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From Shock to Strategy: Strengthening ASEAN Energy Security and Economic Resilience after the Strait of Hormuz Disruption

The closure of the Strait of Hormuz constitutes a structural shock to ASEAN's energy and economic systems, with far-reaching regional implications. This paper argues that the disruption is not a temporary price spike but a systemic stress test that exposes vulnerabilities in energy security, industrial supply chains, and macroeconomic stability. It shows how the shock propagates across oil, gas, petrochemicals, fertilisers, logistics, and manufacturing, generating compounded risks of inflation, fiscal strain, declining competitiveness, and slower growth. The analysis also underscores the limits of fragmented national responses and the resilience gaps within increasingly liberalised energy systems. In response, the paper proposes a set of strategic policy actions, including the development of indigenous energy resources, regional stockpiling and ticketing mechanisms, enhanced energy connectivity, strengthened supply chain resilience, and co-ordinated macroeconomic measures. Together, these measures aim to reinforce ASEAN's capacity to withstand future systemic shocks while sustaining long-term resilience and energy security.

1. Introduction

The war in the Middle East and the effective closure of the Strait of Hormuz mark a turning point for ASEAN's energy and economic systems. This is not a cyclical price fluctuation but a structural rupture in global energy trade flows. On 28 February 2026, the Strait was effectively closed to commercial traffic: vessel transits collapsed to less than 10% of normal volume (UNCTAD, 2026), Brent crude surged above US$100 per barrel (IEA, 2026a), and Liquefied Natural Gas (LNG) supply was reduced by around 20% (Reuters, 2026a). The scale of supply loss is too large to replace, with roughly 20% of global oil supply halted and around 80% of that flow unable to be rerouted (IEA, 2026a, 2026b). There is no pipeline alternative, no substitute corridor, and no spare global production capacity capable of filling the gap rapidly. Enforcement risks and the withdrawal of insurance markets have further rendered the Strait commercially unusable rather than merely politically contested. The result is not a single energy shock but a multi-layered disruption affecting oil, gas, petrochemicals, fertilisers, and logistics simultaneously, with broad implications for economic stability.

ASEAN is particularly vulnerable due to its high dependence on imported energy, increasing reliance on external supply routes, and limited substitution options in the face of prolonged physical disruption. This vulnerability extends beyond fuel imports, reflecting how energy shocks transmit rapidly into trade, industry, agri-food systems, logistics, and financial stability in an increasingly interconnected regional economy.

STRATEGIC MESSAGE

ASEAN must become more co-ordinated and integrated not only across energy sectors but across national systems. The Hormuz disruption demonstrates that fragmented responses increase vulnerability, while co-ordinated action enhances resilience. Regional collaboration should therefore become a central pillar of ASEAN's energy and economic strategy.

Energy transition must now be built on three foundations: security, resilience, and co-operation. Only through co-ordinated regional action can ASEAN stabilise its energy system, protect economic growth, and ensure a sustainable transition pathway.

The disruption should therefore be understood not as a temporary price shock, but as a systemic stress test for ASEAN's energy architecture. It exposes the limits of fragmented national responses and underlines the need for stronger regional mechanisms to manage supply security, infrastructure interdependence, and economic spillovers.

This paper argues that ASEAN's response must rest on three linked priorities: strengthening energy security, improving system resilience, and deepening regional co-operation. The sections that follow examine the structural vulnerabilities exposed by the Hormuz disruption, the wider spillover effects across sectors and the macroeconomy, and the priority policy actions needed to strengthen ASEAN's preparedness for similar shocks in the future.

2. Structural Limitations of ASEAN Energy Systems

The Strait of Hormuz normally carries around 20.3 million barrels per day of energy flows, including crude oil, natural gas liquids, and LNG, with roughly 80% directed to Asia (IEA, 2026b). ASEAN is therefore highly exposed to disruptions in this corridor. The region's crude oil import dependence reached about 66% in 2024, with several economies almost fully reliant on imports, including Singapore (100%), the Philippines (99%), and Thailand (94%) (ACE, 2025a). Supplier concentration further increases vulnerability, with Middle East shares exceeding 85–95% for some economies (UN Comtrade Database). At the same time, ASEAN is projected to become a net natural gas importer by 2027 (ACE, 2025b), further increasing reliance on long-distance supply routes. These features make ASEAN vulnerable not only to price volatility but also to prolonged physical disruption that cannot easily be absorbed through substitution, rerouting, or domestic supply adjustment.

