



Vietnam Energy Future – Power Development Plan 8 – How to get deals done

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Vietnam 2021 Economy at a glance



- GDP: **US\$220.5 billion**
- GDP per capita: **US\$3,743**
- GDP Growth: **2.58%** (despite national lockdown due to Covid-19)
- Inflation: **1.84%** (lowest since 2015)
- Population: **About 97.4 million**
- Total export and import turnover : **US\$ 288.14 billion** (increase by **22.6%** compared with 2020)
- Regional Minimum wage (Region I): **VND 4,729,400 (US\$ 203.9) per month (Jan 2021)**
- Vietnam's average age: **30.9 years old**

Energy Sector Background

- The Institute of Energy has calculated that commercial electricity will reach 491 billion kWh by 2030, and 877 billion kWh by 2045
- By 2030, the total installed capacity of Vietnam's electricity sources is predicted to be at 137.2 GW (of which coal-fired power: 27%, gas thermal power: 21%, hydroelectricity: 18%, renewable energy: 29%, imported energy about 4%, pumped hydroelectricity and other energy storage devices about 1%).



Energy Sector Background

- Electricity of Vietnam (EVN) holds a monopoly on electricity transmission and distribution.
- Total investment capital for electricity development in the period 2021-2030 is roughly USD 128.3 billion USD, of which: USD 95.4 billion for the power sources, USD 32.9 billion for the grids. The average structure of capital investment shall be 74% / 26%.

CURRENT GOVERNMENT'S POLICIES ON WIND ENERGY



Wind-to-electricity projects overview

- **On-shore projects:** any wind power project which (i) has been grid-connected; (ii) wind turbine(s) constructed and operated in mainland and coastal areas of which the outer boundary is the average lowest sea edge for 18.6 years.
- **Off-shore projects:** any wind power project which (i) has been grid-connected; (ii) wind turbine(s) constructed and operated offshore - outside the average lowest sea edge for 18.6 years.
- **FIT: 8.5 UScents/kWh** (on-shore) and **9.8 UScents/kWh** (off-shore)
- FIT only applies to part(s) of or entire wind project COD **before 01/11/2021**. The period for the enjoyment of FIT is **20 years** from COD.
- For projects COD after 01/11/2021: **Direct Power Purchase mechanism** is currently under MOIT's contemplation and will be presented to Prime Minister.
- It is expected that the mechanism will be approved by the Prime Minister in 2023.

Wind-to-electricity projects overview

- The total capacity of wind power put into operation by the end of 2021 is about 3,343 MW, much less than the total wind power capacity approved to be included in the revised PDP 7 -12 GW. Most projects are in the Southwest and South Central regions.



CURRENT GOVERNMENT'S POLICIES ON SOLAR ENERGY



Solar energy projects overview

- By the end of 2021, the total solar power capacity (including floating) put into operation was about 27 GW, concentrated in the southern provinces and the Central Highlands.
- Transmission grids are not enough in quantity, especially in Ninh Thuan and Binh Thuan provinces, to accommodate the increasing number of solar power projects and reduction in construction time of them due to advanced technology. As a result, most projects that have come into operation in such localities are being subjected to daily decrease in generating capacity to avoid overloading the regional grid.
- Binh Thuan and Ninh Thuan are top 2 provinces where projects are being applied for inclusion in the power master plan. This is due to the provinces' geographical advantage of having the most sunlight rate during the year in Vietnam

WIND & SOLAR- DIRECT POWER PURCHASE MECHANISM

- **Mandatory Eligibility Criteria:**

1. Tariffed Customers: existing industrial customers taking service at 22kV or higher
2. Project Size: larger than 30 MW
3. Technology Type: wind or solar PV
4. Renewable Energy Generating Company: owns power plants that are either (i) ready to COD but are not eligible for FiT mechanism or (ii) under construction, included in Power Development Plan and identified investor and will achieve COD within 270 working days
5. Commercial Agreements: project parties directly negotiate and sign a contract for differences (CfD) which dictates a strike price, an amount of power, and duration of the agreement

WIND & SOLAR- DIRECT POWER PURCHASE MECHANISM

❖ **Participants Selection Criteria:**

- Satisfy mandatory eligibility criteria,
 - Has no generation capacity limitation due to grid overload as of the registered COD,
 - Has no PPA with EVN, which is still valid at the time of registration for participation, and
 - Has a binding in-principle agreement with consumer.
-
- ## ❖ Within 60 working days from the effective of the Decision (estimated in 2023), interested parties can apply to join the DPPA pilot program. Duane Morris could assist interested parties to join the program.

