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Impact of the USA - Iran Conflict on Global Supply Chains

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Abstract

The outbreak of armed conflict between the United States and Iran, commencing on February 28, 2026 with coordinated US-Israeli airstrikes codenamed Operation Epic Fury, has precipitated the most significant disruption to global supply chains since the COVID-19 pandemic and the 1970s oil crisis. The closure of the Strait of Hormuz - a 34-kilometre chokepoint through which approximately 20 million barrels of oil per day and critical commodity volumes flow - has unleashed cascading shocks across energy, agriculture, advanced technology, and financial markets. This paper provides a comprehensive empirical analysis of those disruptions, assessing impacts on energy markets (Brent crude surging from \$71 to \$126/bbl), fertilizer supply chains (urea prices up 50%), helium and semiconductor manufacturing (one-third of global helium supply disrupted), shipping logistics (freight rates up 50%, transit times extended by 10–20 days), and broader macroeconomic indicators. The paper evaluates near-term sectoral vulnerabilities, examines disproportionate regional exposure with particular attention to Asia and South Asia, and presents three forward scenarios - ceasefire stabilization, escalation, and frozen conflict. This study aims to conclude with policy recommendations for supply chain resilience, strategic reserve reform, and multilateral risk governance.

Keywords: Strait of Hormuz, Global supply chains, Energy security, Helium shortage, Fertilizer disruption, Oil price shock,

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1. Introduction

In the early morning hours of February 28, 2026, the United States and Israel launched a highly coordinated air assault on Iran under Operation Epic Fury, targeting Iranian

nuclear infrastructure, military installations, and leadership. The assault, involving precision-guided munitions and stealth aircraft, resulted in the assassination of

Supreme Leader Ali Khamenei and the rapid degradation of Iran's conventional military posture. Iran retaliated with missile and drone strikes across the Persian Gulf, including attacks on US bases and Gulf Cooperation Council (GCC) states hosting American forces.

The geopolitical and economic consequences were immediate. Within days, Iran declared the Strait of Hormuz closed to commercial shipping, and by March 4, 2026, Iranian forces had begun actively targeting vessels attempting to transit the waterway. The International Maritime Organization later reported that by April 21, some 20,000 mariners and 2,000 ships were stranded in the Persian Gulf. The event has since been characterized by the International Energy Agency (IEA) as the greatest energy security challenge in modern history.

This research paper provides a rigorous, data-driven assessment of the supply chain consequences of the US–Iran war. The analysis draws on data from the IEA, US Congressional Research Service, Oxford Economics, the World Economic Forum, Goldman Sachs, the Global Peace Index, and multiple sector-specific sources. It covers the period from February 28 to late June 2026 and projects key scenarios through 2027–2030.

1.1 Conflict Context:

Prior to the conflict, Iran's domestic economy was already under severe strain. Sanctions-induced pressure, sustained protests, and a depreciating rial had pushed inflation above 40 percent in 2025. US-imposed secondary sanctions had targeted Iran's petroleum and petrochemical sectors since late 2024, crimping export revenues and isolating Iran from global financial systems. Meanwhile, the GCC had emerged as a critical node in global supply chains — not only for oil and gas but for aluminum, fertilizers, helium, and industrial chemicals. The vulnerability of these interconnected flows to a conflict scenario had been widely acknowledged but insufficiently stress-tested.

1.2 Scope of Study and Methodology:

This paper adopts a multi-sectoral analytical framework, assessing supply chain disruptions across five primary domains: energy, agriculture and fertilizers, advanced technology, logistics and freight, and financial markets. For each domain, the paper quantifies observed disruptions as of June 2026 and projects risks under three forward scenarios. Regional exposure is assessed using data on import dependency, trade flows, and strategic reserve adequacy.

2. The Strait of Hormuz: Strategic Significance:

The Strait of Hormuz is, by almost any metric, the world's most critical maritime chokepoint. At its narrowest point, the strait

is just 34 kilometres wide, providing the only sea passage from the Persian Gulf to the Gulf of Oman and the broader Indian Ocean. The strait's two unidirectional sea lanes carry an extraordinary concentration of global commodity flows, making it a single point of failure for the world economy.

