THE ASIA GROUP

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NO SAFE HARBOR

Asia's Continued Exposure to Disruptions in the Strait of Hormuz

About This Project

The Strait of Hormuz is the world's most important oil chokepoint, and a distribution center for the global economy. Its closure revealed how much, and how unevenly, Asia depends on it.

In recent years, a series of shocks has rattled the global economy and disrupted global supply chains. The COVID-19 pandemic, Russia's invasion of Ukraine, and attacks on commercial shipping in the Red Sea triggered price shocks in sectors ranging from fertilizer to semiconductors. In some cases, initial fears of catastrophic shortages proved overstated as markets adapted; in others, seemingly manageable disruptions had cascading long-term effects. In each case, governments and businesses underestimated both the speed with which vulnerabilities could spread through interconnected markets and the difficulty of forecasting where the greatest pressure points would emerge. The most important lesson from these episodes lies not in the disruptions themselves, but in how their effects reverberated through the global economy.

The same is true of the disruptions to transit through the Strait of Hormuz since March 2026.

The Strait has long been understood as the world's most important chokepoint for oil and liquefied natural gas (LNG). But its closure highlighted that it is also a complex distribution center for the global economy: a major point of transit for the petrochemicals, plastics, aluminum, helium, sulfur, and fertilizers that feed into manufacturing, agriculture, and consumer markets worldwide. Follow these commodities through the supply chain and, in time, the result is more expensive food, medical supplies, manufacturing inputs, and consumer goods — a web of reinforcing pressures that amplifies the economic disruptions far beyond the immediate geography of the Gulf.

Nowhere have the shocks been felt more acutely than in Asia. Prior to the closure of the Strait, roughly 80 percent of the oil and nearly 90 percent of the LNG transiting the waterway was destined for Asian markets, along with a significant share of other critical commodities. Disruptions hit economies across the region rapidly but unevenly. China, India, Japan, South Korea, and the countries of Southeast Asia all depend on Gulf energy but entered the crisis with different levels of reserves, exposure, and fiscal capacity. Within countries, the picture was similarly varied: energy-intensive industries such as chemicals, steel, and aviation faced rising costs, while domestic energy producers and logistics providers stood to benefit. Lower-income households bore a disproportionate share of higher fuel, food, and transportation prices, while better-resourced companies and governments could absorb higher

costs. The Hormuz closure has produced not a single economic effect but a highly uneven pattern of losses, gains, and adaption.

Nor did those effects end when the fighting stopped. Early indications are that despite the ceasefire, transit disruptions and constraints persist. In this new environment, Iran can continue to impose restrictions on transit through selective inspections, security reviews, insurance approvals, or other forms of administrative control. The result could be differential treatment among shipping companies and countries, with states that maintain stronger political relationships with Tehran enjoying relative advantages — or a Strait that is bifurcated between zones of Iranian and Omani or U.S. control.

Other consequences will linger, too. Damage to Gulf energy infrastructure, uncertainty over future navigation rights and tolls, elevated insurance costs, and doubts about the safety of maritime transit will not immediately resolve. Businesses are reassessing inventory management practices, supplier concentration risks, and logistics networks. Governments are examining opportunities to expand strategic reserves, diversify suppliers, develop alternative transportation routes, and increase energy sovereignty. The Hormuz crisis will shape risk assessments, contingency plans, and diversification strategies in capitals and boardrooms for years to come. This is the least disruptive scenario. If the ceasefire falters or breaks down entirely, the pressures described in this report would intensify and compound.

The question now is not whether the world returns to pre-crisis conditions, but how governments and markets adapt to a future in which the reliability of one of the world's most important trade corridors can no longer be taken for granted. These questions are most acute in Asia, which remains deeply dependent on the flow of trade through a small number of strategic chokepoints, many of which sit at the intersection of intense geopolitical competition. The resumption of shipping alone cannot restore the confidence that has been lost. For Asia, there is no true safe harbor.

About This Project

Against this backdrop, The Asia Group (TAG) is launching a new initiative to assess what comes next: the secondary impacts and slower-moving ripple effects of the Strait of Hormuz disruptions for Asia, through Asia's leading markets for the global economy, and for the United States — an Indo-Pacific power deeply integrated with the region's major economies through trade, finance, technology, and energy markets. While the United States may be less directly dependent on Gulf energy imports than many Asian economies, it is not insulated from the broader consequences of higher energy prices, supply

chain disruptions, financial volatility, and slower growth among key trading partners.

Our study focuses on Asia's four largest economies — China, India, Japan, and South Korea — and five major emerging markets in Southeast Asia: Indonesia, Malaysia, the Philippines, Thailand, and Vietnam. Across these countries, we examine the macroeconomic, political, and geopolitical repercussions of the Strait closure and its impacts on key sectors such as manufacturing, agriculture, and energy. To underpin our analysis, TAG mapped each economy's pre-conflict dependencies across nearly a dozen commodity and product areas heavily impacted by the Strait closure: crude oil, LNG, liquid petroleum gas (LPG), naphtha, diesel, gasoline, jet fuel, methanol, ammonia, sulfur, and helium.

The findings integrate across these three dimensions — markets, sectors, and commodities — to reveal how disruptions compound and interact across the region's interconnected economies.

Two core assumptions underpin our work: that any reopening of the Strait will be gradual, selective, and vulnerable to renewed disruption; and that supply chain dislocations already set in motion will continue to generate secondary and tertiary effects — including some not yet visible in available data.

Our analysis draws on TAG's cross-cutting expertise and on-the-ground teams in more than a dozen markets across the Indo-Pacific and the Gulf, integrating contributions from former senior officials, sector specialists, wargaming experts, and data scientists. A central component of the analytical framework is TAG's proprietary AI-powered scenario modeling platform, which simulates how governments, firms, central banks, and other actors are likely to respond under crisis conditions. Rather than converging on a single forecast, the platform runs dozens of parallel scenarios to map a range of plausible futures and surface non-obvious risks and interdependencies that traditional analysis tends to miss. TAG's analysis and findings were also reviewed by an external advisory committee of leading experts in economics, business, and national security.

Strategic Context: The Status of the Strait

The closure of the Strait of Hormuz reached well past oil and gas into global supply chains, with wide ranging consequences.

The Strait of Hormuz sits at the center of one of the world's most important maritime corridors. Before the conflict, it carried around 20 million barrels per day of crude oil, condensate, and petroleum products — about a quarter of the world's seaborne oil trade — and nearly one-fifth of global LNG trade. The first-order effects of its closure landed predictably on petroleum products — crude, gasoline, diesel, jet fuel, and naphtha, the refinery output that many plastics and chemicals industries are built on. Rising energy costs rippled across the economy, disrupting supply chains and hitting industries from generic drug manufacturing to air travel.

The Strait's importance, however, extends well beyond oil and gas. Pre-closure, a third of the world's helium, critical for semiconductor fabs and MRI machines, exited through Hormuz. So did nearly 50 percent of the world's seaborne traded sulfur, which is used as an essential input to copper, nickel, and critical minerals processing. The ripple effects of the crisis have pinched inputs into supply chains that had no obvious exposure to the Middle East.

The geography of the Strait helps explain why the disruptions were so acute. At its narrowest, Hormuz is only about 21 miles wide, and commercial traffic is funneled into narrow, highly predictable shipping lanes between Iran and Oman. In peacetime, that system keeps traffic orderly. In wartime, it turns the waterway into a bottleneck. Large commercial ships have limited room to maneuver, and even a small number of mines, drones, missiles, or fast boats can disrupt a disproportionate share of traffic.

Throughout the active hostilities, the impact on shipping through the Strait was both physical and psychological. Iranian forces attacked, fired on, damaged, or seized commercial vessels, while the threat of additional strikes drove up insurance costs and shook shipowners' confidence. U.S. interdiction efforts added another layer of disruption. The result was a maritime environment in which even limited attacks could have outsized effects, because companies do not need to see every threat materialize before deciding the risk is too high. In practice, uncertainty itself becomes a barrier to commerce.

That caution is visible in the traffic data. During the active hostilities, ship transits through Hormuz fell from pre-conflict levels of 120 to 160 vessels daily to single digits or low double digits for extended stretches, leaving hundreds of vessels stranded, delayed, rerouted, or unwilling to enter the waterway at

all. The disruption extended across tankers, container ships, bulk carriers, general cargo vessels, offshore support ships, and specialized carriers — underscoring that this was a broader trade and logistics crisis unfolding at one of the world's most important maritime chokepoints.

The following analysis highlights the impact of this standstill. It foreshadows the types of economic strain that could compound if disrupted transit becomes the new normal or, more dramatically, if recent ceasefire arrangements collapse.

Market Spotlight: China

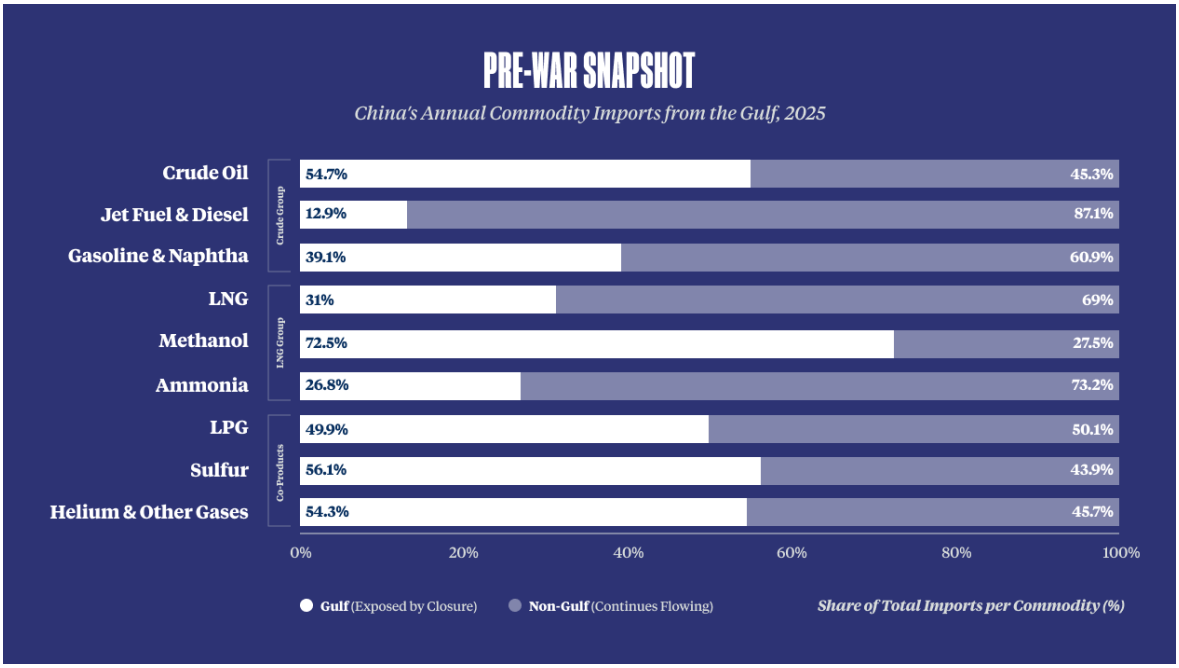
Strategic Insights

- **China is emerging from the crisis with clear economic and strategic advantages.** A shared global crisis has become a demonstration of China's resilience, thanks to its large oil and gas reserves and diversified energy supply. Its ability to absorb and cushion the global energy shock is reinforcing China's competitive edge across industries, while higher costs accelerate a shift to clean-tech sectors that China dominates. Economically and geopolitically, Beijing is using the crisis to promote China as the stable partner of choice.

- **Even where pain points exist, Beijing is confident in its ability to manage them.** China is not immune to prolonged disruptions, which would erode stockpiles, dampen already sluggish consumer demand, and squeeze industrial margins through higher energy and petrochemical input costs. But the question is how long China must cope, not whether it can. Beijing's ability to set prices and export controls, deploy subsidies, and manage its currency gives it more shock absorbers than most. Beijing sees the crisis as the ultimate validation of its industrial self-reliance strategy: it will double down on, not deviate from, the current Five-Year Plan.

- **The deeper risk for Beijing would be if prolonged disruptions slow global growth and dampen demand for Chinese exports.** Higher energy prices through late 2026 would weaken global purchasing power, tighten financial conditions, and increase the risk of recession, particularly for commodity-importing emerging markets. The compounding effect would be to limit these markets' ability to absorb Chinese exports, narrowing a key release valve for China's export-driven economic model, which is already under pressure as the United States and Europe pursue trade barriers to counter Chinese overcapacity.

Prior to the breakout of the crisis, the Strait of Hormuz was an important conduit for China's imported crude oil, helium, and petrochemicals, among other critical commodities. At the same time, China maintained a large crude oil reserve and has recently worked to reduce its overall imports and diversify energy suppliers.



Source: ITC TradeMap.

Crude OII: Chinese crude oil imports from Iran are officially reported as zero. Experts estimate that Iran accounts for roughly 12–13 percent of China's total crude imports, with Iranian-origin crude (shipped via Malaysia and Indonesia) likely averaging 1.38 million barrels per day (65–70 MT), according to Kpler. We incorporate this estimate in our calculations.

LPG: Chinese LPG imports from Iran are officially reported as zero. Much like crude, Iranian-origin LPG is shipped abroad via Malaysia and Indonesia. Kpler estimates that China imports approximately 50 percent of its LPG imports from the Gulf, including Iran. This figure is close to the officially reported value of around 49 percent.

Economic Impacts

- Macroeconomic Picture: Higher oil prices and stronger dollar demand are putting renewed downward pressure on the Chinese yuan (RMB), complicating Beijing's effort to keep the currency broadly stable while deflecting foreign criticism that an undervalued RMB is reinforcing China's export overcapacity. With ample reserves and capital controls, this is a problem to be managed, not a crisis. Higher energy and freight costs are adding to household budget pressures that never fully recovered from COVID and China's property market collapse. Inflation, even at manageable levels, directly challenges Beijing's push to rebalance toward consumption-driven growth.

- Crude import resilience: China has absorbed the crude shock less by fully replacing lost Gulf barrels than by reducing the need for imports overall, which it has done through a combination of modest inventory drawdowns, lower refinery runs, and other types of demand constraint. To conserve supply, Beijing imposed export restrictions and quotas for refined fuels and allowed refiners to reduce output rather than process expensive crude oil. At the same time, growing EV and renewables

adoption, gas and coal substitution, greater rail utilization, and slowing construction activity have further softened gasoline and diesel consumption. China appears to have offset around a third of import flows lost by Hormuz disruptions via reroutes, pipelines, and new supplies — notably from Brazil — but the larger adjustment has come from importing less: China's crude imports fell from 11.5 million barrels per day (bpd) in May 2025 to 7.8 million bpd in 2026.

- **Petrochemicals and plastics:** Strait of Hormuz disruptions have exposed the limits of China's self-sufficiency in key inputs such as sulfur, chip-grade helium, and the Gulf-sourced naphtha that serves as a feedstock for the plastics, synthetic fibers, and chemicals that China supplies globally. The damage so far is concentrated among smaller independent refiners and petrochemical producers, showing up in reduced production, isolated force majeures, and missed orders, but over time would transmit across plastics, chemicals, and packaging sectors. Beijing has tools to respond, including price caps, export restrictions, and production mandates. These interventions can cushion feedstock constraints for 2-3 months, but a longer disruption would have downstream effects for global industries ranging from medical devices and pharmaceuticals to automotives and consumer electronics.

- **Semiconductors:** Roughly 60 percent of China's chip-grade helium is sourced directly from Qatar's North Field, which was damaged early in the conflict. In the near term, leading Chinese chipmakers — like those in Taiwan, Korea, and the United States — will simply pay a premium to maintain production, with modest impact on margins. If price increases give way to outright helium shortages, China is comparatively well-placed to deploy state resources and geopolitical leverage to secure supply above market rates, including from Russia. Longer term, the shock may accelerate China's domestic helium extraction investment, which cannot replace Gulf supply quickly but would reduce vulnerability and create additional supply chain leverage over time.

- **Renewables:** Beijing has leveraged the Hormuz crisis to frame its renewables investment and exports of renewable technologies as strategic foresight. With 1.4 terawatts of operating renewable capacity already online and a reported 90-110 days of crude import cover in reserve, China weathered the initial shock better than any regional peer — and the crisis will further bolster China's renewable energy, EV, and battery industries. Though China's 15th Five-Year Plan already committed long-term support to support green technologies as part of its industrial upgrading agenda, the Hormuz disruption will further incentivize domestic adoption to reduce fuel import reliance.

China: Risks and Opportunities by Sector

▲Stand to Gain	▼At Risk
Clean tech, EVs, solar – Higher energy prices drive domestic and global demand for Chinese clean energy and tech **Oil majors** – Higher global crude prices lift revenues for China's producers **Coal** – Demand for domestic coal, particularly for utilities and industry, rises as LNG prices spike **Shipbuilders & tankers** – Increased orders for LNG carrier; stronger Very Large Crude Carrier rates	**Teapot refiners** – Higher prices squeeze margins for small refiners who lack access to discounted feedstock **Airlines** – Price spikes in jet fuel hurt airline revenue **Petrochemicals** – Rising feedstock costs compress margins **Export manufacturing** – Higher energy costs dampen global demand and result in increased input costs for low-margin manufacturing
◆ Mixed	⏱ Watch if disruptions run long
State refiners – Upstream refiners gain, but downstream refiners see price squeeze **Semiconductors** – Helium shortages create price pressures, but impacts cushioned by Russian imports **Agriculture** – Export curbs partly shield domestic farmers from rising fertilizer input costs **Ports & shipping** – Increasing revenues by rising freight costs are balanced by reduction in export volumes	**Clean-energy export complex + Russian pipeline gas** – Continued disruption deepens global demand for Chinese EVs/solar/batteries and the case for non-Hormuz pipeline gas **Overcapacity** – If global growth slows, intensified pushback and countermeasures by trade partners to Chinese industrial overcapacity may occur

Outlook

With Xi's fourth term beginning in 2027, Beijing's overriding priority is to project stable leadership. China's ruling elite are acutely aware that the Hormuz closure's economic effects, from higher energy and food costs to localized layoffs amid refinery cutbacks, land on top of already-stressed household finances and elevated youth unemployment. If Strait disruptions continue, geographically concentrated shocks in refinery towns could carry real social risk. Beijing's response would proceed in predictable stages: stockpile releases, Russian and overland supply substitution, price controls, targeted subsidies, and foreign exchange intervention — all to prioritize stability over market price-clearing.

If the ceasefire does not hold, Beijing would likely be able to manage another disruption of 3-6 months, but at a rising cost. With China's estimated crude stocks around 1.4 billion barrels before the Hormuz disruption, it could hypothetically replace up to eight months of imports lost from inventories alone — and up to 12 months if it continues to replace one-third of lost imports through reroutes — assuming all stocks are operational. However, as stockpiles are finite, and Beijing prefers to maintain large buffers, its strategic calculus would likely shift in favor of further cost absorption and demand

controls. Independent refiners and petrochemicals would face the most immediate pressure, with state refiners receiving priority over more export-oriented industries. The longer the disruption, the more China's response would depend on its ability to cut refinery output, subsidize fuel costs, and suppress demand.

Ultimately Beijing views the pain points not as existential threats, but as challenges to be managed and even opportunities to be exploited. Domestically, the supply shock could accelerate long-sought structural reforms to enhance resilience by fast-tracking consumer-led growth and accelerating the push into renewables and nuclear energy. Economically, China will deepen ties with the Global South as diversification takes precedence over de-risking. Geopolitically, the crisis allows Beijing to cast the United States as the destabilizing actor whose Middle East entanglements impose costs on the world.

