

**THE PRIME MINISTER OF
VIETNAM**

No. 262/QĐ-TTg

THE SOCIALIST REPUBLIC OF VIETNAM
Independence - Freedom - Happiness

Hanoi, April 01, 2024

DECISION

**APPROVING THE PLAN TO IMPLEMENT THE NATIONAL POWER DEVELOPMENT
PLANNING FOR 2021 - 2030 PERIOD, WITH A VISION TOWARD 2050**

THE PRIME MINISTER

Pursuant to the Law on Government Organization dated June 19, 2015; Law on Amendments to some Articles of the Law on Government Organization and Law on Local Government Organization dated November 22, 2019;

Pursuant to the Law on Electricity dated December 03, 2004; the Law on amendments to some Articles of the Law on Electricity dated November 20, 2012; the Law on amendments to some Articles of 11 laws related to planning dated June 15, 2018; Law on amendments to some Articles of 09 laws related to investment dated January 11, 2022;

Pursuant to the Law on Planning dated November 24, 2017; Law on amendments to some Articles of 37 laws related to planning dated November 20, 2018;

Pursuant to the Government's Decree No. 37/2019/ND-CP dated May 07, 2019 elaborating the Law on Planning; Government's Decree No. 58/2023/ND-CP dated August 12, 2023 on amendments to some Articles of the Government's Decree No. 37/2019/ND-CP dated May 07, 2019 elaborating the Law on Planning;

Pursuant to the Government's Decree No. 137/2013/ND-CP dated October 21, 2013 elaborating the Law on Electricity and Law on amendments to some Articles of the Law on Electricity;

Pursuant to the National Assembly's Resolution No. 81/2023/QH15 dated January 09, 2023 on national comprehensive planning in 2021 - 2030 period, with a vision to 2050;

Pursuant to the promulgating the Government's Action Program to implement the National Assembly's Resolution No. 81/2023/QH15 on National Master Plan for 2021 - 2030 period, with a vision towards 2050 and Plan to implement the National Master Plan for 2021 - 2030 period, with a vision toward 2050;

Pursuant to the Prime Minister's Decision No. 500/QĐ-TTg dated May 15, 2023 approving the National Power Development Planning in 2021 - 2030 period, with a vision toward 2050;

At the request of the Minister of Industry and Trade in the Proposal No. 644/TTr-BCT dated January 26, 2024, Proposal No. 1345/TTr-BCT dated March 01, 2024 promulgating the Plan to

implement the National Power Development Planning for 2021 - 2030 period, with a vision toward 2050.

HEREBY DECIDES:

Article 1. Promulgated together with this Decision is the Plan to implement the National Power Development Planning in 2021 - 2030 period, with a vision toward 2050 (hereinafter referred to as “PDP VIII implementation plan”).

Article 2. This Decision comes into force from the date on which it is signed.

Article 3. Ministers, heads of ministerial agencies, heads of Governmental agencies, Chairpersons of People’s Committees of provinces and central-affiliated cities; Chairpersons of Board of Members and General Directors of Vietnam Electricity, Vietnam Oil and Gas Group and Vietnam National Coal and Mineral Industries Holding Corporation Limited; President and General Director of Dong Bac Corporation and related agencies are responsible for the implementation this Decision./.

**PP. THE PRIME MINISTER
THE DEPUTY PRIME MINISTER**

Tran Hong Ha

PLAN

TO IMPLEMENT THE NATIONAL POWER DEVELOPMENT PLANNING IN 2021 - 2030 PERIOD, WITH A VISION TOWARD 2050

(Promulgated together with the Prime Minister’s Decision No. 262/QD-TTg dated April 01, 2024)

I. PURPOSES AND REQUIREMENTS

1. Purposes

- Effectively implement the Prime Minister’s Decision No. 500/QD-TTg dated May 15, 2023 approving the National Power Development Planning for the 2021-2030 period, with a vision toward 2050 (the Power Development Planning VIII - PDP VIII). Develop a roadmap to effectively organize the implementation of schemes/projects to fulfill the set objectives of the PDP VIII, meet electricity needs for socio-economic development in each period, and make sure electricity is available before everything else.

- Make a strong energy transition from fossil fuels to new and renewable energy sources to reduce environmental pollution and greenhouse gas emissions, contributing to the fulfillment of the nationally determined contributions and Vietnam's net zero emissions goal by 2050.

- Determine solutions for attracting investment in power development in accordance with the PDP VIII during the planning period; mechanism for cooperation in implementation thereof among ministries, central authorities and People's Committees of provinces and central-affiliated cities (hereinafter referred to as "provincial People's Committees").

- Orient ministries, central authorities and provincial People's Committees towards the cooperation with the Ministry of Industry and Trade and relevant units to effectively implement the PDP VIII.

2. Requirements

- The PDP VIII implementation plan shall cling to the objectives and orientations of the PDP VIII and realize the tasks assigned under the Prime Minister's Decision No. 500/QĐ-TTg.

- Ensure the balanced development of power sources by each region and aim for supply - demand balance within each region; ensure the feasibility, synchronization and flexibility in power source/electrical grid development in a manner that suits the national context and resources.

- Determine specific progress of and resources for implementing prioritized schemes/projects to perfect laws and policies and improve the scientific and technological capacity of the electricity sector during the planning period.

- Define specific lists and progress of important and prioritized power source and electrical grid projects of the electricity sector, including regionally connected electrical grids during the planning period; lists and progress of renewable energy projects (small-scale hydropower, onshore wind power, biomass power, waste-to-energy power, etc.) for each locality until 2025.

- Maximize resources and participation of all economic sectors for power development.

- Ensure compliance, inheritance, and consistency with approved sector planning/plans to implement national planning, and ensure the connectivity and consistency in implementation thereof.

II. CONTENTS OF THE PDP VIII IMPLEMENTATION PLAN

1. List of important power source projects in which the investment is prioritized by 2030

- Total domestic gas-fired thermal power capacity is 14,930 MW. List of new construction investment projects and operating progress is specified in Table 1 of Appendix III.

- Total LNG-fueled thermal power capacity is 2,400 MW. List of new construction investment projects and operating progress is specified in Table 2 of Appendix III.

- Total coal-fired thermal power capacity is 30,127 MW. List of new construction investment projects and operating progress is specified in Table 3 of Appendix III.
- Total capacity of cogeneration power sources, power sources utilizing waste heat, blast furnace gas and by-products of technological lines is 2,700 MW. List of new construction investment projects and operating progress is specified in Table 5 of Appendix III.
- Total hydropower capacity is 29,346 MW. List of medium and large-sized hydropower projects that need to be newly constructed and operating progress is specified in Table 6 of Appendix III.
- Total capacity of pumped-storage hydropower is 2,400 MW. List of new construction investment projects and operating progress is specified in Table 7 of Appendix III.

2. Capacity of power generated from renewable energy sources of localities/regions and list of power source projects by 2030

- Total offshore wind power capacity is 6,000 MW. Offshore wind power capacity by region is specified in Table 1 of Appendix II.
- Total onshore wind power capacity (wind power on land and near shore) is 21,880 MW. List of onshore wind power projects is specified in Table 9 of Appendix III.
- Total hydropower capacity is 29,346 MW. List small-scale and newly constructed hydropower projects shall be specified in Table 10 of Appendix III.
- Total biomass power capacity is 1,088 MW. List of newly constructed biomass power projects is specified in Table 11 of Appendix III.
- Total waste-to-energy power capacity is 1,182 MW. List of newly constructed waste-to-energy power projects is specified in Table 12 of Appendix III.
- Total increased rooftop solar (self-generating and self-consuming) power capacity is 2,600 MW. Results of rooftop solar power distribution by provinces are specified in Table 6 of Appendix II. The development of rooftop solar power shall comply with regulations of law on rooftop solar power development and be within the approved capacity.
- Total battery storage capacity is 300 MW. List of newly constructed projects shall be specified in Table 8 of Appendix III. Priority shall be given to the development of renewable energy power projects combined with investment in storage batteries. Storage battery capacity of a renewable energy power plant shall not be included in the capacity of power source projects and not be included in the battery storage capacity structure of the power system (300 MW by 2030).

3. Other types of power sources by 2030

- Plan to develop 300 MW of flexible power sources. Prioritize the development in areas likely to suffer from a shortage of spare capacity; make the best use of existing electrical grid infrastructure.

- Plan to import around 5,000 MW of electricity from Laos, which may be increased to 8,000 MW when the price is reasonable to take advantage of Laos' exported power source. The Ministry of Industry and Trade shall report to the Prime Minister so as for him to consider and decide the import policy and synchronous grid connection plan for each specific project.

- Renewable energy power sources for export and generation of new energy source shall be as follows:

+ Locations with potential for export of electricity abroad are the Central and Southern regions. The export volume shall range from 5,000 MW to 10,000 MW when feasible projects are available. The Ministry of Industry and Trade shall report to competent authorities so as for them to consider and decide the electricity export policy and synchronous grid connection plan for each specific case, in accordance with regulations of law.

+ Renewable energy is used to produce new types of energy (such as green hydrogen, green ammonia) to meet domestic and export needs: Prioritize the development in areas with great potentials for renewable energy and convenient power grid infrastructure; development scale strives to reach 5,000 MW (primarily offshore wind power). The Ministry of Industry and Trade shall report to and recommend the Prime Minister to give his consideration and decision for each specific project when the technological feasibility and cost have been basically assessed. The power capacity of renewable energy sources for generation of new energy shall not be included in the structure of power sources supplying the national electricity system load.

4. List of regional power transmission grid and grid connection projects

The list of important transmission grid projects in which investment is prioritized, power grid projects linked with neighboring countries is specified in Appendix V.

The volume of “backup electrical grids for transmission lines and electrical substations” which is specified in the Appendix V shall be used to:

(i) Execute newly constructed power transmission grid projects or recently added investment projects to improve transmission grid capacity and ability to control and operate the power system during the implementation of the PDP VIII which have not been specified in any list under the Decision No. 500/QD-TTg.

(ii) Synchronously connecting imported power projects (from Laos, China, etc.) to Vietnam's power system.

(iii) Synchronously connecting (at a voltage level of 220 kV or higher) renewable energy power source projects (onshore wind power, biomass power, waste-to-energy power, etc.) in the PDP VIII implementation plan with the national power system.

The Ministry of Industry and Trade shall consider and report to the Prime Minister to reach a consensus when executing specific projects.

5. Rural, mountainous and island power development program

(i) Supply electricity from the national grid or renewable energy sources to around 911,400 households (including around 160,000 households that do not have electricity, 751,400 households that require renovation) of 14,676 villages in 3,099 communes consisting of 1,075 communes (43 provinces) in border areas and extremely disadvantaged areas in the following provinces and central-affiliated cities: Dien Bien, Lao Cai, Yen Bai, Ha Giang, Bac Giang, Son La, Hoa Binh, Tuyen Quang, Thai Nguyen, Thanh Hoa, Ha Tinh, Quang Binh, Quang Nam, Quang Ngai, Kon Tum, Dak Nong, Dak Lak, Bac Lieu, An Giang, Can Tho, Cao Bang, Lai Chau, Bac Kan, Lang Son, Nghe An , Thua Thien - Hue, Binh Dinh, Phu Yen, Gia Lai, Lam Dong, Binh Thuan, Binh Phuoc, Tay Ninh, Ben Tre, Tra Vinh, Kien Giang, Soc Trang, Long An, Tien Giang, Vinh Long, Dong Thap, Hau Giang, Ca Mau; 2,024 communes in the remaining areas;

(ii) Supply electricity to 2,478 small- and medium-sized pumping stations (of 13 provinces) in the Mekong Delta region of the following provinces and cities: Ben Tre, Tra Vinh, An Giang, Kien Giang, Can Tho, Bac Lieu, Soc Trang, Long An, Tien Giang, Vinh Long, Dong Thap, Hau Giang, Ca Mau, and at the same time supply electricity to the people;

(iii) Supply electricity from the national grid or renewable energy sources to the remaining islands: Con Co Island (Quang Tri province); Tho Chau Island, An Son - Nam Du Island (Kien Giang province); Con Dao island district, Ba Ria - Vung Tau province.

