



أديبك  
ADIPEC

Host



Energy markets and geopolitics

# INVESTING IN RESILIENCE: THE BLUEPRINT FOR THE FUTURE OF ENERGY



As global energy markets face increased geopolitical uncertainty and volatility, the need for a secure, stable and resilient energy future has never been more important. ADIPEC has launched this **Energy markets and geopolitics** series to provide market insights into the impact of the ongoing conflict on global energy markets and the way forward for the industry.

The series provides decision-makers with informed analysis, helping the industry navigate disruption, assess risk, and identify pathways to resilience in an increasingly complex energy landscape.

..... Thought leadership

# How geopolitical volatility is redefining energy investment

As conflict in the Middle East disrupts trade routes and exposes the vulnerability of energy supply chains, the resulting market volatility has transformed energy security from a policy talking point into a primary driver of capital allocation for the industry. In this exclusive interview, Gaurav Sharma, energy analyst and Forbes columnist, discusses how capital is expected to flow toward infrastructure that offers resilience, such as bypass pipelines, LNG regasification, and domestic grids, as countries and companies scramble to de-risk their supply chains from geopolitical bottlenecks like the Strait of Hormuz.

## How does the Middle East conflict signal a fundamental shift in the global energy landscape?

What we are witnessing in 2026 is a structural recalibration of the market. For years, the industry focused on the energy transition with a heavy emphasis on decarbonisation. Now, the pendulum has swung back toward energy security. The

“ Security of supply is the foundation upon which everything else – including the transition – must be built. ”

**Gaurav Sharma**, energy analyst and Forbes columnist



## Thought leadership .....

conflict has reintroduced a major geopolitical risk premium, forcing the realisation that security of supply is the foundation upon which everything else – including the transition – must be built.

**You spoke about how this crisis is exposing an “asymmetry” in the energy value chain. Can you elaborate on what that means for investors and policymakers?**

As the conflict shows, it took little time to disrupt a critical artery like the Strait of Hormuz, but reopening that value chain appears to be a major task. Even with a ceasefire in place, the fate of the Strait is uncertain, and there will be a two-to-three-month lag before operations return to normal. Wells that have been shut in require remedial work, and refineries must be recalibrated. This lag is why we are seeing a “security-first” investment approach, where energy companies and investors are not just looking at price but also the resilience of the infrastructure itself.

**Against that context, what does the recalibration of capital look like?**

We are moving from the concept of energy transition to energy addition. The strategy now is to ramp up investments across all energy sources simultaneously. Therefore, we can expect a surge in hard infrastructure investment – pipelines that bypass volatile chokepoints, storage facilities, and LNG regasification plants. The goal is to ensure that no single point of failure can paralyse the supply chain and the global economy.

**How is the conflict reshaping the investment priorities of the major Asian economies – China, Japan, India and South Korea?**

These nations are the most exposed. For a country

“ The goal is to ensure that no single point of failure can paralyse the supply chain and the global economy. ”

like India, which imports 85% of its crude, this is a macroeconomic vulnerability. Consequently, these nations are aggressively diversifying their rosters of suppliers and investing in energy security, including strategic petroleum reserves and partnership projects.

**If 2026 is to be the “Year of Energy Security,” what is your final outlook for the investment community?**

The era of “just-in-time” energy is over; we have entered the era of energy resilience and redundancy, with investment moving accordingly. We will see more long-term capital flowing into diversified upstream projects, LNG flows, cross-border grid interconnections, and infrastructure protection. The winners will be those who can provide a reliable, secure and stable supply of energy, regardless of the source. ■

# Investing in diversification and resilience: the blueprint for the future of energy

## EXECUTIVE SUMMARY

The global energy landscape is undergoing a structural pivot from focusing on transitioning energy sources to adding them, accelerated by volatility and systemic vulnerabilities. In 2025, global energy investment was estimated to reach US\$3.3 trillion. This reflects a growing recognition that energy security and decarbonisation must now be advanced in parallel, rather than sequentially.

