



LNG-to-power – new complexities

LNG-to-power (ie electricity production using liquified natural gas) is ‘trending’ nicely as a concept in Vietnam. The realities underpinning the concept are more complex.

The LNG-to-power concept was in the National Power Development Masterplan VII (PDP VII) in 2011. 10 years on, no LNG has ever been imported. But there is soaring interest. Investors have registered to develop more than 8,000 MW LNG-to-power projects in Vietnam with tens of thousands megawatt in the pipeline.¹

This article reviews the policy, legal and market landscape in Vietnam for development of LNG-to-power projects, highlighting the key issues for investors.

LNG policy development

- PDPVII was issued in 2011 under Prime Minister Decision 1208/QD-TTg. It envisaged that by 2020 Vietnam will have a total LNG-to-power capacity of 2,000MW accounting for 2.6 per cent of total electricity production capacity, increasing to 6,000MW and 4.1 per cent respectively in 2030.
- According to the amended PDP VII approved by the Prime Minister in 2016 under Decision 428/QD-TTg, the target is that gas-to-power (including LNG) projects will have capacity of 9,000MW accounting for 16.6 per cent of the total power capacity in 2020 and 19,000MW and 16.8 per cent in 2030.
- In the national master plan for development of gas industry until 2025 with a vision to 2035 issued by the Prime Minister on 16 January 2017, the Prime Minister instructed the acceleration of the development of the infrastructure for receiving and storing LNG, so as to reach a capacity of one – four billion cubic meters per year between 2021 and 2025 and six – 10 billion cubic meters per year between 2026 and 2035.
- On 11 February 2020, the Politburo issued Resolution 55-NQ-TW on the national energy development strategy until 2030 with a vision to 2045. Development of LNG-to-power projects became a priority. The Politburo set out the goal of developing infrastructure ‘with sufficient capacity to import about 8 billion cubic meters of LNG in 2030 and 15 billion cubic meters of LNG in 2045.’
- The Government is drafting National Power Development Masterplan VIII (PDP VIII) for power development between 2021-2030 with a vision to 2045. LNG-to-power will continue to be listed as a priority for power development in Vietnam in the next decade.

Commercial and market environment

Various factors underlie the focus on LNG-to-power.

- *Power shortage.* Vietnam is short of electricity. According to Report No. 58/BC-BCT of the Ministry of Industry and Trade (MOIT) dated 4 June 2019 on the implementation of the PDPVII, in 2021, 2022 and 2023, Vietnam will be short of 3.7 billion kWh, 10 billion kWh and 12 billion kWh, respectively. The country has exhausted its hydro resources, while coal-fired plants are facing increasing environmental concerns and financing difficulty. Wind and solar energy, despite being strongly promoted, have production uncertainties and limited generation capacity. Nuclear energy was ruled out a few years ago. Gas-fired projects are exposed to significant fuel supply risks due to dependence on one single source of energy and current domestic gas fields are running out. So LNG-to-power is one of the main ways of resolving Vietnam’s energy shortage. It also happens to be possible to reduce the trade imbalance with the USA by buying LNG from it.
- *Insufficient fuel supply.* Many coal-fired projects in Vietnam are importing coal. Domestic coal supply has long been insufficient. The same is true for domestic gas supply. Ongoing delays in production of gas from the Block B and Blue Whale developments, and the depleting gas fields in the region offshore southeast Vietnam has made import of LNG inevitable. In its Report 58, the MOIT urged the Government to accelerate the development of LNG terminals in Thi Vai and Son My to provide alternative fuel to gas-fired power projects.
- *No financing to coal-fired power.* Globally major financiers have decided to stop financing coal-fired power projects. This has deterred sponsors from pursuing conventional coal-fired power projects.
- *Environmental issues.* Environmental degradation is alarming many people in Vietnam, especially in the north where most of the coal-power plants are located. The Government is under pressure to take more effective actions to combat pollution and has shown decreasing interest in coal-fired power projects.

¹ Vietnam Investment Review, Investors show growing appetite for LNG power projects, <https://www.vir.com.vn/investors-show-growing-appetite-for-lng-power-projects-74918.html>

- *Market movements.* Several LNG-to-power projects have made progress in the first half of 2020.
 - Bac Lieu: In December 2019, the Prime Minister approved the inclusion in PDPVII of the 3,200MW LNG-to-power project in Bac Lieu province. On 21 January 2020, Bac Lieu People's Committee issued the investment policy approval to grant the mandate to Delta Offshore Energy, a Singapore entity. The first phase of the project, with a capacity of 750MW, should be completed by 2023.
 - Long An I and Long An II: On 4 March 2020, the Prime Minister approved the conversion of the Long An I and II coal projects in PDP VII into LNG projects, with total capacity of 3,000MW.
 - Ca Na and Long Son: On 23 April 2020, the Prime Minister issued letter No. 479/TTg-CN approving the addition of two projects to PDPVII: (i) phase 1 of Ca Na LNG-to-power center in Ninh Thuan, with a capacity of 1,500MW; and (ii) phase 1 of Long Son LNG-to-power center in Vung Tau, with a capacity of 1,200-1,500MW. The Prime Minister has also instructed the two People's Committees to work with MOIT, Electricity of Vietnam (EVN) and other authorities to carry out competitive bidding for the selection of the investors.
 - Quang Tri province is also proposing a number of major LNG-to-power projects with a capacity of over 10,000 MW.