The list of provinces/sub-projects in the aforesaid Program is specified in the Appendix IV.

6. Plan to develop renewable energy industrial ecosystem and renewable energy services

Consider developing 02 inter-regional renewable energy industrial and service centers by 2030 as follows:

- Renewable energy industry and service center in the North region.

+ Location: In Hai Phong, Quang Ninh, Thai Binh, etc. In the future, the expansion of such center to neighboring areas may be considered.

+ Scale: about 2,000 MW of offshore wind power, about 500 MW of onshore and offshore wind power.

+ Plants manufacturing equipment in service of development of renewable energy, seaport services, construction, installation, operation and maintenance logistics.

+ Green and low-carbon industrial parks.

+ Research and training institutions.

- Inter-regional renewable energy industry and service center in the South Central - South region.

+ Location: In Ninh Thuan, Binh Thuan, Ba Ria - Vung Tau, Ho Chi Minh City, etc. In the future, the expansion of such center to neighboring areas may be considered.

+ Scale: about 2,000-2,500 MW of offshore wind power, about 1,500-2,000 MW of onshore and offshore wind power.

+ Plants manufacturing equipment in service of development of renewable energy, seaport services, construction, installation, operation and maintenance logistics.

+ Green and low-carbon industrial parks.

+ Research and training institutions.

7. List of prioritized schemes/projects to perfect laws and policies and improve capacity of the electricity sector

List of prioritized schemes/projects to perfect laws and policies and improve capacity of the electricity sector is specified in Tables 1, 2 and 3 of Appendix I.

8. Land demand by 2030

Total area of land necessary for power sources and transmission grids nationwide will be approximately 90.3 thousand hectares.

9. Investment capital demand by 2030

- Investment capital:

+ Investment capital for prioritized schemes/projects to perfect laws and policies and improve capacity of the electricity sector is expected to be about 50 billion dong.

+ Investment capital for the program for power supply in rural, mountainous and island areas will be about VND 29,779 billion. Currently available capital is approximately VND 8,915.6 billion (accounting for 30%) including VND 7,351.9 billion from the central budget, about VND 1,563.7 billion dong from localities and EVN. The deficit is about VND 20,857 billion (accounting for 70%).

- Capital other than public investment capital:

All investment capital for power source and transmission grid projects using capital other than public investment capital. The projected total investment capital will be about VND 3,223 trillion (equivalent to USD 134.7 billion), including around VND 2,866.5 trillion (USD 119.8 billion) for investment in power source and about VND 356.5 trillion VND (USD 14.9 billion) for investment in transmission grid.

+ The total investment capital for the 2021-2025 period will be VND 1,366.2 trillion (USD 57.1 billion), including VND 1,150.9 trillion (USD 48.1 billion) for investment in power source and VND 215.3 trillion VND (USD 9.0 billion) for investment in transmission grid.

+ The total investment capital for the 2026-2030 period will be VND 1,856.7 trillion (USD 77.6 billion), including VND 1,715.6 trillion (USD 71.7 billion) for investment in power source and VND 141.2 trillion VND (USD 5.9 billion) for investment in transmission grid.

10. Solutions for planning implementation

Solutions for planning implementation are specified in Part VI Article 1 of the Decision No. 500/QĐ-TTg.

III. ORGANIZING IMPLEMENTATION

1. Ministry of Industry and Trade shall:

- Be responsible to the law and the Prime Minister for proposals and recommendations for approval of the PDP VIII implementation plan in which the contents of the Plan must tightly cling to the objectives of the approved PDP VIII, and at the same time meet the requirements for comprehensiveness, optimality and effectiveness and comply with regulations of law. The implementation of the Plan must ensure a steady supply of electricity for the country, regions and areas according to the annual electricity demand forecasts.

- Properly perform the task of communicating information about the Plan to implement the National Power Development Planning for the 2021-2030 period, with a vision toward 2050 to relevant localities, agencies and organizations, domestic and international investors and partners to create the coherence in vision, objectives and orientations for power development.

- Preside over and cooperate with ministries and central authorities to organize effective implementation of the Plan in accordance with regulations of the Law on Planning and relevant laws, ensuring sufficient supply of electricity for socio - economic development. For projects whose investment guidelines have been approved or in which the investment has been decided, if such projects are undergoing inspection, investigation, audit or enforcement of a judgment (if any), they may only continue to be executed after the conclusion on the inspection, investigation, audit or enforcement of a judgment (if any) has been fully implemented and approval from a competent authority has been granted in accordance with regulations of law.

- Preside over and cooperate with other ministries, central and local authorities in amending regulations of the Law on Economical and Efficient Use of Energy to effect a drastic transition in reducing the energy intensity of the economy, promulgate regulations, mandatory standards and technical regulations on energy efficiency. It is expected to be completed in the 2026-2030 period.

- Preside over and cooperate with ministries, central and local authorities in completing the electricity price management mechanism based on a State-regulated market mechanism to ensure a harmonious combination of the State's social, economic and political objectives and production, business and financial autonomy objectives of electricity enterprises; improve and complete the current electricity tariff.

- Preside over and cooperate with ministries, central and local authorities in considering, completing and submitting to a competent authority for promulgation of price frameworks for

types of power sources, especially renewable energy sources. It is planned to be completed in 2025.

- Preside over and cooperate with relevant units in developing and promulgating price frameworks for types of power sources imported from Laos; set transmission prices for transmission grid projects invested in by the private sector to encourage economic sectors to participate in investing in power grid infrastructure.
- Preside over and cooperate with other ministries, central and local authorities, and relevant units to reviewing, supplementing and completing legislative documents on hydrogen-derived energy in accordance with regulations to facilitate development of hydrogen-derived energy and encourage consumers to make a switch to hydrogen-derived energy.
- Preside over and cooperate with other ministries, central and local authorities in studying and promulgating regulations to strictly control the progress of power source and grid projects, delegate specific responsibilities to related agencies, organizations and individuals for the projects that are behind schedule; impose sanctions to handle and recover projects that are behind schedule.
- Preside over and consider preparing a report on difficulties encountered during the implementation of the PDP VIII.
- Preside over and cooperate with relevant units in developing ancillary service market, completing regulations on ancillary service market and regulations on appropriate ancillary service prices to encourage power plants to participate in providing ancillary services to ensure the reliability of power supply to the system. It is planned to be completed in 2025.
- Cooperate with People's Committees of localities with concentrated solar power projects which have been assigned to investors to conduct review and assessment, and submit a consolidated report to the Prime Minister for his consideration and decision on their execution by 2030.
- Cooperate with localities with natural gas and LNG power source projects to urge project investors to promptly execute them on schedule to be put into operation; propose solutions for ensuring supply of electricity for socio - economic development.
- Annually cooperate with localities to review and report the power development and propose a list of projects to replace projects falling behind schedule.
- Preside over and cooperate with localities in expeditiously determining the power source shortage to complete the list of development projects during the planning period and submit it to the Prime Minister for approval before April 30, 2024.

2. Ministry of Planning and Investment shall:

- Study and recommend a competent authority to promulgate regulations on the power to decide investment guidelines for offshore wind power projects, hydrogen/ammonia production projects using offshore wind power, and offshore wind power export projects.

- Cooperate in developing a public and transparent bidding mechanism to select investors to execute power projects and instruct localities to adopt it.
- Expediently study and amend the Law on Planning to resolve difficulties encountered during the power development process.

3. Ministry of Finance shall:

- Cooperate with the Ministry of Industry and Trade to formulate policies on electricity prices according to market mechanism.
- Cooperate with the Ministry of Industry and Trade to study, formulate and promulgate or submit to competent authorities for promulgation of financial mechanisms, electricity price mechanisms, and incentives for implementation thereof.

4. State Bank of Vietnam, other ministries, central authorities and the Commission for Management of State Capital at Enterprises shall:

Fully fulfill their functions and tasks and exercise their powers to execute the projects in the PDP VIII implementation plan on schedule in accordance with regulations of law; propose policies and solutions for resolving difficulties to effectively accomplish the Plan's objectives, ensure its consistency with the 10-year socio-economic Development Strategy for the 2021-2030 period and the socio-economic development plan of each sector or locality.

5. People's Committees of provinces and central-affiliated cities shall:

- Chairpersons of People's Committees of provinces and central-affiliated cities shall be totally responsible to the law and the Prime Minister for the truthfulness and accuracy of information, data and proposals related to renewable energy projects within their provinces which are incorporated into the PDP VIII implementation plan in accordance with the instructions of the Ministry of Industry and Trade to ensure the practicality and effectiveness of legal requirements of the project without legalizing violations.

- Review the Provincial Planning for the 2021-2030 period, with a vision toward 2050 to ensure its consistency with the PDP VIII implementation plan.

- Cooperate with the Ministry of Industry and Trade and relevant ministries and agencies to organize the implementation of the PDP VIII implementation plan within their jurisdiction.

- Organize the selection of investors in power projects as per regulations of law. For any LNG-fueled thermal power project in which an investor is unavailable, expediently complete the investor selection, speed up the preparation and submission of the project's feasibility study report, and complete it in the 2nd quarter of 2025.

- Expediently review concentrated solar power projects whose planning has been approved and investment guidelines have been approved by competent authorities and which have been assigned to investors in accordance with Decision No. 500/QĐ-TTg and Notification No.

453/TB-VPCP dated November 03, 2023, send a document to the Ministry of Industry and Trade confirming the legality and conformity with planning and plans in their provinces, including land use planning, forest planning, mineral planning and other planning in their provinces to form a basis for the Ministry of Industry and Trade to select and propose them to the Prime Minister for approval.

- Reserve land for developing electricity works under regulations of law; preside over and closely cooperate with investors in carrying out site land clearance, compensation, evacuation and resettlement for power source and power grid projects in accordance with regulations.

- Before appraising and approving investment guidelines of power source projects not included in the list of important and prioritized projects of the electricity sector, consult the Ministry of Industry and Trade and relevant agencies about their conformity with the planning.

- Review and complete the provision/supplement of data, propose power source projects according to the criteria laid down by the Ministry of Industry and Trade and within the permissible capacity, strictly follow directions of the Government and the Prime Minister, do not legalize violations and take responsibility to the law and the Government and the Prime Minister and send them to the Ministry of Industry and Trade before April 15, 2024.

6. EVN shall:

- Play a leading role in ensuring stable and safe supply of electricity for socio - economic development.

- Regularly review and assess the electricity supply and demand balance and the operational status of the national and regional power systems, and submit reports thereon to competent authorities.

