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Legal Update
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Vietnam's Latest Solar Policy Developments in relation to Proposed Solar Auction Mechanisms

On 19 March 2020, the Ministry of Industry and Trade of Vietnam (**MOIT**) submitted to the Prime Minister of Vietnam (**Prime Minister**) its Proposal No. 1968/TTr-BCT in relation to a proposed mechanism to determine competitive power prices for the development of solar power projects (**SPPs**) in Vietnam (**Proposal 1968)**.

Proposal 1968 is prepared following the issuance of Notification No. 402/TB-VPCP dated 22 November 2019 by the Office of Government on draft support mechanism for the development of SPPs and Notification No. 48/TB-VPCP dated 07 February 2020 on conclusions of the Prime Minister on renewable energy growth and economic security.

In Proposal 1968, MOIT makes certain fundamental solar policy recommendations to the Prime Minister, which are further elaborated below.

1 Necessity of formulating a solar auction mechanism for SPPs

MOIT underlines the subsequent advantages of establishing a well-designed mechanism for bidding and auction for SPPs:

- Adding capacity to the system to accomplish the objective of developing SPPs at a competitive cost;
- Controlling the scale of renewable energy development in accordance with the power development plan (**PDP**); and
- Minimising financial risks to facilitate domestic and international capital mobilisation.

2 Targeted installed capacity for solar auction mechanism

The total installed capacity of solar power projected for development for the period of up to 2025 is 14,450 MW and for the period of up to 2030 is 20,050 MW.
So far, a total installed capacity of 10,300 MW has been supplemented to the PDP. As a result, holding bidding and auction for SPPs would require the supplementation of:

- 4,000 MW (equivalent to 5,000 MWp) until 2025; and
- 5,600 MW (equivalent to 7,000 MWp) from 2026 to 2030.

3 Options for solar auctions

MOIT proposes to deploy simultaneously 03 following options:

3.1 Option 1: Project-based auction

(1) Object of application: SPPs having been supplemented to the PDP and not eligible for applying the new FIT. These include 07 SPPs with a total capacity of 600 MW that have been supplemented to the PDP and 1,000 MW that will be supplemented to the PDP.

(2) Implementation roadmap: implement until June 2021 for rapid mobilisation of solar power sources to ensure competitiveness (a transition period from the feed-in tariff (FIT) to an auction mechanism).

(3) Implementation principles:

(a) Projects fulfilling technical requirements, with competitive proposed power prices below the ceiling price and evaluated from low to high prices until the total capacity required for the auction round is reached (1,000 MW).

(b) Ceiling price:

- Floating SPPs: equivalent to 7.69 US cents/kWh;
- Ground-mounted SPPs: equivalent to 7.09 US cents/kWh.

(c) Power purchase agreement (**PPA**):

- Power prices: proposed by investors in the Proposals of the projects selected through competitive auction.
- Term: 20 year.

- Commitment: cover the entire generation of SPPs on the national grid (payment is still due in case of failure to receive electricity owing to defaults of Vietnam Electricity (**EVN**)).

(4) Implementation methods and selection standard:

(a) The single stage two envelope procedure will be applied. Based upon a request for proposal, investors will submit a technical proposal and financial proposal on power prices in separate sealed envelopes. Other procedures are in accordance with prevailing bidding regulations.

(b) Evaluation of technical proposal: evaluate the proposal's validity, investors' capacity and experience, and other technical features on schedule, commercial operation date (by July 2021) and capacity release compliance.

(c) Evaluation of financial proposal on power prices:

- Only applicable to investors having fulfilled technical requirements.
- Evaluation principles: proposed power prices must remain fixed for 20 years; compare and rank these proposals from low to high prices below the ceiling price.

(d) Requirements for investors:

- Implement the investment project in line with the schedule and quality under prevailing regulations;
- Sign and execute the PPA in accordance with the schedule and commitments made in their Proposals;
- Set up an escrow after having been granted an in-principle investment approval; and
- Operate the power plant in compliance with applicable rules.

3.2 Option 2. Substation-based auction

(1) Objects of application: SPPs with capacity from 10 MW - 100 MW.