A more prolonged disruption would complicate Beijing's efforts to reduce external dependencies and boost domestic consumption. Ultimately, however, short-term pain for industry and households would be outweighed by longer-term advantages that are accruing to China in key industries and relative to other major economies.

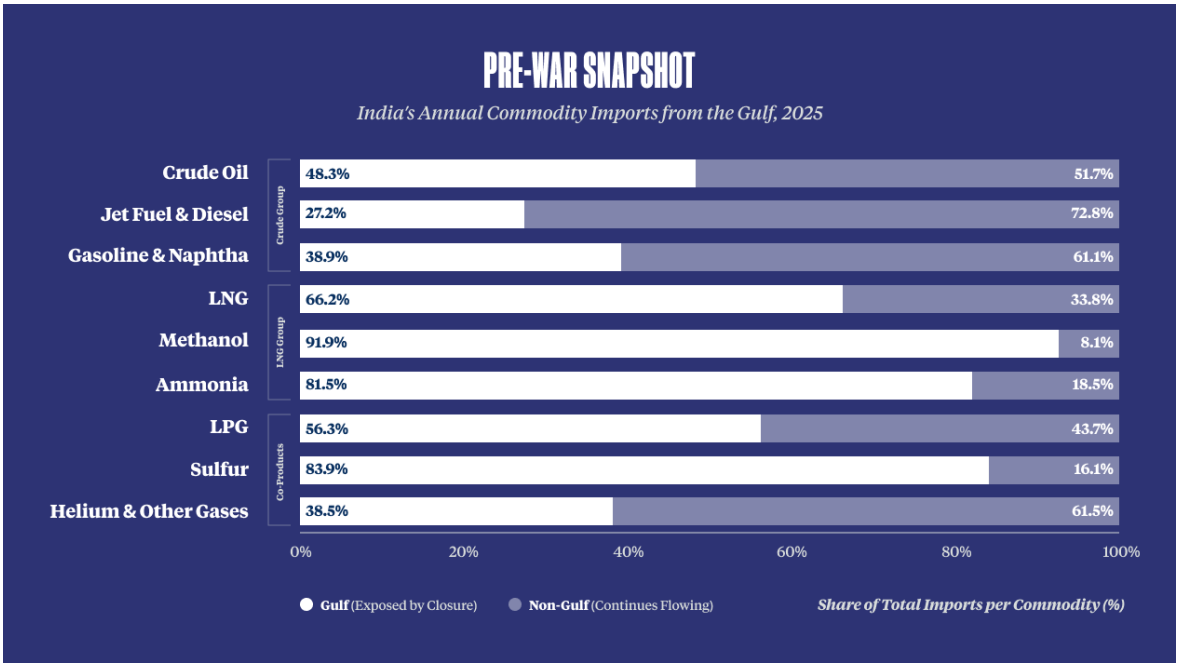
The strategic risk for Beijing is that higher energy prices through fall and winter could weaken global growth and even tip key markets into recession. For China, the effects would be felt as collapsing export orders — first from emerging markets in Southeast Asia, which are both manufacturing partners and export destinations, and then from advanced economies, particularly in Europe. In addition to squeezing Chinese exporters, slower global growth would set back Beijing's plans for outbound investment in sectors such as EVs and batteries and could intensify the building political backlash against China's trade policies.

Market Spotlight: India

Strategic Insights

- **India faces continued, compounding exposure from Hormuz disruptions.** Before the conflict, over 40 percent of India's crude imports, and roughly 60 percent of liquid natural gas (LNG) and liquid petroleum gas (LPG) imports (the latter used for cooking and heating), transited the Strait. Supply shocks for fertilizers and petrochemical manufacturing inputs, elevated freight costs, and reduced remittances from Indian workers in the Gulf create a much broader transmission channel across the Indian economy than a conventional oil-price spike alone.
- **A convergence of fuel, food, and agricultural shocks could create cost-of-living challenges and enhance political concerns.** Food and fuel together account for over half of India's consumer price basket, and higher fuel costs are already hitting households even though New Delhi has absorbed some of the incremental costs. Disruptions in fertilizer supplies are worrying farmers and agro-economists, just as forecasts indicate a below-normal monsoon season.
- **Pressure on India's pharmaceutical sector has global consequences.** Higher energy, petrochemical, and imported input costs pose challenges to one of India's most globally competitive industries. India is the world's leading supplier of generic medicines and vaccines by volume, so any resulting production cuts could impact drug availability and healthcare provision globally.
- **India's buffers are real but time limited.** Domestic consumption has historically insulated India from external shocks better than most peers, but prolonged disruptions will erode that cushion.

India is the world's third-largest importer of oil, fourth-largest of liquid natural gas (LNG), and second-largest of liquid petroleum gas (LPG). Before the closure of the Strait of Hormuz, India sourced significant portions of these commodities from the Gulf, relying on their transit through the Strait. It also depended on inputs that transited the Strait as feedstock for its key exports, ranging from refined petroleum and petrochemical exports, as well as medications and pharmaceuticals.



Source: ITC TradeMap.

Missing Data: Estimates for India's annual imports of gasoline & naphtha and methanol from the Gulf may be undervalued due to missing data.

Economic Impacts

- Macroeconomic Picture: Government interventions such as subsidies and fuel tax cuts are mitigating the impacts so far, but at growing fiscal cost. Households are already feeling the strain: the administered price of cooking gas cylinders has been raised twice, and subsidized refills for low-income families have been cut. A sustained Hormuz disruption would not derail India's growth ambitions, but it could fuel inflation, widen India's current account deficit, and weaken the Indian rupee, all of which could crowd out private investment over time.
- Agriculture and food security: Price increases from prolonged LPG disruptions, which over 60 percent of Indian households rely on for cooking, would show up quickly in household budgets and public sentiment. India sources nearly 84 percent of sulfur imports from the Gulf, leading to higher fertilizer costs. With 42 percent of India's workforce employed in agriculture, even a moderate shock to farm economics would have outsized consequences for rural consumption and employment.
- Pharmaceuticals: India's generic pharmaceutical sector operates on very thin margins, and its global competitiveness depends on affordable energy, reliable petrochemical inputs, and access to imported raw materials. Prolonged Hormuz disruptions would affect all

three. Higher oil and petrochemical prices would increase domestic manufacturing and packaging costs. Imported active pharmaceutical ingredients (APIs) and intermediates would become more expensive. Higher freight, insurance, and fuel costs would further compress margins. The result is a challenge for one of India's most visible and strategically important export sectors, although India's largest pharmaceutical players may be better able to absorb the margin pressure and gain market share.

- **Renewables:** If energy prices stay high, India's energy transition will likely experience faster and more urgent deployment even as supply chain dependencies threaten to cap its pace. Already, India added a record 55 gigawatts (GW) of non-fossil fuel capacity in 2025, with its EV market projected to grow from USD 2 billion today to USD 164 billion by 2033. The durability of India's production-linked incentive schemes, which offer manufacturers financial incentives tied to incremental domestic output rather than up-front subsidies, will be an important predictor of New Delhi's ability to build a domestic clean-tech manufacturing base. However, China's rare earths dominance means India risks replacing one import dependency with another; India is attempting to navigate this challenge with domestic investments and international partnerships.

India: Risks and Opportunities by Sector

▲Stand to Gain	▼At Risk
Private refiners – Increased revenues on higher margins and Russian-crude arbitrage **Coal** – As LNG prices surge, Indian utilities and industry switch to coal where possible **Solar & Renewables** – Higher energy prices lead to accelerated diversification, pulling forward project pipelines and policy support	**State oil marketers** – Retail prices are administratively capped, so rising crude costs shrink margins and squeeze cash flows **Airlines** – Price spikes in jet fuel hurt airline revenue **Paints, tires** – Higher prices for crude-derivative input and weaker household spending power hurts demand and growth **Healthcare** – Helium shortages affect MRIs and result in scanner rationing **Agriculture** – Shortages of urea/ammonia hit farmers' margins
◆ Mixed	⏱ Watch if disruptions run long
Pharma – Weaker rupee lifts generic-export earnings and demand is recession-proof, but costlier petro-inputs and pricier Chinese APIs squeeze margins → mild net gain for big exporters and pain for small formulators **Compressed natural gas (CNG)** – Higher demand for CNG as a substitute energy source, but higher feedstock cost reduces profitability	**Domestic API & solar manufacturing** – A prolonged crisis turbo-charges import substitution, especially for advanced pharmaceutical ingredients (API) and solar **Inbound FDI flows** – In prolonged crisis, risk of investment outflows driven by a weakening rupee and external financing conditions

Outlook

Compounding cost-of-living pressures are the main vector by which commodity disruptions could become a deeper economic and political challenge for the Indian government. New Delhi has deployed tools, including subsidies, fuel tax cuts, and targeted welfare programs, to cushion the short-term impacts, but sustained intervention would strain public finances and complicate efforts to maintain budget discipline.

LPG availability, fertilizer prices, freight costs, and monsoon performance are key indicators to watch to determine whether disruptions are compounding to create a wider inflationary challenge. Government decisions on whether to extend subsidies and tax relief measures will be important signals of New Delhi's concern. Sustained pressure on rural incomes and manufacturing margins could also erode public support for trade liberalization even as India is negotiating and benefiting from greater economic integration with a range of global partners, including the United States, which has emerged as a key source of LPG since the start of the crisis.

For India's energy mix, continuing disruptions could accelerate trends already underway, including a push to diversify energy suppliers across geographies as diverse as Russia, Africa, and North and South America. They could also fast-track domestic efforts to expand domestic energy supply in ways that reshape India's energy posture for the longer term. New Delhi could open up for development areas with proven energy reserves such as in India's northeastern states, pave the way for companies to explore for gas deposits in the Andaman Sea, and introduce incentives for coal gasification.

Market Spotlight: Japan

Strategic Insights

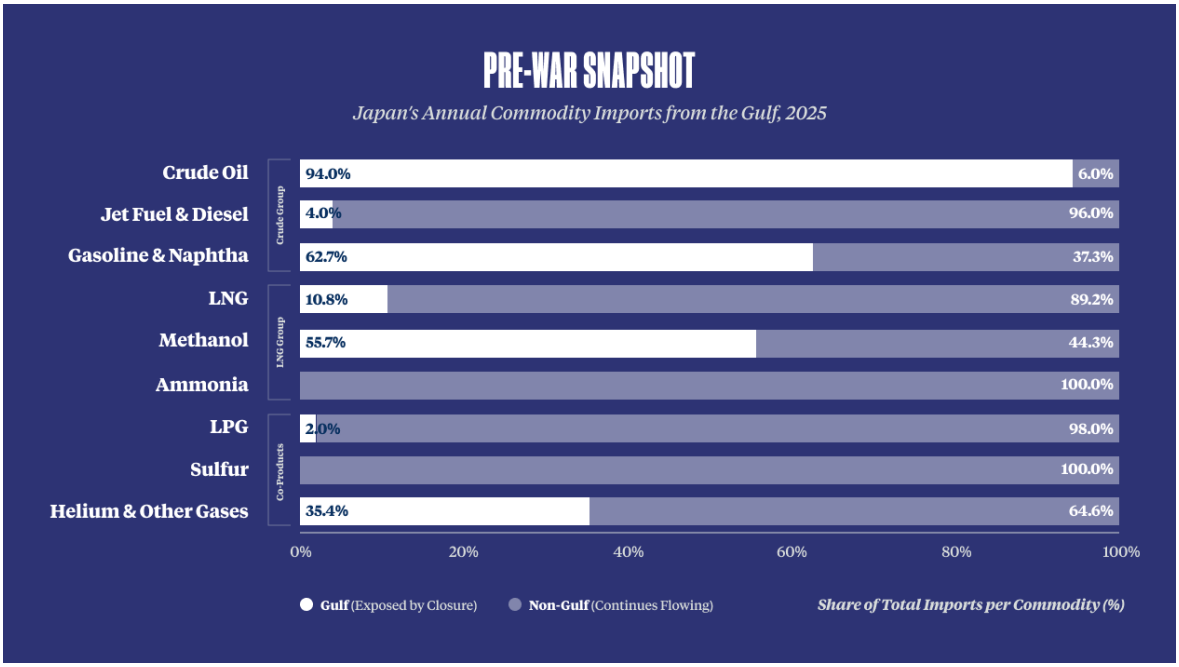
- **Japan has weathered initial shocks but would face fiscal and financial stability risks from a protracted disruption of the Strait.** Japan relies on the Gulf for roughly 95 percent of crude imports but has so far managed disruptions thanks to reserves that can cover demand well into 2027. Sustained higher energy prices would cause fiscal pressures to compound quickly: fuel subsidies to date are equivalent to half the defense budget, bond yields are at 30-year highs, and debt servicing already consumes a quarter of the national budget, leaving Prime Minister Takaichi with little room to maneuver in addressing Japan's intertwined fiscal, defense, and stagflation challenges.

- **Rising fiscal pressures have political and strategic consequences for the Japanese government.** Although Takaichi remains popular, rising prices have cut into her poll numbers. Market jitters are already fueling intra-party grumbling over her expansionary fiscal stance, which envisions a sharp reduction in the national consumption tax and large public investment into AI, fusion, quantum, and other sectors to support ambitious economic and technology goals. A prolonged crisis would squeeze these investments and limit Tokyo's ability to increase defense spending, undermining shared economic security goals at a moment when Japan's relations with China are at a low point.

- **Japan's naphtha crunch exposed a blind spot for the global economy: disruption of petroleum byproducts.** While governments have spent decades stockpiling crude and diversifying energy supplies, few had accounted for disruptions to the refined byproducts that quietly underpin modern manufacturing — such as naphtha, a key feedstock in the production of plastics, chemicals, and synthetics used across a wide range of industries and consumer goods sectors. With no strategic reserve and 70 percent of its supply sourced from the Gulf, Japan watched naphtha shortages cascade through supply chains in ways that crude reserves could not offset — disrupting production of everything from medical devices to auto parts.

For decades, Japan believed it was well prepared for energy crises, backed by robust crude oil stockpiles and well-diversified LNG supplies. But there were blind spots: it relied on the Gulf producers for more than 90 percent of its crude imports and for a majority of its naphtha needs that exposed critical

sectors — from construction and healthcare to auto manufacturing — to risks of supply disruptions in the region.



Source: ITC TradeMap.

Missing Data: Estimates for Japan's annual imports of jet fuel & diesel, methanol, ammonia, and LPG from the Gulf may be undervalued due to missing data.

Ammonia and Sulfur: Japan reported no ammonia and sulfur imports from the Gulf in 2025. It sources most of its imported sulfur from South Korea and most of its imported ammonia from Indonesia and Australia.

Economic Impacts

- **Macroeconomic Picture:** Higher energy, shipping, and input costs are weighing on GDP growth, with the Bank of Japan halving its forecast to 0.5 percent for FY2026. Naphtha's broad manufacturing uses mean that "Hormuz inflation" is propagating through household budgets three times faster than a conventional energy shock, disrupting production of automobiles, home construction, and thousands of consumer products. Dollar-denominated import payments are meanwhile weakening the yen and compounding import costs. Together, accelerating inflation and softening growth leave the Takaichi government navigating a stagflation risk that will grow if disruptions persist.

- **Petrochemicals:** Japan's petrochemical sector — the world's fourth largest and 12 percent of manufacturing output — converts Gulf-sourced crude and naphtha into the plastics and synthetics that underpin Japan's industrial base. Distinct from China, Japan sources both upstream crude and downstream intermediates from the Gulf, exposing every production stage simultaneously. That structural

vulnerability is now translating into measurable damage: Mitsui Chemicals has absorbed a USD 100 million operating hit tied to the conflict, while Mitsubishi Chemical Group is weighing a breakup of its petrochemicals unit. Although naphtha shortages are expected to ease by end-2026, constrained feedstock supply is surfacing competitiveness pressures across Japan's manufacturing sector that have few short-term domestic fixes.

- **Automotives:** The auto sector — Japan's main economic engine, comprising nearly 3 percent of GDP and 14 percent of manufacturing output — was already under stress from U.S. tariffs, Chinese competition, and a stuttering EV transition before Hormuz disruptions compounded the shock. Roughly 70 percent of Japan's aluminum and naphtha, used in auto parts such as such as bumpers and door panels, is sourced from the Gulf. Disruptions to both materials are driving production cuts and delays: Toyota projects a reduction of over 80,000 vehicles through November, with Honda, Subaru, Nissan, and Mitsubishi also forecasting profit hits. Higher energy prices are simultaneously pushing up operating costs, suppressing domestic demand, and accelerating the global EV transition — where Japanese carmakers are far behind Chinese rivals.

Japan: Risks and Opportunities by Sector

▲ Stand to gain	▼ At risk
Trading houses — Stakes in upstream LNG lift earnings **Tankers & shipping** — Rerouting increases freight rates and revenues **Marine insurance** — Rising premiums in war-risk conditions result in higher earnings **Shipbuilders** — Surge in orders for LNG-carriers	**Airlines** — Price spikes in jet fuel hurt airline revenue **Autos** — Internal combustion engine (ICE) demand falls due to higher energy costs **Petrochemicals** — Supply constrained by naphtha feedstock supply shortages **Power utilities** — Lower margins and revenues as LNG prices rise **Food & agriculture** — Food-import bill rises for Japan as net importer
◆ Mixed outlook	⏱ Watch if disruptions run long
Refiners — Higher margins moderated by reduced feedstock & demand **Semiconductors & MRI** — Helium shortages raise fabrication and imaging costs **Defense** — Rearmament drives demand, but fiscal squeeze on defense spending	**Nuclear power** — A prolonged LNG crunch may accelerate restart of idled reactors **Data centers** — Power-cost spike strains the AI/compute buildout

Outlook

Japan can manage continued disruptions for now: stockpiles can absorb further supply shocks, energy subsidies are funded through the fall, and U.S. naphtha imports have restored supply to roughly 80 percent of pre-crisis levels. Politically, Takaichi has breathing room. Japanese voters are dissatisfied with the government's inflation and financial countermeasures but so far do not blame her for the crisis. Her approval ratings, while down from historic highs in early 2026, remain at well over 50 percent.

But if energy and supply shocks continue to compound through the end of the year, inflation will likely balloon, forcing Takaichi to make difficult trade-offs. With debt servicing already consuming 25 percent of the budget, new relief measures would add fiscal stress. Even prior to the emergency spending measures to respond to the Hormuz disruptions, economics and business leaders were questioning Takaichi's aggressive economic and defense spending plans. Markets are sending government bond yields to three-decade highs, and the economic impacts of the Iran war will likely lead to less ambitious spending increases. If fiscal pressures continue to mount, public dissatisfaction and internal LDP dissent will likely grow, jeopardizing Takaichi's broader governing and legislative agenda — including constitutional revision, security policy reforms, and defense modernization — that have geopolitical consequences.

Market Spotlight: South Korea

Strategic Insights

- **South Korea's refining sector is a transmission belt for global supply disruptions.** As a major exporter of refined fuels, petrochemicals, and jet fuel, disruption to Korea's oil and feedstock imports flows through to higher transportation, aviation, and manufacturing costs that cut across industries globally.

