



Fact Sheet

Petrochemical Growth Slows Amid Market Volatility, but Investments Continue

Economic slowdown, changing demographics, policy shifts, and geopolitical instability hit demand

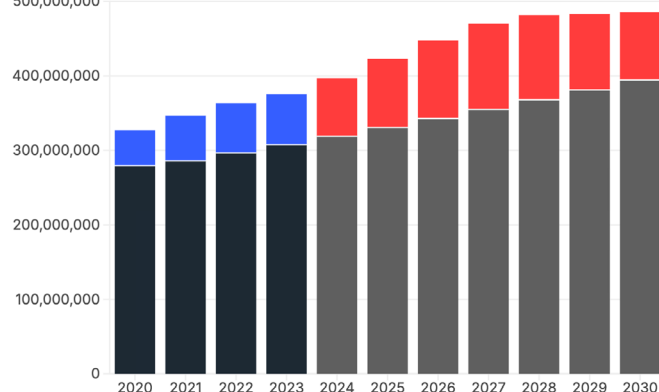
The oil and gas industry's pivot to petrochemicals demonstrates the industry's recognition of the current and future decline of the upstream and downstream oil and gas sector. However, the petrochemical sector is facing long-term structural decline that will transform the production and use of plastics, particularly single-use plastics. Factors for this decline include a long-term economic slowdown, an aging population in China (the dominant petrochemical producer globally), an increase in sustainable competitors and an increasingly unstable geopolitical landscape that is creating disruption. Therefore, while the first graph below indicates that the demand gap narrows in 2030, the corresponding one shows that operating rates have been erratic since the COVID-19 pandemic and are consistently moving away from the 1997-23 global average.

Trends in Petrochemical Market Growth

Ethylene and Propylene Supply and Demand Balance up to 2030

■ Demand ■ Excess capacity ■ Projected Demand ■ Projected Excess capacity

Metric tons per year
500,000,000

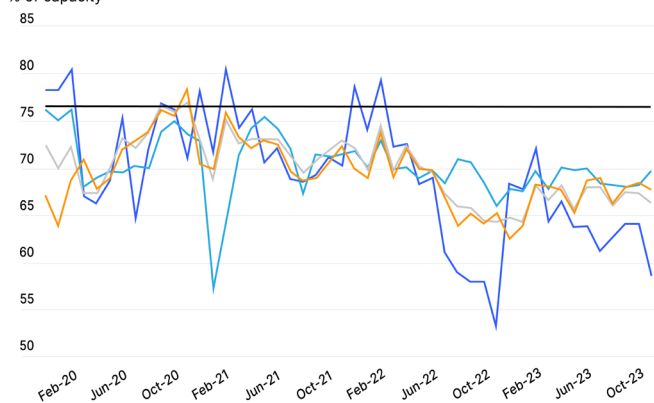


Source: BloombergNEF's 2024 Petrochemical Outlook: Olefins Dataset

Global Chemicals Capacity Utilisation

■ Global Capacity Utilisation ■ North America ■ Europe ■ Northeast Asia
■ Global Average 1997-2023

% of capacity



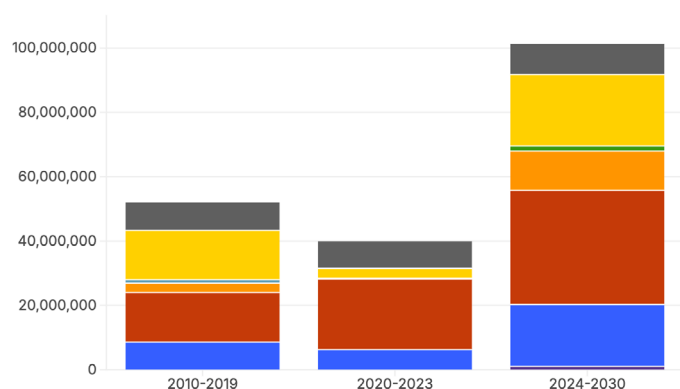
Source: ICIS Chemical Business 13-19 September 2024, Page 25

Planned Capacity Additions Despite a Market Slowdown

Petrochemical companies and petrostates continue to invest in adding capacity despite the now widely acknowledged structural decline. Traditional business assumptions that rely on robust growth are facing disruption from competitors and policy interventions along the value chain of the petrochemical industry.

