Wiring ASEAN for Energy Security through the ASEAN Power Grid

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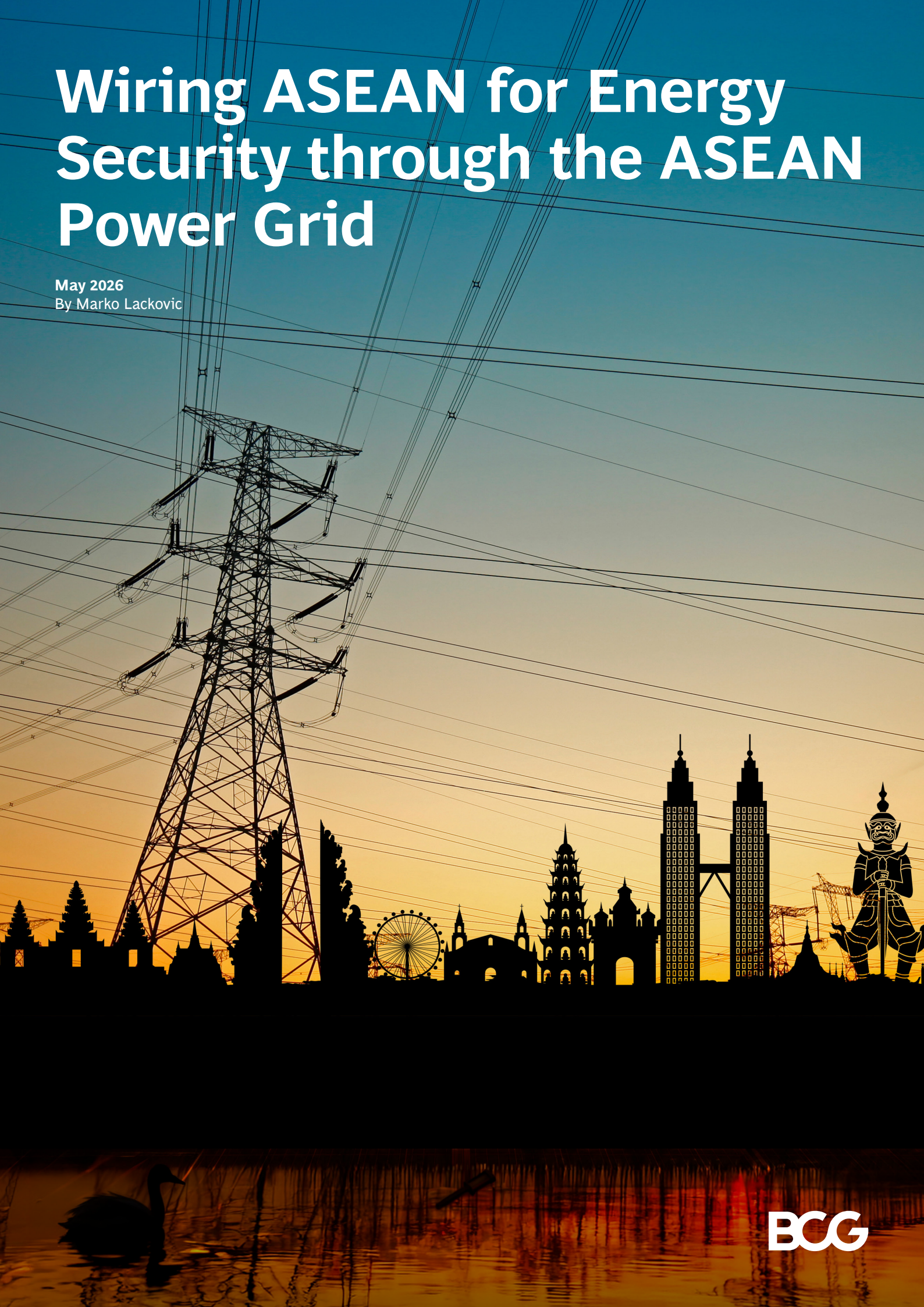

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Executive Summary

The ASEAN Power Grid is transitioning from a long-standing diplomatic ambition into an urgent strategic necessity. The paradox is that an integrated grid is most valuable precisely as governments are most sensitive to their energy sovereignty. The choice is not self-sufficiency or integration, but the opportunity to achieve both.

Surging electricity demand and structural global fuel volatility amplify this regional paradox, highlighting how the ASEAN Power Grid can provide an important hedge against uncertainty. A connected power system lowers exposure to imported fuels and stabilizes industrial costs. It delivers the affordability and reliability necessary to maintain ASEAN's global competitiveness.

Regional integration does not compromise national agency, it strengthens domestic resilience. Nations moving at different speeds can build domestic capacity while using cross-border trade to share balancing resources. That managed interdependence absorbs fuel-price shocks and cuts the cost of redundant domestic systems.

Turning ambition into bankable infrastructure requires strong domestic grids and clear commercial frameworks. But ASEAN does not need perfect policy harmonization to advance. It can simply choose a path towards even more collaboration and managed regional interdependence over continued exposure to external energy market risks.

A New Phase for the ASEAN Power Grid

The ASEAN Power Grid has occupied a unique position in regional discourse over the last two decades. It has been viewed largely as a sensible regional idea that was easy to endorse but harder to execute. That is now changing.

Rising electricity demand and decarbonization pressures frame the regional energy outlook. Volatile global fuel markets and the acute disruption of the conflict in the Middle East underscore the need for energy resiliency. The conflict exposed how vulnerable businesses are to commodity price swings in an interconnected world.