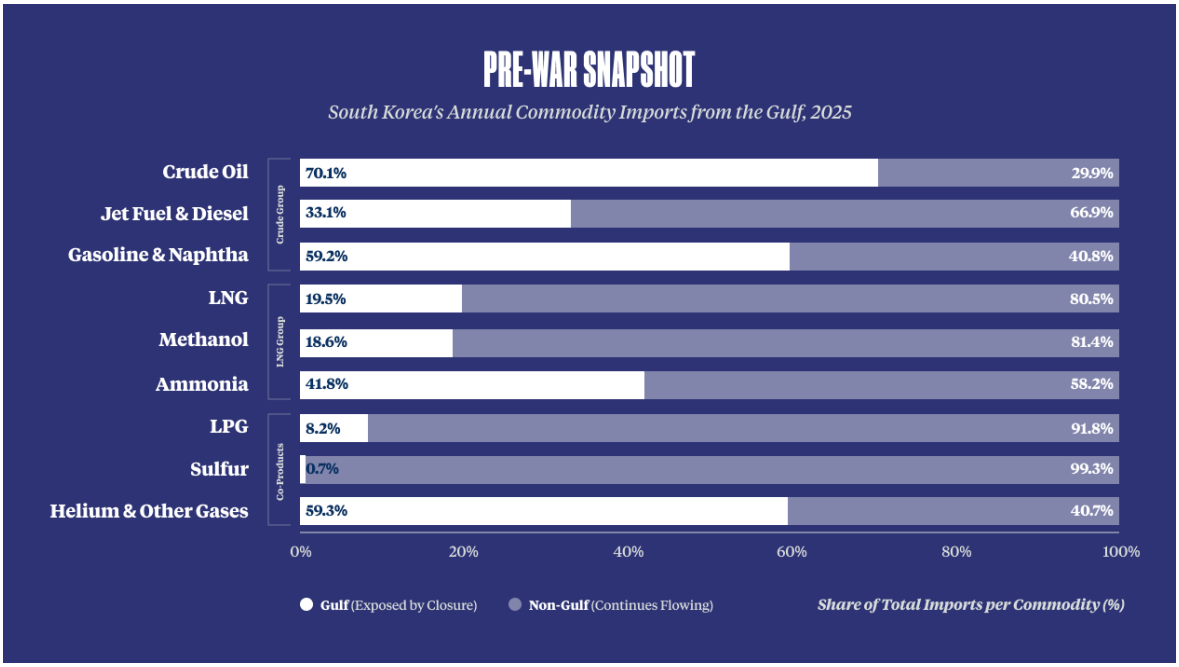
- **South Korea's chip industry has shielded the broader economy, but the crisis underscores the risks of overreliance.** Amid energy and import shocks, Korea's booming semiconductor industry is carrying much of the country's economic growth. Korea's chipmakers are themselves exposed to LNG prices and helium imports, 65 percent of which came from Qatar in 2025 — making extended Strait disruption a direct threat to Korea's most important growth engine.

- **Political fallout will depend on whether rising prices are seen as fairly distributed.** The Hormuz disruption has become a political test for South Korea, centered on how costs are shared across government, households, utilities, and strategic industries. The June 3 local election results were broadly seen as a loss for the ruling party, increasing pressure on the Lee administration to manage the burden carefully.

- **Economic and energy security will move to the center of South Korea's strategic agenda.** Strategically, the crisis deepens Korea's energy reliance on the United States even as the broader bilateral relationship grows more complex. Seoul is doubling down on supply chain resilience, energy security, and closer coordination with partners such as Australia and Saudi Arabia but is also diversifying to Russia for key inputs, including helium. The conflict has accelerated South Korea's warming with Japan, with relations improving to levels not seen in decades as the neighbors work together on energy security issues such as mutual supply and swap arrangements for oil and LNG.

On the eve of the crisis in the Strait of Hormuz, roughly 70 percent of South Korea's crude oil imports and a substantial share of its liquid natural gas (LNG) imports passed through the Strait of Hormuz, creating significant vulnerabilities for the country's refineries and petrochemical plants. The risk also extended beyond energy: key high-tech industries, including

semiconductor manufacturing, relied on Gulf-sourced inputs such as Qatari helium and other specialty gases.



Source: ITC TradeMap.

Missing Data: Estimates for South Korea's annual imports of ammonia and LPG from the Gulf may be undervalued due to missing data.

Economic Impacts

- Macroeconomic: Timely government intervention, healthy inventories, and moderate seasonal energy demand have cushioned the impact of disruptions so far, but pressures are building under the surface. The trajectory of price increases, inventory drawdowns, and procurement conditions are key watchpoints. Higher import costs keep pressure on the won and could push inflation above the 2.5 percent baseline, limiting the Bank of Korea's room to cut rates, eroding real incomes, and dampening both consumption and investment. Growth is projected to nearly double to 1.9 percent in 2026, but a sustained disruption could shave up to a full percentage point off this target.

- Jet fuel: South Korea is the world's top jet fuel exporter by a wide margin, accounting for 30 percent of the global market and nearly 70 percent of U.S. imports. Sustained production cuts would raise costs for international shipping and travel, and because jet fuel prices feed directly into air freight rates, downstream effects would ripple through supply chains well beyond the aviation sector.

- **Petrochemicals:** Korea's petrochemical industry and petroleum refining sector are the world's fourth and fifth largest, respectively, and feed global manufacturing supply chains for synthetics, electronics, autos, consumer goods, and other products. Both industries rely heavily on crude oil and naphtha from the Gulf. Korea's refineries are optimized for Middle Eastern heavy crude, leaving them exposed to rising supply costs as the market reorients toward more expensive U.S. light crude. These pressures add to preexisting challenges for the sector, including Chinese overcapacity. Prior to the conflict, major firms were already undergoing restructuring and cutting production. New disruptions to crude and feedstock supplies that accelerate contractions in Korea's petrochemical output will flow through global supply chains, deepen concentration and overcapacity risks, and undercut Korea's competitiveness in industries Seoul is counting on to drive the next phase of growth, including EV batteries, semiconductors, and synthetic materials.

- **Semiconductors:** South Korea's semiconductor industry produces the leading-edge memory products underpinning the global AI boom. It relies on stable, low-cost electricity, petrochemical-derived inputs, and specialty gases: South Korean chip manufacturers are the world's largest helium consumers and source over 65 percent of their supply from Qatar. Government intervention and aggressive diversification efforts, combined with leading firms' willingness to pay premiums for inputs, have contained immediate supply challenges. But a prolonged disruption will force them to lock in expensive long-term contracts or divert R&D capital toward supply security — opportunity costs that compound over time for Korea's flagship technology sector.

South Korea: Risks and Opportunities by Sector

▲ Stand to Gain **Defense** — Stronger Gulf demand for Korean defense players **Shipbuilders** — Increased orders for LNG carriers and alternative-route tankers	▼ At Risk **Refiners & petrochemical firms** — Rising input costs from tighter naphtha feedstock supply **Manufacturing** — Weaker global demand and higher input costs across industries
◆ Mixed **Semiconductor companies** — Superior purchasing power and procurement scale in a tightening global helium market allow aggressive alternative sourcing, but prolonged disruptions risk supply continuity **Households and energy consumers** — Limited exposure currently due to government fiscal shield, but vulnerable under prolonged strain.	⏱ Watch if disruptions run long **Blue House/National Assembly dynamic** — Rising tension over repeated legislative fiscal relief due to party politics **Jet Fuel** — Possible export reductions that raise global aviation costs **Inflation** — Persistent inflationary pressures (e.g., CPI of 3 percent or greater) that erodes public sentiment

Outlook

South Korea has managed the initial Hormuz shock through a combination of tools: strategic reserve releases, fuel tax cuts, price controls, refiner compensation, naphtha export restrictions, a war risk insurance backstop, and looser stockpiling rules. These measures can continue to buffer supply impacts through the early fall, but the costs are increasingly falling on households, utilities, refiners, and the fiscal balance. If disruptions persist through 2026, Seoul will likely seek a supplementary budget to extend relief and support key sectors. With the ruling party controlling both the executive and the National Assembly, the watchpoint is not whether new measures pass, but how quickly and at what scale. Criticism will come from two directions: opposition and fiscal hawks who frame household relief as populist spending, and progressive lawmakers scrutinizing refiner support.

A longer disruption would deepen a more fundamental vulnerability: Korea's near-term resilience depends on a few sectors, especially semiconductors and petrochemicals, that in turn rely heavily on energy, feedstocks, and inputs from the Middle East. Semiconductor production cuts are still a low-probability tail risk even under sustained price pressure. Petrochemical volumes would tighten sooner, and any significant curtailment would make Korea a source of wider supply chain disruption. Key signals to watch are whether inventory drawdowns are replenished and whether procurement cycles reset at higher cost.

Fuel-control and fiscal decisions in late October, combined with the onset of winter demand in late November, will set the pace at which price pressures spread from energy into food, transportation, and manufactured goods — producing a mild stagflationary environment of slower growth, higher inflation, and compressed household incomes. Equally consequential will be the speed at which disrupted production is restored and the rate at which shipping lanes reopen and inventories are replenished, as delays in either will deepen and extend inflationary pressures across supply chains. Over time, the decisive challenge for Seoul is not immediate shortages but how long it can sustain politically viable burden-sharing across households, utilities, refiners, and strategic industries without eroding public support or fiscal headroom.

Market Spotlight: Southeast Asia

Strategic Insights

- **Southeast Asia's emerging economies are coping so far but face growing fiscal and cost-of-living challenges.** The region's emerging markets lacked the commodity reserves, fiscal headroom, and financial strength that Asia's advanced economies enjoyed at the outset of the conflict, and the economic impacts have been more rapid and painful. Fuel subsidy systems have cushioned effects on consumers so far but are straining amid a disruption of this duration and magnitude.

- **Inflation could have near-term political consequences in key markets.** Rising energy prices are flowing into higher costs for manufacturing, logistics, and construction across the region. Cost-of-living pressures are becoming politically visible. In Vietnam, fuel shortages and panic buying resulted in queues at petrol stations in major cities in March. Spiking inflation and economic pressures have led to labor strikes and are deepening political divides in the Philippines. In Malaysia, Prime Minister Anwar Ibrahim is reportedly considering calling snap national elections one year earlier than expected to renew his mandate ahead of politically toxic but fiscally necessary subsidy reforms exacerbated by disruptions in the Strait of Hormuz.

- **The crisis complicates — but does not derail — the region's future as a low-cost advanced manufacturing and technology hub.** Before the conflict, Southeast Asia was on a strong trajectory in moving up the manufacturing and technology value chain: it attracted USD 235 billion in foreign direct investment (FDI) in 2024, outpacing China as multinationals diversified supply chains. But the crisis has exposed the region's relative energy dependence as a key vulnerability for its competitiveness and attractiveness as an FDI destination. At the same time, the conflict could create opportunities as AI companies exposed in the Middle East look to Malaysia and other regional markets as alternatives. The countries that can most quickly diversify energy sources, including by pivoting to nuclear or renewables, will be poised to benefit.

- **Southeast Asia's governments are recalibrating the balance between Washington and Beijing.** As the economic fallout from the conflict deepens, public opinion across Asia is blaming the United States, giving governments political as well as economic reasons to hedge toward Beijing. Few will align fully with China, but the drive to diversify will lead

to deeper partnerships across multiple fronts: with regional middle powers, Europe, and China itself.

Prior to the crisis at the Strait of Hormuz, most Southeast Asian markets relied on the Gulf for much of their oil supply, with LNG more diversified but still dependent on the Middle East.

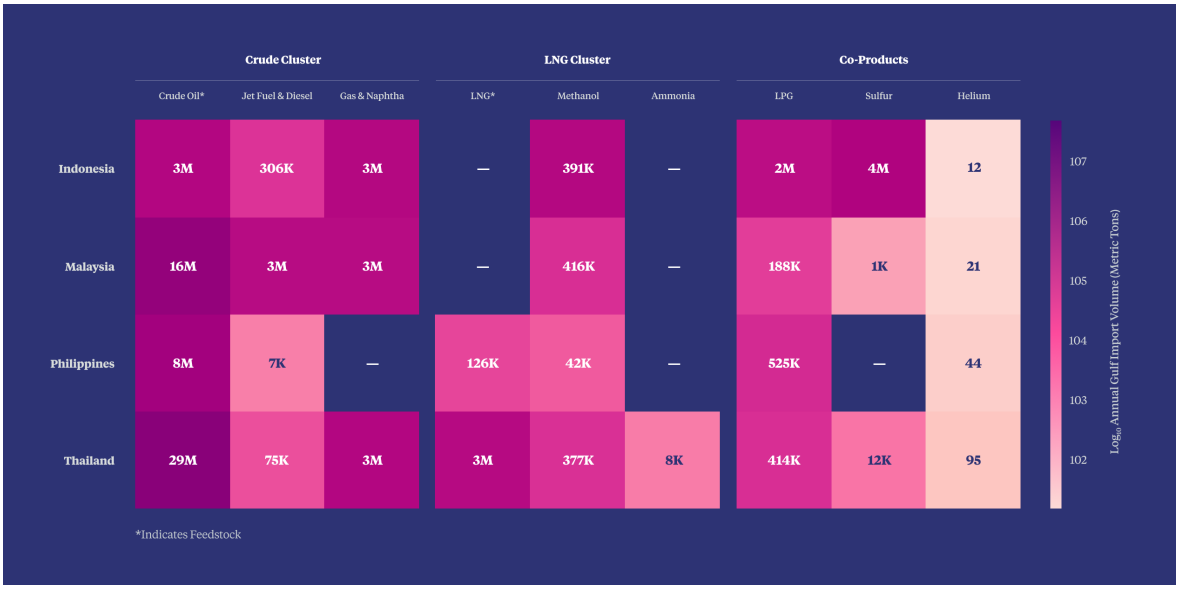
Pre-War Annual Gulf Imports vs. Alternative Imports, 2025

Source: ITC TradeMap.

Vietnam data for 2025 unavailable at time of publication.

Note: Matrix factors in country- and commodity-specific data notes listed in individual country graphics. Values represent percentages of total commodity imports sourced from Gulf vs. non-Gulf trade partners rather than absolute trade volume in metric tons, reflecting import dependency rather than overall dependency or stockpiling.

Pre-War Annual Absolute Gulf Commodity Imports by Economy, 2025 (Metric Tons, Rounded)



Source: ITC TradeMap.

Note: Matrix factors in country- and commodity-specific data notes listed in individual country graphics. Indonesia and Malaysia reported no LNG or ammonia imports from the Gulf for 2025. The Philippines reported no gasoline & naptha, ammonia, or sulfur imports from the Gulf for 2025.

Key Takeaways by Market

- **Indonesia** has moved rapidly to diversify energy sources, but the Hormuz crisis exposed its vulnerability as a net energy importer with a budget anchored to commodity prices it cannot control. Through subsidies and price caps, Jakarta is effectively absorbing oil price shocks of up to USD 100 per barrel. With the fiscal damage for 2026 largely locked in, the crisis is amplifying preexisting concerns around a weak tax base, rising spending commitments, and fiscal sustainability that have rattled investor confidence.

- **Vietnam** has fast-tracked the establishment of a strategic petroleum reserve, lowered import tariffs on fuel products, and diversified crude supplies, but has limited room to absorb a prolonged disruption. The combination of rising inflation and U.S. tariff pressure will challenge double-digit growth targets and undermine investments in energy-intensive sectors such as data centers, semiconductors, AI, and advanced manufacturing.

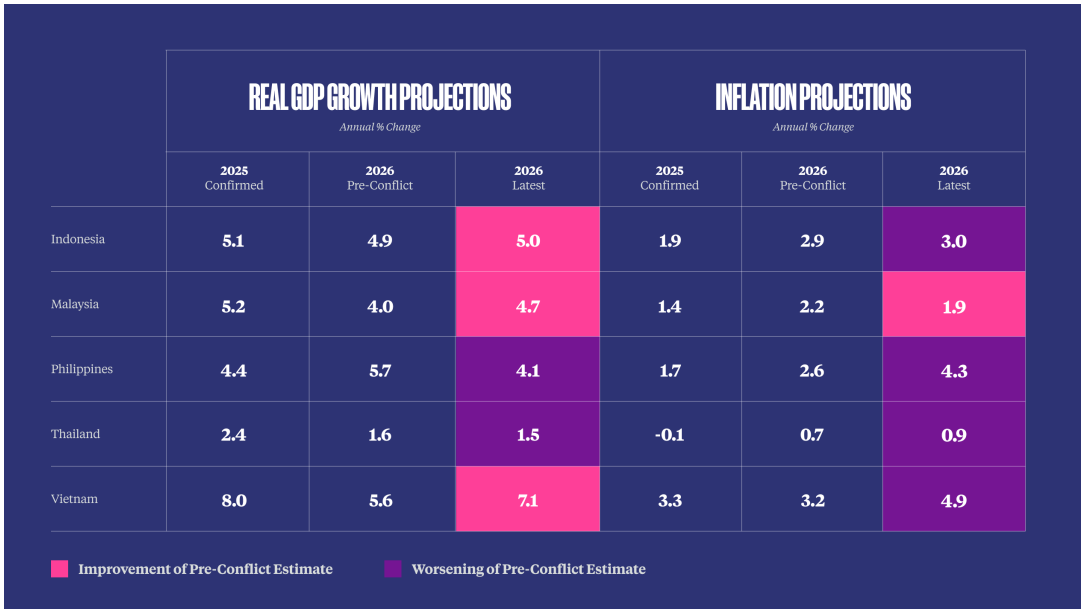
- **Thailand** entered the crisis with lackluster domestic demand and modest growth rates that lagged its regional peers. While the crisis alone is unlikely to create major political instability, it contributes to broader public dissatisfaction amid weak growth, high household debt, and rising consumer prices.

- **Malaysia** is comparatively insulated as a net energy exporter, but its refining and downstream petrochemicals sectors are hit by rising LNG costs and crude supply disturbances. Malaysia faces unsustainable fuel subsidy bills even as Petronas, the national oil company, benefits from elevated export revenues.

- **The Philippines** imported over 95 percent of its crude from the Middle East prior to the conflict and is highly exposed to disruptions in remittances from Gulf-based overseas foreign workers, whose income is crucial to the country's consumption-driven economy. Philippine President Ferdinand Marcos declared a national energy emergency in March as the impact of fuel prices surged across transport, food, and utilities. Increased inflation and fiscal pressures are deepening the country's political fissures.

Economic Impacts

- **The region's growth outlook is dimming and inflation is rising.** Growth forecasts across the region have been revised downward and higher energy costs are hitting consumers through fuel, food, and utilities prices. In the Philippines, consumers are increasingly turning to credit cards and short-term lenders to alleviate financial stress and meet basic needs. Food inflation is approaching 5 percent in Indonesia.



	REAL GDP GROWTH PROJECTIONS (Annual % Change)			INFLATION PROJECTIONS (Annual % Change)		
	2025 Confirmed	2026 Pre-Conflict	2026 Latest	2025 Confirmed	2026 Pre-Conflict	2026 Latest
Indonesia	5.1	4.9	5.0	1.9	2.9	3.0
Malaysia	5.2	4.0	4.7	1.4	2.2	1.9
Philippines	4.4	5.7	4.1	1.7	2.6	4.3
Thailand	2.4	1.6	1.5	-0.1	0.7	0.9
Vietnam	8.0	5.6	7.1	3.3	3.2	4.9

Improvement of Pre-Conflict Estimate Worsening of Pre-Conflict Estimate

Source : IMF World Economic Outlook, Oct. '25 and Apr. '26, Tables A4 & A7.