Capacity Additions - Ethylene

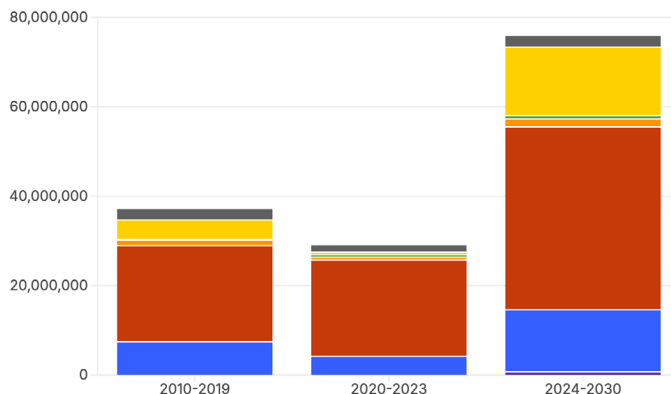
■ Africa ■ APAC excl. China ■ China ■ CIS ■ Europe ■ Latin America ■ Middle East ■ North America



Source: BloombergNEF's Petrochemicals Projects Dataset

Capacity Additions - Propylene

■ Africa ■ APAC excl. China ■ China ■ CIS ■ Europe ■ Latin America ■ Middle East ■ North America

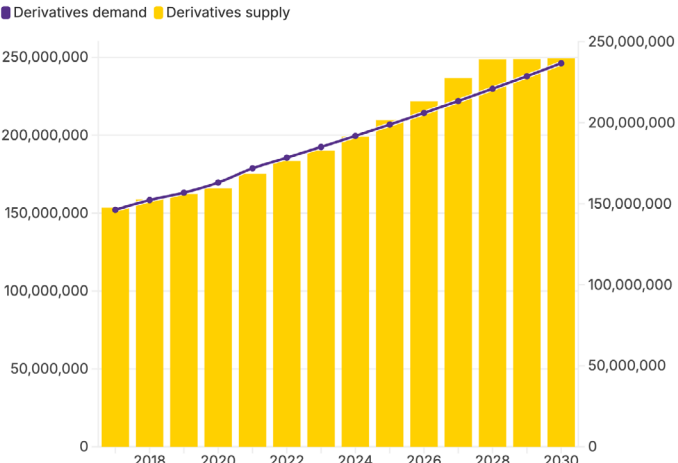


Source: BloombergNEF's Petrochemicals Projects Dataset

China has emerged as a leader in petrochemical production; however, the APAC region (excluding China) is significantly increasing its stakes during 2024-30. Derivatives (popularly referred to as polymers) of ethylene and propylene, which include downstream polymers from which plastics are made, are at a consistent, even if marginal, condition of overcapacity.

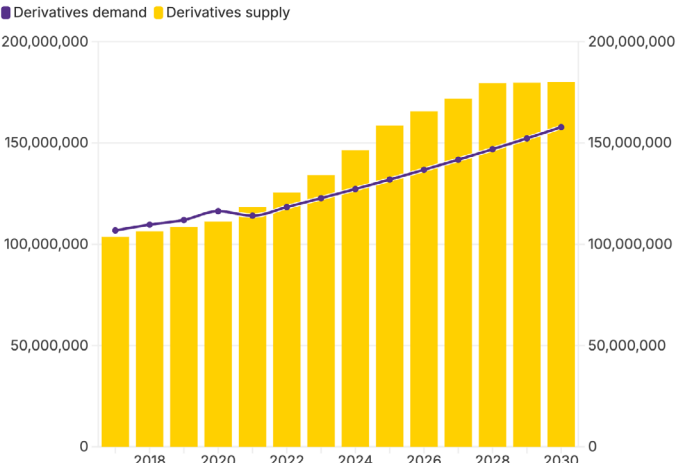
In the case of derivatives of ethylene, overcapacity is evident from 2025 onwards, and for propylene, this trend is witnessed from 2022. Yet, the industry continues to plan an increase in propylene capacities.