This disruption also exposes a deeper structural weakness in increasingly liberalised energy systems across ASEAN. Liberalised markets are designed to optimise efficiency under normal conditions, but they provide limited resilience during systemic disruptions. Prices adjust rapidly, transmitting global shocks directly into domestic markets, while commercial stockholding is minimised to reduce costs, leaving limited strategic reserves. Supply chains depend heavily on global trade flows, reducing substitution capacity when disruptions occur.

STRUCTURAL VULNERABILITY

The crisis exposes the limits of highly liberalised energy systems: markets transmit price shocks rapidly but cannot restore supply when physical constraints exist, leaving economies vulnerable with limited buffers; because ASEAN's energy, supply chains, and financial systems are interconnected, fragmented national responses only shift risks rather than resolve them, making co-ordinated regional mechanisms – shared reserves, integrated infrastructure, and collective allocation – essential for stabilising supply, protecting growth, and sustaining the energy transition.

When the physical system is constrained, market mechanisms cannot restore equilibrium. Higher prices do not create additional supply when infrastructure, shipping routes, and production capacity are limited. The Hormuz disruption illustrates this clearly: there is no alternative corridor, no scalable replacement supply, and no rapid substitution. As a result, prices rise without restoring balance, increasing inflationary pressure while supply remains constrained. This structural vulnerability is particularly relevant for ASEAN, where market-based procurement and private-sector logistics dominate. While these arrangements improve efficiency in normal conditions, they reduce buffer capacity during crises. Strategic stockpiling, co-ordinated allocation, and integrated infrastructure remain limited, underscoring the importance of strengthening energy security frameworks and addressing structural gaps in regional resilience.

3. Spillover Impact: From Energy to Food, Industry, and Logistics

The Hormuz disruption rapidly propagates beyond energy markets into real-sector impacts across ASEAN. Because the shock simultaneously affects crude oil, gas, petrochemicals, fertilisers, and shipping, it spreads across the entire production system – from fuel supply and electricity generation to agriculture, manufacturing, and logistics – amplifying both inflationary pressures and supply-side constraints. ASEAN's exposure is further intensified by its central role in integrated East Asian production networks, where energy and logistics cost increases are multiplicative rather than additive. Higher fuel and transport costs cascade through petrochemicals, industrial inputs, and food supply chains, with downstream sectors absorbing compounded pressures. As a major final-assembly hub for electronics, automotive, and semiconductor products, ASEAN becomes the convergence point of these accumulated costs, making the overall economic impact significantly larger than any single-sector estimate.

3.1. Refining and Petrochemicals

The disruption in crude supply quickly propagates into ASEAN's refining and petrochemical sectors. Regional refining capacity is estimated at around 5.2 million barrels per day across 33 refineries, mainly located in Singapore, Indonesia, Thailand, Malaysia, and Viet Nam (ACE, 2025a). Many of these refineries are configured to process Middle Eastern crude, making feedstock substitution technically challenging and costly. As crude prices increase and supply tightens, refining margins are affected and petroleum product prices rise further.

The petrochemical sector faces additional pressure due to disruptions in naphtha and LPG supply. Approximately 60%–70% of naphtha trapped in Hormuz is destined for Asia (OilPrice, 2026). This affects the olefin industry, reducing production of plastics, polymers, and synthetic rubber, and also affecting high-octane gasoline production. Around 45% of LPG destined for Asia is also affected (Financial Express, 2026), disrupting production of phenol, acetone, aerosol propellants, synthetic natural gas, refrigerants, and chemical solvents. These materials are widely used across manufacturing sectors including automotive, semiconductors, pharmaceuticals, medical equipment, and agri-food systems.