- **Fiscal pressures are mounting across the board.** Governments have deployed subsidy extensions, emergency borrowing, and targeted relief to manage fallout from Strait disruptions. Thailand approved a USD 12.2 billion emergency borrowing package; the Philippines has released USD 350 million in fuel and transport subsidies; and Indonesia has committed USD 14 billion to freeze fuel and LPG prices through the end of 2026. Vietnam has kept domestic petrol prices in check through tariff cuts on petroleum products and a fuel price stabilization fund, though the latter is quickly drawing down. Malaysia's fuel subsidy bill has increased tenfold, creating acute fiscal pressure. Across all five markets, the central fiscal question is how long these interventions can be sustained without triggering a loss of investor confidence or crowding out other spending priorities.

Spotlight on Food Security

Southeast Asia's agricultural sector, dominated by rice production, is acutely exposed to disruptions in the supply of key fertilizer inputs: in particular, urea, for which the region depends heavily on Qatari and Saudi exports, and sulfur, a byproduct of Gulf refining with few viable alternative sources at scale. Ammonia exposure varies significantly given domestic production capacity in Indonesia and Malaysia.

The region's rice growers are predominantly smallholder farmers operating on thin margins, and rising fertilizer costs are coinciding with a period of relatively low food prices, creating a damaging squeeze from both ends. In

response, farmers are reducing fertilizer application, switching to less input-intensive crops, or foregoing the summer planting season altogether. The effect on food prices has so far been gradual, but the consequences for the fall harvest are already baked in. They will also intensify if the moderate El Niño event currently forecasted disrupts monsoon rainfall, as occurred in Vietnam and Thailand in 2015-16, when the region experienced its worst drought in two decades.

The global price contagion risk is concentrated in Thailand and Vietnam, which together account for the bulk of the region's rice exports. The domestic food security risk is most acute in Indonesia and the Philippines, net-importing countries where production shortfalls cannot be offset by reduced exports. While policy buffers may absorb some of the shortfall, the aftereffects of current supply disruptions could start to appear in headline food prices within 60-90 days and reverberate over the medium term.

Sectors to Watch

- **Manufacturing:** Higher energy and petrochemical prices are raising production costs for steel, chemicals, electronics, footwear, apparel, and other goods across Southeast Asia's export-driven economies. Given the region's outsized dependence on imported fuel, a prolonged period of higher energy prices could erode the manufacturing competitiveness that underpins foreign investment and the "China Plus One" diversification strategies multinationals have pursued as a tariff hedge. The risk in most markets is not an immediate production shock but a gradual erosion of profitability, competitiveness, and investment sentiment.

- **Metals:** Indonesia's nickel industry sourced roughly 75 percent of its sulfur — used to make the sulfuric acid that is essential to minerals and metals refining and processing — from the Middle East prior to the conflict. Sulfur prices have roughly doubled since the March and now account for a significant portion of nickel processing costs. Several of Indonesia's major nickel processors have cut output by as much as 10 percent. Higher diesel and chemical processing costs could also weigh more broadly on Indonesia's copper, tin, gold, and coal mining industries.

- **Technology and IT:** Across the region, the semiconductor and electronics industries face higher energy costs and supply chain disruptions, and local chip producers are less able to absorb higher input costs — such as for helium — than the most advanced and well

resourced semiconductor firms in the United States, Taiwan, and Korea. Malaysia's rapidly growing data center industry is also being squeezed by higher power and cooling costs, threatening the economics of an AI infrastructure buildout that has been a central draw for foreign investment. In Vietnam, rising costs complicate Hanoi's plans to expand into energy-intensive sectors such as data centers, semiconductors, AI, and advanced manufacturing. In the Philippines, elevated utility costs are disproportionately hitting the business process outsourcing sector, a key GDP contributor and major employer. Higher input and logistics costs for the electronics and hard-disk-drive assembly industries complicates Thailand's positioning as a regional manufacturing hub.

- **Aviation and tourism:** Jet fuel price increases, higher airfares, and flight route reductions are hitting tourism-dependent economies across the region. Bali has seen a steep drop in travel from the Gulf and Europe, and Thailand faces disruption to key Gulf aviation transit corridors. The impact is broadest in Indonesia, where air travel is often the only practical option for long-distance domestic movement across the archipelago.

Political Impacts

Cost-of-living pressure is the main economic risk across the region's politics. Governments have absorbed much of the shock to date, but fiscal space is diminishing and the tension between fiscal sustainability and political stability remains unresolved.

Malaysia faces the most immediate political fallout as rising inflation and sharply increased fuel subsidy bills raise pressure on Prime Minister Ibrahim to adopt fiscally necessary but politically unpopular reforms. While Anwar remains favored to win reelection, the crisis is deepening instability within his already fractious ruling coalition, and election dynamics will slow decision-making and heighten political risk.

In Indonesia, the memory of the August 2025 protests — the largest public backlash of President Prabowo's first year — has reinforced extreme caution about price adjustments. That Prabowo is reportedly weighing adjustments to his flagship free-lunch program underscores the extent of fiscal pressures.

In the Philippines, the crisis has sharpened the political feud between factions aligned with President Marcos and Vice President Sara Duterte, with the Duterte-aligned opposition capitalizing on cost-of-living anger. With an estimated 1.1 million Filipino workers employed across the Middle East,

pressure on this important financial lifeline for many middle-class and low-income families could trigger further unrest in a highly politicized environment.

Outlook

Continued disruptions to Strait transit could generate economic, fiscal, and political inflection points across Southeast Asia's emerging markets in the near term. Indonesia faces a budget deficit revision this summer that could breach the legal 3 percent of GDP threshold, with implications for investor sentiment. Vietnam must decide whether to hold fuel prices below cost or accept a politically difficult adjustment. Thailand's inflation trajectory towards a projected 5.2 percent peak will test government relief measures and monetary policy flexibility. The Philippines faces compounding pressure from inflation, peso weakness, and political dysfunction. Malaysia's subsidy bill is unsustainable at current levels, and the government will need to signal a credible reform path even if implementation is deferred.

If disruptions persist through late 2026, the challenge shifts from stabilization to managing sustained stagflationary pressure, with deeper growth downgrades, thinning fiscal buffers, and harder tradeoffs between inflation control, social support, and investor confidence.

The most consequential medium-term effect, however, may be structural: across all five markets, the crisis is accelerating the political and commercial case for renewable and nuclear energy, LNG supply diversification, investment in domestic energy production, and grid modernization. A disruption that began as a supply shock is reshaping the region's long-term energy investment priorities and potentially accelerating a consequential market shift.

AI Simulation: Seoul Under Pressure

In an AI simulation, South Korea absorbed every shock — until Q4 of 2026.

TAG's geopolitics experts partnered with our data scientists to build a proprietary AI-powered simulation to model the interaction of key players in South Korea. Four principal actors were each calibrated by regional and sectoral experts to reflect their institutional policy preferences, their political constraints, and realistic behavior under crisis conditions:

- **Blue House:** South Korea's executive office, headed by the president, responsible for setting national policy, deploying emergency economic measures, and managing diplomatic relationships.
- **Bank of Korea:** South Korea's independent central bank, responsible for setting interest rates and implementing monetary policy to maintain price and financial stability.
- **National Assembly:** South Korea's unicameral legislature responsible for passing laws and approving the national budget, including reviewing and approving supplementary budgets proposed by the government. The ruling Democratic Party currently holds a majority of the seats.
- **South Korean Conglomerates:** The large, diversified industrial groups that play a strategically important role in South Korea's economy and export competitiveness, with significant influence in key sectors such as semiconductors and energy.

The simulation was run 50 times and modeled interactions over 180 days starting from June 11, with results assessed at the 90-day (mid-September) and 180-day (mid-December) points. Using the June 11 status quo as the reference point, each run was based on a distinct set of events in the Strait of Hormuz that produced more modest to more severe disruptions, enabling a distribution of outcomes rather than a single prediction.

Outcomes

The simulation revealed that South Korea's institutional framework was capable of managing the initial disruption through the summer, but needed to manage a trajectory of compounding attrition with political, fiscal, and energy buffers eroding in tandem as the disruption persisted. The post-90-day period exposed not a single point of failure but a structural thinning across multiple systems simultaneously, with downstream consequences extending well beyond South Korea's borders — most notably through jet fuel

export shortfalls that would reverberate across U.S. and Indo-Pacific supply chains by December.

- **South Korea manages disruptions through August, but political frictions break through by the fall under prolonged disruption scenarios.** Across all runs, Seoul was able to deploy multiple policy levers to keep refineries operating at or near full capacity through August and shield households from sharp price increases at the pump. These included emergency fiscal allocations, strategic petroleum reserve swaps, price caps, compensation funds, and diplomatic support for procurement. But the continued interventions consumed political capital, weakened the won, increased losses by the state electricity utility, and left the government with less capacity by the fall to absorb further disruptions. South Korea entered Q4 with diminishing economic and political buffers as crude reserves fell and tensions mounted between the Blue House and National Assembly. Presidential approval remained relatively stable in 40 of 50 runs but fell to the mid-40s in cases where Hormuz disruptions were especially severe into the fall.

- **In 80 percent of runs, jet fuel exports fell sharply by December, impacting global and U.S. supply.** South Korea largely maintained jet fuel production and exports during the first 90 days from June by drawing on reserves and alternative crude supplies. In 40 of 50 runs, jet fuel exports began to drop starting in September amid continued disruptions in Hormuz. By December, simulations projected that interventions were no longer sufficient to offset the sustained crude shortfall, and jet fuel exports dropped to half of pre-crisis levels. South Korea supplies 70 percent of U.S. jet fuel imports, which would disproportionately affect operations on the West Coast and in Hawaii, as well as large shares of jet fuel imports in Australia, Singapore, Vietnam, and other southeast Asian countries. Those impacts would be worsened if Seoul restricted exports to protect domestic supply or redirected exports to higher-paying regional airlines, but it did not do so in any of the 50 runs.

- **Semiconductor production is resilient, but in 14 percent of scenarios, helium allocation constraints led to production cuts.** South Korean conglomerates maintained full production through August in every run, and into December in 43 of 50 runs, through alternative helium procurement, including from the United States. But the helium buffer is not a smooth gradient; it has a cliff edge after which shortages become not just a pricing problem but an allocation constraint. In 7 runs (14 percent), continuing severe disruptions to Hormuz transit well into the fall depleted helium reserves faster than replacement supplies could be secured. The conglomerates' ability to pay premium prices began to

falter against genuine supply constraints, which would force them to prioritize helium for their highest-margin and most strategically important production lines. This would likely mean cutting back on lower-margin legacy chip output while protecting production of high-value products such as HBM and other chips tied to AI-related demand.

- **Macroeconomic pressures compound and KEPCO losses mount.** The won depreciated in most runs, driven by higher import costs for crude and LNG rather than capital flow concerns. Bank of Korea coordination occurred in runs where exchange rate stress combined with inflation pressure. The most significant financial liability produced in every single run was the state electrical utility's (KEPCO) accumulated losses. The government's electricity tariff freeze, which was sustained in all runs against rising fuel input costs, generated additional losses in each monthly turn, with no resolution mechanism emerging across any outcome within the simulation's 180-day horizon.

Simulation Insight: How Actors Navigated Key Tensions

- **Blue House:** The Blue House's core decisions were the same in every run: renew the petroleum price cap, secure supplementary fiscal authorization for the compensation mechanism, and maintain refinery throughput through strategic petroleum reserve swap deployment. The variation across runs came from the conditions under which authorization was obtained and the margins that remained afterward.

- **Blue House-National Assembly:** The Blue House and the National Assembly successfully cooperated to pass supplementary budgets and reauthorizations, reflecting the advantages of a unified government. However, the National Assembly consistently pressed for larger supplementary budget authorizations than the Blue House requested, conditioned on transparency requirements and phased disbursement oversight despite the Blue House's preferences for fewer conditions. The result was a recurring negotiation that left the Blue House with incrementally less capital for the next budget cycle. By December, in the majority of runs in which the Strait of Hormuz remained disrupted, the negotiating dynamic became harder to manage: as fiscal exposure mounts and public scrutiny increases, lawmakers were more reluctant to provide open-ended authorizations and more inclined to attach oversight conditions.

- **Korean conglomerates:** On semiconductor and helium supply security, South Korean conglomerates cooperated consistently with

government: providing supply chain intelligence, activating procurement consortia for non-Hormuz helium sources, and supporting smaller ecosystem firms through voluntary buffer redistribution programs.

- **Bank of Korea:** The Bank of Korea maintained a consistently hawkish monetary stance across all runs — holding the policy rate in 29 runs and raising it in 21, with hikes concentrated in runs where won depreciation showed signs of transmitting into core inflation.

"In-Game" Insights

- The National Assembly signaled willingness to expand funding beyond initial proposals from the Blue House, reflecting political incentives to demonstrate a strong fiscal response during a crisis.

- The National Assembly accelerated its decisions on refinery support measures as depreciation of the South Korean won increased liquidity pressures on energy importers.

- In one run, leading chipmakers shared a confidential helium depletion report with the Blue House and the Assembly to prompt fiscal and diplomatic interventions.

About the Simulation:

The Asia Group's machine learning engineers and data scientists, in partnership with in-house regional experts, built a proprietary agent-based simulation of geopolitical decision making to chart out possible scenarios for how an extended closure of the Strait of Hormuz would affect Asian markets.

In the simulation, each actor (a state, agency, leader, company, constituency) is an autonomous AI agent that reasons over its own interests, forms beliefs, negotiates, and acts, while a central adjudicator (Control Center) governs the world and resolves each turn. Agent profiles are shaped by TAG's country experts while behavior is constrained and calibrated by quantitative models, and every outcome is resolved probabilistically. Because the engine samples many parallel futures rather than one, it yields distribution over plausible outcomes instead of a single guess — letting analysts stress test decisions and surface low-probability escalation paths.

AI Simulation: India's Economic Toolkit at Work

In an AI simulation, India used fiscal tools, flexible diplomacy, and its petroleum reserves to navigate an extended disruption — but faced the limits of those tools the longer the crisis continued.

TAG's geopolitics experts partnered with our data scientists to build a proprietary AI-powered simulation to model the interaction of key players in India. Five principal actors were each calibrated by regional and sectoral experts to reflect institutional policy preferences, political constraints, and realistic behavior under crisis conditions:

- **Government of India:** Representing the Prime Minister's Office and the Union Council of Ministers that sets policy.
- **Reserve Bank of India (RBI):** India's central bank that sets interest rates, manages foreign exchange reserves, and maintains monetary stability independently of the government.
- **Parliament of India:** India's legislative body that controls budget approval and amplifies constituent concerns.
- **Large industry:** Major conglomerates, digital-native businesses and unicorns, IT services companies, and public-sector units (PSUs).
- **Small and medium-sized businesses:** The Indian economy's largest employer by headcount, concentrated in manufacturing, food processing, and pharmaceuticals.

The simulation was run 50 times and modeled interactions over 180 days starting from June 11, with results assessed at the 90-day (mid-September) and 180-day (mid-December) points. Using the June 11 status quo as the reference point, each run was based on a distinct set of events in the Strait of Hormuz that produced more modest to more severe disruptions, enabling a distribution of outcomes rather than a single prediction.

Outcomes

The simulation found that India's fiscal and energy institutions were able to navigate the crisis effectively in the first 90 days in all runs, but at the cost of compressing structural margins. The model also showed that the post-90-day period beginning in mid-September, particularly in runs where the severity of the disruption in the Strait of Hormuz continued to remain significant, was more challenging.

- **Indian institutions had policy options to maneuver the crisis, but employing them entailed costs.** Across all runs, the government deployed price caps and fuel subsidies, supplemented by diplomatic procurement support and compensation funds, and — in fewer cases — strategic petroleum reserve swaps to keep refineries operating at or near capacity and shield households from sharp fuel-price increases. While government approval remained relatively stable in 80 percent of runs, fiscal deficits consistently exceeded the government's target of 4.8 percent of GDP for FY 2026-27, ending between 5.0 and 5.3 percent of GDP by mid-December, depending on the severity of the disruption.

- **In high-severity runs of the simulation, India's agriculture sector faced a multi-vector shock.** Across all runs, India's below-expected monsoon reduced yields, pushing food prices higher by September and October. In runs where Hormuz disruptions spiked and remained elevated, constrained LPG supply limited household access to cooking fuel. Fertilizer shortages compounded the monsoon-driven agricultural pressure. In 34 runs, food CPI breached 8 percent in the September-October window and remained elevated, though broadly stable, through mid-December. In scenarios where Hormuz disruption eased, LPG supply recovered toward pre-crisis levels and fertilizer availability was largely maintained.

- **The Reserve Bank of India deftly navigated a balancing act to keep inflation in check without sacrificing growth.** Across a majority of runs, the RBI deployed foreign exchange market intervention as a tool for tightening financial conditions. It also welcomed moves by the Indian government to attract USD inflows from the Indian diaspora. However, close to 40 percent of runs saw the RBI increase the repurchase rate by 25-50 basis points, with the simulated agent viewing food price increase by the October 2026 Monetary Policy Committee meeting as structural rather than transient.

- **The impact of an extended disruption hit small and large companies in India's pharmaceutical industry differently.** The production of advanced pharmaceutical ingredients (APIs) contracted in 37 of 50 runs due to supply chain disruptions for precursors needed to manufacture paracetamol, metformin, and ciprofloxacin. The disruptions disproportionately affected small and medium-sized

businesses, which experienced a set of compounding stressors: working capital compression from higher input costs, tighter credit conditions reflecting the RBI's tightening posture, and logistics disruptions on cash cycles as revenue uncertainty rose. By contrast, across all runs, large pharmaceutical manufacturers showed they had the resources to largely absorb the shock to pharmaceutical precursors derived from petrochemicals.

- **While India successfully diversified energy sourcing in most runs, domestic oil refinery utilization fell substantially when disruptions were extended and particularly severe.** Across runs, New Delhi increased engagement with non-Gulf crude and gas suppliers from the United States and Venezuela to Russia, Latin America, and Africa. While some of these partnerships were activated as emergency procurement measures in the more severe runs, the simulation also saw India deepen bilateral energy cooperation for long-term supply of commodities from key supplier governments. In particularly severe circumstances, India could not fully compensate through alternative sourcing arrangements and domestic refining dropped. However, in most runs, New Delhi's engagements kept domestic production relatively close to baseline.

- **The Strategic Petroleum Reserve was an emergency stabilizer, not a first-line crisis management tool.** Across the simulations, actors showed conditional support for using the Strategic Petroleum Reserve (SPR): they were willing to release reserves under acute pressure but remained cautious about deploying it as a primary response tool in less severe disruptions. The consistent takeaway is that the SPR was treated as a last-resort buffer rather than a routine instrument for managing market volatility.

Simulation Insight: How Actors Navigated Key Tensions

- **Government of India:** New Delhi's core policy options remained consistent in every run: whether or not to renew the retail fuel price freeze as oil prices rose, maintain the fertilizer subsidy at or near baseline, deploy the Essential Commodities Act in order to ration gas distribution, and expand its flagship food security welfare scheme (PMGKAY) as the primary social support instrument in response to food price pressure. The variation across runs was not in whether these instruments were used, but in which conditions they were deployed and the margins that remained afterward. The discipline of the institutional response was itself a source of political stability: visible consumer protection held the government's political position steady even as the underlying fiscal position tightened

- **GOI-RBI Relations:** The scenario captured the push-pull between the GOI's preference for an expansionary fiscal policy to cushion the impact of rising costs on Indian consumers and households, and the RBI's efforts to keep inflation under control and the deficit in check. This dynamic was the heart of the RBI's decision to pursue a range of policy steps, such as foreign exchange intervention and support for measures to raise U.S. dollars, including from the diaspora, before eventually raising rates by 25-50 bps.