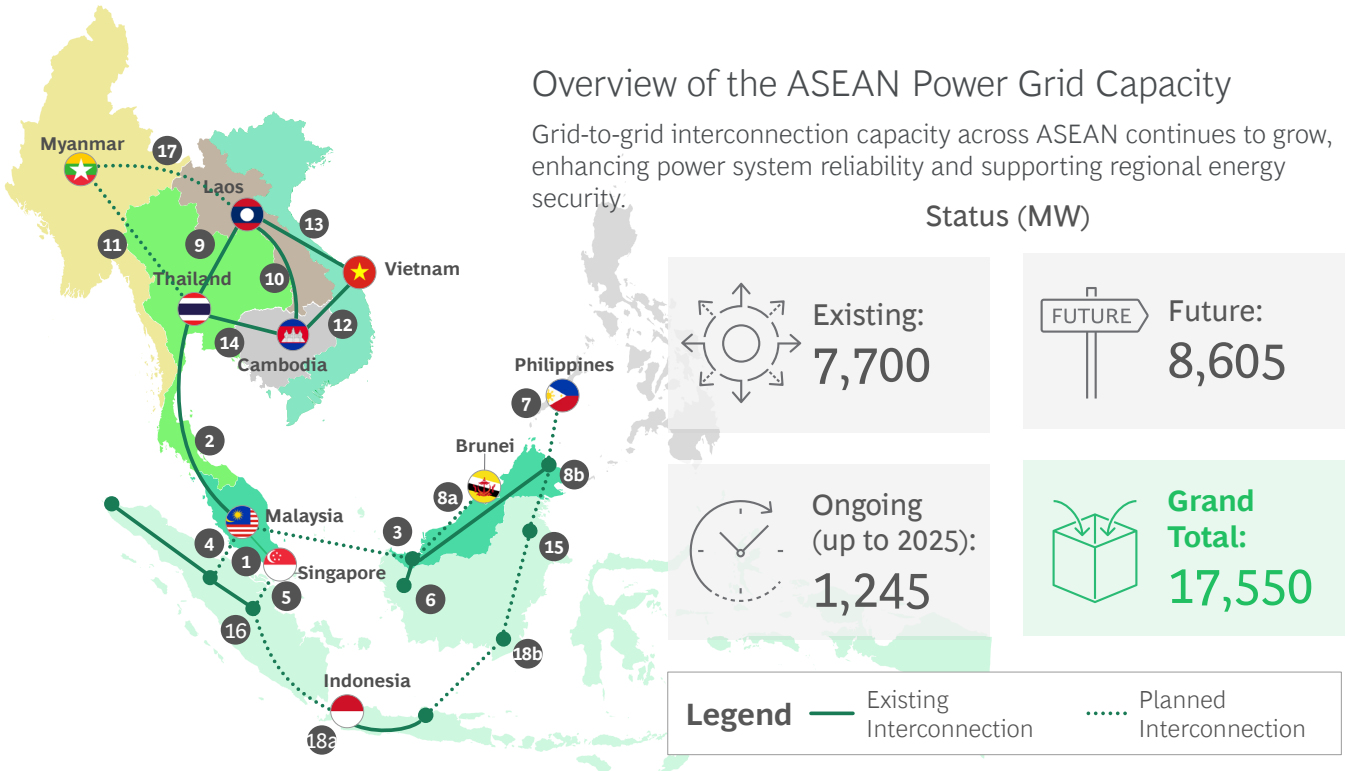
The core issue when considering the ASEAN Power Grid is not choosing between national energy independence and regional integration. Instead, it is about building a smarter regional architecture that embeds resilience and energy security for the benefit of all participating nations. That means deploying greener generation technologies, shared energy resources, and integrated regional cooperation.

A connected regional power system moves electricity across borders, smooths supply-demand mismatches, and cuts direct exposure to imported fuels. This ASEAN Power Grid should not be seen as a PR project or a climate-focused ambition alone—it is a platform for affordability, resilience, and reliability that directly shapes industrial competitiveness, investment attractiveness, fiscal pressure, and consumer stability across the region.

As of 2024, the Grid carried 7,700 MW of transmission capacity, with pledges to expand that to 17,550 MW. [**Exhibit 1.**]

EXHIBIT 1

ASEAN Power Grid (as of 2024)



Source: ASEAN secretariat

This ambition comes with a central paradox—a regional grid becomes highly valuable precisely when governments are increasingly sensitive about sovereignty, dependence, and national control.

The fundamentals for this journey are outlined in the ASEAN Plan for Energy Cooperation (APAEC) 2026–30.

This regional blueprint clearly outlines that ASEAN's future energy system must be secure, sustainable, and inclusive, guided by the 20-year theme of ASEAN Energy Future 2045 to deliver a 'secure, resilient, and interconnected low-carbon energy future'. This commitment also outlines an ambition to achieve 30% share of renewable energy in total primary energy supply and a 45% share of renewable

energy in installed power capacity by 2030, underpinned by a 40% reduction in energy intensity. The ASEAN Power Grid provides a path to support that goal.

The ASEAN Power Grid previously stalled not because the strategic logic was weak, but because the commercial, regulatory, delivery, and financing architectures did not mature fast enough. ASEAN has the ambition, proof from early pilots, and a stronger financing push, but it still lacks fully mature rules for interoperability, wheeling, settlement, cost allocation, and investable project delivery at scale. The next phase requires investment, domestic grid readiness, market rules, and regional consensus—not just more interconnectors.

Understanding why this grid buildout matters necessitates an understanding of where transmission lies in the wider picture of ASEAN's energy challenges.

ASEAN's energy challenges are bigger than just transmission

We believe the ASEAN Power Grid can provide a powerful catalyst towards a maturing regional power ecosystem. But ASEAN's power challenge cannot be solved by adding cross-border lines alone.

According to the International Energy Agency (IEA), approximately US$2 billion has been channeled to fund cross-border interconnectors since the 1970s. This represents just a small slice of the total infrastructure need.

The IEA estimates that more than US$300 billion of grid investment is required across ASEAN from 2025 to 2040. The ASEAN Power Grid can play a vital role in this wider regional story of system buildout.