When Iran formally closed the Strait on March 2–4, 2026, it triggered the largest disruption to the world energy supply since the 1970s energy crisis. Saudi Arabia and the UAE managed to redirect a combined seven million barrels per day through alternative pipelines (Petroline and the Abu Dhabi Crude Oil Pipeline), but this left a shortfall of approximately 13 million barrels per day in stranded Gulf exports. Iraq, Kuwait, Qatar, and Bahrain possessed no comparable bypass infrastructure, rendering their energy and commodity exports effectively landlocked.

The asymmetric exposure across nations is striking. As the World Economic Forum observed, more than 80 percent of the oil and LNG shipped through the strait in 2024 was destined for Asian markets. China received approximately one-third of its crude imports via this route; Japan sourced 95 percent of its Middle Eastern oil through vessels that transited the strait; and India relied on the region for close to 60 percent of its total petroleum imports. By contrast, the United States — with its domestic shale production — imports relatively little through Hormuz,

meaning its Asian allies bore an overwhelming share of the supply burden.

3. Energy Market Disruptions:

The energy sector has experienced the most immediate and dramatic consequences of the strait's closure. The disruption has been characterized by oil price spikes of historic velocity, structural changes in LNG flows, and an unprecedented coordination challenge for international energy governance.

3.1. Oil Price Trajectory:

Brent crude oil was trading at approximately \$71.32 per barrel on February 27, 2026 — the day before Operation Epic Fury commenced. Within two trading days, prices had risen to \$77.24. As the closure of the Strait became confirmed and tanker traffic collapsed, prices accelerated sharply, surpassing \$100 per barrel on March 8, 2026 — the first time in four years. The largest-ever monthly increase in oil prices was recorded in March 2026. Brent reached a peak of \$126 per barrel, and as of mid-May 2026, prices remained above \$110 per barrel, representing a 55 percent increase from pre-war levels.

3.2 Emergency Response Measures:

The IEA coordinated the largest strategic petroleum reserve release in its history — approximately 400 million barrels — to partially offset the supply shortfall. The US Strategic Petroleum Reserve held approximately 415 million barrels at the end

of Q4 2025. OPEC+ pledged to increase output by 206,000 barrels per day. However, these measures provided only partial relief: global inventories remained tight given the 13 million barrel-per-day shortfall from stranded Gulf exports, and SPR drawdowns were subject to statutory limitations.

3.3 Natural Gas and LNG Markets:

The conflict coincided with historically low European gas storage levels, estimated at just 30 percent capacity following a harsh 2025–2026 winter. Dutch TTF gas benchmarks nearly doubled to over €60/MWh by mid-March. US domestic natural gas prices remained comparatively stable, given domestic supply independence, though US LNG exporters benefited from the disruption to Qatari LNG flows. The European Central Bank postponed planned interest rate reductions on March 19, raising its 2026 inflation forecast and cutting GDP growth projections.

3.4 Downstream Effects on Industry:

Higher energy prices fed directly into production costs across the broader industrial system. European chemical and steel manufacturers-imposed cost surcharges of up to 30 percent, citing surging electricity and feedstock costs. Analysts warned of permanent deindustrialization in some energy-intensive sectors. The clean-energy transition sector was not immune: higher fuel, feedstock, insurance, and freight costs

raised production and transport costs for solar panels, batteries, and wind components.

4. Fertilizer and Agricultural Supply Chains:

Beyond hydrocarbons, the most economically consequential supply chain disruption is unfolding in the global agricultural sector. The Gulf region occupies a dominant position in the production and export of chemical fertilizer inputs — and the strait's closure has effectively locked these supplies behind an impassable barrier.

4.1 Fertilizer Market Dynamics:

Gulf states collectively supply approximately 45 percent of global traded sulfur and 50 percent of global urea exports. Approximately 30 percent of the global fertilizer trade transited the Strait of Hormuz before its closure. The closure triggered immediate price escalation: urea prices increased 50 percent in the weeks following the conflict's onset. Nitrogen fertilizer costs doubled compared to 2024 levels. Sulfuric acid prices rose 30 percent. The global fertilizer index is projected to rise over 30 percent for full-year 2026 amid persistent supply risks.

