

Beyond the Noise: Setting the Right Expectations for Vietnam's LNG Project Pipeline

Regulators and Market Realities Will Give Investors No Easy Route To Success

Executive Summary

Vietnam is quickly becoming one of the most promising liquified natural gas (LNG) importing markets in Asia. Industry players—both domestic and global—have voiced their intent to pursue projects in Vietnam, encouraged by the government's departure from its traditional coal-centric mindset and the rapid penetration of renewable energy in Vietnam's power mix in recent years.

The gas power developers have worked hard to push the message that gas can be a “transition fuel” and that gas-fired power systems with rapid peaking can serve as the much-needed complement to intermittent renewable energy sources.

Sitting behind this marketing push is a simple reality.

Global LNG suppliers are struggling with a medium-term supply glut that has left them little choice but to target energy growth markets like Vietnam with an aggressive sales pitch to back a range of gas and power deals.

The resultant market frenzy—and associated diplomatic pressure—is like nothing Vietnam's power system has ever seen. While the noise has largely come from well-publicized projects involving U.S. developers and U.S.-sourced LNG, Asian players including the leading Japanese and South Korean energy companies have also joined the fray. Domestic private groups are also in the mix, keen to leverage their local project development expertise to succeed in the LNG-to-power sector. For now, state-owned enterprises (SOEs) seem to be taking a leading role with more advanced stage projects under their wings.

While much of the reporting about Vietnam's LNG pipeline creates the impression that most of the proposed projects are sailing through the approvals process, the situation on the ground is more complicated. To correctly assess the market outlook,

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it is important that analysts understand the remaining permitting and regulatory hurdles that separate the projects from the finish line.

Some sponsors have been promoting overambitious targets for their project's development milestones despite the complexity of LNG-to-power projects. The truth is that these are complicated, multi-stage projects with numerous moving parts and multiple risks—upstream, downstream, counterparty, construction, and beyond. They will certainly be more challenging to handle than coal power projects that already struggle with chronic implementation delays in Vietnam.

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In addition, there are unresolved questions about how these projects will be financed. Foreign sponsors continue to insist on traditional project finance risk-mitigation strategies that have fallen out of favor in markets like Vietnam with improving fundamentals. Unfortunately for the developers, the existing legal framework governing either build-operate-transfer (BOT) or independent power project (IPP) models seems incompatible with the contractual terms that LNG-to-power project sponsors are demanding from the state utility Electricity of Vietnam (EVN) and the Vietnamese government to ensure bankability.

Concerns over the affordability of LNG and the rigid financial obligations tied to LNG-to-power assets will shape power purchase agreement (PPA) discussions in the months and years to come. For those projects that have reached the negotiation table with EVN, the most difficult part of the process has only just begun.

Analysts should therefore set realistic expectations for Vietnam's LNG near-term future.

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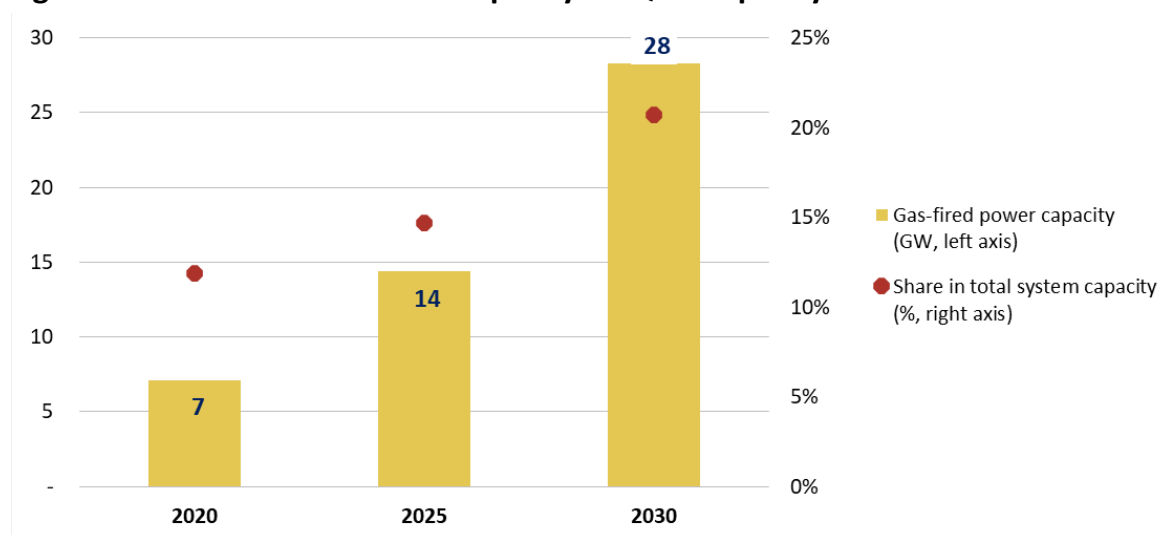
LNG in the Spotlight

As the world made its way through 2020, Vietnam has made global headlines not only for its effective containment of the coronavirus pandemic, but also for its growing profile as one of the most promising liquified natural gas (LNG) importing markets in Asia. The sheer size and scope of the gas-fired power and infrastructure projects that are being proposed, and the number and diversity of investors who have expressed interest, are like nothing the country's power sector has ever seen.