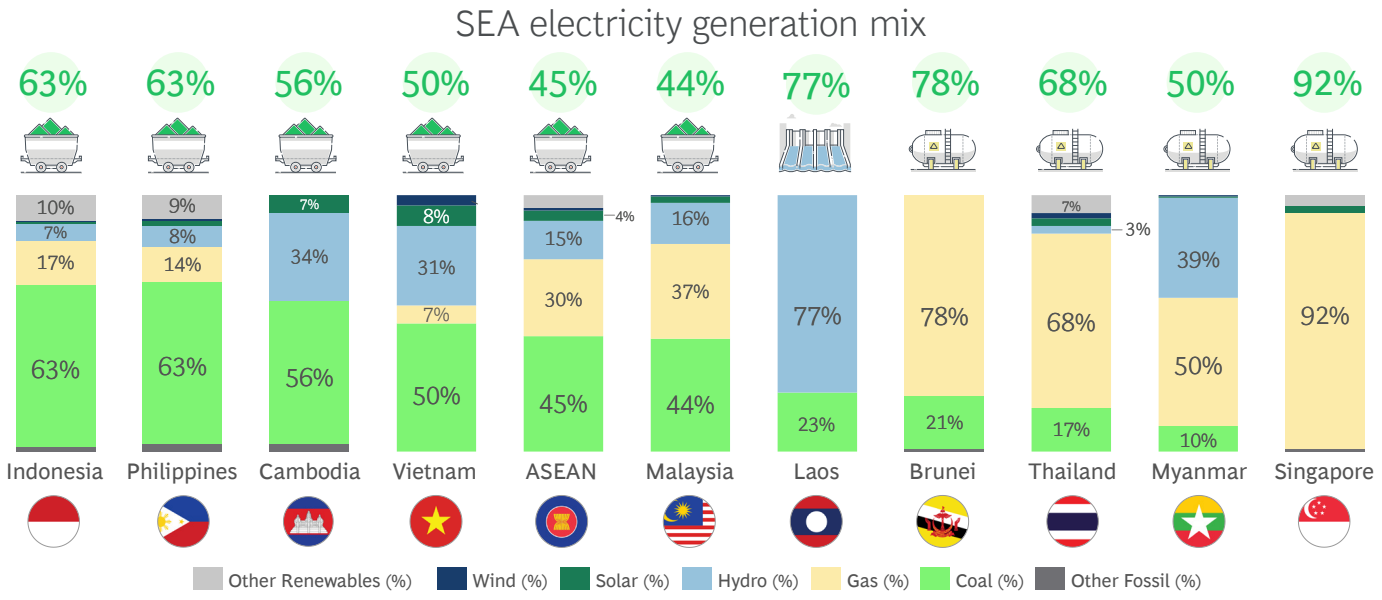
In order to progress this vision, the region can simultaneously balance a number of important moving parts. Governments can meet rising demand, maintain affordability, and reduce imported fuel exposure. They can also support cleaner growth and strengthen resilience against outages and geopolitical shocks. The reality is that the current episode of global energy volatility is a catalyst —and while it's a dominant story, it's not the only thread of narrative in the region's energy story.

The scale of change required cannot be downplayed. ASEAN electricity consumption grew ninefold between 1990 and 2024 and is projected to grow 3% to 4% annually through 2040 — well above the global average. The IEA projects ASEAN will contribute more than 25% of global energy demand growth to 2035.

Fossil fuels have met nearly 80% of regional demand growth since 2010. At the same time, coal generated roughly 50% of ASEAN's electricity in 2023. [**Exhibit 2.**] Balancing these factors as part of the wider picture is key.

EXHIBIT 2

Electricity Generation Mix By Country



Note : Data is for 2024 for all countries except ASEAN, Indonesia, Laos, and Brunei (use 2023 data)

The growing strategic risk of reliance on fossil fuel is complex for ASEAN. The IEA projects the region becomes a net gas importer by the late 2020s. Policy is unlikely to shift significantly, which only deepens the strategic pressure on ASEAN's energy system.

Navigating this energy balance requires nations to address domestic supply, fuel security, renewable buildout, flexibility, and market reform simultaneously. The ASEAN Power Grid matters because it sits at the intersection of these efforts. It serves as one essential layer of a wider system architecture. The implications of an effective strategy are transformative for businesses, governments, and citizens.

From a business perspective, this transition represents an issue of core competitiveness. Stable and affordable power dictates the cost base of manufacturing, the economics of data centers, and the attractiveness of industrial parks. It also influences inflation pressure and the confidence of long-term investors. If ASEAN wants to maintain its position as a primary manufacturing and digital hub, it requires a dependable and economically efficient power system. The flexible nature of a future ASEAN Power Grid also feeds into growing demand for zero-carbon energy certificates with implications for cross-border power trade.

This dynamic introduces a central tension. Governments aspiring to improved energy security may naturally seek greater domestic control. Yet, this same anxiety strengthens the logic for regional hedging through collaborative electricity trading.

Strong domestic grids and flexible resources are the foundation. Connecting them creates a diverse, resilient regional network. A connected regional grid facilitates balancing intermittent renewable supply, reduces system redundancy, and shifts power from where it is abundant to where it is needed.

In this way, the ASEAN Power Grid can provide a critical layer of the region's future energy security, rather than a standalone project expected to solve every power-sector challenge on its own.

Once the ASEAN Power Grid is viewed through the lens of a wider system challenge, the prolonged uncertainty of its development looks more like a repeatedly deferred answer to a central regional problem.

ASEAN's grid has been strategically right for decades, but institutionally underbuilt

The ASEAN Power Grid is sometimes mistakenly described as a new response to the energy transition. In reality, it is a long-standing regional ambition. The core logic has been visible since the early discussions on regional energy coordination in the 1980s.

ASEAN features power systems with differing resource bases, demand patterns, and market maturities. Singapore, for example, is the largest buyer but with limited generation capacity, while Laos has lower per-capita consumption but significant renewable energy capacity.

