Clean Energy Perspectives on Security and Resilience

Vietnam's Energy Security Depends on Accelerating its Clean Energy Security

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Key findings

Vietnam's revised Power Development Plan VIII (PDP8) targets 22.5 gigawatts (GW) of liquefied natural gas (LNG)-fired capacity by 2030. IEEFA estimates LNG imports required could increase the energy import bill by around 66–106%. Domestic solar and wind could meet demand more quickly and economically while strengthening energy security.

The economics of new gas-fired generation have deteriorated, with higher LNG prices, rising construction costs, and longer equipment lead times. IEEFA estimates that current capital costs for utility-scale combined-cycle gas turbine (CCGT) plants are approximately 60–100% higher than the costs implied by Vietnam's 2025 LNG-fired electricity tariff ceiling, weakening the economic case for planned projects.

Renewable energy offers a lower-cost and faster-to-deploy alternative. IEEFA estimates that utility-scale solar can generate electricity at 51–60% below Vietnam's LNG-fired electricity tariff ceiling, while onshore wind is 58–69% cheaper, strengthening the case for greater investment in domestic renewables.

Vietnam can accelerate renewable investment through a combination of revised feed-in tariffs (FiTs), competitive auctions, and continued expansion of direct power purchase agreements (DPPAs), supported by investment in transmission, storage, and system flexibility. Together, these measures can strengthen affordability, investment certainty, and energy security.

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Executive summary

Recently, Vietnam has emerged as one of Southeast Asia's fastest-growing economies and an increasingly important manufacturing hub for multinational companies, including Samsung, Apple, Nike, Adidas, Google, and Amazon. Rapid industrialisation, urbanisation, and rising living standards have driven sustained growth in electricity demand, making reliable, affordable, and secure energy supplies critical to the country's economic development.

Traditionally, energy security referred to the reliable and affordable supply of energy needed to support economic activity. Deeper integration into international energy markets could enable this objective by allowing countries to diversify suppliers and access globally traded fuels when domestic resources are insufficient. However, Russia's invasion of Ukraine in 2022 and the 2026 Middle East conflict, which disrupted shipping through the Strait of Hormuz, exposed the vulnerabilities of this approach, demonstrating how geopolitical events can rapidly affect globally traded fuel supplies and prices.

For Vietnam, these risks are becoming more important as electricity demand rises and the country becomes more dependent on imported energy. The 2026 disruption was particularly significant given that approximately 85% of Vietnam's crude oil imports originate from the Middle East, along with around 80% of its propane imports and more than half of several key hydrocarbon liquids. Although Vietnam imports only a limited share of its liquefied natural gas (LNG) directly from the region, its reliance on the spot market leaves it critically exposed to global LNG price fluctuations regardless of the origin of individual cargoes. Energy security, therefore, increasingly encompasses not only adequate and affordable supply but also greater energy independence and resilience to geopolitical disruption, commodity price volatility, and global supply chain disruptions. Vietnam cannot control these external events, but its energy choices can determine how exposed its economy and power system are to them.

These considerations are increasingly important for Vietnam's power sector. Under the April 2025 revised Power Development Plan VIII (PDP8), Vietnam plans to meet part of its rapidly growing electricity demand through a substantial expansion of gas-fired power. By 2030, the plan targets 22.5 gigawatts (GW) of LNG-fired capacity and 10.9–14.9GW of domestic gas-fired generation. As production from mature domestic gas fields declines and new offshore resources prove costlier and slower to develop, this expansion would increase Vietnam's reliance on imported LNG and its exposure to global fuel markets.

The economics underpinning this strategy have also changed. LNG fuel costs remain uncertain, while the cost of building new combined-cycle gas turbine (CCGT) power plants has risen sharply and equipment lead times have lengthened. Higher fuel and project costs would ultimately need to be borne by developers, state-owned energy companies such as Vietnam Electricity (EVN), the government, or electricity consumers. This could undermine Vietnam's longstanding objective of maintaining affordable and predictable electricity prices.

The changing economics of gas-fired power are particularly significant when compared with renewable energy. Even the relatively generous feed-in tariffs (FiTs) used to accelerate Vietnam's first renewable energy boom are below the estimated cost of new LNG-fired generation under current market conditions. Between 2018 and 2023, these FiTs helped increase Vietnam's installed solar and wind capacity from virtually zero to more than 21GW and mobilised billions of dollars in private investment. Renewable technology costs have fallen further since those tariffs were introduced, while LNG fuel and CCGT construction costs have risen.

This strengthens both the economic and energy security case for greater use of Vietnam's domestic renewable resources to meet growing near-term electricity demand. Solar and wind require substantial upfront capital but provide greater long-term cost certainty because

their economics are largely determined when projects are built rather than by fuel prices over decades of operation. Increased use of domestic renewable resources can also strengthen energy independence by reducing the amount of additional electricity demand that must be met with imported fuels.

Vietnam's first renewable energy boom exposed weaknesses in the investment and regulatory framework. FiTs mobilised substantial domestic and international capital, but rapid development outpaced transmission investment in several regions, contributing to congestion and curtailment. Subsequent changes to pricing arrangements and uncertainty over the treatment of some existing projects have also affected investor confidence.
The next phase will therefore require a different approach. Vietnam will need substantial private capital to develop new generation and supporting infrastructure, requiring greater certainty over how projects are procured, priced, and connected to the grid. Transparent market mechanisms, stable and clearly communicated policies, credible contractual arrangements, and consistent implementation will be necessary to give developers and lenders confidence to commit long-term capital. Continued investment in transmission and storage, along with improved coordination between generation and grid planning, will also be essential to maximise Vietnam's domestic energy resources.

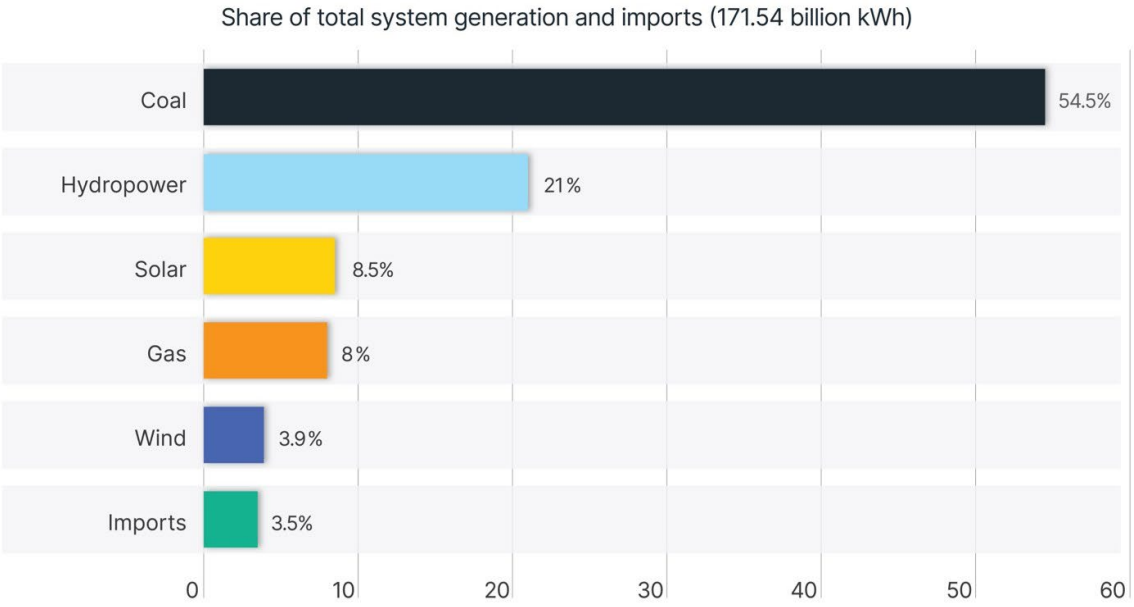
Taken together, the changing economics of gas and renewable energy provide a strong case for reassessing the balance of new investment proposed under PDP8. The objective should be to meet rapidly growing electricity demand at an affordable cost while strengthening energy independence and limiting Vietnam's exposure to risks beyond its control. Decisions on long-lived fossil fuel infrastructure should also account for changing power system needs, long-term costs, and Vietnam's commitment to achieve net-zero emissions by 2050.
The Institute for Energy Economics and Financial Analysis (IEEFA) identifies four priorities for strengthening Vietnam’s energy security while meeting growing electricity demand:

1. Shift a greater proportion of near-term power supply development towards domestic renewable energy. Prioritise solar, wind, and other domestic renewable resources where they can meet incremental electricity demand more quickly and economically than new LNG-fired generation. Increasing the share of electricity supplied from domestic renewable resources would strengthen energy independence and reduce the additional import requirements associated with expanding gas-fired power. As renewable energy and storage capacity expand, some planned LNG projects may also prove unnecessary.
2. Reassess the scale and sequencing of LNG development. Regularly review the 22.5GW LNG target against changing fuel prices, construction costs, equipment availability, project timelines, expected utilisation, and Vietnam's longer-term power needs. For projects that remain under consideration, assess fuel and foreign exchange exposure, infrastructure requirements, and vulnerability to geopolitical disruption when determining whether they remain economically justified. This would reduce the risk of committing to long-lived infrastructure where changing market conditions or lower-cost alternatives have weakened the investment case.
3. Accelerate investment in transmission, storage, and power system flexibility. Align generation development more closely with transmission expansion and accelerate investment in grid infrastructure, storage, and other sources of system flexibility. This would help reduce congestion and curtailment, enable greater integration of renewable energy, and ensure that new renewable capacity can contribute reliably to meeting electricity demand.
4. Establish a stable and bankable framework for private investment. Provide transparent procurement and pricing mechanisms, including consideration of revised FiTs and competitive renewable energy auctions, while supporting the continued implementation and expansion of the existing Direct Power Purchase Agreement (DPPA) framework. Credible power purchase arrangements, clear grid-connection rules, and consistent treatment of existing and future projects should underpin these mechanisms. Greater regulatory certainty will be essential to restore investor confidence, reduce financing costs, and mobilise the scale of domestic and international private capital required for Vietnam's power sector expansion.