The reduction in naphtha supply also affects refining operations. Naphtha is required for hydrogen production through steam reforming, which is used as a feedstock in oil refining. A shortage therefore reduces refining efficiency and limits transport fuel production. At the same time, disruptions to LNG facilities in Qatar have reduced global helium supply by approximately 30%–33% (Reuters, 2026b). Helium is a critical input for semiconductor manufacturing, medical devices, and research applications, creating additional stress across industrial sectors.

3.2. Agri-Food System

The energy shock also transmits into agriculture through fertiliser supply chains. Conflict-related disruptions affect the supply of key fertiliser nutrients such as nitrogen, phosphorus, and potassium, while rising energy prices increase production and transport costs. Although few ASEAN countries have implemented emergency fertiliser policies, many are indirectly affected through higher import costs and shipping delays. World fertiliser prices increased sharply between

Spillover Impact Summary

Refining and Petrochemicals: Disruptions in crude, naphtha, and LPG supply raise refining and petrochemical costs, constrain fuel and industrial input production, and transmit price pressures across manufacturing sectors.

Agri-Food System: Higher fertiliser prices, import delays, and supply uncertainty raise agricultural production costs, increase food inflation risks, and threaten farmer incomes and future harvests.

Industry: Rising input, logistics, and energy costs disrupt production schedules, weaken export competitiveness, and propagate through ASEAN's integrated manufacturing value chains.

Critical Minerals and Industrial Supply Chains: Higher processing, transport, and input costs expose vulnerabilities in critical mineral and advanced manufacturing value chains, increasing investment delays and competitiveness risks.

Logistics: Rerouting, cargo delays, and higher freight and transport costs disrupt logistics flows, reinforce inflationary pressures, and reduce production reliability across ASEAN economies.

December 2025 and March 2026 (World Bank, 2026), with the overall price index rising by more than 37% and urea prices increasing by approximately 85% (World Bank, 2026). These increases raise agricultural production costs and create risks for future harvest cycles.

Dependence varies across ASEAN. Thailand relies heavily on imported nitrogen as a key fertiliser nutrient, with around 53% sourced from Gulf and surrounding countries. Urea imports from the same region account for more than 20% in several ASEAN Member States, while Thailand's dependence reaches around 67% (FAO, 2026). Net exporters such as Indonesia and Malaysia benefit from domestic production capacity, but import-dependent countries such as Thailand and the Philippines face higher vulnerability due to shipping delays and rising costs. The result is increased food price pressure, reduced farmer margins – particularly amongst smallholders – and potential supply constraints in subsequent production cycles.

Given ASEAN's reliance on imported fertiliser inputs, prolonged price volatility poses a direct risk to food security and inflation stability. Higher fertiliser costs may lead to reduced application rates, lower yields, and declining agricultural output, which would translate into higher food prices and weakened purchasing power. These developments highlight the need to strengthen fertiliser supply resilience and reduce structural dependence on energy-linked chemical inputs.

3.3. Industry

Industrial sectors face simultaneous cost and supply pressures as the Hormuz disruption affects petrochemical inputs, logistics, and energy prices. The automotive sector is particularly exposed due to shortages of aluminum, polymers, synthetic rubber, and other petroleum-based materials, while rising freight costs and shipping delays disrupt production schedules. Just-in-time supply chains become more fragile, forcing manufacturers to increase inventories and shift towards localised sourcing. Margin compression raises production costs and delays investment, especially in major assembly hubs such as Thailand and Indonesia.

Over time, manufacturers prioritise higher-margin products while reducing overall output. The shock then moves from supply chain disruption to macroeconomic impact, lowering industrial production and weakening GDP growth. These pressures are compounded as higher energy and logistics costs reduce export competitiveness.

Semiconductor manufacturing is also indirectly affected through constrained supplies of industrial gases such as helium and petrochemical-derived materials, alongside rising electricity costs. These pressures may reduce competitiveness and delay planned expansion in Malaysia, Singapore, Viet Nam, and the Philippines. More broadly, ASEAN and East Asia's industrial competitiveness is built on tightly integrated production networks. When fuel and logistics costs escalate, the effects become multiplicative across supply chains, amplifying downstream cost pressures and magnifying the overall economic impact.