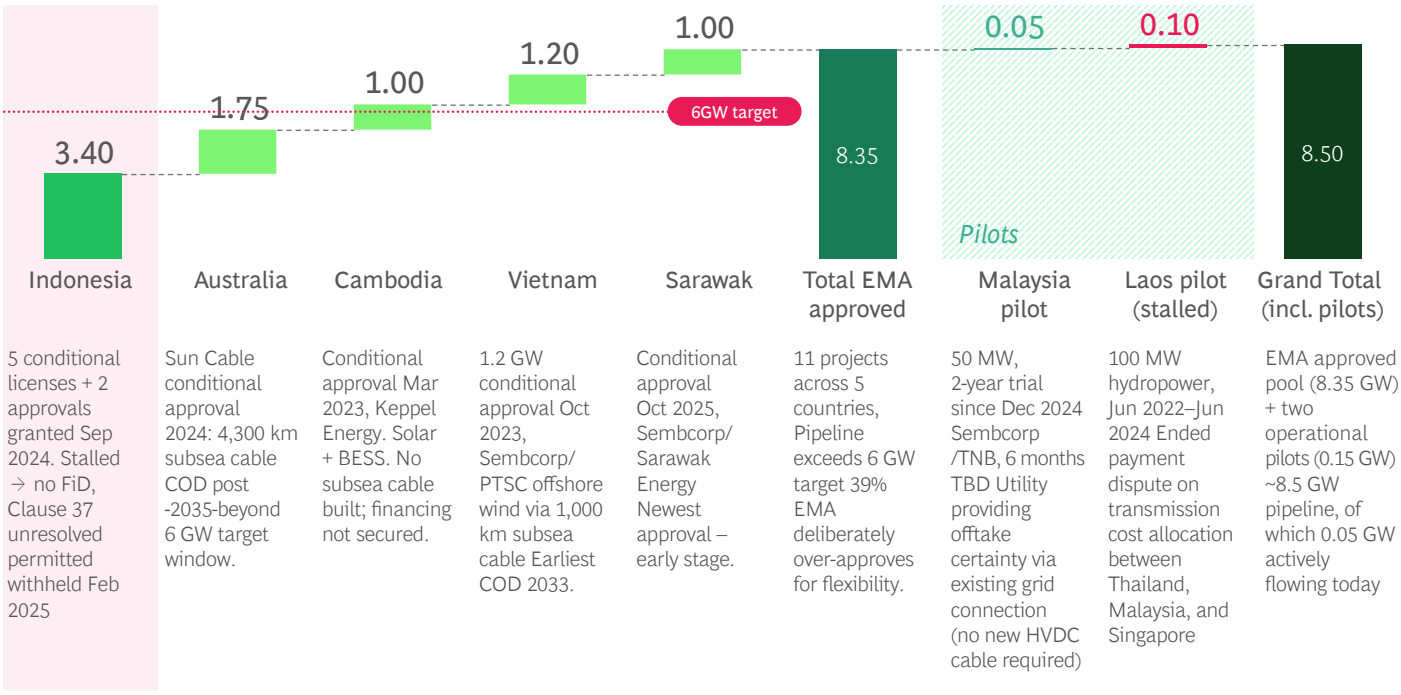
These realities demonstrate that a connected regional system made strategic sense well before today's focus on decarbonization and geopolitical volatility. What has changed over time is the level of execution and cooperation, not the underlying rationale.

The Lao PDR-Thailand-Malaysia-Singapore Power Integration Project (LTMS-PIP) illustrates both the progress and the challenge remaining. During LTMS-PIP phase 2, traded capacity increased from 100 MW to 200 MW. This project serves as a vital proof of concept. It demonstrates that multilateral and multidirectional trading can move beyond theory by pushing power across multiple national boundaries. At the same time, its modest scale—equivalent to around 1.5% of end-consumer Singapore's domestic installed capacity—highlights how far the region remains from a deep, routine, multidirectional ASEAN grid. Singapore's commitment to regional imports demonstrates one side of the broader opportunity for a more integrated ASEAN energy ecosystem. [**Exhibit 3.**]

EXHIBIT 3

Singapore is betting on regional imports by 2035 to close its clean energy gap from numerous SEA countries, with Indonesia as the largest in terms of GW

Breakdown of estimated capacity of importing countries (GW)



Source : BCG research

The journey of the ASEAN Power Grid has been a winding road. Leaders repeatedly reaffirmed the concept, moving from ASEAN Vision 2020 to the 2007 APG Memorandum of Understanding and its recent enhancements. Yet the supporting architecture lagged. For years, the Grid was easy to endorse politically and hard to deliver commercially.

The fundamental idea has not failed—it merely frames a strategically sound project that remains institutionally underbuilt. Physical ambition outpaced the market rules, delivery institutions, and commercial frameworks required to scale it.

Bilateral interconnectors serve as necessary physical and diplomatic building blocks. However, they do not automatically provide the basis for a functioning regional grid. The ASEAN Centre for Energy notes that eight of 18 identified interconnection projects are currently operational. These provide approximately 2.8 GW of grid-to-grid capacity.

Development of a true ASEAN Power Grid slowed because the rules never scaled with the ambition. The region possesses maps, memoranda, and bilateral agreements, but lacks a mature 'operating system' for repeatable transactions. Turning aspirations into investable deals requires overcoming substantial institutional barriers.

Fragmented markets, opaque trading rules, and incomplete wheeling methodologies block progress. Land acquisition, long timelines, and permitting constraints deter investors. This contributes to uncertain cost and risk allocation, including off-taker and currency risks.

Beyond regulatory frameworks, practical delivery remains a weak point. The recent push around the ASEAN Power Grid Financing (APGF) initiative highlights the critical need to advance projects from concept to construction. The region requires stronger transaction support, project preparation, and corridor-level coordination. Too many projects still rely on bespoke negotiations and must navigate country-by-country regulatory differences.

ASEAN has spent decades proving that regional interconnection is desirable. The region is now beginning the harder work of making it governable, bankable, and repeatable. Closing these institutional gaps matters because the economic and strategic upside is substantial. Solving these structural challenges is necessary to unlock the next phase of ASEAN's economic security.