WIND & SOLAR- DIRECT POWER PURCHASE MECHANISM

- ❖ DPPA model under current draft policy provides as follows:
 - (i) RE power generators shall sell all powers to EVN/PCs via Vietnam Competitive Wholesale Market,
 - (ii) Customer shall buy power from PC/EVN under a normal retail power contract applicable to industrial customers and
 - (iii) RE power generator and customer only sign a Cfd to determine a strike price of power to ensure RE power generator always receives a "strike price" regardless retail power price under the retail contract and/ or spot market price under Vietnam Competitive Wholesale Market.
- DPPA model under current draft policy avoids power retail license for RE power generators
- This model does not relate/ support the corporate PPA model where RE power generator sells power directly to customers.

WIND & SOLAR- DIRECT POWER PURCHASE MECHANISM

- The enforcement of DPPA is heavily dependent on when the PDP 8 will be approved, as only projects listed in the PDP could participate in the DPPA pilot program.
- For solar: The latest draft PDP 8 shows that no new solar power projects will be connected to the national grid until 2031. The latest draft encourages development of solar power projects for self-consumption only.
- For solar, it is better to make use of the auction mechanism (will be discussed shortly)
- For wind: interested investors should keep an eye on whether your projects are included in the latest draft PDP 8

DRAFT PDP 8

List of potential offshore wind power projects to be considered for investment

No.	Project	Total Capacity (MW)	Location
I	Central, South Central and Southeast regions	44 612	
1	Offshore of Con Co Island	1000	Quang Tri
2	Offshore of Nhon Ly province	1000	Binh Dinh
3	Offshore of My Cat	1000	Binh Dinh
4	Offshore on PNE sea	2000	Binh Dinh
5	Binh Dinh 3 offshore	2000	Binh Dinh
6	Phu Yen 2 offshore	4500	Binh Dinh
7	An Thuan offshore	250	Phu Yen
8	Phuoc Dinh offshore	502	Ninh Thuan
9	Ninh Thuan Zone 2 Seaside	1600	Ninh Thuan
10	Vinh hai offshore	500	Ninh Thuan
11	Offshore on Ninh Thuan beach	1800	Ninh Thuan
12	Ninh Thuan floating offshore	2000	Ninh Thuan
13	La Gan offshore	3500	Binh Thuan
14	Thang Long offshore	3400	Binh Thuan
15	Maqueri offshore	3000	Binh Thuan
16	Ke Ga (Ham Thuan Nam) offshore	900	Binh Thuan
17	Co Thach offshore	2000	Binh Thuan
18	Binh Thuan offshore	5000	Binh Thuan
19	Vinh Phong offshore	1000	Binh Thuan
20	AMI AC offshore	1800	Binh Thuan
21	Tuy Phong offshore	4600	Binh Thuan
22	Xuyen Moc offshore	760	Ba Ria, Vung Tau
23	FECON Vung Tau offshore	500	Ba Ria, Vung Tau

DRAFT PDP 8

List of potential offshore wind power projects to be considered for investment

No.	Project	Total Capacity (MW)	Location
II	SouthWestern region	15108	
1	Tra Vinh offshore	1000	Tra Vinh
2	V4 Tra Vinh offshore	2000	Tra Vinh
3	Gulf Tra Vinh offshore	1000	Tra Vinh
4	Ree offshore	1000	Tra Vinh
5	Soc Trang offshore	2000	Soc Trang
6	Ben Tre Main Stream AIT offshore	500	Ben Tre
7	Gulf Ben Tre 3 offshore	2300	Ben Tre
8	Ba Tri Ben Tre offshore	800	Ben Tre
9	Dong Hai 5 offshore	350	Bac Lieu
10	Dong Hai 1 – GD 3 offshore	550	Bac Lieu
11	USA Bac Lieu offshore	608	Ca Mau
12	Ngoc Hien offshore	3000	Ca Mau