3.4. Critical Minerals and Industrial Supply Chain Risk

The Hormuz disruption also exposes vulnerabilities in critical mineral supply chains that underpin energy transition technologies and advanced manufacturing. Although most critical minerals are not shipped directly through Hormuz, the crisis affects processing inputs, logistics, and downstream manufacturing. Higher oil and gas prices increase costs for mineral processing, refining, and transport, while disruptions in petrochemical feedstocks and industrial gases affect battery materials, semiconductors, and electronics production.

ASEAN's expanding role in EV batteries, electronics, and clean energy supply chains means that disruptions in lithium, nickel, rare earths, and copper value chains propagate into manufacturing costs, investment delays, and competitiveness risks. This vulnerability is structural: ASEAN holds significant upstream resources – particularly nickel, bauxite, and rare earth potential – but refining capacity, technology, and downstream manufacturing remain uneven and externally dependent. The crisis highlights the importance of strengthening regional critical mineral value chains, supported by diversified sourcing, stronger logistics, and cooperation with Dialogue Partners.

3.5. Logistics

Logistics disruptions amplify all other sectoral impacts. By 31 March 2026, around 2,000 freight vessels – including oil tankers, bulk carriers, and cargo ships – had been stranded or rerouted (UN News, 2026), while daily transit through the Strait declined sharply from roughly 138 vessels (ABC News, 2026). Freight rates surged, particularly for very large crude carriers and LNG vessels, increasing more than fivefold and tightening global shipping capacity.

These developments compounded existing disruptions in the Red Sea and Bab el-Mandeb, creating a dual chokepoint on the Asia–Europe corridor. Rerouting via the Cape of Good

Hope added 10–14 days to voyage times, while congestion at Singapore port doubled from 24% to 48% (The Straits Times, 2026), placing the region's primary transshipment fallback under acute stress.

Air cargo capacity was also affected, as around 30% of Asia–Europe air freight typically transits through the Middle East (Scan Global Logistics, 2026). Flight reductions tightened capacity and increased costs, while rising fuel surcharges further amplified transport expenses. These combined constraints propagate through food distribution, manufacturing supply chains, and consumer markets, reinforcing inflationary pressure and reducing production reliability across ASEAN economies.

4. Impact on ASEAN Economic Growth and Development

The Hormuz disruption presents a significant risk to ASEAN economic growth through simultaneous supply-side constraints and macro-financial pressures. Unlike previous energy price cycles, the current shock combines physical supply disruption with logistics bottlenecks and financial volatility. This increases production costs, reduces industrial output, weakens purchasing power, and tightens financial conditions simultaneously – creating stagflation-type risks.

Higher fuel prices raise transport and logistics costs, compressing margins in energy-intensive sectors such as petrochemicals, automotive, and semiconductors. At the same time, fertiliser price increases contribute to food inflation and weaken domestic demand. External balances deteriorate as rising import bills widen current account deficits, particularly in net-importing economies. Currency depreciation further increases import costs, while financial markets respond through capital outflows and higher risk premiums.

If the disruption persists, development impacts will intensify. Risks extend to ASEAN migrant workers in the Middle East, particularly from the Philippines, Indonesia, Myanmar, and Viet Nam. Disruptions to employment and remittances could create additional pressures on household incomes and external balances (United Nations Department of Economic and Social Affairs, Population Division, 2024).

5. Why Regional Co-operation is Imperative

The nature of the Hormuz disruption makes clear that fragmented national responses are insufficient. The challenge is shared, and impacts are cumulative across the region. Supply chains, industrial production, and financial markets are deeply interconnected.

Unilateral policies risk shifting pressure rather than resolving it. Increased procurement by one country may tighten supply for others, while subsidy-driven demand may intensify competition. Logistics rerouting may create bottlenecks elsewhere. These dynamics weaken overall regional resilience.