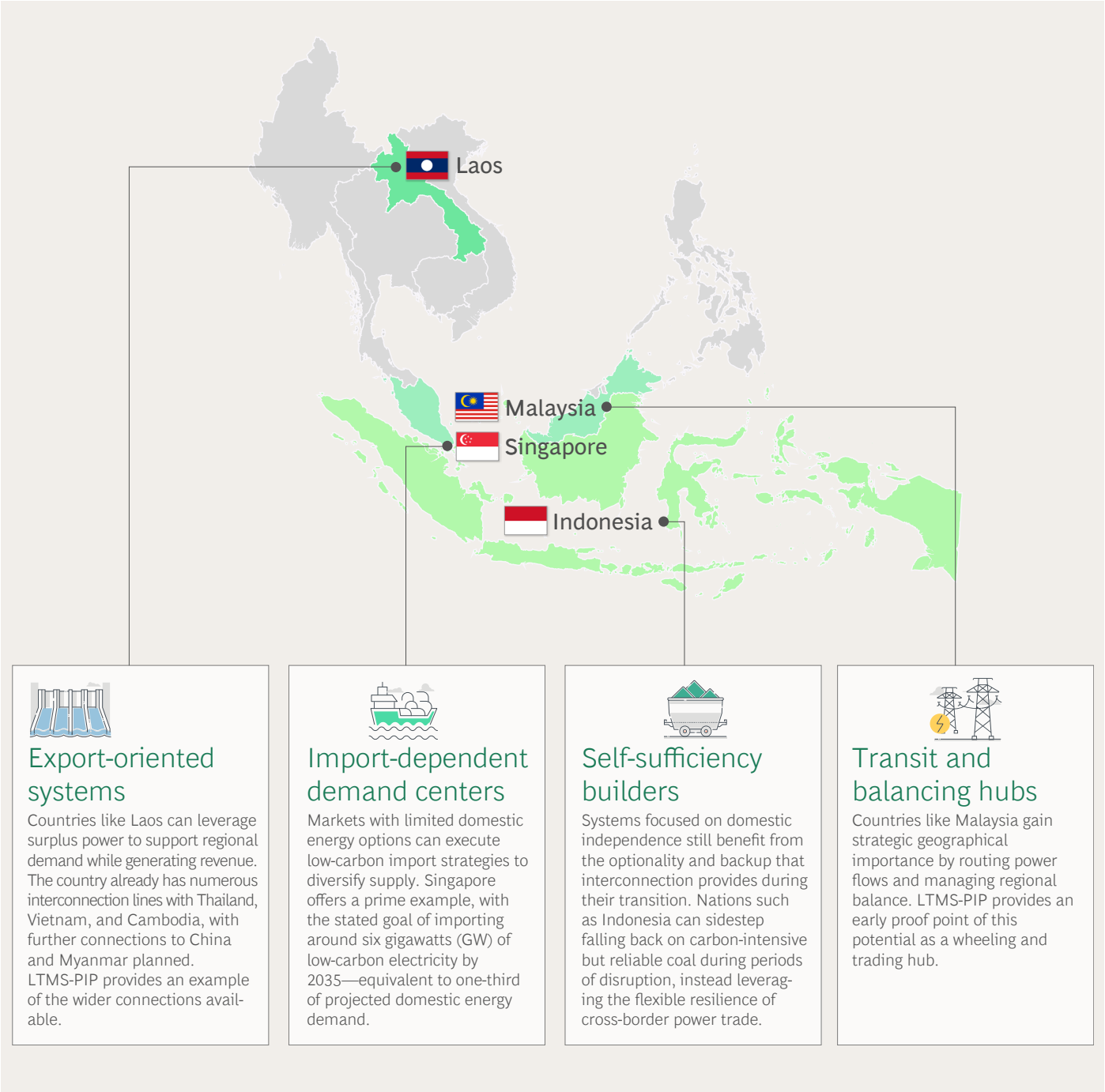
The grid turns ASEAN diversity into advantage

ASEAN's strongest case for the Grid is simple: regional diversity is an asset, not a problem. Countries do not need identical roles to benefit from connection. A functioning regional grid allows those different roles to work together rather than in isolation. This source of regional competitive advantage can be seen across five distinct value pools: (1) Complementarity; (2) Resilience; (3) Security of supply; (4) Affordability and competitiveness; (5) Support for transition.

Complementarity. A functioning regional grid allows different national systems to work together rather than in isolation. Countries do not need to play identical roles to benefit from interconnection. Instead, they fit into complementary archetypes. [**Exhibit 4.**]

EXHIBIT 4

Archetype



The Nordic grid: what regional integration looks like in practice

The Nordic Grid provides a valuable example of an integrated regional grid system with proven benefits for its members. It demonstrates how regional integration reduces system costs and delivers shared value without sacrificing national competitiveness.

The Nordic system thrives by combining complementary energy profiles. Norway provides highly flexible hydropower capacity. Denmark supplies high volumes of intermittent wind generation. Sweden contributes steady baseload power using nuclear and hydro facilities.

Linking these diverse resources provides the Nordic region with significant structural benefits. Interconnection reduces the requirement for redundant domestic backup generation, significantly lowering overall capital spending across the region. For example, when wind generation drops in one area, the grid automatically draws on dispatchable hydropower from a neighboring country to balance the load. Cross-border trade optimizes resource allocation and keeps wholesale power prices stable for industrial users. This flexibility is a pivotal part of the region's strategy to deal with growing electrification driving increased power demand in coming decades.

The Nordic experience shows that grid integration drives economic resilience. ASEAN can unlock the same cost efficiencies by linking its diverse country archetypes. Advancing toward a fully integrated regional market will structurally protect member states against price volatility and deliver the reliable power necessary for continued industrial growth.

Resilience. A larger, connected system absorbs shocks better than a fragmented one. When dependable transmission and workable trading rules link countries, they gain access to a broader balancing pool. This connectivity mitigates the impact of sudden outages, extreme weather events, heavy maintenance cycles, and renewable intermittency. By sharing reserves, systems lower the need for every market to self-insure at a high cost. This results in fewer disruptions and reduced need for overcapacity which translates directly to lower costs for firms and consumers.

Security of supply. Security does not require absolute self-sufficiency. In a region where some systems remain highly exposed to imported oil and LNG, diversified regional electricity trade provides a powerful structural hedge. The ASEAN Power Grid makes national strategies less fragile. It replaces isolated vulnerability to global fuel shocks with managed, resilient regional interdependence.

Affordability and competitiveness. The ASEAN Power Grid represents a critical lever for cost control. The World Bank's commentary on the APGF initiative directly highlights that regional power trade improves reliability and affordability. Interconnection lowers operating costs, reduces system redundancy, and makes more efficient use of installed generation assets. Cheaper and more stable electricity directly improves the cost base of manufacturing, the viability of data centers, and overall household welfare. If ASEAN wants to attract long-term capital, the cost and quality of electricity will matter as much as labor and logistics.

Support for the transition. Interconnection makes decarbonization cheaper and technically manageable. It is not a separate exercise. A connected grid widens the balancing pool for intermittent renewable energy. The IEA states that stronger interconnection reduces renewable curtailment and lowers total generation-capacity needs relative to a weakly connected system.

Closing the missing middle of ASEAN Power Grid delivery

While high-level diplomatic agreements and infrastructure financing are critical, regional interconnection will also depend heavily on the 'missing middle' of project deployment. These practical enablers sit squarely between a signed memorandum and a funded transmission line.

Building a workable cross-border corridor demands project readiness, corridor coordination, and deep institutional capability to manage complex, multi-jurisdictional rules. Equally important are the social and administrative enablers, including stakeholder engagement, consumer awareness, and visible benefit-sharing. Without these elements, even the most economically logical interconnectors face permitting delays or local opposition.

Developers and regional institutions can translate high-level maps into bankable proposals and align cross-border regulations and permitting to effectively close this gap. Planners can build local trust by communicating reliability benefits and delivering visible value to communities hosting infrastructure.

Catalytic or early-stage capital can provide financial stimulus in this missing middle. Rather than replacing backbone infrastructure financing, it funds early-stage capacity, readiness, and inclusion. This targeted support builds the trust required for commercial investment to follow.