Key Polymers of Ethylene - Demand and Supply



Source: BloombergNEF's 2024 Petrochemical Outlook: Olefins Dataset

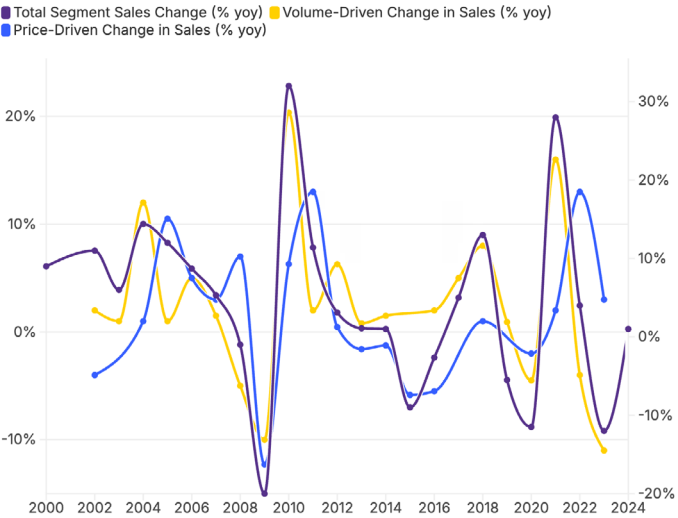
Key Polymers of Propylene - Demand and Supply



Source: BloombergNEF's 2024 Petrochemical Outlook: Olefins Dataset

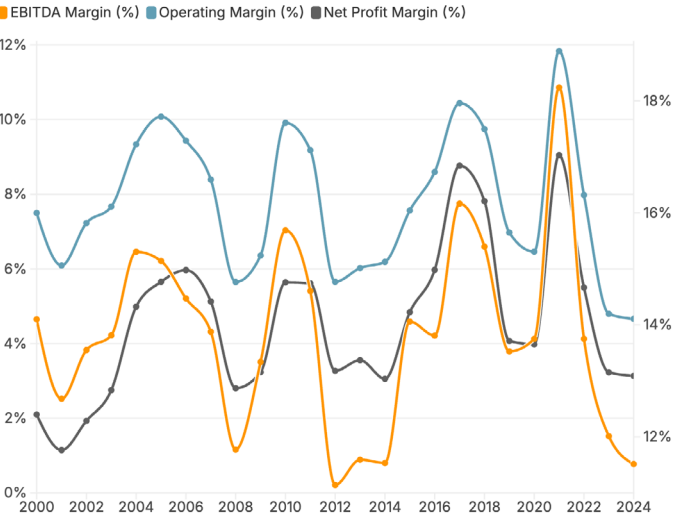
Unstable Profitability

Year-on-Year Change of Sales of Plastics, Restins and Fibres



Source: Bloomberg Intelligence: Global Basic and Diversified Chemicals Valuation Peers

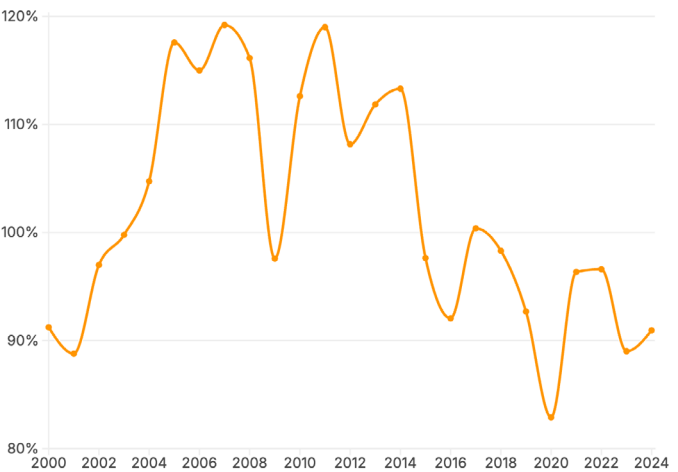
Key Financial Indicators



Source: Bloomberg Intelligence: Global Basic and Diversified Chemicals Valuation Peers

