ME Disruption Triggers Shock to Asia's Naphtha-Based Petrochemical Chain

Naphtha Trade Flows

The disruption of the Middle Eastern naphtha supply poses a significant risk to Asian petrochemical markets, particularly steam crackers that rely heavily on naphtha as a primary feedstock. The Middle East is a dominant exporter of naphtha, with over 90% of its volumes transiting through the Strait of Hormuz, making this chokepoint critically important for supply continuity. Any disruption in this route severely limits the ability to redirect flows, as alternative supply sources are constrained.

Asian economies, especially Japan, South Korea, and ASEAN regions, are the most exposed, sourcing around 80% of their naphtha imports from the Middle East. These regions have limited feedstock flexibility for their naphtha reliant crackers, meaning supply shocks can directly impact olefin and aromatics production margins and operating rates of steam crackers. China, while still reliant, has relatively more diversified sourcing and some domestic production, offering partial insulation.

Compounding the issue, domestic naphtha availability in Asia is tightening due to lower refinery run rates and stronger gasoline blending economics. Due to the Strait of Hormuz disruptions, refineries are incentivized to prioritize gasoline production over naphtha extraction, further reducing supply for petrochemical use.

On the supply side, key Middle Eastern exporters include Saudi Arabia, UAE, Kuwait, Qatar, and Oman, collectively contributing substantial monthly export volumes. With limited immediate substitutes and logistical constraints, any sustained disruption is likely to tighten regional balances, increase feedstock costs, and pressure downstream petrochemical margins across Asia.

Figure 1 ME Top Naphtha Exporters to Asia 2025

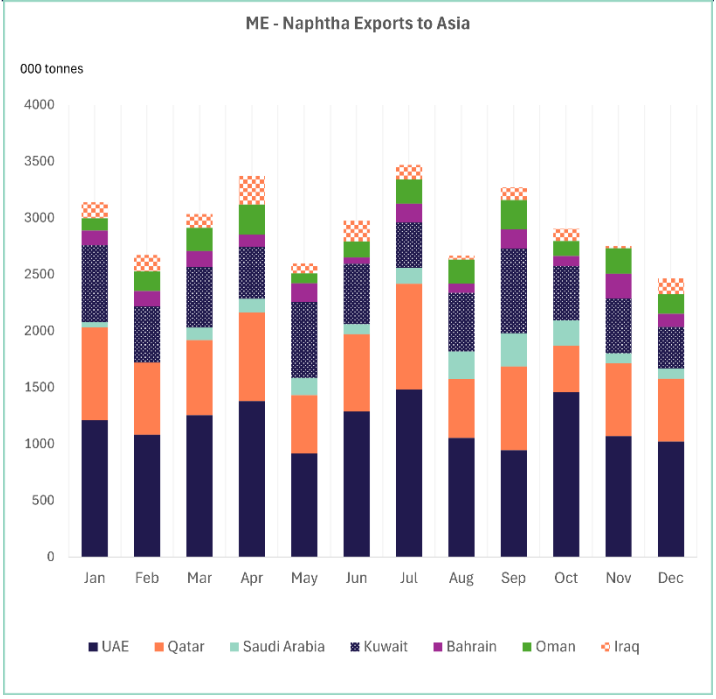
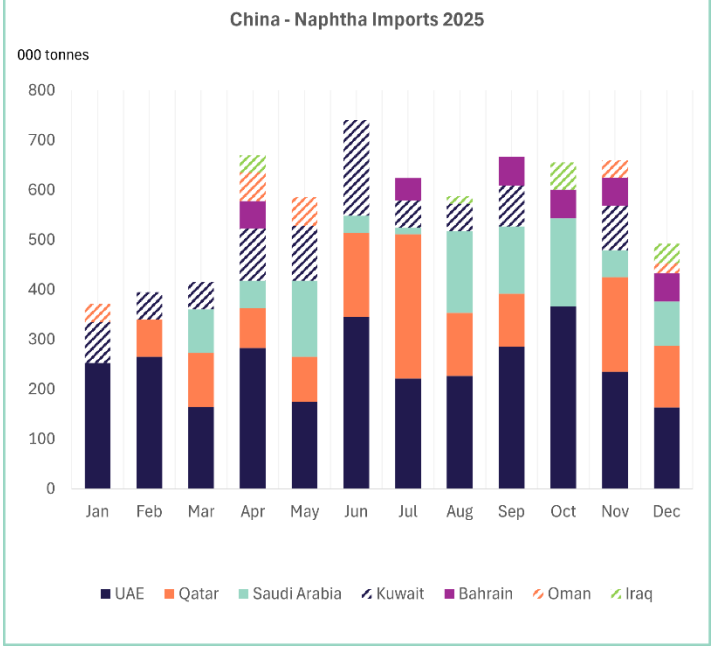