Vietnam's energy security challenge

Vietnam's electricity system has undergone rapid change over the past decade, but fossil fuels remain the foundation of power generation. In the first half of 2026, coal accounted for 54.5% of electricity generation, while gas-fired power contributed a further 8%. Hydropower supplied 21%, solar 8.5%, and wind 3.9%, while imports (predominantly wind) accounted for the remaining 3.5%. Total electricity generation and imports reached 171.5 billion kilowatt-hours (kWh), almost 10% higher than in the same period in 2025, reflecting continued growth in electricity demand.

Figure 1: Vietnam's electricity generation mix, H1 2026



Source: Vietnam Electricity (EVN), 2026.
Note: Components do not sum to 100% due to rounding and an unspecified number (~0.5%) within EVN's renewables category.

Meeting this demand will require substantial new power supply and investment across the electricity system. The energy security challenge is not simply to add sufficient generating capacity, but to determine which investments can meet demand reliably and affordably while limiting Vietnam's exposure to external shocks and supporting its longer-term energy objectives. Under the country's revised national electricity sector development plan, Power Development Plan VIII (PDP8), gas-fired power is expected to play a significantly larger role. Vietnam targets 22.5 gigawatts (GW) of liquefied natural gas (LNG)-fired capacity and 10.9–14.9GW of domestic gas-fired generation by 2030, bringing total planned gas-fired capacity to 33.4–37.4GW, or around 16–18% of installed generation capacity.

This expansion is planned as production from Vietnam's mature offshore gas fields declines. While new domestic resources could provide additional supply, major projects have proved more costly, technically complex, and slower to develop than originally anticipated. This increases the likelihood that the government may need to meet a greater share of Vietnam's future gas demand with imported LNG, making global energy market developments increasingly relevant to power generation costs.

Recent market volatility in fossil fuel prices illustrates this exposure. During the 2026 Middle East conflict, crude oil prices rose by around 50%, immediately impacting most long-term LNG contracts, which are indexed to oil, while spot LNG prices rose by as much as 77%. Such sharp movements in global energy prices are also changing the conditions under which developers assess new power investments.

Changing market conditions are reshaping investment decisions

There are already signs that some investors are reassessing planned projects. In March 2026, Vingroup JSC, Vietnam's largest private conglomerate, proposed replacing its planned 4.8GW LNG power project in Hai Phong — the country's largest proposed gas-fired power plant — with a portfolio of solar, wind, and battery storage. The company cited surging LNG prices linked to the Middle East conflict as a key reason for the proposed change.

The Hai Phong LNG project would have required 5 million tonnes per annum (MTPA) of LNG, with annual fuel imports valued at around USD3.5–3.8 billion under prevailing market conditions earlier in 2026. At recent spot LNG prices of approximately USD24 per million British thermal units (MMBtu) in September 2026, annual fuel costs could exceed USD6.2 billion. Although Vingroup estimated that replacing the project with solar, wind, and battery storage would require around five times the upfront capital investment, the company argued that greater long-term cost certainty justified the shift and sought a pricing mechanism that would enable investors to recover those costs.

The proposal highlights the different cost structures facing investors. LNG-fired generation requires ongoing fuel purchases throughout a project's operating life and is subject to persistent price volatility, while solar and wind require substantial upfront capital but avoid ongoing fuel costs. Vingroup's proposed change suggests that long-term cost certainty can outweigh lower upfront capital requirements when developers assess new generation investments.

Affordability and Vietnam's wider power system

These considerations extend beyond the economics of individual projects. Vietnam has long sought to maintain affordable and relatively predictable electricity prices to support households, industry, and economic growth. Exposure to global fuel markets can make that objective more difficult when fuel costs rise sharply.

Following Russia's invasion of Ukraine, retail electricity tariffs remained flat throughout 2022 despite sharp increases in global coal and gas prices. Although regulated electricity price increases were approved in 2023, the adjustments were gradual, leaving Vietnam Electricity (EVN) to absorb substantial financial losses. By the end of 2024, EVN's accumulated losses had reached around USD1.7 billion.

Vietnam's experience following the 2022 fuel price shock shows that when higher generation costs cannot be passed through to consumers, the financial burden can fall elsewhere in the power system. A substantial expansion of gas-fired generation could increase this pressure if fuel and project costs remain high.

As Vietnam considers the role of gas-fired power in meeting rising electricity demand, the key question is whether planned projects can deliver electricity at costs consistent with the country's affordability objectives.

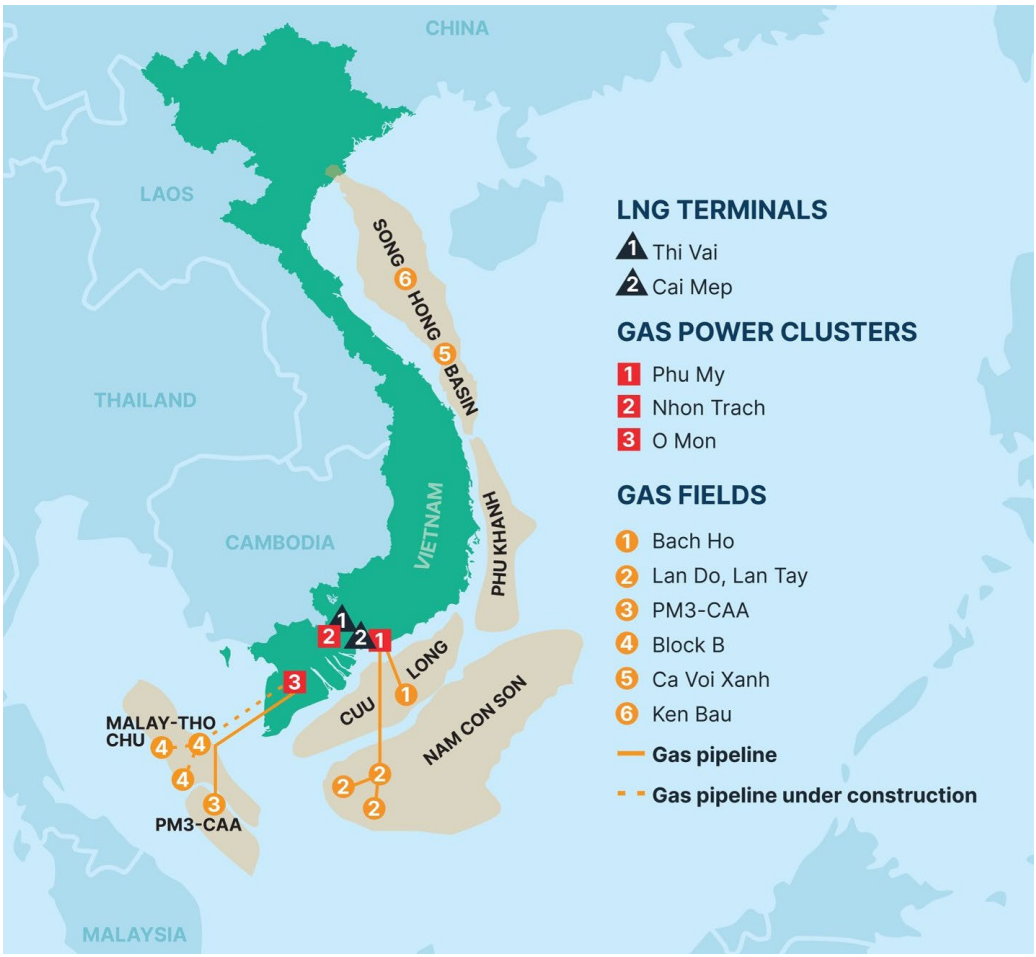
The changing economics of gas-fired power

Vietnam's plan for gas-fired power depends on two main sources of supply: new domestic gas production and imported LNG. However, the economics of both pathways have eroded considerably in recent years. New domestic gas resources have proved more difficult and expensive to develop than anticipated, while imported LNG is subject to the costs and volatility of global fuel markets.

Vietnam holds substantial offshore gas resources, with total discovered reserves estimated at around 22.8 trillion cubic feet (tcf). Existing domestic gas production is concentrated in the Nam Con Son and Cuu Long basins in the southeast and the PM3-CAA Vietnam-Malaysia joint development area in the southwest, which supplies the Ca Mau power and fertiliser complex. All of Vietnam's gas-fired power capacity is in the south: 5,705 megawatts (MW) in the southeast, requiring around 20–22 million cubic metres of gas per day (mcm/d), and 1,500MW in the southwest, requiring a further 4–4.6 mcm/d. Figure 2 illustrates the location of Vietnam's gas fields and downstream consumption centres.

Production from the country's mature gas fields has been declining for almost a decade, falling by 42% from approximately 13.6 mcm/d in 2015 to around 7.94 mcm/d in 2025. This is less than half the gas required by the southeastern power plants. In response, Vietnam is pursuing both new domestic gas development and imported LNG to address this shortfall.

Figure 2: Vietnam's gas fields, gas infrastructure, and downstream consumption centres



Source: PetroVietnam; The Diplomat (map); IEEFA analysis.

