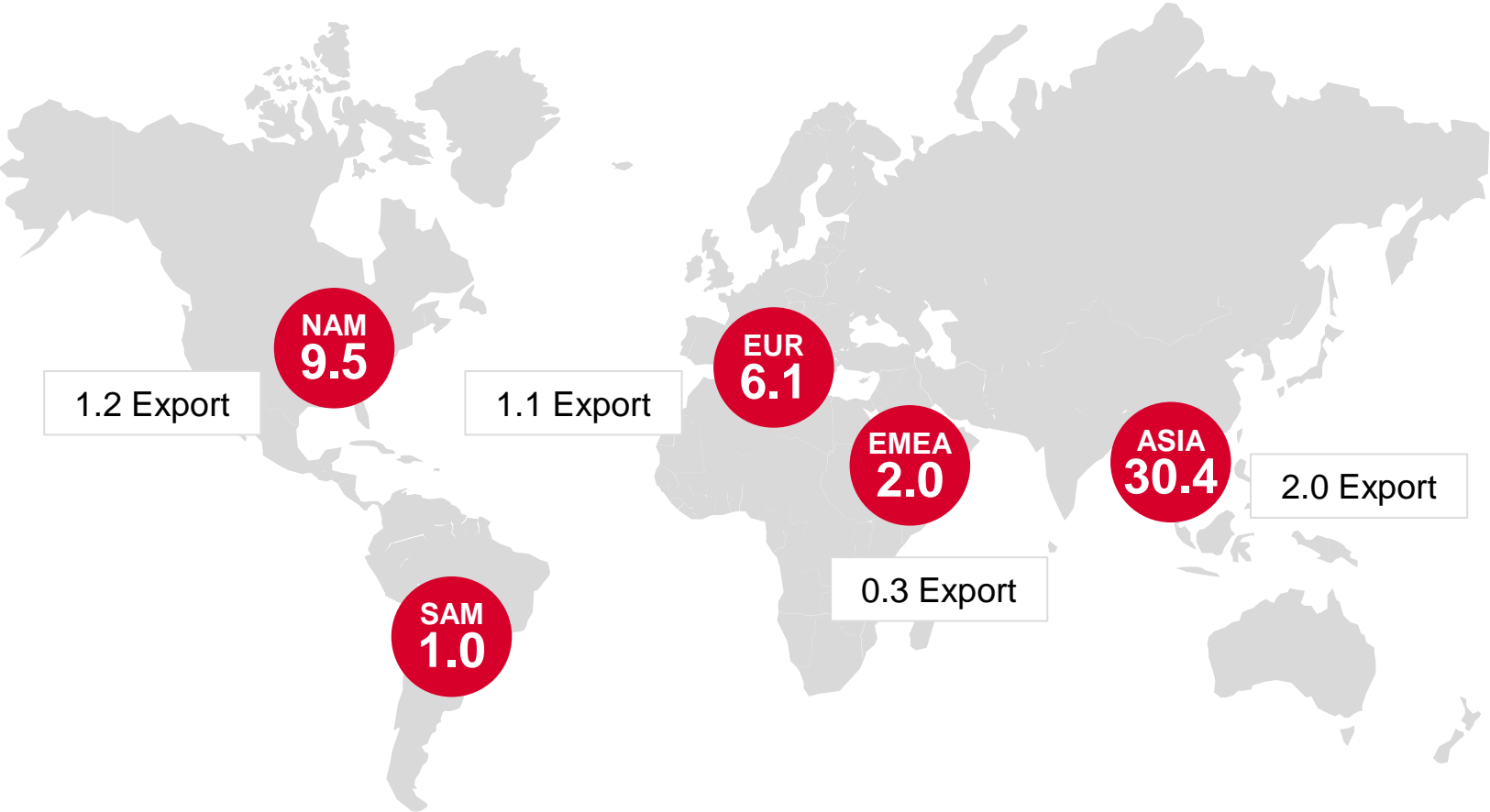
EDC Global Prices (US Dollars/Metric Ton)

