



The unofficial translation of Comments No. 4519/EVN-KH on the draft Implementation Plan for Power Development Plan VIII dated August 04, 2023.

Bản dịch tiếng Anh không chính thức của Công văn số 4519/EVN-KH V/v góp ý dự thảo Kế hoạch thực hiện Quy hoạch điện VIII ngày 04 tháng 8 năm 2023.

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Miễn trừ trách nhiệm

Văn bản này là bản dịch không chính thức của Công văn số 4519/EVN-KH V/v góp ý dự thảo Kế hoạch thực hiện Quy hoạch điện VIII ngày 04 tháng 8 năm 2023 được ban hành bởi Tập đoàn Điện lực Việt Nam (EVN). Bản dịch chỉ được sử dụng cho mục đích thông tin một cách thuần túy và không có giá trị thay thế cho văn bản chính thức bằng tiếng Việt trong bất kỳ hoàn cảnh nào. Văn bản chính thức của tài liệu, có thể được tham khảo tại [Công văn số 4519/EVN-KH V/v góp ý dự thảo Kế hoạch thực hiện Quy hoạch điện VIII ngày 04 tháng 8 năm 2023](#), là văn bản chính thức duy nhất. Trong trường hợp khác biệt về nghĩa hay cách hiểu, văn bản tiếng Việt sẽ có giá trị quyết định. Bản dịch này được thực hiện bởi AMPERES dựa trên thiện chí và sự thông hiểu cao nhất mà chúng tôi có. Bản dịch không ngụ ý về một hành động hay cam kết nào. AMPERES không mang trách nhiệm về độ chính xác của bản dịch, cũng như bất kỳ mất mát, thiệt hại nào xảy ra dựa trên sự diễn giải thông tin từ bản dịch này.

**ELECTRICITY OF
VIETNAM**

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No. 4519/EVN-KH
Comments on the draft
Implementation Plan for Power
Development Plan VIII

Hanoi, August 04, 2023

To: The Office of Government

The Electricity of Vietnam (EVN) received Official Letter No. 5463/VPCP-CN dated July 19, 2023 from the Office of Government (OOG) on providing comments on the draft Implementation Plan for the Power Development Plan VIII (hereinafter referred to as the Draft) submitted to the Prime Minister by the Ministry of Industry and Trade under Letter of Submittal No. 4548/TTr-BCT dated July 12, 2023. After reviewing the Draft, EVN has the following comments:

1. Regarding the contents of the draft Implementation Plan for the Power Development Plan VIII.

- Regarding the development plan for power generation sources:

+ The Draft has reviewed the implementation of major power generation sources in the period of 2023-2025 and the period of 2026-2030 against the list of important power sources and investment priorities of the power sector in Appendix II of Decision 500/QĐ - TTg dated May 15, 2023.

+ For other power sources (e.g. offshore wind power, onshore and nearshore wind power, solar power, hydropower, biomass power and waste-to-energy): the total capacity has been planned by the years of 2025 and 2030, in which the offshore wind power sources are assigned to 04 regions (Northern, Central, South Central, Southern), other power sources shall be assigned by province.

- Regarding the development plan for the power grid: The draft has reviewed and estimated the progress of the grid development in the periods of 2021-2025 and 2026-2030, in which grid projects are expected to be invested by the state or in consideration of socialization. However, it is recommended to review the feasibility of some projects planned for the 2021-2025 period but not yet assigned to any developers or whose investment policies have not been approved yet.

Based on the expected progress of power generation and grid projects, it is proposed to add calculations to balance supply and demand (including capacity balance and electrical power balance) by region, for each year in the period to 2030, thereby determining the scale of power sources (renewable energy and small-scaled hydropower sources, etc.) that need to be operationalized each year in each region between now and 2030 to ensure electricity supply.

2. Proposed projects to be invested by EVN and our member units

On the basis of reviewing the implementation progress of the ongoing power

generation and grid projects, and the tasks assigned by EVN in Decision 500/QD-TTg, EVN and our member units would like to propose investments in the following power projects during the period up to 2030 as follows:

a. Power generation projects:

(i) For ongoing projects being implemented under the revised PDP VII: EVN continues to invest in 12 power generation projects (of which 01 project is in operation and its fuel will shift to Block B gas, 03 projects are under construction).

(ii) For new projects approved in PDP VIII:

- Expansion projects of existing power plants: It is proposed to assign EVN to invest in 08 new projects (of which 03 projects are invested by EVN and 05 projects are invested by member units), to be completed by 2030.

- Onshore wind power projects: It is proposed to select 02 qualified wind power projects for development in the period up to 2030.

- Pilot projects:

+ Offshore wind power: It is proposed to assign EVN to invest in 01 offshore wind power project in the Gulf of Tonkin with a total capacity of 810 MW in 2 phases, phase 1 will target operation by 2030, phase 2 will target operation in the period 2031 - 2035, the capacity size of each phase will be determined during project implementation.

+ Storage: It is proposed to assign EVN to invest in 02 projects to install BESS at the Northern 110kV substations with the capacity of 50MW/100MWh at each station, to be completed during the period 2026-2030.

+ Flexible sources (ICE): It is proposed to develop 300MW in Ninh Binh.

b. Grid:

- For ongoing projects being implemented under the revised PDP VII and adjusted in the PDP VIII: It is proposed to assign EVN and our member units to continue investment.

- For projects to renovate and upgrade existing works owned by EVN and our member units: It is proposed to assign the owners of existing works to make the investment. The expected completion schedule of these works is in the period 2026-2030.

- For greenfield development projects: It is proposed to assign EVN implement inter-regional projects to unleash the power source capacity, and supply electricity to important load areas and connected to the foreign power grid. The expected completion schedule of these works is in the period 2026-2030.

(Details of the project list, scale and timelines of projects that EVN proposes to invest are in Appendix 1 and Appendix 2)

3. To organize the effective implementation of projects according to the tasks assigned to EVN under Decision No. 500/QD-TTg dated May 15, 2023 of the Prime Minister, EVN would hereby propose the Office of Government and the Ministry of Industry and Trade to update the progress of the ongoing projects being implemented by EVN in the Implementation Plan for PDP VIII and submit it to the Prime Minister for approval, thereby facilitating the next steps by EVN and our member units.

Sincerely./.

Recipients:

- As above;
- Ministry of Industry and Trade (for information);
- Board of Directors (for information);
- Deputy Chief Executives;
- EVNNPT, EVNNLDC;
- Power Corporations, PMUs, Power Generation Corporations;
- Departments affiliated to EVN;
- For filing: Admin., KH.

CHIEF EXECUTIVE OFFICER

*[STAMP: ELECTRICITY OF
VIETNAM]*

[Signature]

Tran Dinh Nhan

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Appendix 1

List of power projects proposed to be assigned to EVN and member units for implementation

Appendix 1.1. Projects already assigned to EVN as the Developer

No.	Project	Source type	Capacity (MW)	Proposed time line		Developer	Note
				2023-2025	2026-2030		
1	Quang Trach I	Thermal Power Plant	1403		x	EVN	To be operationalized in 2026
2	Vinh Tan III	Thermal Power Plant	1980		x	VTEC (EVN invests equity)	
3	Quang Trach II	LNG	1500		x	EVN	Investment policy is being adjusted (due to fuel switch), to be operationalized in 2028-2029
4	O Mon I	Block B gas	660			GENCO2	In operation, switching fuel to Block B gas
5	Dung Quat I	Blue Whale gas	750		x	EVN	Preparation underway for investment in the project
6	Dung Quat III		750		x	EVN	
7	Expanded Hoa Binh	Hydropower	480	x	x	EVN	Generation unit 1: 2025, Generation unit 2: 2026
8	Expanded Ialy	Hydropower	360	x		EVN	Under construction, to be operationalized from 2024-2025
9	Expanded Tri An	Hydropower	200		x	EVN	FS report has been submitted to the Management of State Capital at Enterprises (CMSC), to be operationalized in 2026
10	Bac Ai	Pumped-storage Hydropower Plant	1200		x	EVN	Under construction, to be operationalized from 2028-2029
11	Phuoc Thai 2	Solar power	100	x		EVN	To be operationalized in 2024
12	Phuoc Thai 3	Solar power	50	x		EVN	

Appendix 1.2. Projects proposed to be assigned to EVN and our member units for completion by 2030 (according to the orientations approved in PDP VIII)

No.	Project	Source type	Capacity (MW)	Time line in the PDP VIII	Proposed time line	Developer	Note	
1	Offshore wind power in the Gulf of Tonkin	Offshore wind power	810		2030	EVN	02 phases, the size of each phase will be determined during the project implementation	
2	Flexible power source (ICE) in Ninh Binh	Flexible source	300	2021-2030	2030	GENCO3	The locations have not yet been determined in PDP VIII	
3	Installation of BESS equipment	Storage	2x50MW /100MWh	2021-2030	2026-2030		Installation of 02 sets in the North (each set has a capacity of 50MW/100MWh)	
4	Expanded Tuyen Quang	Hydropower	120		2029	EVN	Potential hydropower sources will be considered for development if economic - technical conditions are met	
5	Trung Son Expanded	Hydropower	130		2030	GENCO2	Potential hydropower sources will be considered for development if economic - technical conditions are met	
6	Expanded Srepok 3	Hydropower	110		2030	GENCO3		
7	Expanded Sesan 3	Hydropower	130		2029	EVN		
8	Expanded Sesan 4	Hydropower	120		2029	EVN		
9	Expanded Buon Kuop	Hydropower	140		2030	GENCO3		
10	Song Ba Ha Expanded	Hydropower	60		2030	GENCO2		
11	Expanded Da Nhim 2	Hydropower	80		2030	Da Nhim - Ham Thuan - Da Mi (DHD)		
12	Cong Hai 1 wind power plant - Phase2	Wind power	25			GENCO2		infrastructure has been constructed, and FS report approved
13	Huong Phung Wind Power 1	Wind power	30			GENCO2		

Appendix 2

List of 500-220kV power grid projects proposed to be assigned to EVN and our member units as developers

Appendix 2.1: Other ongoing projects

No.	PROJECT LIST	Development location	Design competence		Estimated completion schedule		
			Length (Km)	Capacity (MVA)	2021-2025	2026-2030	
I	Projects under construction						
1	Lao Cai 500 kV substation and 220 kV interconnection lines	Lao Cai	220kV: 4x17.5	2x900		x	
2	Phuoc Thai 220 kV substation expansion	Ninh Thuan		2x250	x		
3	Dak Ooc 220kV switching station and connection lines for South Emoun power plant cluster	Quang Nam	1x13.4+4x1x9		x		
4	Vinh Hao 220kV substation and 220 kV interconnection line	Binh Thuan	2x2	250	x		
5	Build new Thanh Xuan 220/110 kV substation	Ha Noi		2x250	x		
6	Build 220 kV line from West Ha Noi 500/220 kV substation to Thanh Xuan 220 kV substation	Ha Noi	4x17.4		x		
7	Tan Cang 220kV substation	Ho Chi Minh City		2x250	x		
8	Cat Lai - Tan Cang 220 kV line	Ho Chi Minh City	2x15		x		
9	Binh Tan - Cau Bong 220-110 kV line (from Cau Bong 220 kV substation to Hoc Mon 2 110 kV substation - 12 km)	Ho Chi Minh City	2x12+2x12		x		
10	Install the 3rd transformer in Binh Tan 220 kV substation	Ho Chi Minh City		1x250	x		