Domestic gas: expectations versus realities

Vietnam's domestic gas sector has historically been constrained by government expectations of relatively low delivered gas prices and contractual terms favourable to the state, which have made project economics less attractive to foreign development partners. As the cost of developing more complex offshore resources has increased, reaching agreement on the price of new gas supply has become challenging, contributing to lengthy negotiations and project delays.

The Nam Con Son field, discovered in 1993, took seven years of negotiations with developers BP-Statoil before an agreement was reached in December 2000, allowing pipeline construction to commence in 2001. The field came online in 2003, supplying the 3,900MW Phu My power generation complex in Ba Ria-Vung Tau Province.

Since the Nam Con Son development, there have been three major gas discoveries: Block B (Blocks 48/95 and 52/97) in the Malay-Tho Chu Basin in the Gulf of Thailand in 1997, with recoverable reserves of around 3.8tcf; Ca Voi Xanh, with around 5.3tcf of gas, in 2011; and Ken Bau, with an estimated 7–9tcf of raw gas, in the Song Hong Basin in 2019. Together, these fields contain resources that could support rates of production several times Vietnam's current annual gas consumption. Yet despite their scale, none have entered commercial production, as government counterparts have found development costs difficult to justify. Historically, domestic gas production costs have been around USD4.00/MMBtu, while government targets for new developments were around USD6.00/MMBtu. New gas developments, however, are proving significantly more expensive.

Block B, the only new gas field under active development in Vietnam, illustrates the challenges of bringing these resources into production. When American oil and gas company Chevron discovered the field in 1997, its initial estimates placed the cost of produced gas from the wellhead at about USD7.00–10.00/MMBtu. The 400-kilometre (km) pipeline required to transport the gas onshore would add another USD1.00–1.50/MMBtu, with further costs likely for onshore gas processing. As these estimates were well above government expectations, extended negotiations over the project's commercial terms followed. In 2010, Chevron agreed to undertake front-end engineering and design for Block B, but the work largely confirmed its earlier cost estimates.

After a nearly two-decade impasse, Chevron exited the project in 2015, selling its stake to PetroVietnam, which took over as lead developer. It took another nine years to reach a final investment decision (FID) in March 2024. The upstream development is expected to require around USD6.8 billion, plus an additional USD1.2 billion for the pipeline to the O Mon power complex. The dispersed nature of the field means 37 wells must be drilled before production begins, with around 861 wells required over the project's 20-year life. These infrastructure requirements have substantially increased the cost of bringing the gas to market. Pre-FID estimates by S&P Global put the delivered gas cost at around USD13.70/MMBtu by 2030, well above the government's earlier expectations and Chevron's initial estimates.

Ca Voi Xanh presents a different set of development challenges. The field has a less complex geological structure than Block B and is expected to require only around 10 production wells. Its location, 88 kilometres offshore, also reduces pipeline and transportation costs. However, these advantages are largely offset by the cost of gas processing. Raw gas from Ca Voi Xanh contains around 30% carbon dioxide (CO_2), as well as other contaminants, requiring a dedicated onshore processing plant for CO_2 separation and disposal before the gas can be supplied to customers. The project has yet to reach FID.

Ken Bau, the largest of the three discoveries, remains the furthest from development. Discovered by Eni in 2019 in Block 114 of the Song Hong Basin, the field is operated by Eni Vietnam in a 50:50 partnership with Essar E&P. Progress toward commercial development has been limited. Two exploration wells failed to confirm a commercial development pathway, while the revised PDP8 has

indicated potential development in 2031–2035. As of early 2025, Eni remained in the final survey phase, assessing the project's commercial viability, comparing it with other global investment opportunities, and seeking financing. No official development plan has been approved, and no FID has been taken.

LNG-to-power: rising costs and investment risks

With new domestic gas resources proving challenging to develop in a cost-effective and timely manner, Vietnam has pursued LNG imports. While LNG may be available from global providers, importing it requires substantial infrastructure and long-term commercial commitments, introducing additional costs and market risks.

Importing LNG requires a chain of supporting infrastructure, including unloading facilities, storage tanks, regasification facilities, pipeline connections, and port infrastructure. These physical investments must be supported by commercial arrangements across the LNG supply chain. Gas is typically procured from global LNG sellers under long-term contracts ranging from five to 25 years, using formulas indexed to market prices and denominated in US dollars.

Importers also need sufficient certainty that customers will commit to using the LNG they purchase. Downstream customers, including power generators and industrial users, will be required to enter long-term gas purchase agreements under which they either take delivery of contracted volumes or pay for them if they do not. This creates long-term financial commitments across the LNG supply chain, while fluctuations in global LNG prices and the US dollar must ultimately be absorbed within that chain or passed through to customers.

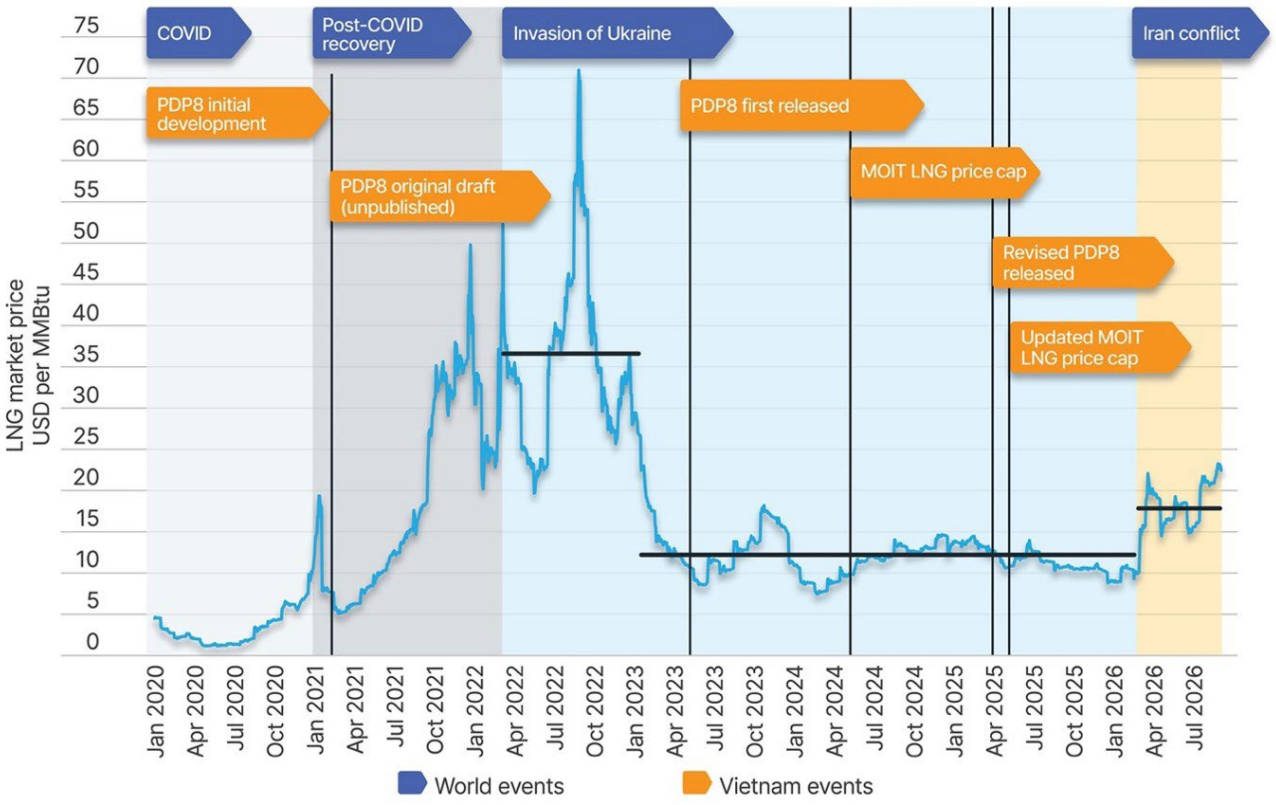
For Vietnam, this creates a tension between the commercial arrangements needed to support LNG imports and the country’s objective of maintaining affordable and predictable electricity prices. This has complicated the development of LNG-to-power projects.

LNG volatility complicates power planning

When PDP8 was being developed, policymakers were working in a very different LNG market. From 2015 to 2020, during the early phases of PDP8’s development, spot deliveries to Asia averaged below USD7.00/MMBtu. Moreover, the plan was initially expected to be released in early 2021, when LNG prices had fallen to near-record lows of USD2.00/MMBtu amid the COVID-19 pandemic. These market signals likely suggested to power planners that LNG-fired electricity could be produced affordably. However, prices began rising sharply in 2021 as economies reopened, ushering in a period of increased volatility that challenged the basis for LNG-fired adoption. Russia’s full-scale invasion of Ukraine in February 2022 pushed spot Asian LNG prices to an all-time high of just below USD70/MMBtu by August 2022. PDP8’s release was delayed several times as planners observed these fuel price fluctuations.

PDP8 was not published until May 2023. By then, Vietnam faced an unfavourable combination of rapidly growing electricity demand and elevated, fluctuating fossil fuel prices. LNG prices had fallen substantially from their 2022 peak, averaging USD12.83/MMBtu from February 2023, but remained highly volatile. When PDP8 was revised in 2025, the government brought forward renewable energy development and delayed some LNG-fired power capacity. Figure 3 compares the timeline of Vietnam’s power planning process with changes in LNG market prices.

Figure 3: LNG prices tracked against major global and Vietnam events



Source: Investing.com, LNG Japan/Korea Marker PLATTS futures, IEEFA research.