Platt's 2018-Current



2022 Global VCM Overview

60MMT



39 MM
2013 global VCM production

48 MM
Est. 2022 global VCM production

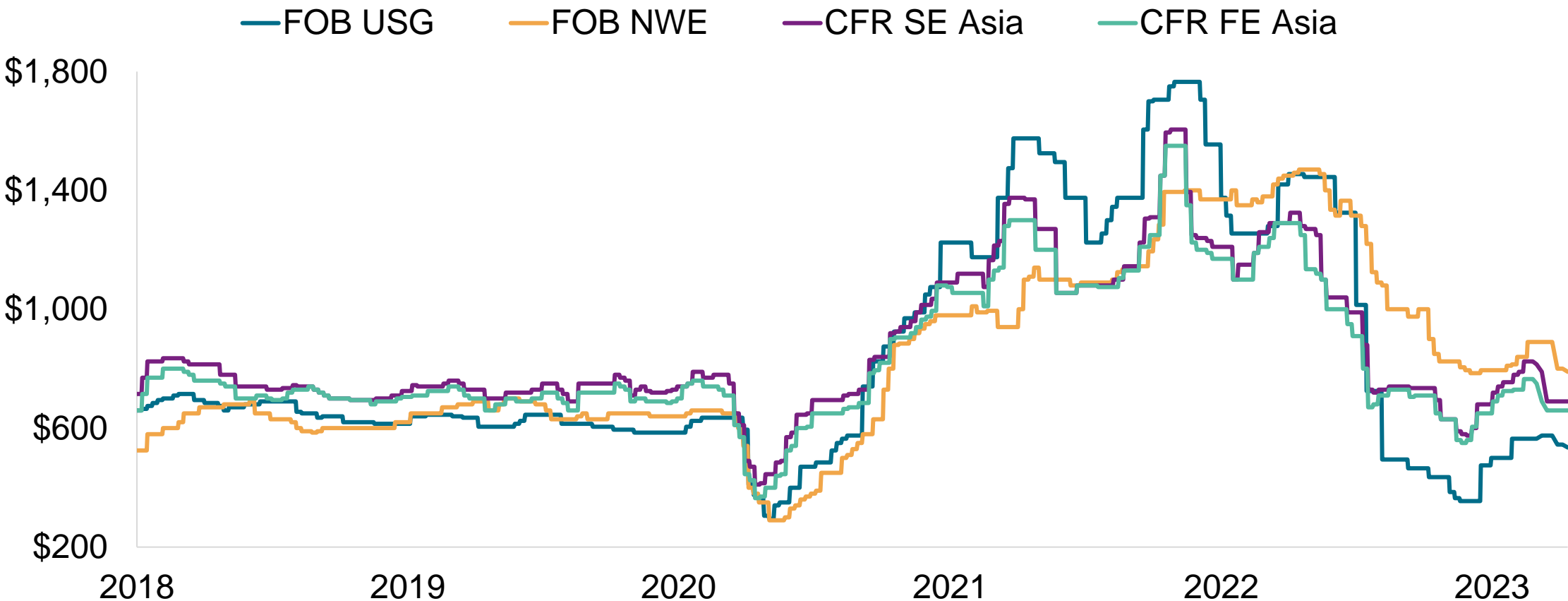
3.8 MM
2013 global VCM trade

4.7 MM
Est. 2022 global VCM trade

VCM global prices back above/at pre-covid levels at flat volumes

VCM Global Prices (US Dollars/Metric Ton)

