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MAY 2023

LEGAL UPDATE

POWER DEVELOPMENT PLANNING 8 OF VIETNAM

After almost four years after the first draft was presented by the Ministry of Industry and Trade (**MOIT**) to the Government, Vietnam's national power development planning for the period of 2021-2030, with a vision to 2050 (**PDP8**) has finally been approved on 15 May 2023. Deputy Prime Minister Tran Hong Ha signed Decision No. 500/QD-TTg signed on behalf of the Prime Minister.

In this legal update, we will look at the most essential takeaways from the approved PDP8.

1. PDP8's Objectives

PDP8's most notable objectives are the following:

a. ensure Vietnam's energy security by 2050, so Vietnam can meet the target of socio-economic development, of the set average GDP growth rate:
   i. about 7%/year during 2021-2030: and
   ii. about 6.5%-7.5%/year during 2031-2050;
b. 50% of all office buildings and households should use self-consumption rooftop solar (without selling power to the national grid) by 2023;
c. develop renewable sources for power generation; and
d. develop a smart-grid system capable of safely and efficiently integrating and operating large capacities of renewable energy.

2. Composition of Vietnam's Power Supply Sources

PDP8 sets out the composition of Vietnam's power supply sources which shows a strong priority for developing renewable energy (i.e. hydropower, onshore and offshore wind power, solar power, biomass).[1] It also sets out a roadmap for renewable energy capacity to account for 30.9 39.2% by 2030 or up to 47%. The latter is subject to international partners honouring their commitments to Vietnam under the political declaration on establishing Just Energy Transition Partnerships (**JETP**) with Vietnam. By 2050, the renewable energy capacity should account for 67.5-71.5% of the total power capacity of Vietnam. The following sections will provide more insights into the various sources.

2.1 Coal-fired Power

Coal-fired projects under construction and already included in the preceding power development plan (**PDP7**) that can continue their construction until 2030. After 20 years of operations, coal-fired projects will convert to using biomass or ammonia when the tariff and prices are reasonable. When coal-fired projects cannot convert to using clean fuel and have

[1] See annex 1 to this update for detailed information.

been operating for more than 40 years, they must terminate operations. By 2050, coal will no longer be used for power generation and all coal-fired projects will convert to using biomass and ammonia as fuel.

PDP8 lists five coal-fired projects that are being developed in the period 2021-2030 but are delayed due to various difficulties. MOIT will discuss with the developers and extend for one more year. If the projects have not been implemented by June 2024, the projects may be terminated.

2.2 Gas-fired Power

PDP8 prioritises the use of domestic gas for power generation. Only when the domestic gas volume decreases, natural gas or liquefied natural gas (**LNG**) may be imported to supplement the gas supply. Gas-fired projects may be converted to hydrogen once the technology can be commercialised at a reasonable price.

2.3 LNG-to-Power

LNG-to-Power development will be limited when there are alternatives to reduce dependence on imported LNG. Using modern technologies, LNG import infrastructures will be developed and integrated on a suitable scale. By 2050, LNG-to-Power plants have to be converted and use hydrogen.

In addition to LNG-to-Power projects already included in PDP7, a few additional projects are included in PDP8.

2.3 Hydropower

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2.5 Hydropower

Onshore and offshore wind development will be strengthened. This will be done by taking into account for example the absorption capacity of the grid, a reasonable electricity price and transmission costs, and the requirement to maximise existing electrical grid infrastructures.

In combination with other forms of renewable power, offshore wind will be developed without limitation or priority for the production of new energy fuel such as hydrogen or green ammonia for domestic demand and export. It also needs to ensure Vietnam's national defense, energy security and economic efficiency.

PDP8 does not list any specific wind projects which will be proposed by local authorities and are included in the implementation plan of PDP8 later.

2.6 Solar Power

PDP8 strongly prefers self-consumption solar power development to prevent overloading the national grid.

Specific solar projects included in the planning for 2021-2030 for which no investors were selected, cannot develop further. Unless they are developed for self-consumption, without legitimising any violation of planning and legal regulations, these projects will only be considered after 2030.

Solar projects which have obtained an investment policy approval and have selected investors will be reviewed and have their development timeline determined by the MOIT. This will be done in compliance with legal regulations during the preparation of the implementation plan for PDP8.

PDP8 sets out that solar power development must be accompanied by storage batteries when the price is reasonable.

3. Capital Demand

Up to 2030, Vietnam will need almost USD 135 billion to develop power sources and the transmission grid. By 2050, the need for capital will reach USD 399.2--523.1 billion. Over 90% will be used for developing new power sources while the rest will be used for developing the transmission grid.