No.	PROJECT LIST	Development location	Design competence		Estimated completion schedule	
			Length (Km)	Capacity (MVA)	2021-2025	2026-2030
11	Tan Son Nhat 220 kV substation	Ho Chi Minh City		2x250	x	
12	220kV transmission line for Hiep Binh Phuoc - Tan Son Nhat (branch line to Tan Son Nhat 220kV station)	Ho Chi Minh City	2x7		x	
13	Binh Tan - Cau Bong 220-110 kV line (from Hoc Mon 2 substation (G19) to Binh Tan 220 kV substation)	Ho Chi Minh City	2x9		x	
14	Nho Quan - Phu Ly - Thuong Tin 500/200 kV line	Ninh Binh, Ha Nam, Ha Noi	6+3+2+1x3.45 +39.16+2.34+3 2		x	
15	Vinh Yen 500 kV substation and interconnection line	Vinh Phuc		2x3.4 km	x	
16	Increase the Pleiku 2 500 kV substation capacity	Gia Lai		2x450^2x900	x	
17	Chon Thanh 500 kV substation and connection	Chon Thanh District, Binh Phuoc Province	220kV:4x9.9 500kV:2x0.14	1x900+1x250	x	
18	Long Thanh 500 kV substation	Dong Nai		2x450	x	
19	Increase the Dak Nong 500 kV station capacity	Dak Nong		2x450^2x900	x	
20	500kV transmission line for Cu Chi - Chon Thanh branch line - Duc Hoa	HCMC - Tay Ninh	2x16.4		x	
21	500kV transmission line for Nhon Trach 4 Thermal Power Plant - Phu My branch line - Nha Be	Dong Nai - HCMC	2x1.2+4x3		x	
22	Song Hau - Duc Hoa 500 kV line	Hau Giang - Dong Thap - Vinh Long - Tien Giang - Long An	2x96.6		x	
23	Duc Hoa 500 kV substation and interconnection lines	Long An	2x12.5+ 4x24.8+4x29.3	900	x	

No.	PROJECT LIST	Development location	Design competence		Estimated completion schedule	
			Length (Km)	Capacity (MVA)	2021-2025	2026-2030
24	Duc Hoa - Chon Thanh 500 kV line	Long An - Tay Ninh - Binh Duong Binh Phuoc	2x104 (Phase 1: 4x13.3)		x	
25	Cu Chi 500 kV substation and interconnection lines	HCMC	500kV:4x0.75 220kV:2x1	900	x	
26	Thot Not 500 kV substation	Can Tho		900	x	
27	O Mon - Thot Not 500 kV line	Can Tho	2x35.2		x	
28	Increase the Song May 500 kV substation capacity	Dong Nai		2x600^2x900	x	Consideration of an increase to 2x1350MVA
29	Increase the Lai Chau 500kV substation capacity	Lai Chau		2x450^2x900	x	
30	Install the 2nd substation in West Ha Noi 500 kV substation	Ha Noi		900	x	
31	Increase Nghi Son 220 kV substation capacity from (125+250) MVA to 2x250MVA	Thanh Hoa		2x250	x	
32	Increase the load capacity of Dong Hoa - Thai Binh 220 kV line and Son Tay - Thai Binh 220 kV line	Hai Phong, Thai Binh, Ha Noi, Hoa Binh	2x53.43+50.7		x	
33	Dual circuit 220kV line connecting to 220kV Bac Quang station	Yen Bai, Ha Giang	2x43		x	
34	220kV transmission line of Hai Duong Thermal Power Plant - 500kV Pho Noi substation	Hai Duong, Hung Yen	4&6x1+55.4		x	
35	Increase the load capacity of Viet Tri - Vinh Yen - Soc Son; Yen Bai - Viet Tri and Thai Nguyen - Bac Giang 220 kV line	Phu Tho, Vinh Phuc, Yen Bai, Thai Nguyen, Bac Giang	2&1x52.86+44.43+67.55+63.08		x	

No.	PROJECT LIST	Development location	Design competence		Estimated completion schedule	
			Length (Km)	Capacity (MVA)	2021-2025	2026-2030
36	Ba Thien 220 kV substation and Viet Tri - Tam Duong - Ba Thien 220 kV line	Vinh Phuc, Phu Tho	2&4x49.6	250	x	
37	Bat Xat 220kV substation	Lao Cai		2x250	x	
38	Bat Xat - Bao Thang 220 kV line/Lao Cai 500 kV substation	Lao Cai	2x41.9		x	
39	220 kV line at Nam Sum - Nong Cong switching station (the part in the territory of Vietnam)	Thanh Hoa, Nghe An	2x129		x	
40	220kV substation connected to the level in 500kV Pho Noi substation	Hung Yen		2x250	x	
41	Phong Tho 220kV substation	Lai Chau		2x250	x	Substation 3
42	Dien Bien 220kV substation	Dien Bien		2x125	x	
43	Pho Cao 220kV substation and interconnection line	Hung Yen	4x0.93	2x250	x	
44	Duong Kinh 220kV substation	Hai Phong	2x0.260	250	x	
45	Install the 2nd transformer in Ba Thien 220 kV substation	Vinh Phuc		250	x	
46	Install the 2nd transformer in Vinh Tuong 220 kV substation	Vinh Phuc		250	x	
47	Phu Tho 2 220 kV substation and interconnection line	Phu Tho	2x0.17	250	x	
48	Pac Ma 220kV substation	Lai Chau		2x250	x	Substation 3

No.	PROJECT LIST	Development location	Design competence		Estimated completion schedule	
			Length (Km)	Capacity (MVA)	2021-2025	2026-2030
49	Nha Trang - Thap Cham 220 kV line	Khanh Hoa, Ninh Thuan	2x88		x	
50	Krong Ana 220 kV substation and connection	Gia Lai	2x22.19	1x125	x	
51	Hai Chau 220kV substation and Hoa Khanh - Hai Chau 220 kV substation	Da Nang	9.9	1x250	x	
52	Krong Buk - Nha Trang 220 kV transmission line, circuit 2	Khanh Hoa, Dak Lak	149.9		x	
53	Hang 2nd circuit of Nha Trang - Thap Cham 220 kV transmission line	Khanh Hoa, Ninh Thuan	88		x	
54	Nghia Lo 220 kV substation and 220 kV line connecting Nghia Lo - Viet Tri 500 kV substation	Lai Chau, Yen Bai	2x92.62	1x250	x	
55	Huoi Quang - Nghia Lo 220 kV line	Lai Chau, Yen Bai	2x103.3		x	
56	Vung Ang 220 kV substation and connection	Ha Tinh	2x13.4	1x125	x	Substation 2
57	Install the 2nd transformer in Lang Son 220 kV substation	Lang Son		1x250	x	
58	Quang Ngai - Quy Nhon (Phuoc An) 220 kV line - (Phase 2: hang 2nd circuit)	Quang Ngai, Binh Dinh	2x140		x	
59	220 kV Pleiku 2 - KrongBuk transmission line 2nd circuit	Gia Lai, Dak Lak	120		x	
60	220 kV substation in Nghi Son Economic Zone and interconnection lines	Thanh Hoa	3.8	1x250	x	
61	Chon Thanh - Ben Cat 220 kV line	Binh Phuoc, Binh Duong	2x28.21		x	

No.	PROJECT LIST	Development location	Design competence		Estimated completion schedule	
			Length (Km)	Capacity (MVA)	2021-2025	2026-2030
62	Cam Ranh 220kV substation	Khanh Hoa	4x0.2+2x9.2	250+40	x	
63	Duyen Hai 220kV substation and connection	Tra Vinh	4x1.4	250	x	
64	Dinh Quan 220 kV substation and connection	Dong Nai	4x0.5	2x250	x	
65	Tan Bien 220kV substation and Tay Ninh - Tan Bien 220 kV line	Tay Ninh	2x25	2x250	x	
66	Nam Can 220kV substation and Nam Can - Ca Mau 2 220 kV line	Ca Mau	2x57.8	1x250	x	
67	220 kV transmission line of Nhon Trach 3 Thermal Power Plant - 500kV Long Thanh substation	Dong Nai - HCMC	4x5.2 + 2x21.4		x	
68	Renovate the 110kV line of Phu My - Tan Thanh Thermal Power Plant into a 4-circuit mixed 220 - 110kV transmission line	Ba Ria - Vung Tau	2x0.5+4x9.3		x	
69	Song May - Tam Phuoc 220kV line	Dong Nai	2x13.7		x	
70	Tan Cang - Tao Dan underground cable	HCMC	2x6.57		x	
71	Vinh Chau 220 kV substation and interconnection line	Soc Trang	2x22	2x250	x	
72	Rach Gia 2 - Kien Binh 220 kV transmission line, 2nd circuit	Kien Giang	2x66.6		x	
73	2nd circuit of 220kV Bao Loc - Song May line	Lam Dong - Dong Nai	2x117.6		x	
74	Long Khanh 220 kV substation and connection	Dong Nai	4x0.71	2x250	x	

No.	PROJECT LIST	Development location	Design competence		Estimated completion schedule	
			Length (Km)	Capacity (MVA)	2021-2025	2026-2030
75	Phuoc Long 220 kV substation and connection	Binh Phuoc	2x0.16	1x250	x	
76	Install the 3rd 220 kV transformer in Nha Be 220 kV substation	Nha Be		250	x	
77	Install the 2nd 220 kV transformer in Thai Thuy 220 kV substation	Thai Thuy		250	x	
78	Hang 2nd circuit of Doc Soi - Quang Ngai 220 kV transmission line	Doc Soi, Quang Ngai	59		x	
79	Install the 2nd 220 kV transformer in Bac Kan 220 kV substation	Bac Kan		250	x	
80	Hang 2nd circuit of Cao Bang - Bac Kan 220 kV transmission line	Cao Bang, Bac Kan	70.9		x	
81	Install the 2nd 220 kV transformer in Sa Dec 220kV substation	Sa Dec		250	x	
82	Install the 2nd transformer in Chau Duc 220 kV substation	Chau Duc		250	x	
83	Increase Dong ha 220 kV substation capacity from 2x125 MVA to 125+250 MVA	Dong Ha		2x125 ^ 125+250	x	
84	Pac Ma - Muong Te 220 kV line	Lai Chau	2x30.9		x	
85	220 kV substation in Phu My 3 Industrial Park and interconnection line	Ba Ria - Vung Tau	4x0.16	2x250	x	
86	220 kV substation in Nhon Trach Industrial Park and connection	Dong Nai	4x0.57	2x250	x	
87	Install the 2nd substation in Chu Se 220kV substation	Chu Se		125	x	

No.	PROJECT LIST	Development location	Design competence		Estimated completion schedule		
			Length (Km)	Capacity (MVA)	2021-2025	2026-2030	
88	Hang 2nd circuit of Bac Giang - Lang Son 220 kV transmission line	Bac Giang, Lang Son	101.7		x		
89	Install 220kV transformer in 220kV Bac Kan substation, 2nd transformer in Son Tay 220kV substation, 2nd transformer in Nho Quan 500kV substation, 2nd transformer in Phu Tho 220kV substation, 3rd transformer in Van Tri 220kV substation (3rd transformer category of 220kV Van Tri substation)	Bac Kan, Ha Noi, Ninh Binh, Phu Tho		2x125+3x250	x		
II	FS Report approved						
1	500kV Monsoon - Thanh My transmission line (section in the territory of Vietnam)	Quang Nam	2x44.7		x		
2	Greenfield construction of Dai Mo 220/110 kV substation and 220kV branch line	HA NOI	2x1.8	2x250	x		
3	Thu Thiem 220 kV substation and connection - Phase 2 (220 kV)	Ho Chi Minh City		2x250	x		
4	Vinh Loc (Ba Queo) 220 kV substation	Ho Chi Minh City		2x250	x		
5	Ba Queo - Tan Son Nhat 220 kV line (Dam Sen - Ba Queo - Tan Son Nhat 220 kV)	Ho Chi Minh City	2x10		x		
6	Binh Duong 1 500 kV substation	Binh Duong		1x900	x		
7	Quang Tri 500kV substation and Quang Tri and connection line for Quang Tri - Vung Ang branch line - Da Nang	Quang Tri	500kV: 2x5.9; 220kV: 2x6.1	1x900	x		
8	500kV Binh Duong transmission line 1 - Song May branch line - Tan Dinh	Binh Duong	2x34.7		x		