(2) Implementation roadmap: establish mechanism and pilot in the 2020 - 2021 period; widely apply from July 2021.

(3) Implementation principles:

(a) The procedure under this option is based upon the proposal of projects and power prices for SPPs connected to substations or lines according to the List

of substations and lines published by MOIT. The List was made by calculating capacity release and demand for power, including information on the name/location of the substation, transmission lines, substation's capacity for receiving, and regional maximum capacity, in line with the PDP.

(b) Expected results of the auction include projects that meet technical requirements, with competitive proposed power prices below the ceiling price and evaluated from low to high prices until the total capacity of the auction round is reached.

(c) Investors will propose the location of the project based upon the List of substations and lines, and potential areas for solar power development. The investors must carry out the procedures on land arrangement, preparation of connection infrastructure, project access, and investment procedures under prevailing regulations.

(d) MOIT will examine further details of this option and report to the Prime Minister.

3.3 Auction for specific projects

(1) Object of application: potential sites for developing utility-scale floating SPPs and ground-mounted SPPs (with installed capacity of more than 100 MW).

(2) Implementation roadmap: establish mechanism and pilot in the 2020 - 2021 period; apply nationwide from July 2021.

(3) Implementation principles:

(a) The procedure under this option is based upon the evaluation of project proposals for a specific location, including information on the project name, location, coordinates, capacity scale and connection orientation.

(b) Under this option, Provincial People's Committees and EVN will conduct project layout, ground alignment, preparation of connection infrastructure, and project access.

(4) This option has the limitation of requiring state participation. Hence, the MOIT has been conducting more research to propose applying Option 3 for developing large-scale SPPs and floating SPPs (on the surface of hydropower reservoirs and irrigation lakes).

4 Supplementation to PDP to determine competitive power prices for SPPs

The MOIT proposes the list of 21 SPPs with total capacity of 1,163 MWp that have been appraised for supplementation to the PDP as follows:

- 17 SPPs that have been appraised, reported by the MOIT to the Prime Minister and approved by the Prime Minister for supplementation to the PDP. These SPPs have the total capacity of 708 MW, divided into: (i) SPPs with favorable connection (13 projects); and (ii) SPPs with conditional connection (4 projects). Please see the details in Appendices 1 and 2 below.

- 04 SPPs that have been appraised and reported by the MOIT to the Prime Minister with a total capacity of 455 MWp. Please see the details in Appendices 3 and 4 below.

5 MOIT's proposals to the Prime Minister

(1) To implement Option 1 to encourage the supplementation of SPPs to the PDP with information on: (i) implementation phase, (ii) scale; (iii) participants; (iv) ceiling prices; (v) principles, methods and responsibilities for implementation.

(2) To supplement 21 SPPs (mentioned in section 4 above) to the PDP after the Support mechanism for development of SPPs applicable from 01 July 2019 has been issued and the Auction mechanism under the Project-based option (Option 1) has been determined.

(3) To assign the MOIT to maintain research and pilot auction under the Substation-based option (Option 2) and Bidding-for-specific-projects option (Option 3) and report to the Prime Minister for approval.

Key contacts

If you have any questions, or would like to know how this might affect your business, please contact these key contacts.

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APPENDIX 1

List of 17 SPPs that have been appraised and approved by the Prime Minister for supplementation to the PDP (follow connection groups)

No.	Name of SPP	Capacity (MWp)	Location	Proposed connection plan	Preliminary assessment
A. Projects with favorable connection					
1	Phong Hoa	50	Thua Thien Hue	Build the 110 kV double circuit line for connection to solar power plant and transit on the 110kV Phong Dien II line of 220 kV Phong Dien substation	Ensure favorable power capacity release with short connection lines and minor grid losses
2	MT1	30	Binh Phuoc	Gather at a 110 kV substation connected to Hoa Lu 110 kV substation	Hoa Lu 110 kV substation is under construction by the Southern power corporation, expected to be completed in December 2020. When this substation goes into operation, the power capacity of these 3 projects are guaranteed in normal operation mode of the grid (N-0), failing in the malfunction mode (N-1)
3	MT2	30			