- **Parliament:** Parliament's role across the primary period was primarily one of constituency pressure and information amplification. Throughout all 50 runs, Parliament remained attuned to ground-level cluster data and inputs from small and medium-sized businesses in their parliamentary constituencies, using this information to advocate for greater support for rural and small trader communities.

"In-Game" Insights

- Small manufacturers engaged their local MPs to add political pressure to the Finance Ministry for additional support, framing the impact of higher input cost as a jobs issue in their constituencies.

About the Simulation:

The Asia Group's machine learning engineers and data scientists, in partnership with in-house regional experts, built a proprietary agent-based simulation of geopolitical decision making to chart out possible scenarios for how an extended closure of the Strait of Hormuz would affect Asian markets.

In the simulation, each actor (a state, agency, leader, company, constituency) is an autonomous AI agent that reasons over its own interests, forms beliefs, negotiates, and acts, while a central adjudicator (Control Center) governs the world and resolves each turn. Agent profiles are shaped by TAG's country experts while behavior is constrained and calibrated by quantitative models, and every outcome is resolved probabilistically. Because the engine samples many parallel futures rather than one, it yields distribution over plausible outcomes instead of a single guess — letting analysts stress test decisions and surface low-probability escalation paths.

Sector Spotlight: AI and Data Center

Hormuz disruptions are exposing critical vulnerabilities in the AI and data center sector. The real risk lies in accumulating structural pressures that could slow investment and reshape the sector.

The impact of Hormuz disruptions on the global AI and data center sectors is largely indirect but could be among the most consequential effects of the conflict. The AI sector is central to global growth at a moment when few other engines of expansion are firing. Hyperscalers worldwide have announced combined AI spending of roughly USD 725 billion for 2026. This is the largest technology investment cycle in modern history, with U.S. firms accounting for the bulk of committed capital but Asian and European cloud providers accelerating their own buildouts in parallel. That global buildout, and the market confidence underpinning it, has provided a crucial counterweight to economic uncertainty stemming from the Strait disruptions.

But the AI sector's physical foundations, from chips and transformers to energy systems to the materials used to build data centers, are deeply embedded in Asian supply chains that the Hormuz crisis is stressing. Semiconductor fabs in Taiwan and South Korea, transformer manufacturers in Korea and Japan, and copper refiners in China are all shared inputs for data center construction globally. The risks to the buildout are in these structural, and largely invisible, nodes in the supply shock instead of in shortages of critical components. With U.S. technology equities at the gravitational center of global capital markets, any sustained pressure on the AI investment thesis would reverberate through pension funds, sovereign wealth portfolios, and financial markets worldwide.

When the Strait of Hormuz closed to commercial shipping, the immediate alarm centered on helium, a critical component in advanced semiconductor manufacturing. Prior to the conflict, Qatar supplied over 30 percent of the global helium market; Iranian strikes on Qatar's Ras Laffan gas fields took most of this production offline. South Korea and Taiwan, which manufacture most of the advanced and memory chips used to power AI systems, sourced 55 percent and 69 percent of their helium respectively from the Gulf. Helium spot prices surged 40 to 100 percent almost immediately. Any further or prolonged squeeze on helium supplies could create real constraints in the semiconductor ecosystem and at a minimum, force chipmakers to redirect supply away from legacy-node production,

Nonetheless, the helium scare appears to have been overstated in the near term. The global semiconductor industry operates with long-term supply

contracts, inventory buffers, and increasingly sophisticated recycling systems. The margins on advanced AI chips are large enough for chipmakers to absorb significant spot-price premiums and pass elevated costs through to customers. In a market where demand for leading-edge logic and high-bandwidth memory chips already outpaces supply, a helium surcharge will not break the business model for major semiconductor manufacturers or chip designers. Even in the event of shortages, much of the semiconductor industry could outbid competitors for limited supplies, and the strategic and economic importance of the AI buildout means that governments would potentially step in to ensure alternative supplies — including from the United States, which remains the world's largest helium producer.

The picture is less straightforward down the supply chain. Smaller fabs clustered in Southeast Asia, particularly in Malaysia and Vietnam, tend to operate on thinner margins, carry fewer reserves, are more exposed to price shocks, and could not rely on the same level of diplomatic and geopolitical firepower in the event of a true shortage. The same logic applies to higher energy costs, which may not meaningfully impact leading-edge AI chip production but could squeeze lower-margin producers across the ecosystem.

The Compounding Cost Problem

The more consequential threat is not a shortage or price shock for a single input or commodity, but the cumulative inflationary pressure that is already moving through every layer of the physical infrastructure that underpins the industry and could dampen global investment in the medium term.

The data center buildout requires extraordinary quantities of steel, aluminum, and copper. Aluminum prices are up 20 to 30 percent year on year, due in part to disruptions in Gulf supply. Copper is foundational to every cable, transformer, and grid upgrade, yet a significant share of its production depends on sulfuric acid derived from sulfur that transits the Strait and is now increasing in price. Diesel — the fuel of freight — adds a further layer of cost escalation to every input shipped to a construction site.

Individually, each of these increases is manageable. Together, they put a compounding inflationary squeeze on an industry whose physical supply chains were already stretched to the breaking point. Bloomberg reported in April 2026 that roughly half of U.S. data centers planned for this year are now expected to be delayed or canceled — not for lack of capital, but because transformers and switchgear can take three to five years to deliver.

Asia sits at the center of this exposure in ways that go beyond semiconductors. South Korea supplies the U.S. transformer market. China is the world's leading refined copper producer. Japan and South Korea produce

construction equipment used in data center construction. Disruptions to their industrial supply chains accumulate across the physical inputs underpinning AI systems. As one of the binding constraints on AI capacity shifts to power infrastructure, disruptions to these supply chains can impact the pace and timeline of the AI buildout even if the cost impacts are minimal.

The Macro Risk: Rates, Capital Costs, and the Financial Model

Pre-war expectations of interest rate cuts in 2026 have given way to the prospect of rate increases as central banks confront a supply-side inflation shock. As 10-year yields climb toward 4.5 percent, the financial model underpinning the AI buildout comes under meaningful strain. This matters because the buildout is increasingly debt-funded. The five largest technology companies will spend some 90 percent of their operating cash flow on capital expenditure this year, leaving little room for error. Private credit markets, which have bankrolled much of the data center expansion, are beginning to absorb concentration risk at scale.

Sustained elevated interest rates do not need to crash the AI investment boom to have an effect. Even a modest rise in borrowing costs could prompt investors to rethink hundreds of billions of dollars in planned AI infrastructure that has not yet broken ground. The AI buildout relies on cheap, abundant capital, and the compounding pressures from Hormuz disruptions put the business model at risk. AI spending has been one of the few forces cushioning markets from the broader economic shock of the crisis, but the sector absorbing that blow is itself vulnerable to the inflationary pressures the war is creating.

The Public Backlash Risk

If Hormuz disruptions lead to sustained higher costs for fuel, electricity, and food, the contrast between trillion-dollar data center investment and strained household budgets could intensify the political backlash. In that scenario, a relatively permissive regulatory environment may shift in ways the industry is not prepared for. The Hormuz crisis did not create social tensions over data centers, but it has sharpened them. The AI buildout is unlikely to be derailed by a single input shortage, but it could become slower, more expensive, more geographically concentrated, and more politically contested.

Sector Spotlight: Metals & Critical Minerals

Hormuz disruptions to metal and mineral supply chains have revealed sulfur as a critical, overlooked choke point in the energy transition. Supply shocks are now rippling through copper, batteries, and rare earths, threatening timelines and costs across global electrification.

The Hormuz disruption has revealed that sulfur, which is used to produce sulfuric acid — the most heavily consumed chemical in the world — is a critical and underappreciated linchpin in the global clean energy and electrification supply chain.

The Middle East produces almost a quarter of the world's sulfur, and roughly half of the world's seaborne-traded sulfur transits the Strait. Prior to the conflict, sulfur was already trading at elevated prices due in part to growing battery and clean energy demand — creating conditions for an acute supply shock that, unlike for certain petrochemicals and other commodities that were in oversupply before the Strait closure, has led to sharp and sustained price increases. Since the conflict began, sulfur prices have surged over 100 percent.

Even though sulfur is a plentiful natural resource, it is primarily produced for commercial use as a byproduct of oil refining and gas processing — so global supply is a function of those processes and does not respond rapidly to higher prices or demand for sulfur itself. There are alternatives to Gulf sulfur, but none can fill a large gap quickly: other suppliers are already locked into existing contracts or cannot readily produce more on demand.

The Downstream Impact Across Critical Minerals

Elemental sulfur's overwhelming end use is conversion into sulfuric acid, used to process and refine the metals and minerals that underpin clean energy and electricity systems, from copper and nickel to lithium, cobalt, and rare earths. Disruptions to sulfur supply and transit through the Gulf are thus being felt downstream as shortages and cost increases for the essential chemical — sulfuric acid — in the metals and minerals supply chains that underpin the global energy transition and energy-intensive industries such as data centers.

Copper is the irreplaceable conductor in power grids, EV motors, batteries, solar installations, and data centers, and has been acutely affected, with some 15-20 percent of copper production dependent on sulfuric acid. Chile, the world's largest copper producer and a buyer of over one million tonnes of Chinese sulfuric acid, has seen those prices roughly double. The picture for

copper producers is mixed, however: sulfuric acid is also a profitable byproduct of copper smelting, and some operators are increasing production as prices rise.

The battery supply chain is also directly exposed, as sulfuric acid is required for many types of lithium, cobalt, and rare earths production and processing. There is no practical substitute for sulfuric acid in the acid-leaching process used to produce nickel, an essential component of high-energy-density EV batteries. Indonesia's nickel sector is under severe strain as a result of limited supply of both elemental sulfur and sulfuric acid, with leading producers cutting output. Rare earth processing also requires sulfuric acid, so shortages could threaten the permanent magnets essential for EV motors and wind turbines.

The sulfur shock thus hits the entire clean energy stack — copper wire, battery cell, and motor magnet — simultaneously. If the disruption persists, delayed copper, lithium, and battery material output could slow grid expansion, EV production, and renewable energy deployment at precisely the moment demand is accelerating. Cost pressures in the mining and refining sectors could push back final investment decisions on critical mineral projects already strained by capital costs, compressing future supply pipelines for years. Data centers, already straining power grids, depend on copper-intensive infrastructure that becomes costlier to build. The result is a compounding feedback loop: energy transition bottlenecks slow the very infrastructure expansion needed to meet surging electricity demand.

The Geopolitical Leverage Shift

The crisis also further reinforces China’s leverage over a key node in the energy supply chain as the world’s largest producer of sulfuric acid. In April, China announced a full export ban on sulfuric acid through August 2026 — replacing a previous quota with a complete halt. Shipments to Chile collapsed from 151,000 tonnes in March 2025 to zero by March 2026. Russia and Turkey have similarly restricted sulfur exports.

Three simultaneous points of pressure — the Hormuz closure, export restrictions by major producing countries, and a structural supply deficit amid accelerating electrification — have converged to produce an acute disruption to sulfuric acid supply chains. Until global flows resume, China can withhold supply and position itself as the indispensable backstop when it chooses to resume exports — deepening a stranglehold over copper, battery metals, and rare earths that rivals its leverage over finished clean energy hardware.

Countries with domestic sulfur and sulfuric acid production, like the United States, are relatively insulated. For most of the world, the only real resolution will come as the Strait reopens — and even then, recovery will be slow, partial, and unevenly distributed across buyers and sectors, as the contracted nature of Middle East Gulf supply means spot market relief will be partial.

Sector Spotlight: Clean Energy

Hormuz disruptions have accelerated Asia's energy transition — but also risk undermining it. Surging demand for renewables and EVs is colliding with a renewed wave of fossil fuel subsidies that could crowd out long-term investment.

The Hormuz crisis has created a defining tension at the heart of Asia's energy future. Energy security concerns and recent price shocks are supercharging the economic and strategic case for renewables and EVs, with adoption rates soaring across the region. But the scramble to secure and subsidize short-term fossil fuel supplies risks crowding out the very clean energy investment the crisis would otherwise accelerate. Across the region, the conflict has triggered a fresh wave of coal and fossil fuel subsidies — especially in Japan, South Korea, and Southeast Asia — that narrow fiscal space and distort market signals for clean energy investment, especially if emergency response measures become long-term policies. Nowhere will this tension play out more consequentially than Asia, home to both the world's leading clean energy manufacturers and some of its most exposed emerging markets.

China: Compounding First-Mover Advantages

China's lead in renewables and EV deployment and manufacturing positions it for outsized gains. The IEA projects that EV sales across Asia-Pacific countries outside China could rise more than 50 percent in 2026, and Chinese companies are overwhelmingly positioned to supply that demand. Following the onset of the U.S.-Iran conflict, Chinese EV and hybrid exports surged 140 percent year-on-year, and Chinese EV makers rapidly gained share across Europe, Southeast Asia, and India as consumers sought relief from higher fuel costs. Similar trends are playing out for solar panels, inverters, battery energy storage systems (BESS), and other clean energy technologies, where Chinese exports have soared — in some cases to record highs — since March.

Southeast Asia: Surging demand creates opportunity and risk

Elevated oil import costs are adding an estimated USD 3.36 billion per month to ASEAN's import bill, creating powerful incentives for EV adoption. In the power sector, heightened LNG prices have made gas-fired power less competitive compared to clean-energy alternatives. These shifts a strong demand pull for local solar, wind, and battery manufacturing that could benefit the region's manufacturers at a moment when governments are working to build domestic industries around the energy transition. Vietnam

leads the region in solar production and ranks as the world's fourth-largest solar panel exporter, with production capacity surpassing 19.5 GW in early 2026. Thailand also has a significant solar industry and, as home to the region's first lithium-ion battery gigafactory, is positioning as a regional EV manufacturing hub.

The risk is that Southeast Asia's domestic producers are not yet positioned to capture rapidly scaling demand in the wake of the Hormuz closure. Chinese suppliers are dominant across much of the regional supply chain; market acceleration may entrench China's lead instead of generating domestic industrial value for the region. Meanwhile, emergency coal and fuel subsidies are consuming the fiscal space governments need to invest in grid modernization, infrastructure development, and local manufacturing capacity to be able to compete.

Japan and Korea: Racing to keep up with the transition

For Japan, the danger is that an accelerated energy transition is now arriving faster than key industries are prepared for, further widening the clean energy manufacturing gap with China. Japan's response to the Hormuz crisis has prioritized coal and nuclear instead of renewables to ensure stable supply. EV demand in Japan has surged nearly threefold since March, but for now this may mainly benefit Chinese brands. For Japanese automakers in particular, the Hormuz crisis has accelerated an EV transition they were slow to prepare for.

South Korea is relatively better positioned and may even find that the Hormuz-driven energy shock generates political momentum for Seoul's ambitious clean energy agenda. After years of relative underinvestment in renewables – Korean financial institutions invested more in coal than in renewables from 2016 to 2021, running counter to a global trend that favored renewables by a ratio of three-to-one — the Lee administration is now working to close the gap. The timing of Hormuz disruptions may be fortuitous: Seoul recently released a detailed and aggressive plan to nearly triple renewable capacity to 100 GW by 2030, a target it calculates could replace half of imported fossil fuels and cut the import bill by USD 13 billion. Korea's auto manufacturers are also comparatively well placed to capitalize on a crisis-driven surge in EV demand given recent investments, including USD 74.6 billion by Hyundai, and a competitive global EV product portfolio. The Lee government may turn the crisis into an opportunity, if it can execute in a timely manner.

Sector Spotlight: Medicine & Healthcare

Hormuz disruptions are exposing the fragility of global medical supply chains. Cost pressures and constrained inputs create a systemic vulnerability that could drive drug shortages and delay patient care across global health systems.

The medicines and medical equipment that underpin health care around the globe rely on some of the world's most integrated and complex supply chains, many of which run through the Strait of Hormuz. Middle East-derived petrochemicals, including naphtha, methanol, and solvents, are used in drug precursors known as Active Pharmaceutical Ingredients (APIs). Over 50 percent of U.S. generic prescriptions and major API sources originate from India, whose domestic chemical feedstocks are highly vulnerable to Gulf trade routes.

Because parts of the industry operate on very thin margins, even modestly higher transport, energy, and input costs can result in production cuts or delays for critical drugs and medical products. COVID-era lessons learned have improved resilience, and many U.S. manufacturers and medical institutions now hold up to six months of inventory. But the risk is growing that shipping disruptions and elevated manufacturing costs will translate into higher drug prices and delayed care. Under a prolonged disruption scenario, hospitals and providers could be forced to triage care, with delays in diagnoses and treatment as inventories are depleted and replenishment cycles break down.

The Fragility of Generic Drug Supply Chains

Generic medicines, which make up over 90 percent of U.S. prescriptions, are especially vulnerable to disruption. India is a major manufacturing and distribution hub for global generic drugs, supplying 20 percent of generic medicines worldwide. India also exports many of the APIs for advanced drugs manufactured in the United States and Europe. India's pharmaceutical industry, in turn, imports 70 to 80 percent of its raw materials from China — creating a tightly strung global supply chain that stretches between Asia, the Gulf, and drug manufacturers, patients, and hospitals in Europe and the United States.

As higher energy costs and reduced petrochemical flows constrain China's industrial production, including for drug inputs, the costs and delays are passed on to Indian generics and API manufacturers already operating on airtight margins, which are taking a further hit from higher freight and aviation

costs. The result will be higher prescription drug prices, but even more worrisome is the potential that cost pressures will lead manufacturers to cut production, or drug companies to discontinue medications that are no longer economically feasible to produce. The disruptions hitting India and the Gulf as major distribution hubs for the global pharmaceutical industry thus create an environment for significant drug and medical supply shortages if normal supply flows do not resume.

The Medical Supply Shock

Disruptions are also impacting a wide range of other medical goods. Naphtha, a petroleum byproduct, is utilized in sterilization processes for products such as syringes and tubing and used to manufacture plastics used in hospital gowns and medical gloves. Japan imports naphtha from the Gulf and is almost 100-percent dependent on Southeast Asia for lower-cost medical products. Citing concerns over the disruptions, the Japanese health ministry reported that some 5,500 businesses had requested support in securing medical supplies and announced the release of 50 million medical gloves from a national stockpile in May.

The health sector accounts for over 30 percent of global helium demand, chiefly for cooling MRI machines. Damage to Qatar's production facilities in March has removed one-third of global helium supply; major helium distributors have invoked force majeure and initially restricted supply to some customers by 50 percent. The immediate fallout for hospitals has been contained, as suppliers are able to ration available stock and allocate it towards essential medical and defense uses. If shortages worsen, however, hospitals will be forced to compete for dwindling supplies – including with semiconductor manufacturers in Taiwan, Korea, and elsewhere. Those industries can absorb significantly higher prices. Bidding wars have already driven helium prices 40 to 100 percent higher since March. The risks grow of extended MRI wait times and delayed diagnoses for cancer and neurological diagnoses the longer the conflict continues to snarl supply chains and delay repairs to production infrastructure across the region.

Conclusion

There will be no return to the pre-closure status quo, especially for Asia

Regardless of whether and how quickly Hormuz transit resumes to pre-conflict levels — and as of mid-June there is no indication this will happen smoothly or soon — there will be no return to the pre-closure status quo, especially for Asia.

While the global economy proved more resilient to the initial shocks than many analysts expected, markets and policymakers should take little comfort. Strategic petroleum reserves, commercial stockpiles, alternative export routes, and demand-management measures all softened the initial blow. But stockpiles, inventories, and reserves do not replenish themselves. Many of the global economy's buffers are worn through. Should the ceasefire falter or Strait transit resume only fitfully and partially — as has been the case in the initial wake of the ceasefire — the global economy is poised for a second blow it is far less equipped to absorb.