No.	PROJECT LIST	Development location	Design competence		Estimated completion schedule	
			Length (Km)	Capacity (MVA)	2021-2025	2026-2030
9	Install the 2nd 500 kV transformer and a 220 kV transformer in Duc Hoa 500 kV substation	Duc Hoa		1x900+1x250	x	
10	Install the second 500 kV - 900 MVA transformer and the second 220 kV - 250 MVA transformer at the 500 kV Chon Thanh substation	Chon Thanh		1x900+1x250	x	
11	Bac Ninh 500 kV substation and interconnection line	Bac Ninh, Ha Noi	1x0.28+0.43			x
12	Dong Nai 2 500 kV substation and interconnection line	Dong Nai	4x3.5 + 4x11.8	900		x
13	500kV line connecting Cong Thanh thermal power plant	Thanh Hoa	2x3.2			x
14	Thanh Hoa 500 kV substation	Thanh Hoa	4x7.53	2x600	x	
15	Krong Buk 500 kV substation and connection	Dak Lak	220kV: 2x26.5	1x900		x
16	Thanh My - Duy Xuyen 220 kV line	Quang Nam	2x68.5		x	
17	Nam Cam 220 kV substation and interconnection line	Nghe An	2x6.8	1x250	x	
18	An Khe 220 kV substation and connection	Gia Lai	2x0.37	1x250	x	
19	220kV 4-circuit transmission line connecting An Khanh Thermal Power Plant (Bac Giang) to the national power system	Bac Giang	4x14			x
20	Vu Thu 220 kV substation and interconnection line	Thai Binh	4x1.9	250	x	Substation 2
21	Son La - Dien Bien 220 kV line	Son La, Dien Bien	2x132.6		x	

No.	PROJECT LIST	Development location	Design competence		Estimated completion schedule	
			Length (Km)	Capacity (MVA)	2021-2025	2026-2030
22	Van Dien 220 kV substation and connection	Ha Noi	4x4.5	2x250	x	
23	Gia Loc 220 kV substation and interconnection line	Hai Duong	4x5.29	2x250	x	
24	Nam Hoa 220kV substation	Quang Ninh		250		x
25	Hai Hau 220 kV substation and interconnection line	Nam Dinh	2x16.6	2x250	x	
26	Tuong Duong - Do Luong 220 kV line	Nghe An, Thanh Hoa	2x100		x	
27	220kV Sam Son substation and 220kV connection line Thanh Hoa - Sam Son	Thanh Hoa	2x36.2	2x250	x	
28	Do Luong - Nam Cam 220 kV line	Nghe An	2x80.66		x	
29	Lai Uyen 220 kV substation and connection	Binh Duong	4x0.52	1x250	x	
30	Go Cong 220 kV substation and Go Cong - Can Duoc interconnection line	Long An	2x27	1x250	x	
31	Lap Vo 220 kV substation and Thot Not - Lap Vo interconnection line	Lap Vo District, Dong Thap Province	2x18.7	1x250	x	
32	Chau Thanh (An Giang) 220 kV substation and connection	An Giang	4x1.11	250	x	
33	Install the 2nd transformer in Thuy Nguyen 220 kV substation	Thuy Nguyen		250	x	
34	Chan May 220kV substation and interconnection line	Chan May	4x4.2	1x125	x	

No.	PROJECT LIST	Development location	Design competence		Estimated completion schedule	
			Length (Km)	Capacity (MVA)	2021-2025	2026-2030
35	Install the 2nd transformer in Yen My 220 kV substation	Ha Noi		250	x	
36	Increase capacity of 220 kV-125 MVA transformer in Ha Tinh 500 kV substation to 250 MVA	Ha Tinh		125 ^ 250	x	
37	Increase Tuy Hoa 220 kV substation capacity from 2x125 MVA to 125+250 MVA	Tuy Hoa - Phu Yen		2x125 ^ 125+250	x	
38	Install the 2nd transformer in Phuoc An 220 kV substation	Phuoc An-Binh Dinh		250	x	
39	Renovate 220kV transmission line of Pha Lai - Bac Giang Thermal Power Plant from 1 circuit into 2 circuits	Hai Duong, Bac Giang	2x26.9		x	
40	Install the 2nd transformer in Can Tho 220 kV substation	Can Tho		250	x	
41	Install the 2nd 220 kV transformer in Long Xuyen 220 kV substation	Long Xuyen		250	x	
42	Bac Ninh 5 220kV substation and interconnection line	Bac Ninh	2x0.81	250	x	
43	Tan Dinh 2 220 kV substation and connection	Binh Duong	4x10.7	2x250	x	
44	220kV line connecting 500kV Binh Duong 1 substation - Uyen Hung branch line - Song May	Binh Duong	4x38.1		x	
45	Long Son 220 kV substation and connection	Ba Ria - Vung Tau	2x5.2	1x250	x	
46	Hoa Binh 220kV substation and connection (Bac Lieu province)	Bac Lieu	2x17	2x250		x
47	Cho Moi 220kV substation and connection	An Giang	2x9.2	250	x	

No.	PROJECT LIST	Development location	Design competence		Estimated completion schedule		
			Length (Km)	Capacity (MVA)	2021-2025	2026-2030	
48	Double-circuit 220 kV line connecting to 220kV Bac Lieu substation, relaying on 220kV transmission line of Ca Mau - Soc Trang Thermal Power Plant	Bac Lieu, Ca Mau, Soc Trang	2x5		x		
49	Binh My 220 kV substation and connection	Bac Tan Uyen, Binh Duong Province	4x2	250	x		
50	Ninh Hoa (Van Ninh) 220kV substation and interconnection line	Ninh Hoa	4x1.5	1x250	x		
51	Increase capacity of 02 220 kV transformers in 500 kV O Mon substation	O Mon		2x125 ^ 2x250	x		
52	Ham Thuan Nam 220kV substation	Binh Thuan	4x3.5	2x250			
III	Investment policy approved (developer approved)						
1	Thai Binh 500kV substation and connection	Thai Binh, Hung Yen	500kV:4x1 220kV:4x5			x	
2	Tay Ninh 1 500 kV substation and interconnection line	Tay Ninh	4x2	1.800		x	
3	Long An 500kV substation and connection lines (500kV Long An - Nha Be branch line - My Tho transmission line and 220kV Long An - Can Duoc branch line - Phu My transmission line)	Long An	2x0.15+4x0.25	900		x	
4	Ly Nhan 220kV substation and interconnection line	Ha Nam	4x2	2x250		x	
5	Cong Hoa 220kV substation and interconnection line	Quang Ninh		250		x	
6	Tam Duong 220 kV substation and connection	Vinh Phuc	2x4	250		x	

No.	PROJECT LIST	Development location	Design competence		Estimated completion schedule	
			Length (Km)	Capacity (MVA)	2021-2025	2026-2030
7	Hau Loc 220 kV substation	Thanh Hoa		250		x
8	Lang Giang 220kV substation and interconnection line	Bac Giang	2x0.6	250	x	
9	Dong Mo 220kV substation and interconnection line	Lang Son	2x0.5	250	x	
10	Thanh Ha 220kV substation and interconnection line	Hai Duong	4x6.5	250		x
11	Renovate and increase the load capacity of 220kV Ha Giang - Bac Me - Thai Nguyen transmission line, and Thai Nguyen - Luu Xa - Phu Binh transmission line	Ha Giang, Tuyen Quang	1x42 + 8.9 + 17.89		x	
12	220kV Ben Cat 2 substation and connection line, and 220kV Chon Thanh - Ben Cat 2 transmission line	Binh Duong	4x2+2x20	250		x
13	Cai Be (Tan Phuoc) 220 kV substation and interconnection line	Tien Giang	4x10	1x250		x
14	Vinh Long 3 220 kV substation and interconnection line	Vinh Long	4x0.166	1x250		x
15	Phuoc Thuan (Dat Do) 220kV substation and interconnection line	Ba Ria - Vung Tau	4x5.6	2x250		x
16	Phuoc Dong - Tay Ninh 500 kV substation 220 kV line	Tay Ninh	2x4.4			x
17	Hong Ngu 220kV substation	Dong Thap		1x250		x
18	Tam Diep 220kV substation and connection	Ninh Binh	2x5	2x125		x
19	Tam Hiep 220 kV substation and Tam Hiep - Doc Soi interconnection line	Tam Hiep	2x14	2x125		x

No.	PROJECT LIST	Development location	Design competence		Estimated completion schedule	
			Length (Km)	Capacity (MVA)	2021-2025	2026-2030
20	Install a 220kV transformer in connection with the 500kV Pleiku 2 substation	Pleiku		125		x
21	Install the 2nd 220 kV transformer in Can Duoc 220 kV substation	Can Duoc		250	x	
22	Duc Hoa 2 220 kV substation and interconnection line	Duc Hoa		2x250		x
23	Gia Luong (Bac Ninh 6) 220 kV substation and connection	Bac Ninh	4x2	1x250		x
24	Renovate and increase the load capacity of the 220 kV transmission line of 500 kV Ha Tinh - Hung Dong (Vinh) substation	Ha Tinh, Nghe An	1x14.46+49.2+51.3			x
25	Install the 3rd 220 kV transformer in Muong Te 220kV substation	Muong Te		250	x	
26	Increase capacity of 2nd transformer in 220 kV My Tho substation	My Tho		125>250	x	
27	Install the 2nd transformer in Tam Phuoc 220 kV substation	Tam Phuoc		250	x	
IV	Investment policy being reviewed for approval (investment pending for approval)					
1	500kV Lao Cai - Vinh Yen transmission line and expansion of 500kV feeder at Vinh Yen 500kV substation	Lao Cai, Yen Bai, Vinh Phuc, Phu Tho	2x228			x
2	Greenfield construction of Hoa Lac 220/110kV substation and 110/22kV connection part	HA NOI		2x250		x
3	Construction of 220kV transmission line to supply power to Hoa Lac 220/110kV substation and 110kV feeder transmission lines	HA NOI	2x14			x

No.	PROJECT LIST	Development location	Design competence		Estimated completion schedule	
			Length (Km)	Capacity (MVA)	2021-2025	2026-2030
4	Nam Dinh 1 - Pho Noi Thermal Power Plant 500kV line	Nam Dinh, Thai Binh, Hai Duong, Hung Yen	2x122.8		x	
5	Hai Phong 500 kV substation and 220 kV interconnection line	Hai Phong				x
6	Hai Phong - Thai Binh 500 kV line	Hai Phong, Thai Binh	2x35			x
7	Quynh Luu - Thanh Hoa 500 kV line	Nghe An, Thanh Hoa	500kV: 2x91.2		x	
8	Quang Trach - Quynh Luu 500 kV line	Nghe An, Ha Tinh	2x225.5		x	
9	Transmission line 500 kV Vung Ang - Ha Tinh branch line - Da Nang M3.4	Ha Tinh	2x16		x	
10	500 kV transmission line for Central Region Combined Cycle Gas Turbine Plant - Doc Soi	Quang Nam, Quang Ngai	2x19.5			x
11	Binh Duong 1 - Chon Thanh 500 kV line	Binh Duong	2x16.46			x
12	Phong Tho - Than Uyen 220kV line	Lai Chau	2x82.6		x	
13	Than Uyen - Lao Cai 500 kV substation 220 kV line	Lai Chau, Ha Giang, Lao Cai	2x73.2		x	
14	220kV Me Linh substation and connection for 220kV Me Linh - Ba Thien transmission line	Ha Noi, Vinh Phuc	1&2x1.6+26	250	x	
15	Long Bien - Mai Dong 220 kV line	Long Bien Ward, Gia Lam District, Hoang Mai District, Ha Noi	2x15.3			x
16	Thai Binh - Thanh Nghi 220kV line	Thai Binh, Ha Nam	2x34			x