Such enthusiasm was encouraged by a resolution adopted in February 2020 by the Vietnam's Communist Party's Politburo, the country's highest-level policy-setting body. It reset the strategic orientation for Vietnam's energy sector development for the next decade, with a vision to 2045. In this document, the growth of Vietnam's coal power pipeline was capped. Instead of coal, it was stipulated that attention should be given to the rapid development of LNG-fired power capacity, and that the buildout of LNG import and distribution infrastructure should be prioritized. The new policy targets annual imports of 8 billion cubic meters of LNG by 2030, from zero today.

In Vietnam's policy-making context, the wording in the resolution is sufficient to serve as basis for specific regulations that would dictate a higher share of LNG-fired power in the generation mix. Work is already under way with the formulation of the National Energy Master Plan that sets the context for the Power Development Master Plan covering 2021-2030 (PDP8). The latest draft has so far proposed a four-fold increase of the current gas-fired power capacity to 28GW by 2030, or 21% of the system capacity. The majority of the new capacity is expected to be fuelled by imported LNG.

Figure 1: Vietnam's Gas Power Capacity To Quadruple by 2030

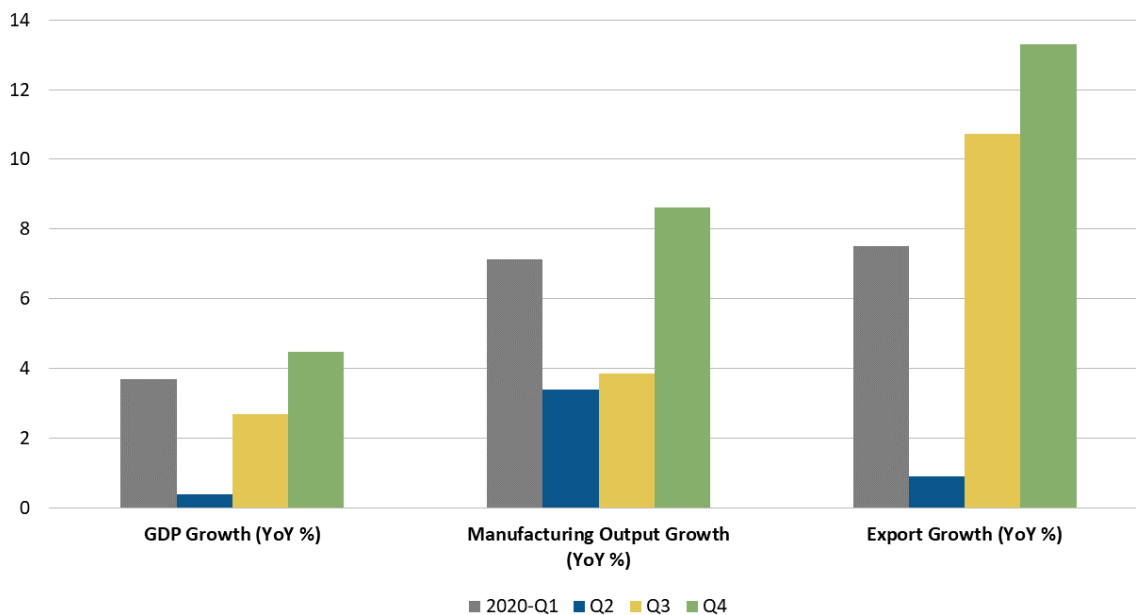


Source: Draft National Energy Master Plan (December 2020), Ministry of Trade and Industry.

Vietnam's top leadership commitment to the LNG pivot arrived at a critical moment for the global gas market. As a result of aggressive capacity expansion by non-conventional U.S. producers since 2016 and plummeting global demand caused by the COVID-19 pandemic, suppliers are struggling with a medium-term supply glut. This has resulted in an aggressive campaign by the industry to court local officials with big-ticket LNG projects over the past year. U.S. interests have been particularly prominent in the mix, often with support from the outgoing Trump administration.

More broadly, favorable conditions on the ground have also motivated investors from the U.S. to Japan and South Korea to pin their hopes on Vietnam's future LNG-to-power sector. The key catalyst is robust medium-term power demand growth potential. Global corporations continue to favor Vietnam in their supply chain relocation strategies, a guarantee for more intensive domestic industrial activities in the coming years. The latest government data shows that Vietnam's manufacturing output and exports quickly bounced back in the second half of 2020 after a pandemic-induced dip in the second quarter. The recovery is likely to be sustained into 2021.

Figure 2: Vietnam's Manufacturing Sector Recovers



Source: Vietnam General Statistics Office.