Nor should anyone take for granted the role that timing played in blunting some of the most severe effects. When the Strait closed, there was still a degree of slack in several key commodity markets, including oil and helium. China also played an outsized role in balancing the global energy system during the crisis: by cutting refinery runs, drawing selectively on inventories, redirecting supply, suppressing some demand, and importing less, Beijing absorbed part of the lost Hormuz volume and moderated pressure on global markets. The calendar mattered as well: the disruption came just after the peak winter demand season in the Northern Hemisphere, when energy consumption and prices are typically at their highest. Had the closure occurred at a different point in the year — or during a tighter phase of key commodity cycles — the immediate effects could have been considerably more severe.

And, as the preceding chapters show, the global economy's initial resilience should not distract from the substantial costs borne by key countries — many of which are still working their way through domestic economic and political systems and will be for some time.

In Asia, emerging markets were hit first and hardest. India has thus far proven resilient but remains vulnerable if further disruptions lead to a broader slowdown that would reverberate through the global economy. Advanced economies such as Japan and South Korea entered the crisis with substantial reserves and stronger buffers but would confront difficult fiscal and political trade-offs if disruptions persist. China stands out as the sole exception. While

not immune from the pain points, China is set to emerge from the crisis best positioned — with limited exposure and more to gain from the broader economic and geopolitical trends the conflict sparked than any other country.

For the Indo-Pacific's other largest economy — the United States — the full impact of the crisis is only beginning to be felt. The United States was less directly exposed to disruptions in the Strait than many Asian markets, but it remains vulnerable to global commodity price shocks and the inflationary pressures they transmit. Prices are higher — not only at the pump but for food, electricity, and health care. As long as commercial transit through the Strait remains constrained compared to pre-crisis levels, the price effects for U.S. households and businesses will continue to compound. There is also a risk to the U.S. economy's defining growth story: the AI buildout. Higher costs for energy, materials, and capital could weigh on investment or introduce new bottlenecks in a supply chain that is already stretched to its limits, slowing the expansion of the data center infrastructure underpinning the boom.

And then there are the strategic costs to the United States. Much of the world sees this as a crisis Washington helped to precipitate, raising fresh doubts about the United States' ability to sustain a strategic focus on the Indo-Pacific. The second-order strategic consequences could include weaker burden-sharing by allies, greater hedging toward Beijing, and setbacks to efforts to de-risk from China — all while these and other benefits accrue to Beijing.

For the United States as for the Indo-Pacific's other major economies, the closure exposed vulnerabilities that were broader, deeper, and more interconnected than many policymakers, investors, and businesses appreciated. Some of the most important consequences will emerge only gradually — in inflation, investment decisions, supply chains, domestic politics, and geopolitical alignments.

The following takeaways will shape how governments and markets think about economic security in Asia and beyond.

Strategic Takeaways

1. **Inflation is likely to be more persistent than markets currently expect.** History offers a cautionary note: the inflationary waves that followed COVID-19 and the 2022 energy crisis both proved far stickier than initial forecasts suggested, persisting long after the original supply disruptions had eased. While the first-round effects are already visible, the greater risk is that higher energy and commodity prices feed into

broader inflation over time. A compounding factor is that businesses across sectors have drawn down inventories and strategic reserves during the months of Strait disruption. The coming restocking cycle will generate a fresh wave of demand at precisely the moment supply chains remain fragile, pushing prices higher still. Households will bear the largest burden, as energy and food costs consume a disproportionate share of disposable income.

2. **What appears as inflation in advanced economies is likely to translate into much more severe humanitarian consequences and food insecurity elsewhere.** Fertilizer shortages are already working their way into the 2026 summer harvest, locking in higher food prices in the months to come — a dynamic that threatens to tip vulnerable populations into food insecurity and could strain global food systems in ways that outlast the crisis itself. The least-developed countries — those least able to absorb the shock — will bear some of its heaviest costs.

3. **The costs of disruption include opportunity costs.** Capital that might otherwise have been deployed toward growth, innovation, or technological advancement will instead be redirected toward redundancy, security, supply-chain adaptation, and defense spending. Companies will spend more on inventories, alternative suppliers, and risk management. Governments will devote more resources to strategic reserves and stockpiling — and may expand spending on relevant defense systems, including naval systems, drones, mine countermeasures, and maritime surveillance, and hardened infrastructure, which will create clear winners among defense firms and supplier nations. It will also compete with civilian sectors for scarce electronics, critical metals, skilled labor, manufacturing capacity, and capital, potentially raising costs and slowing investment elsewhere in the economy.

4. **The economic shock will have political consequences that are only beginning.** Some effects could emerge quickly in electoral politics, including in the U.S. midterms, where affordability has already become a central concern and gasoline prices are likely to remain well above pre-war levels through the summer. But if prior shocks are any guide, the story will not end with the current election cycle. The inflationary wave that followed COVID took years to fully register in politics — long after the underlying price pressures began to ease — as voters punished incumbent governments for the slow grind of persistent higher prices and eroding living standards. Many of the second-order effects — including higher food prices driven by fertilizer

shortages, delays and cost overruns in electricity and infrastructure projects tied to copper prices, and rising healthcare costs resulting from disruptions to critical inputs — will take months or years to work their way through economies. As a result, the political salience of the crisis is likely to extend well beyond the immediate shock and into future electoral cycles across Asia, the United States, and beyond. By the time voters go to the polls in contests ranging from Indian state elections to the 2028 U.S. presidential election, the effects of the closure may still be shaping political debates.

5. **The AI buildout faces rising second-order costs — and may amplify them for other sectors.** The primary impact of the Hormuz crisis on the AI sector is likely to be in higher upstream costs: for aluminum, copper, and the steel, concrete, and specialized hardware that data center construction depends on, compounded by rising interest rates that increase the cost of debt-funded hyperscaler capital expenditure.

   The well-cited risk of outright input shortages — especially of helium for semiconductors — is overstated in the near term. Chipmakers have been able to absorb premiums, but their price-setting impact is itself a risk for other sectors. If hyperscalers and chipmakers can secure scarce helium, copper, transformers, and power infrastructure, there will be opportunity costs — if not outright shortages — for other sectors from healthcare to construction to smaller manufacturers. The AI sector may be dodging the headline risks, but its buying power in a constrained market will create scarcity and cost pressures elsewhere that are harder to see and slower to resolve.

6. **Healthcare faces a slow-moving but significant squeeze.** The crisis placed simultaneous pressure on pharmaceuticals, medical supplies, and diagnostic equipment, creating a squeeze on healthcare capacity rather than a single point of failure. Higher energy and transportation costs are raising the price of Chinese inputs used by Indian pharmaceutical manufacturers, while disruptions to naphtha and helium supplies threaten everything from syringes and IV bags to diagnostic imaging. Unlike semiconductor firms that were able to secure helium supplies, some medical providers — especially in lower income countries — could face shortages and price spikes.

7. **A faster but more expensive — and more geopolitical — energy transition will ensue.** Energy security is likely to become one of the defining investment themes of the post-crisis period, accelerating trends already underway — from renewable deployment and LNG diversification to nuclear restarts, strategic reserve-building, and new pipeline and grid infrastructure. In other respects, however, the

transition may reverse pre-crisis trends. Coal, for example, could experience a resurgence in some markets as governments prioritize reliable electricity supply and broader electrification goals.

Many countries will pursue an "all of the above" strategy, prioritizing resilience over efficiency. One paradox of the crisis is that it is likely to both accelerate demand for clean energy and disrupt the supply chains needed to build it. For example, the sulfur squeeze, compounded by Chinese export restrictions and Russian supply constraints, is raising costs across critical mineral supply chains. As a result, the same disruption that strengthens the strategic case for renewables may delay many of the projects required to deliver them. These factors also point to a broader reality: the energy transition will become more geopolitical, not less: fossil-fuel geopolitics and clean-energy geopolitics will operate simultaneously.

8. **Emerging markets' economic momentum is at risk, but the crisis creates new opportunities for those who move fastest.** Key sectors of India's economy, particularly agriculture and pharmaceuticals, are exposed to further pressure if disruptions to the Strait persist or intensify, but New Delhi has adeptly deployed policy tools to weather initial shortages and price shocks — and India could even benefit if investors see new opportunities in its renewables and technology sectors in light of vulnerabilities in the Middle East or Southeast Asia as a result of the Gulf conflict.

   Southeast Asia has emerged as one of the world's most compelling investment destinations: a manufacturing powerhouse and growing tech hub riding the "China Plus One" wave that drove record FDI inflows in 2024. Its rise was predicated on certain assumptions including stable energy costs, improving infrastructure, and reliable supply chains. The Hormuz crisis has exposed where those foundations are most fragile. Malaysia, as a net oil exporter, has a structural cushion most of its neighbors lack. Vietnam, one of the region's most dynamic manufacturing stories, is structurally exposed by a 26-day petroleum reserve. The Philippines faces the starkest challenge, with near-total import dependence for crude leaving it with little buffer against prolonged disruption. At the same time, accelerating EV and renewables demand could boost the region's clean energy manufacturers. Countries that can move rapidly to deploy cheap renewable energy will gain a structural cost advantage. The crisis may also redirect technology investment flows: hyperscalers and data center operators that had earmarked capital for Gulf hubs are reassessing their exposure to the region. Although Southeast Asian markets cannot replicate many of the Gulf's advantages, a push for

resilience and diversification could channel a portion of investment toward the region. Malaysia, given its established digital infrastructure and relative political stability, stands to capture a share of any redirected investment.

9. **The Strait disruptions have second-order consequences for the United States' strategic and economic security goals.** In the short term, the Strait closure has made the world more reliant on U.S. energy exports. In the longer run, it could undermine key elements of Washington's strategy and cement dependencies Washington wanted to see broken. After a third global shock in six years, firms and governments may increasingly balk at the costs of U.S. technology and investment controls and prioritize supply chain security over strategic alignment, throwing into reverse efforts to derisk from China. Across Asia, even close U.S. partners such as Korea are now reconsidering Russia's role as a supplier of crude, LNG, refined products, and helium. The crisis has also put a fiscal squeeze on U.S. allies such as Japan at a moment when Washington was asking them to step up with greater defense spending. While countries will not turn away from the United States, the economic fallout from the crisis is costing Washington goodwill across the region. Beyond the reputational damage, the crisis has pulled leadership attention and military assets back to the Middle East and away from Asia — the region that will do most to shape the global economy and determine the balance of power in the 21st century.

10. **China is emerging from the crisis with clear economic and strategic advantages.** While China still faces weaker external demand, higher import costs, petrochemical stress, and backlash against overcapacity, the second-order effects of the crisis run in Beijing's favor and reinforce its narrative that China is the stable global partner of choice. China's relative insulation from supply and price shocks gives it a further competitive edge and deepens economic dependencies it can leverage for geopolitical advantage. Higher energy prices are accelerating the global push into renewables – the one part of the global energy stack that China dominates. As countries across Asia confront the economic and political fallout from what they largely perceive to be a U.S.-instigated crisis, even some U.S. partners will have incentives to hedge back towards China.

11. **Geography is reasserting itself as the ultimate chokepoint.** The crisis is a reminder that the 21st-century global economy, for all its digital infrastructure and financial sophistication, remains hostage to geography in ways that would have been familiar to a 19th-century

naval strategist. It has also resurrected a question many assumed the postwar order had settled: who controls the world's critical sea lanes, and on what terms. Iran's use of the Strait as an instrument of coercion — conditioning, restricting, and at times halting passage — has shown that freedom of navigation is not a natural condition but a political one, dependent on deterrence and the willingness of major powers to enforce it.

The disruption has sharpened attention across boardrooms and defense ministries to other passages whose stability is similarly contingent. This includes the Strait of Malacca, through which the bulk of Asia's seaborne trade transits. Malacca is not only a chokepoint for oil and manufactured goods; it is also a corridor for solar components, battery materials, refined critical minerals, electronics, and clean-tech equipment. Ironically, a world that electrifies to reduce oil vulnerability may become more dependent on other chokepoints. The crisis has also intensified focus on the Taiwan Strait, whose strategic, technological, and commercial significance make it perhaps the most consequential chokepoint of all.

Charts & Methodology

Our findings draw on four integrated streams of analysis:

- Expert qualitative assessments by TAG's senior specialists in Washington, Shanghai, Tokyo, Singapore, New Delhi, and Seoul, examining the macroeconomic, sectoral, political, social, and geopolitical dimensions of Hormuz disruptions.

- A systematic review of existing analysis and projections of the direct impacts of commodity shocks to date by leading institutions such as the International Monetary Fund, Organization for Economic Cooperation and Development, International Energy Agency, and U.S. Energy Information Agency. TAG systematically compared their scenario analyses to capture current debates, assess the consistency of different models, and identify key gaps. We also utilized prior findings as a benchmark to validate and stress-test our own analytical framework and conclusions.

- TAG's proprietary dataset mapping countries' absolute and relative exposure to supply shocks across multiple markets and commodities. Our underlying data set comes from the International Trade Centre (ITC), a joint multilateral agency that holds a shared mandate with the WTO and UNCTAD. We selected this source based on three criteria: (1) coverage through December 2025, (2) annual reporting in volumetric rather than dollar terms, and (3) institutional credibility with publicly accessible data. TAG's data science team has cleaned and adapted the data to make observations comparable across countries, including systematically tracking and accounting for missing figures.

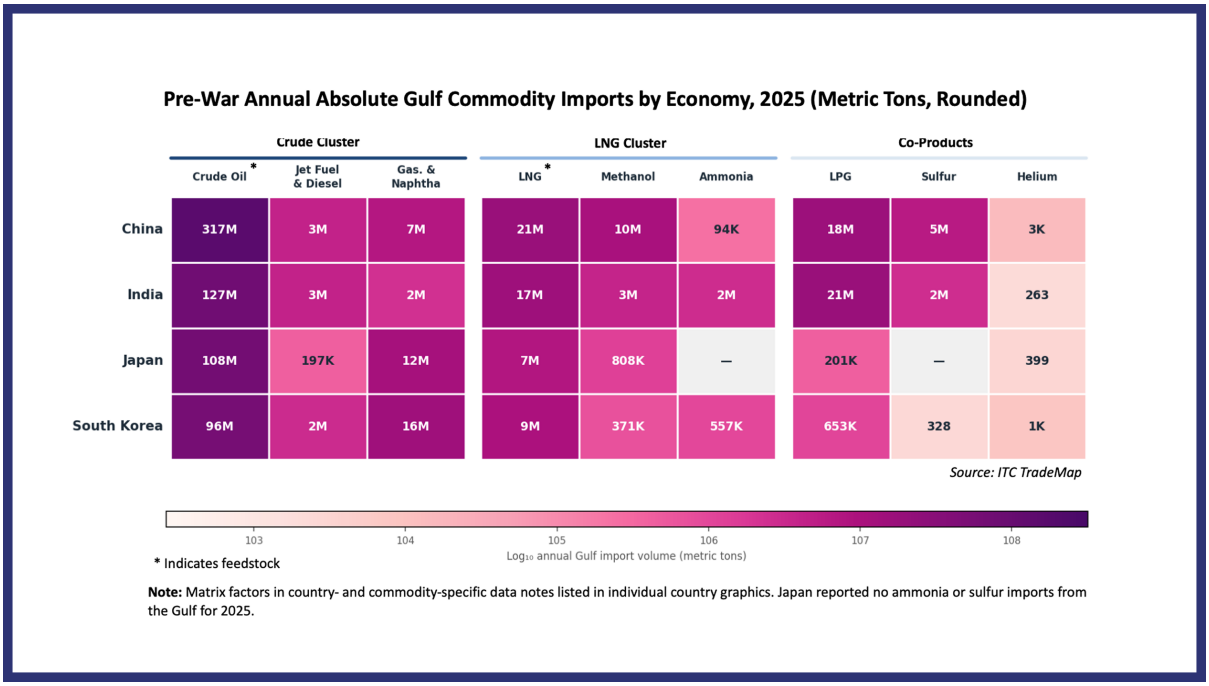
- Proprietary AI-powered scenario modeling, which combines advanced artificial intelligence with TAG's in-house regional expertise to simulate how governments, firms, central banks, and other actors respond under crisis conditions. Rather than converging on a single prediction, the platform runs parallel scenarios simultaneously to map a range of plausible futures. By examining thousands of discrete moves, decisions, and second-order interactions, the system surfaces non-obvious risks and interdependencies that traditional analysis tends to miss. The result is not just a snapshot of where things stand today but a dynamic, forward-looking picture of how situations are likely to evolve.

TAG's methodology, approach, and findings were reviewed by a distinguished external advisory committee of leading experts in economics and international affairs.

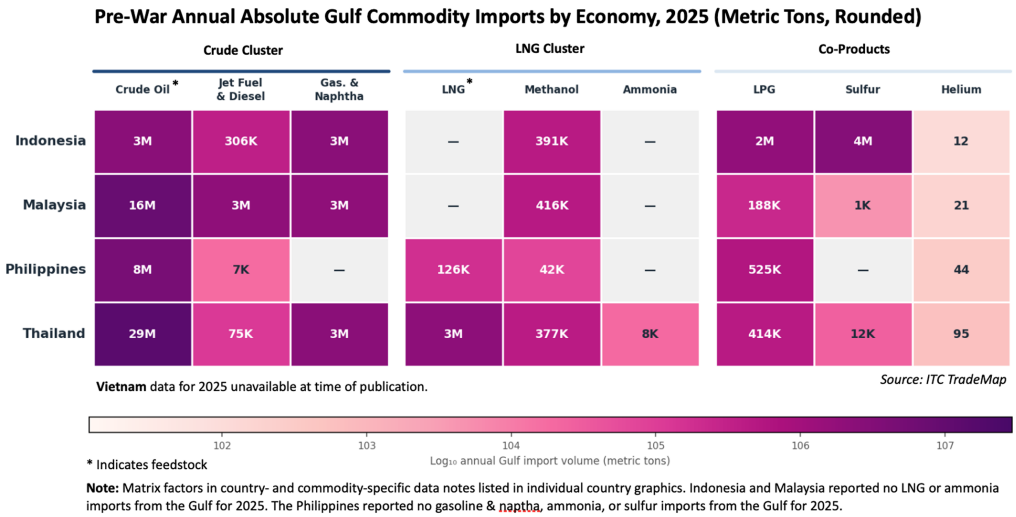
A note on our data:

Assessing commodity trade flows to and from the Gulf is inherently difficult — countries adapt in real time, rerouting supply chains and obscuring the true picture of their dependency. Our data collection efforts therefore focus on the status quo before the start of U.S. military operations: a detailed snapshot of what each country actually imported, from where, and in what volumes. That baseline reveals the depth of structural dependencies before any adaptation began, establishes which Indo-Pacific economies were most exposed at the moment of disruption, and provides the clearest benchmark against which future shifts in trade patterns can be measured.