No.	PROJECT LIST	Development location	Design competence		Estimated completion schedule	
			Length (Km)	Capacity (MVA)	2021-2025	2026-2030
17	Ung Hoa 220 kV substation and interconnection line	Ha Noi	2x0.508	250		x
18	An Lao 220 kV substation and connection	Hai Phong		250		x
19	Hai Phong 500 kV substation - Gia Loc 220kV line	Hai Phong, Hai Duong	2x31.8			x
20	Cat Hai 220kV substation and connection	Hai Phong	2x12	250		x
21	Hai Chau - Ngu Hanh Son 220 kV line	Da Nang	2x10.36			x
22	Nhon Hoi 220 kV substation and Phuoc An - Nhon Hoi interconnection line	Binh Dinh	2x21.2	1x250		x
23	Tan Son Nhat - Thuan An 220 kV line	HCMC - Binh Duong	2x13.2			x
24	An Bien 220 kV substation and interconnection line	Kien Giang	2x15	250		x
25	220kV transmission line for 500kV Long Thanh substation - High Technology	Dong Nai - HCMC	2x25			x
26	Hong Ngu - Chau Doc 220 kV line	Dong Thap - An Giang	2x34			x
27	Nam Dinh 1 - Ninh Binh 2 Thermal Power Plant 220kV line	Nam Dinh, Ninh Binh	2x30.5			x
28	Nam Dinh I Thermal Power Plant - Hau Loc transmission line	Nam Dinh, Thanh Hoa	2x46.8			x
29	Dong Anh 500 kV substation - Van Tri 220 kV line	Ha Noi	9 (underground cable) + 6.86 (TRANSMISSION)			x

No.	PROJECT LIST	Development location	Design competence		Estimated completion schedule		
			Length (Km)	Capacity (MVA)	2021-2025	2026-2030	
			LINE zero)				
30	Bac Tan Uyen 220 kV substation and interconnection line	Tan Uyen	2x7	250		x	
31	220kV VSIP substation (in place of An Thanh substation)	An Thanh		2x250		x	
32	Duc Hoa 3 220 kV substation and interconnection line	Duc Hoa	2x6	2x250		x	
V	Assigned to project management unit and not submitted to the competent authority for approval of investment policy (or approval of investment)						
1	Build new Long Bien 2 (Gia Lam) 220 kV substation and interconnection line	Ha Noi	4x3	2x250		x	
2	Cau Giay 220 kV substation	Ha Noi		2x250		x	
3	Dan Phuong 500 kV substation - Cau Giay 220 kV line	Ha Noi	2x20			x	
4	Hai Ba Trung 220 kV substation	Ha Noi		2x250		x	
5	Hai Ba Trung - Thanh Cong 220 kV line	Ha Noi	2x5			x	
6	Hai Ba Trung - Mai Dong 220 kV line	Ha Noi	2x3			x	
7	Dam Sen 220 kV substation	HCMC		2x250		x	
8	Phu Lam - Dam Sen 220 kV line	HCMC	2x6			x	

No.	PROJECT LIST	Development location	Design competence		Estimated completion schedule	
			Length (Km)	Capacity (MVA)	2021-2025	2026-2030
9	Ba Queo - Dam Sen 220 kV line (Dam Sen - Ba Queo - Tan Son Nhat 220 kV)	HCMC	2x10			x
10	Nam Hiep Phuoc 220 kV substation and interconnection line	HCMC	4x0.5	2x250		x
11	District 9 220 kV substation	HCMC	4x2.0	2x250		x
12	District 7 220 kV substation	HCMC		2x250		x
13	Nha Be - District 7 220kV line	HCMC	2x6			x
14	Tay Bac Cu Chi 220 kV substation and interconnection line	HCMC	2x4.5	2x250		x
15	Phu Hoa Dong 220 kV substation	HCMC		2x250		x
16	The section connected Phu Hoa Dong 220 kV substation	HCMC	4x5.0			x
17	500 kV substation in Nam Dinh Thermal Power Plant and interconnection line	Nam Dinh	2x7.2			x
18	Nam Dinh 1 - Thanh Hoa 500 kV line	Nam Dinh, Ninh Binh, Thanh Hoa	2x72.5		x	
19	Thai Nguyen 500 kV substation	Thai Nguyen	4&2x12.5+12.7 (220kV)			x
20	500kV Hiep Hoa - Thai Nguyen transmission line	Bac Giang, Thai Nguyen	2x28.448			x
21	West Ha Noi - Vinh Yen 500 kV power line	Ha Noi, Vinh Phuc	2x55			x

No.	PROJECT LIST	Development location	Design competence		Estimated completion schedule	
			Length (Km)	Capacity (MVA)	2021-2025	2026-2030
22	Quang Tri Thermal Power Plant - Quang Tri 500 kV transmission line	Quang Tri	2x19.5			
23	Ninh Son - Chon Thanh 500 kV line	Ninh Thuan, Lam Dong, Binh Phuoc	2x275			x
24	Dung Quat - Krong Buk 500kV transmission line (Dung Quat substation - Krong Buk 500kV transmission line)	Quang Ngai, Binh Dinh, Gia Lai, Dak Lak	2x394.5			x
25	Binh Dinh 500 kV substation and connection	Binh Dinh	500kV: 2x3.2; 220kV: 2x2.1	1x900		x
26	500kV transmission line for Van Phong thermal power plant - Binh Dinh	Khanh Hoa, Phu Yen, Binh Dinh	1x224.3			x
27	North Chau Duc 500kV substation and connection	Ba Ria - Vung Tau	4x11.4+4x15.8	900		x
28	Krong Buk - Tay Ninh 1 550 kV line	Dak Lak - Tay Ninh	2x314.4			x
29	Install the 2nd transformer in Thot Not 500kV substation	Can Tho		900		x
30	Gia Vien 220kV substation and Gia Vien - Nam Dinh 220kV line	Ninh Binh, Nam Dinh	2x12.5	250		x
31	220 kV t substation and connection	Yen Bai		2x125		x
32	Renovate 220kV transmission line of Gia Vien - Tam Diep - Binh Son from 1 circuit into 2 circuits	Ninh Binh, Thanh Hoa	2x25.7			x
33	Ninh Binh 2 220kV substation, and 220 kV and 110 kV interconnection lines	Ninh Binh	2x12.2	2x250		x
34	220kV transmission line for Bac Ninh 500kV - Bac Ninh 4	Bac Ninh	2 & 4x13.4			x

No.	PROJECT LIST	Development location	Design competence		Estimated completion schedule	
			Length (Km)	Capacity (MVA)	2021-2025	2026-2030
35	Bac Ninh 4 220kV substation and connection	Bac Ninh, Ha Noi	2x14	250		x
36	Yen Hung - Nam Hoa 220kV line	Quang Ninh	2x15			x
37	220kV transmission line of Nhon Trach 3 Thermal Power Plant - My Xuan branch line - Cat Lai	Ha Noi	2x8		x	
38	Lien Chieu 220 kV substation and connection	Da Nang	4x3	1x250		x
39	Krong Pa 220kV substation	Gia Lai		1x125		x
40	Krong Pa - Chu Se 220 kV line	Gia Lai	2x63.34			x
41	Renovate 220 kV transmission line for Chau Doc - Kien Binh from 01 circuit to 02 circuits	Chau Doc, Kien Binh	1x75			x
42	220kV transmission line for Nghi Son thermal power plant - Nghi Son branch line - Vinh	Thanh Hoa	2x10.4			x
43	Increase the load capacity of Tuy Hoa - Quy Nhon 220 kV line	Phu Yen - Binh Dinh	1x89.7		x	
44	220 kV substation in PH 1 and interconnection line	HCMC	2x13	2x250		x
45	Phuoc Dong 220kV substation	Tay Ninh		250		x
46	220kV t substation and connection	Dong Nai		250		x
47	Tuy Hoa - Phuoc An 220 kV line	Phu Yen - Binh Dinh	2x92.7			x

No.	PROJECT LIST	Development location	Design competence		Estimated completion schedule		
			Length (Km)	Capacity (MVA)	2021-2025	2026-2030	
48	Increase the load capacity of Son Tay - Vinh Tuong 220kV transmission line, complete the connection diagram of Vinh Tuong 220kV substation and build a 220kV branch line to connect to Vinh Yen 220kV substation	Viet Tri, Vinh Phuc	1&2x21.8&8			x	
49	Install the second 220 kV - 250 MVA transformer in the 220 kV Bac Quang substation.	Ha Giang		250	x		
50	Increase Tra Noc 220 kV substation capacity from 125+250 MVA to 2x250 MVA	Tra Noc		125+250 ^ 2x250		x	
51	Install the 2nd transformer in Gia Rai 220 kV substation	Gia Rai	4x2.12	125		x	
52	Bo Y 220 kV substation and Bo Y - Kon Tum 220 kV line	Kon Tum	2x28.19	1x125		x	
VI	Projects assigned to EVN to carry out investment preparation procedures; now in the process of selecting a consulting contractor for the preparation of FS reports						
1	Lao Bao 500 kV substation and 220 kV interconnection lines	Quang Tri	220kV: 4x5	2x900		x	
2	Quang Tri 2 500 kV switching station and 500kV interconnection lines	Quang Tri	4x5			x	
3	500kV transmission line for Lao Bao line - Quang Tri 500kV switching station 2	Quang Tri	2x1			x	
4	220kV transmission line for Phuoc Thai - Vinh Tan branch line - Thap Cham (2nd circuit).	Ninh Thuan	2x3		x		
5	Quynh Luu 500kV substation and connection line	Nghe An	4&1x1(500kV) +11(220kV)		x		
2	500kV transmission line for Thanh Hoa - Nho Quan branch line - Ha Tinh	Thanh Hoa	2x5		x		

No.	PROJECT LIST	Development location	Design competence		Estimated completion schedule	
			Length (Km)	Capacity (MVA)	2021-2025	2026-2030
3	220kV transmission line for Phu My - Phuoc An branch line - Quang Ngai (2nd circuit)	Binh Dinh			x	
4	220kV transmission line for Chu Se - Pleiku 2 branch line - KrongBuk (2nd circuit)	Gia Lai	4x4		x	
5	Ninh Son 500 kV substation and 500-220 kV interconnection lines	Ninh Thuan	500kV + 220kV (4 circuits): 2x17.2; 500kV: 2x0.6; 220kV: 4x8.2 + 2x0.9	2x900		x
6	My 220kV switching station and 220kV transmission line relay connection to the 220kV transmission line for Da Nhim – Thap Cham	Ninh Thuan	2x1			x
7	220kV transmission line for Da Nhim - Duc Trong - Di Linh switching station (in place of the project to Renovate 220 kV Da Nhim - Duc Trong - Di Linh transmission line)	Ninh Thuan - Lam Dong	2x88			x
8	220kV transmission line for c - s 500kV branch line - Can Duoc (2nd circuit)	Tien Giang	2x4			x
9	Increase the load capacity of 220kV transmission line for Phu My - Can Duoc - My Tho - 500kV My Tho	Ba Ria & Vung Tau - Dong Nai - HCMC - Long An - Tien Giang	2x25			x
10	Thanh My 500kV substation and 500kV transmission line connect Thanh My 500kV substation to 02 circuits of 500kV Quang Trach - Doc Soi transmission line	Quang Nam	4x45	900		x
11	Dan Phuong 500kV substation and 500kV & 220 kV interconnection lines	Ha Noi	500kV: 4x5 220kV: 4x11	2x900		x
12	Long Bien 500kV substation and 500kV & 220 kV interconnection lines	Ha Noi	2&4x7.7(500k V) +4.5(220kV)			x