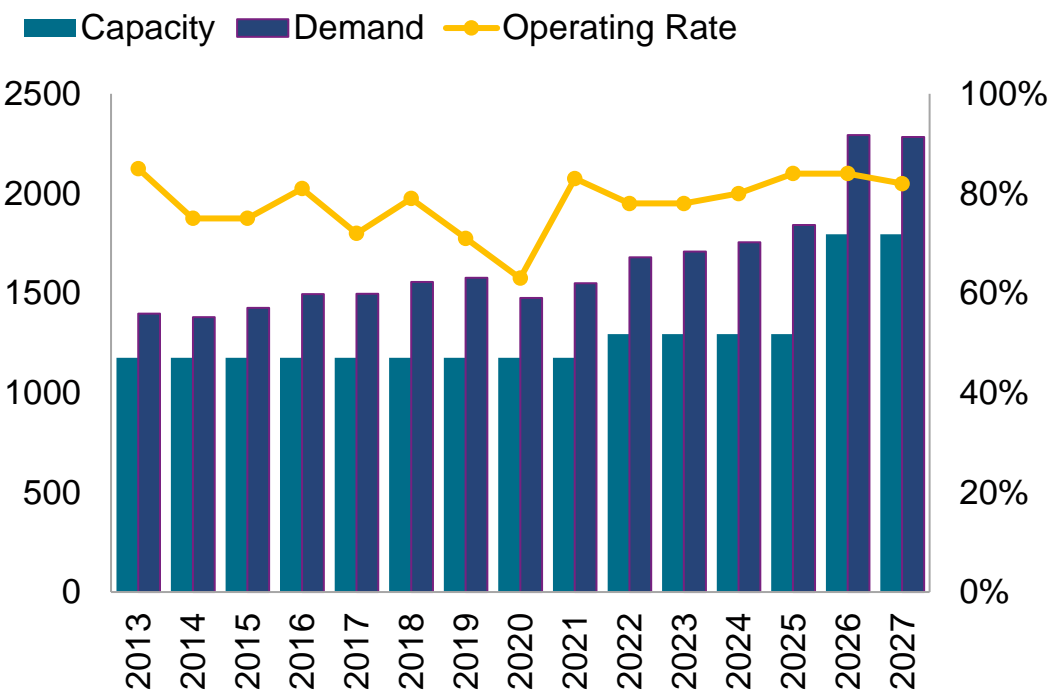
Platt's 2018-Current



South Asia EDC-VCM Supply Demand

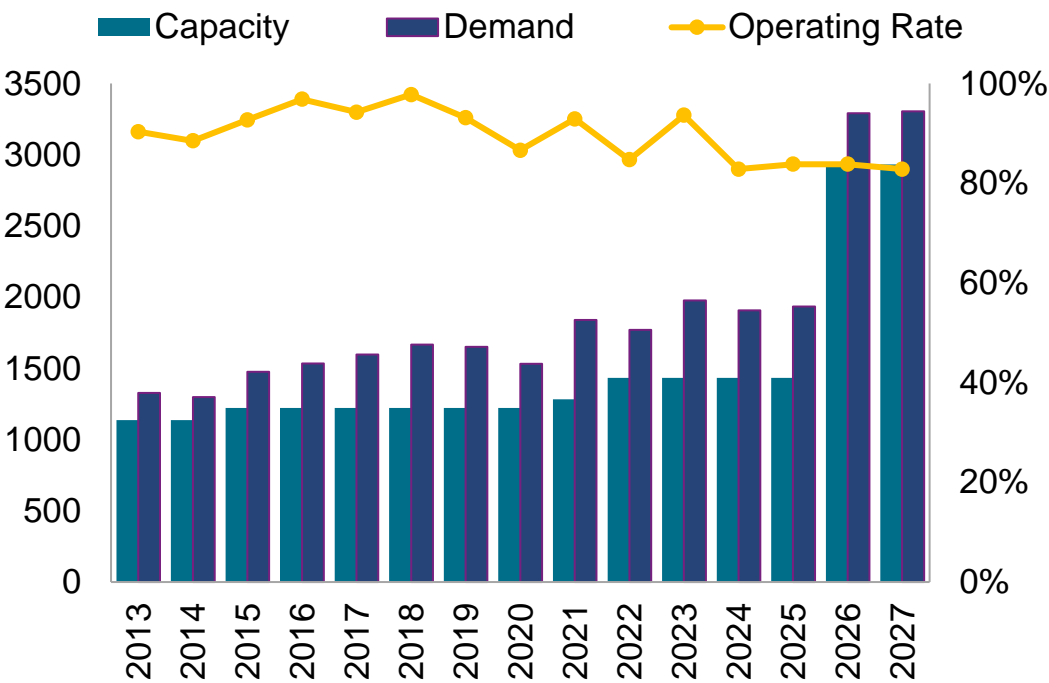
EDC

South Asia Supply-Demand (Million Metric Tons)