4	Loc Thach 1-1	50	Binh Phuoc	Connect to Hoa Lu 110 kV substation	
5	Duc Hue 2	49	Long An	Install a new T2 transformer at the existing 110 kV Duc Hue 1 solar power substation.	Ensure power capacity release in N-0 mode, failing in N-1 mode
6	An Cu	50	An Giang	Build a new: (i) 22/220 kV booster substation with capacity of 1x63 MVA; (ii) 220 kV double circuit line of approximately 0.5 km long for transit connection on the 220 kV Chau Doc - Kien Binh line.	Ensure power capacity release
7	Tam Bo	50	Lam Dong	Build a new 110 kV double circuit transmission line for transit connection to the existing 110 kV line of Da Nang 3 - Di Linh hydropower plant, transmission AC-240 mm2 conductor, 1 km long	Ensure power capacity release in both N-0 and N-1 mode

8	Tan Xuan	29.517	Binh Thuan	Connect to the 110 kV busbar of Ham Tan 220/110kV - 250MVA substation (building the 110 kV line, ACSR 240 conductor, 3 km long)	Ensure power capacity release, suitable with the existing grid and PDP
9	Hai Ly Binh Phuoc 1	50	Binh Phuoc	Connect to the 220 kV Loc Tan switching substation which is connected to the 220 kV Binh Long substation	Ensure power capacity release in N-0 mode, failing in N-1 mode due to limited ability to transmit capacity from the 220kV Binh Long substation to the system
10	Dam An Khe	50	Quang Ngai	+ Phase 1: Connect to the busbar 22 kV at the 22 kV distribution point of the 110/22 kV Duc Pho substation; + Phase 2: Connect to the 110 kV busbar at the 110 kV distribution point of the 110/22 kV Duc Pho substation	Ensure favorable power capacity release with short connection lines and minor grid losses
11	Dam Nuoc Man	50	Quang Ngai	Connect to the 110 kV busbar at the 110kV distribution yard of the Duc Pho 110/22 kV substation	Ensure favorable release capacity in N-0 mode
12	Easup 1	50	Dak Lak	Connect from the 110/22 kV substation of EA Sup 1 solar power plant to the 110 kV busbar of the 110 kV substation through single circuit transmission line ACSR 240, 9 km long	Ensure power capacity release

13	Ninh Sim	40	Khanh Hoa	Build a new 110 kV single circuit transmission line connected to Ninh Hoa bagasse plant, AC-185 mm2 conductor, 6.5 km long	Ensure power capacity release in both N-0 and N-1 mode
B. Projects with conditional connection					
1	Ayun Pa	25	Gia Lai	Transit connection to 110 kV AyunPa - EA H'Leo line by the 110 kV double circuit line, 1.5 km long	Ensure power capacity release when the 110 kV Krong Pa - Son Hoa operates in accordance with the PDP (in 2020)
2	Phu Thien	40	Gia Lai	Transit connection on 110 kV Chu Se - Gia Lai bagasse line through the 110 kV double circuit line, 0.5 km long	Ensure power capacity release when the 110 kV Krong Pa - Son Hoa operates, but failing in N-1 mode.
3	Phuoc Trung	50	Ninh Thuan	Transit connection on the 220 kV Thap Cham - Ninh Phuoc line, cross section ACSR400, 0.4 km long, ACSR400 conductor	Only ensure power capacity release when (i) the 500 kV Thuan Nam substation, (ii) connection lines of 500 and 220 kV, and (iii) the 220 kV Ninh Phuoc double circuit line of the 500 kV Thuan Nam substation have come into operation

4	Ia Rsuom - Bitexco -To Na	14.8	Gia Lai	Connect to the 22 kV busbar of Dak Srong 3B hydropower plant	Only ensure power capacity release when the 110kV Krong Pa - Ayn Pa line is upgraded to 2xAC240 phase conductor and when the 110 kV Krong Pa - Son Hoa line has come into operation.