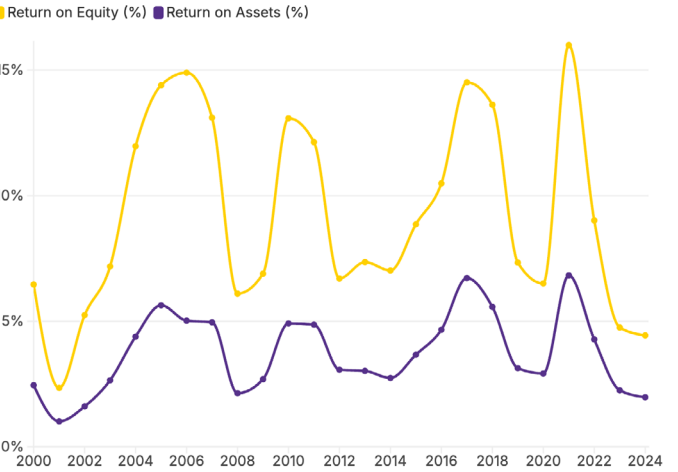
The trend for year-on-year change in the sale of plastics, resins and fibres can best be described as erratic, but with a clear falling trend in the past few years. Short- and long-term analyses point to slower growth, lower operating rates, and reduced profitability. Even if market share grows over the long run, its pace of growth and size of demand will not meet the expectation of investors. Given that the polymer market is in a state of secular decline, it would be financially prudent for governments to avoid depending on plastics to drive their national economies.

Sales/Invested Capital (%)



Source: Bloomberg Intelligence: Global Basic and Diversified Chemicals Valuation Peers

Returns on Equity and Assets



Source: Bloomberg Intelligence: Global Basic and Diversified Chemicals Valuation Peers

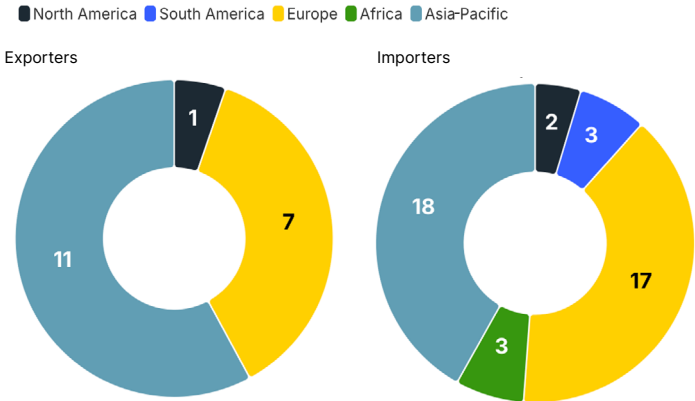
Falling margins indicate pressure on industry fundamentals. The sales to invested capital ratio has been on a downward trend since 2014, with some periods of recovery. Returns on equity and assets in 2024 were marginally lower than they were in 2000.

International Trade: A cornerstone of the petrochemical industry

According to a [recent study](#), 436.66 million tonnes (mt) of polymers and plastics, including feedstocks, were traded in 2022, with final plastic products amounting to 111mt. Plastics, throughout their lifecycle, are part of a globalised and interconnected market. Asia has emerged as a key arena for petrochemical trade, with 11 exporters and 18 importers in the region.

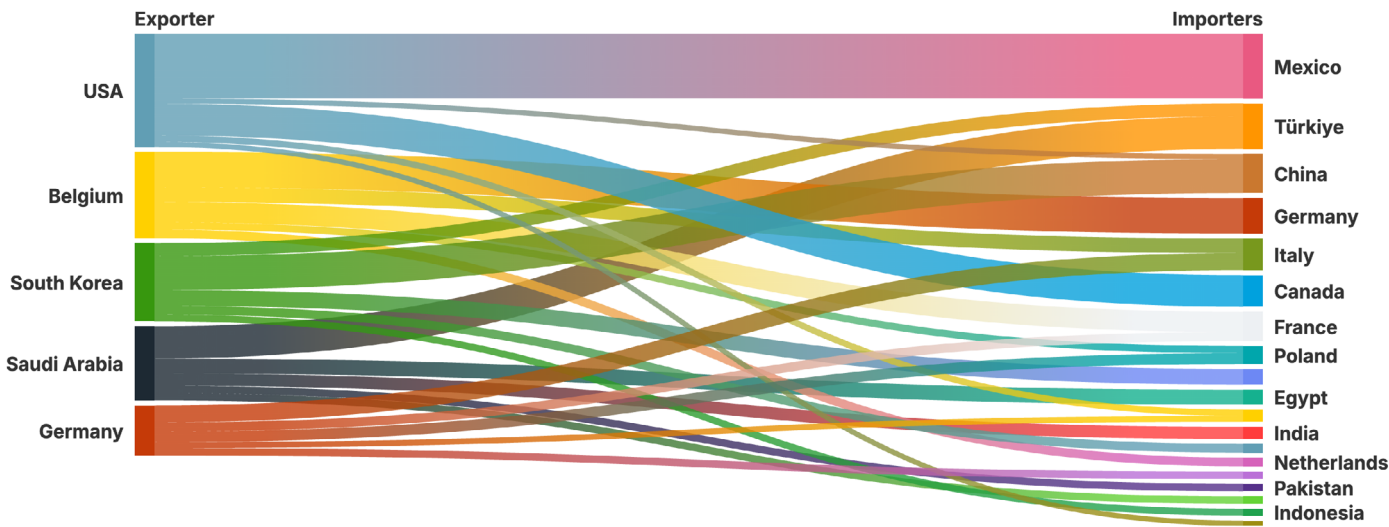
Given the capacity additions planned in Asia and this trade pattern, it is now undeniable that the future of polymer production lies in Asia. Given the unreliability of base chemicals and their polymers, emerging economies in Asia—that are expected to contribute 60% of global economic growth—will be rendered vulnerable if they rely on plastics and polymers for their development.