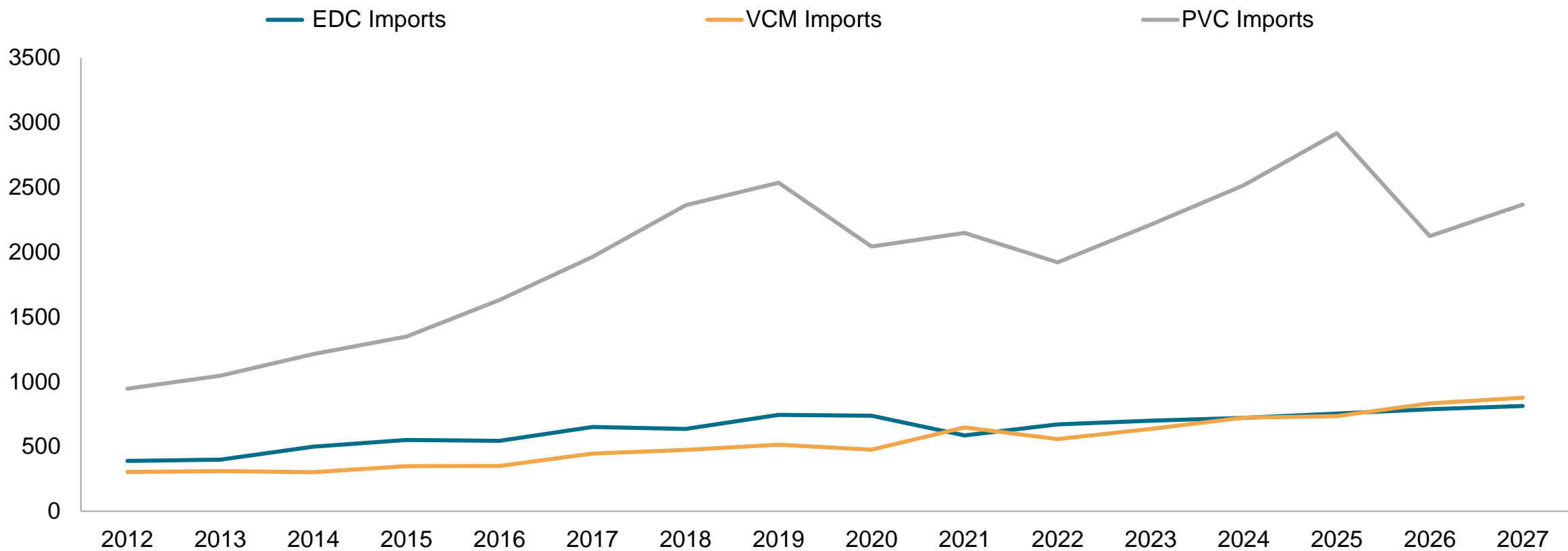
VCM

South Asia Supply-Demand (Million Metric Tons)