Latest update on PDP 8

- On 11 August 2022, in the conference between Government and enterprises, the Minister of the MOIT Nguyen Hong Dien urged the Prime Minister (PM) to approve the PDP 8 draft promptly. In addition, Mr. Dien also proposed to terminate all FIT regulations for solar/wind power projects pursuant to Decision 13, Decision 37 and Decision 39 so that EVN could negotiate the market power price of all transitional renewable power projects.
- PM Pham Minh Chinh instructed that renewable power projects are encouraged to be implemented but the price must be appropriately adjusted. PM Chinh argued that the FIT for renewable power projects is approx. 2 times higher than the purchase price for other sources.
- On 18 August 2022, another draft PDP8 under OL 4697-TTr-BCT from the MOIT was submitted to the Government.
- On 20 August 2022, the Government has arranged an important meeting chaired by the Prime Minister Pham Minh Chinh and joined by several cabinet members such as Ministers of Ministry of Planning and Investment, Ministry of Industry and Trade, Ministry of Justice, Ministry of Finance, Ministry of Agriculture and Rural Development, Ministry of Construction, Ministry of Natural Resources and Environment to discuss the pending points of draft PDP8. MOIT would consider revising its draft again to satisfy the Government, Prime Minister.
- So far, it is not clear when PDP8 has not yet adopted/finalized. Hopefully, it could be adopted September 2022 but could be within this year.

What we hear from investors re. PDP 8

PDP 8 is languishing

PPAs are not bankable

BD expenditures are too rich

Regulatory space is non-existent/
immature

Project development cycle times are off the charts

Investors must bid to develop solar power projects soon

- No FiT rate applicable for project with COD from 1 January 2021 onwards.
- In 2021, the Ministry of Industry and Trade issued the draft Decision of the Prime Minister guiding the selection of investors implementing solar power projects under the bidding mechanism (“the Draft”)
- According to the Draft, the Decision would be applicable to projects with grids connected directly to the national power network. Every 02 years, the Ministry of Industry and Trade shall issue a Price Framework for electricity generation in order to determine the ceiling price for bidding to select investors of solar power projects with COD in the next 02 years.
- The employment of bidding method will enable for the selection of capable developers through transparent procedures in order to eliminate projects that run behind schedule for years

Draft Decision on auction mechanism

- 1. Applicable solar power purchase price:** is the price for the connection point proposed by the winning bidder/investor in the bidding dossier (excluding value added tax)
- 2. Adjustment to investment schedule:** if the investor is permitted to adjust the investment schedule and the project's COD occurs after the commitment date stated in the bidding documents, the applicable electricity price of project is the electricity selling price specified in point (1) with a cumulative reduction rate of 4% for every 90 days of schedule delay. Project delay time must not exceed 12 months
- 3. Bidding procedure:** People's Committees of localities to publish the bidding dossiers. The investor submits a Bid which includes Technical Proposal and Power Price Proposal. Bid opening will be conducted twice, Technical Proposal will be opened right after the deadline for submission of bids, investors who satisfy technical requirements will have their Power Price Proposals examined for evaluation.
- 4. Bidding guarantee:** Investors must apply the bid security measure, which is equal to 0.5% of the total project investment, before the bid is closed.

Rooftop Solar Power Projects

Electricity Buyer can either be:

- (i) Electricity Vietnam (EVN) or an authorized representative of EVN; or
- (ii) In case the RTS system is not connected to EVN's power grids: organizations, individuals purchasing electricity from the Seller/RTS developer or an authorized representative of such organizations and individuals.

In case the Buyer is EVN, the Seller and Buyer must sign the standard Power Purchase Agreement (“PPA”) unless agreed otherwise. The PPA is valid for 20 years from Commercial Operation Date (“COD”). Seller and other independent Buyers can discuss and agree on the order of implementation, installation, connection and maintenance as well as electricity purchase price by themselves in accordance with Vietnam laws.

Rooftop Solar Power Projects

- **Proposed** FiT rate for RTS projects with COD in 2021 and EVN as Buyer:

No.	Capacity of the RTS system	Electricity Purchase Price	
		VND/kWh	Equivalent USCent/kWh
1	< 20 kWp	1.582,16	6,84
2	From 20 kWp to less than 100 kWp	1.468,82	6,35
3	From 100 kWp to 1,250 kWp (less than 01 Mvac)	1.362,41	5,89

- FiT rate for RTS projects with COD in 2022 and beyond shall be submitted by the Ministry of Industry and Trade for Prime Minister's approval.

Don't forget the EU – Vietnam FTA and CPTPP

- EU – Vietnam FTA (“EVFTA”) and the Investment Protection Agreement (“IPA”):
 - EVFTA came into effect on 1 August 2020, making Vietnam has more legal certainty than even Germany.
 - IPA implements **investor-to-state dispute settlement** (ISDS) mechanisms – investors can claim in case that an investor protection obligation has been breached
 - Domestic courts cannot question the legal validity of the decisions
- Comprehensive and Progressive Agreement for the Trans-Pacific Partnership (CPTPP):
 - TPP continues without the US, effective from 30 December 2018.
 - New TPP accounts for 12.9% of global GDP and 14.9% of global trade.