However, as the recent Middle East conflict demonstrates, the global energy investment strategy needs to shift from hydrocarbon substitution and addition to building a resilient and future-proof system. In the upstream oil and gas sector, this requires an estimated US\$18.2 trillion investment by 2050, alongside massive scaling in nuclear and hydrogen.

These gaps reflect a growing mismatch between current investment levels and what is required to maintain stable, resilient energy markets. While aggregate energy investment is rising, it remains unevenly distributed and insufficient in critical segments. By utilising public-private partnerships to de-risk capital-intensive energy infrastructure, the industry is moving toward a diversified, dual-track model. Success in this new phase will depend on mobilising capital, de-risking infrastructure investment, and expanding multiple energy systems simultaneously to secure affordability, reliability, and resilience.

“Success in this new phase will depend on mobilising capital, de-risking infrastructure investment, and expanding multiple energy systems simultaneously.”

## Market outlook

The global energy system is undergoing a profound recalibration. While recent years were defined by a singular focus on the energy transition and the substitution of hydrocarbons with low-carbon alternatives, recent geopolitical shocks, culminating in the Middle East conflict, have accelerated a broader reassessment of how energy systems are built and financed. The central question is no longer which energy sources will replace others, but how quickly a sufficient and resilient energy supply, across all sources, can be secured to sustain economic stability.

This reframing is reflected in global investment patterns. Global energy investment reached US\$3.3 trillion in 2025, of which around US\$2.2 trillion flowed into clean energy, while roughly US\$1.1 trillion remained directed toward hydrocarbons. This not only reflects enduring energy security requirements and the structural role of oil and gas beyond electricity, but also points to the scope for further investments across the hydrocarbon value chain focused on diversification and resilience. While low-carbon progress is visible in the power sector and parts of end-use through electrification, high-temperature industrial processes, transport fuels, and feedstocks for chemicals, fertilisers, and other industrial products such as iron remain heavily dependent on hydrocarbons and are much harder to replace as they require innovation and major cost reductions.

As a result, energy security now sits alongside decarbonisation as a primary driver of investment. ADNOC's "Maximum Energy, Minimum Emissions" strategy illustrates how these objectives are increasingly pursued in parallel, expanding supply while reducing carbon intensity. More broadly, this signals a shift away from pure linear substitution toward an "energy addition" approach, where governments focus on expanding capacity across oil and gas, renewables, nuclear and emerging fuels to continue to meet growing energy demand while hedging against geopolitical risk, supply disruptions and infrastructure constraints.

# US\$3.3 trillion

Estimated global energy  
investment in 2025

# US\$1.1 trillion

Estimated investment in  
hydrocarbons in 2025

# US\$2.2 trillion

Estimated investment in clean  
technologies in 2025

## Structural vulnerabilities: chokepoints, concentration, market volatility

The rationale for this shift becomes clear when examining the system's underlying vulnerabilities. Concentrated supply routes, such as the Strait of Hormuz, illustrate what is at stake. This single corridor carries approximately 15–20 mbd of oil, or around 15–20% of global supply, and about 20% of globally traded LNG, meaning even short-lived disruptions can have global consequences. During just 11 days of the recent disruption, the market deficit reached roughly 220 million barrels, demonstrating how localised risks can ripple through the global interconnected markets.

Physical disruptions translate directly into financial volatility. LNG prices in Asia spot markets surged by up to 140%, while Brent crude briefly reached nearly US\$120 per barrel, among the largest increases on record. Such price shocks have cascading macroeconomic effects: industrial demand contracts, inflationary pressures intensify, monetary policy tightens, and fiscal stress increases in energy-importing economies. These episodes reveal a system that is highly concentrated, interconnected, and increasingly under-buffered.