A different type of power project

An LNG-to-power project has certain elements that differentiate it from other types of power projects in Vietnam.

- *Two-in-one project.* An LNG-to-power project comprises two infrastructure components – the LNG terminal and the power plant. In Vietnam, the investment in the two components are subject to two different national master plans, two different sets of laws and are regulated by two different authorities under the MOIT (ie Department of Oil and Gas, and the Electricity and Renewable Energy Authority). Reconciling and integrating the two components in terms of regulatory licensing, financing, development and operation will be central to any successful development.
- *Fuel supply risk.* Until Vietnam has improved its infrastructure for LNG storage and regassification and gas pipelines, an LNG-to-power project will be dependent on its own terminal without backup or alternative fuel supply sources. As a result, projects will be exposed to fuel supply risks that may not exist in other contexts.
- *Transmission grid capacity.* To ensure the efficiency of the terminal facilities, investors often propose projects of several gigawatts. LNG-to-power projects therefore require strong transmission grid capacity and off-taker commitments.
- *Capital and technical intensiveness.* LNG-to-power could be one of the most capital and technically intensive types of power projects developed in Vietnam to date. This means most projects will require significant debt financing.

- *Unprecedented nature.* To date, there are no LNG-to-power projects in Vietnam. Pathfinder projects have to navigate significant uncertainties in the legal framework and the practice of the authorities.

The legal framework

Two separate development master plans

Development of infrastructure projects must comply with the applicable development master plans. In an LNG-to-power project, the LNG terminal must be part of the master plan for national development of the gas industry; while the power plant must be listed on the master plan for national power development.

The sponsors of projects not included in such master plans must apply for the Prime Minister's approval to add their projects to the applicable master plans.

Investment framework and impact on bankability

There are two regulatory frameworks within which to develop an LNG-to-power project, namely the investment law regime and the public-private partnership (PPP) regime.

- *Investment law:* the sponsors will propose the project and apply for the regulatory licenses to develop the project without a concession agreement. The power purchase agreement (PPA) will be in a standard form set out in the law, which is not up to the standards required by foreign project lenders. With the exception of one project of national importance, projects developed under the investment law regime have not benefitted from any government guarantee.
- *PPP:* the sponsors and the Government will enter into a concession contract to allocate project risks. The Government will permit certain special treatment to projects. These projects could obtain a Government guarantee covering important risks such as foreign exchange convertibility risks and the off-taker's payment obligations. Relevant authorities could also agree to sign direct agreements with the lenders recognizing lenders' right to step into projects upon default by the project company. The PPAs in PPP power projects are more sophisticated, with detailed risk allocation provisions. Such guarantees, support measures and agreements are crucial for lenders to agree to finance projects on a non-recourse basis.

Because there is little or no special Government support and fewer stakeholders from the Government side involved in a project developed under the investment law regime, the process for getting the mandate to develop such a project would normally take less time than a PPP project. However, without the risk allocation of a PPP (and preferably a Government guarantee of the off-taker), one can question the bankability of such a project.

In practice, all foreign-owned multi-billion-dollar power projects (including gas-to-power projects) in Vietnam to date have been implemented as build-operate-transfer projects (BOT), one of the investment forms of the PPP regime. With few exceptions, those are also the only projects in Vietnam that have received international non-recourse project financing.

Despite the advantages of using a BOT structure, there are no precedents for BOTs in the context of integrated LNG-to-power projects nor for LNG infrastructure projects in Vietnam.

- The Son My 1 BOT project of a group of international sponsors headed by the French group EDF, and the Son My 2 BOT project of AES are power plants that will use the gas from the neighbouring LNG terminal proposed to be separately developed by the State-owned PetroVietnam Gas Corporation (PV Gas) and its future co-investors.
- There are two LNG terminal projects licensed and currently under construction in Vietnam. Neither of them was developed under the PPP regime. The LNG terminal in Cai Mep Industrial Zone of Hai Linh Energy Joint Stock Company was licensed under the investment law regime. The Thi Vai LNG terminal also in Vung Tau was licensed to the State-owned PV Gas.