Regional co-operation is therefore essential. Shared strategic reserves, co-ordinated allocation, intra-ASEAN energy trade, and integrated infrastructure can help stabilise supply. At the same time, co-operation with Dialogue Partners is critical to diversify supply, strengthen infrastructure, and enhance resilience.

The disruption highlights a structural reality: ASEAN's economic systems are interconnected, but resilience mechanisms remain fragmented. Strengthening regional co-ordination is no longer optional – it is necessary.

6. Strategic Policy Recommendations

The recommendations below are organised into two broad pillars. The first focuses on the structural transformation of ASEAN's energy architecture to strengthen energy security and resilience. The second focuses on strengthening resilience across supply chains and society, so that energy shocks do not cascade into wider economic and social disruption.

A. Structural Transformation for Energy Security and Resilience

I. Strengthen APSA and Expand Oil and Gas Co-ordination

The ASEAN Petroleum Security Agreement (APSA) should be operationalised into a pragmatic emergency co-ordination mechanism capable of responding to real supply disruptions. While APSA currently provides a framework for co-operation, the Hormuz disruption highlights the need for operational tools, including enhanced transparency on regional stock levels, real-time information sharing, and agreed emergency release protocols. A co-ordinated allocation mechanism should be established to guide supply sharing during crises. In this context, APSA should strengthen regional oil and natural gas ticketing and joint stockpiling systems, allowing ASEAN Member States to access shared emergency supply through pre-arranged contractual options rather than ad hoc procurement. Such an approach would enable ASEAN to pool demand, reduce competition amongst member states, and improve bargaining power while ensuring more predictable access to supply during disruptions.

> APSA must move from an agreement to an operational mechanism – through a regional oil and natural gas ticketing system, co-ordinated stock transparency, and collective procurement – enabling ASEAN to act as a single bloc, diversify supply beyond single corridors, and secure flexible emergency access during disruptions.

To further enhance resilience, ASEAN could, acting collectively as a bloc, secure optional supply volumes that can be activated during disruptions. In addition, APSA co-ordination should extend beyond intra-ASEAN arrangements. Diversifying supply access in this manner would reduce reliance on single corridors, improve supply flexibility, and strengthen ASEAN's ability to manage oil and natural gas shortages through co-ordinated regional procurement and allocation.

II. Maximise Indigenous Energy Endowments, Supply, and Promote Intra-Regional Trade

ASEAN should prioritise optimising indigenous primary energy supply, where spare capacity exists, as the first line of defence against external disruptions. The Hormuz disruption demonstrates that heavy dependence on imported oil and gas exposes the region to systemic risk, particularly when supply routes are constrained. Strengthening domestic and regional energy availability requires scaling up locally available renewable resources, including biomass-based power generation and biofuel production, especially in countries with strong feedstock potential. ASEAN already

> Maximising indigenous supply, expanding biomass and biofuel markets, maintaining coal adequacy, and strengthening intra- and inter-regional trade would enhance ASEAN's resilience while supporting a pragmatic and secure energy transition.

has significant capacity to produce biodiesel and bioethanol, which can partially substitute diesel and gasoline use in road transportation.

Biofuel production – including biodiesel, bioethanol, and sustainable aviation fuel (SAF) – should be expanded alongside harmonised regional standards to facilitate intra-ASEAN trade. According to ERIA (2025), some ASEAN Member States have experienced some production surpluses, supported by significant production capacity and relatively easy access to affordable feedstocks. An interconnected ASEAN biofuel market, including swap trade of biofuels in some cases, would enable member states to capitalise on their respective strengths and address individual limitations by matching surpluses with deficits, facilitating intra-ASEAN feedstock trade, and promoting cross-border investment. Establishing structured intra- and inter-regional biofuel markets within ASEAN and the broader Asia-Pacific would enable surplus producers to supply deficit economies, improve supply diversification, and provide flexible alternatives to petroleum imports during crisis periods.

