



INSIGHT BRIEFINGS

ENERGY MARKETS OUTLOOK



مؤسسة نفط
الشارقة الوطنية
SNOC

BEYOND CRUDE ***The Great Rewiring of*** ***Global Energy Supply Chains***

HOST:

- FERAS BESHER, ENGINEERING MANAGER & ACTING HSE MANAGER, SHARJAH NATIONAL OIL CORPORATION

CONTRIBUTORS:

- SHRIKANT MADHAV VAIDYA, FORMER CHAIRMAN, INDIANOIL CORPORATION LTD.
- CHARLES ELLINAS, CEO, CYPRUS NATURAL HYDROCARBONS CO. & SENIOR FELLOW, GLOBAL ENERGY CENTER – ATLANTIC COUNCIL
- LIAO NA, CHIEF CONSULTANT & FOUNDER, GL CONSULTING
- ALI ABDULLA AL ALI, SVP REGIONAL CLIENT ENGAGEMENT, GCC, PETROFAC
- VANDANA HARI, FOUNDER AND CEO, VANDA INSIGHTS

The disruption of Gulf energy flows is exposing critical vulnerabilities in product-specific supply chains, accelerating competition for Asian markets and forcing a fundamental reassessment of storage, trading flexibility and infrastructure investment.

The disruption of energy flows through the Strait of Hormuz has exposed a critical weakness in conventional energy security strategies: protecting crude oil supply does not necessarily guarantee access to the fuels and feedstocks that economies depend upon. LPG, LNG, condensates, refined products and petrochemical inputs each face distinct vulnerabilities that cannot be resolved through crude inventories alone.

Energy security is shifting from securing sufficient resources towards ensuring that specific products can be delivered, processed and distributed when conventional supply routes fail.

India illustrates this distinction. Its extensive refining capacity and diversified crude sourcing have provided considerable protection against supply interruptions. However, LPG shortages have exposed a more immediate vulnerability because of its importance to household cooking. Expanding distributed LPG storage across bottling facilities, rather than relying exclusively on large coastal terminals, offers a practical means of improving supply continuity while reducing infrastructure concentration risk.

China has pursued a different strategy, prioritizing long-term inventory accumulation, diversified import corridors and integrated refining-petrochemical capacity. Its substantial crude reserves have provided flexibility, while alternative LPG sourcing and coal-based petrochemical production have helped offset feedstock disruptions. Domestic supply security continues to take precedence over export opportunities, even when international refining margins are attractive.

These developments carry significant commercial implications for Gulf producers. The prolonged loss of reliable access to Asian markets risks accelerating a structural shift in LPG and petrochemical trade towards alternative suppliers, particularly the United States. Restoring production and export capacity may therefore prove insufficient to recover market share if buyers establish durable alternative procurement arrangements.

Natural gas presents another challenge. Europe remains highly exposed to imported LNG, while uncertain renewable generation, declining storage inventories and competing energy policy priorities complicate its supply outlook. Additional LNG capacity expected later this decade could improve global availability, but near-term disruptions and project delays may sustain volatility. China's plans to strengthen gas security further suggest that future LNG demand will be shaped increasingly by strategic inventory requirements and purchasing flexibility.

For Gulf producers, the response requires more than expanding conventional export infrastructure. Product-specific pipelines, storage, fractionation facilities, reversible flow systems and regional trading partnerships could create alternative routes for monetizing gas liquids and condensates. The ability to switch infrastructure between import and export operations is particularly valuable when market conditions change abruptly.

However, alternative infrastructure does not eliminate geopolitical exposure. Pipelines remain vulnerable to attacks on pumping stations, control systems and other critical assets. Cybersecurity is emerging as an equally important consideration as increasingly digitalized energy networks create additional points of failure.

Investment discipline will be essential. Large-scale infrastructure expansion may deliver resilience during disruption but create underutilized assets when trade routes normalize. Modular storage, repurposed vessels, scalable LPG facilities and shared infrastructure offer potential alternatives to irreversible capital commitments.

The next phase of energy security will be defined by product-specific resilience, diversified trading relationships and infrastructure capable of adapting to changing supply conditions. The competitive advantage will increasingly belong to producers and consumers that combine long-term planning with operational flexibility, secure distribution networks and commercially sustainable investment.