- Operate the power system safely, smoothly and effectively to avoid power shortage in all circumstances.

- Execute power source/transmission grid projects on schedule according to its assigned tasks. Concentrate all resources to complete the 500 kV circuit-3 line from Quang Trach (Quang Binh) to Pho Noi (Hung Yen) in June, 2024. EVN shall take primary responsibility if the project is behind schedule and electricity supply security is not ensured.

- Thoroughly take solutions for renovating corporate governance, enhancing production and business efficiency, increasing labor productivity, reducing power loss, saving expenditure and reducing costs.

- Conduct research and survey to realize potentials for offshore wind power development and get prepared for development when assigned as an investor by competent authorities.

7. Vietnam National Oil and Gas Group shall:

- Extensively search, survey, and exploit domestic gas sources for power electricity generation depending on load demand. Rapidly and effectively execute gas field projects such as Lo B, Ca Voi Xanh, Ken Bau, etc. according to the approved progress.
- Implement solutions for constructing storage and port infrastructures, connecting gas system of Vietnam and the region for the purpose of importing natural gas and LNG to maintain gas supply for power plants.
- Adhere to progress of assigned power source projects.
- Conduct research and survey to realize potentials for offshore wind power development and get prepared for development when assigned as an investor by competent authorities.

8. Vinacomin and Dong Bac Corporation shall:

- Play a leading role in providing coal for electricity production according to the roadmap for energy transition. Increase the capacity for domestic coal production in combination with coal import to supply fuels to power plants.
- Invest in power source projects according to assigned tasks.

During the implementation, if difficulties in implementing the PDP VIII implementation plan arise, ministries, central and local authorities shall report them to the Prime Minister and send them to the Ministry of Industry and Trade for consolidation and reporting to the Prime Minister for his consideration and decision.

9. Unit providing consultancy on formulation of the PDP VIII implementation plan shall:

Take total responsibility in accordance with regulations of law and to the Prime Minister for:

- Calculation-related contents and proposals of the Scheme “PDP VIII implementation plan”.
- Calculation methods, criteria, arguments and legal bases for screening and proposing a list of projects.
- Truthfulness, accuracy, objectivity, and scientific soundness of proposals, advice, information and data aggregated from localities and enterprises.

APPENDIX I

LIST OF PRIORITIZED SCHEMES/PROJECTS TO PERFECT LAWS AND POLICIES AND IMPROVE CAPACITY OF THE ELECTRICITY SECTOR

(Enclosed with the Plan under the Prime Minister’s Decision No. 262/QĐ-TTg dated April 01, 2024)

Table 1: Schemes/projects for to perfect laws and policies

No.	Scheme/project	Implementation period	
		2023-2025	2026-2030
1	Establishing a price framework for electricity imported from Laos	x	
2	Establishing a price framework for types of power sources	x	
3	Formulating a mechanism for direct power purchase	x	
4	Formulating a mechanism for encouraging development of distributed/rooftop solar power projects for self-production and self-consumption purposes	x	
5	Formulating the Law on Electricity (amended)	x	
6	Formulating the Law on Economical and Efficient Use of Energy (amended)	x	
7	Formulating a mechanism for development of carbon credit market	x	

Table 2: Schemes/projects to improve scientific and technological capacity, build basic research centers and development centers

No.	Scheme/project	Implementation period	
		2023-2025	2026-2030
1	Renewable energy and new energy science - technology research centers	x	x
2	Energy and climate change research centers	x	x
3	Nuclear power development research center	x	x
4	Scheme to form an inter-regional renewable energy industry and service center	x	x

Table 3: Scheme/projects to train and improve quality of human resources

No.	Scheme/project	Implementation period	
		2023-2025	2026-2030
1	In-depth human resource training in HVDC technology and smart grid technologies	x	x
2	In-depth human resource training in hydrogen technology and new types of energy	x	x
3	In-depth human resource training in offshore power wind	x	x

4	In-depth human resource training in smart grid technologies	x	x
5	International experiences exchange programs on energy planning and power system operation	x	x
6	Increasing capacity of undergraduate and postgraduate training institutions in the field of renewable energy and energy transition	x	x

APPENDIX II

DISTRIBUTION OF CAPACITY OF RENEWABLE ENERGY POWER SOURCES BY REGIONS/PROVINCES

(Enclosed with the Plan under the Prime Minister's Decision No. 262/QĐ-TTg dated April 01, 2024)

Table 1: Capacity of offshore wind power source by regions

No.	Region	Increase in capacity 2023-2030 (MW)
1	Northern region	2.500
2	North Central Coast	0
3	Central region	500
4	Central Highlands	0
5	South Central Coast	2.000
6	Southern region	1.000
	Total capacity	6.000

Table 2: Capacity of onshore wind power source (on land and near shore) by localities

No.	Region/province	Accumulated capacity 2022 (MW)	Accumulated capacity 2030 (MW)	Increase in capacity 2023-2030 (MW)
I	Northern region	0	3.816	3.816
1	Hanoi	0	0	0
2	Hai Phong City	0	2,3	2,3
3	Hai Duong	0	0	0
4	Hung Yen	0	0	0
5	Ha Nam	0	0	0
6	Nam Dinh	0	0	0

7	Thai Binh	0	70	70
8	Ninh Binh	0	0	0
9	Ha Giang	0	0	0
10	Cao Bang	0	0	0
11	Lao Cai	0	0	0
12	Bac Kan	0	400	400
13	Lang Son	0	1.444	1.444
14	Tuyen Quang	0	0	0
15	Yen Bai	0	200	200
16	Thai Nguyen	0	100	100
17	Phu Tho	0	0	0
18	Vinh Phuc	0	0	0
19	Bac Giang	0	500	500
20	Bac Ninh	0	0	0
21	Quang Ninh	0	400	400
22	Lai Chau	0	0	0
23	Dien Bien	0	300	300
24	Son La	0	400	400
25	Hoa Binh	0	0	0
II	North Central Coast	252	2.200	1.948
1	Thanh Hoa	0	300	300
2	Nghe An	0	70	70
3	Ha Tinh	0	700	700
4	Quang Binh	252	1.130	878
III	Central region	671	1.900	1.229
1	Quang Tri	671	1.800	1.129
2	Thua Thien Hue	0	50	50
3	Da Nang City	0	0	0
4	Quang Nam	0	0	0
5	Quang Ngai	0	50	50
IV	Central Highlands	1039	4.101	3.062

1	Kon Tum	0	154	154
2	Gia Lai	561	1.842	1.281
3	Dak Lak	428	1.375	947
4	Dak Nong	50	730	680
V	South Central Coast	944	3.065	2.121
1	Binh Dinh	77	250	173
2	Phu Yen	0	462	462
3	Khanh Hoa	0	102	102
4	Ninh Thuan	573	1.127	554
5	Binh Thuan	294	907	613
6	Lam Dong	0	217	217
VI	Southern region	1080	6.800	5.720
1	Ho Chi Minh City	0	0	0
2	Binh Phuoc	0	0	0
3	Tay Ninh	0	0	0
4	Binh Duong	0	0	0
5	Dong Nai	0	0	0
6	Ba Ria - Vung Tau	0	150	150
7	Long An	0	0	0
8	Dong Thap	0	0	0
9	An Giang	0	50	50
10	Tien Giang	50	250	200
11	Vinh Long	0	0	0
12	Ben Tre	93	1.100	1.007
13	Kien Giang	0	137	137
14	Can Tho City	0	0	0
15	Hau Giang	0	100	100
16	Tra Vinh	257	1.130	873
17	Soc Trang	111	1.613	1.502
18	Bac Lieu	469	1.210	741
19	Ca Mau	100	1.060	960

	Whole country	3.986	21.880	17.894
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Table 3: Capacity of small-scale hydropower source by localities

No.	Region/province	Accumulated capacity 2022 (MW)	Accumulated capacity 2030 (MW)	Increase in capacity 2023-2030 (MW)
I	Northern region	2.881	5.500	2.619
1	Hanoi	0	0	0
2	Hai Phong City	0	0	0
3	Hai Duong	0	0	0
4	Hung Yen	0	0	0
5	Ha Nam	0	0	0
6	Nam Dinh	0	0	0
7	Thai Binh	0	0	0
8	Ninh Binh	0	0	0
9	Ha Giang	305	562	257
10	Cao Bang	177	298	121
11	Lao Cai	711	940	229
12	Bac Kan	22	74	52
13	Lang Son	35	104	69
14	Tuyen Quang	54	82	28
15	Yen Bai	308	582	274
16	Thai Nguyen	2	2	0
17	Phu Tho	3	3	0
18	Vinh Phuc	0	0	0
19	Bac Giang	0	0	0
20	Bac Ninh	0	0	0
21	Quang Ninh	4	4	0
22	Lai Chau	461,8	1.529	1.055
23	Dien Bien	160	471	311
24	Son La	588	801	213
25	Hoa Binh	38	48	10
II	North Central Coast	412	638	226

1	Thanh Hoa	114	175	61
2	Nghe An	240	303	63
3	Ha Tinh	44	86	42
4	Quang Binh	14	74	60
III	Central region	614	1.190	576
1	Quang Tri	104	197	93
2	Thua Thien Hue	118	127	9
3	Da Nang City	0	0	0
4	Quang Nam	206	407	201
5	Quang Ngai	186	459	273
IV	Central Highlands	799	1.408	609
1	Kon Tum	288	716	428
2	Gia Lai	281	352	71
3	Dak Lak	104	138	34
4	Dak Nong	126	202	76
V	South Central Coast	511	863	352
1	Binh Dinh	82	155	73
2	Phu Yen	37	74	37
3	Khanh Hoa	35	47	12
4	Lam Dong	255	401	146
5	Ninh Thuan	90	134	44
6	Binh Thuan	12	52	40
VI	Southern region	61	141	80
1	Ho Chi Minh City	0	0	0
2	Binh Phuoc	37	73	36
3	Tay Ninh	3	3	0
4	Binh Duong	18	18	0
5	Dong Nai	0	44	44
6	Ba Ria - Vung Tau	3	3	0
7	Long An	0	0	0
8	Dong Thap	0	0	0

9	An Giang	0	0	0
10	Tien Giang	0	0	0
11	Vinh Long	0	0	0
12	Ben Tre	0	0	0
13	Kien Giang	0	0	0
14	Can Tho City	0	0	0
15	Hau Giang	0	0	0
16	Tra Vinh	0	0	0
17	Soc Trang	0	0	0
18	Bac Lieu	0	0	0
19	Ca Mau	0	0	0
	Whole country	5.278	9.740	4.462

Table 4: Capacity of biomass power source by localities

No.	Province/City	Accumulated capacity 2022 (MW)	Accumulated capacity 2030 (MW)	Increase in capacity 2023-2030 (MW)
I	Northern region	34	468	434
1	Hanoi	0	0	0
2	Hai Phong City	0	0	0
3	Hai Duong	0	10	10
4	Hung Yen	0	0	0
5	Ha Nam	0	0	0
6	Nam Dinh	0	0	0
7	Thai Binh	0	0	0
8	Ninh Binh	0	0	0
9	Ha Giang	0	0	0
10	Cao Bang	0	0	0
11	Lao Cai	0	30	30
12	Bac Kan	0	50	50
13	Lang Son	0	30	30
14	Tuyen Quang	25	75	50