At the same time, coal could be maintained as a regional adequacy backstop to ensure system stability when oil and gas supplies are constrained. Rather than expanding capacity indiscriminately, policies should focus on optimising existing coal assets through efficiency upgrades, flexible operation, co-firing with biomass or ammonia where appropriate, and improved emissions controls. This approach preserves dispatchable capacity while supporting transition objectives. Strengthening intra-ASEAN and Asia-Pacific energy trade is also essential, enabling countries with surplus coal, biomass, hydro, or other indigenous resources to supply neighbouring markets through structured trade mechanisms and enhanced infrastructure connectivity.

III. Accelerate APG through Practical Regional Guidelines

The ASEAN Power Grid (APG) should be accelerated as a core resilience backbone through a pragmatic, sovereignty-respecting approach. National energy sovereignty remains non-negotiable, and regional integration should therefore proceed through a layered market structure that builds connectivity from the bottom up. This approach starts with bilateral electricity trade, where technical and commercial arrangements are already feasible, expands to sub-regional or multilateral exchanges, and gradually develops regional guidelines to harmonise technical standards, wheeling arrangements, and settlement mechanisms. Practical models such as the Lao PDR–Thailand–Malaysia–Singapore Power Integration Project (LTMS-PIP) demonstrate that cross-border electricity trade can be implemented without requiring full market integration, providing a scalable pathway for accelerating APG implementation.

> The ASEAN Power Grid should advance through a sovereignty-respecting, layered market approach – enabling pragmatic, bottom-up connectivity that accelerates APG development while strengthening system adequacy and resilience.

Expanding interconnections under this layered framework would enable ASEAN to share diverse generation resources – including hydro, geothermal, coal, gas, and renewable energy – while reducing reliance on imported fuels and improving system adequacy during disruptions. A bottom-up approach also allows flexibility across different market structures and regulatory environments, ensuring participation without compromising national control over domestic power systems. By progressing from bilateral to multilateral trade and gradually formalising regional guidelines, ASEAN can expedite APG realisation through innovative financing and interconnectivity, strengthen regional energy security, and enhance operational flexibility while maintaining national sovereignty.

IV. Enhance TAGP for Regional Gas Security

The Trans-ASEAN Gas Pipeline (TAGP) should be strengthened as a regional gas security backbone to improve supply flexibility and reduce reliance on single import routes. Expanding pipeline interconnections would allow ASEAN Member States to reallocate gas supply during disruptions, support cross-border balancing, and enhance the resilience of power generation and industrial demand. A comprehensive TAGP master plan should therefore be developed, covering priority pipeline expansion, regasification connectivity, reverse-flow capability, and gas swapping arrangements. This should be complemented by harmonised operational protocols and co-ordinated planning to ensure that existing and future gas infrastructure can function as an integrated regional network rather than as isolated national systems.Strategic gas storage – whether in LNG terminals, underground storage, or floating storage – could be linked to TAGP infrastructure, enabling buffer capacity that can be mobilised during supply disruptions. A regional approach to gas stockpiling would allow surplus storage capacity in one country to support others through pipeline connectivity or cargo redirection, improving flexibility and reducing exposure to external shocks.

> Strengthening TAGP, alongside coordinated regional natural gas stockpiles, would transform ASEAN's gas system from fragmented national networks into an integrated security backbone capable of reallocating supply and stabilising the region during disruptions.

V. Diversify Long-Term Supply Options through Renewable Energy, Energy Efficiency, Storage, and SMR Readiness

Long-term resilience requires diversification of energy supply, but renewable energy expansion – particularly variable renewable energy (VRE) – must be developed in parallel with infrastructure readiness. Grid reinforcement, transmission expansion, storage deployment, and dispatchable backup capacity must advance simultaneously with renewable penetration to avoid system instability. ASEAN should therefore prioritise co-ordinated development of transmission infrastructure, interconnection capacity, and flexible generation to ensure that increasing shares of solar and wind enhance, rather than weaken, system reliability. This should be complemented by regional financial mechanisms with common practices to support large-scale infrastructure investment, reduce financing costs, and enable bankable cross-border projects.