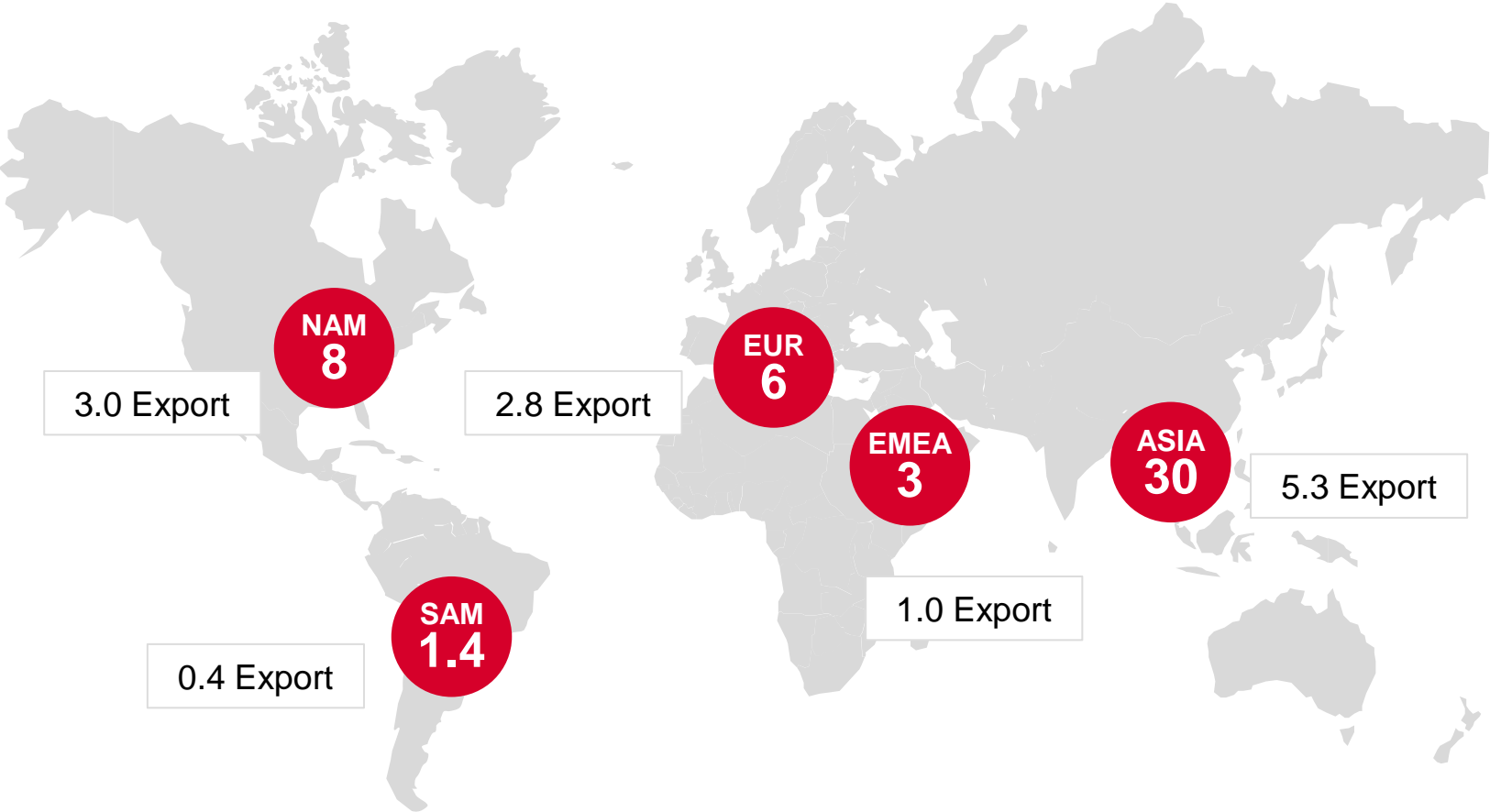
India heavily dependent on imports

EDC-VCM-PVC Imports in Indian Subcontinent



2022 Global PVC Overview

60MMT



39 MM
2013 global production

48 MM
Est. 2022 global production

11 MM
2013 global trade

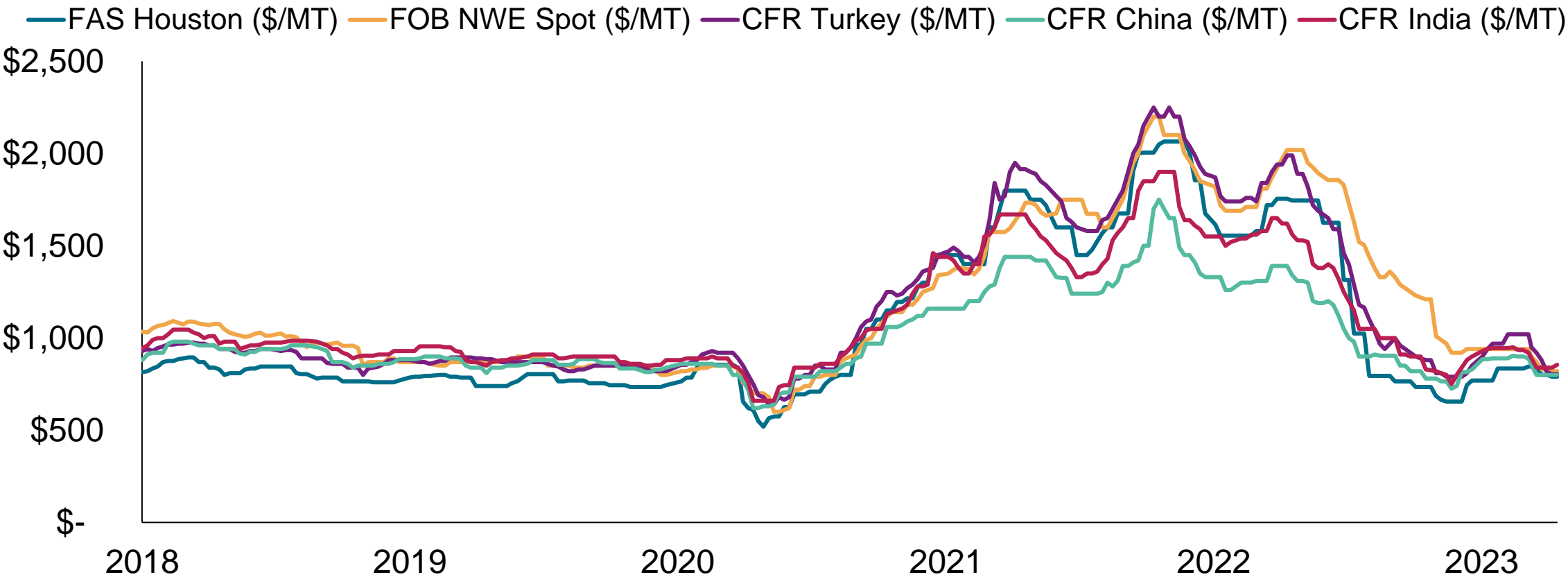
13 MM
Est. 2022 global trade

International PVC global prices fell back to pre-covid levels