15	Yen Bai	0	108	108
16	Thai Nguyen	0	10	10
17	Phu Tho	0	20	20
18	Vinh Phuc	0	0	0
19	Bac Giang	0	0	0
20	Bac Ninh	0	0	0
21	Quang Ninh	0	40	40
22	Lai Chau	0	10	10
23	Dien Bien	0	30	30
24	Son La	9	25	16
25	Hoa Binh	0	30	30
II	North Central Coast	0	40	40
1	Thanh Hoa	0	10	10
2	Nghe An	0	10	10
3	Ha Tinh	0	10	10
4	Quang Binh	0	10	10
III	Central region	0	6	6
1	Quang Tri	0	0	0
2	Thua Thien Hue	0	0	0
3	Da Nang City	0	0	0
4	Quang Nam	0	6	6
5	Quang Ngai	0	0	0
IV	Central Highlands	118	123	5
1	Kon Tum	0	5	5
2	Gia Lai	118	118	0
3	Dak Lak	0	0	0
4	Dak Nong	0	0	0
V	South Central Coast	121	150	29
1	Binh Dinh	0	0	0
2	Phu Yen	31	60	29
3	Khanh Hoa	90	90	0

4	Lam Dong	0	0	0
5	Ninh Thuan	0	0	0
6	Binh Thuan	0	0	0
VI	Southern region	49	301	252
1	Ho Chi Minh City	0	0	0
2	Binh Phuoc	0	15	15
3	Tay Ninh	37	37	0
4	Binh Duong	0	0	0
5	Dong Nai	0	12	12
6	Ba Ria - Vung Tau	0	0	0
7	Long An	0	23	23
8	Dong Thap	0	10	10
9	An Giang	0	50	50
10	Tien Giang	0	0	0
11	Vinh Long	0	10	10
12	Ben Tre	0	10	10
13	Kien Giang	0	25	25
14	Can Tho City	0	0	0
15	Hau Giang	0	30	30
16	Tra Vinh	0	25	25
17	Soc Trang	12	20	8
18	Bac Lieu	0	10	10
19	Ca Mau	0	24	24
	Total	322	1.088	766

Table 5: Capacity of waste-to-energy power sources by localities

No.	Province/City	Accumulated capacity 2022 (MW)	Accumulated capacity 2030 (MW)	Increase in capacity 2023-2030 (MW)
I	Northern region	62	486	424
1	Hanoi	62	190	128
2	Hai Phong City	0	40	40

3	Hai Duong	0	30	30
4	Hung Yen	0	0	0
5	Ha Nam	0	0	0
6	Nam Dinh	0	15	15
7	Thai Binh	0	25	25
8	Ninh Binh	0	15	15
9	Ha Giang	0	0	0
10	Cao Bang	0	0	0
11	Lao Cai	0	1	1
12	Bac Kan	0	1	1
13	Lang Son	0	11	11
14	Tuyen Quang	0	0	0
15	Yen Bai	0	0	0
16	Thai Nguyen	0	10	10
17	Phu Tho	0	18	18
18	Vinh Phuc	0	15	15
19	Bac Giang	0	25	25
20	Bac Ninh	0	37	37
21	Quang Ninh	0	30	30
22	Lai Chau	0	0	0
23	Dien Bien	0	3	3
24	Son La	0	7	7
25	Hoa Binh	0	13	13
II	North Central Coast	0	127	127
1	Thanh Hoa	0	50	50
2	Nghe An	0	30	30
3	Ha Tinh	0	30	30
4	Quang Binh	0	17	17
III	Central region	0	60	60
1	Quang Tri	0	0	0
2	Thua Thien Hue	0	12	12

3	Da Nang City	0	18	18
4	Quang Nam	0	15	15
5	Quang Ngai	0	15	15
IV	Central Highlands	0	21	21
1	Kon Tum	0	0	0
2	Gia Lai	0	15	15
3	Dak Lak	0	6	6
4	Dak Nong	0	0	0
V	South Central Coast	0	66	66
1	Binh Dinh	0	15	15
2	Phu Yen	0	15	15
3	Khanh Hoa	0	16	16
4	Lam Dong	0	10	10
5	Ninh Thuan	0	0	0
6	Binh Thuan	0	10	10
VI	Southern region	8	422,1	414,1
1	Ho Chi Minh City	0	123	123
2	Binh Phuoc	0	20	20
3	Tay Ninh	0	10	10
4	Binh Duong	0	9,6	9,6
5	Dong Nai	0	66	66
6	Ba Ria - Vung Tau	0	30	30
7	Long An	0	18	18
8	Dong Thap	0	13	13
9	An Giang	0	7,5	7,5
10	Tien Giang	0	10	10
11	Vinh Long	0	14	14
12	Ben Tre	0	18	18
13	Kien Giang	0	14	14
14	Can Tho City	8	15	7
15	Hau Giang	0	12	12

16	Tra Vinh	0	10	10
17	Soc Trang	0	16	16
18	Bac Lieu	0	0	0
19	Ca Mau	0	16	16
	Total	70	1.182	1.112

Table 6: Capacity of rooftop power source by localities

No.	Region/province	Increase in capacity 2023-2030 (MW)
I	Northern region	927
1	Hanoi	47
2	Hai Phong City	107
3	Hai Duong	70
4	Hung Yen	62
5	Ha Nam	57
6	Nam Dinh	31
7	Thai Binh	32
8	Ninh Binh	23
9	Ha Giang	3
10	Cao Bang	2
11	Lao Cai	28
12	Bac Kan	3
13	Lang Son	25
14	Tuyen Quang	4
15	Yen Bai	26
16	Thai Nguyen	52
17	Phu Tho	31
18	Vinh Phuc	59
19	Bac Giang	86
20	Bac Ninh	79
21	Quang Ninh	73
22	Lai Chau	2
23	Dien Bien	1

24	Son La	5
25	Hoa Binh	19
II	North Central Coast	231
1	Thanh Hoa	75
2	Nghe An	54
3	Ha Tinh	74
4	Quang Binh	28
III	Central region	168
1	Quang Tri	23
2	Thua Thien Hue	33
3	Da Nang City	30
4	Quang Nam	43
5	Quang Ngai	39
IV	Central Highlands	32
1	Kon Tum	7
2	Gia Lai	8
3	Dak Lak	8
4	Dak Nong	9
V	South Central Coast	136
1	Binh Dinh	38
2	Phu Yen	18
3	Khanh Hoa	14
4	Lam Dong	21
5	Ninh Thuan	38
6	Binh Thuan	7
VI	Southern region	1.109
1	Ho Chi Minh City	73
2	Binh Phuoc	93
3	Tay Ninh	53
4	Binh Duong	185
5	Dong Nai	229

6	Ba Ria - Vung Tau	133
7	Long An	153
8	Dong Thap	16
9	An Giang	11
10	Tien Giang	22
11	Vinh Long	16
12	Ben Tre	17
13	Kien Giang	10
14	Can Tho City	29
15	Hau Giang	28
16	Tra Vinh	10
17	Soc Trang	14
18	Bac Lieu	2
19	Ca Mau	15
	Whole country	2.600

APPENDIX III

LIST OF TYPES OF POWER SOURCES OPERATING IN 2023 - 2030 PERIOD
(Enclosed with the plan under the Prime Minister's Decision No. 262/QĐ-TTĐ dated April 01, 2024)

Table 1: List of domestic gas-fired thermal power projects

No.	Project	Capacity (MW)	Province/City	Year of operation	Note
1	O Mon I Thermal Power*	660	Can Tho	In operation	Using gas from Block B gas field
2	O Mon II Thermal Power Plant	1.050	Can Tho	2027	
3	O Mon IV Thermal Power Plant	1.050	Can Tho	2028	
4	Dung Quat I Combined Cycle Gas Turbine (CCGT)	750	Quang Ngai	2028	Using gas from Ca Voi Xanh gas field
5	Dung Quat II CCGT	750	Quang Ngai	2028	

6	Dung Quat III CCGT	750	Quang Ngai	2028	
7	O Mon III Thermal Power Plant	1.050	Can Tho	2030	Using gas from Block B gas field
8	Mien Trung I CCGT	750	Quang Nam	2030	Using gas from Ca Voi Xanh gas field
9	Mien Trung II CCGT	750	Quang Nam	2030	
10	Quang Tri CCGT	340	Quang Tri	2030	Using gas from Bao Vang gas field

Note:

- (*) Existing power plants switch to using gas from Block B gas field;

- The exact scale of the power plants will be determined depending on capacity of generator sets during project execution.

Table 2: List of LNG thermal power projects

No.	Project	Capacity (MW)	Province/City	Year of operation	Note
1	Nhon Trach 3 and Nhon Trach 4 Power Plants	1.624	Dong Nai	2024-2025	Under construction
2	Hiep Phuoc LNG Phase 1	1.200	Ho Chi Minh City	2025	Under construction
3	Bac Lieu LNG	3.200	Bac Lieu	2027-2029	FS being prepared
4	Son My II Thermal Power Plant	2.250	Binh Thuan	2027-2029	FS being prepared
5	BOT Son My I Thermal Power Plant	2.250	Binh Thuan	2027-2029	FS being prepared
6	Quang Ninh LNG	1.500	Quang Ninh	2028-2029	FS being prepared
7	Hai Lang LNG Phase 1	1.500	Quang Tri	2028-2029	FS being prepared
8	Thai Binh LNG	1.500	Thai Binh	2029	Investor being selected
9	Nghi Son LNG	1.500	Thanh Hoa	2029-2030	Investor being selected
10	Ca Na LNG	1.500	Ninh Thuan	2029-2030	Investor being selected
11	Quang Trach II LNG	1.500	Quang Binh	2029-2030	
12	Quyhn Lap LNG	1.500	Nghe An	2029-2030	

13	Long An I LNG	1.500	Long An	2029-2030	FS being prepared
	Potential locations, backup locations for projects behind schedule or unable to be implemented				Thai Binh, Nam Dinh, Nghi Son, Quynh Lap, Vung Ang, Chan May, Mui Ke Ga, Hiep Phuoc 2, Tan Phuoc, Ben Tre, Ca Mau, etc.

Note:

Exact scale of each power plant will be determined depending on capacity of generator sets during project execution.

Table 3: List of coal thermal power projects

No.	Project	Capacity (MW)	Province/City	Year of operation	Note
1	Van Phong 1 Thermal Power Plant	1.432	Khanh Hoa	2024	In operation
2	Vung Ang II Thermal Power Plant	1.330	Ha Tinh	2025-2026	
3	Na Duong II Thermal Power Plant	110	Lang Son	2026	In preparation for construction
4	Quang Trach I Thermal Power Plant	1.403	Quang Binh	2026	Under construction
5	An Khanh - Bac Giang Thermal Power Plant	650	Bac Giang	2027	
6	Long Phu 1 Thermal Power Plant	1.200	Soc Trang	2027	

Table 4: List of coal thermal power projects that are behind schedule and encounter difficulties in shareholder changes or capital

No.	Project	Capacity (MW)	Province/City	Note
1	Quang Tri Thermal Power Plant (*)	1.320	Quang Tri	The Ministry of Industry and Trade has discussed with investors and permitted an extension until June of 2024 at which point if the project in
2	Cong Thanh Thermal Power (**)	600	Thanh Hoa	
3	Nam Dinh I Thermal Power	1.200	Nam Dinh	

	Plant			question has not been implemented, the project will be terminated as per the law.
4	Vinh Tan III Thermal Power Plant	1.980	Binh Thuan	
5	Song Hau II Thermal Power Plant	2.120	Hau Giang	

Note:

(*) The investor has applied for suspension of the project (according to the Document EGATi 277/2023), the People's Committee of Quang Tri province issued a Document No. 4009/UBND-KT dated August 09, 2023 applying for conversion of Quang Tri Thermal Plant Power into a gas-fired power plan

(**) The People's Committee of Thanh Hoa province issued a Document No. 19346/UBND-CN dated December 21, 2023 proposing a switch over to LNG as fuel for Cong Thanh Thermal Power Plant Project.