The above is consistent with the Government's increasing reluctance to grant BOT/PPP status to power projects. In on-going negotiations of BOT power projects, the Government is also narrowing the scope of its commitments and guarantees. It is unclear whether the Government will be willing to grant BOT status to costly integrated LNG-to-power projects where its political, economic and financial exposure would be significantly more extensive than in precedent BOT gas-fired or coal-fired power projects.

In absence of a specific legal framework for LNG-to-power projects, sponsors should carefully consider the risks in structuring its investment in different ways, as it remains to be determined what will be possible in practice.

Equity contribution requirement

After being officially mandated to develop the project (ie after the issuance of the investment registration certificate under the investment law regime or the completion of the negotiation of the concession contract under the PPP regime), the sponsors will need to set up a project company to implement the project.

It is a widely accepted norm in Vietnam that the sponsors must contribute equity (charter capital) equal to 20 per cent of the total registered investment capital of the project. At law, the sponsors must contribute the full charter capital of the project company within 90 days after the date of the enterprise registration certificate of the project company.

Under the PPP regime, sponsors can agree with the Government in the concession contract on a schedule for capital contribution. In the investment law regime, there is no such established practice. Sponsors will therefore need to seek agreement with the provincial government where the project is located on a case-by-case basis to avoid the burden of locking in a significant amount of cash up front.

Power purchase agreement

PPP power projects will benefit from a sophisticated PPA which has been accepted by international lenders over the last 10 years.

Projects developed under the investment law regime theoretically must follow the template PPA issued by the MOIT. This template will not meet the expectation of foreign lenders for non-recourse project financing. Some examples of gaps are:

- *Tariff.* The tariff will be denominated and paid in Vietnamese Dong without any reference to VND-USD exchange rate fluctuation;
- *Take-or-pay obligation.* There is no take-or-pay obligation. There are also no deemed commissioning or deemed energy provisions.
- *Governing law and dispute resolution.* The PPAs are governed by Vietnamese law. There is a tiered dispute resolution mechanism which includes mediation and adjudication by Electricity Regulatory Authority of Vietnam under the MOIT. Any appeals will follow administrative procedures before getting to the Vietnamese courts.
- *Compensation on termination:* On EVN default leading to termination by the project company, the project company can make a claim for direct and actual damages for breach of contract but there is no minimum compensation amount (for example, by reference to outstanding debt and equity). As the dispute resolution process is usually time-consuming, costly and entails significant uncertainty, the lack of a proper termination payment mechanism will expose the sponsors and the project company to material risks in case of default events.
- *Change in law (including tax):* The template PPA does not include provisions addressing the risk of changes in law and/or tax (in the form of supplemental tariffs or otherwise) where such changes would, over the life of the PPA, diminish the economic returns of the project.

Project development process and material regulatory permits

The sponsors and the project company must obtain a myriad of regulatory permits and licenses for the construction and operation of an LNG-to-power project. The licensing processes are not straightforward, entail significant discretion of the authorities and may be delayed without clear reasons given by the authorities.

Investment incentives

- *Tax incentives.* Tax incentives depend on the location and the character of an investment project. Those which are entitled to the best incentives would have a preferential tax rate of 10 per cent for 15 years from the year the project generates revenue, a tax holiday of four years and a reduction of 50 per cent of the payable tax for the following nine years. Based on prior projects, it would be reasonable to expect these incentives would be available to an LNG-to-power project.

- *Customs duties.* All investment projects would be entitled to exemption of import duties for imports of machinery and equipment which cannot be produced in Vietnam for use as fixed assets of the project company.
 - *Land incentives.* LNG-to-power projects will be entitled to exemption of land rent for three years during the construction period. As both the LNG terminal and power plants are in priority investment sectors, after the three-year period, the project will be entitled to a reduction of land rent for an additional seven to 15 years depending on the specific location of the project.
5. *Tariff.* While it is not possible to predict at what tariff EVN will accept to purchase energy output from an LNG-to-power project, the tariff negotiation may be difficult. With costly capex for construction of two major facilities, compounded with time and costs incurred during the navigation of the regulatory and political dynamics in Vietnam to develop, finance and operate the project, sponsors would likely expect a tariff higher than those in traditional thermal power projects. EVN, a loss-making utility, may not be ready to pay.