Figure 2 China Naphtha Imports from ME 2025



Key feedstocks like ethylene, propylene, benzene, butadiene, and paraxylene, are all under pressure due to rising feedstock costs and weak demand. Polyolefins (PE, PP) face a dual squeeze from high input costs and weak consumer demand. Aromatics are particularly impacted due to their exposure to cyclical sectors like construction automobiles and durables. The polyester chain (PTA, PET) is also under stress from both feedstock inflation and a slowdown in textiles. Methanol markets are strained globally, though coal-based production in China remains more competitive.

High cracker costs reduce output, tightening the supply initially but subdued demand ultimately drives price corrections. This creates inventory buildup and margin erosion in the downstream sector.

While the ethane-based producers in the US and gas-advantaged Middle East gain competitiveness, naphtha-dependent Asian cracker operators face structural disadvantages. This is reshaping global trade flows, increasing exports from low-cost regions and import dependency in high-cost markets.

Figure 3 Japan Naphtha Imports from ME 2025

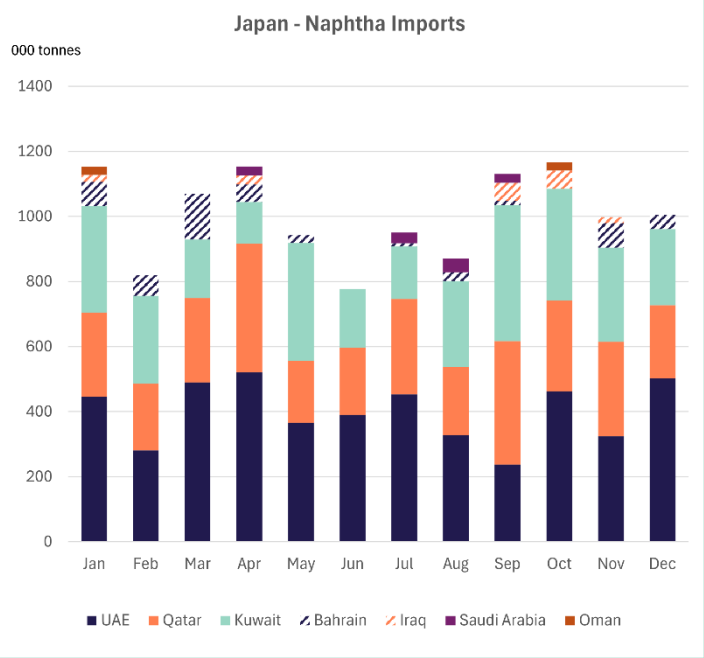
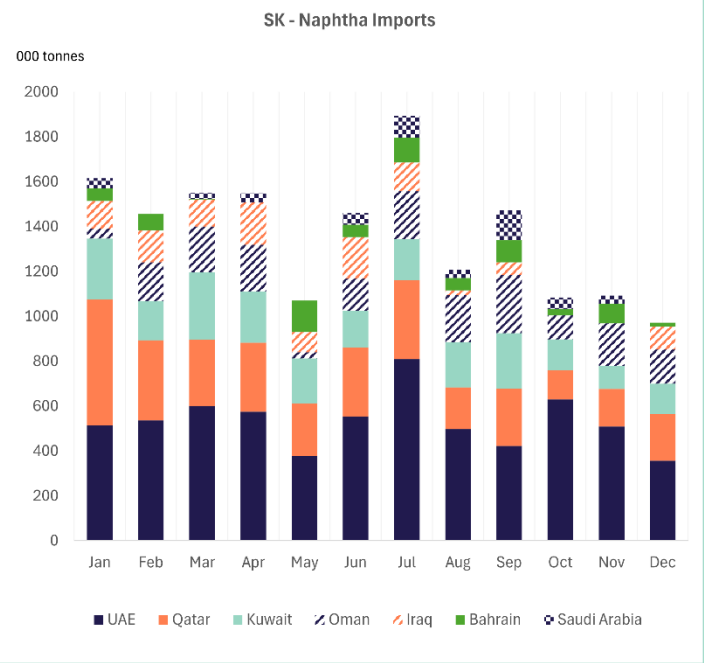