A regional grid only works if national systems are ready to use it

One risk in discussing the ASEAN Power Grid is to assume that once cross-border links are built, value will naturally flow. In reality, a regional grid cannot outperform the domestic systems it connects. Imports and exports still have to move through national networks, substations, dispatch arrangements, and market rules. Weak or congested national systems make regional links look better on a map than they perform in practice.

Regional connectivity creates value only when national systems are technically, commercially, and institutionally ready. That is why the ASEAN Power Grid should be discussed alongside domestic grid reinforcement, flexibility resources, storage, and market reform. Cross-border trade works only when national systems can absorb, balance, and dispatch power dynamically. Without that, interconnection is symbolic, not systemic.

The ASEAN Power Grid will require progress across numerous domestic fronts in order to bolster overall regional opportunity.

Domestic grid readiness is a key piece of the puzzle. Imports and exports must navigate national transmission networks and system-control frameworks. If internal bottlenecks persist, cross-border links lose their value. The World Bank emphasizes that the APGF initiative must look beyond interconnectors. It must finance domestic grid upgrades and subsea cables to clear these bottlenecks.

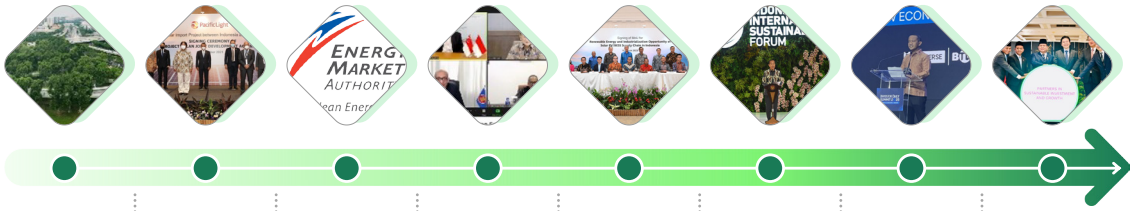
Flexibility and balance are also critical. Interconnection yields limited value without domestic flexibility. The IEA stresses that ASEAN needs significant grid investment alongside batteries and demand response. Storage, flexible generation, and ancillary-service capabilities provide the resilience needed to balance regional trade.

True market and operational reform will empower the wider environment. Physical capacity requires robust market rules. Dispatch operations and transparent access guidelines matter as much as physical infrastructure. If domestic systems cannot handle dynamic trade, the ASEAN Power Grid remains a politically negotiated concept rather than a routine operation.

ASEAN Power Grid planning must also smoothly integrate with national energy-security strategies. Some countries will integrate gradually as a result of domestic policies and starting points. Nations will operate on different timetables to build upstream capacity, renewable energy pipelines, energy storage facilities, and self-sufficiency buffers. This approach reflects distinct domestic incentives rather than opposition to regional trade. Bilateral links can be seen as necessary foundations for these nations, rather than the finished product evidencing genuine regional interconnectivity. The bilateral development of power sharing between Singapore and Indonesia offers a salient example—showcasing the political will to build cross-border connections, as well as the persistent barriers in delivering tangible outcomes from those aims. [**Exhibit 5.**]

EXHIBIT 5

Indonesia–Singapore G2G agreement finalized with conditional licenses granted in Sep 2024, but bottlenecks remain



Feb 2021
Launched SG Green Plan - target to import electricity (4 GWac), which accounts for ~30% of energy supply in 2035

Oct 2021
GOI signed the Joint Development Agreement for Solar Power Export Pilot project

Nov 2021
SG Energy Market Authority issued the first RFP for the electricity import for 1.2 GW; second RFP for remainder (Jul 2022); combined target 4 GW

Jan 2022
SG and Indonesia signed an MOU to cooperate on climate change and sustainability

Mar & Sep 2023
First bilateral MOU on energy cooperation signed Additional MOUs; EMA conditional approvals of 2GW from Indonesia

Sep 2024
ISF Jakarta: 5 conditional licenses (2 GW) + 2 new conditional approvals (1.4 GW)

Feb 2025
MEMR Minister Bahlil withholds export permits pending reciprocal benefits

Jun 13, 2025
Landmark bilateral MOU renewed: MEMR + MTI; 3.4 GW by 2035 confirmed; NRE industrial zone in Riau Islands

As of today, no project at financial close
No significant construction progress on any solar firms

Target first delivery by 2028 at risk

Source: BCG research

The changing economic and digital environment also presents dynamic challenges to ongoing energy ecosystem development. Surging demand from new load centers is rapidly shifting national power balances. Industrial electrification and data centers alter how countries participate in the regional grid. We estimate that data center energy demand in ASEAN could reach 5.2 GW to 6.5 GW by 2030 driven by continued digitization, expanding connectivity, and the acceleration of AI adoption.

Malaysia serves as a clear illustration of this complex landscape. Geography positions Malaysia as a natural corridor and balancing hub for ASEAN's power needs—a reality already demonstrated with its role in the LTMS-PIP project—but its own domestic demand is shifting as the country becomes an increasingly important regional data center provider.

Recent research by ISEAS–Yusof Ishak Institute also demonstrates the changing face of national electricity demand, as local consumption reshapes nations' short-run power balances. BCG research shows Malaysian data center capacity grew at 9% CAGR between 2019 and 2023, driven by digitalization, better network infrastructure, and government policy.

This localized consumption boom could quickly reshape Malaysia's short-run power balance. As a result, the country's capacity to export or balance power may well evolve as internal requirements change.

Evaluating domestic readiness alongside shifting local demand builds the foundation for an effective regional grid. Robust national systems do more than balance internal growth. They prepare ASEAN to face external market shocks. By linking these strengthened domestic networks, the region establishes a structural defense against global fuel-price volatility, delivering essential stability and resilience for businesses.

In more volatile global energy markets, regional power trade becomes a strategic hedge

The ASEAN Power Grid matters not simply because of one singular crisis but as a buffer against volatility in a changing global energy environment.

ASEAN is particularly sensitive to this instability. Regional energy demand continues to rise, with large parts of the region heavily reliant on imported oil and LNG.