## The energy investment gap: stabilising markets and securing future supply

Such vulnerabilities are not incidental but reflect a growing mismatch between current investment levels and what is required to maintain stable, resilient energy markets. While aggregate energy investment is rising, it remains unevenly distributed and insufficient in critical segments, particularly in upstream oil and gas and supporting infrastructure. This gap is structural. Global oil demand remains at approximately 104 mbpd, while existing oil fields decline at an average rate of 5–7% per year. In practice, this means that

140%

The surge in LNG prices in Asia spot markets in March

104mbpd

Global oil demand

several million barrels per day of lost production must be replaced annually just to maintain current supply levels, before accounting for any demand growth. Against this backdrop, OPEC projects that the oil sector will require around US\$18.2 trillion in cumulative investment by 2050, with the majority directed toward upstream activities, and the remainder split between midstream and downstream (figure on p8). The recent Middle East conflict shows how quickly underinvestment can translate into market instability. Even limited disruptions to supply routes have generated deficits equivalent to hundreds of millions of barrels within days, highlighting the system's reduced spare capacity. Addressing

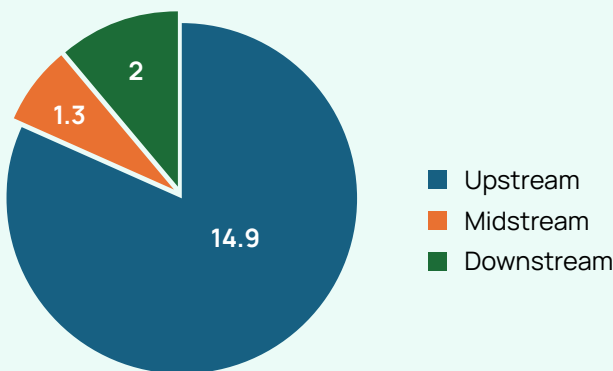
## Market outlook

this imbalance will therefore require not only sustained upstream investment to offset decline and meet demand, but also accelerated expansion of midstream and downstream infrastructure, including transport capacity, strategic storage in both producing and importing regions, and diversified export routes to reduce reliance on critical chokepoints. Importantly, this challenge is not limited to oil and gas. It reflects a broader system-level requirement: ensuring that both conventional and low-carbon energy systems scale in parallel. Investment is therefore no longer a question of reallocating capital between “old” and “new” energy, but of expanding both to meet demand, manage risk, and ensure system resilience.

# US\$18.2 trillion

Projected cumulative investment needed in the oil sector by 2050

Cumulative oil-related investment requirements by segment, 2025-2050, US\$ trillion



Source: OPEC World Oil Outlook 2025

## De-risking and system resilience: the role of public-private partnerships

Addressing these challenges requires not only higher levels of investment but a shift in how energy infrastructure is financed and de-risked. In an environment of heightened geopolitical uncertainty, elevated interest rates, and currency volatility,

particularly in emerging markets, the primary constraint is not just capital availability but the ability to structure risk to make large-scale energy investment bankable. Public-private partnerships (PPPs) are emerging as a critical mechanism to overcome this constraint. By allocating risk more effectively between public and private actors, PPPs can reduce political and regulatory uncertainty, provide revenue visibility through long-term offtake agreements or guarantees, and enable blended finance structures that mobilise private capital at scale. At the same time, investments in infrastructure resilience, such as alternative export routes, expanded storage, LNG flexibility, and grid interconnections, can reduce exposure to physical disruptions and lower the geopolitical risk premium embedded in energy markets.

## From oil and gas to energy addition: diversifying the supply base

Addressing the investment gap in conventional oil and gas energy systems is necessary but not sufficient. Ensuring long-term energy security and resilience in light of increasing demand requires broadening the energy supply mix. This is where the concept of “energy addition” becomes critical.