4.2 Agricultural and Food Security Impacts:

The fertilizer shock does not immediately translate to food price inflation - it operates on a six-to-nine-month lag, feeding into

harvests following the Q2 2026 spring planting season. Asia, which receives 35 percent of the Gulf's urea exports, entered its spring planting season during the disruption. The International Food Policy Research Institute has warned that sustained supply constraints could reduce yields of rice, wheat, and maize staple crops for billions and potentially trigger food security crises across sub-Saharan Africa and South Asia comparable in scale to the 2022 food crisis.

Iran itself has experienced profound domestic food inflation, with overall food prices rising over 40 percent in the past year including rice prices increasing sevenfold. Countries in the Middle East and North Africa, almost entirely import-dependent for rice (77%), corn (89%), soybeans (95%), and vegetable oils (91%), face acute vulnerability. Brazil and Argentina major global agricultural exporters are confronting input cost surges of 30 percent without corresponding increases in crop prices, compressing farm margins.

The World Food Programme and multiple research institutions warn that if the supply disruption is not resolved before the northern hemisphere's summer harvest cycles are compromised, a food crisis extending well into 2027 is probable.

5. Helium, Semiconductors, and the Technology Supply Chain:

Among the least anticipated but most structurally consequential disruptions of the

Iran war is its impact on the global helium market and, by extension, the semiconductor and advanced technology industries that underpin the modern economy.

5.1 Helium: The Hidden Critical Input:

Qatar's Ras Laffan Industrial City hosts some of the largest helium refining and liquefaction facilities in the world, producing helium as a byproduct of natural gas processing. Qatar accounts for approximately 30–40 percent of the world's helium production capacity. The war has effectively taken roughly one-third of global helium supply off the market, as Iranian missile strikes targeted Ras Laffan and the closure of the Strait made export logistically impossible for the helium that continues to be produced.

Helium is not a commodity for which substitutes exist at industrial scale. It is used in semiconductor manufacturing for wafer cooling during etching, as an inert carrier gas, and for leak detection — processes for which its chemical inertness and extreme thermal properties are irreplaceable. Helium is also critical for superconducting MRI magnets in medical imaging and is used extensively in aerospace and rocket propulsion. The gas must be shipped in specialised insulated containers that keep it liquid at minus 452 degrees Fahrenheit, for up to 45 days maximum before degradation — meaning inventory buffers have a built-in time horizon.

5.2 Price and Supply Data:

Pre-war helium prices were approximately \$300 per thousand cubic feet. By early April 2026, spot prices had surged to \$600–\$900 per thousand cubic feet — a doubling to tripling in price. Helium distributors began rationing deliveries. South Korean chipmakers Samsung and SK Hynix entered 2026 with sufficient inventory through approximately June 2026 but were paying steep premiums to secure US alternative sources. Taiwan and South Korea face risks of 10–20 percent production dips from helium constraints alone.

5.3 Price and Supply Data:

Moody's Ratings has characterised the situation as a potential \$650 billion problem for the AI economy. As noted by David Pan, AI industry practice lead at Moody's: the AI economy depends on GPUs, which depend on Qatari helium, Israeli bromine, and LNG tankers that must exit through a single 21-mile passage. Semiconductor chips have become the lifeblood of the global economy, powering advanced AI models, automotive electronics, defense systems, and medical devices.

Oxford Economics analysts warn that a 10 percent year-on-year increase in the price of computer software and accessories adds approximately 0.1 percentage points to annual headline and core PCE inflation. Electronics component prices were already

significantly elevated before the onset of hostilities. The Taiwan Semiconductor Industry Association has called on the Taiwanese government to increase strategic reserves of helium and natural gas in response.

Critically, there is no strategic helium reserve analogous to the strategic petroleum reserve. The US government sold off its Federal Helium Reserve and privatised the system in prior years, leaving no public instrument designed to buffer against severe national or global disruption. This represents a critical policy gap that the conflict has exposed with clarity.