APPENDIX 2

List of 17 SPPs that have been appraised and approved by the Prime Minister for supplementation to the PDP

No.	Name of SPP	Capacity (MWp)	Location	Land area	Connection plan
	Group of projects operating from 2020 – 2021				
1.	Phong Hoa	50	Phong Hoa commune, Phong Dien district, Thua Thien Hue province	59	The 110kV double circuit line is connected for transit on the 110 kV Phong Dien II line of 220 kV Phong Dien substation, 2 km long, cross section 330mm2
2.	MT1	30	Loc Thach commune, Loc Ninh district, Binh Phuc province	27	The 110 kV double circuit line of MT1 solar power is connected to 110 kV Hoa Lu substation, 8 km long, cross section 185 mm2
3.	MT2	30	Loc Thach commune, Loc Ninh district, Binh Phuc province	27	Install transformer T2 with capacity of 25 MVA at 110 kV substation of MT1 solar power
4.	Loc Thanh 1-1	50	Loc Thach commune, Loc Ninh district, Binh Phuc province	57.64	Build a new 110 kV single circuit line to connect Loc Thanh 1-1 solar power to 110 kV Hoa Lu substation, 7.2 km long, cross section mm2

5.	Duc Hue 2	49	My Thach Bac commune, Duc Hue district, Long An province	58	Build a new T2 transformer at the exisiting 110 kV Duc Hue 1 substation
6.	Tam Bo	50	Tam Bo commune, Di Linh district, Lam Dong province	60	Build a new 110 kV double circuit line connected for transit on the exisiting 110 kV line of the Da Dang 3 – Di Linh hydropower, AC-240mm2 conductor, 1 km long
7.	An Cu	50	An Cu commune, Tinh Bien district, An Giang province	60	Build a new 220 double circuit line for transit connection on the 220 kV Chau Doc – Kien Binh line
8.	Ninh Sim	40	Ninh Sim commune, Ninh Hoa district, Khanh Hoa province	45	Build a new 110 single circuit line connected to Ninh Hoa bagasse-fired plant, AC-185 mm2 conductor, 6.5 km long
9.	Hai Ly Binh Phuoc 1	50	Loc Tan commune, Loc Ninh district, Binh Phuoc province	60	Build 220 kV single circuit line, about 3.5 km long, connected to the 220 kV Loc Tan switching station, cross section 400 mm2
10.	Dam An Khe	50	An Khe lagoon, Pho Khanh commune, Pho Duc district, Quang Ngai district	60	+ Phase 1 (10 MWp): connect to the 22 kV busbar at the 22 kV distribution point of 110/22 kV Duc Pho substation. + Phase 2 (30 MWp): connect through the 110 kV single circuit line to 110 kV Duc Pho substation, 1.5 km long, cross section 185 mm2
11.	Dam Nuoc Man	50	Dam Nuoc Man, Pho Khanh commune, Quang Ngai district		The 110 kV single circuit line is connected to 110 kV Duc Pho substation, 4 km long, cross section 185 mm2

12.	Tan Xuan	29.517	Tan Xuan commune, Ham Tan district, Binh Thuan province	35	Build a 110 kV single circuit line connected to the 110 kV busbar of 220 kV Ham Tan substation, 3 km long, ACSR 240 conductor
13.	Easup 1	50	Cu M'Lan commune, Ea Sup district, Dak Lak province	60	Connect from 22/110 kV substation of Ea Sup 1 solar power plant to 110 kV busbar of 110 kV Easup substation through the ACSR 240 single circuit line, about 9 km long
	Group of projects operating from 2020 – 2021				
14.	Ayun Pa	25	Ayun Pa town, Gia Lai province	30	Transit connection to the 110 kV AyunPa – Ea H'Leo line through the 110 kV double circuit line, about 1.5 km long
15.	Phu Thien	40	Ayun Ha commune, Phu Thien district, Gia Lai province	45.38	Transit connection on the 110 kV Chu Se – Ba mia Gia Lai line through the 110 kV double circuit line, about 0.5 km long
16.	Phuoc Trung	50	Phuoc Trung commune, Bac Ai district, Ninh Thuan province	60	Transit connection on the 220 kV Thap Cham – Ninh Thuan line, 0.4 km long, cross section ACSR400
17.	Ia Rsuom – Bitexco – To Na	14.8	Ia Rsuom, Krong Pa district, Gia Lai province	15.7	Ia Rsuom – Bitexco – To Na solar power plant is connected to the 22 kV busbar of Dak Srong 3B hydropower plant.
	Total	**708 MWp**			