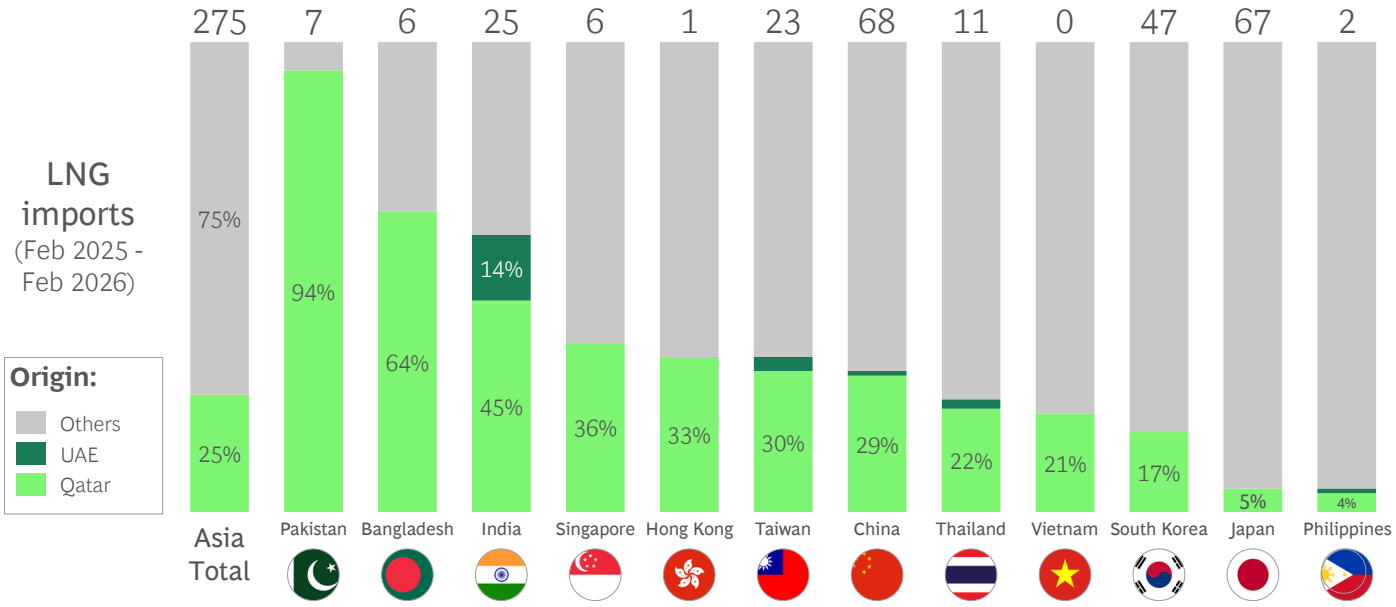
The ASEAN Centre for Energy (ACE) recently highlighted how the disruption in the Middle East to start 2026 sharpened regional energy-security concerns. Crude oil prices increased by nearly 40% between February and March 2026 and the cost of LNG shipments to Asia rose by almost two-thirds during the same period.

The primary problem for businesses is not just how costly energy might be, but how unreliable it is to source. In a structurally volatile global energy market, the ASEAN Power Grid offers stability to plan, purchase, and consume power.

In a period of severe disruption, predictability is itself a strategic asset. The World Bank has identified that commodity-price volatility since 2020 remains unusually high by historical standards, featuring shorter cycles and sharper reversals. [**Exhibit 6.**] In this environment, prices swing quickly and planning assumptions break down. Shocks in one part of the world move through fuel, power, and industrial cost structures in a matter of weeks.

EXHIBIT 6

LNG exposure: Asia heavily exposed to Hormuz; European exposure limited to a few countries



Source: BCG research

While cost management remains a complex challenge, fuel availability presents an even greater structural risk to system resilience. When global fuel markets tighten, the effects feed directly into power-generation costs, utility finances, industrial tariffs, and consumer prices. That makes global energy volatility a competitiveness issue as much as an energy issue.

This volatility hits public finances as hard as private ones. When fuel prices spike, governments absorb the pain through subsidies and utility support. In a 2023 regional review, the IEA highlighted that fossil-fuel consumption subsidies in ASEAN surged to record levels in 2022—the year when Russia's invasion of Ukraine sent shocks through global energy markets. As countries turn to subsidies to buffer the consumer cost of rising fuel prices, public balance budgets come under strain.

LNG volatility is especially relevant to ASEAN because gas remains vital to the regional power sector. The IEA's Gas Market Report Q3 2025 highlighted how geopolitical tensions fueled gas-price volatility in 2025, pushing Asian LNG spot prices to 28% above first-half 2024 levels. If flexible cargoes become more expensive or harder to secure, parts of the electricity system inherit that volatility directly.

Unstable energy costs ripple well beyond the power sector. Unpredictable tariffs erode confidence in any long-lived investment. They make operating-cost assumptions less reliable for manufacturers, digital infrastructure operators, and investors. However, one external crisis only serves as a sharp reminder. The deeper story is structural.

This is where the ASEAN Power Grid becomes strategically important. A better-connected regional grid will not eliminate ASEAN's exposure to global energy markets, but it can reduce it. By widening the pool of available electricity sources, supporting more renewable integration, and improving the ability to share balancing resources across borders, the ASEAN Power Grid can reduce how much of the power system depends directly on imported fuels at the margin.

Even countries prioritizing domestic energy independence benefit from the ASEAN Power Grid as a transition hedge. It provides optionality while domestic renewables, upstream development, and storage scale up—a hedge that lowers vulnerability without claiming to eliminate it. ASEAN does not control geopolitical shocks, shipping disruptions, or global LNG competition. What it can control is how much optionality its power system has when those shocks arrive.

That is the real takeaway for businesses and decision makers across the region. The ASEAN Power Grid matters more in volatile global energy markets because diversification, resilience, and planning confidence become more valuable when fuel-driven cost swings are harder to predict. The grid is not just a climate or infrastructure idea—it is part of the region's answer to unstable external energy conditions.

A better-connected system helps reduce cost pass-through, supports reliability, and improves planning confidence. It strengthens overall regional competitiveness through the mutual benefits of a flexible power ecosystem. The upside of delivering on this ambition is why the ASEAN Power Grid matters—because solving the challenges for development unlocks substantial economic and strategic advantages for the region.

ASEAN can move faster by standardizing what matters and sequencing what is possible

ASEAN does not need perfect harmonization before it acts on the ASEAN Power Grid. Waiting for a fully unified end-state design simply prolongs the gap between ambition and delivery. Instead, the region requires a sequence of investable, rule-based, corridor-level advances that policymakers and investors can repeat and scale. A practical approach focuses on standardizing the rules that matter most, sequencing projects at the corridor level, and letting working examples build confidence for broader integration.

