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The Strait of Hormuz Crisis and Its Implications for the Global Energy Transition

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Introduction

The Strait of Hormuz crisis is not only a geopolitical shock; it is a stress test for the global energy transition. The Strait of Hormuz remains one of the world's most important energy chokepoints. A disruption there affects not only the Gulf region, but also global energy markets through higher risk premiums, shipping delays, rising insurance costs, and tighter fuel availability for importing economies.[1] The immediate burden tends to fall most heavily on Asia, but the economic effects spread more widely through trade, fertiliser markets, and industrial input costs.[2]

Price spikes have occurred despite a broadly oversupplied market outlook[3], underscoring how geopolitical disruption can overwhelm otherwise bearish fundamentals in the short term. Prices remain highly volatile as military developments, political signalling, and market expectations evolve rapidly. The extreme case of a physical blockage of a major transportation corridor, however, would have impacts beyond prices.

The significance of the current crisis lies not only in lost or delayed fuel shipments, but in the broader reminder that concentrated dependence on a small number of routes, suppliers, or facilities creates systemic vulnerability. This is particularly important for economies that remain highly reliant on imported oil and LNG for electricity, transport, and industrial activity.[4]

If the disruption is prolonged, the consequences become more structural. Industrial outages, higher fertilizer and shipping costs, inflationary spillovers, and renewed fiscal stress can outlast the initial market shock. Even after transport routes reopen, infrastructure repair, inventory rebuilding, and renewed risk pricing may keep markets tight for longer than headline prices initially suggest.

From an energy-transition perspective, the most important lesson is clear: fossil-fuel dependence creates an ongoing exposure to geopolitical disruption because supply must be continuously secured, shipped, financed, and consumed. That differs fundamentally from the economics of many clean-energy assets, whose major costs are concentrated upfront rather than tied to daily fuel delivery.

Impacts on Energy Transition: A Thematic Analysis

The Strait of Hormuz crisis highlights a central paradox of the energy transition: geopolitical shocks can either delay change or accelerate it. Understanding these dynamics requires examining how the crisis interacts with the core drivers of energy transformation, including fiscal capacity, market signals, political economy, and industrial strategy.

Fiscal and policy responses

Governments facing acute fuel-price shocks often resort to emergency interventions such as tax reductions, subsidies, price caps, or direct support to importers and utilities. Some of these measures may be justified temporarily to protect vulnerable groups and maintain social stability. However, broad-based fossil-fuel subsidies are fiscally costly, weaken incentives for efficiency, and can crowd out investment in the very systems that would reduce

[1] EIA,2025: Strait of Hormuz remains critical chokepoint amidst tensions - SAFETY4SEA.

[2] UN Trade and Development (UNCTAD), 2026. Strait of Hormuz disruptions: Implications for global trade and development.

[3] IEA, 2025. Oil Market Report - December 2025.

[4] Oil and natural gas play different roles in energy systems, with oil more closely linked to transport and petrochemicals, and gas often more directly affecting electricity generation and heating.

future vulnerability.

The more durable policy response is to distinguish short-term relief from long-term strategy. Temporary assistance may be needed during an acute shock, but medium-term policy should prioritize domestic renewable supply, grid modernization, storage, and energy efficiency. The strategic value of these investments becomes more visible when imported fuel systems are disrupted.

What makes the current moment different from earlier oil shocks is that many low-emissions technologies are no longer niche options justified only on climate grounds. In many contexts, renewable electricity, storage, and electrified end uses are increasingly competitive on cost as well as security. That does not remove implementation barriers, but it changes the policy calculus.

Market signals and investment dynamics

Energy shocks affect investment through multiple channels. Higher inflation and interest rates can raise financing costs for capital-intensive clean-energy projects, especially where policy frameworks are uncertain or grid connection is constrained. This is a genuine short-term headwind.

At the same time, volatile fuel prices increase the relative attractiveness of technologies that reduce exposure to imported energy. For firms, this can mean greater interest in efficiency upgrades, process electrification, storage, and on-site generation. For power systems, it strengthens the case for domestic renewables combined with flexibility resources.

The net effect on clean energy investment therefore depends heavily on whether governments use the crisis to reinforce or delay the energy transition. Clear transition policy, stable market design, de-risking instruments, predictable regulation, and faster permitting for renewables, grids, storage, and electrification can help sustain momentum despite macroeconomic instability.

Households and political economy

Energy shocks are never distributionally neutral: poorer households pay the highest price. Households experience the crisis most directly through higher transport costs, electricity bills, food prices, and broader inflation, with low-income and energy-poor households typically bearing the greatest burden because energy and transport costs account for a larger share of their income. Without careful policy design, these pressures can weaken public support for climate and transition policies, especially if the transition is portrayed as adding costs without improving resilience.

However, price signals also shape behavior through the energy transition. Where affordable alternatives exist, higher fuel prices can accelerate the uptake of electric vehicles (EVs), more efficient appliances, rooftop solar, battery storage, and other clean-energy solutions that reduce dependence on imported fossil fuels. Once adopted, these changes can have lasting effects on demand patterns, electrification pathways, and energy-system resilience, thereby helping accommodate a higher share of renewables.

The political economy challenge is therefore not only to manage immediate hardship, but also to sustain the adaptive signals that support the transition. If poorly handled, rising living costs may trigger backlash against transition policies; if managed well, they can strengthen the case for cleaner, more resilient household energy systems.