Table 5: List of projects on cogeneration power sources, power sources utilizing waste heat, blast furnace gas and by-products of technological lines in industrial facilities

No.	Project	Capacity (MW)	Province/City	Year of operation	Note
1	Formosa HT2	650	Ha Tinh	2026	
2	Duc Giang CHP Thermal Power	100	Lao Cai	2027	
3	Hai Ha 1 CHP Thermal Power	300	Quang Ninh	2026-2030	
4	Hoa Phat II Waste Heat Recovery Thermal Power	300	Quang Ngai	2026-2026	
5	Other projects	Prioritize and encourage the use of this type in electricity production to increase energy efficiency. There is no limit to the total capacity of this type to suit the demands and potentials of industrial facilities.			

Table 6: List of medium and large-sized hydropower projects

No.	Project	Capacity (MW)	Province/City	Year of operation	Note
1	Long Tao Hydropower	44	Dien Bien		In operation
2	Song Lo 6 Hydropower	60	Ha Giang		In operation
3	Pac Ma Hydropower	160	Lai Chau		In operation
4	Song Lo 2A	49,6	Son La		In operation

	Hydropower				
5	Dak Mi 2 Hydropower	147	Quang Nam		In operation
6	Song Tranh 4 Hydropower	48	Quang Nam		In operation
7	Upper Kon Tum Hydropower	220	Kon Tum		In operation
8	Song Lo 7 Hydropower	36	Tuyen Quang		In operation
9	Nam Cum 1,4,5 Hydropower	95,8	Lai Chau		Under construction (Nam Cum 4 - 56 MW, Nam Cum 5 - 10 MW and Nam Cum 4 1 - 29.8 MW expected to be operated in 2025, 2024, and 2027 respectively.)
10	Nam Cum 2,3,6 Hydropower	79,5	Lai Chau		Nam Cum 3 - 48,5 MW in operation; Nam Cum 2 - 24 MW operated in 2024; Nam Cum 6 - 7 MW expected to be operated in 2027
11	Song Hieu (Ban Mong) Hydropower	45	Nghe An	2024	In progress
12	Phu Tan 2 Hydropower	93	Dong Nai	2023	In operation
13	Yen Son Hydropower	90	Tuyen Quang	2025	Under construction
14	Hoi Xuan Hydropower	102	Thanh Hoa	2024	Under construction
15	Expanded Ialy Hydropower	360	Gia Lai	2024	Under construction
16	Dak Mi 1 Hydropower	84	Kon Tum	2024	Under construction
17	Expanded Hoa Binh Hydropower	480	Hoa Binh	2025	Under construction
18	Expanded Tri An Hydropower	200	Dong Nai	2027	Being executed
19	Thanh Son Hydropower	40	Dong Nai	2026	Planning being adjusted
20	My Ly Hydropower	120	Nghe An	2028	Investment guidelines being adjusted
21	Nam Mo 1 Hydropower	51	Nghe An	2028	Investment guidelines

					being adjusted
22	Duc Thanh Hydropower	40	Binh Phuoc	2026	Under construction
23	La Ngau Hydropower (*)	46	Binh Thuan	2026	
24	Phu Tho Low-head Hydropower (**)	105	Phu Tho	2026	
25	Cam Thuy 2 Hydropower	38	Thanh Hoa	2030	Overlapping land reserved for Cam Hoang irrigation lake

Note:

(*) La Ngau Hydropower project is approved under the amended Power Planning VII and issued with the Investment Certificate and Certificate of Land Use Rights. The People's Committee of Binh Thuan Province issued a Document No. 21/UBND-KT dated January 03, 2020 requesting the removal of La Ngau Hydropower project from the planning. The Ministry of Industry and Trade issued a Document No. 1986/BCT-DL dated March 20, 2020 requesting the People's Committee of Binh Thuan Province to thoroughly deal with the issues mentioned in the Notice No. 193/TB-VPCP dated May 25, 2018 of the Office of the Government and report it the Prime Minister.

(**) The People's Committee of Phu Tho Province issued a Document No. 4424/UBND-CNXD dated November 08, 2023 requesting the removal of the project from the Power Planning VIII.

Table 7: List of pumped-storage hydropower projects

No.	Project	Capacity (MW)	Province/City	Year of operation	Note
1	Bac Ai Pumped-storage Hydropower	1.200	Ninh Thuan	2028-2029	
2	Phuoc Hoa Pumped-storage Hydropower	1.200	Ninh Thuan	2029-2030	
3	Other projects	Provinces where pumped-storage hydropower projects are recommended: Dien Bien, Lai Chau, Quang Tri, Kon Tum, Khanh Hoa, Dak Nong, etc. However, the number of projects, capacity, location and necessity must be further assessed depending on system demand and reported to the Prime Minister.			

Table 8: List of battery storage projects

No.	Project	Capacity (MW)	Year of operation	Note
1	50 MW battery storage project	50	2023-2030	According to the

2	50 MW battery storage project integrated into 50 MW solar power farm	7	2023-2030	Decision No. 1009/QD-TTg dated August 31, 2023
3	105 MW battery storage project integrated into 400 MW solar power farm	105	2023-2030	
4	Other battery storage projects	138	2023-2030	

Table 9: Capacity of onshore wind power projects (on land and near shore)

No.	Project	Capacity (MW)	Year of operation	Note
Dien Bien Province		300		
1	BCG Dien Bien 1 Wind Power Plant	175	2026-2030	
2	Envision Nam Po Wind Power Plant	125	2026-2030	
Bac Kan Province		400		
1	Cho Moi 2 Wind Power Plant	130	2026-2030	
2	Ngan Son Wind Power Plant	150	2026-2030	
3	Thien Long Cho Moi Wind Power Plant	120	2026-2030	
Yen Bai Province		200		
1	Nam Bung Wind Power Plant	200	2026-2030	
Bac Giang Province		500		
1	Bac Giang 1 Wind Power Plant	55	2026-2030	
2	Bac Giang 2 Wind Power Plant	55	2026-2030	
3	Cam Ly Wind Power Plant	55	2026-2030	
4	Tan Son Wind Power Plant	50	2026-2030	
5	Luc Ngan Wind Power Plant	30	2026-2030	
6	SD Son Dong Wind Power Plant	105	2026-2030	
7	Yen Dung Wind Power Plant	150	2026-2030	
Lang Son Province		1.444		
1	Ai Quoc Wind Power Plant	100	2026-2030	
2	Binh Gia Wind Power Plant	80	2026-2030	
3	Cao Loc Wind Power Plant	55	2026-2030	
4	Cao Loc 3 Wind Power Plant	69	2026-2030	

5	Chi Lang Wind Power Plant	100	2026-2030	
6	Cao Loc 1 Wind Power Plant	50	2026-2030	
7	Cao Loc 1.1 Wind Power Plant	50	2026-2030	
8	Dinh Lap Wind Power Plant	100	2026-2030	
9	Dinh Lap 1 Wind Power Plant	50	2026-2030	
10	Dinh Lap 1.1 Wind Power Plant	50	2026-2030	
11	Dinh Lap 4 Wind Power Plant	90	2026-2030	
12	Dinh Lap 5 Wind Power Plant	100	2026-2030	
13	Van Quan 1 Wind Power Plant	50	2026-2030	
14	Huu Kien Wind Power Plant	90	2026-2030	
15	Loc Binh Wind Power Plant	60	2026-2030	
16	Loc Binh - Pharbaco Wind Power Plant	50	2026-2030	
17	Loc Binh 1 Wind Power Plant	50	2026-2030	
18	Loc Binh 3 Wind Power Plant	60	2026-2030	
19	Mau Son Wind Power Plant	30	2026-2030	
20	Thang Long 3 Wind Power Plant	50	2026-2030	
21	Van Lang 1 Wind Power Plant	80	2026-2030	
22	Van Quan Wind Power Plant	30	2026-2030	
	Thai Binh Province	70		
1	Tien Hai - Thai Binh Wind Power Plant	70	2026-2030	
	Thanh Hoa Province	300		
1	Bac Phuong - Nghi Son Wind Power Plant	100	2026-2030	
2	Muong Lat Wind Power Plant	200	2026-2030	
	Nghe An Province	70		
1	Nam Dan Wind Power Plant	70	2026-2030	
	Ha Tinh Province	350		
1	HBRE Ha Tinh Wind Farm	120	2023-2025	
2	Cam Xuyen 1 Wind Power Plant	70	2024-2025	
3	Ky Khang Wind Power Plant - phase 1	60	2026-2030	
4	Cam Xuyen 2 Wind Power Plant	100	2026-2030	
	Dak Lak Province	870		

1	Cu Ne 1 Wind Power Plant	50	2023-2025	18 wind turbines have been installed; the plan is expected to be operated in 2024
2	Cu Ne 2 Wind Power Plant	50	2023-2025	Expected to be operated in 2025
3	Krong Buk 1 Wind Power Plant	50	2023-2025	18 wind turbines have been installed; the plan is expected to be operated in 2024
4	Krong Buk 2 Wind Power Plant	50	2023-2025	18 wind turbines have been installed; the plan is expected to be operated in 2024
5	Buon Ho 1 Wind Power Plant	20	2023-2025	
6	Buon Ho 2 Wind Power Plant	20	2023-2025	
7	Buon Ho 3 Wind Power Plant	15	2023-2025	
8	Cu M'Gar 2 Wind Power Plant	10	2023-2025	
9	Ea H'Leo 3 (Cu M'Gar) Wind Power Plant	10	2023-2025	
10	Ea H'Leo 4 (Cu M'Gar - Buon Ho) Wind Power Plant	10	2023-2025	
11	Easin1 Wind Power Plant	100	2026-2030	
12	Krong Buk 3 Wind Power Plant	100	2026-2030	
13	Thuan Phong Dak Lak Wind Power Plant	100	2026-2030	
14	Tan Lap - Ea Ho Wind Power Plant	50	2026-2030	
15	Cu Pong 1,2 Wind Power Plant	80	2026-2030	
16	Krong Nang 1.1; 1.2 Wind Power Plant	80	2026-2030	
17	NT 1; NT 2 Wind Power Plant	75	2026-2030	
	Lam Dong Province	118,9		
1	Cau Dat Wind Power Plant	68,9	2023-2025	Construction completed
2	Duc Trong Wind Power Plant	50	2026-2030	
	Ninh Thuan Province	553,7		
1	Phuoc Huu Wind Power Plant	50	2023-2025	