Key department of EVN – Ban Thị Trường

- Officials from Ban Thi Truong (Market Department) are responsible for negotiating Power Purchase Agreements.
- Responsible persons:
 - Mr. Tran Dang Khoa: Head of Market Department
 - Ms. Minh Loan, Mr. Minh Tuan, Mr. Trung: Deputy Heads of Market Department

Non-recourse financing

- **What is it?** The Project can be financed with a loan secured by a charge on specific assets or on the revenues generated from a specific project or assets.
- **How to obtain?**
- ✓ **Option 1:** To develop the project by way of entering into a BOT (Build-Operate-Transfer) contract with the Government. As it is the Government who will own the project at the end upon the expiration of the BOT contract, the BOT contract will be more bankable → the non-recourse/limited recourse financing arrangement can be achievable.
- ✓ **Option 2:** To seek guarantee from the Multilateral Investment Guarantee Agency (“MIGA”).
- ✓ **Option 3:** To cooperate with a State-owned commercial bank for its guarantee of the project and then, negotiate with lenders to eliminate all recourses that lenders may ask from the sponsors and/or the borrowers.

Investment guideline for foreign investors



Market access and Forms of investment

- No foreign ownership restriction
- Investment forms:
 - ✓ A wholly-owned foreign enterprise
 - ✓ A joint venture company between a foreign investor and domestic investor
 - ✓ Investment pursuant to the BOT legal framework
 - ✓ Through the purchase of shares in either an EVN subsidiary being or having been equitized or a private IPP holding power assets.



WTO ANALYSIS OF LIBERALIZATION OF MARKET ACCESS

Country	Limitation of market access*	Country	Limitation of market access*
Malaysia	medium	Myanmar	high
Indonesia	medium	Cambodia	medium
Philippines	medium	Laos	medium
Singapore	low	India	high
Thailand	medium	China	medium
Brunei	high	Vietnam	low

* Typical restrictions: number of opened sectors, JV requirement, limits on foreign-owned shares, permission requirement

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Financing options for power projects

- Government investment funding and preferential policies
- Official Development Assistance (ODA)
- Loan from commercial banks or financial institutions
- Clean Development Mechanism (CDM)
- Public Private Partnership (PPP)

BOT – BEST INVESTMENT FORM

- New Law on Investment in the form of Public-Private Partnership came into effect on 1 January 2021: making projects more bankable
- Easier to negotiate more favorable electricity rates.
- Easier to obtain more government guarantees, especially in terms of EVN's obligations to purchase all electricity from the project.
- More fiscal and financial incentives.
- Precedent large-scaled BOT power projects in Vietnam: Phu My, Vung Ang, Mong Duong 2, Dung Quat 2, Song Hau 2, and many others

Project licensing

- **Step 1:** The investor obtains approval from the competent authority [e.g., Prime Minister, MOIT] approving the power plant as part of the power development plan (if required).
- **Step 2:** The investor obtains in-principle approval from the competent People's Committee
- **Step 3:** Application for issuance of the Investment Registration Certificate and the Enterprise Registration Certificate
- **Step 4:** Preparation of construction / operations of the power plant (for example, acquiring land area, site clearance, preparation, land investigation, conducting environmental assessment)
- **Step 5:** The project company to obtain necessary permits (e.g. electricity generating permit) and relevant agreements (e.g. PPA) for its and the power plant's operation.
- **Step 6:** Construction of the power plant and operation



RECOMMENDATIONS FOR INVESTORS

- Public private partnerships (e.g. - BOT) should be the first option.
- Due care on negotiations of the PPA and grid connection agreement with EVN
- Electricity selling in off-grid areas can be a good choice
- Sound financing structure, good business model and great legal assistance are keys to success.
- Accurate prediction of where the market is heading to, in the context of Vietnam's critical power shortage, should be considered.
- More pressure on the government to adequately address key issues on tariff increase, demonopolization of the power market and government guarantee.
- Vietnam's market is extremely in need of financing and EPC capability. There are rooms for cost-effective and high quality EPC contractors and resourceful lenders.
- In many cases, you can “test the water” with a small power plant project.

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Jim Elliot

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Thank you very much!

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