The pivot toward LNG is coming as the government signals a departure from a traditional coal-centric baseload mindset and is embracing variable renewable energy. Since 2019, renewable energy projects have led to a fundamental, fast-paced transformation for Vietnam's power system. On one hand, the rapid development of solar and wind power installations has instilled confidence that the system and regulators are adapting quickly to a more diverse generation mix.

On the other hand, the change has provided the ideal entry points for gas power developers. Coal-fired power projects have created conflict with local communities due to environmental and social impacts. As a result, provincial leaders and national policymakers have been attracted to the argument that gas-fired power can be cleaner than its coal competitor. In addition to presenting the “clean transition fuel” narrative for gas, advocates have used consistent messaging to position gas-fired power systems with rapid peaking as a complement to the growing yet intermittent renewable energy sources. Just as important, given the financial constraints of Electricity of Vietnam (EVN), some developers have also advertised the affordability of LNG power, with some promising to deliver electricity to EVN at prices as low as USD0.07 per kilowatt-hour (kWh).

Although the pivot toward LNG is often discussed as a fuel choice policy decision, there are three important variables that will shape the suitability of LNG generally and of specific projects in particular.

First, it is important to remember that Vietnam already has operating offshore gas projects and the LNG scenario will inevitably be influenced by the pricing and availability of existing and new offshore gas projects such as the Blue Whale (or Ca Voi Xanh), Block B, or further down the line, Ken Bau.

Second, a decision to commit to imports of LNG at scale implies very significant investments in associated LNG infrastructure and efforts to build an industrial or consumer gas market. These decisions will inevitably involve many stakeholders, and important questions will surface about who will bear the cost of a gas infrastructure build-out that services offtakers other than EVN.

Finally, the various LNG project sponsors all have different national and political interests that may influence perceptions of project viability. For example, some sponsors will have an easier time than others winning the backing of export credit agencies. Given the size of the projects, the ability of Vietnam's trading partners to support these will involve careful calculations. The ability to mobilize a national umbrella of support may also influence views on the reliability of LNG supplies. Building an LNG supply chain to service the South China Sea involves many players, and security considerations could factor into final decisions.

Vietnam's LNG future is arguably bright, but great enthusiasm will be tested by the market over the next year. This will be a shifting landscape as the players jockey for position and the regulators clarify the ground rules that may weed out the weaker sponsors. And in the background, energy policy planners will be called on to match project costs with EVN's ability to pay.

Who Are the Players?

Industry players from across the domestic and global LNG value chain have voiced their intent to pursue projects in Vietnam, with announcements particularly active in 2020. IEEFA's research, based on public information as of December, indicates that at least 30 projects with implied capacity of nearly 93 gigawatts (GW) of LNG-fuelled power capacity are on the drawing board. About half are fully integrated projects with full components of LNG import terminal, storage, regasification, pipeline and power generation facility. The rest are LNG-fuelled power plants only.

From this pool of projects proposed by investors and provincial authorities, only 17.6GW have been formally approved for the current power master plan (PDP7R). None of the projects have begun construction, with the exception of an existing diesel-run power plant set for upgrading and conversion to LNG fuel.

The investors vary significantly by origin, background, and expertise in the LNG and gas power sector. Even though the market frenzy has been driven primarily by well-publicized projects involving U.S. developers and U.S.-sourced LNG, neither the ambition of Japanese and South Korean players nor the market-shaping role of state-owned enterprises (SOEs) should be underestimated.

Based on IEEFA's comprehensive review of market movements to date, the following key themes stand out:

SOEs Are Taking a Leading Role

Among the handful of projects which have reached a relatively advanced stage of development, subsidiaries of the state-owned oil and gas group PetroVietnam and power utility EVN have signed on to several of them. **PV Gas** is currently building Thi Vai LNG Terminal, one of Vietnam's only two import terminals under construction, which is expected to start operations in 2022. The terminal will supply **PV Power's** 1.5GW Nhon Trach 3 and 4, the first power plants designed for LNG in the country, scheduled to come online in 2023. PV Gas has also formed a joint venture with AES Corp. of the U.S. to develop the USD1.4 billion Son My LNG Terminal for inauguration by 2024. In terms of integrated LNG-to-power initiatives, PV Power is also the leading sponsor in LNG Quang Ninh, a USD1.9 billion project with full components of import, storage and regasification infrastructure, and a 1.5GW power generation capacity, to be jointly developed with Japanese partners. Meanwhile, EVN's GENCO3 is spearheading a similar initiative with LNG Long Son at 1.2GW power capacity, proposed for commissioning by 2026.

Global and Regional Energy Companies Are Coming in as Project Co-Developers

Japan has been a long-term player in Vietnam's power sector and continues to lead with the highest number of energy companies pursuing LNG projects, including names such as Tokyo Gas, Sojitz, Kyushu, JERA and J-Power. Next in the league is the U.S., with familiar names such as ExxonMobil and AES Corp., and South Korea with

Kogas and GS Energy. So far, these investors have opted for the common approach of partnering with one another or with local players and SOEs.