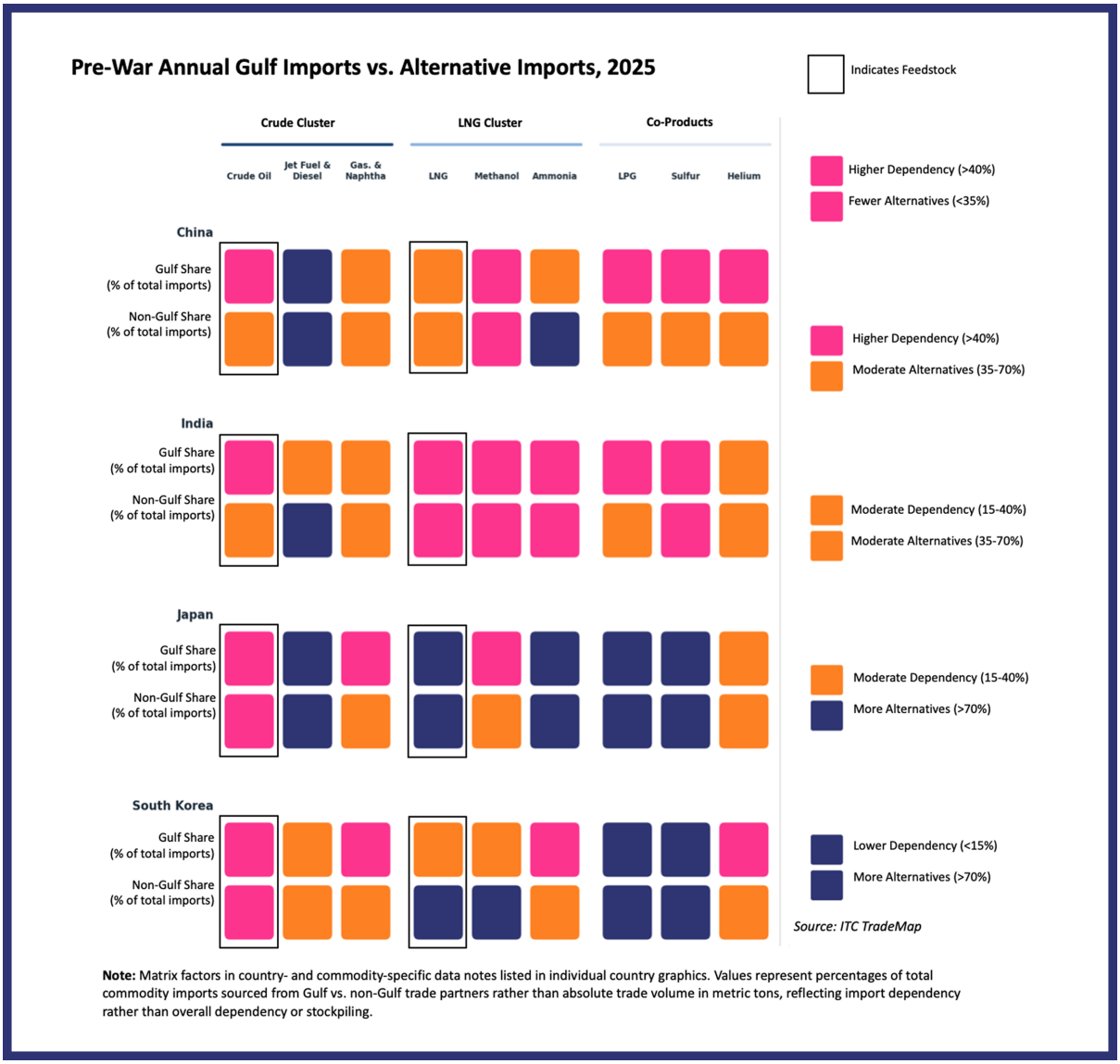
Gulf Import Volume Heatmap — Northeast Asia and India



Gulf Import Volume Heatmap — Southeast Asia

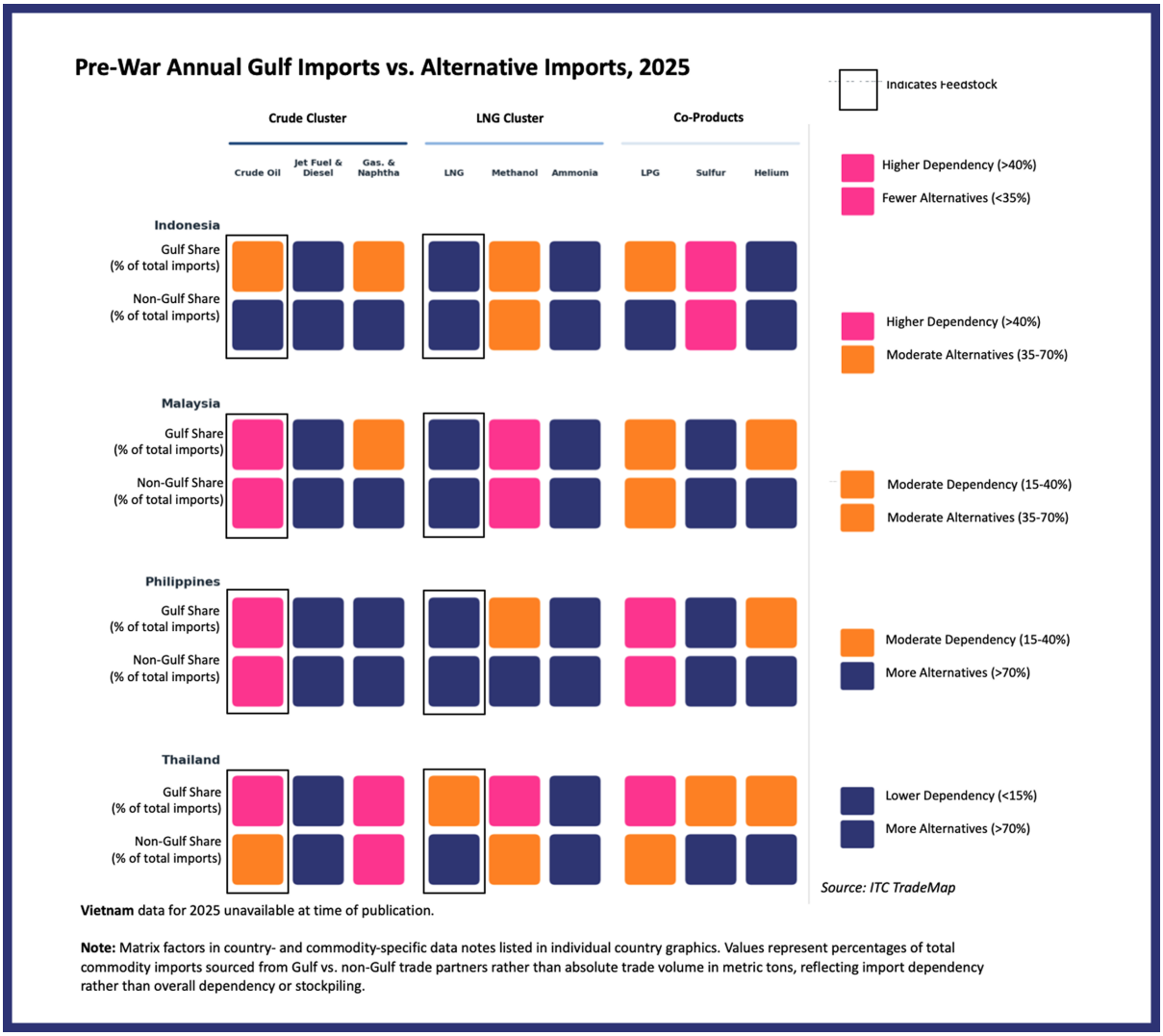


Pre-War Gulf Imports vs. Alternative Imports – Northeast Asia and India



Note: Matrix factors in country- and commodity-specific data notes listed in individual country graphics. Values represent percentages of total commodity imports sourced from Gulf vs. non-Gulf trade partners rather than absolute trade volume in metric tons, reflecting import dependency rather than overall dependency or stockpiling.

Pre-War Gulf Imports vs. Alternative Imports – Southeast Asia

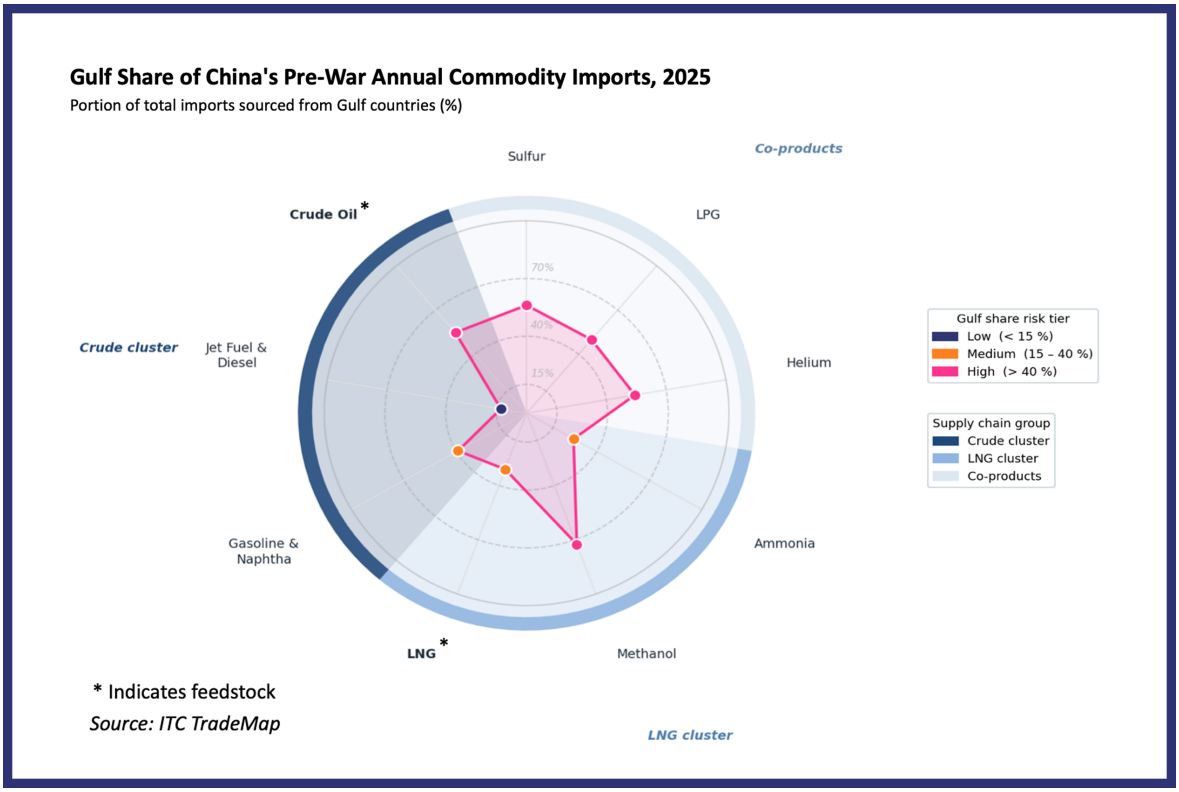


Vietnam data for 2025 unavailable at time of publication.

Note: Matrix factors in country- and commodity-specific data notes listed in individual country graphics. Values represent percentages of total commodity imports sourced from Gulf vs. non-Gulf trade partners rather than absolute trade volume in metric tons, reflecting import dependency rather than overall dependency or stockpiling.

Pre-War Gulf Commodity Import Dependencies:

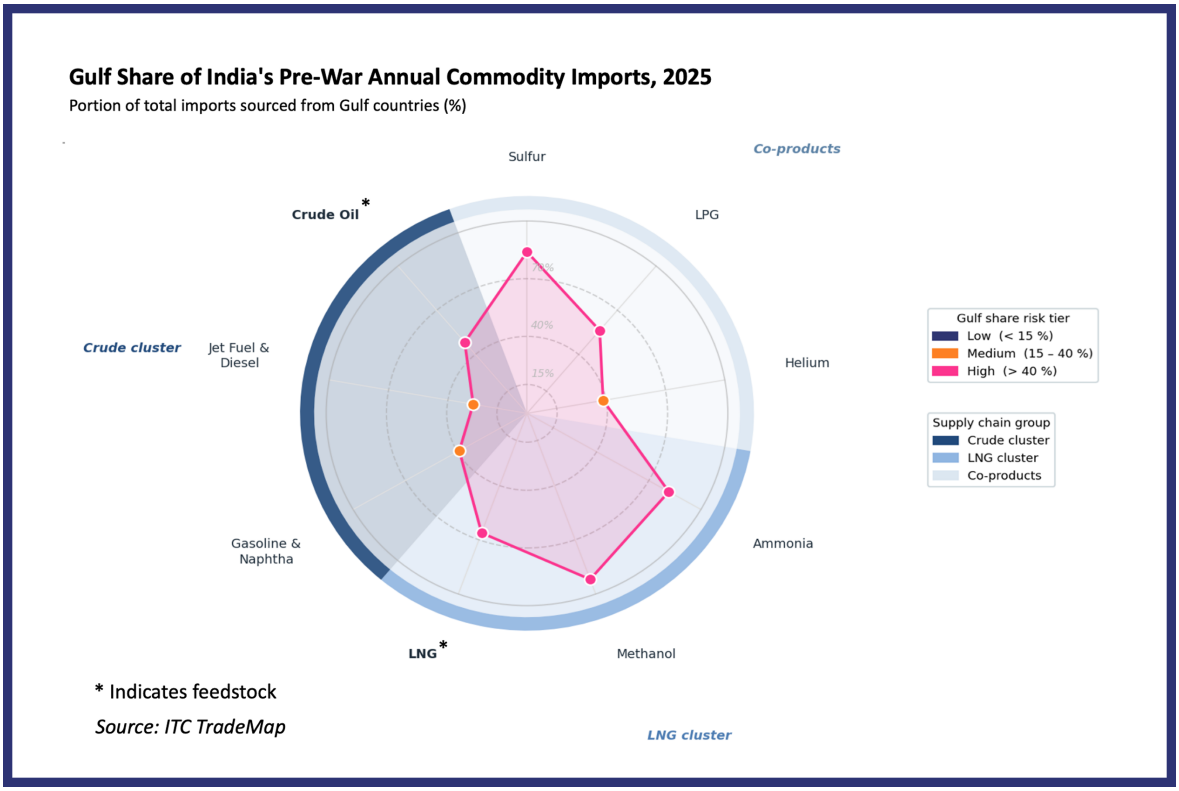
China



Crude Oil: Chinese crude oil imports from Iran are officially reported as zero. Experts estimate that Iran accounts for roughly 12–13 percent of China's total crude imports, with Iranian-origin crude (shipped via Malaysia and Indonesia) likely averaging 1.38 million barrels per day (65–70 MT), according to Kpler. We incorporate this estimate in our calculations.

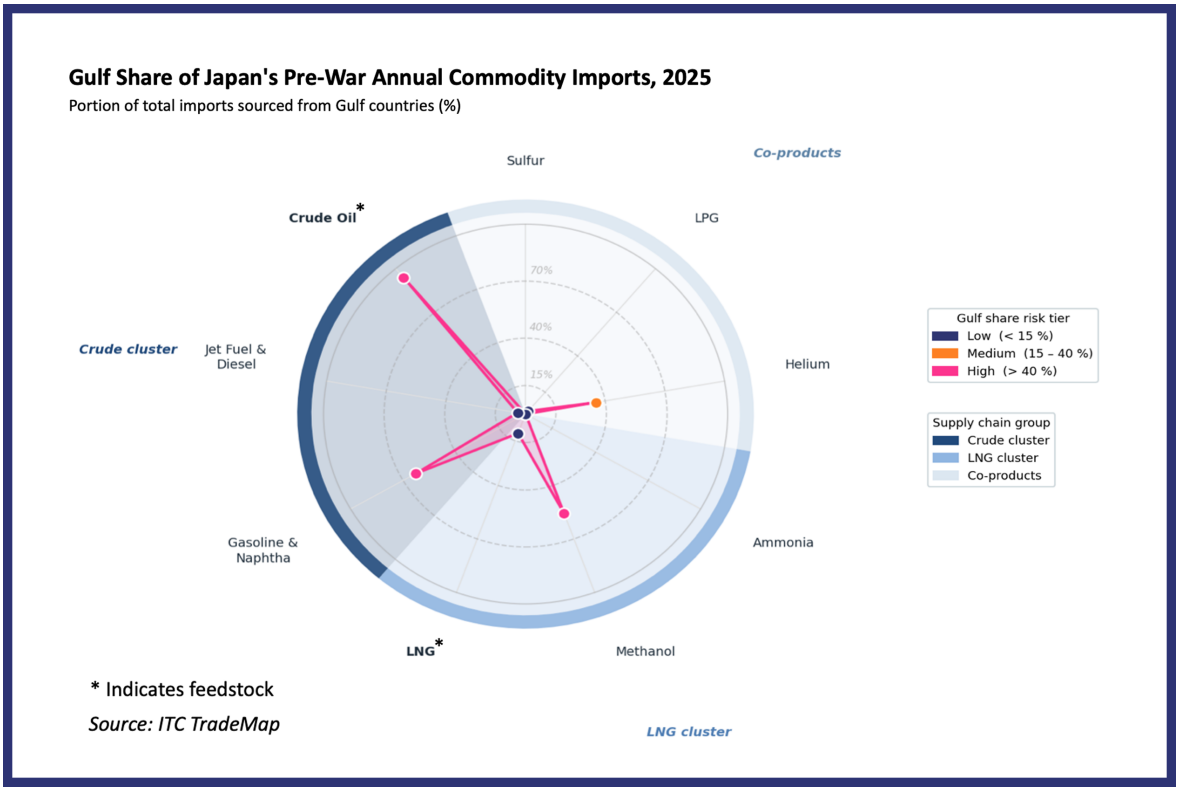
LPG: Chinese LPG imports from Iran are officially reported as zero. Much like crude, Iranian-origin LPG is shipped abroad via Malaysia and Indonesia. Kpler estimates that China imports approximately 50 percent of its LPG imports from the Gulf, including Iran. This figure is close to the officially reported value of around 49 percent.

India



Missing Data: Estimates for India's annual imports of gasoline & naphtha and methanol from the Gulf may be undervalued due to missing data.

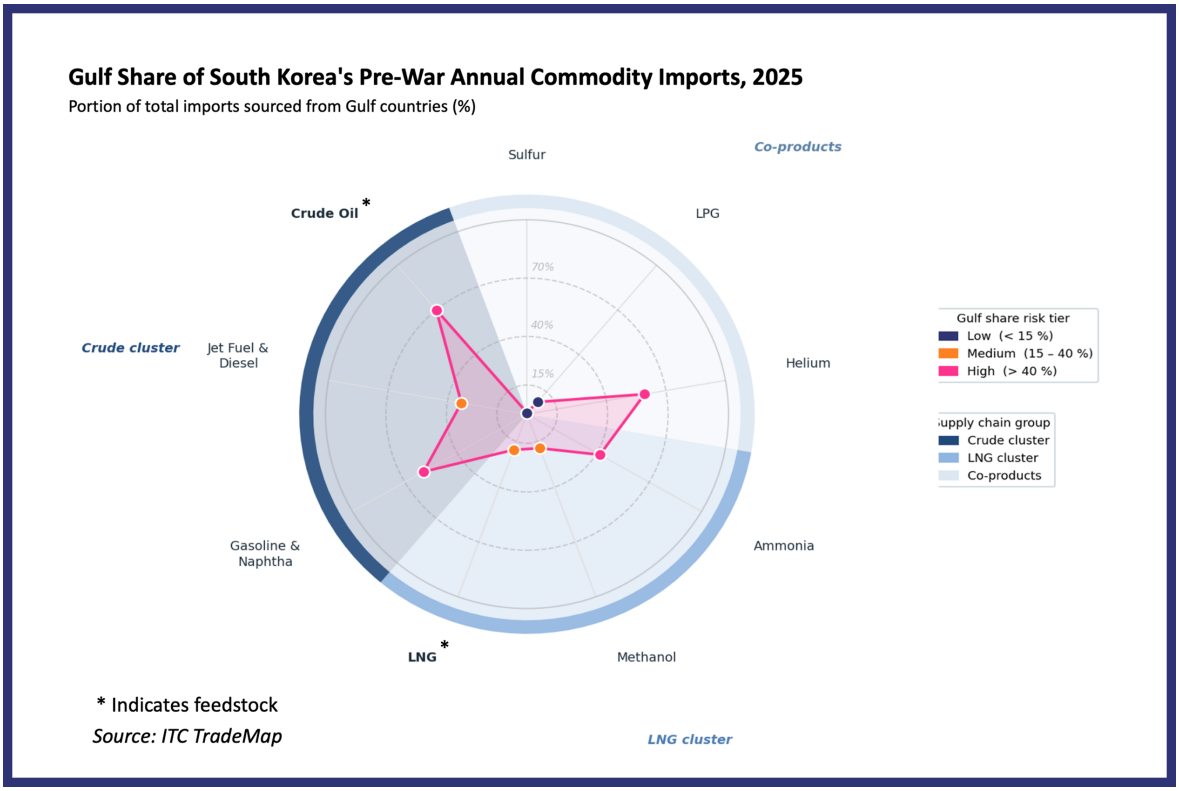
Japan



Missing Data: Estimates for Japan's annual imports of jet fuel & diesel, methanol, ammonia, and LPG from the Gulf may be undervalued due to missing data.