2	Vietnam Wind Power No. 1 Plant	30	2023-2025	
3	Cong Hai 1 Wind Power Plant - phase 2	25	2023-2025	
4	Cong Hai 1 Wind Power Plant - phase 1	3	2023-2025	
5	Phuoc Nam - Enfinity - Ninh Thuan renewable energy power plant	65	2023-2025	
6	Dam Nai 3 Wind Power Plant	39,4	2023-2025	
7	Dam Nai 4 Wind Power Plant	27,6	2023-2025	
8	Expanded BIM Wind Power Plant - phase 2	50	2023-2025	
9	7A Wind Power Plant - phase 2	21	2023-2025	
10	Phuoc Dan Wind Power Plant	45	2023-2025	
11	Bau Ngu Wind Power Plant	25,2	2023-2025	
12	Tri Hai Wind Power Plant	79,5	2023-2025	
13	Partial capacity of Hanbaram Wind Power Plant	93	2026-2030	
	Phu Yen Province	298		
1	HBRE An Tho Wind Farm - phase 1	200	2023-2025	
2	Song Cau Green Wind Power Plant - phase 1	50	2023-2025	
3	Xanh Nam Viet Wind Power Plant	48	2023-2025	
	Binh Dinh Province	30		
1	Nhon Hoi Wind Power Plant - phase 2	30	2023-2025	In operation
	Ba Ria - Vung Tau Province	150		
1	Xuyen Moc near-shore Wind Power Plant - phase 2	47	2026-2030	
2	Cong Ly Ba Ria - Vung Tau Wind Power Plant - phase 1	103	2026-2030	
	Ben Tre Province	713,5		
1	VPL Wind Power Plant	4,2	2023-2025	
2	Binh Dai Wind Power Plant	25,8	2023-2025	
3	Binh Dai No. 2 Wind Power Plant	49	2023-2025	
4	Binh Dai No. 3 Wind Power Plant	49	2023-2025	
5	Thuan Phong Wind Power Plant	29,7	2023-2025	

6	Sunpro Wind Power Plant	30	2023-2025	07 turbines completed /29.4 MW
7	Wind Power Plant No. 5 Ben Tre - phase 2 (Thanh Hai 2,3,4 Wind Power Plant)	85,8	2023-2025	21 turbines completed /90 MW, put on grid 4.25 MW, expected to generate electricity 85.75 MW in 2024
8	VPL Wind Power Plant (Phase 2)	30	2023-2025	Operation scheduled for 2025
9	Nexif Energy Ben Tre Wind Power Plant	30	2023-2025	Investment guidelines issued
10	Nexif Ben Tre Wind Power Plant - phase 2, 3	50	2023-2025	Investment guidelines issued
11	Thien Phu 2 Wind Power Plant	30	2023-2025	Investment guidelines issued
12	Thien Phu Wind Power Plant	30	2023-2025	Investment guidelines issued
13	Thanh Phu Wind Power Plant	120	2023-2025	Investment guidelines issued
14	Bao Thanh Wind Power Plant	50	2023-2025	Investment guidelines issued
15	Wind Power Plant No. 19	50	2023-2025	Investment guidelines issued
16	Wind Power Plant No. 20	50	2023-2025	Investment guidelines issued
	Bac Lieu Province	741		
1	Japan - Bac Lieu Wind Power Plant	50	2023-2025	
2	Bac Lieu Wind Power Plant - phase III	141	2023-2025	
3	Hoa Binh 3 Wind Power Plant	50	2026-2030	
4	Hoa Binh 2-1 Wind Power Plant	50	2026-2030	
5	Hoa Binh 4 Wind Power Plant	50	2026-2030	
6	Hoa Binh 6 Wind Power Plant	40	2026-2030	
7	Hoa Binh 8 Wind Power Plant	50	2026-2030	
8	Hoa Binh 5.1 Wind Power Plant	80	2026-2030	
9	Dong Hai 1 Wind Power Plant - phase 3	50	2026-2030	
10	Dong Hai 13 Wind Power Plant	100	2026-2030	

11	Dong Hai 3 Wind Power Plant - phase 1	50	2026-2030	
12	Dong Hai 6 Wind Power Plant	30	2026-2030	
	Tien Giang Province	200		
1	Tan Thanh Wind Power Plant	100	2026-2030	
2	Tan Phu Dong 1 Wind Power Plant	100	2026-2030	
	Tra Vinh Province	872,5		
1	Hiep Thanh Wind Power Plant	64,5	2023-2025	Commercially operated
2	Duyen Hai Wind Power Plant	48	2023-2025	EPC contractor being selected
3	Dong Thanh 1 Wind Power Plant	80	2023-2025	Under construction
4	Dong Thanh 2 Wind Power Plant	120	2023-2025	Under construction
5	Thang Long Wind Power Plant	96	2023-2025	Investment guidelines issued
4	Dong Hai 3 Wind Power Plant (location V3-3)	48	2026-2030	
8	V1-2 Wind Power Plant	48	2026-2030	
9	V1-3 Wind Power Plant - phase 2	48	2023-2025	
3	V1-5 and V1-6 Wind Power Plant - phase 2	80	2023-2025	
3	Duyen Hai 2 Wind Power Plant	96	2026-2030	
6	Wind Power Plant No. 3 (location V3-8)	48	2026-2030	
7	V1-1 Tra Vinh Wind Power Plant - phase 2	48	2023-2025	
5	Long Vinh Wind Power Plant	48	2026-2030	
	Soc Trang Province	733,2		
1	Hoa Dong 2 Wind Power Plant	45,6		In operation
2	Lac Hoa 2 Wind Power Plant	123,6		In operation
3	Lac Hoa Wind Power Plant - phase 1	5		In operation
4	Lac Hoa 2 Wind Power Plant	6,4	2024	
5	Lac Hoa Wind Power Plant	30	2024	Construction completed
6	Hoa Dong Wind Power Plant	30	2024	Construction completed

7	Cong Ly Wind Power Plant - phase 1	30	2024	Construction completed
8	Wind Power Plant No. 3	29,4	2024	Construction completed
9	Wind Power Plant No. 2	30	2025	Under construction
10	Wind Power Plant No. 18	22,4	2025	
11	Wind Power Plant No. 7 - phase 2	90	2025	
12	Wind Power Plant No. 11	100,8	2026-2030	
13	Tran De Wind Power Plant	50	2026-2030	
14	Song Hau Wind Power Plant	50	2026-2030	
15	Soc Trang 16 Wind Power Plant	40	2026-2030	
16	BCG Soc Trang 1 Wind Power Plant	50	2026-2030	
	An Giang Province	50		
1	JR An Giang Wind Power Plant	50	2026-2030	
	Ca Mau Province	900		
1	Tan Au 45 MW Wind Power Plant	75	2023-2025	45 MW in operation, 30 MW under construction
2	Vien An Wind Power Plant	50	2023-2025	25 MW in operation, 25 MW under construction
3	Ca Mau 1A Wind Power Plant	88	2023-2025	Under construction
4	Ca Mau 1B Wind Power Plant	88	2023-2025	Under construction
5	Khai Long tourism area - Ca Mau Wind Power Plant - phase 1	100	2023-2025	
6	Tan Thuan Wind Power Plant - phase 3	25	2023-2025	
7	An Dong 1 Wind Power Plant	50	2023-2025	
8	Khanh Binh Tay Wind Power Plant	50	2023-2025	
9	Khai Long Wind Power Plant - phase 2	100	2023-2025	
10	Ca Mau 1C Wind Power Plant	88	2026-2030	Technical design being appraised
11	Ca Mau 1D Wind Power Plant	86	2026-2030	Technical design being appraised
12	Khai Long Wind Power Plant - phase 3	100	2026-2030	

	Hau Giang Province	100		
1	Long My 1 Wind Power Plant	100	2023-2025	
	Kien Giang Province	137		
1	Hon Dat 1 Wind Power Plant	77	2026-2030	
2	Kien Luong 1 Wind Power Plant	60	2026-2030	

Table 10: List of small-scale hydropower projects

No.	Project	Capacity (MW)	Year of operation	Note
	Bac Kan Province	47,3		
1	Khuoi Thuoc Hydropower Plant	3	2025	
2	Khuoi Noc 2 Hydropower Plant	4,2	2025	
3	Thac Gieng 2 Hydropower Plant	4	2026-2030	
4	Khuoi Noc Hydropower Plant	6,6	2026-2030	
5	Kim Lu Hydropower Plant	9	2026-2030	
6	Nam Cat 2 Hydropower Plant	5	2026-2030	
7	My Thanh Hydropower Plant	5	2026-2030	
8	Cong Bang Hydropower Plant	4	2026-2030	
9	Pac Nam Hydropower Plant	6,5	2026-2030	
	Binh Dinh Province	49,9		
1	Dong Mit Hydropower Plant	7	2023	In operation
2	Nuoc Luong Hydropower Plant	22	2024	
3	Vinh Son 4 Hydropower Plant	18	2025	
4	Phu Phong weir downstream	2,9	2025	
	Binh Phuoc Province	36,1		
1	Dak Kar Hydropower Plant	12	2023	
2	Long Ha Hydropower Plant	20,1	2026-2030	
3	Dam'Lo Hydropower Plant	4	2026-2030	
	Cao Bang Province	121		
1	Pac Khuoi Hydropower Plant	7	2024	
2	Khuoi Luong Hydropower Plant	4,4	2024	

3	Hong Nam Hydropower Plant	24	2025	
4	Bao Lac A Hydropower Plant	30	2026-2030	
5	Thuong Ha Hydropower Plant	13	2026-2030	
6	Ban Nga Hydropower Plant	24	2026-2030	
7	Ban Rien Hydropower Plant	18,6	2026-2030	
	Dak Lak Province	10,6		
1	Ea Tih Hydropower Plant	8,6	2025	
2	Hydropower plant behind Lower Krong Buk dam	2	2026-2030	
	Dak Nong Province	8,8		
1	Dak Sor 4 Hydropower Plant	8,8	2023-2030	
	Dien Bien Province	116,5		
1	Huoi Chan 1 Hydropower Plant	15	2023	In operation
2	De Bau Hydropower Plant	6	2023	In operation
3	Muong Muon Hydropower Plant	22	2024	
4	Phi Linh Hydropower Plant	18	2024	
5	Muong Luan 2 Hydropower Plant	10	2024	
6	Muong Tung Hydropower Plant	13	2024	
7	Nam Nua 2 Hydropower Plant	7,5	2025	
8	Chieng So 2 Hydropower Plant	16	2025	
9	Nam He Thuong 2 Hydropower Plant	9	2026-2030	
	Dong Nai Province	44		
1	Phu Tan 1 Hydropower Plant	28	2026-2030	
2	Thac Troi Hydropower Plant	16	2026-2030	
	Ha Tinh Province	6,5		
1	Song Rac combined hydropower and irrigation	1,7	2026-2030	
2	Vu Quang Hydropower Plant	4,8	2026-2030	
	Kon Tum Province	358,5		
1	Bo Ko 2 Hydropower Plant	12,6	2023	In operation
2	Dak Robaye Hydropower Plant	10	2024	
3	Nam Vao 2 Hydropower Plant	8,6	2024	