Global oil and gas company **ExxonMobil** signed a memorandum of understanding (MOU) in October 2020 with the Hai Phong City government and Japan power generation company **JERA** “to work together on a potential integrated LNG-to-power project in Hai Phong.”¹ An estimated two-phase investment worth USD5.1 billion, the project will include an LNG import terminal with a floating storage regasification unit (FSRU), floating storage unit (FSU), pipeline and a 4.5GW power plant. In a June call with Prime Minister Nguyen Xuan Phuc, an ExxonMobil representative said the company was also interested in a 3GW project in Long An province in the south.²

Meanwhile, **Tokyo Gas** and Marubeni has joined a consortium led by PV Power to develop LNG Quang Ninh project. An MOU was signed in October and witnessed by Japanese Prime Minister Suga Yoshihide on his first overseas trip as premier and his Vietnamese counterpart.³ **Sojitz** and **Kyushu** are co-sponsoring the 2.3GW Son My 1 power plant with French EDF.⁴ In July 2019, South Korean LNG importing giant **Kogas** also entered a partnership to develop LNG Ke Ga, a USD2 billion integrated project with 1.5GW capacity in Binh Thuan province.⁵ In November 2019, **Gulf Energy** of Thailand signed an MOU with the Ninh Thuan province to research the development of the 6GW LNG Ca Na power complex.⁶

Gas Turbines and Equipment Providers See Vast Opportunities

To date, **General Electric** is associated with at least four projects, either as a cosponsor or as the turbine provider. The company has a USD1 billion MOU with GENCO3 to supply gas turbines and related equipment over the lifetime of LNG Long Son complex in which it also has equity stake.⁷ GE is also the chosen supplier in LNG Bac Lieu, LNG Long An, and LNG Chan May projects. Similarly, **Mitsubishi** is among the consortium of sponsors for GENCO3-led LNG Long Son project, and named as a partner in LNG Chan May, a proposed USD6 billion integrated project. Reports also suggested that **Siemens** and **Samsung C&T** were eyeing the 2.4GW Vung Ang 3, previously intended as a coal power station, as joint developers. FSRU solutions provider **Excelerate** from the U.S. has claimed a stake in the LNG Ke Ga project.

¹ ExxonMobil. [Integrated LNG to Power Project in Vietnam](#). 28 October 2020.

² Reuters. [ExxonMobil eyes LNG-to-power projects in Vietnam: government](#). 11 June 2020.

³ PetroTimes. [PV Power joins the development of LNG Quang Ninh gas project](#). 19 October 2020.

⁴ EDF. [Another milestone has been accomplished in the development of the Son My 1 CCGS power plant project in Vietnam](#). 29 November 2018.

⁵ Offshore Energy. [Kogas, ECV team up to develop LNG terminal in Vietnam](#). 24 July 2019.

⁶ Ninh Thuan Province Information Portal. [Ninh Thuan People's Committee sign cooperation agreement with Gulf Energy Development PCL to research the development of Ca Na integrated LNG-to-power project](#). 6 November 2019.

⁷ Bloomberg. [GE signs agreement to develop Vietnam LNG power plant](#). 21 November 2020.

Domestic Private Groups Hope To Ride on Solar (and Wind) Success

The booming renewable energy sector over the past three years has led to the rise of a number of domestic players. Despite limited experience in the energy sector, they have rapidly accumulated portfolios of solar and wind power assets. Some companies seem to be hoping to leverage their recent project development experience and replicate the success in the LNG sector. Like Gulf Energy, **Trung Nam Group** was also awarded a research MOU for the 1.5GW LNG Ca Na by the Ninh Thuan province in July 2020.⁸ In December, the group signed an MOU with a consortium of South Korean energy players including Kogas, Hanwha Energy and KOSPO to cooperate in the future development of power projects in Vietnam.⁹ Another prominent player, **Truong Thanh Viet Nam**, also initiated discussions with the provincial government in February 2020 to develop a 4.5GW LNG-fired power plant in Thai Binh.¹⁰

Notably, local conglomerate **T&T Group** has expressed interest in several big-ticket projects such as Cai Mep Ha, a USD6 billion integrated LNG-to-power project in Ba Ria – Vung Tau, and Son My 3 & 4 LNG-fuelled power plants with 3GW total capacity in Binh Thuan, among others. **VinGroup**, Vietnam's biggest conglomerate, has also obtained provincial government support for the USD1.9 billion integrated project in Hai Phong City, the northern industrial hub where VinGroup has a growing manufacturing presence.

Non-Energy Project Developers Are Driving Market Hype

Those who closely follow developments in Vietnam's power sector would notice that the highest profile LNG project proposals are those belonging to sponsors with very thin track records and financial capacity. The entities behind projects such as the USD4 billion **LNG Bac Lieu** or USD6 billion **LNG Chan May** are companies established just in the past two to three years. They are led by individual businessmen, and, based on public disclosures, seem to lack institutional shareholders with experience in the gas or power sector.

