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Policy Brief

Stabilising LNG Markets in ASEAN: Implications for Energy Security and the Energy Transition

Key Messages:

- **LNG remains a critical enabler of ASEAN's energy** security, system flexibility, and just energy transition, but heightened market volatility now poses material affordability and planning risks.
- **Structural changes in global LNG markets**–including sustained European demand, China's demand volatility, and the expanding role of US LNG – are weakening price stability and investment certainty for ASEAN, particularly for emerging importers.
- **Strengthening regional resilience** through demand aggregation, diversified long-term supply, and harmonised methane emissions standards is essential to ensure LNG remains affordable, secure, and aligned with ASEAN's climate commitments.

Liquefied natural gas (LNG) plays a pivotal role in ASEAN's energy security and its transition towards lower-carbon energy systems. As electricity demand continues to rise alongside economic growth and urbanisation, LNG offers a flexible and relatively lower-emissions alternative to coal, while providing the firm capacity required to support the integration of renewable energy. However, global LNG markets have entered a period of heightened volatility, characterised by rapid and wide-ranging price fluctuations driven by shifting supply–demand balances, geopolitical developments, and evolving energy policies in major consuming regions.

This Policy Brief examines recent developments in global and regional LNG markets, with particular attention to Southeast Asia. It analyses the structural drivers of price volatility, including Europe's increased reliance on LNG, China's expanding and fluctuating gas demand, and the growing role of the United States as a major LNG supplier. The brief also highlights the emergence of new LNG-importing countries in ASEAN and the implications of market uncertainty for their energy security and investment planning. In addition, it addresses the increasing importance of methane emissions management and greenhouse gas mitigation in shaping the long-term role of LNG. Drawing on expert discussions held between 2024 and 2025, the brief proposes policy directions to stabilise LNG markets in ASEAN while aligning energy security objectives with climate commitments.

1. Background and Policy Context

ASEAN's energy systems are undergoing a complex and multi-dimensional transition. Rapid economic growth, demographic expansion, and industrial development continue to drive rising energy demand, particularly for electricity. At the same time, ASEAN Member States are under increasing pressure to reduce greenhouse gas (GHG) emissions, improve air quality, and align national energy strategies with long-term climate goals.

In this context, LNG and natural gas have emerged as critical transition fuels. Compared with coal, natural gas offers lower carbon dioxide emissions per unit of energy and significantly reduced local air pollutants. Gas-fired power plants also provide operational flexibility, enabling power systems to balance intermittent renewable energy sources such as solar and wind. For many ASEAN countries, LNG therefore represents a pragmatic option to support both energy security and emissions reduction objectives.

However, ASEAN's growing reliance on LNG coincides with a period of unprecedented instability in global gas markets. Recent years have demonstrated that LNG prices can no longer be assumed to be stable or predictable. Instead, markets are increasingly characterised by sharp price spikes, sudden collapses, and rapid shifts in trade flows. For emerging LNG importers with limited experience, infrastructure, and purchasing power, these dynamics pose significant risks.

2. Recent Developments in Global LNG Markets

Global LNG markets have become markedly more volatile in both speed and magnitude compared with previous decades. Price movements now occur more abruptly and across wider ranges, reflecting tighter market balances and heightened sensitivity to demand shocks, supply disruptions, and policy signals.

During periods of supply tightness, LNG prices have surged to exceptionally high levels, placing severe strain on importing economies. Conversely, during periods of oversupply, prices have fallen sharply and, in some cases, entered negative territory in specific markets, where sellers effectively pay offtakers to lift cargoes. Such extreme volatility complicates investment decisions across the LNG value chain, from upstream production to liquefaction, shipping, regasification, and downstream power generation.

The primary driver of this volatility has been the rapid reconfiguration of global gas flows following geopolitical shocks, combined with long-standing underinvestment in upstream gas supply. The result is a market that is increasingly reactive rather than stable, with limited buffers to absorb sudden changes in demand or supply.

Why LNG Price Volatility Matters for ASEAN

- Power tariffs: Sharp LNG price increases translate directly into higher electricity costs in gas-dependent systems.
- Fuel switching risks: High LNG prices may incentivise a return to coal or oil, undermining climate objectives.
- Investment uncertainty: Volatility discourages long-term infrastructure and power sector investment.
- Fiscal pressure: Governments may be forced to subsidise energy prices during price spikes.

3. Gas Supply and Demand Trends in Southeast Asia

Southeast Asia presents a diverse LNG landscape, encompassing traditional gas producers and exporters, mature gas-consuming economies, and newly emerging LNG importers. While countries such as Indonesia and Malaysia have long histories in LNG production and export, declining domestic gas reserves and rising demand are gradually altering their roles. At the same time, countries such as the Philippines and Viet Nam began importing LNG in mid-2023, marking a significant shift in regional gas market dynamics.

For these emerging LNG-importing countries, the development of LNG infrastructure has been driven by the need to diversify energy supply, replace declining domestic gas production, and support coal-to-gas switching in the power sector. However, their future LNG demand growth will be closely linked to developments in global markets, particularly price stability and supply availability.

The global energy crisis underscored the vulnerability of new importers to external shocks. High and volatile LNG prices can delay project development, reduce utilisation of regasification terminals, and undermine the economics of gas-fired power generation. As a result, LNG market instability has direct implications for ASEAN's broader energy transition pathways.

4. Structural Drivers of LNG Price Volatility

Several structural factors have amplified LNG price volatility in recent years.