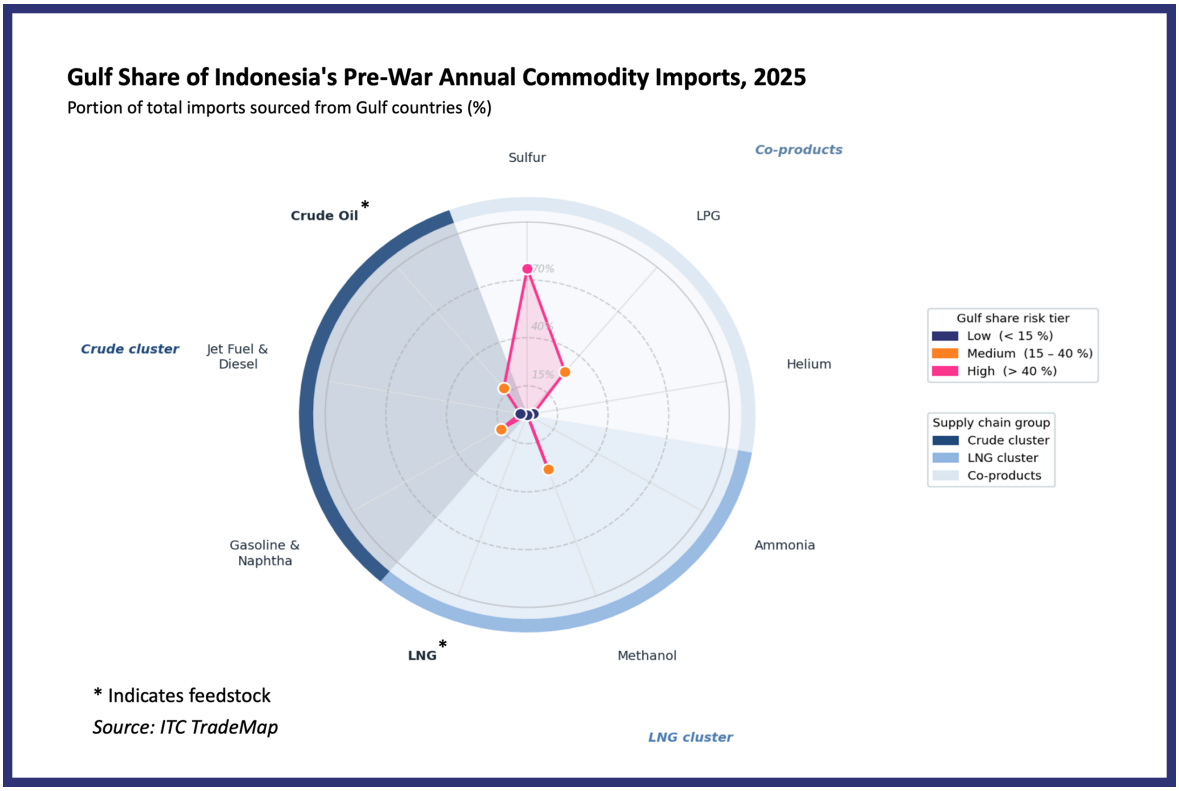
Ammonia and Sulfur: Japan reported no ammonia and sulfur imports from the Gulf in 2025. It sources most of its imported sulfur from South Korea and most of its imported ammonia from Indonesia and Australia.

South Korea



Missing Data: Estimates for South Korea's annual imports of ammonia and LPG from the Gulf may be undervalued due to missing data.

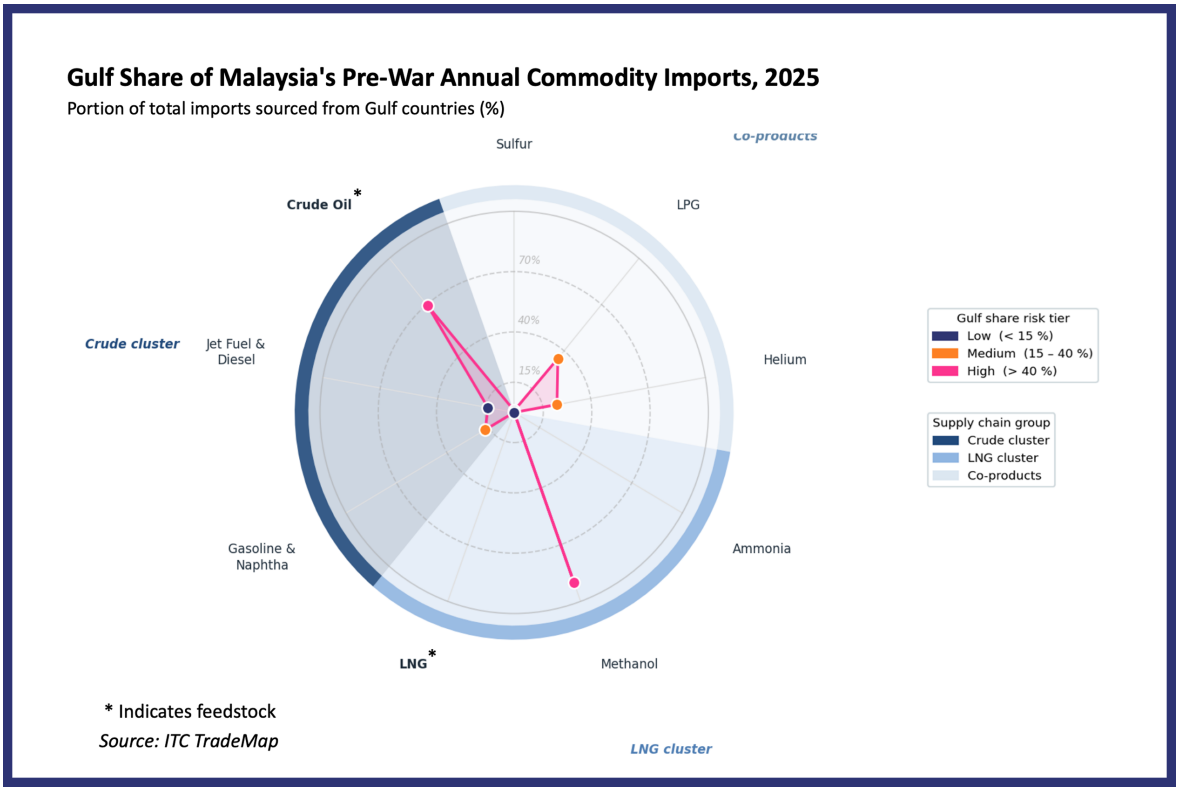
Indonesia



LNG and Ammonia: Indonesia is one of the world's largest LNG exporters and has not reported LNG imports from any source for 2025. Indonesia also reported no ammonia imports from the Gulf. It sources most of its imported ammonia from Australia.

Iran: Analysts posit that following penalties imposed on Malaysian entities for transhipping goods sourced from Iran, Indonesia has emerged as a new rebranding node for Iranian crude. Those shipments appear to be routed through Indonesia rather than intended for Indonesia as a final destination.

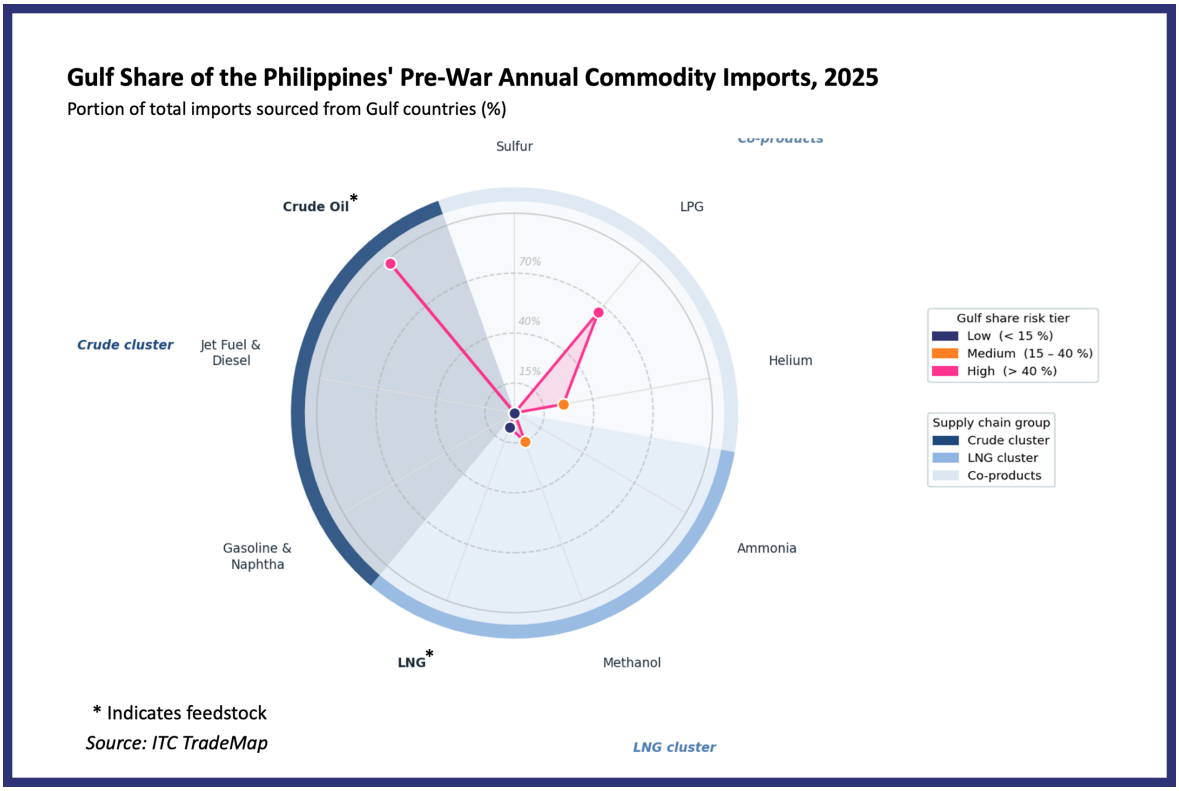
Malaysia



LNG and Ammonia: Malaysia is one of the world's largest LNG exporters and has not reported any LNG or ammonia imports from the Gulf in 2025. It sources most of its imported LNG from Australia and the United States and most of its imported ammonia from Indonesia and South Korea.

Iran: Malaysia's data may omit possible imports from Iran across commodities. Malaysia has explicitly stated it will not recognize U.S. unilateral sanctions on Iran, and Kpler data shows that Iran's petroleum product exports, including fuel oil, naphtha, and LPG, allegedly flow via Malaysian waters to other destinations. Those shipments appear to be routed through Malaysia rather than intended for Malaysia as a final destination.

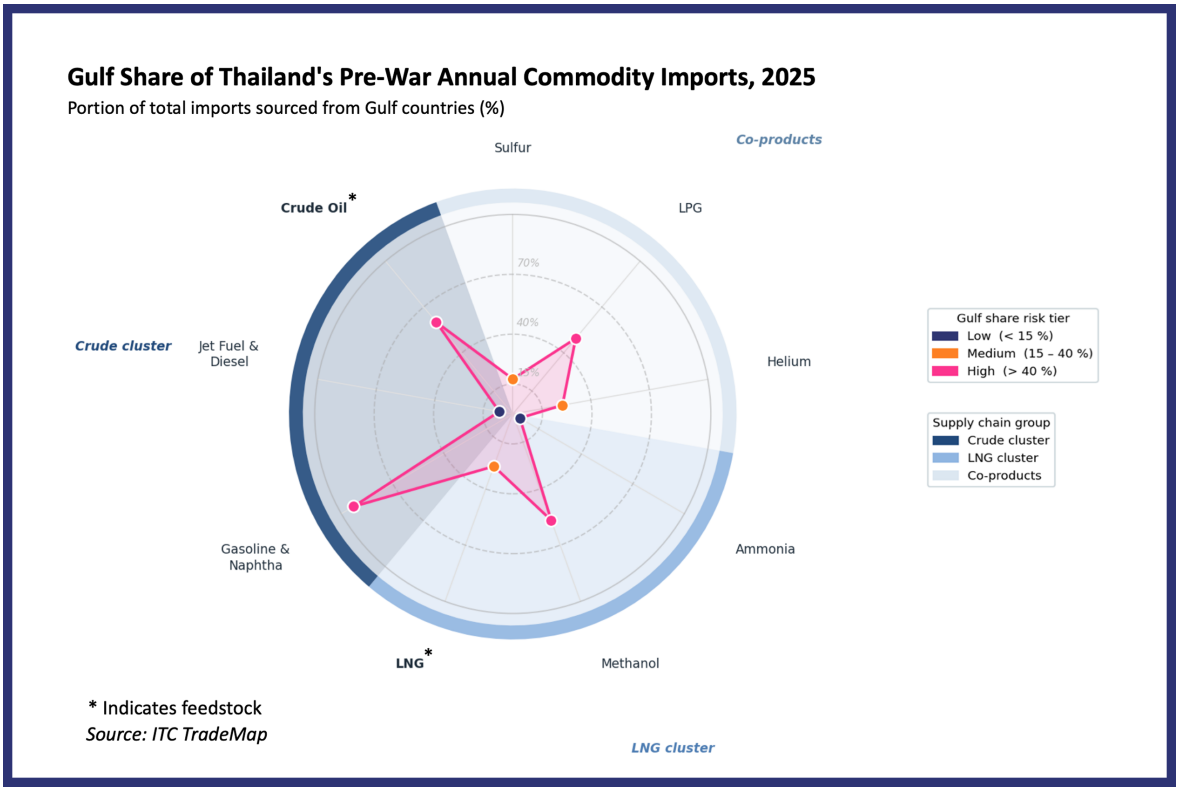
Philippines



Missing Data: Estimates for the Philippines' annual imports of jet fuel & diesel, gasoline & naphtha, and sulfur from the Gulf may be undervalued due to missing data.

Gasoline & Naphtha, Ammonia, and Sulfur: The Philippines has not reported any gasoline & naphtha, ammonia, and sulfur imports from the Gulf in 2025. It sources most of its imported ammonia from Malaysia and China and most of its sulfur from South Korea. Its fuels, including gasoline & naptha, are sourced primarily from Indonesia, China, South Korea, and the Gulf.

Thailand



Missing Data: Estimates for Thailand's annual imports of ammonia may be undervalued due to missing data.

Commodity Glossary

Crude Oil

Definition: Crude Oil, or petroleum, is a fossil fuel natural resource consisting of hydrocarbons that is refined or separated into products for direct use or in manufacturing.

Usage: Crude oil is refined and distilled into products such as gasoline, diesel, and kerosene, or chemical reagents used to make plastics, pesticides, and pharmaceuticals.

Naphtha

Definition: Naphtha is a flammable liquid hydrocarbon mixture refined from crude oil.

Usage: Naphtha is commonly used as a dilutant, fuel, and in the production of plastics.

Gasoline

Definition: Gasoline or Petrol is a transparent, yellow, flammable petrochemical refined from crude oil.

Usage: Gasoline is globally used as a fuel for internal combustion engines. It the most common fuel for individual passenger vehicles.

Jet Fuel

Definition: Jet fuel is a series of complex kerosene or naphtha-based fuel mixture refined from crude oil, varying based on crude oil source.

Usage: Jet fuel is used to power turbine engines including for jet engines and turboprops, in commercial, military, and private aircraft.

Diesel

Definition: Similar to gasoline, diesel fuel is a high-volume refined distillate of crude oil.

Usage: Diesel fuel is used to power internal combustion engines. Because it is more efficient and energy dense than gasoline is it used for freight and delivery vehicles, public transportation, railways, industrial equipment, military equipment and maritime shipping.

Liquid Natural Gas (LNG)

Definition: LNG is a natural gas, consisting of mostly methane with some ethane, that has been cooled to liquid form for ease and safety for transportation. LNG must be regasified to atmospheric temperatures before it can be consumed.

Usage: LNG is the primary form of ocean transportation of natural gas. Natural gas is used for heat, power generation, cooking, fertilizers, and for manufacturing including production of hydrogen gas, animal feeds, fertilizers, and in production of fabrics, glass, steel, plastics, paint, and other products.

Methanol

Definition: Also known as methyl alcohol or wood alcohol, methanol is an organic chemical compound commonly distilled from natural gas.

Usage: Methanol is a feedstock most used to produce formaldehyde, which is crucial for manufacturing plastics, resins, and plywood. Additionally, methanol is used as an industrial solvent, antifreeze, fuel, and in wastewater treatment.

Ammonia

Definition: Ammonia is a pungent chemical made of nitrogen and hydrogen that is derived from natural gas using the Haber-Bosch process. Ammonia is commonly synthesized into urea, which is a solid, for safety and ease of transport.

Usage: Most of the world's produced ammonia is used to produce synthetic fertilizers as a vital source of nitrogen for crops. Ammonia is also used to produce plastics, fibers, nitric acid, and intermediates for pharmaceuticals.

Liquid Petroleum Gas. (LPG)

Definition: LPG or LP gas is a highly flammable mixture of energy rich hydrocarbon gasses, mostly consisting of propane and butane, derived from both natural gas processing and crude oil refining.

Usage: LPG is commonly used as a fuel gas for heating, cooking, and for vehicles as Autogas. LPG is also used as aerosol propellant and off-the-grid refrigeration.

Sulfur

Definition: Sulfur (S) is an abundant bright yellow crystalline chemical element. Sulfur is primarily produced as a by-product of refining fossil fuels. Crude oil is commonly graded by its sulfur content.

Usage: Sulfur is primarily used in the production of sulfuric acid (battery acid), one of the most widely produced industrial chemicals. Sulfuric acid is a critical feedstock for the production of synthetic fertilizer and in mining and leaching processes.

Helium

Definition: Helium (He) is a chemical element and the lightest noble gas. Although it is the second-most abundant element in the universe, helium is scarce on Earth and cannot be artificially manufactured at scale.

Usage: Nearly all commercially produced helium is a byproduct of natural gas refining. Helium is primarily used for cryogenics, such as cooling MRI magnets, chip and electronics manufacturing, aerospace, industrial fabrication, and for balloons.