Interestingly, in all of these projects, the promise to use imported LNG from the U.S. has been a key selling point to governments of both sides. While the outgoing Trump administration has been aggressively promoting LNG exports, the widening trade imbalance between the two countries has put pressure on Vietnamese senior officials to demonstrate efforts to narrow the gap. The seriousness of the pressure was confirmed in December when the U.S. Treasury Department formally announced that Vietnam would be named a currency manipulator—a move that could have punitive implications for trade relations.

⁸ Cafebiz. [Four energy investment projects worth over USD20 billion signed](#). 22 July 2020.

⁹ Hanoi Times. [Vietnam, South Korea take steps to enhance energy cooperation](#). 12 December 2020.

¹⁰ Thai Binh News. [Provincial Party Committee meets with Truong Thanh Viet Nam Group](#). 25 February 2020.

Some of the projects have thus progressed faster than their competitors down the development curve. The integrated LNG Bac Lieu is the first 100% private and foreign-owned IPP project to have been licensed. Meanwhile, the sponsor of the yet-to-be-approved LNG Chan May project, a 2019 Vietnam-incorporated entity with USD2.2 million in charter capital, reassured Vietnamese officials that it had received full financing for the USD6 billion project and that its ledger of partners includes lenders such as the U.S. International Development Finance Corporation, the International Finance Corporation, and U.S. Export-Import Bank.¹¹

Perhaps one of the most notable investors to enter the competition is the U.S. **Millennium Group**. In August, the company made headlines in the Vietnamese press when it met with provincial governments to propose an initial USD15 billion investment in two LNG projects.¹² While the company gave assurances about a U.S. government guarantee for the projects and introduced itself as a 35-year-old oil and gas company in the U.S., its credentials could not be verified in the public domain.

Setting the Right Expectations

LNG-to-power projects in Vietnam are at varying stages of inception. To correctly assess the market outlook, it is important that analysts locate each project accurately on the project development cycle and understand the remaining permitting and regulatory hurdles that separate them from the finish line.

In a crowded market, it is understandable that LNG investors are working diligently to boost their public profile in Vietnam. This may involve forging partnerships with provincial authorities, establishing a network of high-profile non-equity partners, and ensuring that publicity events receive prominent media coverage. Market watchers, however, should not mistake the signing of an MOU between an investor and a provincial people's committee as a formal project licensing ceremony, especially when the scope of cooperation is typically a collaborative activity such as joint research to assess project potential. Similarly, MOUs and other early-stage project agreements between project sponsors and equipment providers have little force and are often little more than profile-building efforts.

In an effort to develop momentum for their projects, some sponsors have publicly promoted overambitious targets for important project development milestones. For example, one project still waiting for the prime minister's formal approval claimed that it would break ground in the first quarter of 2021. Another, although already licensed, was confident that it could begin and complete power purchase agreement (PPA) negotiations with EVN within six months, meaning by the end of 2020. This did not happen in practice.

These are unrealistic expectations, given the complex structure of integrated LNG-to-power projects and the need to address detailed project finance risk mitigation

¹¹ The Saigon Times. [Six-billion dollar LNG Chan May gas power project to come online in 2024](#). 8 November 2020.

¹² Hanoi Times. [U.S. firm seeks to invest USD15 billion in power project in central Vietnam](#). 3 August 2020.

tools that will likely be embedded in the PPA. Meanwhile, project sponsors will need to work carefully with rule-bound Ministry of Industry and Trade and EVN officials who are operating in a tense political climate that may create a bias toward caution. This is particularly true given the policy gaps that regulators have yet to clarify and that may stand in the way of finalizing project approvals.

A recent publication by global law firm Watson Farley & Williams highlights the risk matrix faced by LNG project developers and the corresponding risk mitigation tools.¹³ The list can look intimidating but the key takeaway is simple: These are complicated, multi-stage projects with numerous moving parts and multiple risks—upstream, downstream, counterparty, construction, and beyond. They will certainly be more complex to handle than coal power projects which already struggle with chronic implementation delays.

Figure 3: LNG-to-Power Project Risk Matrix and Mitigation Strategies

Key Risks	Mitigants
Counterparty creditworthiness	<ul style="list-style-type: none"> • Corporate structuring • Government guarantees and offtake • Step in rights • Bilateral investment treaties
Delay or non-performance by counterparty	<ul style="list-style-type: none"> • Corporate structuring • Coordinate start up dates along the chain • Funnelling mechanism and build up periods • Alternative LNG / fuel supply and storage • LNG cargo diversion rights • Pass through of FM and liabilities/LDs • Insurance • Step in rights • Pass through of termination rights / damages • Take or pay / ship or pay • Synchronise commissioning and acceptance tests and maintenance periods
Pricing and currency issues	<ul style="list-style-type: none"> • Corporate structuring • Combination of long term and spot supply and pricing mechanisms • Payment in US\$ and GSA/PPA price link to US\$ • Diversification of LNG/fuel source and gas/power offtaker • Hedging • Price renegotiations
Market Demand	<ul style="list-style-type: none"> • Corporate structuring • LNG cargo diversion rights • Alternative LNG / fuel supply • Build up periods • Volume flexibility / storage • Diversification of offtakers • Offtaker guarantees • Take or pay / ship or pay
Political Risk and Change of Law	<ul style="list-style-type: none"> • Corporate structuring • Government guarantees • Insurance • Adopting floating technologies rather than onshore facilities • Bilateral investment treaties

Source: Watson Farley & Williams.