Industrial strategy

Energy-intensive industries face both risks and opportunities. In the short term, volatile fuel and power prices can disrupt production, reduce competitiveness, and delay investment in clean technologies. Oil and natural gas also serve as industrial feedstocks for plastics, fertilisers, and chemicals, so shifts in fuel demand may affect the cost structures of broader co-production systems. These pressures may be particularly acute in trade-exposed sectors that already operate on narrow margins.

In the longer term, however, firms that reduce their dependence on volatile fuels through electrification, energy efficiency, storage, and long-term clean power procurement may become more resilient. Greater resilience can also improve competitiveness by reducing exposure to future price shocks and strengthening the stability of industrial operations.

Industrial policy should therefore focus not only on shielding firms from the current shock, but also on enabling structural adjustment towards decarbonization. This includes access to clean power, grid reliability, concessional finance for process upgrades, and support for innovation in sectors that are harder to electrify.

Policy Recommendations

The right response to the Hormuz shock is not more dependence, but less vulnerability. The following recommendations are organised thematically, moving from foundational strategic shifts to specific policy actions. Together, they form a coherent framework for responding to the current crisis in ways that accelerate rather than delay the energy transition.

Reassess strategic assumptions

Energy planning should treat severe supply disruption scenarios as plausible planning cases rather than remote edge cases. Stress testing should cover oil, LNG, shipping, grids, fertilizer, and critical industrial inputs, with results feeding directly into investment and emergency planning.

Accelerate transition as a resilience strategy

Renewables, electrification, storage, and flexible demand should be framed not only as climate measures but also as energy-security assets. A more diversified and domestically anchored energy system is less exposed to fuel-import chokepoints and geopolitical disruption.

Build system resilience beyond fuel reserves

Strategic reserves remain important, but resilience in an increasingly electricity-based system also depends on transmission, distribution, storage, interconnection, demand response, and digital system management. Renewable deployment without parallel grid and flexibility investment will not deliver its full security benefit.

Demand reduction and energy efficiency should be treated as first-line security tools. Improvements in buildings, appliances, cooling, transport, and industrial processes can often be deployed faster and more cheaply than new supply infrastructure, while reducing both fuel use and system costs.

Manage new dependencies prudently

A shift towards clean-energy systems does not eliminate external dependence; it changes its form. Clean technologies such as solar panels, batteries, and EVs are end-use capital goods, whereas oil and gas are intermediate energy commodities that require continuous extraction, transport, and trade. Future resilience will require diversification of clean-technology supply chains, recycling and circularity, shared standards, and responsible trade relationships. The objective should not be autarky, but reduce concentration risk.

Protect vulnerable groups through targeted support

Targeted cash transfers, energy vouchers, efficiency retrofits, and temporary SME support are preferable to broad fossil-fuel subsidies. They protect living standards and business continuity without locking in inefficient consumption or exhausting fiscal space. The key challenge is not to avoid all emergency intervention, but to prevent short-term relief measures from becoming long-term obstacles to the transition.

Deepen international cooperation

No country can fully insulate itself from global energy disruption. Coordinated reserve releases, fuel-sharing arrangements, LNG cargo coordination, maritime-risk dialogue, and cooperation on clean-technology supply chains can reduce both panic and economic loss.

International cooperation should aim to preserve open, resilient, and reasonably integrated supply chain and markets. Fragmentation and bloc-based duplication may raise costs, slow deployment, and make the transition less accessible for developing economies.

Conclusion

The Hormuz crisis should not be read simply as a reason to accelerate the energy transition, nor as a reason to delay it. Depending on how governments, firms, and households respond, such a shock can push the transition in opposite directions: it may preserve existing fossil-fuel-based systems, delay further transition, and weaken political support for climate action, but it may also strengthen incentives for electrification, efficiency, renewable energy, storage, and supply diversification.

The central policy challenge is therefore twofold: to manage the immediate shock without eroding social cohesion, fiscal capacity, or confidence in the transition, and to use the crisis to accelerate investments that permanently reduce vulnerability. Whether the net effect on the energy transition is positive or negative will depend heavily on policy choices, institutional capacity, and the credibility of transition strategies.

Viewed from a longer-term perspective, the significance of the Hormuz crisis may extend well beyond the immediate shock to oil and gas flows. It may come to be seen as a geopolitical inflection point that strengthens the strategic case for a faster, more resilient, and more autonomous energy transition. Over the next five to ten years, such shocks may strengthen incentives for greater investment in renewables, electrification, storage, grid interconnection, and other energy systems that are more resilient, more domestically anchored, and less vulnerable to geopolitical disruption.

More fundamentally, this crisis underscores a deeper structural shift in the political economy of energy: from a world shaped by petro-states and maritime fuel chokepoints to one increasingly influenced by electro-states, grid interconnection, and control over clean-energy technologies and supply chains.

In this emerging system, resilience will depend less on securing fuel shipments and more on expanding electricity networks, strengthening cross-border interconnections, and enabling flexible, low-carbon power systems. This shift also strengthens the case for international carbon pricing, or comparable mechanisms, to create a more level global playing field for decarbonisation, reduce carbon leakage, and guide investment towards cleaner and more secure energy systems.

More broadly, the lesson of the crisis is that energy security in the twenty-first century will depend increasingly on diversity, flexibility, efficiency, storage, resilient grids, and international cooperation. These are the pillars of a secure and future-ready energy landscape.

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