5.4 Compounding Technology Disruptions:

Beyond helium, the conflict has triggered disruptions in several other technology-critical commodities. Tungsten — an essential component in semiconductor production, armor-piercing ammunition, aerospace, and precision manufacturing — saw its price surge over 50 percent in March 2026, with prices more than tripling since December 2025, as China restricted exports in response to the geopolitical environment. Sulfuric acid — used as a cleaning agent during wafer fabrication — rose 30 percent in price due to sulfur supply disruptions from the Strait. Bromine, sourced from Israel and used in semiconductor manufacturing, faces

its own supply pressure amid the broader regional conflict dynamics.

Chip shortages stemming from these combined disruptions are projected to add \$50–\$100 billion to global semiconductor production costs between 2027 and 2030, further entrenching supply chain fragility at a critical period of AI-driven investment.

6. Shipping, Logistics, and Freight Markets:

The closure of the Strait of Hormuz has forced a fundamental reorganization of global maritime logistics, with cascading effects on freight rates, transit times, insurance costs, and port utilization.

6.1 Route Rerouting and Transit Times:

With tanker traffic through the Strait effectively collapsed — and insurance for Strait transit cancelled from March 5 onward by the major Protection and Indemnity clubs — commercial vessels have been diverted around the Cape of Good Hope, adding 10 to 20 days to transit times between the Gulf and European and American markets. This rerouting has structural cost implications: even in ceasefire scenarios, analysts estimate a permanent \$3.50 per barrel freight uplift for oil tankers, as the Cape route becomes the de facto normalized alternative for an extended period.

6.2 Freight Rates and Insurance:

Ocean freight rates for US importers have spiked by up to 50 percent. War-risk

insurance premiums have surged dramatically across all vessel categories. Marine premiums have been canceled or repriced, and freight costs are rising across both energy and non-energy trade. US gasoline prices are expected to remain above \$4 per gallon through the summer of 2026, driven by both crude price increases and elevated refined product transport costs.

6.3 Port Congestion and Stranded Assets:

The International Maritime Organization reported on April 21 that approximately 20,000 mariners and 2,000 ships were stranded in the Persian Gulf due to the closure, representing a substantial immobilization of global shipping capacity. The GCC's six largest ports have a combined capacity of close to 54 million twenty-foot equivalent units; their effective quarantine from global trade has disrupted export flows and the non-energy goods supply chains that these hubs facilitate.

6.4 Port Congestion and Stranded Assets:

Airspace closures and rerouted flights are pushing up travel, logistics, and air-freight costs between Europe, the Gulf, and Asia. Dubai recorded 19.6 million overnight visitors in 2025; the regional tourism and business hub economy has been disrupted by conflict proximity, flight rerouting, and corporate risk aversion. Air freight, already elevated from pandemic-era backlogs, has emerged as a partial safety valve for time-

sensitive goods — but at prohibitive cost for bulk or commodity shipments.

6.5 Water and Desalination Infrastructure:

An underappreciated dimension of logistical vulnerability is the threat to Gulf desalination infrastructure. As missiles and drones have targeted energy and water infrastructure, the war exposes the energy-water nexus underpinning urban life and industry across the Gulf. Water supply constraints could further degrade the GCC's capacity to function as a global trade and export hub, even as the immediate conflict attenuates

7. Financial Markets and Macroeconomic Impacts:

The supply chain disruptions generated by the US–Iran conflict have reverberated through global financial markets, affecting sovereign debt, equity valuations, monetary policy trajectories, and macroeconomic growth forecasts across multiple continents.

7.1 Bond and Equity Markets:

US Treasury yields rose sharply as inflation expectations increased. The 10-year bond yield reached 4.46 percent on March 27 — its highest level since July 2025. The 30-year mortgage rate climbed to 6.38 percent on March 26. Global equity markets fell broadly in response to energy price shocks and supply chain uncertainty. Government bonds faced a widespread sell-off as investors priced in

persistent inflation and the prospect of delayed rate cuts.