No.	PROJECT LIST	Development location	Design competence		Estimated completion schedule	
			Length (Km)	Capacity (MVA)	2021-2025	2026-2030
13	Thanh Hoa - Bim Son 220kV transmission line, 2nd circuit	Thanh Hoa	2x36			x
14	Yen Dung 220kV substation and 220 kV interconnection lines	Bac Giang	2x0.15	2x250		x
15	Phu Binh 2 220kV substation and 220kV transmission line connecting to the 220kV Thai Nguyen - Bac Giang transmission line	Thai Nguyen, Bac Giang	2x13	2x250		x
16	Phu Binh 2 - Hiep Hoa 500 kV substation 220 kV line	Thai Nguyen, Bac Giang	2x14			x
17	Dong Van 220kV substation and 220kV transmission line for Dong Van - Phu Ly(Dong Van - Phu Ly branch line - Ha Dong if the 220kV Phu Ly substation's feeder cannot be expanded)	Ha Nam	2x17	250		x
18	Bai Say 220 kV substation and Bai Say - Kim Dong 220 kV line	Hung Yen	2x10.6	250		x
19	220kV Tan Viet substation and 220kV transmission line for Tan Viet - Gia Loc branch line - Pho Noi	Hai Duong	4x3	250		x
20	Thanh Hoa 500 kV substation - Hau Loc 220 kV line	Thanh Hoa				x
21	Increase the load capacity of Thuong Tin - Pho Noi 220 kV line	Ha Noi, Hung Yen	33.8		x	
24	Phu Quoc 220 kV substation	Phu Quoc		2x250		x

Appendix 2.2a: Brownfield projects for transmission lines (proposed for the period 2026-2030)

No.	Line name	Circuit number	x	km	Note	Region	Voltage level (kV)	Developer	Owner of existing works
1	Renovate Vung Ang - Nho Quan (1st circuit)	2	x	360	Renovate the existing 500 kV line into 02 circuits, considering switching connections to 500 kV Hoa Binh 2 switching station	North	500	not yet assigned	EVNNPT
2	2nd circuit of Ha Dong - Ung Hoa - Phu Ly	2	x	40	Greenfield construction, renovation of one circuit into two circuits, expansion of 02 feeders at 220 kV Ung Hoa substation	North	220	not yet assigned	EVNNPT
3	Increase the load capacity of Hiep Hoa - Soc Son	2	x	10	Increase the load capacity of two circuits in 220kV Hiep Hoa - Soc Son transmission line, remove the remaining two circuits to limit the short circuit current	North	220	not yet assigned	EVNNPT
4	Renovate 220 kV transmission line of Son Tay - Vinh Yen from 01 circuit into 2 circuits	2	x	30	Greenfield construction, renovation of one circuit into two circuits, and at the same time switching the connection to a 2-circuit line Son Tay - Vinh Yen	North	220	not yet assigned	EVNNPT
5	Increase the load capacity of Xuan Mai - Ha Dong	1	x	25	Renovate & increase the load capacity	North	220	not yet assigned	EVNNPT
6	Increase the load capacity of Van Tri - Tay Ho - Chem	2	x	20	Renovate, increase the load capacity, and ensure power supply for Hanoi	North	220	not yet assigned	EVNNPT
7	Increase the load capacity of 500 kV Nho Quan - Ninh Binh transmission line	2	x	26	Renovate & increase the load capacity	North	220	not yet assigned	EVNNPT
8	Switching connection from Bac Quang to Luc Yen	2	x	1	Greenfield construction, switching connection from Bac Quang to Luc Yen	North	220	not yet assigned	EVNNPT

No.	Line name	Circuit number	x	km	Note	Region	Voltage level (kV)	Developer	Owner of existing works
9	Increase the load capacity of Yen Bai - Tuyen Quang transmission line	2	x	36	Renovate, increase the load capacity, and increase the purchase of electricity from China	North	220	not yet assigned	EVNNPT
10	Increase the load capacity of Luc Yen - Yen Bai transmission line	2	x	58	Renovate, increase the load capacity, and increase the purchase of electricity from China	North	220	not yet assigned	EVNNPT
11	Increase the load capacity of Hiep Hoa - Phu Binh transmission line	1	x	10	Renovate & increase the load capacity of ACSR410	North	220	not yet assigned	EVNNPT
12	500 kV Viet Tri - Viet Tri	2	x	10	Renovate & increase the load capacity	North	220	not yet assigned	EVNNPT
13	Transmission line for Me Linh - Soc Son branch line - Van Tri (2nd circuit)	2	x	2	Greenfield construction, switching and connecting 220kV Vinh Yen 500kV - Me Linh and Me Linh - Van Tri lines to Vinh Yen - Van Tri to limit short-circuit currents	North	220	not yet assigned	EVNNPT
14	Vinh Tuong - Vinh Yen	2	x	8	Greenfield construction and renovation, switching connection to a 2-circuit transmission line Vinh Tuong - Vinh Yen	North	220	not yet assigned	EVNNPT
15	Increase the load capacity of Son La - Son La 500 kV line	1	x	41	Renovate, increase the load capacity, facilitate synchronization according to the size and progress of regional power sources	North	220	not yet assigned	EVNNPT
16	Increase the load capacity of Son La - Muong La 500 kV line	1	x	21	Renovate, increase the load capacity, facilitate synchronization according to the size and progress of regional power sources	North	220	not yet assigned	EVNNPT
17	Increase the load capacity of Muong La - Son La line	1	x	32	Renovate, increase the load capacity, facilitate synchronization according to the size and progress of regional power	North	220	not yet assigned	EVNNPT

No.	Line name	Circuit number	x	km	Note	Region	Voltage level (kV)	Developer	Owner of existing works
					sources				
18	Increase the load capacity of Nong Cong - 500 kV Thanh Hoa transmission line	2	x	26	Renovation in case of releasing capacity of Nghi Son 2 thermal power plant through 220 kV power grid.	North	220	not yet assigned	EVNNPT
19	Nong Cong - Nghi Son - switching connection to Nghi Son thermal power plant	2	x	42	Phase 2 of transmission line for Nghi Son thermal power plant - Nong Cong branch line - Quynh Luu, restore the current status of 220 kV Nong Cong - Quynh Luu transmission line	North	220	not yet assigned	EVNNPT
20	Increase the load capacity of Hung Dong - Quynh Luu - Nghi Son transmission line	2	x	100	Renovate and increase the load capacity of 2 circuits, release the capacity of the Laos and West Nghe An hydropower plants	North	220	not yet assigned	EVNNPT
21	2nd circuit of Da Nang - Doc Soi	2	x	100	Greenfield construction of 2nd circuit, renovation of circuit 1, in case of failure to expand Doc Soi feeder, switching connection of 2nd circuit to Central Region Combined Cycle Gas Turbine Plant	Central	500	not yet assigned	EVNNPT
22	Renovate Thanh My - Pleiku 2 into 2 circuits	2	x	199	Greenfield construction, renovation of circuit 1, switch connection to 500 kV Pleiku substation. Strengthen transmission capacity, backup power connection from Laos	Central	500	not yet assigned	EVNNPT
23	Dong Ha - Hue 3rd circuit	1	x	78	Hang 3rd circuit on the existing 220 kV Dong Ha - Hue line, 2nd circuit	Central	220	not yet assigned	EVNNPT
24	Increase the load capacity of Pleiku 2 - Phuoc An transmission line	1	x	151	Build a new 2nd circuit or replace the super heat wire	Central	220	not yet assigned	EVNNPT

No.	Line name	Circuit number	x	km	Note	Region	Voltage level (kV)	Developer	Owner of existing works
25	Increase the load capacity of Kon Tum - Pleiku (*) transmission line	2	x	36	Renovate & increase the load capacity	Central	220	not yet assigned	EVNNPT
26	Increase the load capacity of the transmission line for Pleiku - An Khe biomass thermal power plant - An Khe thermal power plant	1	x	98	Renovate & increase the load capacity	Central	220	not yet assigned	EVNNPT
27	Increase the load capacity of Dak Ooc - Thanh My transmission line	2	x	31	Renovate, increase the load capacity, release the power capacity of imported source	Central	220	not yet assigned	EVNNPT
28	Increase the load capacity of Srepok 3 - Buon Kuop transmission line	1	x	28	Renovate, increase the load capacity, release the power source capacity	Central	220	not yet assigned	EVNNPT
29	Increase the load capacity of Buon Kuop - Buon Tua Shra - Dak Nong 500 kV transmission line	1	x	112	Renovate, increase the load capacity, release the power source capacity	Central	220	not yet assigned	EVNNPT
30	Tri An Hydropower Plant - Song May 500 kV	1	x	24	Renovate, increase the load capacity, release the power source capacity	South	220	not yet assigned	EVNNPT
31	Increase the load capacity of Tuy Hoa - Van Phong - Nha Trang transmission line	2	x	118	Renovate, increase the load capacity, further release the power source capacity	Central	220	not yet assigned	EVNNPT
32	Increase the load capacity of Dong Hoi - Dong Ha transmission line	2	x	108	Renovate and increase the load capacity, apply high development case for Quang Tri wind power plant	Central	220	not yet assigned	EVNNPT
33	Increase the load capacity of Hue - Hoa Khanh transmission line	2	x	82	Renovate & increase the load capacity	Central	220	not yet assigned	EVNNPT
34	Increase the load capacity of Da Nang - Tam Ky - Doc Soi transmission line	2	x	100	Renovate & increase the load capacity	Central	220	not yet assigned	EVNNPT
35	Increase the load capacity of 500 kV North Chau Duc - Song May transmission line	1	x	58	Renovate & increase the load capacity, synchronize Son My Power Center	South	500	not yet assigned	EVNNPT

No.	Line name	Circuit number	x	km	Note	Region	Voltage level (kV)	Developer	Owner of existing works
36	Increase the load capacity of 500 kV North Chau Duc - Long Thanh - Song May transmission line	1	x	92	Renovate & increase the load capacity, synchronize Son My Power Center	South	500	not yet assigned	EVNNPT
37	Increase the load capacity of 500 kV transmission line for Phu My - Nha Be and Phu My - Nhon Trach 4 thermal power plant - Nha Be	2	x	43	Renovate, increase the load capacity, further release the regional power source capacity	South	500	not yet assigned	EVNNPT
38	Increase the load capacity of 500kV Duc Hoa - Cau Bong transmission line	2	x	24	Renovate and increase the load capacity and synchronize generation unit 2 of LNG Bac Lieu gas-fired power plant, release capacity of Bac Lieu LNG and the Southwest renewable energy source	South	500	not yet assigned	EVNNPT
39	Transmission line for Ham Tan - Phan Thiet branch line - Chau Duc (2nd circuit)	2	x	6	Connecting 220kV Ham Tan station for relay connection on the remaining circuit of 220kV Phan Thiet - Tan Thanh transmission line	South	220	not yet assigned	EVNNPT
40	Increase the load capacity of Ham Thuan - Da My - Xuan Loc transmission line	2	x	95	Renovate & increase the load capacity	South	220	not yet assigned	EVNNPT
41	Increased load capacity of Phan Thiet - Ham Thuan transmission line	1	x	55	Renovate & increase the load capacity	South	220	not yet assigned	EVNNPT
42	Increase the load capacity of Thu Duc - Tan Uyen - Long Binh transmission line	2	x	44	Renovate and increase the load capacity, consider the appropriate load capacity of the existing underground cable	South	220	not yet assigned	EVNNPT
43	Increase the load capacity of Binh Long - Chon Thanh transmission line	2	x	32	Renovate, increase the load capacity, and release the regional power source capacity	South	220	not yet assigned	EVNNPT