Top 10 Strategic Recommendations

01 REDEFINE ENERGY SECURITY BEYOND CRUDE OIL INVENTORIES

Develop product-specific security strategies for LPG, LNG, condensates, refined fuels and petrochemical feedstocks, recognizing that crude reserves and refining capacity cannot independently resolve shortages across every energy supply chain.

02 PRIORITIZE DISTRIBUTED LPG STORAGE FOR SUPPLY SECURITY

Expand LPG inventories across bottling plants, inland distribution facilities and coastal terminals to protect household consumption, reduce dependence on vulnerable import points and improve emergency distribution flexibility.

03 DEFEND GULF MARKET SHARE THROUGH DIVERSIFIED PRODUCT EXPORTS

Accelerate alternative LPG and refined-product export arrangements to maintain relationships with Asian buyers increasingly sourcing from the United States and other suppliers, reducing the risk of permanent market displacement.

04 DEVELOP ALTERNATIVE EXPORT CORRIDORS FOR GAS LIQUIDS

Evaluate commercially viable LPG and condensate pipelines, storage and processing facilities outside vulnerable maritime corridors, supported by cross-border agreements and regional infrastructure partnerships.

05 BUILD REVERSIBLE INFRASTRUCTURE AND FLEXIBLE TRADING CAPACITY

Incorporate bidirectional pipeline flows, adaptable storage systems and flexible import-export operations into new energy developments, enabling producers and trading hubs to respond rapidly to changing regional supply conditions.

06 STRENGTHEN LNG PROCUREMENT AND STRATEGIC GAS INVENTORIES

Diversify LNG supply contracts, develop gas storage strategies and balance long-term procurement with spot-market flexibility, particularly where seasonal demand and intermittent renewable generation increase exposure to supply shocks.



07 ACCELERATE INTEGRATED REFINING AND PETROCHEMICAL FLEXIBILITY

Invest in integrated production systems capable of adjusting feedstock requirements and product output, reducing dependence on individual imported commodities and strengthening competitiveness during prolonged supply disruptions.

08 PROTECT ENERGY INFRASTRUCTURE AGAINST PHYSICAL AND CYBER THREATS

Strengthening security around pipelines, pumping stations, storage facilities and digital control networks through independent risk assessments, cybersecurity safeguards, physical protection and emergency operating capabilities.

09 AVOID STRANDED ASSETS THROUGH MODULAR RESILIENCE INVESTMENT

Prioritize scalable storage, repurposed vessels, shared infrastructure and phased capacity expansion where commercially feasible, balancing immediate security requirements against the risk of prolonged underutilization after disruptions ease.

10 INSTITUTIONALIZE LONG-TERM PRODUCT SECURITY PLANNING

Extend contingency planning beyond conventional 20–30-day assumptions, stress-test single points of failure and coordinate regional trading, storage and infrastructure investment to strengthen resilience against prolonged disruptions.



The Future of Energy Security

The future of Gulf energy competitiveness will increasingly depend on the ability to secure markets for products beyond crude oil. LPG, LNG, condensates and petrochemical feedstocks are becoming strategically important not only because of their export value, but because interruptions can directly affect household energy access, industrial production and economic stability. Three structural shifts are emerging:

- First, product-specific security will become a priority. Countries will increasingly differentiate between crude reserves, refined-product inventories, LPG storage and natural gas supply flexibility, recognizing that each requires distinct infrastructure and procurement strategies.
- Second, Asian demand patterns could permanently reshape Gulf export competitiveness. Greater reliance on US LPG, diversified LNG sourcing and integrated petrochemical production may weaken traditional Gulf supplier relationships unless reliable alternative delivery routes and commercially competitive arrangements are developed.
- Third, infrastructure investment will need to balance resilience with capital discipline. Additional pipelines, storage and processing capacity can reduce vulnerability, but only when supported by credible demand, adaptable operating models and protection against physical and cyber threats.

The priority now is to transform gas and liquids trading from a conventional commercial activity into a coordinated system of supply security, market retention and infrastructure flexibility. Long-term competitiveness will depend less on the volume of energy available for export than on the ability to deliver the right products, through dependable routes, at commercially sustainable costs—even when established trading corridors are disrupted. ■