4	Thuong Dak Psi Hydropower Plant (Backup reservoir 2.4 MW)	2,4	2024	
5	Dak Mi 1A Hydropower Plant	11	2024	
6	Dak Psi 1 Hydropower Plant	4	2024	
7	Nuoc Long 1 Hydropower Plant	3,2	2024	
8	Nuoc Long 2 Hydropower Plant	6,4	2024	
9	Dak Nghe Hydropower Plant	7	2024	
10	Bo Ko 1 Hydropower Plant	6	2024	
11	Ngoc Tem Hydropower Plant	7,5	2024	
12	Thuong Nam Vao Hydropower Plant	9,8	2025	
13	Dak Mi 1B Hydropower Plant	6	2025	
14	Dak Po Co 1 Hydropower Plant	11	2025	
15	Dak Me 3 Hydropower Plant	7,5	2025	
16	Dak Lo 4 Hydropower Plant	10	2025	
17	Dak Lo 1 Hydropower Plant	12	2025	
18	Dak Lo 3 Hydropower Plant	22	2025	
19	Plei Kan Ha Hydropower Plant	13	2025	
20	Dak Pru 3 Hydropower Plant	5	2025	
21	Dak Re Thuong Hydropower Plant	14	2025	
22	Dak Roong Hydropower Plant	5	2025	
23	Dak Pone Hydropower Plant (Reservoir B plant)	1,6	2025	
24	Dak Krin Hydropower Plant	7,4	2025	
25	Nam Vao 1 Hydropower Plant	10	2025	
26	Dak Ruoi 2 Hydropower Plant	14	2026-2030	
27	Dak Ruoi 3 Hydropower Plant	3	2026-2030	
28	Ngoc Linh 1 Hydropower Plant	4	2026-2030	
29	Ngoc Linh 2 Hydropower Plant	7,8	2026-2030	
30	Ngoc Linh 3 Hydropower Plant	8,2	2026-2030	
31	Dak Pek Hydropower Plant	10,2	2026-2030	
32	Thuong Dak Psi 1 Hydropower Plant	7,2	2026-2030	
33	Tan Lap Hydropower Plant	5,2	2026-2030	

34	Nuoc Tre Hydropower Plant	12,8	2026-2030	
35	Sa Thay 1 Hydropower Plant	9,5	2026-2030	
36	Sa Thay 2 Hydropower Plant	11,2	2026-2030	
37	Sa Thay 3 Hydropower Plant	10,5	2026-2030	
38	Dak Bla 3 Hydropower Plant	8,6	2026-2030	
39	Dak Su 2 Hydropower Plant	7,2	2026-2030	
40	Dak Toa Hydropower Plant	5	2026-2030	
41	Dak Po Ne 4 Hydropower Plant	6	2026-2030	
42	Dak Glei Hydropower Plant	10,6	2026-2030	
43	Dak Piu 1 Hydropower Plant	4,5	2026-2030	
	Lai Chau Province	1.056,85		
1	Pa Ha Hydropower Plant	28	2023	In operation
2	Pa Tan 2 Hydropower Plant	20	2023	In operation
3	Nam Lan Hydropower Plant	15	2023	In operation
4	Nam Lum 2 Hydropower Plant	18	2023	In operation
5	Nam Nghe 1A Hydropower Plant	10	2023	In operation
6	Nam Xe Hydropower Plant	20	2023	In operation
7	Chu Va 2 Hydropower Plant	12	2023	In operation
8	Chang Phang Hydropower Plant	5	2023	In operation
9	Suoi Linh Hydropower Plant	5,2	2023	In operation
10	Huoi Van Hydropower Plant	8	2024	
11	Nam Xi Lung 2 Hydropower Plant	29	2024	
12	Kho Ha Hydropower Plant	22	2024	
13	Nam Cau 1 Hydropower Plant	13	2024	
14	Nam Cau Thuong Hydropower Plant	7	2024	
15	Nam Cum Hydropower Plant	7	2024	
16	Nam Bum 1A Hydropower Plant	9,5	2024	
17	Nam Cuoi 1 Hydropower Plant	19	2024	
18	Nam Cuoi Hydropower Plant	11	2024	
19	Nam Pi Hydropower Plant	10	2024	
20	Nam Pang 2 Hydropower Plant	11	2024	

21	Nam Chan Hydropower Plant	7,8	2024	
22	Nam Xe 2 Hydropower Plant	8	2024	
23	Nam Xe 2A Hydropower Plant	10	2024	
24	Vang Ma Chai 2 Hydropower Plant	19	2024	
25	Nam Dich 2 Hydropower Plant	9	2024	
26	Nam Mit Luong Hydropower Plant	6,8	2024	
27	Hua Be Hydropower Plant	10	2024	
28	Nam Be 2 Hydropower Plant	10	2024	
29	Muong Mit Hydropower Plant	11	2024	
30	Muong Kim 3 Hydropower Plant	18,5	2024	
31	Ta Pao Ho Hydropower Plant	10	2024	
32	Nam Cau Hydropower Plant	29,6	2024	
33	Nam Luong Hydropower Plant	21,5	2024	
34	Dong Pao Hydropower Plant	7,6	2024	
35	Pa Tan 1 Hydropower Plant	8	2024	
36	Ho Mit Hydropower Plant	5	2024	
37	Ta Pao Ho 1A Hydropower Plant	13,5	2024	
38	Nam Han Hydropower Plant	8	2024	
39	Nam Xi Lung 1B Hydropower Plant	11	2024	
40	La Si 1 Hydropower Plant	11	2024	
41	Tho Ma Hydropower Plant	6	2024	
42	Nam Puc Hydropower Plant	6	2024	
43	Ta Pao Ho 2 Hydropower Plant	5	2024	
44	Nam Chan 1 Hydropower Plant	5	2024	
45	Suoi Ngang Hydropower Plant	12	2024	
46	La Po Hydropower Plant	22	2024	
47	Chu Va 2A Hydropower Plant	8	2024	
48	Phieng Khon Hydropower Plant	18	2024	
49	Kha U 2 Hydropower Plant	15,5	2024	
50	Nam Mo 1A Hydropower Plant	30	2024	
51	Chu Va 12 Hydropower Plant (expanded)	1,8	2025	

52	Nam Xi Lung 2A Hydropower Plant	29,65	2025	
53	Tho Gu Hydropower Plant	30	2025	
54	Tho Gu 1 Hydropower Plant	10,2	2025	
55	Na An Hydropower Plant	10,2	2025	
56	Nam Ma 3 Hydropower Plant	11,5	2025	
57	Ta Pao Ho 1B Hydropower Plant	10,5	2025	
58	Vang Ma Chai 3 Hydropower Plant	21	2025	
59	Nam Xi Lung 1A Hydropower Plant	7,8	2025	
60	Nam Han 1 Hydropower Plant	18	2025	
61	Nam Bon 1 Hydropower Plant	10	2025	
62	Nam Cuoi 1A Hydropower Plant	7	2025	
63	Nam Cuoi 1B Hydropower Plant	7,5	2025	
64	Nam Cum 7 Hydropower Plant	6,5	2025	
65	Nam Ma 1A Hydropower Plant	16,6	2025	
66	Nam Ma 1B Hydropower Plant	14	2025	
67	Nam Ma 1C Hydropower Plant	10,5	2025	
68	Nam Ma 2A Hydropower Plant	11,5	2025	
69	Nam Ma 2B Hydropower Plant	13,8	2025	
70	Nam Cha 1 Hydropower Plant	24	2025	
71	Nam Cha 2 Hydropower Plant	4,4	2025	
72	Nam Cay Hydropower Plant	15	2025	
73	Pa Vay Su 1 Hydropower Plant	8,5	2025	
74	Nam Lon Hydropower Plant	10	2025	
75	Nam Mo 2 Hydropower Plant	17	2025	
76	Nam Lung Hydropower Plant (expanded)	5,4	2026-2030	
77	Nung Than 1 Hydropower Plant	30	2026-2030	
78	La Si 1A Hydropower Plant	28	2026-2030	
79	Nam Nga Hydropower Plant	24	2026-2030	
	Lang Son Province	68,8		
1	Ban Lai Hydropower Plant	7	2023	In operation
2	Ban Nhung Hydropower Plant	13	2024	

3	Trang Dinh Hydropower Plant	29,8	2026-2030	
4	Bac Giang (Vang Puoc) Hydropower Plant	14	2026-2030	
5	Deo Khach Hydropower Plant	5	2026-2030	
	Lao Cai Province	223,5		
1	Bao Nhai Hydropower Plant level 1 under Bao Nhai Hydropower Plant Project	14	2024	
2	May Ho Hydropower Plant	6,5	2024	
3	Nam Tha Ha Hydropower Plant	6	2025	
4	Nam Khoa 1-2 Hydropower Plant	15	2025	
5	Si Ma Cai Hydropower Plant	18	2025	
6	Nam Trung Ho 1 Hydropower Plant	20	2025	
7	Xuan Hoa Hydropower Plant	3,2	2026-2030	
8	Mong Sen 1 Hydropower Plant	4,5	2026-2030	
9	Ban Me Hydropower Plant	5	2026-2030	
10	Ngoi Phu 1A Hydropower Plant	6	2026-2030	
11	Suoi Chan Hydropower Plant	6,8	2026-2030	
12	Nam Cang 1A Hydropower Plant	10	2026-2030	
13	Ta Loi 1 Hydropower Plant	15	2026-2030	
14	Yen Ha Hydropower Plant	13	2026-2030	
15	Lan Bo Hydropower Plant	7,6	2026-2030	
16	Viet Tien Hydropower Plant	7	2026-2030	
17	Sa Phin Hydropower Plant	6	2026-2030	
18	Sang Ma Sao Hydropower Plant	12,5	2026-2030	
19	Hom Duoi Hydropower Plant	18	2026-2030	
20	Nam Ho Hydropower Plant	2	2026-2030	
21	Expanded Coc Dam Hydropower Plant	2,3	2026-2030	
22	Nam Mu Hydropower Plant	5	2026-2030	
23	Expanded Nam Pung Hydropower Plant	3,1	2026-2030	
24	Expanded Suoi Chan 2 Hydropower Plant	8	2026-2030	
25	Vo Lao Hydropower Plant	9	2026-2030	
	Lam Dong Province	96,2		
1	Da Chomo Hydropower Plant	9	2023	In operation

2	Dai Binh Hydropower Plant	15	2023	In operation
3	Da Sar Hydropower Plant	12	2023	In operation
4	Da Br'Len Hydropower Plant	6,2	2024	
5	Tan Thuong Hydropower Plant	22	2025	
6	Cam Ly Hydropower Plant	12	2025	
7	Bao Lam Hydropower Plant	10	2026-2030	
8	Da Huoai 2 Hydropower Plant	10	2026-2030	
	Ninh Thuan Province	40		
1	Phuoc Hoa Hydropower Plant	22	2026-2030	
2	Thuong Song Ong 2 Hydropower Plant	7	2026-2030	
3	Lam Son Hydropower Plant	11	2026-2030	
	Nghe An Province	57,8		
1	Chau Thon Hydropower Plant	29,8	2024	
2	Thong Thu Hydropower Plant	28	2026-2030	
	Phu Yen Province	36		
1	Khe Cach Hydropower Plant	12	2026-2030	
2	Son Hoa 1 Hydropower Plant	10	2026-2030	
3	Son Hoa 2 Hydropower Plant	14	2026-2030	
	Quang Binh Province	42		
1	Kim Hoa Hydropower Plant	22	2024	
2	La Trong Hydropower Plant	20	2026-2030	
	Quang Ngai Province	210,4		
1	Thach Nham Hydropower plant (combined hydropower and irrigation)	10	2024	
2	Tra Phong Hydropower Plant (Tra Phong 1A: 19MW; Tra Phong 1B: 11 MW)	30	2024	
3	Song Lien 1 Hydropower Plant	15	2024	
4	Ba Vi Hydropower Plant	9	2025	
5	Tra Khuc 1 Hydropower Plant	30	2025	
6	Tra Khuc 2 Hydropower Plant	30	2025	
7	Song Lien 2 Hydropower Plant	12	2025	
8	Dakdrinh 2 Hydropower Plant	21	2026-2030	