To differentiate between early stage and advanced projects, the best strategy is to focus on the projects that have secured a place in the national power development pipeline. As of December, only nine LNG-to-power projects had reached this legally

¹³ Watson Farley & Williams. [The anatomy of an LNG to power project: The risk matrix mitigated.](#) October 2020.

significant development milestone and received the prime minister's approval for inclusion into the current power master plan. Details of the projects are listed in Table 1. As the government closes in on the issuance of PDP8, it is unlikely that any additional projects will be approved in the coming months.

Table 1: Vietnam's LNG-to-Power Project Pipeline

Name of Project	Location	Capacity (MW)	Expected COD	Project Sponsor	Project Details
Hiep Phuoc	Ho Chi Minh City	1,200	2022	Hai Linh Co. Ltd (Vietnam)	Power plant only. LNG to be imported via Hai Linh LNG Terminal.
Son My 2 (BOT)	Binh Thuan	2,250	2023	AES Corporation (United States)	Power plant only. LNG to be imported via Son My LNG Terminal.
Nhon Trach 3 & 4	Dong Nai	1,500	2023-2024	PV Power (PetroVietnam)	Power plant only. Both plants will use LNG imported via Thi Vai LNG Terminal.
Ca Na (Phase 1)	Ninh Thuan	1,500	2024	Investor selection in progress.	Fully integrated project with onshore/floating import terminal, storage, regasification tanks, pipeline and power plant.
Bac Lieu	Bac Lieu	3,200	2024-2027	Delta Offshore Energy (Singapore)	Fully integrated project with FSRU, gas pipeline and power plant. First fully foreign-owned IPP.
Long Son (Phase 1)	Ba Ria – Vung Tau	1,200	2025-2026	Consortium (unconfirmed): EVNGENCO3 (lead sponsor), TTC Investment, PECC2, Thai Binh Duong Group (Vietnam), Mitsubishi (Japan), General Electric (U.S)	Fully integrated project with import terminal, storage, regasification tanks, pipeline and power plant.
Long An	Long An	3,000	2025-2026	Investor selection in progress.	Power plant only.
Quang Ninh	Quang Ninh	1,500	2026-2027	Consortium (unconfirmed): PV Power (lead sponsor), Colavi (Vietnam), Tokyo Gas, Marubeni (Japan)	Fully integrated project with import terminal, storage, regasification tanks, pipeline and power plant.
Son My 1 (BOT)	Binh Thuan	2,250	2027	EDF (lead sponsor), Sojitz, Kyushu (Japan), Thai Binh Duong Group (Vietnam)	Power plant only. LNG to be imported via Son My LNG Terminal.
Total Planned Capacity		17,600			

Source: IEEFA research based on public sources.

Note: The list includes only projects which have been approved into the current power master plan (PDP7R).

It is worth noting that the project sponsor has been officially selected and permitted to progress to the important milestone of negotiating power purchase agreements (PPA) with EVN in only five projects. By contrast, project sponsors for LNG Long Son, LNG Ca Na, LNG Long An, and LNG Quang Ninh have not been confirmed yet, according to public sources.

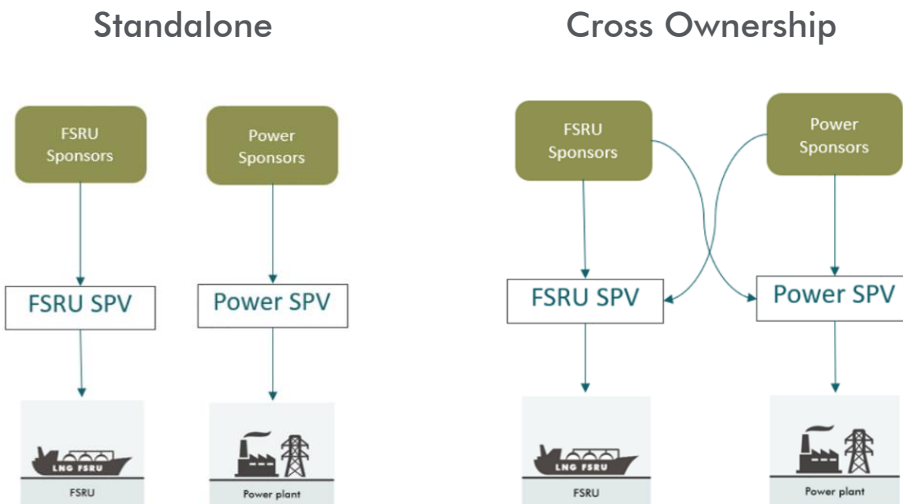
In the absence of a national policy for LNG value chain development, project sponsors have taken different approaches to project structuring, each with a different risk-reward profile. These structural differences have implications for risk management and financing options. So far, three models have been used:

The **standalone model** can so far be seen in Son My 1 power plant project. The EDF-led project company plans to own and operate the 2.3GW power plant and will import LNG via the Son My Import Terminal, where it pays a tolling fee. The power

project company has no ownership stake in the import terminal and regasification facility.