Figure 4 SK Naphtha Imports from ME 2025



Impact of Feedstock Crunch on Naphtha Crackers

The Asian ethylene market is facing a severe and escalating supply shock driven by the Middle East crisis. Currently, around 30% of Asian cracker capacity is already offline due to a combination of force majeure declarations, reduced operating rates and accelerated maintenance shutdowns which were postponed in 2025. Most of this disruption is directly linked to the Middle East conflict, highlighting the region's structural dependence on imported naphtha and LPG. The situation could worsen significantly, with a further 55% of capacity at risk of shutdown if the Strait of Hormuz remains further inaccessible, effectively choking off key feedstock supplies and forcing naphtha-based crackers to halt operations. Typically, those with access to domestic or alternative feedstocks, greater flexibility, such as ethane capability or sufficient inventory buffers are immune for now. While such a large-scale supply disruption would normally drive strong price increases, the market impact is more complex due to weak downstream demand and downward margin pressures. This could further cap price upside for finished products. Strategically, the crisis is accelerating structural shifts in the global petrochemical landscape, including greater reliance on China's crude to chemicals capacity, increased competitiveness of US and Middle Eastern ethane-based producers and further fragmentation of regional markets.

There is a systemic shock to Asia's naphtha-reliant petrochemical model, exposing its vulnerability to geopolitical risks and reinforcing the need of feedstock diversification and supply chain resilience.

The Figure 5 below shows Ethylene and Propylene capacity in South Korea either announcing force majeures or cutting down productions.

Figure 5 SK Ethylene and Propylene Capacities Impacted Due to Strait of Hormuz Closure

Sr. No.	Company	Location	Ethylene Cap. (000 tonnes)	Propylene Cap. (000 tonnes)	Other Products (000 tonnes)
1	Lotte Chemical	Daesan, SK	1100	-	-
		Yeosu, SK	1230	-	PP(600), HDPE(630)
2	LG Chem	Daesan, SK	1270	680	PP(380), PE(600), EG(125), EO(114)
		Yeosu, SK	3380	1980	Benzene(390), Styrene Monomer(500), Cumene(400)
3	KPIC	Onsam, SK	800	500	PP(550), HDPE(650), Benzene(180)
4	YNCC	Yeosu, SK	2290	1280	-
5	GS Caltex	Yeosu, SK	900	470	HDPE(500)

Figure 6 displays Japanese ethylene and propylene capacities with turnarounds commencing March 2026 onwards. Initially these turnarounds were planned for 2025.

Figure 6 Japanese Ethylene and Propylene Capacities Commencing Turnarounds March 2026 Onwards

Sr. No.	Company	Site	Capacity (000 tonnes/year)
1	Keiyo Ethylene	Chiba	768
2	Crasus Chemical	Oita	694
3	Tosoh Corp	Yokkaichi	527
4	ENEOS	Kawasaki	540

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