2023 prices have started upward thru Q1

International PVC Prices (US Dollars/Metric Ton)

Platt's 2018-Current

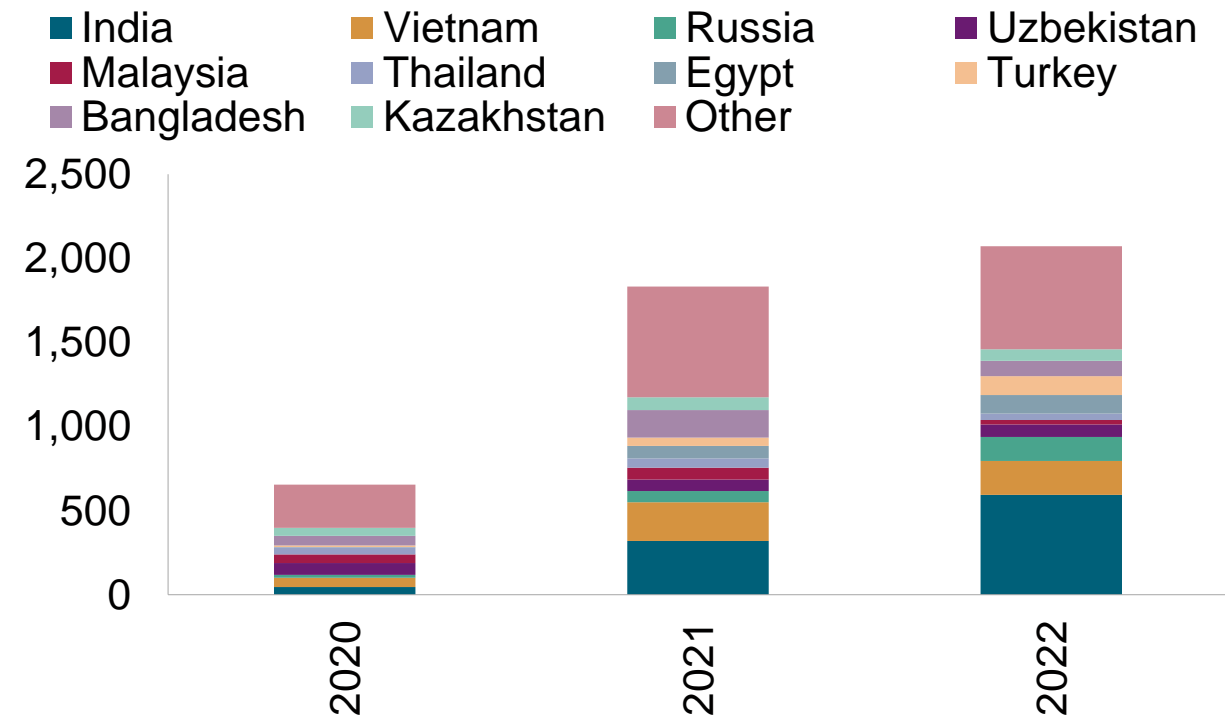


PVC: China exports set new record

- China exported 2.1MM MT to over 100 countries, with the top 10 representing 80%
- China PVC exports have jumped up into India, Vietnam, Russia and Thailand