The government now has first-hand experience of the risks associated with LNG-fired power. In January 2026, PetroVietnam Power (PV Power) began commercial operations at the 1,500MW Nhon Trach 3 and 4 combined-cycle gas turbine (CCGT) power plant, Vietnam's first to run exclusively on LNG.

The plant is supplied through the nearby 2.5MTPA Thi Vai LNG import terminal, operated by PetroVietnam Gas (PV Gas).

In January 2026, PV Gas signed its first medium-term LNG supply agreement with Shell for 400,000 tonnes annually over five years. This covers only part of Nhon Trach's estimated 1.2–1.5MTPA fuel requirement, leaving the remainder to be secured through other contracts or the spot market.

This is a challenging time to rely on spot LNG purchases. Since the outbreak of the Middle East conflict, the Japan-Korea Marker (JKM) spot LNG price — the benchmark most relevant to Vietnam — has averaged USD18.74/MMBtu through the end of August 2026, compared with just below USD12.00/MMBtu between January 2024 and the start of the conflict. For a power plant the size of Nhon Trach, this increase in spot LNG prices would raise annual fuel costs by around 50%, from approximately USD716 million to USD1.07 billion.

Despite Nhon Trach's challenging economics, PDP8 includes 15 similarly sized LNG-fired power plants, totalling 22.5GW of capacity by 2030.

Scaling LNG-fired generation to this level would significantly increase Vietnam's exposure to fuel costs and create substantial foreign exchange requirements. If all 22.5GW were developed and operated at a 75% capacity factor with a highly efficient plant heat rate of 5,800 British thermal units (Btu) per kWh, the plants would require an estimated 18.7 million tonnes of LNG each year. At this level of consumption, annual LNG fuel imports would cost an approximate USD15.5–23.6 billion, depending on LNG prices.

To put this in context, Vietnam's entire energy import bill in 2025 — including crude oil, refined petroleum products, liquefied petroleum gas (LPG), and coal — was USD23.27 billion. At the estimated LNG import costs, PDP8 could increase the country's annual energy import bill by around 66–106%. Reflecting these concerns, Vingroup cited the pressure that LNG imports would place on Vietnam's foreign exchange reserves when it proposed replacing its Hai Phong LNG project with renewable energy.

At this scale, LNG imports would also place significant demands on Vietnam's foreign exchange resources. In June 2026, the country's foreign exchange reserves were reported at around USD86.3 billion. At the higher LNG price scenario, annual LNG purchases alone would be equivalent to around 27% of Vietnam's foreign exchange reserves. While this does not mean that reserves would be directly drawn down by that amount each year, it illustrates the scale of the recurring foreign currency requirement that a large fleet of LNG power projects would create, alongside other import obligations and foreign currency needs for servicing project financing. Consequently, LNG imports could increase Vietnam's vulnerability to adverse trade conditions and exchange rate fluctuations.

Rising capital costs for gas-fired power plants

Whether gas is sourced domestically or as imported LNG, fuel costs are only part of the challenge facing gas-fired power generation. The capital costs of CCGT power plants have risen sharply over the past three years as global demand for gas-fired generation has surged.

Growing electrification and global data centre demand have contributed to gas turbine shortages, particularly for the largest and most efficient models, and high-voltage transformers. These equipment shortages can extend project lead times by 48–60 months, making it increasingly difficult for gas-fired power plants proposed today to enter service before the early 2030s.

At the same time, plant equipment costs have also escalated. The Institute for Energy Economics and Financial Analysis (IEEFA) estimates that the capital costs of utility-scale CCGT plants have increased from around USD700–1,000 per kilowatt (kW) in the early 2020s to around USD2,100–USD2,500/kW currently. These increases have significantly weakened the economics of new gas-fired power projects.

PDP8 cost assumptions under pressure

The sharp increase in both LNG prices and gas-fired power plant construction costs raises a broader question: whether the cost assumptions underpinning Vietnam's revised PDP8 remain achievable under current market conditions. While equipment costs may moderate over time, a return to the levels prevailing in the early 2020s is unlikely.

The Ministry of Industry and Trade (MOIT) recognised these pressures and responded by placing a ceiling on costs that are heavily affected by global markets. It created a formula that determines the ceiling tariff for LNG-fired electricity, using a set of capital investment and operating cost assumptions, together with a maximum LNG price it is willing to accept. MOIT established the methodology in May 2024, then revised the ceiling upward a year later to reflect global market higher costs. The current maximum price for LNG-fired electricity is VND3,327/kWh, equivalent to around USD129.60 per megawatt-hour (MWh).

However, even this revised ceiling may not cover current costs. IEEFA used MOIT's published methodology to estimate the capital cost assumptions embedded in the government's 2025 LNG-fired power tariff ceiling. Under a range of financing and operating assumptions, the implied capital cost of a CCGT plant is around USD1,250–1,350/kW. This is only around half to two-thirds of the capital costs currently reported for new CCGT projects in 2026.

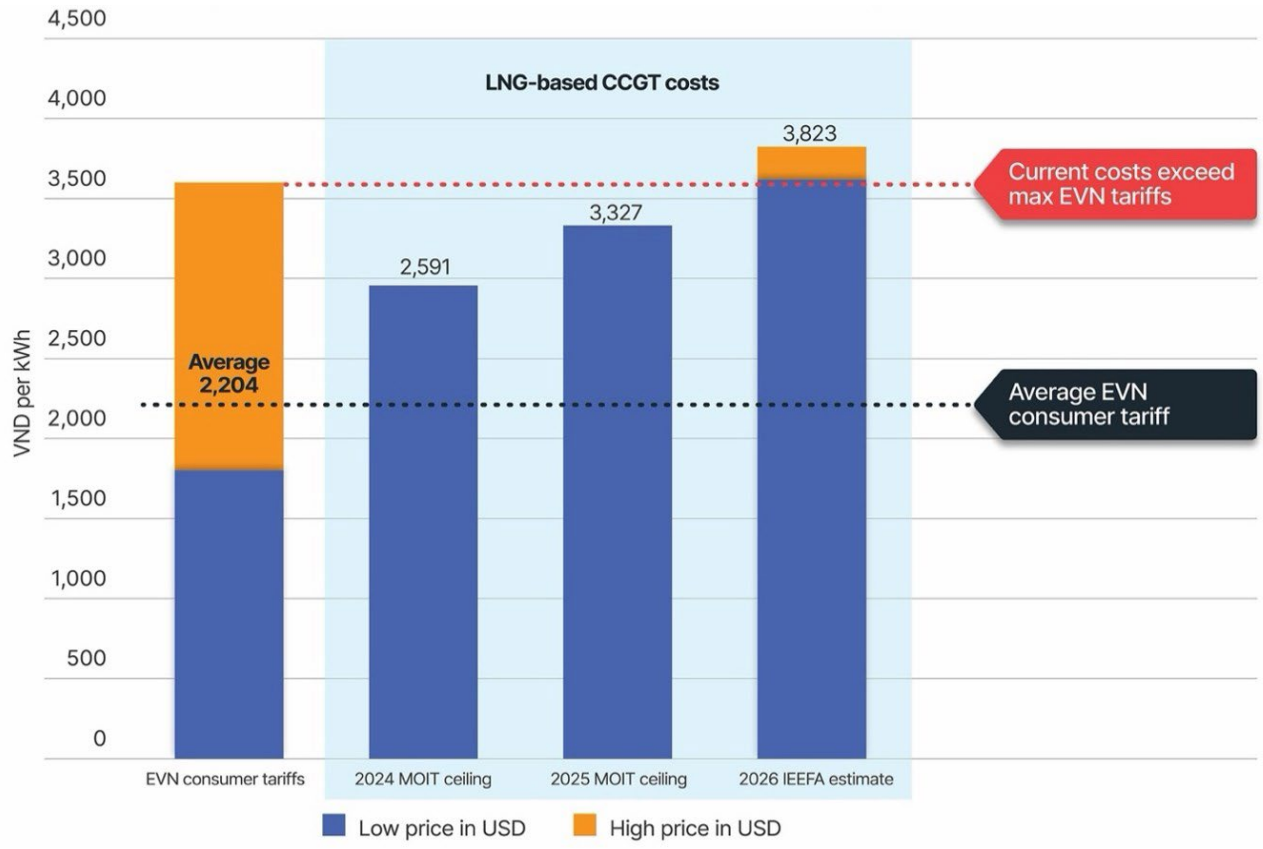
For a 1,500MW CCGT plant of the scale proposed under PDP8, such as Nhon Trach 3 and 4, using current plant market prices would increase capital costs from around USD1.95 billion under the 2025 assumptions to nearly USD3.75 billion. Holding MOIT's other assumptions constant, IEEFA estimates that the cost of LNG-fired electricity would increase to around VND3,823/kWh (USD146/MWh), approximately 15% above MOIT's current ceiling.

LNG's affordability challenge for Vietnam

Higher LNG fuel and power plant construction costs ultimately affect electricity affordability. Industrial customers, accounting for around 52% of Vietnam's electricity demand, currently pay approximately VND1,811–3,640/kWh (USD69–139/MWh), depending on the customer category and time of day. According to EVN, the national average retail electricity price across all consumer classes is VND2,204/kWh (USD84/MWh). These tariffs must cover electricity generation, transmission, and distribution costs.

Current LNG-fired generation costs are significantly higher than Vietnam's retail electricity tariffs. Under both MOIT's methodology and IEEFA's analysis, the estimated cost of LNG-fired generation, before transmission and distribution charges, ranges from VND3,327/kWh to VND3,823/kWh — well above the current national average retail tariff. These comparisons are shown in Figure 4. Under prevailing conditions, purchasing LNG-fired electricity at these prices would place significant financial pressure on EVN, particularly where generation costs exceed the retail tariffs collected from consumers.