7.2 Monetary Policy Disruption:

Central banks across the world have been forced to revise their policy trajectories. The European Central Bank postponed planned interest rate reductions on March 19, raising its 2026 inflation forecast and downgrading GDP growth projections. Economists in countries as geographically distant as Chile and Poland scaled back rate-cut expectations as oil prices rose and uncertainty deepened. UK inflation is expected to breach 5 percent in 2026, and the broader euro zone faces risks of technical recession if the maritime blockade persists through the summer gas refill season.

7.3 GDP and Growth Projections:

Oxford Economics projects that a prolonged war could slow world GDP growth to just 1.4 percent in 2026, down 1.2 percentage points from baseline forecasts. The 2026 Global Peace Index estimates that global GDP losses under a moderate scenario amount to approximately \$1.3 trillion (roughly 0.6 percent of world output). Gulf states face the most acute exposure, with GDP potentially contracting by over 8 percent. In a scenario where conflict resumes after the April 7 ceasefire collapses, global GDP losses could climb to \$3.5 trillion - exceeding the economic shock of the Russia-Ukraine war in its first year. The gap between a stabilized

and an escalation scenario has been quantified as approximately \$2.2 trillion - the dollar value of diplomacy.

7.4 Stagflationary Pressures:

The economic geography of the crisis creates conditions strongly analogous to the 1970s stagflation era: a supply-driven oil price spike that translates directly into higher energy costs globally while simultaneously constraining economic output. Unlike demand-driven inflation, supply shocks of this nature cannot be easily addressed by central bank tightening without amplifying the growth costs. The academic literature on oil price shocks and US economic activity (including Federal Reserve DGSE modeling) underlines the non-linear and persistent nature of such effects on core inflation.

7.5 Currency and Commodity Market Volatility:

The Indian rupee has weakened under combined pressure from higher energy import costs and reduced remittance flows from Gulf workers. India's critical dependence on Gulf states for nearly \$125 billion in annual remittances — sent by a diaspora of primarily low-income workers — represents a second-order economic channel of the conflict often overlooked in energy-focused analyses. Currency volatility has been particularly acute in import-dependent emerging markets, where food and energy

together constitute 50–70 percent of household expenditure.

8. Regional Impact Assessment:

8.1 East and Southeast Asia:

Asian economies bear a disproportionate and asymmetric share of the Hormuz disruption's costs. In 2024, an estimated 84 percent of crude oil and condensate shipments through the strait — and 83 percent of LNG — were destined for Asian markets. China received approximately one-third of its oil via this route; Japan sourced 95 percent of its Middle Eastern crude through Strait-transiting vessels; South Korea was similarly exposed. Taiwan and South Korea's semiconductor industries face helium supply constraints that could reduce production by 10–20 percent.

China has large strategic and commercial oil reserves, providing some buffer against short-term disruption. However, China's already-modest 2026 growth outlook faces additional headwinds. Higher energy costs are feeding into production costs for steel, chemicals, and electronics — squeezing export margins at a moment of intense trade friction with the United States. The conflict's supply shock could amplify the US–China technology rivalry, with disrupted gas production slowing semiconductor scaling on both sides of the decoupling.

8.2 South Asia:

India's vulnerability is particularly acute. The country relies on the Gulf for close to 60

percent of its petroleum imports and for more than \$125 billion in annual remittances. With thinner strategic reserves than China and a more price-sensitive consumer base, higher energy prices are feeding directly into CPI inflation and weakening the rupee. India's fertilizer sector — over 40 percent of urea and phosphate sourced from the region — is also severely impacted. Restaurant and household LPG supply crunches have become visible political flashpoints. The US government eased secondary sanctions on Russian oil sales to India in early March to alleviate pressure — an indication of how the conflict's economic costs have complicated the geopolitical coalition architecture.

Pakistan, which has been serving as a diplomatic intermediary in negotiations, faces its own economic exposure through energy import price inflation. Central Asian landlocked nations, which had developed trade routes through Iranian ports to access Indian Ocean markets, face disruption to their commercial geography and increased logistical costs.