4.1. Europe's Shift Towards LNG

The European Union's substantial shift towards increased LNG imports following disruptions to pipeline gas supplies has fundamentally altered global LNG trade patterns. Europe has emerged as a major competing buyer, absorbing large volumes of LNG that would otherwise flow to Asia. This shift is expected to persist at least in the medium term and potentially over the longer term, maintaining upward pressure on prices and increasing competition during periods of tight supply.

4.2. China's Expanding and Fluctuating Demand

China's rapid expansion of natural gas consumption has been a central driver of global LNG market growth. Seasonal demand spikes, particularly during winter months, have contributed to supply tightness and price volatility. At the same time, fluctuations in China's gas demand – driven by economic cycles, weather conditions, and policy adjustments – have had significant spillover effects on global LNG markets.

4.3. South Asia and Emerging Asian Demand

India and neighbouring South Asian countries present a contrasting picture. While demand growth potential is significant, price sensitivity remains high, leading to cyclical patterns of LNG uptake depending on market conditions. These dynamics add further complexity to regional demand forecasting and market stability.

4.4. Diverse Pricing Mechanisms

Differences in wholesale gas pricing mechanisms – ranging from oil-linked contracts to hub-based pricing – also influence market behaviour. These structural differences affect how price shocks are transmitted across regions and how risks are allocated between buyers and sellers.

5. The Role of the United States in Global LNG Supply

LNG supply from the United States is widely expected to underpin future growth in global LNG consumption. The United States has emerged as one of the world's largest LNG exporters, offering significant volumes and flexible destination clauses that appeal to Asian buyers.

This Policy Brief pays particular attention to policy developments under the new United States administration and their potential implications for global LNG markets. For Asian consumers, US LNG offers diversification benefits and pricing structures linked to gas hubs rather than oil. However, policy uncertainty, regulatory processes, and infrastructure constraints remain important considerations.

Despite these challenges, the scale and flexibility of US LNG supply remain highly attractive to emerging LNG-importing countries in ASEAN, particularly those seeking to avoid overdependence on a limited number of suppliers.

Key Statistics

- ASEAN energy demand is projected to grow by over 60% by 2040 under current policies.
- Natural gas accounts for roughly 20–25% of ASEAN's primary energy mix, with significant variation across countries.
- LNG trade now represents over 50% of global gas trade, up from less than 30% two decades ago.
- Methane emissions from oil and gas account for nearly 30% of global energy-related methane emissions

6. Environmental Considerations and Methane Emissions

Beyond price and supply concerns, the long-term role of LNG is increasingly shaped by environmental performance. Methane emissions across the LNG and natural gas value chain have come under growing scrutiny, given methane's high global warming potential.

Managing methane emissions is essential to maintaining LNG's credibility as a transition fuel. This includes improving measurement, reporting, and verification practices, as well as deploying proven mitigation technologies. Failure to address methane emissions risks eroding public and investor confidence, potentially constraining future LNG investment even where gas plays a net-positive role in emissions reduction.

ASEAN has an opportunity to shape global methane management practices by adopting robust standards and engaging proactively in international initiatives, while ensuring that emissions requirements remain practical and aligned with regional development needs.

7. Insights from Expert Dialogues

This Policy Brief draws on key findings from four expert discussion events held in Hiroshima (October 2024), Washington, DC (January 2025), Houston (March 2025), and Tokyo (June 2025).

Despite differences in regional perspectives, several common themes emerged across all discussions.

First, affordability was consistently identified as a prerequisite for LNG to play a meaningful role as a transition energy source in Asia. Stable, sufficient, and cost-effective supply is essential to support long-term planning and investment.

Second, participants emphasised the high degree of uncertainty on both the supply and demand sides of the LNG market. Issues such as upstream investment risks, policy uncertainty, and demand volatility were highlighted as barriers to market stability.

Third, the allocation of costs associated with GHG emissions reduction – particularly methane abatement – was identified as a critical and unresolved challenge. Regular and structured dialogue amongst LNG sellers and buyers, as well as between governments and industry stakeholders, was seen as essential to managing these trade-offs.

8. Policy Challenges for ASEAN

Taken together, these developments point to several key policy challenges for ASEAN:

- Balancing short-term energy security with long-term decarbonisation goals.
- Managing exposure to global LNG price volatility, particularly for new importers.
- Ensuring sufficient long-term supply to justify infrastructure and power sector investment.
- Strengthening regional co-operation to improve purchasing power and market resilience.
- Integrating methane emissions management into LNG strategies without undermining affordability.

Addressing these challenges requires a coherent policy framework that recognises LNG's transitional role while actively managing its risks and environmental impacts.

9. Policy Recommendations

- Clearly define and articulate the role of LNG and natural gas in ensuring energy security and supporting the energy transition.
- Secure sufficient long-term LNG supply sources for ASEAN.
- Enhance ASEAN's LNG purchasing power by aggregating regional demand and co-operating with other Asian countries, including Japan, to optimise cargo procurement.
- Ensure adherence to fundamental methane emissions management practices across the LNG value chain.
- Play a proactive role in global methane emissions management while safeguarding regional energy security.
- Promote the standardisation and harmonisation of methane emissions measurement and reporting guidelines.
- Leverage the expertise of Japanese companies to accelerate methane emissions management efforts.
- Signal a clear preference for lower-emissions gas in procurement and contracting decisions.

Conclusion

LNG and natural gas will remain indispensable to ASEAN's energy systems during the transition to net zero. By combining clear policy recognition, supply security measures, enhanced purchasing power, improved contracting, and robust methane governance, ASEAN can stabilise LNG markets while advancing climate goals. Coordinated regional action – supported by international partnerships – will be essential to achieving affordable, reliable, and lower-emissions energy for the region.

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