WELL-STRUCTURED CONCESSION RIGHTS

A concession granted to the winning project bidder gives the SPV long-term rights to use public assets (land, operating licences, etc) in return for the SPV being contractually responsible for the full delivery of services. Services can include the operation and maintenance of the assets as well as for financing and managing the required investment.

> "Concessions, if well-structured, can boost project bankability and ensure private finance participation, while protecting the interests of the general public"

Concessions for usage or operation of assets are also typically coupled with offtake mechanisms. In this case, the concessionaire obtains most of its revenues directly from its users through tariff levels established by the authority in the offtake contract. These can include payment schedules, changes in payment schedules over time as well as events to trigger a review of the payment schedule.

Relying on the 'invisible hand of the free market', it is then the prerogative of the concessionaire to achieve improved levels of efficiency and effectiveness since any gains in efficiency translate into increased profits and returns to the concessionaire (although regulators may set additional key requirements such as maintenance and renewal or replacement of assets).

Additional concessions may be given (or adjusted) where the deal economics may be potentially challenging, for example if the aggregate amount of tariffs collected by the concessionaire is not sufficient to cover the cost of operation of the assets (or even maintenance or further investment). In capital-intensive projects where there is a high initial capital outlay, for instance, there has to be some degree of revenue recovery or minimum guarantees (such as availability payments or exemption of operating licence fees) to ensure the project company can sufficiently meet interest and debt repayments.

Using concession rights effectively

Concessions, if well-structured, can boost project bankability and ensure private finance participation, while protecting the interests of the general public. For example, non-compete concessions or assurances are typically demanded for volume-dependent infrastructure such as toll roads. These can include the prohibition of new entrants into the market, which could adversely affect project economics.

ROBUST RIGHTS TO PAYMENT

The right to payment is the mechanism governments use to determine payments to investors. It is used to provide an incentive for the operator to meet the availability and performance standards set out by the public authority as well as match payments to the outcomes and outputs that the authority wishes to deliver.

Developing robust payment mechanisms

The authority should structure the payment mechanism in a way that is not only realistic and fair in supporting the long-term partnership, but also objective, transparent and easy to operate. To make it more robust, the public agency should seek feedback from the operators prior to developing the payment mechanism. The payment mechanism should not only incentivise the operators to deliver the service at the required standards but also include penalties to deter the operators from providing sub-standard performance or none at all. Depending on the nature of the projects, the payments may vary with these elements:

- Availability of service.
- Performance quality of service.
- The usage of service.

Ensuring appropriate risk transfer

Defining the legal payees is important for any capital-intensive project where revenues are required to cover capital outlay as well as operations and maintenance spending. For utilities, offtake payments are common, with further guarantees required if the payor is deemed to have a high risk of delayed or missed payments. In addition, there are also increasingly more well-structured payments rights — fixed or variable charges and payment pegged to raw material cost. These payment rights may include the renegotiation of tariffs at stipulated time periods. For non-utilities such as rail and toll roads, it is even more crucial to clearly define payors and sources of income as this is crucial for understanding project economics and therefore attracting investors.

CONCLUSION

It is clear that the expected demand for infrastructure in Asia far exceeds the public sector's ability to finance them. Private sector investment into infrastructure is as critical an imperative now as it has ever been. If no action is taken, economic growth in the region will stall and the social implications will be profound.

Governments in the region must take responsibility to change their local legal, financial and regulatory environments to support fair and transparent infrastructure development. It is often the countries with the largest need for foreign investment in infrastructure which have the most work to do to create such an environment. Public-private partnerships will play a key role in changing the infrastructure landscape in the region. Where these are structured effectively and with appropriate risk allocation, the value will come not just from the supply of private sector capital, but equally from broader private sector expertise in deal financing and efficiency gains from the improved management of operational assets.

Ultimately, projects need to be seen as bankable and also provide competitive returns on a risk-adjusted basis when compared to global alternatives. The guarantees offered by governments and multilateral development banks will continue to be important in this regard, as will the use of broader risk mitigation and transfer mechanisms.

Despite the known challenges, it is an exciting time for the infrastructure industry in Asia.

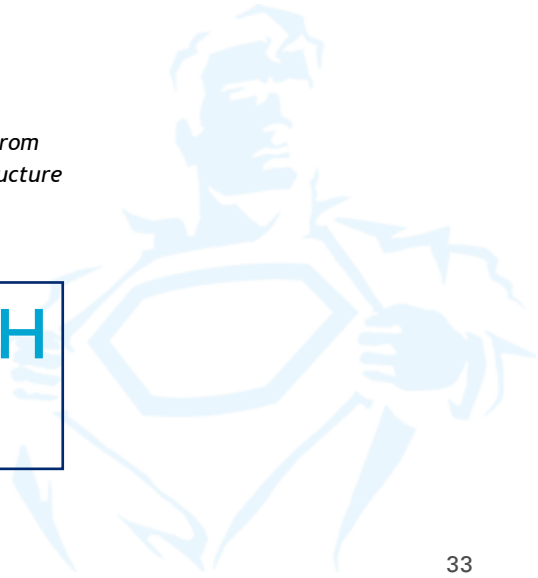
The future demand for power in the region is unquestionable. What remains to be seen is how the concept of the Energy Trilemma (achieving a balance between energy security, cost of supply and environmental impact) affects the investment and technology decisions taken by governments in the region.