### Nuclear revival

Nuclear energy is gaining renewed momentum as governments seek reliable, low-carbon baseload power. Nuclear currently provides around 10% of global electricity and roughly 22% of low-carbon electricity generation, and is increasingly recognised as a critical component of secure energy systems, particularly for firm capacity. Small modular reactors (SMRs) are further strengthening this role, offering a dual benefit of energy security and decarbonisation.

In the Gulf, this shift is already underway. The UAE, home to the region’s first nuclear power plant, now generates 25% of electricity, and, together with Saudi Arabia, is actively exploring the deployment of SMRs. Nuclear offers a strategic dual benefit: transitioning to nuclear allows countries to redirect oil and gas exports to global markets while ensuring reliable, domestic electricity, particularly as soaring electricity consumption due to population growth, urban expansion and cooling needs and emerging industries such as hydrogen or data centres, are pushing demand to record highs.

### Hydrogen acceleration

In parallel, low-carbon hydrogen is emerging as another pillar of the next phase of clean system expansion, embedded within the US\$2.2 trillion clean energy investment pool. Across the Gulf, this is translating into large-scale deployment, with Saudi Arabia, the UAE and Oman advancing multi-gigawatt electrolysis capacity,

25%

Of the UAE’s electricity is currently generated by the Barakah nuclear power plant, making it the largest source of clean, base-load power in the region.

particularly the NEOM facility in Saudi Arabia, Hydrom in Oman and green hydrogen and green steel plants in the UAE.

Hydrogen and its derivatives (ammonia and other e-fuels) are increasingly positioned as critical industrial feedstocks, supporting low-carbon

## Market outlook

---

steel, fertilisers, refining and fuel switching in hard-to-abate sectors such as shipping. Saudi Arabia is emerging as a global frontrunner, with the NEOM project among the most advanced and largest in the world. It combines around 4 GW of dedicated solar and wind power capacity with large-scale electrolysis to produce around 600 tonnes of green hydrogen per day and over 1.2 million tonnes of green ammonia per year for export. Its integrated model that links renewables, hydrogen production, and export infrastructure, offers a potentially replicable blueprint for scalable, tradeable clean energy solutions.

## The road ahead

Energy security and diversification are therefore no longer competing priorities but parallel imperatives. In a volatile and rapidly evolving world, the future of energy will be defined by how effectively governments and industry can mobilise capital, manage risk, and build a diversified, resilient energy system capable of withstanding both geopolitical and structural pressures.

The decisive challenge now lies in execution. Governments and industry must mobilise capital at scale, de-risk long lived infrastructure, and invest across conventional and low carbon energy in parallel. Failure to do so risks persistent volatility, higher costs and greater exposure to geopolitical shocks. Success, by contrast, will deliver a more resilient, affordable and secure energy system – capable of sustaining growth, enabling decarbonisation, and withstanding the pressures of an increasingly uncertain world.

# 10%

Of global electricity is currently provided by nuclear energy

# 22%

Of low-carbon electricity generation is currently provided by nuclear energy

## Sources and acknowledgments:

---

Hydrogen Council; International Energy Agency; NEOM;  
OECD; OPEC; World Nuclear Association

\* All data and information in this report is  
valid as of 12 April 2026.

Series powered by





أديبك  
ADIPEC

Host



2-5 November 2026 – Abu Dhabi, UAE

# ENERGY SECURITY IS GLOBAL SECURITY

Energy markets and geopolitics:  
**expert perspectives**

Over four days, ADIPEC brings together 239,000 attendees, 16,500+ delegates, 2,250+ exhibitors and 1,800+ speakers to drive progress towards a secure, affordable and sustainable energy future.

BOOK A STAND

[adipec.com/book](https://adipec.com/book)

REGISTER TO VISIT

[adipec.com/visreg](https://adipec.com/visreg)

ATTEND THE CONFERENCES

[adipec.com/delreg](https://adipec.com/delreg)

[adipec.com](https://adipec.com)

Brought to you by:

**dmg::events**