> Renewable expansion must proceed in parallel with grid readiness, storage, and flexible capacity. ASEAN should accelerate common regional financing, collaborative R&D, and the deployment of smart grids, AI, and advanced storage to ensure that high VRE penetration strengthens resilience, adequacy, and system stability.

In parallel, ASEAN should accelerate the deployment of energy storage systems, including batteries, pumped hydro, and long-duration storage, alongside smart grid modernisation and AI-enabled system operation to improve flexibility and demand-response capability.

Collaborative regional research and development should also be strengthened for advanced technologies, including storage, smart grids, digital system optimisation, and emerging firm capacity options such as Small Modular Reactors (SMRs). Establishing common regulatory preparation, financing approaches, and technical co-operation for these technologies would allow ASEAN to diversify supply, improve system resilience, and support high renewable penetration while maintaining adequacy and operational stability.

B. Strengthen Resilience across Supply Chains and Society

VI. Ensure Uninterrupted Supply of Critical Minerals and Other Essential Commodities

ASEAN should identify critical minerals and other essential commodities, including fuels, fertilisers, petrochemicals, and industrial materials. Emergency mechanisms should ensure uninterrupted supply of these commodities during crises, including specific measures to address non-tariff barriers. Strategic stockpiling, co-ordinated procurement, and intra-ASEAN trade arrangements should be established.

On critical minerals, ASEAN should build resilience by scaling up regional downstream processing – backed by intra-ASEAN value chains, diversified sourcing, and resilient logistics infrastructure – while deepening co-operation with Dialogue Partners on technology transfer and refining capacity to reduce external exposure.

Priority allocation for agriculture, power generation, and logistics sectors should also be considered. This approach would strengthen supply chain resilience and reduce cascading disruption across industry, agri-food systems, and essential services.

At the same time, ASEAN should strengthen industrial resource resilience by promoting innovation, recycling, and circular economy approaches to reduce structural dependence on vulnerable imported feedstocks and materials. This is particularly relevant for petrochemical feedstocks such as naphtha and LPG, where external disruption can quickly affect wider manufacturing activity. Chemical recycling of plastics, alternative feedstocks, and improved resource efficiency should be expanded. Regional collaboration in petrochemical and industrial value chains can improve resilience and reduce exposure to supply disruptions.

Innovation in industrial feedstock substitution should also be supported, including bio-based chemicals and synthetic alternatives. Although these measures are not immediate substitutes for disrupted imports, they can gradually strengthen industrial resource security and reduce long-term vulnerability to external shocks.

VII. Accelerate the Transition to Regenerative and Resilient Agriculture Systems

ASEAN should adopt a co-ordinated policy approach to strengthen fertiliser supply resilience. This includes diversifying import sources for fertiliser raw materials to reduce reliance on concentrated suppliers, promoting precision agriculture by utilising digital technologies to optimise fertiliser use and reduce input intensity, and expanding the use of regionally available natural resources and agricultural by-products to support localised nutrient supply. Regional co-operation can also facilitate knowledge sharing, joint procurement, and the development of alternative fertiliser production pathways using biomass, organic waste, and other indigenous resources.

Over the medium to long term, ASEAN should accelerate the transition towards regenerative and resilient agriculture systems that reduce dependence on chemical fertilisers. Expanding organic nutrient cycles, improving soil health management, and integrating circular agricultural practices can help decouple food production from volatile fossil fuel markets. Strengthening these approaches will enhance food security, stabilise farmer incomes, and improve the resilience of ASEAN's agricultural systems against future energy and supply chain disruptions.

VIII. Digitalise Co-ordinated Port Operation and Logistics Management

Logistics disruptions amplify energy and industrial shocks. ASEAN should develop co-ordinated digital platforms for port operations, shipping co-ordination, and fuel allocation. Real-time data sharing on vessel movements, cargo availability, and port congestion can improve crisis response. Co-ordinated scheduling and rerouting can reduce bottlenecks and stabilise supply chains.

Beyond port-level co-ordination, digitalisation should extend to end-to-end cargo visibility across ASEAN production networks. In production networks, logistics disruption is not only a port congestion problem; it is also a sequencing problem. Real-time shipment-level visibility allows manufacturers to replan production schedules before a shortage halts operations rather than after.