The pragmatic path forward is one that recognizes that countries may move at a different pace, with harmony defined by the shared benefits of the end goal rather than the individual steps at any given point on that journey.

We see a pragmatic path forward resting on three essential priorities: (1) Comprehensive investment and tailored financing; (2) Policy and market design; (3) Consensus and phased governance.

Priority 1: Comprehensive investment and tailored financing

Capital must flow into a broader ecosystem than just cross-border interconnectors. The IEA estimates that the region requires US$300 billion in grid investment from 2025–40. While interconnectors account for roughly US$27 billion of that total, the vast majority of those funds will be required in domestic transmission, substations, system-control upgrades, subsea links where relevant, and the flexibility assets that make regional trade operationally viable.

Project preparation should be a core part of the investment requirement, not an afterthought. Many technically sound concepts fail before becoming bankable projects. To cross this hurdle, developers can match the financing stack to the specific corridor risk and project maturity, rather than treating financing as one generic problem. This requires deploying a tailored mix of multilateral development bank (MDB) lending, blended finance, guarantees, political-risk support, and public-private partnership (PPP) structures.

The recent APGF initiative launched by the World Bank and the Asian Development Bank (ADB) offers an important catalyst. APGF signals a shift from bilateral project-by-project financing to structured regional capital mobilization.

It presents a supportive regional mechanism designed to unlock capital, de-risk investments, and strengthen the overall financial viability of the ASEAN Power Grid. This holistic investment approach will be fundamental if ASEAN is to financially support the development of an integrated regional grid.

Building a fully integrated regional grid by 2045 requires strong coordination across jurisdictions to align funding sources and mitigate risk. Doing so will require aligning capital flows, mitigating cross-border risk, and building the project pipeline from concept to financial close.

Priority 2: Policy and market design

Policy architecture is just as critical as financial capital. The IEA emphasizes that standardizing trading arrangements and improving risk allocation are foundational to ASEAN Power Grid financing. Predictable commercial rules form the essential foundation for investor confidence and long-term systemic reliability. While financial capital is critical, investors require regulatory certainty to commit funds to complex cross-border infrastructure. Without standardized commercial frameworks, power transactions remain bespoke, complex, and slow. Transparent frameworks lower the risk profile, make large-scale interconnectors bankable, and deliver the resilience and affordability the region needs.

Advancing regional integration from concept to routine operation requires specific structural market design. This includes harmonizing technical standards for grid-code alignment and establishing clear wheeling principles for third-party networks. Transparent settlement rules and fair cost-allocation models are also necessary to distribute shared infrastructure expenses equitably. Aligning operational schedules for dispatch coordination and establishing transparent access rights will optimize regional generation capacity and maintain stable power flows.

Beyond market design, permitting and land acquisition represent an often-overlooked practical bottleneck. A technically attractive interconnector will fail if its development stalls in local bureaucracies. Streamlining rights-of-way and project approvals is central to making cross-border infrastructure financeable and timely. Efficient domestic permitting pathways must balance development goals with community rights, building the physical and regulatory ground necessary for regional integration.

Priority 3: Consensus and phased governance

The ASEAN Power Grid will scale only when national governments, regulators, and utilities integrate regional trade into their domestic energy security and development roadmaps. Regional communiqués can be strengthened—countries can see interdependence as fundamentally compatible with their national goals.

Leaders can adopt a phased governance approach to build political trust:

- **Scale subregional success.** Focus on corridor-based progress where incentives naturally align.
- **Build repeatable templates.** Develop transaction models that can rapidly expand multidirectional trade where feasible.
- **Establish legitimacy.** Design the system to be demonstrably fair. Sustaining momentum requires delivering clear consumer value, creating visible local benefits, and guaranteeing an equitable sharing of gains.

Interdependence works politically when governments design and govern it fairly. The grid will become a reality not when regulators settle every issue in advance, but when enough standardization and confidence exist to turn pilot projects into a broader pattern.

Policymakers can build consensus by harmonizing policies and technical standards. A flexible development approach bridges the gap between regional aspirations and distinct national priorities. This flexibility aligns individual infrastructure projects with broader frameworks, such as the ASEAN Interconnection Masterplan Studies (AIMS).

Demonstrating early success through robust data is also critical to building sustained regional engagement. Clearly demonstrating these shared benefits and fostering transparent project-level information sharing is a foundation to securing the widespread public and private engagement necessary to elevate cross-border infrastructure as a top political and economic priority.

The decision now facing the region narrows down to a vital strategic choice. It is not a question of whether ASEAN supports regional integration in principle, but whether it is committed to developing it and thus reducing its exposure to external fuel vulnerability in practice.

The choice is not whether to connect, but when

The ASEAN Power Grid matters because it provides a structural answer to Southeast Asia's changing energy reality. It is not merely an infrastructure megaproject, a pivotal step towards low-carbon transition, a way to buffer against geopolitical uncertainty or changing energy demand. The ASEAN Power Grid is these things and more—it is a core component of the region's broader economic-security strategy.

The fundamental choice facing policymakers and businesses is not a theoretical debate between self-determination and simple dependence. Rather, the decision is whether ASEAN will remain highly exposed to the shocks of external fuel volatility, or if it will build a deliberate, managed regional interdependence. By actively choosing the latter, the region can systematically improve affordability, strengthen physical resilience, and secure a more reliable power supply over time.

Realizing this vision requires looking far beyond the physical infrastructure. The ASEAN Power Grid is a long-held dream, and bringing it to life requires more than simple physical infrastructure. APGF is a valuable step, but the region has published commitments before—now is the time for action.

Domestic grid readiness, modern market design, tailored financing structures, and robust flexibility resources should be backed by the commitment of decision makers to deliver the physical and political scaffolding upon which the ASEAN Power Grid will be built.

When policymakers align these elements, interconnection transforms ASEAN's diverse geography and energy resource base from a driver of fragmentation into a unified, strategic advantage.

We firmly believe the ASEAN Power Grid will act as an essential tool of shared resilience. It does not replace or eliminate national energy strategies, but reinforces them. A well-designed, rule-based regional system lowers vulnerability to global energy shocks while fundamentally preserving national agency.

ASEAN has been forced to face a moment of crisis which will undoubtedly sharpen minds, but such crises are not unique. The question is how prepared will the most recent disruption make us for the next?

The Grid reaches its potential only when governments and business leaders stop treating cross-border trade as a sovereignty concession and start using it as a practical instrument of collective economic strength.

About the Authors

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