Figure 4: Comparison of EVN consumer tariffs to LNG generation costs

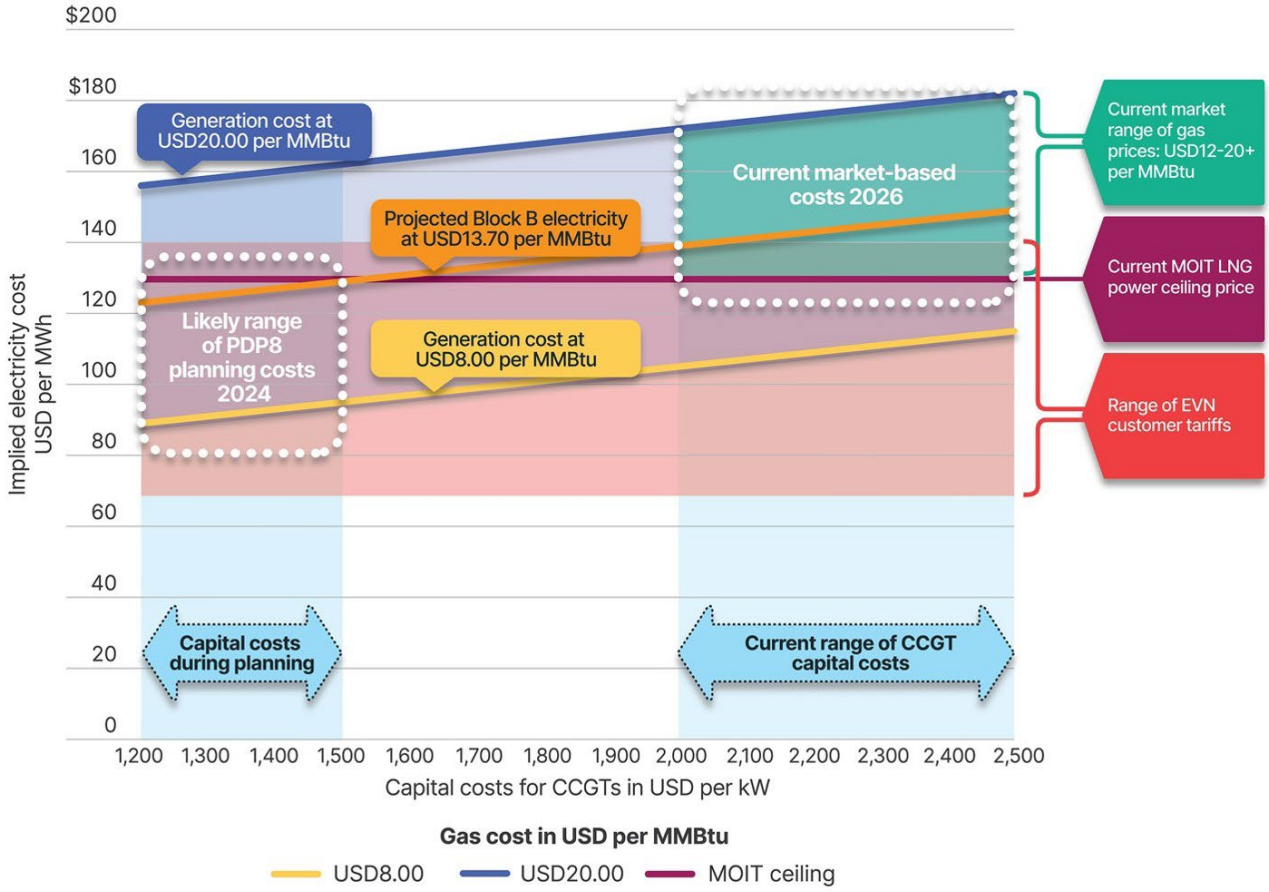


Source: EVN, MOIT (2024), MOIT (2025), IEEFA calculations.
Note: EVN consumer tariffs must cover generation, transmission, and distribution costs. IEEFA estimates a low to high range of capital costs, holding gas constant at MOIT's USD14.05/MMBtu.

To assess how changes in gas and capital costs affect the economics of gas-fired generation, IEEFA modelled generation costs across both a range of capital costs, running from USD1,200–2,500/kW, and a range of gas prices from USD8/MMBtu to USD20/MMBtu. Given the projected USD13.70/MMBtu delivered cost of gas from Vietnam's Block B field, the analysis is relevant to both new domestic gas and imported LNG.

The results are shown in Figure 5, with the full set of assumptions provided in the Appendix.

Figure 5: Modelled electricity cost across a range of CCGT capital costs and LNG prices



Source: IEEFA analysis.

The lower left quadrant of Figure 5 broadly reflects the cost environment when PDP8 was being developed, with relatively low gas prices and CCGT capital costs. Under these conditions, estimated generation costs range from VND2,376/kWh to VND2,970/kWh (USD88–110/MWh).

Market conditions in the third quarter of 2026 lie closer to the upper right quadrant, where both gas prices and CCGT capital costs are substantially higher. Under these conditions, estimated generation costs range from VND3,780/kWh to VND4,860/kWh (USD140–180/MWh), around 14–46% above MOIT's ceiling tariff of VND3,327/kWh (USD129.60/MWh). This ceiling represents the maximum generation price EVN is permitted to pay to purchase LNG-fired electricity under MOIT's current framework.

EVN's industrial electricity tariffs are shown as the red shaded horizontal band (Figure 5). The analysis shows that under current market conditions, gas-fired generation costs alone — before transmission and distribution costs — can exceed the tariffs EVN charges industrial customers. Even MOIT's ceiling price for LNG-fired generation exceeds much of the industrial tariff range. Unless CCGT capital and fuel costs decline substantially, greater reliance on LNG-fired generation would increase pressure on electricity tariffs or EVN's finances.

If Vietnam is to meet rising electricity demand while keeping consumer tariffs affordable, it will need lower-cost sources of new power supply.

Renewable energy offers a different cost structure. Solar and wind require significant upfront capital but avoid the recurring fuel costs associated with gas-fired generation. With renewable energy costs continuing to fall, the comparison with increasingly expensive gas-fired power is becoming more important to Vietnam's future power investment decisions. The next section examines the economics of expanding renewable energy and options for accelerating investment.

Photo credit: Steve Le via Unsplash

Vietnam's renewable energy opportunity

Vietnam enters the next phase of its power sector development with a significant renewable energy advantage. The country has already demonstrated that solar and wind can be deployed rapidly and at scale. With electricity demand rising quickly and the cost of new gas-fired generation increasing, renewable energy offers increasingly competitive options for adding new generation capacity.

Changes in global renewable energy economics have reinforced this advantage. Technological improvements, economies of scale, and the expansion and diversification of global manufacturing and supply chains have driven cost reductions through lower production costs and increased competition among suppliers. As a result, solar and wind are now the lowest-cost sources of new electricity generation in many markets. In 2025, more than 90% of newly commissioned utility-scale renewable capacity generated electricity at a lower cost than the cheapest newly installed fossil fuel alternative, marking the second consecutive year this threshold was exceeded.

Between 2010 and 2025, the levelised cost of energy (LCOE) for utility-scale solar photovoltaic (PV) fell by 89%, onshore wind by 71%, and offshore wind by 63%, while the installed cost of utility-scale battery storage declined by around 95%. Although supply chain constraints and higher financing costs have slowed cost reductions since 2024, renewable energy has retained its cost advantage. Meanwhile, a global shortage of gas turbines has roughly tripled the capital cost of new gas-fired power plants, further widening the gap between renewables and new gas-fired generation.

Another advantage is speed of deployment. Renewable projects generally have shorter construction times than fossil fuel plants and can be brought online incrementally. Wind farms can begin generating electricity around one year after construction begins, while solar projects can become operational in as little as six months. For a high-growth economy such as Vietnam, where electricity demand is rising rapidly, the ability to add new supply quickly and cost-effectively is particularly important.

Vietnam’s renewable energy expansion

Between 2018 and 2023, generous 20-year feed-in tariffs (FiTs), ranging from approximately USD7–9.8 cents per kWh (¢/kWh), attracted billions of dollars in private investment and increased Vietnam's installed solar and wind capacity from virtually zero to more than 21GW. Domestic investors played a leading role, accounting for almost 60% of total investment, with a further 27% delivered through joint ventures with foreign partners. By 2023, Vietnam had become Southeast Asia's largest producer of solar electricity, demonstrating that renewable energy could be deployed rapidly and at scale using largely domestic capital, developers, and construction capability.

The speed of this renewable energy expansion also exposed shortcomings in the policy framework. FiTs remained fixed, even as technology costs fell and investment accelerated, leaving EVN committed to purchasing electricity at prices that appeared increasingly expensive relative to prevailing market conditions. Transmission infrastructure also struggled to keep pace with the new generation, resulting in congestion and curtailment in several provinces like Ninh Thuan and Binh Thuan. Subsequent uncertainty over the treatment and pricing of some projects has created a different risk by weakening investor confidence.

The FiT programme nevertheless demonstrated two important strengths. First, Vietnam can deploy renewable energy quickly when policy settings provide investment certainty. Second, much of the capital, project development, and construction capability already exists within the domestic market.

The policy challenge is therefore to retain the investment certainty and speed achieved under the FiT regime while improving price discovery, grid coordination, and implementation.