8.3 Europe:

European economies entered the conflict with low gas storage levels, limited strategic flexibility on LNG sourcing, and a heightened political sensitivity to energy cost shocks after the Russia-Ukraine war. Dutch TTF gas prices nearly doubled to above €60/MWh. Chemical and steel manufacturers

have imposed surcharges of up to 30 percent on customers. The European Central Bank, the Bank of England, and multiple national central banks have been forced to revise their disinflation paths. UK inflation is expected to breach 5 percent in 2026. Some economists warn of permanent deindustrialization in energy-intensive sectors if the disruption persists.

8.4 Middle East and GCC:

The GCC economies face a paradoxical situation: the 'Hormuz paradox,' as the 2026 Global Peace Index terms it, in which rising oil prices would ordinarily create producer windfalls, but the closure of the Strait traps their exports in the Gulf. Iraq, Kuwait, Qatar, and Bahrain cannot export through alternative pipelines. Saudi Arabia and the UAE have redirected approximately seven million barrels per day — but the remainder is stranded. The IMO-reported 2,000 stranded ships in the Gulf represent a direct cost to GCC port and logistics revenues. Gulf GDP is projected to contract by over 8 percent in a sustained disruption scenario.

8.5 Africa and Food-Importing Nations:

Sub-Saharan Africa faces the greatest food security risk from the fertilizer supply shock. The six-to-nine-month lag before fertilizer disruptions translate into harvest shortfalls means the continent's most acute food security stress will materialize in late 2026 and 2027. Countries with thin foreign

exchange reserves, high food import dependency, and large populations will face the most severe social consequences. The UN World Food Programme has issued warnings comparable to those preceding the 2022 food crisis, itself triggered in part by the Russia-Ukraine war's disruption of wheat and fertilizer exports.

9. Forward Scenarios and Outlook:

Analysts have identified three plausible near-to-medium-term scenarios for the conflict and its supply chain implications. A fragile ceasefire was agreed on April 7, 2026, and extended multiple times, but core disagreements regarding Iran's nuclear programme, Strait transit rights, and sanctions relief have prevented a durable settlement.

Scenario A: Ceasefire Stabilization:

Under this scenario, Brent crude gradually settles to \$85–95 per barrel by year-end. Petrochemical and aluminum flows resume within four to six weeks of reopening. LNG flows from Qatar partially recover. However, helium remains structurally short regardless — Ras Laffan's liquefaction facilities require three to five years to rebuild, independent of geopolitical normalisation. Cape of Good Hope oil tanker routing normalises but carries a structural \$3.50/bbl freight uplift. Ocean freight rates remain elevated through 2026. Fertilizer markets begin to rebalance but food price inflation extends into 2027.

Semiconductor production constraints are partially relieved but helium rationing continues through 2027.

Scenario B: Renewed Escalation:

Brent crude tests \$130–\$150 per barrel. US Strategic Petroleum Reserve drawdowns hit statutory minimums by November 2026, requiring Congressional intervention. Petrochemical rationing intensifies across Europe and Asia. The semiconductor helium shortage constrains chip output for AI, automotive, and defense applications through 2027. Global GDP losses reach \$3.5 trillion. Food security crises emerge across Africa and South Asia. European recession risk becomes severe. Financial market dislocations intensify, with sovereign debt vulnerabilities in highly indebted import-dependent nations becoming acute.

Scenario C: Frozen Conflict:

This scenario—characterized by analysts as the most probable near-term outcome — is arguably the worst for supply chain planning. Uncertainty persists indefinitely. Companies cannot commit to either normalization or full contingency. Iran potentially charges de facto transit tolls, adding a structural premium to Gulf commodity exports. The 'frozen conflict' scenario creates a permanent geopolitical risk premium on Middle Eastern commodities, incentivizing long-run sourcing diversification and on shoring. Global GDP growth remains suppressed at 1.4–2.0 percent

in 2026. Inflation remains elevated. Technology supply chains undergo permanent restructuring.

10. Policy Recommendations:

10.1 Strategic Reserve Reform:

The absence of a strategic helium reserve has exposed a critical vulnerability in advanced industrial supply chains. Governments, particularly the United States, Taiwan, Japan, and South Korea, should establish public strategic helium reserves analogous to the Strategic Petroleum Reserve. The Peterson Institute for International Economics has already called for such action, noting that 'the social costs of failure to hold adequate inventories are far greater than the private costs.' The Taiwan Semiconductor Industry Association has formally called on the Taiwanese government to build up strategic reserves of both helium and natural gas.