Top Exporting Countries and Their Top Importers



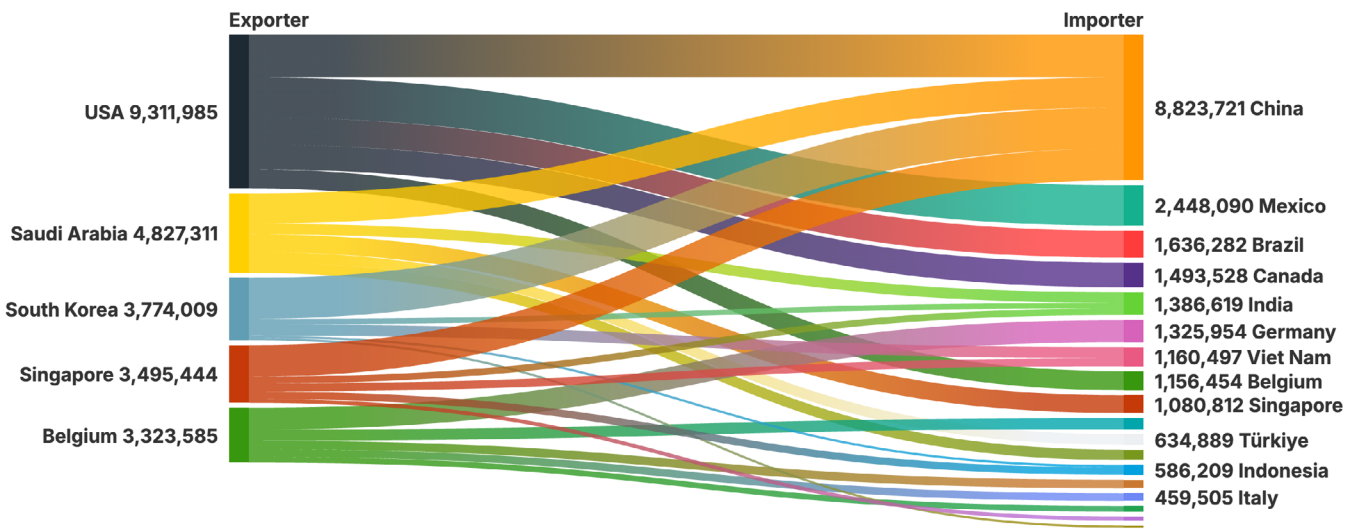
Source: TradeMap (as of 2024)

Polymers of Propylene or of Other Olefins, in Primary Forms



Source: Trade Map database (ITC), Note: Depicts value exported in 2024 (USD thousand), for the top 5 exporters and their respective top 5 importers

Polymers of Ethylene, in Primary Forms



Source: Trade Map database (ITC), Note: Depicts value exported in 2024 (USD thousand), for the top 5 exporters and their respective top 5 importers

Petrostates lead trade in polymers. Ten countries form the top five exporters of monomers and 20 countries comprise the top five exporters of polymers. Four of the 10 and three of the 20 countries are fossil-fuel rich. All the other exporting countries are dependent on purchasing crude oil and natural gas or importing monomers, making them vulnerable to erratic prices characterised by these markets. With shrinking markets and a pile up of polymers and their feedstock, countries, especially developing countries dependent on petrochemical trade, are exposing themselves to looming financial crises.