Regional logistics should also prioritise energy cargo, fertiliser shipments, and critical industrial inputs during emergencies. In this context, ASEAN should make fuller use of the ASEAN Single Window for expedited customs clearance of priority cargo categories as an immediate crisis measure.

IX. Implement Balanced Macroeconomic Policy Co-ordination

Macroeconomic co-ordination is essential to manage inflation, fiscal pressure, and financial volatility. ASEAN should adopt a balanced policy mix combining monetary, fiscal, trade, and energy measures. Targeted subsidies should protect vulnerable sectors while maintaining fiscal sustainability. Monetary policy should anchor inflation expectations. Given ASEAN's reliance on imported energy, stronger foreign exchange co-ordination can help reduce currency volatility. Trade facilitation measures are imperative to maintain supply flows and sound external balances. Regional dialogue on macroeconomic co-ordination should be strengthened to avoid policy fragmentation, including by leveraging existing regional crisis mechanisms (e.g. the Chiang Mai Initiative) if economic spillovers intensify.

The policy mix should also extend to social protection for vulnerable groups, particularly as the development dimensions of the crisis intensify. Member states with large migrant worker populations in the Middle East should activate emergency consular support, maintain remittance payment corridors in co-ordination with local financial institutions, and prepare contingency plans for large-scale worker returns, including temporary income support and employment facilitation.

Equally important, at the regional level, ASEAN should adopt a collective diplomatic posture towards Gulf Cooperation Council members to advocate for contractual protection and safe passage for ASEAN workers during the conflict period.

7. Way Forward

The Hormuz disruption underscores that ASEAN must move from reactive responses towards a coordinated regional resilience strategy. The immediate priority is to stabilise energy supply through enhanced coordination mechanisms. This includes operationalising APSA with transparent stock information, coordinated release protocols, a regional ticketing mechanism, and joint stockpiling to secure standby oil and natural gas supply. At the same time, strengthening APG and TAGP would allow the reallocation of electricity and gas across borders where spare capacity exists, reducing dependence on single supply corridors during disruptions. As the foregoing analysis has shown, acting individually is likely to be more costly and less effective for ASEAN Member States, while acting collectively provides both scale and stability.

This matters because energy disruptions are already creating spillover effects across supply chains. ASEAN today serves as a key manufacturing hub for essential products, including medical equipment, pharmaceuticals, and fertilisers, all of which rely on stable inputs of petrochemicals and naphtha. When these inputs are disrupted, production is constrained and costs increase, affecting not only domestic industries but also cross-border production networks. Given the region's deep integration into regional and global value chains, these disruptions will be transmitted across wider Asia and beyond. Energy security must therefore be treated as a core condition for maintaining supply chain stability and ensuring the continuity of the production of essential commodities.

More broadly, this situation reflects the structural reality of an era of polycrisis, in which geopolitical tensions, supply chain reconfiguration, rapid technological shifts, and health and climate pressures are unfolding simultaneously and reinforcing one another. These risks cannot be managed through fragmented or sector-specific responses. ASEAN must therefore place greater emphasis on strengthening economic resilience, with energy security at its core. This requires integrating energy security more systematically with broader economic stability. It includes strengthening supply chains for fertilisers, petrochemicals, semiconductors and critical minerals; digitalising logistics co-ordination; and adopting co-ordinated macroeconomic responses to manage inflation and financial volatility. In this sense, the immediate crisis response must also serve a wider purpose by supporting the region's ability to absorb shocks, sustain industrial growth, and maintain overall economic resilience.

Finally, in addition to optimising the APSA, APG, and TAGP, a deeper co-operation between ASEAN and Dialogue Partners will remain essential to address both immediate and structural challenges, particularly in mobilising finance and investment, securing access to technology, and strengthening technical and policy co-ordination. Existing frameworks that bring together countries in ASEAN and wider Asia, such as the Asia Zero Emission Community 2.0 and related platforms, offer a valuable avenue for strengthening regional resilience.

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