No.	Line name	Circuit number	x	km	Note	Region	Voltage level (kV)	Developer	Owner of existing works
44	Increase the load capacity of - Long Binh (1st circuit) transmission line	1	x	16	Renovate & increase the load capacity	South	220	not yet assigned	EVNNPT
45	Increase the load capacity Song May - Long Binh (2nd circuit) transmission line	1	x	25	Renovate & increase the load capacity	South	220	not yet assigned	EVNNPT
46	Increase the load capacity of Tan Dinh - Binh Hoa transmission line	2	x	11	Renovate & increase the load capacity	South	220	not yet assigned	EVNNPT
47	Increase the load capacity of Phu My - Long Thanh transmission line	2	x	25	Renovate & increase the load capacity	South	220	not yet assigned	EVNNPT
48	Phu My - Tan Thanh 3rd and 4th circuits and switch to connect at 220kV Tan Thanh substation	2	x	10	Greenfield development	South	220	not yet assigned	EVNNPT
49	Increase the load capacity of Tan Thanh - Vung Tau transmission line	2	x	30	Renovate & increase the load capacity	South	220	not yet assigned	EVNNPT
50	Increase the load capacity of Long An - Ben Luc transmission line	2	x	14	Renovate & increase the load capacity	South	220	not yet assigned	EVNNPT
51	Increase the load capacity of Phan Ri - Phan Thiet transmission line	2	x	52	Renovate & increase the load capacity of the existing ACSR-2x330mm ² section of the 220 kV Phan Ri - Phan Thiet transmission line to release the capacity of the regional power source	South	220	not yet assigned	EVNNPT
52	Increase the load capacity of Ham Tan - Chau Duc and Ham Tan - Da Bac Solar Power Plant - Chau Duc transmission line	2	x	60	Renovate, increase the load capacity, and release the regional power source capacity	South	220	not yet assigned	EVNNPT
53	Increase the load capacity of Cau Bong - Cu Chi transmission line	2	x	22	Renovate & increase the load capacity	South	220	not yet assigned	EVNNPT
54	Increase the load capacity of Cau Bong - Binh Tan - Phu Lam transmission line	2	x	34	Renovate & increase the load capacity	South	220	not yet assigned	EVNNPT

No.	Line name	Circuit number	x	km	Note	Region	Voltage level (kV)	Developer	Owner of existing works
55	Increase the load capacity of 220 kV transmission line for Chon Thanh 500 kV - My Phuoc	2	x	45	Renovate, increase the load capacity, and release the regional power source capacity	South	220	not yet assigned	EVNNPT
56	Increase the load capacity of 220 kV transmission line for My Phuoc - Tan Dinh 500 kV	2	x	17	Renovate, increase the load capacity, and release the regional power source capacity	South	220	not yet assigned	EVNNPT
57	Increase the load capacity of 220 kV Long Thanh - An Phuoc - Tam Phuoc transmission line	2	x	16	Renovate & increase the load capacity	South	220	not yet assigned	EVNNPT
58	Increase the load capacity of Long Thanh 500 kV - Long Thanh 220 kV transmission line	2	x	19	Renovate & increase the load capacity	South	220	not yet assigned	EVNNPT
59	Increase the load capacity of Ben Luc - Phu Lam transmission line	2	x	28	Renovate & increase the load capacity	South	220	not yet assigned	EVNNPT
60	Improve load capacity of Tra Vinh - Vinh Long 2 transmission line	2	x	62	Renovate & increase the load capacity	South	220	not yet assigned	EVNNPT
61	Transmission line for Vinh Chau - Long Phu branch line - Soc Trang (2nd circuit)	2	x	20	Greenfield construction, connection of Vinh Chau 220 kV relay station on the remaining circuit of 220 kV Long Phu - Soc Trang transmission line	South	220	not yet assigned	EVNNPT

Appendix 2.2b: Brownfield projects for substations (proposed for the period 2026-2030)

No.	Substation name	Capacity (MVA)	Note	Region	Voltage level (kV)	Developer	Owner of existing works
1	Pho Noi	1800	Renovate	North	500	not yet assigned	EVNNPT
2	Viet Tri	1800	Renovate	North	500	not yet assigned	EVNNPT
3	Lai Chau	2700	Renovate and synchronize regional power sources and sources imported from Laos	North	500	not yet assigned	EVNNPT
4	Son La	2700	Renovate, increase capacity, synchronize with power sources imported from Laos and regional sources	North	500	not yet assigned	EVNNPT
5	Hoa Binh	1800	Renovate	North	500	not yet assigned	EVNNPT
6	Nghi Son	1800	Renovate	North	500	not yet assigned	EVNNPT
7	Hoa Binh	500	Renovate	North	220	not yet assigned	EVN
8	West Ha Noi	750	Renovate	North	220	not yet assigned	EVNNPT
9	Thanh Xuan	750	Greenfield development	North	220	not yet assigned	EVNHANOI
10	Dai Mo (My Dinh)	750	Greenfield development	North	220	not yet assigned	EVNHANOI
11	Van Dien	750	Greenfield development	North	220	not yet assigned	EVNNPT
12	Vat Cach	500	Renovate	North	220	not yet assigned	EVNNPT
13	Nho Quan 500 kV connection to	500	Renovate	North	220	not yet assigned	EVNNPT

No.	Substation name	Capacity (MVA)	Note	Region	Voltage level (kV)	Developer	Owner of existing works
14	Ha Giang	375	Renovate	North	220	not yet assigned	EVNNPT
15	Cao Bang	500	Renovate	North	220	not yet assigned	EVNNPT
16	Tuyen Quang	500	Renovate	North	220	not yet assigned	EVNNPT
17	Yen Bai	500	Renovate	North	220	not yet assigned	EVNNPT
18	Viet Tri 500 kV connection to	500	Greenfield development	North	220	not yet assigned	EVNNPT
19	Bac Ninh 500 kV	500	Greenfield development	North	220	not yet assigned	EVNNPT
20	Hoanh Bo	500	Renovate	North	220	not yet assigned	EVNNPT
21	Quang Ninh 500 kV connection to	500	Renovate	North	220	not yet assigned	EVNNPT
22	Hai Ha	500	Renovate	North	220	not yet assigned	EVNNPT
23	Cam Pha	500	Renovate	North	220	not yet assigned	EVNNPT
24	Yen Hung	750	Renovate	North	220	not yet assigned	EVNNPT
25	Than Uyen	750	Renovate	North	220	not yet assigned	EVNNPT
26	Nong Cong	500	Renovate	North	220	not yet assigned	EVNNPT
27	Da Nang	1800	Renovate	Central	500	not yet assigned	EVNNPT

No.	Substation name	Capacity (MVA)	Note	Region	Voltage level (kV)	Developer	Owner of existing works
28	Dong Hoi	375	Renovate	Central	220	not yet assigned	EVNNPT
29	Lao Bao	750	Renovate	Central	220	not yet assigned	EVNNPT
30	Phong Dien	375	Renovate	Central	220	not yet assigned	EVNNPT
31	Doc Soi	500	Renovate	Central	220	not yet assigned	EVNNPT
32	Kon Tum	500	Renovate	Central	220	not yet assigned	EVNNPT
33	Krong Buk 500 kV connection to (Cu M'Gar)	500	Greenfield development	Central	220	not yet assigned	EVNNPT
34	Dak Nong	500	Renovate	Central	220	not yet assigned	EVNNPT
35	Long Phu	1500	Greenfield development, release the regional power source capacity	South	500	not yet assigned	EVNNPT
36	Di Linh	1800	Renovate and release the regional power source capacity	South	500	not yet assigned	EVNNPT
37	Cau Bong	2700	Renovate	South	500	not yet assigned	EVNNPT
38	Tan Uyen	2700	Renovate	South	500	not yet assigned	EVNNPT
39	Tan Dinh	2700	Renovate	South	500	not yet assigned	EVNNPT
40	Phu My	900	Renovate	South	500	not yet assigned	EVNNPT
41	Duyen Hai	900	Renovate and release the regional power source capacity	South	500	not yet assigned	EVNNPT

No.	Substation name	Capacity (MVA)	Note	Region	Voltage level (kV)	Developer	Owner of existing works
42	Tri An Hydropower Plant	500	Renovate	South	220	not yet assigned	EVN
43	Vinh Hao	500	Greenfield development and synchronization according to the size and progress of regional power sources	South	220	not yet assigned	EVN
44	Duc Trong	500	Renovate	South	220	not yet assigned	EVNNPT
45	Bao Loc	500	Renovate	South	220	not yet assigned	EVNNPT
46	Phuoc Thai	625	Renovate and release the regional power source capacity	South	220	not yet assigned	EVN
47	Tan Dinh	750	Renovate	South	220	not yet assigned	EVNNPT
48	Cai Lay	500	Renovate	South	220	not yet assigned	EVNNPT
49	Mo Cay	500	Renovate	South	220	not yet assigned	EVNNPT
50	Thot Not	375	Renovate	South	220	not yet assigned	EVNNPT
51	Chau Thanh (Hau Giang)	500	Renovate	South	220	not yet assigned	EVNNPT
52	Tra Vinh	500	Renovate	South	220	not yet assigned	EVNNPT
53	Bac Lieu	375	Renovate	South	220	not yet assigned	EVNNPT

Appendix 2.3a: Greenfield projects for transmission lines (proposed for the period 2026-2030)

No.	Line name	Circuit number	x	km	Note	Region	Voltage level (kV)
1	Connection with Expanded Hoa Binh Hydropower Plant	2	x	2	Greenfield construction, synchronization of Hoa Binh Expanded Power Plant, transitional Hoa Binh - Nho Quan	North	500
2	Expanded Ialy Hydropower Plant - Ialy Hydropower Plant	1	x	2	Greenfield construction, synchronized with Ialy MR . Power Plant	Central	500
3	Xebanghieng Power Plant Complex (Laos) - 500 kV Lao Bao	2	x	20	Greenfield construction, synchronization of Xebanghieng power plant cluster (Laos), the whole route 45km, including 20 km in the territory of Vietnam	Central	500
4	Transmission line for South Hanoi - Nho Quan branch line - Thuong Tin	4	x	5	Greenfield development, connection to South Hanoi 500 kV substation	North	500
5	Son Tay - Dan Phuong	2	x	20	Greenfield development, connection to Son Tay 500 kV substation	North	500
6	Transmission line for Gia Loc - Thai Binh branch line - Pho Noi	4	x	13	Greenfield development, connection to Gia Loc 500 kV substation	North	500
7	Transmission line for Hung Yen - Nghi Son LNG Power Plant branch line - Long Bien	4	x	5	Greenfield development, connection to Hung Yen 500 kV substation	North	500
8	500 kV switching station for Hoa Binh 2 - Hoa Binh branch line - Nho Quan	4	x	5	Connecting 500kV Hoa Binh 2 switching station	North	500
9	Sam Nuea - 500kV Hoa Binh 2 switching station	2	x	110	Greenfield construction, connection to Laos power source, including 110 km in the territory of Vietnam	North	500
10	500kV Hoa Binh 2 - West Hanoi switching station	2	x	80	Greenfield construction, release the capacity of Lao PDR	North	500
11	Bac Giang - Bac Ninh	2	x	40	Greenfield development	North	500
12	Transmission line for Bac Giang - Quang Ninh branch line - Hiep Hoa	4	x	5	Greenfield development, connection to Bac Giang 500 kV substation	North	500

No.	Line name	Circuit number	x	km	Note	Region	Voltage level (kV)
13	Transmission line for Yen The - Bac Bo 3 branch line - Thai Nguyen	4	x	10	Greenfield development, connection to Yen The 500 kV substation In the case that the 500kV Northern Line 3 - Thai Nguyen is behind schedule, the 500kV dual-circuit power line Yen The - Thai Nguyen shall be built in advance, with a length of 70 km.	North	500
14	Transmission line for Nam Cam - Vung Ang branch line - Nho Quan	2	x	12	Greenfield construction, relay on single circuit Vung Ang - Nho Quan line	North	500
15	West Ha Noi - Hoa Lac 500 kV	2	x	14	Greenfield development, connection to Hoa Lac 220 kV substation	North	220
16	Transmission line for Long Bien 2 - Mai Dong branch line - Long Bien	4	x	3	Greenfield development, connection to Long Bien 2 220 kV substation	North	220
17	Nam Hoa - Cat Hai	2	x	12	Greenfield development	North	220
18	Nam Dinh thermal power plant 500 kV - Hai Hau	2	x	10	Greenfield development, connection to Nam Dinh Thermal Power Plant 500 kV substation	North	220
19	Hang 2nd circuit on the line connecting Ha Giang - Vietnam - China border	1	x	30	Increase electricity purchase from China	North	220
20	Bac Quang - Viet Nam - China border (Ha Giang territory)	2	x	55	Greenfield construction, increase electricity purchase from China	North	220
21	Transmission line for Cong River - Tuyen Quang branch line - Phu Binh	2	x	2	Greenfield development, connection to Song Cong 220 kV substation	North	220
22	500 kV Viet Tri - Ba Thien (500 kV Vinh Yen)	2	x	43	Greenfield development	North	220
23	Vinh Yen 500kV - Me Linh	2	x	25	Greenfield development	North	220
24	Nam Ou 7 - Lai Chau	2	x	65	Greenfield construction, connection to Nam Ou 5, 6, and 7 hydropower plants (Laos). The whole route is 2x97km, in the territory of Vietnam 2x65km. Synchronize the power source from Laos.	North	220

