

Oil and gas security during the energy transition

Purpose:

The 19th issue of the APEC Oil and Gas Security Studies (OGSS) series examines the emerging trends in oil and gas markets brought on by the recent energy crisis, highlights policy responses across APEC, and provides recommendations to guide policymakers towards a secure, sustainable, and affordable energy future for the APEC region as it embarks on a transition to carbon neutrality.

Outline:

The report has six sections. The first section describes the scope of the study and provides a framework of analysing the responses and potential actions by APEC members to reduce the cost of oil and gas supply disruptions during this energy crisis and throughout an energy transition. The second section highlights oil and gas findings from the Carbon Neutrality scenario of the 8th Edition of APEC Demand and Supply Outlook to illustrate the robust role that oil and gas could play in APEC this decade during an energy transition. Section 3 highlights various short-term strategies that APEC members are implementing – or could implement – to mitigate the impact of oil and gas supply disruptions. Section 4 emphasises how investment in a diverse array of energy types and sources is key for long-term energy security but identifies various actions that can help mitigate the impact of oil and gas supply disruptions in the longer term. Section 5 concludes with recommendations to minimise the vulnerabilities of oil and gas supply in APEC. Several key findings of the report are summarised below.

Key Findings:

Energy security is now at the centre of energy policy discussions

The recent energy crisis is propelling policymakers to reimagine their global energy supply chains to align with shifting geopolitical realities. Many APEC members are reconsidering their long-term energy plans in a way that reconciles the energy transition with both energy security and affordability. Viewing energy challenges as a trilemma will encourage switching away from oil and gas and towards alternatives, such as coal, hydrogen, and renewables.

Demand for oil and gas will likely remain robust this decade

According to the Carbon Neutrality scenario in the 8th APEC Demand and Supply Outlook, even if APEC embarks on a carbon-neutral pathway, demand, and subsequently net imports, for both oil and gas will increase this decade. Given the possibility of prolonged tightness in the oil and gas markets, APEC members must find short-term paths to balance this energy transition with affordability and energy security as their import dependence persists over the coming years.

APEC is turning towards the domestic prioritisation of energy supply chains

Amidst higher energy costs and a growing threat of supply disruptions, APEC members are turning to protectionist policies and are striving to redefine their energy mix to mitigate the impact of oil and gas disruptions. Energy plans are shifting to leverage domestic endowments in economies blessed with

many alternative resources, such as coal. Areas reliant on oil and gas imports are turning towards energy diversification across multiple fuel alternatives to reduce their long-term import dependence on oil and gas supplies.

Governments are intervening in energy markets to improve affordability

Market dysfunction during the reorganisation of energy supply chains is prompting government intervention to ensure that energy is available for their economies at affordable prices. Many APEC members are turning to energy subsidies to improve affordability. Some are participating in the direct procurement of energy and the infrastructure required to store and import it into their economy.

Short-term fuel switching is difficult

Most APEC members were fuel switching at the height of their capability by the end of 2021. Increased fuel switching requires additional investments in sophistication, redundancy or replacement technology. This cannot happen overnight. It could take end-users months to years to procure and install new equipment. The ability to switch is also limited by financial factors facing consumers and businesses.

Short-term actions are improving energy security, but these actions have limits

Short-term actions are working to reduce the impact of the energy crisis on their economies. However, some actions are unlikely to be sustainable over the longer term. Available technology limits fuel switching, subsidies can encounter fiscal constraints, and storage mandates cannot stockpile above storage capacity. Eventually, actors will need to invest in improving resiliency to supply shocks by adding more storage, adopting technology that enables demand flexibility via fuel switching and coordinated conservation responses during oil and gas crises.

Long-term LNG contracts are insulating APEC importers from high spot prices

Long-term contracts in northeast Asia provide lower-priced LNG, insulating importers from the spot price volatility and muting their potential demand response. Conversely, the short-term flexibility of China's LNG contracting structure allowed it to balance the global market. The diversion of surplus LNG cargoes to Europe was enabled by the flexibility to reduce imports in line with its demand declines in 2022.

Current supply constraints suggest a return to the boom-and-bust oil cycle

After a decade of inexpensive oil and gas, energy markets may be structurally returning to their boom-and-bust cycle, where it takes long periods of high prices to manifest the investment necessary to balance out supply with growing demand. Underinvestment in oil and gas will make these commodities more volatile and expensive and potentially shift the marginal supplier out of the APEC region. While producing economies can expand gas supply by frontloading methane reduction initiatives and oil supply by alleviating the bottlenecks facing the upstream services sector, the trend of diverting surplus cashflow to shareholders over higher production capacity could limit the responsiveness of APEC supply going forward.

Severe weather is exacerbating APEC's energy security challenges

Severe weather and unexpected supply outages across APEC are challenging the role of fossil fuels in ensuring energy security and electrical reliability. Governments are intervening in their gas and electricity markets to ensure grid reliability and mitigate the impact on the economy.

Refinery product constraints create availability and affordability concerns

APEC refinery product supply is constrained by capacity reductions in North America, sanctions against Russia, and a decrease in the size of Chinese export tariffs. An extension of refinery lifetimes, and an examination of converting refineries to output a product slate away from declining oil product markets, should be considered throughout the APEC region.

Biofuel mandates alone are insufficient for improving energy security

While many in APEC turn to biofuel blending to reduce oil consumption and improve energy security, mandates alone are not enough to improve fuel security. A parallel policy that increases productive capacity to match the demand from blending mandates is necessary to prevent shifting concerns about oil security towards concerns about biofuel security.