APPENDIX 3

List of SPPs that have been appraised and reported by MOIT to the Prime Minister for supplementation to the PDP (on connection plan)

No.	Name of SPP	Capacity (MWp)	Location	Proposed connection plan	Preliminary assessment
1	Trang Duc	49	Gia Lai	Build a new 110 kV double circuit line for transit connection on the 110 kV line of Krong Pa hydropower plant – DakSrong 3B hydropower plant, 2xACSR240 mm2 phase conductor, 1.5 km long	In case the 110 kV Krong Pa – Son Hoa line goes in operation synchronously with Trang Duc solar power plant, the capacity may be released.
2	Ia Lop 1	50	Dak Lak	Connect to the 110 kV busbar of Long Thanh 1 solar power plant.	Ia Lop solar power plant will not be able to release capacity in case the 110 kV Ea Sup substation has not gone into operation.
3	Phuoc Huu 2	230	Ninh Thuan	Build a new 220 kV double circuit line, 2xACSR-400 mm2 phase conductor, about 32.5 km long, from the booster substation at Phuoc Huu 2 solar power plant connected to the 220 kV busbar of 500/220 kV Vinh Tan substation.	When regional power sources such as Vinh Tan (5,580 MW) and Van Phong (1,200 MW) thermal power centre operate at high speed and other solar power plants in Ninh Thuan (2,000 MW) also generate power to the transmission grid, the regional grid may not be able to release full capacity. In case of absence of the 500 kV Thuan Nam substation, the 500 kV Vinh Tan (2x600 MVA) substation will always be overloaded as this is the only point to release regional capacity.

					Upgrading 500 kV Vinh Tan substation to 2x900 MVA and bring into operation the 500 kV Thuan Nam substation will help to prevent the overload of the 500 kV Vinh Tan substation in normal operation mode and malfunction mode N-1.
4	Tri An	126 (including Tri An 1 solar power plant (45 MW) and Tri An 2 solar power plant (81 MW)	Dong Nai	+ Booster station of 22/110 kV Tri An, 2x63 MVA in capacity. + Build a new 110 single circuit line from the booster station of Tri An 1 solar power connected to the expanding 110 kV bay of Tri An hydropower plant, 5.5 km long, cross section AC-300mm2. + Build a new 22 kV double circuit line (suspending 01 circuit beforehand) connected from the booster station of Tri An 2 solar power to the 22/110 kV Vinh An substation, 5.0 km long, cross section AC-240 mm2.	This connection plan could release the capacity of the project.

APPENDIX 4

List of SPPs that have been appraised and reported by MOIT to the Prime Minister for supplementation to the PDP

No.	Name of SPP	Capacity (MWp)	Location	Land area	Connection plan
1.	Trang Duc	49	Chu Gu commune, Krong Pa district, Gia Lai province	70.2	The 110 kV single circuit line connects Trang Duc solar power to 110 kV Ayun Pa substation, 25 km long, cross section 240 mm2
2.	Ia Lop 1	50	Ia Lop commune, Ea Sup district, Dak Lak province	65	Connect to the busbar of 110 kV Long Thanh 1 substation
3.	Phuoc Huu 2	230	Phuoc Huu commune, Ninh Phuoc district, Ninh Thuan province	266.3	Build a 220 kV double circuit line, 2xACSR-400 mm2 phase conductor, about 32.5 km long from the booster substation at Phuoc Huu 2 solar power plant connected to 220 kV busbar of 500/220 kV Vinh Tan substation
4.	Tri An	126	Area of Tri An hydropower work in Vinh Cuu district, Dong Nai province	176.4	+ 22/110 kV Tri An booster substation, with capacity of 2x63 MVA. + Build a new 110 kV single circuit line from the booster substation of Tri An 1 solar power (45 MW) connected to the expanding 110 kV bay of Tri An hydropower plant, 5.5 km long, cross section AC-300 mm2. + Build a new 22 kV double circuit line (suspending 01 circuit beforehand) connected from the booster station of Tri An 2 solar power (81 MW) connected to 22/110 kV

					Vinh An substation, 5.0 km long, cross section AC-240 mm2.
	Total	**455**			