The **cross-ownership model** is a risk-mitigation strategy where power project sponsors have an ownership interest in the LNG import terminal company and/or vice versa. This structural fix is intended to address counterparty non-performance risk by aligning the interests and motivation of the parties involved. This is the approach adopted by the AES Corp., the sole sponsor of the 2.3GW Son My 2 power plant and also the co-owner of the Son My Import Terminal with PV Gas. Similarly, PV Power's 1.5GW Nhon Trach 3 & 4 power stations will be fuelled by LNG imported via Thi Vai Import Terminal, which is owned and operated by its sister unit PV Gas (both are subsidiaries of PetroVietnam). Hai Linh Import Terminal and Hiep Phuoc power plant are both owned by the privately-held Hai Linh Co. Ltd.

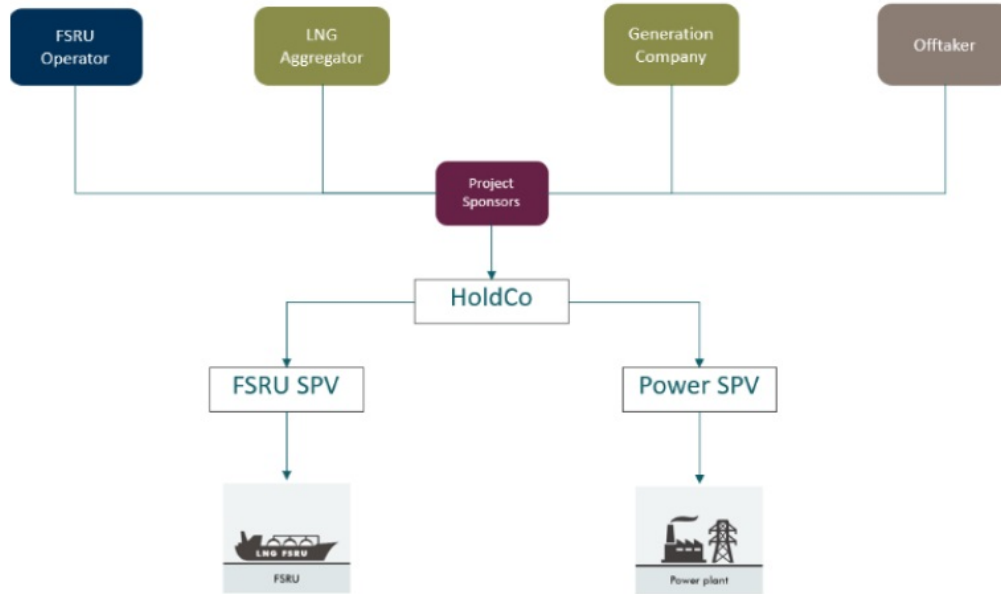
Figure 4: Corporate Structuring Options for LNG-to-Power Projects



Source: Watson Farley & Williams.

In **integrated LNG-to-power models** such as LNG Bac Lieu, LNG Long Son, LNG Ca Na and LNG Quang Ninh, the project company will handle LNG fuel purchase, develop and operate the import terminal, regasification and pipeline transportation infrastructure, and the power plants. Power will be sold to EVN. Also, as a risk-mitigation strategy, consortium members usually include players from across the LNG value chain.

Figure 5: Corporate Structuring for LNG-to-power Projects – Integrated Model



Source: Watson Farley & Williams.

Regulatory Speed Bump

One of the most important decisions facing developers right now is the legal framework for LNG-to-power projects. Given the multibillion-dollar price tag of each project, it has become evident that investors are looking for traditional project finance risk-mitigation strategies, including those that have been applied with success in some coal power projects.

Under existing regulations, there are two eligible pathways: The build-operate-transfer (BOT) model or independent power project (IPP) model.

BOT Model

This structure relies on a market-tested bankable contract that has been successfully used in a number of coal and gas power projects in Vietnam. Under this model, the government makes generous concessions such as full power offtake obligation by EVN; sovereign guarantees over the EVN's payment default; foreign exchange convertibility; and applicability of foreign laws as governing law in dispute resolution. This carefully constructed package of concessions has enabled offshore financing for projects. In the past decade, the Vietnamese government has been willing to provide such concessions in exchange for internationally-funded large baseload generation capacity needed to sustain the country's rapid economic growth.