Lower costs and faster deployment for renewables

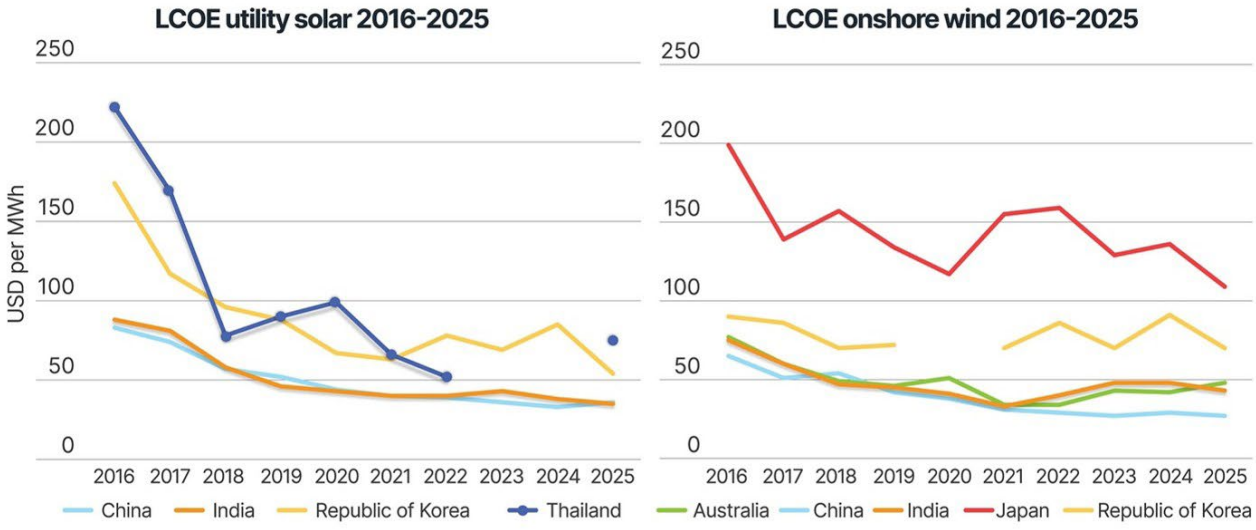
The revised April 2025 PDP8 places renewable energy at the centre of Vietnam's strategy for meeting near-term growth in electricity demand. The economics of new renewable energy projects have improved markedly since the 2018–2023 FiT programme. New projects can now reasonably be expected to deliver electricity at prices 15–20% below the FiT rates paid during the country's first renewable energy boom.

Vietnam's historical FiTs provide a particularly useful benchmark. They were high enough to attract investment at scale, but were subsequently viewed as expensive as technology costs fell. Yet even these relatively generous tariffs compare favourably with the estimated cost of new LNG-fired generation under the higher fuel and construction costs in recent years.

The significant price gap between renewable energy and new LNG-fired generation creates scope for Vietnam to consider a range of pricing and procurement mechanisms, including revised FiTs, competitive bidding, or a combination of approaches. The policy challenge is to capture the cost advantage of renewable energy while providing sufficient certainty to mobilise capital at the pace required.

Renewable energy costs have continued to fall since Vietnam introduced its original FiTs. In its latest survey of renewable energy costs across 77 countries, the International Renewable Energy Agency (IRENA) found that between 2018 and 2025, the LCOE of utility-scale solar fell by a further 33–45%, while onshore wind declined by 30–50% (Figure 6).

Figure 6: IRENA comparable market costs for solar and wind energy, 2016 to 2025

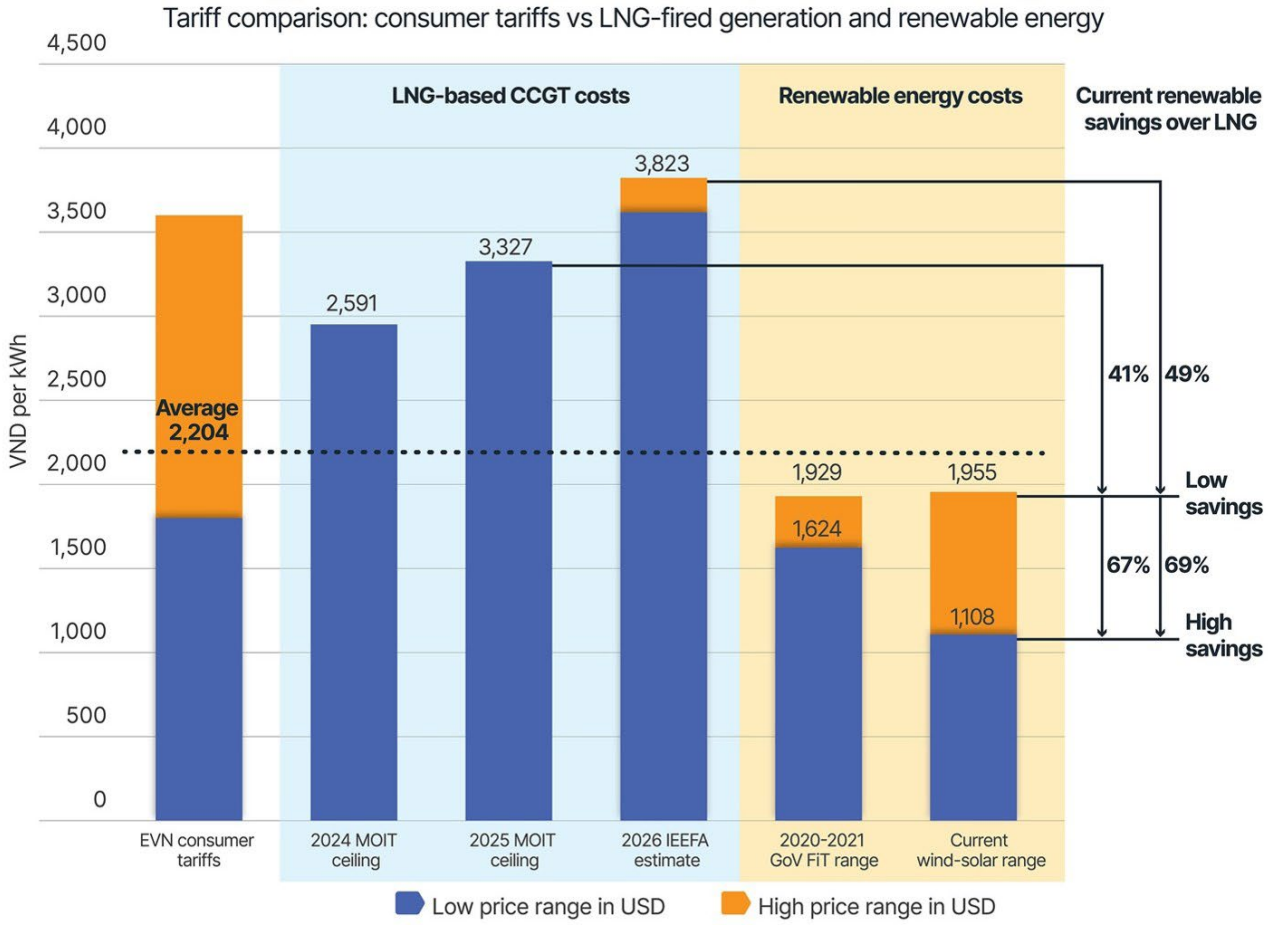


Source: IRENA 2026.

Current renewable energy cost trends in Vietnam strengthen this comparison. Using a 10% weighted average cost of capital, expected regional capacity factors for renewable generation in Vietnam, and recent capital cost assumptions from IRENA and Lazard, IEEFA estimates that the 2026 LCOE of utility-scale solar in Vietnam could range from VND1,328–1,625/kWh, while onshore wind could range from VND1,026–1,412/kWh.

Both estimates are substantially below MOIT's current LNG-derived electricity ceiling price of VND3,327/kWh. Measured against this ceiling — which represents the maximum price EVN may pay for LNG-fired electricity rather than the underlying cost of generation — utility-scale solar is approximately 51–60% lower, while onshore wind is around 58–69% lower under current market conditions.

Figure 7: Renewable energy FiT and current costs compared to natural gas generation



Source: EVN, MOIT (2024), MOIT (2025), IRENA (2026), Lazard (2026), IEEFA estimates.

Vietnam's historical FiTs averaged VND1,624/kWh for ground-mounted solar and VND1,929/kWh for onshore wind. These tariffs mobilised investment and delivered renewable capacity at scale. With renewable energy costs now reduced, Vietnam could secure lower electricity prices while providing the investment certainty needed for further development.

Renewable energy pricing and investment

In April 2025, MOIT published updated maximum purchase prices for utility-scale and floating solar projects, with and without battery storage, differentiated by region to reflect differences in solar resources. Compared with the FiTs available during 2019–2021, these ceiling prices represent reductions of approximately 34–50%.

The basis for these rates is unclear, particularly given Vietnam's limited experience in deploying battery energy storage systems (BESS). By comparison, 2026 IRENA analysis of battery firming for solar power indicates that the LCOE of solar-plus-storage is 70% to 80% higher than solar alone. While IRENA has no equivalent data for floating solar, the US Department of Energy's National

Renewable Energy Laboratory (NREL) estimated that floating systems could incur a 10% to 25% capital cost premium over ground-mounted solar, depending on anchoring and weather conditions. Table 1 compares MOIT's ceilings with these international benchmarks.

Table 1: MOIT maximum purchase prices for solar projects (April 2025) compared to international data
(In VND per kWh)

Configuration	Region			IRENA/NREL
	North	Central	South	
Utility solar	1,382.70	1,107.10	1,012.00	863 – 1,304
Utility solar + storage	1,571.98	1,257.05	1,149.86	1,703 – 2,138
Floating solar	1,685.80	1,336.10	1,228.20	1,150 – 1,695
Floating solar + storage	1,875.57	1,487.18	1,387.12	2,075 – 2,780

Source: MOIT (2025). IRENA (2026). Green Fuel Journal (2026). NREL (2021).