China's Belt and Road Initiative has a long way to go before it can be considered a success, but the scheme undoubtedly has great potential. However, questions remain as much around the geopolitical implications of the investments as financing and bankability concerns. The initiative is therefore ripe for further cross stakeholder collaboration and research.

Increased regional cooperation will not just be led by China. Discussions continue around a potential Asean power grid, while India, Nepal, Bangladesh, Bhutan, Myanmar and Thailand are progressing with a scheme to link the countries through a highway network. The outcome of the Regional Comprehensive Economic Partnership (RCEP) trade agreement impacts infrastructure development in the region as well.

While governments in Asia must take the lead in creating a more transparent and conducive environment for infrastructure investment, other stakeholders should not wait passively in the background. Those who start building their local knowledge, capabilities and partnerships now will be best placed to benefit from future changes that this report has outlined.

To obtain professional advice from Marsh for management of infrastructure projects, please don't hesitate to contact ***Sue Yen Leow****.*



MARSH
Sue-Yen.Leow@marsh.com
(852) 2301 7323
www.marsh.com

Project finance for Vietnam's energy generation:

Powering growth and finding the (political) will

Companies that seize the green opportunity in this emerging market will gain significant advantages in the long term.

By Eli Mazur, Nguyen Van Hai and Ho Van Khanh, **YKVN**

INTRODUCTION

The most recent data for the fourth quarter has confirmed that Vietnam's economy was the world's fastest-growing in 2018, recording gross domestic product growth of 7.1 percent for the full year. In December 2017, international, bilateral and regional financial institutions, both public and private, raved about Vietnam on CNN and MSNBC and proclaimed that growth levels of 6 percent were sure to continue into 2018. Meanwhile, the world economy slumped, particularly international stocks in Western Europe and East Asia — and the only highlight from the world's wealthy countries was the American economy.

Vietnamese economic development and a shortage of power

However, Vietnam does find itself in a troubling situation — namely, to sustain its growth, Vietnam requires more and more energy. Although this is a problem that hundreds of other countries would love to be facing this new year, this is a Vietnamese problem and the solutions are unique to Vietnam's political economy.

Samsung, Intel, BMW and Apple all are either considering increasing or making initial investments in Vietnam, which has had the effect of launching Vietnam — in less than 15 years, according to the World Bank — from one

of the world's "least developed countries" to one of the world's 50 "middle-income countries". With, among other things, half-a-million high value-added jobs directly created by the initial investments of Samsung and Intel, the Vietnamese Government is wondering, whether electric, gas, solar, wind or, indeed, the will power will be found to allow commercially viable alternatives to the Government's monopolistic approach to the supply, purchase and distribution of energy.

The stakes are high for Vietnam's future development, particularly when the measurement criterion is the Human Development Index. If Vietnam can create a viable commercial alternative, then, perhaps, foreign investors will no longer require Government Guarantees and assorted strange Financial Documents that have become required reading — and signing — for syndicates of international banks to reach Financial Close of the most important power generation projects in Vietnam. Indeed, for a decade after the Phu My Projects in the late 1990s and early 2000s, more than 10 projects failed — until the Government finally agreed in Mong Duong 2 in 2011 to sign a set of "bankable" Financial Documents, thus allowing Financial Close and sufficient power for Samsung to create 60,000 jobs in Northern Vietnam, as reported in The Economist.

Vietnam's demand for energy has risen by an average of 9.5 percent year-on-year for the past 15 years. Over the last 25 years, Vietnam's power demand has seen expediential growth as the economic structure of the nation has continued to shift towards a higher proportion of industry-construction and services (and away from agriculture), which makes up 34.28 percent and 41.17 percent of GDP, respectively. To sustain its current growth, Vietnam is committed to importing energy and developing new sources of power. However, funding is proving to be an issue. Given that Vietnam is currently shifting away from agriculture and toward industrialisation, the country needs enough energy to power its changing economic structure.

Currently, most energy is produced in the North, and it is then transferred to the Centre and South through 500kV transmission systems, resulting in significant energy losses by the time it reaches the South. For this reason, the Government's current plan for energy production largely relies on coal. However, in the future, Vietnam has already created an initial legal framework to switch from "dirty" energy to alternative energy sources, and this legal framework comes with a strong financial incentive structure.

According to the World Bank, Vietnam will be one of the world's three worst-affected countries by climate change. Indeed, this can already be seen, measured and understood by the salinisation of the Mekong River Delta. Thus, climate change may not wait for Vietnam to be ready to embrace new solutions.