No.	Line name	Circuit number	x	km	Note	Region	Voltage level (kV)
25	Transmission line for Phu Yen - Son La branch line - Viet Tri	2	x	7	Greenfield construction, connection to Phu Yen 220 kV substation (specialized load power supply)	North	220
26	Transmission line for Nghi Son thermal power plant - Nong Cong branch line - Quynh Luu	2	x	10	Greenfield construction, change connection Nong Cong - Nghi Son and Nghi Son - Quynh Luu into Nong Cong - Quynh Luu. Replace 220kV transmission line for Nghi Son thermal power plant - Nghi Son branch line - Vinh	North	220
27	Transmission line for Tinh Gia - Nong Cong branch line - Nghi Son	2	x	8	Greenfield development, connection to Tinh Gia 220 kV substation	North	220
28	500kV Dan Phuong - Me Linh	2	x	15	Greenfield construction, consider switching the connection into dual circuit Van Tri - Soc Son and dual circuit Vinh Yen 500 kV - Me Linh - Dan Phuong 500 kV	North	220
29	Transmission line for Soc Son 2 - Hiep Hoa branch line - Dong Anh	2	x	3	Greenfield development, connection to Soc Son 2 220 kV substation	North	220
30	500 kV Son Tay - Hoa Lac 2	2	x	15	Greenfield development, connection to Hoa Lac 2 220 kV substation	North	220
31	500 kV Son Tay - Hoa Lac	2	x	12	Greenfield development, connection to the 220 kV side of 500 kV Son Tay substation	North	220
32	500 kV Son Tay - Son Tay branch line - Vinh Yen	4	x	5	Greenfield development, connection to the 220 kV side of 500 kV Son Tay substation	North	220
33	Chuong My - Hoa Binh branch line - Ha Dong	2	x	2	Greenfield development, connection to Chuong My 220 kV substation	North	220
34	South of Hanoi 500 kV - Phu Xuyen	2	x	15	Greenfield development, connection to Phu Xuyen 220 kV substation	North	220
35	Connecting 500 kV South of Hanoi	2	x	15	Greenfield development, connection to South Hanoi 500 kV substation, branch line to Ha Dong Phu Ly and Ung Hoa - Phu Ly	North	220
36	Hai Phong 500kV - Duong Kinh	2	x	8	Greenfield development	North	220
37	Hai Phong 500kV - Tien Lang	2	x	14	Greenfield development, connection to Tien Lang 220 kV substation	North	220

No.	Line name	Circuit number	x	km	Note	Region	Voltage level (kV)
38	Do Son - Duong Kinh	2	x	8	Greenfield development, connection to Do Son 220 kV substation	North	220
39	Dai Ban - Hai Duong 2 branch line - Duong Kinh	4	x	2	Greenfield development, connection to Dai Ban 220 kV substation	North	220
40	Nhi Chieu - Mao Khe branch line - Hai Duong 2	4	x	2	Greenfield development, connection to Nhi Chieu 220 kV substation	North	220
41	Tu Ky - 500 kV Hai Phong branch line - Gia Loc	4	x	4	Greenfield development, connection to Tu Ky 220 kV substation	North	220
42	Gia Loc 500 kV - Gia Loc branch line - 500 kV Hai Phong	4	x	5	Greenfield construction, connection to Gia Loc 500 kV substation, in case it is not possible to arrange a land fund to connect Gia Loc 220 kV level	North	220
43	Hung Yen 500kV - Dong Van	2	x	14	Greenfield development, connection to Hung Yen 500 kV substation	North	220
44	Van Giang - 500 kV Long Bien branch line - 500 kV Thuong Tin	4	x	2	Greenfield development, connection to Van Giang 220 kV substation	North	220
45	500 kV Hung Yen (Hung Yen City) - Kim Dong branch line - Pho Cao	4	x	5	Greenfield development, connection to Hung Yen 500 kV substation	North	220
46	Nam Dinh 2 - Truc Ninh branch line - Ninh Binh and Truc Ninh - Nam Dinh	2	x	2	Greenfield development, connection to Nam Dinh 2 220 kV substation	North	220
47	Nghia Hung - 500kV Nam Dinh Thermal Power Plant branch line - Hau Loc	4	x	2	Greenfield development, connection to Nghia Hung 220 kV substation	North	220
48	Quynh Phu - Thai Binh branch line - Dong Hoa	4	x	2	Greenfield development, connection to Quynh Phu 220 kV substation	North	220
49	Cao Bang - Lang Son	2	x	120	Greenfield development	North	220
50	Bao Lam - Bac Me	2	x	30	Greenfield construction, freeing Ha Giang small hydropower capacity	North	220
51	Van Ban - Than Uyen branch line - Lao Cai 500 kV	4	x	10	Greenfield construction, connection to Van Ban 220 kV substation, freeing up small hydropower capacity	North	220

No.	Line name	Circuit number	x	km	Note	Region	Voltage level (kV)
52	Hiep Hoa 2 - branch line to Hiep Hoa 500kV - Phu Binh 2	4	x	5	Greenfield development, connection to Hiep Hoa 2 220 kV substation	North	220
53	500 kV Thai Nguyen - Malungtang branch line - Thai Nguyen	2	x	12	Greenfield development, connection to the 220 kV side of 500 kV Thai Nguyen substation	North	220
54	500 kV Thai Nguyen - Tuyen Quang (substation) branch line - Phu Binh	2	x	12	Greenfield development, connection to the 220 kV side of 500 kV Thai Nguyen substation	North	220
55	500 kV Thai Nguyen - Luu Xa branch line - Phu Binh	2	x	9	Greenfield development, connection to the 220 kV side of 500 kV Thai Nguyen substation	North	220
56	Dai Tu - Ha Giang branch line - Thai Nguyen 500 kV and Tuyen Quang - Thai Nguyen 500 kV	4	x	2	Greenfield development, connection to Dai Tu 220 kV substation	North	220
57	Phu Tho 3 - Nghia Lo branch line - 500 kV Viet Tri	4	x	5	Greenfield development, connection to Phu Tho 3 220 kV substation	North	220
58	Bac Giang 500 kV - An Khanh Thermal Power Plant branch line, Bac Giang - Lang Son	4	x	8	Greenfield development, connection to the 220 kV side of Bac Giang 500 kV substation	North	220
59	Connecting 500 kV Yen The	4	x	4	Greenfield construction, relay on 02 circuits Phu Binh 2 - branch line to Lang Giang - Thai Nguyen	North	220
60	Yen The 500 kV - Viet Yen	2	x	25	Greenfield development, connection to Viet Yen 220 kV substation	North	220
61	Tan Yen - Yen The branch line - Viet Yen	4	x	5	Greenfield development, connection to Tan Yen 220 kV substation	North	220
62	Phuc Yen - 500 kV Vinh Yen branch line - 220 kV Vinh Yen	2	x	2	Greenfield development, connection to Phuc Yen 220 kV substation	North	220
63	Chan Hung - 500 kV Viet Tri branch line - 220 kV Vinh Yen	2	x	2	Greenfield development, connection to Chan Hung 220 kV substation	North	220
64	Dong Mo - Son Dong	2	x	60	Greenfield development	North	220
65	Bac Ninh 7 - 500 kV Dong Anh branch line - Bac Ninh 4	4	x	2	Greenfield development, connection to Bac Ninh 7 220 kV substation	North	220

No.	Line name	Circuit number	x	km	Note	Region	Voltage level (kV)
66	Bac Ninh 500 kV - Bac Ninh	2	x	10	Greenfield construction, synchronized with 220kV Pha Lai - Bac Ninh and Bac Ninh - Quang Chau transmission lines to Pha Lai - Quang Chau to limit short-circuit current	North	220
67	Hai Ha - Mong Cai	2	x	40	Greenfield development	North	220
68	Hai Ha Industrial Park - Hai Ha	2	x	10	Greenfield construction, ensuring electricity supply for Hai Ha Industrial Park and releasing Hai Ha cogeneration thermal capacity in case of increasing the capacity to sell electricity to the grid.	North	220
69	Increase the load capacity of Quang Ninh - Hoanh Bo transmission line	2	x	20	Greenfield development	North	220
70	Lai Chau 500 kV - Phong Tho	2	x	60	Greenfield construction, release of power generation capacity, reduce load of 500 kV Lai Chau substation, large cross-section phase division wire	North	220
71	Sin Ho - Lai Chau 500 kV branch line - Phong Tho	4	x	5	Greenfield construction, connection to Sin Ho 220 kV substation, release capacity of regional power source	North	220
72	Muong Te - Sin Ho	2	x	35	Release the capacity of thermal power plants in Muong Te area	North	220
73	Moc Chau - branch line to connect Trung Son Power Plant	2	x	35	Greenfield development, connection to Moc Chau 220 kV substation	North	220
74	Connecting Tan Lac	6	x	5	Greenfield construction, Tan Lac - Hoa Binh branch line - Yen Thuy and switch to connect Trung Son Hydropower Plant, forming the 220 kV dual-circuit transmission lines for Hoa Binh - Tan Lac, Tan Lac - Yen Thuy and Tan Lac - Trung Son Hydropower Plant - Hoi Xuan Hydropower Plant	North	220
75	Thieu Hoa - Thanh Hoa 500 kV	2	x	5	Greenfield development, connection to Thieu Hoa 220 kV substation	North	220

No.	Line name	Circuit number	x	km	Note	Region	Voltage level (kV)
76	Thieu Hoa - Thieu Yen	2	x	25	Greenfield development, connection to Thieu Yen 220 kV substation	North	220
77	Hoi Xuan - Ba Thuoc Hydropower Plant	2	x	30	Greenfield development, connection to Ba Thuoc 220 kV substation	North	220
78	Can Loc - Ha Tinh branch line - Hung Dong	4	x	2	Greenfield development, connection to Can Loc 220 kV substation	North	220
79	Central Region Combined Cycle Gas Turbine Plant - Doc Soi	2	x	18	Greenfield construction, synchronization with Central Region Combined Cycle Gas Turbine Plant	Central	500
80	Hatsan (Laos) - Kon Tum	2	x	100	Greenfield construction, increased purchase of electricity from Laos	Central	500
81	Kon Tum - Thanh My branch line - Pleiku 2	4	x	5	Greenfield construction, connection of 500 kV Kon Tum switching station, in case of increasing power purchase from Laos	Central	500
82	Phong Dien - Dong Ha branch line - Hue (2nd circuit)	2	x	5	Greenfield construction, one more circuit, forward connection, increase capacity to release power from Phong Dien 220 kV substation; currently only relay on 01 circuit	Central	220
83	Phuoc An - An Khe Hydropower Plant branch line - Quy Nhon (circuit 1)	2	x	2	Greenfield development	Central	220
84	Phu My - Phuoc An branch line - Quang Ngai (2nd circuit)	2	x	2	Greenfield construction, relay connection add 01 more circuit, increase the capacity to release power from 220kV Phu My substation; currently only relay on 01 circuit	Central	220
85	Krong Buk 500 kV - Krong Buk	2	x	27	Greenfield construction, connected to Krong Buk 220 kV station, phased line	Central	220
86	Connecting 220kV Song Cau substation	4	x	5	Greenfield development, connection to Song Cau 220 kV substation, Phase 1: Relay connection on existing 220 kV Tuy Hoa - Quy Nhon line. Phase 2: Switch to relay connection on 02 220kV transmission lines Tuy Hoa - Phuoc An after this line is put	Central	220