4. National Power Grid Development

PDP8's approval is an important legal basis for implementing new projects to improve Vietnam's power transmission systems and power grid. It also targets to develop super-high voltage DC transmission lines connecting the central region, the south-central coast, and the northern region to capitalise on Vietnam's offshore wind power potential.

5. Encouraging Private Sector Participation and Investment

PDP8 lists the following solutions to increase investment and financing for power development:

- Research and improve financial mechanisms and mechanisms to raise financing for power sector development;
- Encourage companies and civilians to develop rooftop solar power or self-consumption power;
- Improve the ability to raise financing of companies in the power sector step-by-step as required by domestic and international financial institutions; and
- Implement a flexible and efficient credit policy facilitating companies' access to financing.

6. What is Next?

6.1 New Legislation

Following the approval of PDP8, MOIT and relevant ministries will need to finalise the drafts of the revised Law on Electricity and the new Law on Renewable Energy for submission to the National Assembly. This will likely happen in 2024. The new legislation will set out a new bidding or auction mechanism and regulations on a competitive market to develop new projects and determine tariffs to replace the now-expired feed-in tariff scheme.

6.2 Direct Power Purchase Agreement Program

MOIT and the Government are expected to launch the Direct Power Purchase Agreement (**DPPA**) pilot program soon. They will eventually issue regulations on a long-term DPPA mechanism which will allow renewable energy generators to enter into DPPAs with consumers. If implemented effectively, DPPAs can significantly increase competition in the market and lower tariffs for corporate consumers.

6.3 Implementation Plan

As required by the Law on Planning, MOIT must now draft a detailed p lan for implementing PD P8 and submit it to the Prime Minister.

MOIT also needs to work with local authorities and developers of delayed projects to locate and address issues under existing regulations and report to the Prime Minister for any issues beyond MOIT's authority.

7. Conclusion

The approval of PDP8 is an important and exciting milestone, setting out the development direction and roadmap for Vietnam's energy sector until 2050. For PDP8 to meet its goals and improve the bankability of renewable power projects in Vietnam, the Vietnamese policymakers will need to ensure that the legal framework for energy development following PDP8's approval is consistent, investor-friendly, and transparent.

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ANNEX

COMPOSITION OF VIETNAM'S POWER SUPPLY SOURCES

Power Source	2030	2050
Total capacity	**150,489 MW (Excluding exported capacity, existing rooftop solar power and renewable power capacity to produce new energy)**	**490,529-573,129 MW (Excluding exported capacity, and renewable power capacity to produce new energy)**
Onshore wind	21,880 MW (14.5%)	60,050-77,050 MW (12.2-13.4%)
Offshore wind	6,000 MW (4.0%) or higher, if (i) the technology quickly develops, (ii) tariff and transmission costs are reasonable	70,000-91,500 MW (14.3-16%)
Solar	12,836 MW (8.5%) (excluding existing rooftop solar power, including concentrated solar power of 10,236 MW, self-consumption solar power of 2,600 MW. Self-consumption solar power is prioritized without capacity limit.)	168,594-189,294 MW (33.0-34.4%)
Biomass, waste-to-energy	2,270 MW (1.5%) or higher, if (i) there are sufficient materials, (ii) land use efficiency is high, (iii) there is a requirement for environmental treatment, (iii) grid infrastructure is sufficient, and (iv) tariff and transmission costs are reasonable.	6,015 MW (1.0--1.2%)
Hydropower	29,346 MW (19.5%), or higher if economic-technological conditions allow for it	36,016 MW (6.3-7.3%)
Storage hydropower	2,400 MW (1.6%)	30,650-45,550 MW (6.2-7.9%)
Storage battery	300 MW (0.2%)	
Co-generation, using excess heat, blast furnace gas, and by-products of technology lines in industrial facilities	2,700 MW (1.8%), which may be increased in accordance with the capacity of industrial facilities	4,500 MW (0.8-0.9%)
Coal-fired	30,127 MW (20.0%) (excluding certain delayed coal-fired projects)	0 MW (0%), discontinue use of coal
Domestic gas-fired	14,930 MW (9.9%)	Converted to using LNG: 7,900 MW (1.4-1.6%)
		Converted to using hydrogen: 7,030 MW (1.2-1.4%)
LNG	22.400 MW (14,9%)	Converted to running on hydrogen partially: 4,500-9,000 MW (0.8-1.8%)
		Converted to running on hydrogen entirely: 16,400-20,900 MW (3.3-3.6%)
Biomass and ammonia	Not included	25,632-32,432 MW (4.5%-6.6%)
Flexible	300 MW (0.2%)	30.900-46.200 MW (6.3-8.1%)
Import	5,000 MW (3.3%), could be increased up to 8,000 MW	11.042 MW (1.9-2.3%)