Within the context of Vietnam's rural-to-urban migration, the country has grand plans for a transportation, sanitation and climate change inspired infrastructure — the dream is to upgrade 1,000 kilometres of underground and above-ground subways and high-speed metros, which currently line the city's sky and underbelly like the skeleton of a neglected fish. But Vietnam is hungry and its next meal may, indeed, have to be the remaining meat on these bones. However, Vietnam needs the financial assistance of international banks and project sponsors.

This article presents a short summary of the strengths, weaknesses, opportunities and threats in Vietnam's conventional (dirty) and clean energy sectors. Our firm has been involved, whether acting for sponsors or lenders or advising the Vietnamese Government, in every project to have reached financial close since 1975.

Eli Mazur
Partner, Project Finance at YKVN

> "To sustain its current growth, Vietnam is committed to importing energy and developing new sources of power. However, funding is proving to be an issue"

GENERAL BACKGROUND INFORMATION

Conventional dirty energy

The country's energy mix is based today mainly on hydroelectric dams and coal-fired power plants (37.6 percent and 34.3 percent of the energy mix, respectively), followed by gas-fired power plants (17.8 percent), renewable energy (5.5 percent), oil-fired power plants (3.3 percent) and imports from Laos and China (1.2 percent), according to the EVN Activity Report 2017.

Nguyen Van Hai
Senior Associate
at YKVN

According to a report by the Ministry of Industry and Trade (MOIT), coal is still the primary source of energy in Vietnam's power generation and its privileged position is ensured because of its special status as giving "security" to the energy supplies of Vietnam. By 2020, the Vietnamese government expects its production of coal-fired energy to reach 49.3 percent of national electricity production, and 53.2 percent by 2030.

Vietnam's impressive economic growth is at risk, not to mention its air quality. The supply of coal and gas power plants is made problematic due to the depletion of domestic fossil resources, which has created a need to import energy and, therefore, diminish Vietnam's control and sovereignty, as such things relate to energy. As a result, Vietnam's coal imports reached more than 10 million tons in 2016 and continue to increase. The trends in the importation of coal and oil (crude oil and oil products) reveal that Vietnam is becoming a country dependent on imports, with net imports of 5 percent in 2015, according to the Energy Outlook Report 2017. Although Vietnam's level of imports is low when compared to other Asian countries, the current level represents a marked increase after a long history as a net coal exporter to the world.

> "Total GHG emissions and GHG emissions per capita have increased nearly three times in a 10-year period, while the carbon intensity per GDP increased by 48 percent"

The situation is dire in a number of ways. For instance, in November 2018, a coal shortage in the northern part of the country resulted in the shutdown of plants for several days, as reported in the Hanoi Times. Furthermore, as a result of this shift to fossil energy in the past decade, Vietnam has had the highest greenhouse gas emissions (GHG) emissions in the Asean region. The total GHG emissions and GHG emissions per capita have increased nearly three times in a 10-year period, while the carbon intensity per GDP increased by 48 percent, according to Dara's Climate Vulnerability Monitor.

Green energy recent developments

However, the news is not all bad. Indeed, the most encouraging sign in Vietnam for the potential development of wind power and solar power is the statutory tariff in both areas: Vietnam Electricity (EVN) must pay 8.5 cents (USD) per kilowatt-hour (kWh) for inland wind power projects, and 9.8 cents per kWh for offshore wind power projects, as well as 9.35 cents per kWh for solar power projects. Thus, the Vietnamese Government proved that it listens to investors and is trying to ensure that their investment in Vietnam into these projects will benefit both Vietnam and the investment community. These policies have resulted in measurable success. Indeed, in the past year, more than 120 solar power projects have been added to the existing master plan, as reported by the MOIT in September 2018, and the room for new projects is still available.

SWOT ANALYSIS OF THE REGULATORY FRAMEWORK

The regulatory framework for the green energy industry is, however, quite primitive at the moment. One example is that there is no master plan for solar energy development issued, and therefore, green energy projects are still categorised under the same conventional power projects in the outdated national master plan. The administration of investment procedures is merely an adaptation of the traditional framework for thermal projects, which is complicated, vague and full of risks. Notwithstanding these issues, it is time for Vietnam's new energy sector and regulations to be subject to an updated SWOT analysis.

Strengths

1. **Feed-in tariff (FiT)**: For grid-connected solar power projects, 9.35 cents per kWh, which is considered attractive to foreign investors. Similar to wind power projects, 8.5 cents per kWh for inland wind power projects, and 9.8 cents per kWh for offshore wind power projects. Such FiTs are subject to adjustment depending on the exchange rate. Note that such prices apply only for projects whose commercial operation started before June 30, 2019 for solar power and November 1, 2019 for wind power projects. However, we are optimistic that any new FiT would be in favour of investors since Vietnam is still in need of funding for green energy.
2. **Principle Approval:** As mentioned above, the competent authority has been approving a