Despite this being a tried-and-tested pathway, investors in LNG-to-power projects are unlikely to find this is now an optimal fit. BOT power contracts are notorious for their lengthy negotiation timeline, which in recent cases have taken as long as a decade. Second, the new Public-Private Partnership Law (PPP Law) took effect in January 2021, streamlining regulations governing BOT projects. Reflecting growing interest in the Vietnamese energy market, the new law ends some favorable contractual terms that had been regarded as essential to international lenders. They will be particularly concerned that the PPP Law mandates Vietnamese law as the governing law of contract and is silent on sovereign guarantees over the non-performance of state enterprises such as EVN. The latter reflects a continuity of the government's fiscal prudence policy adopted since 2017 that has resulted in sovereign guarantee cutbacks across all sectors of the economy. These tougher provisions have naturally created market uncertainty and can be read as an indication that there will be a tougher negotiation climate for investors in the coming years.

These pain points are already felt by a handful of BOT coal projects that have been years in the making and now have little hope of being exempted from the PPP law. Therefore, at this point, LNG project developers should not harbor hopes for a law revision or special treatment that contradicts new legislation.

IPP Model

In Vietnam's power sector context, IPPs are generally understood as fully private and independent power projects. The investment and contracting are governed by the Investment Law and Enterprise Law. With limited prospects of success with the BOT model in the future as well as timeline considerations, private investors have little choice other than the IPP route.

However, there is not much hope for traditional international funding terms under this model. For example, unlike its predecessor, the new Investment Law that also took effect in January 2021 is unclear on the provision of government guarantee undertakings (GGUs) and foreign exchange convertibility. A standard PPA will also apply to the LNG-to-power IPPs and will be governed by Vietnamese law. Notably, there will be no take-or-pay clause. Instead, the power plant will have to compete on the wholesale market, with a limited offtake guarantee by EVN. To date, the majority of IPPs (excluding BOT projects) in Vietnam are small-scale power projects.

So far, reactions by the government to specific LNG projects suggest little departure from the usual framework. In February 2020, Prime Minister Nguyen Xuan Phuc stressed that the government and state agencies would not be offering guarantees for LNG Bac Lieu project. More recently, in December, the Ninh Thuan province issued the country's first open tender to select the investor for the 1.5GW LNG Ca Na project.

Notably, the Request for Expression of Interest stipulated that investors must pledge (i) not to require any sovereign guarantee or support over matters such as foreign exchange convertibility, power offtake or PPA; and (ii) to handle disputes in accordance with Vietnamese law, under the Vietnamese court. Furthermore, it

highlighted that the prime minister and his office would not interfere in the activities of businesses. This suggests that the future project sponsor would negotiate and conclude the PPA with EVN based on existing laws and regulations, and should not expect any special treatment.

Questions for EVN

Operational vs. Financial Flexibility of LNG-to-Power

Compared to their coal counterparts, LNG-to-power project sponsors face a tougher risk mitigation exercise due to the fuel component. The notoriously rigid terms of long-term gas sales agreements and the upfront capital that has to go into the development of the import terminal, regasification and transportation infrastructure inevitably increase the financial risks for project sponsors—risks they want to partially pass on to the power offtaker.

Interestingly, while the investors' key value proposition has been the operational flexibility of combined cycle power plants and how fast the stations can be ramped up and down to accommodate variable renewables, the contractual terms they are asking from EVN and the government are much more rigid. From a project finance perspective, take-or-pay and fuel cost pass-through clauses make sense and are thus preferred by traditional lenders. Whether taking on such risks is the right choice for EVN and Vietnam's power system is less obvious.

At the ASEAN Energy Business Forum in November 2020, a Philippine LNG-to-power project developer emphasized the need for a departure from the usually rigid LNG sales agreement. "What happens if renewable energy does take off? What happens if I get stuck with a big take-or-pay commitment [in LNG sales contract] that I cannot deal with?" he asked.

Project developers in Vietnam may not be that candid, but they are certainly facing the same concerns. The question not only highlights the realization of a possible scenario where renewable energy and associated storage solutions can make gas-fired capacity obsolete, it is also a reminder of the stranded assets risk that power utilities may face if they prematurely agree to these concessions.

LNG Affordability

There is no hiding that LNG-fired power will be costly. Power market regulators and certain project sponsors have acknowledged this either directly or indirectly. In some instances, the warning was concealed under the push for a market-based electricity pricing with fuel cost pass-through or the promotion of energy efficiency driven by higher retail tariffs. While the general consensus is that the incremental cost curves of solar, wind power and battery storage are downward sloping far into the future, the same cannot be said of LNG and LNG-fired power.

These concerns will shape PPA discussions in the months and years to come. For new observers, it is important to stress that in Vietnam, a high-level policy commitment to establish and develop a reliable LNG-to-power market does not

necessarily translate into prompt concessions, much less when the public discussion has been skewed in favor of the sponsors. For those projects that have reached the negotiation table with EVN, the most difficult part of the process has only just begun.

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