No.	Line name	Circuit number	x	km	Note	Region	Voltage level (kV)
					into operation		
87	Le Thuy - Dong Hoi branch line - Dong Ha	4	x	2	Greenfield development and synchronization according to the size and progress of regional power sources, connection to Quang Binh 500 kV substation	Central	220
88	500 kV Quang Tri - Dong Nam	2	x	27	Greenfield development, connection to Dong Nam 220 kV substation	Central	220
89	Huong Thuy - Hue branch line - Hoa Khanh	4	x	2	Greenfield development, connection to Huong Thuy 220 kV substation	Central	220
90	Tien Sa - Hai Chau - Ngu Hanh Son	2	x	4	Greenfield development, connection to Tien Sa 220 kV substation	Central	220
91	Da Nang Airport - Hoa Khanh branch line - Da Nang	2	x	5	Greenfield construction, underground cable line connecting 220 kV substation to Da Nang Airport	Central	220
92	Dien Ban - South Hoi An	2	x	24	Greenfield development, connection to Nam Hoi An 220 kV substation	Central	220
93	Da Nang 500 kV - Dien Ban	2	x	12	Greenfield development, connection to Dien Ban 220 kV substation	Central	220
94	Quang Ngai 2 - Doc Soi branch line - Quang Ngai	4	x	2	Greenfield development, connection to Quang Ngai 2 220 kV substation	Central	220
95	Phu My 2 - Phu My	2	x	20	Greenfield construction, synchronized with the development progress of specialized loads	Central	220
96	South Phu Yen - Nha Trang branch line - Tuy Hoa	4	x	4	Greenfield development, connection to Nam Phu Yen 220 kV substation	Central	220
97	Cam Thinh - Cam Ranh branch line - Thap Cham	4	x	3	Greenfield development, connection to Cam Thinh 220 kV substation	Central	220
98	Bo Y 220 kV switching station - Bo Y	2	x	30	Greenfield development	Central	220
99	Ea Kar - Krong Buk branch line - Nha Trang	4	x	2	Greenfield development, connection to Ea Kar 220 kV substation	Central	220
100	Long Thanh - North Chau Duc branch line - Song May	2	x	17	Greenfield development, increase transmission of the regional power source Propose to choose the appropriate cross-	South	500

No.	Line name	Circuit number	x	km	Note	Region	Voltage level (kV)
					section for the 500kV North Chau Duc - Song May transmission line after renovation to increase the load capacity		
101	Tay Ninh 2 - Chon Thanh - Tay Ninh 1	4	x	30	Greenfield development, connection to Tay Ninh 2 500 kV substation	South	500
102	Tien Giang - O Mon branch line - My Tho	4	x	5	Greenfield development, connection to Tien Giang 500 kV substation	South	500
103	Duc Trong - branch line to 220 kV Da Nhim switching station - Di Linh	2	x	1	Greenfield development, release the regional power source capacity	South	220
104	500 kV Ninh Son - Ninh Phuoc	2	x	35	Greenfield construction, replacing 220 kV Ninh Phuoc - Vinh Tan line due to alignment problems	South	220
105	500 kV Ninh Son - Da Nhim 220 kV switching station	2	x	18	Greenfield development, release the regional power source capacity	South	220
106	Thap Cham - Da Nhim 220 kV switching station	2	x	46	Greenfield development, release the regional power source capacity	South	220
107	Tan Son Nhat - Hoc Mon branch line - Thu Duc	2	x	9	Greenfield development	South	220
108	Hang 3rd & 4th circuits, 220kV transmission line for Duc Hoa 500kV - Duc Hoa 1	2	x	25	Consider switching connection to Northwestern Cu Chi 220 kV station	South	220
109	Phan Ri - Dai Ninh Hydropower Plant	2	x	40	Greenfield development, further release the regional power source capacity	South	220
110	Northwest Cu Chi - Cu Chi 500 kV	2	x	12	Greenfield development	South	220
111	Binh Chanh 1 - Duc Hoa	2	x	10	Greenfield development	South	220
112	Phu Hoa Dong - Cu Chi branch line - Cau Bong	4	x	5	Greenfield development	South	220
113	Binh Chanh 2 - Duc Hoa branch line - Phu Lam	4	x	2	Greenfield development	South	220
114	Dong Xoai - Chon Thanh	2	x	20	Greenfield development	South	220
115	Binh Long - Chon Thanh (circuit 3, 4)	2	x	32	Greenfield development, release the regional power source capacity	South	220

No.	Line name	Circuit number	x	km	Note	Region	Voltage level (kV)
116	500 kV Tay Ninh 2 - branch line to Dau Tieng Lake Solar Power Plant - Tay Ninh	4	x	3	Greenfield development, connection to the 220 kV side of 500 kV Tay Ninh 2 substation	South	220
117	500 kV Tay Ninh 2 - Tay Ninh (transfer connection to Tan Bien)	2	x	6	Greenfield development, connection to the 220 kV side of 500 kV Tay Ninh 2 substation	South	220
118	Tay Ninh 3 - 500 kV Tay Ninh 2	2	x	16	Greenfield development	South	220
119	Ben Cau - 500 kV Tay Ninh 1	2	x	12	Greenfield development	South	220
120	Tan Dinh 2 - Binh My	2	x	14	Greenfield development	South	220
121	Bien Hoa - Tan Uyen branch line - Long Binh	4	x	1	Greenfield development	South	220
122	Dau Giay - 500kV Dong Nai 2	2	x	30	Greenfield development	South	220
123	Dau Giay - 500 kV Long Thanh	2	x	12	Greenfield development	South	220
124	Ho Nai - Song May - Tam Phuoc	4	x	1	Greenfield development	South	220
125	Phu My City - Phu My branch line - Ba Ria	4	x	2	Greenfield development	South	220
126	Phu My City - Bac Chau Duc 500 kV	2	x	30	Greenfield development	South	220
127	Tan Lap - branch line to 500 kV Duc Hoa - Long An	2	x	9	Greenfield development	South	220
128	Can Giuoc - branch line to 500 kV Long An - South Hiep Phuoc	4	x	3	Greenfield development	South	220
129	Lap Vo - Hong Ngu	2	x	55	Greenfield development	South	220
130	500 kV Tien Giang - branch line to Vinh Long - Sa Dec	4	x	15	Greenfield development	South	220
131	500 kV Tien Giang - branch line to Cai Lay - Cao Lanh	4	x	4	Greenfield development	South	220
132	500 kV Bac Lieu - branch line to Gia Rai - Hoa Binh	4	x	6	Greenfield construction, synchronization with 500 kV Bac Lieu station	South	220

Appendix 2.3b: Greenfield projects for substations (proposed for the period 2026-2030)

No.	Substation name	Capacity (MVA)	Note	Region	Voltage level (kV)
1	Son Tay	900	Greenfield development	North	500
2	South Ha Noi	900	Greenfield development	North	500
3	Gia Loc	900	Greenfield development	North	500
4	Hung Yen	900	Greenfield development	North	500
5	Hoa Binh 2	Switching station	Greenfield construction of Laos electricity connection and switching station	North	500
6	Bac Giang	900	Greenfield development	North	500
7	Yen The	900	Greenfield development	North	500
8	Nam Cam		500 kV switching station, relay connection on 01 circuit of 500 kV Vung Ang - Nho Quan transmission line (greenfield development)	North	500
9	Hoa Lac	500	Greenfield development	North	220
10	Soc Son 2	500	Greenfield development	North	220
11	Phu Xuyen	500	Greenfield development	North	220
12	Hoa Lac 2	500	Greenfield development	North	220
13	Chuong My	250	Greenfield development	North	220
14	Dai Ban	250	Greenfield development	North	220
15	Do Son	250	Greenfield development	North	220
16	Tien Lang	250	Greenfield development	North	220
17	Tu Ky	250	Greenfield development	North	220
18	Nhi Chieu	250	Greenfield development	North	220
19	Hung Yen connecting level (Hung Yen city)	250	Greenfield development	North	220
20	Van Giang	250	Greenfield development	North	220

No.	Substation name	Capacity (MVA)	Note	Region	Voltage level (kV)
21	Nam Dinh 2	250	Greenfield development	North	220
22	Nghia Hung	250	Greenfield development	North	220
23	Quynh Phu	250	Greenfield development	North	220
24	Thai Binh 500 kV substation connection	250	Greenfield development	North	220
25	Lao Cai 500 kV substation connection	500	Greenfield development	North	220
26	Van Ban	250	Greenfield development	North	220
27	Bac Ha	250	Greenfield development	North	220
28	Song Cong	250	Greenfield development	North	220
29	Dai Tu	250	Greenfield development	North	220
30	Phu Tho 3	250	Greenfield development	North	220
31	Phuc Yen	250	Greenfield development	North	220
32	Chan Hung	250	Greenfield development	North	220
33	Hiep Hoa 2	250	Greenfield development	North	220
34	Bac Giang 500 kV substation connection	250	Greenfield development	North	220
35	Viet Yen	250	Greenfield development	North	220
36	Tan Yen	250	Greenfield development	North	220
37	Bac Ninh 7	250	Greenfield development	North	220
38	Hai Ha Industrial Park	500	Greenfield construction, 2 standby machines for high development, Hai Ha Industrial Park	North	220
39	Moc Chau	250	Greenfield development	North	220
40	Tan Lac	250	Greenfield development	North	220
41	Tinh Gia	500	Greenfield development	North	220
42	Thieu Hoa	250	Greenfield construction, replacement of Thanh Hoa 220 kV substation connected to the level	North	220

No.	Substation name	Capacity (MVA)	Note	Region	Voltage level (kV)
43	Ba Thuoc	250	Greenfield development	North	220
44	Thieu Yen	250	Greenfield development	North	220
45	Can Loc	250	Greenfield development	North	220
46	Dung Quat	900	Greenfield development	Central	500
47	Kon Tum	Switching station	500kV switching station connecting Laos electricity in case of increasing electricity import from Southern Laos	Central	500
48	Dong Nam	250	Greenfield development	Central	220
49	Huong Thuy	250	Greenfield development	Central	220
50	Da Nang airport	250	Greenfield development	Central	220
51	Tien Sa (An Don)	250	Greenfield development	Central	220
52	Dien Ban	250	Greenfield development	Central	220
53	South Hoi An	250	Greenfield development	Central	220
54	Quang Ngai 2	250	Greenfield development	Central	220
55	Nhon Hoi	500	Greenfield development	Central	220
56	Song Cau	500	Greenfield development	Central	220
57	South Phu Yen	250	Greenfield development	Central	220
58	Cam Thinh	250	Greenfield development	Central	220
59	Ea Kar	250	Greenfield development	Central	220
60	Tay Ninh 2	900	Greenfield development	South	500
61	Tien Giang	900	Greenfield development	South	500
62	Tay Bac Cu Chi	250	Greenfield development	South	220
63	Phu Hoa Dong	250	Greenfield development	South	220
64	Binh Chanh 2	250	Greenfield development	South	220

No.	Substation name	Capacity (MVA)	Note	Region	Voltage level (kV)
65	Dong Xoai	250	Greenfield development	South	220
66	Ben Cau	250	Greenfield development	South	220
67	Tay Ninh 3	250	Greenfield development	South	220
68	Ho Nai	500	Greenfield development	South	220
69	Dau Giay	500	Greenfield development	South	220
70	Bien Hoa	500	Greenfield development	South	220
71	Phu My City	250	Greenfield development	South	220
72	Tan Lap	250	Greenfield development	South	220
73	Can Giuoc	250	Greenfield development	South	220

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