10.2 Supply Chain Diversification:

The conflict has demonstrated that geographic concentration of critical commodity supply - whether oil, fertilizers, helium, or sulfur in a single geopolitical flashpoint creates systemic global risk. Governments and corporations should accelerate diversification of critical mineral and commodity sourcing, with preferential development of supply capacity in stable jurisdictions. Helium recycling investment particularly for manufacturing steps where it is technically feasible should be accelerated

by both public subsidy and regulatory incentive.

10.3 Fertilizer Supply Chain Resilience:

Major food-importing nations, particularly in South Asia and sub-Saharan Africa, should develop bilateral agreements with alternative fertilizer exporters and invest in domestic capacity for nitrogen fertilizer production using renewable energy (green ammonia). Food commodity stockpiling for the most import-dependent nations should be a priority for IFI programmes. The World Food Programme and FAO should pre-position resources for food security responses in the highest-risk countries, given the six-to-nine-month fertilizer-to-harvest lag.

10.4 Maritime Route Risk Mitigation:

The international community should invest in a permanent multinational naval presence architecture for critical maritime chokepoints, including the Strait of Hormuz. War-risk insurance mechanisms should be reformed to ensure continuity of coverage in geopolitical risk events. Shipping industry investment in route flexibility including increased Cape of Good Hope routing capacity should be facilitated by multilateral infrastructure financing.

10.5 Energy Transition Acceleration:

The conflict has demonstrated with renewed clarity the structural vulnerability of fossil fuel-dependent global supply chains to geopolitical disruption. Accelerating the

clean energy transition - particularly investment in renewable energy, battery storage, and green hydrogen — reduces long-run exposure to petro-geopolitical risk. However, clean energy supply chains themselves have revealed exposure to Gulf commodity disruptions (solar panels, batteries, wind components all use materials whose costs have risen), requiring parallel attention to critical minerals diversification.

10.6 Multilateral Governance:

The IEA's coordinated SPR release demonstrated the value of multilateral energy governance frameworks. These frameworks should be extended to cover a broader set of critical commodities - including helium, fertilizers, and rare materials - particularly given the growing strategic importance of semiconductor supply chains to national security and economic competitiveness.

11. Conclusion:

The US–Iran war of 2026 has delivered a cascading supply chain shock that is, in scope and structural depth, comparable to and in some dimensions more complex than the 1973 oil embargo. The Strait of Hormuz, at just 34 kilometers wide, has proven to be the world's most consequential geopolitical vulnerability: a single chokepoint through which flows oil, gas, helium, fertilizers, sulfur, and aluminum that sustain modern industrial civilization.

The immediate effects a 55 percent oil price spike, 50 percent urea price increase, halving of global helium supply, 50 percent freight rate increase, and 10–20-day transit time extensions are severe and ongoing as of mid-2026. The medium-term effects on food price inflation, semiconductor production constraints, delayed AI and technology investment, European industrial deindustrialization risk are only beginning to materialize. The long-term structural effects permanent supply chain reshoring, onshoring incentives, a new era of commodity protectionism, and higher structural inflation may prove the most durable legacy of the conflict.

Perhaps the most profound lesson of the 2026 crisis is the revelation of how many commodities and supply chains that modern economies take as given are, in fact, routed through a handful of geopolitical flashpoints. Coal from Ukraine, nickel from Russia, grain from the Black Sea, neon from Ukraine's chemical plants, and now helium from Qatar's LNG facilities each crisis has peeled back another layer of the globalization assumption. The Iran war may prove the inflection point at which the era of seamless, efficiency-optimized global supply chain integration gives way to a new paradigm of strategic redundancy, regional self-sufficiency, and permanent geopolitical risk pricing.

The Global Peace Index's estimate of \$2.2 trillion as the dollar value of diplomacy the gap between a stabilized and an escalation scenario provides perhaps the most powerful quantitative argument for sustained diplomatic investment, multilateral governance reform, and the construction of supply chain resilience that the world has seen in the post-Cold War era.

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