Compared with MOIT's 2025 ceiling prices, Lazard's global average for utility-scale solar is around 12–36% higher. While project costs in Vietnam may differ from global averages, the comparison raises questions about whether the current ceilings provide sufficient flexibility for commercially viable projects to proceed.

This highlights the balance Vietnam will need to achieve in setting prices for the next phase of renewable development. Falling technology costs create scope for lower electricity prices, but prices set too low may deter investment. Conversely, prices set too high-risk leaving EVN paying more than necessary.

The objective is therefore not simply to secure the lowest possible tariff, but to establish a pricing and procurement framework that captures lower renewable energy costs while enabling viable projects to secure financing and proceed.

Policy options to catalyse renewable energy investment

Vietnam has several options for supporting the next phase of renewable energy development. Its experience with FiTs provides an important starting point. The mechanism gave developers and lenders a predictable electricity price over a long contract period, reducing revenue uncertainty and helping mobilise investment rapidly. However, tariffs did not adjust sufficiently as technology costs fell and investment accelerated.

One option would be a revised FiT framework, with tariffs set closer to prevailing market-based project costs and adjusted periodically as technology and market conditions change. This could retain the simplicity and revenue certainty that supported Vietnam's earlier renewable expansion while reducing the risk of locking in unnecessarily high prices.

Competitive renewable energy auctions provide another option. Competitive bidding has previously been recommended for Vietnam to improve price discovery and procure new renewable capacity more efficiently. Developers would compete to supply specified capacity or projects, allowing prices to reflect prevailing technology, financing, and development costs.

However, successful auctions depend on more than achieving the lowest tariff. Developers need bankable contracts, clear procurement and grid connection arrangements, credible project timelines, and confidence that awarded projects can proceed. Auction design therefore needs to balance price competition with project deliverability.

Vietnam's Direct Power Purchase Agreement (DPPA) framework provides another route for renewable energy investment by allowing eligible large electricity consumers to purchase renewable electricity directly from generators. This can create additional demand for new renewable projects outside conventional EVN procurement, particularly from commercial and industrial consumers seeking greater control over electricity sourcing and clean energy supply.

There are already signs of progress. In June 2026, Samsung Electronics Vietnam Thai Nguyen became the first company in Vietnam to complete negotiations and sign a DPPA through the national grid. Under the agreement, the company will receive approximately 70 gigawatt-hours (GWh) of solar electricity annually, equivalent to the electricity consumption of around 17,000 Vietnamese households. The agreement is a positive step in implementing the DPPA framework and demonstrates the potential for large industrial consumers to create additional demand for renewable electricity.

These mechanisms also have an energy security dimension. By accelerating investment in domestic renewable generation, they can help Vietnam meet rising electricity demand with a more diverse mix of domestic resources and reduce the additional imports associated with the planned expansion of gas-fired power.

Vietnam could therefore use a combination of mechanisms rather than rely on a single model. Revised FiTs could provide price certainty where rapid deployment is a priority, competitive auctions could improve price discovery as markets mature, and DPPAs could mobilise additional demand from large electricity consumers. Together, these approaches could help Vietnam accelerate renewable deployment while balancing affordability, investment certainty, and energy security.

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Conclusion

Energy security is not only about ensuring sufficient electricity supply. It also requires strengthening energy independence and limiting the exposure of the domestic power system to events beyond a country's control, including geopolitical tensions, conflicts, and disruptions to global energy markets. Vietnam cannot control these events, but its energy choices can determine how strongly they affect domestic electricity costs and supply.

Vietnam's energy security challenge is therefore increasingly about meeting rapidly growing electricity demand without locking the power system into unnecessarily high or volatile costs. The economics underpinning this choice have shifted. New domestic gas is proving more costly and difficult to develop, while greater reliance on imported LNG would increase exposure to global fuel markets. At the same time, renewable energy has become cheaper, and Vietnam has already demonstrated its ability to deploy solar and wind rapidly and at scale.

These changing economics strengthen the case for reassessing the balance of new investment. The scale and timing of planned gas-fired projects should be reevaluated against current fuel, construction, and financing costs, as well as lower-cost alternatives. Caution is warranted where new infrastructure would create long-term dependence on imported LNG.

Renewable energy offers a different pathway. Vietnam's first renewable boom demonstrated the importance of investment certainty, but also exposed weaknesses in fixed pricing, grid planning, and implementation. The next phase should build on that experience rather than replicate it. Revised FiTs, competitive renewable energy auctions, and DPPAs provide different and potentially complementary ways to mobilise investment, improve price discovery, and expand demand for renewable electricity.

Vietnam's policy choices should focus on meeting new electricity demand at the lowest sustainable cost while reducing exposure to external risks. This means providing credible and investable procurement mechanisms for renewables, coordinating new generation with transmission and storage, and regularly reassessing planned gas projects against changing market conditions and lower-cost alternatives.

For Vietnam, affordability and energy security are increasingly aligned. Greater use of competitively priced domestic renewable energy can reduce exposure to external fuel-market shocks while supporting the additional electricity supply needed for continued economic growth. Prioritising these domestic resources would strengthen Vietnam's ability to meet rising electricity demand at predictable and affordable costs.

References

MUFG Research. (2026, March 18). *Vietnam – Strait of Hormuz closure: Oil and energy shortages key for VND.* https://www.mufgresearch.com/fx/vietnam-strait-of-hormuz-closure-oil-and-energy-shortages-key-for-vnd-18-march-2026/

KPMG. (2025, July). *Revised Power Development Plan VIII of Vietnam under Decision 768/QD-TTg dated 15 April 2025 and its implementation guidance under Decision 1509/QD-BCT dated 30 May 2025.* https://assets.kpmg.com/content/dam/kpmgsites/vn/pdf/2025/07/revised-pdp-8-en.pdf

Institute for Energy Economics and Financial Analysis. (2025, October 7). *Global gas turbine shortages set to increase delays and costs for gas-to-power projects in Vietnam and the Philippines.* https://ieefa.org/articles/global-gas-turbine-shortages-set-increase-delays-and-costs-gas-power-projects-vietnam-and

The Diplomat. (2025, June 3). *Why Vietnam is cutting down payments to renewable energy developers*. https://thediplomat.com/2025/06/why-vietnam-is-cutting-down-payments-to-renewable-energy-developers/

Institute for Energy Economics and Financial Analysis. (2025, June 17). *From boom to balance in Vietnam's clean energy transition.* https://ieefa.org/resources/boom-balance-vietnams-clean-energy-transition

Vietnam Electricity. (2026, July 7). *Operational situation in first six months of 2026; objectives and tasks for last six months of 2026*. https://en.evn.com.vn/d/en-US/news/Operational-situation-in-first-six-months-of-2026-Objectives-and-tasks-for-last-six-months-of-2026-60-142-501547

Institute for Energy Economics and Financial Analysis. (2026, March 12). I*ran tensions underscore the urgency of Asia's renewables pivot for macroeconomic stability*. https://ieefa.org/resources/iran-tensions-underscore-urgency-asias-renewables-pivot-macroeconomic-stability

Bloomberg. (2026, March 31). *Vietnam LNG power project eyes green pivot on soaring gas prices.* https://www.bloomberg.com/news/articles/2026-03-31/vietnam-lng-power-project-eyes-green-pivot-on-soaring-gas-prices

Reuters. (2026, March 31). *Vingroup proposes scrapping LNG-powered plant plan for renewables amid Iran war, document shows.* https://www.reuters.com/sustainability/climate-energy/vingroup-proposes-scrapping-lng-powered-plant-plan-renewables-amid-iran-war-2026-03-31/

VietNamNet Global. (2026, May 14). *Vietnam moves to address nearly $1.7 billion in EVN accumulated losses.* https://vietnamnet.vn/en/vietnam-moves-to-address-nearly-1-7-billion-in-evn-accumulated-losses-2515767.html

Energy Institute. (2026, June 30). *2026 statistical review of world energy.* https://www.energyinst.org/statistical-review/home

S&P Global. (2024, September 24). *Vietnam faces domestic natural gas shortfall for power generation in 2025.* https://www.spglobal.com/energy/en/news-research/latest-news/lng/092424-vietnam-faces-domestic-natural-gas-shortfall-for-power-generation-in-2025

Enerdata. (n.d.). *Vietnam energy data.* Retrieved July 21, 2026, from https://www.enerdata.net/estore/energy-market/vietnam/

Embassy of the Socialist Republic of Vietnam in the United States. (2000, December 16). *Contracts on the exploitation of the Nam Con Son oil field [sic] signed.* https://vietnamembassy-usa.org/vi/node/519

2b1st Consulting. (2015, May 13). *PetroVietnam to gear up in offshore Vietnam Block-B gas project.* https://2b1stconsulting.com/petrovietnam-to-gear-up-in-offshore-vietnam-block-b-gas-project/

The Investor. (2025, March 2). *Central Vietnam province seeks to develop power from Ken Bau field gas*. https://theinvestor.vn/central-vietnam-province-seeks-to-develop-power-from-ken-bau-field-gas-d14715.html

Mitsui & Co. (2024, March 29). *Final investment decision for the development of Vietnam Block B gas field.* https://www.mitsui.com/jp/en/release/2024/1248975_14372.html

NS Energy. (2024, December 5). *Block B-O Mon project, Vietnam.* https://www.nsenergybusiness.com/projects/block-b-o-mon-project-vietnam/