Takeaways – key commercial and legal issues

1. *Time.* It takes patient sponsors and financiers to deliver infrastructure projects in Vietnam. The time taken to develop and finance a major BOT coal-fired or gas-fired power project in Vietnam has tended to be between five–10 years. It may be optimistic to expect a shorter period in an LNG-to-power project, whether implemented under the investment law regime or the PPP regime. This is because in the absence of laws and practice, the Government authorities will need time to form their views and policies on details and will be prudent in making decisions. At the same time private counterparties will not have the benefit of any precedents to guide them.
2. *Integration.* An LNG-to-power project is a two-in-one project. It is critical to the success of the project that sponsors can find a way to integrate the LNG terminal and the power plant. The lack of a precedent will make this task more challenging.
3. *Transmission capacity.* The transmission infrastructure of Vietnam is exclusively developed and operated by the State and is overloaded. The problem will grow with the increase in power production. The Government is discussing and testing whether to permit private investment in transmission lines in order to reduce the burden on EVN and the State budget. However, the issue is unlikely to be resolved soon.
4. *LNG import policy.* In terms of policy, one of the main issues is whether PVGas will be appointed as the sole LNG importer. In early 2019, there was a decision in the context of the Thi Vai project that designated PVGas as the importer of LNG bound for the relevant LNG-based power plants in Vietnam. However, it is not clear from the decision whether this will cover other gas-fired power projects. Even if it does not (which is probably the better reading of it) foreign investors which wish to carry out LNG import activities may need to partner with PVGas or to obtain approval from the Prime Minister to engage in such activities without PVGas.
6. *Off-taker credit rating.* EVN and its affiliates are the sole power off-takers in Vietnam. The electricity retail price in Vietnam has not been sufficient for EVN to recover its investment costs. There has been increasing concern about EVN's creditworthiness and ability to fulfil its payment obligations in major PPAs. Lenders may be reluctant to lend without a Government guarantee of EVN's obligations.
7. *Bankability issues – Government support and guarantee.*
 - There is no specific law in Vietnam on government guarantees applicable to private projects.² In practice, government guarantee and undertaking agreements (GGUs) have only been issued by the Government to major BOT power projects, the Nghi Son Refinery Project and some old upstream oil and gas developments. It has always been extremely difficult and time consuming to negotiate a GGU. Although there are now good precedents, the pressure on the negotiators to reduce the extent of government commitments in these documents is intense. The result is that there has been no noticeable improvement in the ease or speed of negotiations.
 - Consistent with this, according to the Report No. 91/TB-VPCP of the Office of Government dated 12 March 2020 relating to a meeting with the leaders of Bac Lieu province, the Prime Minister explicitly instructed them 'not to include the Government and other authorities in international commitments or guarantee for the project company' in the Bac Lieu LNG-to-power project. As such, the Government has explicitly refused to grant a GGU to this project.
8. *Bankability issues – Restriction on mortgage of land use rights*
 - Vietnamese and foreign-invested companies can only mortgage their land use rights if they lease the land from the State and make an up-front payment of the land rent for the entire term of the lease. A company that is entitled to exemption or reduction of land rent is deemed not to be entitled to mortgage land use rights. If an LNG-to-power project is entitled to land rent incentives (which is likely the case), it would not be entitled to mortgage the land use rights.
 - At law, both Vietnamese and foreign-invested companies are permitted to 'grant mortgages over land use rights and assets attached to land to credit institutions operating in Vietnam'. This would exclude foreign banks.

² There is only a general provision in the investment law permitting the Government to provide a guarantee to investment projects on a case-by-case basis and a provision in the PPP regulations permitting the Government to guarantee the obligations of State-owned enterprises to PPP companies.

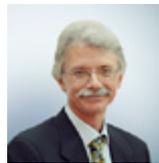
9. Bankability issues – Foreign currency convertibility.

- Under Vietnamese law, the tariff under the PPA must be quoted and paid in Vietnamese Dong without reference to foreign currency. Meanwhile, the project company will have to import LNG and (depending on the specific project) pay for all or a majority of the EPC contract and repay the lenders in US dollars. The project company will be exposed to currency devaluation risks between transactions. There is also a risk that the availability of US dollars in the Vietnamese bank market may be limited at times. This is a challenge for sponsors that need to convert Dong proceeds into US dollars on a timely basis (and at a predictable exchange rate) in order to repay the banks that have financed the project.
- The norm in recently closed BOT power projects is that the Government would guarantee the conversion of 30 per cent of a project's revenue in Vietnamese Dong (after deducting all Vietnamese Dong expenses). It would only 'assist' in the conversion of the remaining 70 per cent if conversion had not been achieved through the Vietnamese bank market in an agreed number of days (eg 30 days). However, the Prime Minister has recently issued a notice to the effect that the Government will no longer provide such a guarantee in future BOT power projects, unless there is a special approval by the Prime Minister.

Final remarks

Vietnam has been, and will continue to be, in need of more power to fuel its fast-growing economy. The Government of Vietnam has indicated its increasing commitments to promoting LNG-to-power projects in its long-term development policies. However, as in other areas of investment in Vietnam, the country and decision makers will need time to adjust to any new reality. The prospects for LNG-to-power projects, therefore, have to be tempered at least by reference to time. It will take creativity, risk tolerance, and patience for interested sponsors and financiers to deliver projects in Vietnam. But delivered they inevitably will be.

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