2022 China Exports	Total (000 MT)
India	594
Vietnam	202
Russia	143
Turkey	112
Egypt	109
Bangladesh	93
United Arab Emirates	74
Uzbekistan	74
Kazakhstan	68
Nigeria	47
Others	405
Grand Total	2072

China PVC Annual Exports by Country (KT of PVC)

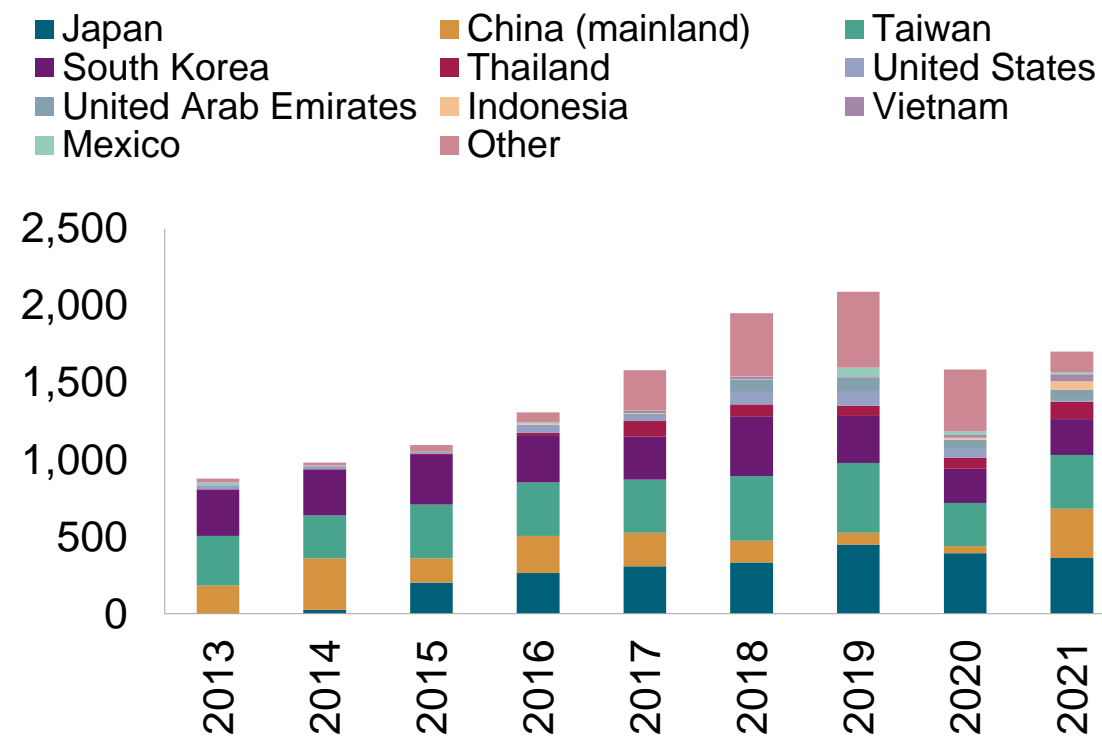


India expands to be the top importer

- Top import destinations in 2022 include 133 countries led by India, Turkey & Vietnam
- India PVC imports led from China, Japan, Taiwan and S Korea

2022 Top Importer	Import Total (000MT)
India	1992
Turkey	805
Vietnam	737
Italy	595
Germany	574
Canada	551
China (mainland)	486
Australia	417
Belgium	363
Brazil	344
Other	5999
Grand Total	12867

India PVC Annual Imports by Country (KT of PVC)



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EDC/VCM/PVC: Headwinds, opportunities & risks



Reinvestment level
returns improved



Expanded capacity and
demand growth



Global trade increases
and alters



Strong industry
leadership; New
Entrants



Lower raw
material costs



Environmental/
incidents/ other
polymers



Geopolitical events and
power risks

What's ahead for EDC/VCM/PVC



China and India will lead 75% of expanded capacity projects forecasted for 2023 -2027

Top chlorovinyl producers to solidify earnings via lower costs, demand growth and synergistic opportunities

Global demand will improve to 1.8MM TPY led by 5-6% GDP at an improving China and expanding India

WEP lower industrial production and smaller global trade will remain, as will China's expanded volume into India, Russia and WEP

Global trade increases to continue across EDC/VCM/PVC, led by Asia and NAM

Lower raw materials costs and increased demand keep margins at levels for increased reinvestment projects, largely in Asia

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