The Investor. (2025, October 8). *Petrovietnam acquires $1 bln loan for Block B gas field, Block B-O Mon pipeline projects.* https://theinvestor.vn/petrovietnam-acquires-1-bln-loan-for-block-b-gas-field-block-b-o-mon-pipeline-projects-d17282.html

S&P Global. (2023, September 29). *Vietnam's Block B&52 may not start gas output before 2029 on funding crunch.* https://www.spglobal.com/energy/en/news-research/latest-news/lng/092923-vietnams-block-b-52-may-not-start-gas-output-before-2029-on-funding-crunch-s-p-global

Offshore Technology. (2019, June 3). *Ca Voi Xanh field, South China Sea.* https://www.offshore-technology.com/projects/ca-voi-xanh-field/

LNG Industry. (2026, January 15). *Petrovietnam Gas awards multi year LNG deal to Shell.* https://www.lngindustry.com/liquid-natural-gas/15012026/petrovietnam-gas-awards-multi-year-lng-deal-to-shell/

Investing.com. (n.d.). *LNG Japan/Korea Marker PLATTS futures (JKMc1) historical data.* Retrieved July 21, 2026, from https://www.investing.com/commodities/lng-japan-korea-marker-platts-futures-historical-data

Customs Vietnam. (2026, January 16). *Vietnam's import and export situation in December and 2025.* https://www.customs.gov.vn/index.jsp?pageId=442&tkId=9328&group=Ph%C3%A2n%20t%C3%ADch&category=undefined

Trading Economics. (n.d.). *Vietnam foreign exchange reserves.* Retrieved July 23, 2026, from https://tradingeconomics.com/vietnam/foreign-exchange-reserves

Bloomberg. (2026, April 23). *Cost to build a natural gas-fired power plant surges 66%, BNEF says.* https://www.bloomberg.com/news/articles/2026-04-23/cost-to-build-natural-gas-fired-power-plant-surges-66-bnef-says

Utility Dive. (2026, July 23). *GE Vernova gas turbine backlog climbs to 116GW.* https://www.utilitydive.com/news/ge-vernova-gas-turbine-backlog-climbs-to-116-gw/826039/

Institute for Energy Economics and Financial Analysis. (2025, January 9). *Expanding ASEAN grid supply chains could mitigate critical transmission equipment shortages.* https://ieefa.org/resources/expanding-asean-grid-supply-chains-could-mitigate-critical-transmission-equipment

Institute for Energy Economics and Financial Analysis. (2026, April 8). *The misguided stampede to build gas power plants*. https://ieefa.org/resources/misguided-stampede-build-gas-power-plants

GE Vernova. (2026, March 18). *Bank of America Global Industrials Conference 2026.* https://www.gevernova.com/investors/events/bank-america-global-industrials-conference-2026

Ministry of Industry and Trade. (2024, May 27). *Decision 1260/QD-BCT 2024 electricity generation price bracket for combined cycle gas turbine thermal power plants using liquefied natural gas.* LuatVietnam. https://english.luatvietnam.vn/cong-nghiep/decision-1260-qd-bct-2024-electricity-generation-price-bracket-for-combined-cycle-gas-turbine-thermal-power-plants-using-liquefied-natural-gas-343214-d1.html

Ministry of Industry and Trade. (2025, May 13). *Decision 1313/QD-BCT 2025, approval of the electricity generation price bracket for combined cycle gas turbine power plants using liquefied natural gas.* LuatVietnam. https://english.luatvietnam.vn/cong-nghiep/decision-1313-qd-bct-2025-electricity-generation-price-bracket-for-combined-cycle-gas-turbine-power-plants-400668-d1.html

OandA. (n.d.). *OandA FX data services.* Retrieved September 8, 2026, from https://fxds-hcc.oanda.com/

Vietnam Electricity. (2025, May 9). *Adjusting average retail electricity prices from 10 May 2025.* https://en.evn.com.vn/d/en-US/news/Adjusting-average-retail-electricity-prices-from-10-May2025-60-142-500699

International Renewable Energy Agency. (2026, July 2). *Renewable power generation costs in 2025.* https://www.irena.org/Publications/2026/Jul/Renewable-Power-Generation-Costs-in-2025

Vatupdate. (2023, January 18). *Vietnam's FiT rates for solar and wind power projects.* https://www.vatupdate.com/2023/01/18/vietnams-fit-rates-for-solar-and-wind-power-projects/

Lazard. (2026, July 13). *Lazard's levelized cost of energy+*. https://www.lazard.com/research-insights/levelized-cost-of-energyplus-lcoeplus/

Government of Vietnam. (2020, April). *Decision 13/2020/QD-TTg on mechanism for encouragement of solar power development in Vietnam.* LuatVietnam. https://english.luatvietnam.vn/decision-no-13-2020-qd-ttg-on-mechanism-for-encouragement-of-solar-power-development-in-vietnam-182240-doc1.html

Government of Vietnam. (2018, September). *Decision 39/2018/QD-TTg amending Decision 37/2011/QD-TTg on development of wind power projects.* Thu Vien Phap Luat. https://thuvienphapluat.vn/van-ban/EN/Dau-tu/Decision-39-2018-QD-TTg-amending-Decision-37-2011-QD-TTg-development-of-wind-power-projects/394945/tieng-anh.aspx

pv magazine. (2025, April 15). *Vietnam publishes feed-in-tariffs for large-scale solar plus storage.* https://www.pv-

magazine.com/2025/04/15/vietnam-publishes-feed-in-tariffs-for-large-scale-solar-plus-storage/

International Renewable Energy Agency. (2026, May). *24/7 renewables: The economics of firm solar and wind.* https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2026/May/IRENA_TEC_24-7_renewables_2026.pdf

Office of Scientific and Technical Information, US Department of Energy. (2021, October). *Floating photovoltaic system cost benchmark: Q1 2021 installations on artificial water bodies.* https://www.osti.gov/biblio/1828287

World Bank. (2020, February 12). *New strategy to help Vietnam scale up and better utilize solar power.* https://www.worldbank.org/en/news/press-release/2020/02/13/new-strategy-to-help-vietnam-scale-up-and-better-utilize-solar-power

VnEconomy. (2026, June 2). *Samsung Electronics Vietnam Thai Nguyen pioneers direct solar power purchase via DPPA.* https://en.vneconomy.vn/samsung-electronics-vietnam-thai-nguyen-pioneers-direct-solar-power-purchase-via-dppa.htm

Hogan Lovells Cadwalader. (2026, May 14). *Vietnam considers strengthening offtake guarantees for LNG-to-power* projects. https://www.hlc.com/en/publications/vietnam-considers-strengthening-offtake-guarantees-for-lngtopower-projects

Appendix

Government calculation methodology

In May 2024, Decision No. 1260/QD-BCT established a methodology for calculating the maximum electricity price payable to LNG-fired power projects. Based on a reference CCGT plant, standard operating assumptions, and a notional LNG price, the decision set a ceiling tariff of VND2,590.85/kWh (approximately USD106.7/MWh at the prevailing exchange rate). As project costs continued to rise, MOIT revised these parameters under Decision No. 1313/QD-BCT in May 2025. The updated methodology incorporated a higher assumed LNG price and added an allowance for LNG receiving, storage, and regasification costs, increasing the ceiling tariff to VND3,327.42/kWh (approximately USD129.6/MWh).

Assumptions used by IEEFA for calculations

To assess whether the ceiling price remains achievable under current market conditions, IEEFA modelled LNG-fired generation using contemporary capital costs, market-based financing assumptions, and MOIT's notional LNG price. The analysis also incorporates the proposed revisions to Vietnam's standard power purchase agreement under Decree 56/2025, including a minimum contracted output equivalent to a 75% capacity factor and a 15-year purchase commitment. The results are compared with MOIT's ceiling price assumptions in the following analysis.

Table 2: Assumptions used in the LNG-to-power cost assessment

Parameter	Units	MOIT Ceiling Parameters (Decision No. 1313/2025)	MOIT revised PPA parameters (Decree No. 56/2025)	Notes
Plant capacity	MW	1,551.5	1,551.5	Per Decision 1313, most common plant size in PDP8
Capacity Factor	Percent of year	85%	75%	Higher rate is in Decision 1313. Lower rate is the proposed modification to Decree 56/2025/ND-CP
Heat rate	Btu/kWh	6,330.17	5,600	Higher rate, Decision 1313. Lower rate, related to GE 9HA.02 stated performance, modified for ambient weather conditions in Vietnam
Contract term	years	15	15	Per proposed modification to Decree 56/2025/ND-CP

Weighted average cost of capital		10%	10%	IEEFA used a notional cost of capital based on a 70:30 debt equity ratio and recent interest and return rates
Fixed O&M	USD per kW per year	Not specified	USD18.00	From reference data
Variable O&M	USD per MWh	Not specified	USD3.00	From reference data
LNG Terminal Fee	USD per MMBtu	USD2.93	USD1.50	Higher rate from Decision 1313. Lower rate is average among comparator projects
LNG Cost	USD per MMBtu	USD14.05	USD11.98	Higher rate from Decision 1313. Lower rate is the pre-Middle East crisis average from January 2024 to 27 February 2026

Source: MOIT Decision 1313/QD-BCT, 13 May 2025. MOIT Decree 56/2025/ND-CP, 3 May 2025. Investing.com Japan-Korea Marker LNG Prices. IEEFA analysis and estimates.
Note: Following Decision 1313/2025 parameters, there is no provision for VAT or gross up for taxes. Costs are overnight, without consideration for inflation.