9	Tay Tra 1 Hydropower Plant	10	2026-2030	
10	Tay Tra 2 Hydropower Plant	9	2026-2030	
11	Tay Tra 3 Hydropower Plant	10	2026-2030	
12	Long Son Hydropower Plant	10,6	2026-2030	
13	Son Linh Hydropower Plant	7	2026-2030	
14	Son Nham Hydropower Plant	6,8	2026-2030	
	Thua Thien Hue Province	9		
1	Ho Truoi Hydropower Plant	6	2026-2030	
2	Song Bo 1 Hydropower Plant	3	2026-2030	
	Tuyen Quang Province	27,2		
1	Hung Loi 1 Hydropower Plant	8	2026-2030	
2	Hung Loi 2 Hydropower Plant	3,5	2026-2030	
3	Thac Giom Hydropower Plant	5,4	2026-2030	
4	Hung Loi 3 Hydropower Plant	3,3	2026-2030	
5	Suoi Ba 2 Hydropower Plant	4	2026-2030	
6	Khuan Co Hydropower Plant	3	2026-2030	
	Thanh Hoa Province	46,5		
1	Song Am Hydropower Plant	14	2026-2030	
2	Ten Tan Hydropower Plant	12	2026-2030	
3	Xuan Khao Hydropower Plant	7,5	2026-2030	
4	Muong Min Hydropower Plant	13	2026-2030	
	Yen Bai Province	274,1		
1	Chi Lu Hydropower Plant	15	2023	In operation
2	Thao Sa Chai Hydropower Plant	6,5	2023	In operation
3	Hanh Phuc Hydropower Plant	7	2024	
4	Mi Hang Tau Hydropower Plant	4,6	2024	
5	Nam Tang 3 Hydropower Plant	17,5	2024	
6	De Dinh Mao Hydropower Plant	22	2024	
7	Thac Ba 2 Hydropower Plant	18,9	2025	
8	Phin Ho 2 Hydropower Plant	10	2025	
9	Nam Tuc Hydropower Plant Grade I	21	2025	

10	Ban Liu Hydropower Plant	3	2026-2030	
11	Chan Thinh Hydropower Plant	10	2026-2030	
12	Tan Linh Hydropower Plant	22	2026-2030	
13	Ngoi Hut 8 Hydropower Plant	11	2026-2030	
14	Nam Puoi Hydropower Plant	15	2026-2030	
15	Chong Khua Hydropower Plant	9,5	2026-2030	
16	Nha Trang Hydropower Plant	2,6	2026-2030	
17	Dong Ngai Hydropower Plant	9	2026-2030	
18	Ho Bon 2 Hydropower Plant	5	2026-2030	
19	Phong Du Ha Hydropower Plant	16	2026-2030	
20	Phong Du Thuong Hydropower Plant	22	2026-2030	
21	Dao Sa Hydropower Plant	15,5	2026-2030	
22	Nam Bung Hydropower Plant	11	2026-2030	

Table 11: List of biomass power projects

No.	Project	Capacity (MW)	Year of operation	Note
	Ca Mau Province	24		
1	Khan An Biomass Power Plant	24	2026-2030	
	Lang Son Province	30		
1	Bac Son Biomass Power Plant	12	2026-2030	
2	Lang Son Biomass Power Plant	18	2026-2030	
	Yen Bai Province	108		
1	Yen Bai 1 Biomass Power Plant	50	2026-2030	
2	Truong Minh Biomass Power Plant	58	2026-2030	
	Tuyen Quang Province	50		
1	Tuyen Quang Biomass Power Plant	50	2023-2030	
	Nghe An Province	10		
1	Quy Hop Biomass Power Plant	10	2026-2030	
	Ha Tinh Province	5		
1	Hung An Biomass Power Plant	5	2026-2030	

	Binh Phuoc Province	10		
1	Binh Phuoc Biomass Power Plant	10	2026-2030	
	Dong Nai Province	12		
1	Ajinomoto Bien Hoa Biomass Power Plant	12	2026-2030	
	Vinh Long Province	10		
1	Biomass Power Plant	10	2026-2030	
	Ben Tre Province	10		
1	Ben Tre Biomass Power Plant	10	2026-2030	
	Hau Giang Province	30		
1	Hau Giang Biomass Power Plant	20	2026-2030	
2	Hau Giang rice husk-fired power plant	10	2026-2030	

Table 12: List of waste-to-energy power projects

No.	Project	Capacity (MW)	Year of operation	Note
	Bac Ninh Province	36,7		
1	Investment project to build an industrial waste and domestic solids treatment complex	6,1		In operation
2	Investment project to build a hi-tech domestic solid waste treatment plant that generates energy	11,6		In operation
3	Investment project to build a hi-tech domestic solid waste treatment plant that generates energy	13		In operation
4	Project of domestic solid waste treatment area focusing on electricity generation	6		In operation
	Lang Son Province	11		
1	Lang Son Waste-To-Energy Power Plant	11	2026-2030	
	Nam Dinh Province	15		
1	Greenity Nam Dinh Waste-to-Energy Power Plant	15	2023-2025	Under construction
	Hai Phong City	40		

1	Domestic solid waste treatment plant using waste incineration technology to generate electricity	20	2026-2030	At Tan Duong town
2	Dinh Vu (Phase 1) domestic solid waste treatment plant using waste incineration technology to generate electricity	20	2026-2030	
	Thanh Hoa Province	18		
1	Domestic Waste-to-Energy Plant Thanh Hoa	18	2026-2030	
	Ha Tinh Province	30		
1	Waste treatment and power generation plant	30	2026-2030	Hong Loc town, Loc Ha district, Ha Tinh province
	Phu Yen Province	15		
1	Trung An waste treatment and power generation plant	15	2026-2030	
	Binh Phuoc Province	15		
1	Tan Hung Hon Quan Waste-to-Energy Plant	15	2026-2030	
	Dong Nai Province	66		
1	Vinh Tan Waste-to-Energy Power Plant - phase 1	20	2026-2030	
2	Quang Trung Waste-to-Energy Power Plant	7,5	2026-2030	
3	W2E Dong Nai Waste-to-Energy Power Plant - phase 1	20	2026-2030	
4	Dinh Quan Waste-to-Energy Power Plant - phase 1	18,5	2026-2030	
	Ba Ria - Vung Tau Province	30		
1	Ba Ria – Vung Tau Waste-to-Energy Power	5	2026-2030	
2	Toc Tien 02 Waste-to-Energy Power	20	2026-2030	
3	Toc Tien Waste-to-Energy Power	5	2026-2030	Investment guidelines issued
	Soc Trang Province	16		
1	Solid Waste-to-Energy Power Plant	16	2026-2030	
	Ben Tre Province	15		
1	Solid Waste-to-Energy Power Plant	15	2026-2030	

	Tien Giang Province	10		
1	Tien Giang Waste-to-Energy Power Plant	10	2026-2030	
	Vinh Long Province	14		
1	Waste-to-Energy Power Plant	14	2026-2030	Generating electricity using solid waste
	Kien Giang Province	14		
1	Hon Dat Waste-to-Energy Power Plant	10	2026-2030	
2	Phu Quoc Waste-to-Energy Power Plant	4	2026-2030	
	Ca Mau Province	16		
1	Ca Mau City Waste-to-Energy Power Plant	4	2026-2030	
2	Nam Can Waste-to-Energy Power Plant	6	2026-2030	
3	U Minh Waste-to-Energy Power Plant	6	2026-2030	

Table 13: List of solar power projects considered after 2030 to be executed in the planning period if executed in the form of self-generation and self-consumption

No.	Project	Capacity (MW)	Province/City
1	An Cu Solar Power	40	An Giang
2	Hong Liem 6.1 Solar Power	40	Binh Thuan
3	Ayun Pa Solar Power	20	Gia Lai
4	Ninh Sim Solar Power	32	Khanh Hoa
5	Ia Rsum - Bitexco - Tona Solar Power	11,84	Gia Lai
6	Dam An Khe Solar Power	40	Quang Ngai
7	Dam Nuoc Man Solar Power	40	Quang Ngai
8	Loc Thanh 1.1 Solar Power	40	Binh Phuoc
9	Hai Ly Binh Phuoc 1 Solar Power	40	Binh Phuoc
10	Song Binh Solar Power	200	Binh Thuan
11	Tan Xuan Solar Power	23,61	Binh Thuan
12	Easup 1 Solar Power	40	Dak Lak
13	Ia Lop 1 Solar Power	40	Dak Lak
14	KN Buon Tua Srah Floating Solar Power	312	Dak Nong

15	Cu Knia Solar Power	144	Dak Nong
16	Ea Tling Solar Power	76	Dak Nong
17	Xuyen Ha Solar Power	104	Dak Nong
18	KN Tri An Floating Solar Power	928	Dong Nai
19	Tri An Solar Power	101	Dong Nai
20	Phuoc Trung Solar Power	40	Ninh Thuan
21	Phuoc Huu 2 Solar Power	184	Ninh Thuan
22	Xanh Song Cau Solar Power	150	Phu Yen
23	Khe Go Lake Solar Power	200	Nghe An
24	Vuc Mau Lake Floating Solar Power	160	Nghe An
25	Tam Bo Solar Power	40	Lam Dong
26	Phong Hoa Solar Power	40	Thua Thien Hue
27	Remainder of Dau Tieng Project	1.050	Tay Ninh
	Total capacity	4.136,25	

APPENDIX IV

PROGRAM FOR POWER SUPPLY IN RURAL, MOUNTAINOUS AND ISLAND AREAS
(Enclosed with the plan under the Prime Minister's Decision No. 262/QĐ-TTĐ dated April 01, 2024)

No.	List of projects/provinces under Program	Total capital demand (VND billion)	Objective				Quantity			Note
			Number of households supplied (household)	Number of villages	Number of communes	Number of pumping stations supplied	Electrical substations (substation)	Medium voltage line (km)	Low voltage line (km)	
	Total (I+II+III)	29.779	911.400	14.647	3.097	2.478	14.473	14.334,2	24.399,5	
I	Power supply to rural and mountainous and island areas	22.756	906.600	14.640	3.093	2.478	14.454	14.190	24.391	
1	Lai Chau	491	11.124	341	59		80	212	209	
2	Dien Bien	623	12.832	109	15		45	116	102	
3	Ha Giang	1.241	29.587	499	98		207	423	618	
4	Son La	545,9	12.146	442	118		142	154	466	
5	Cao Bang	283	8.087	257	67		181	536	719	
6	Lao Cai	978	26.878	144	55		131	301	442	
7	Yen Bai	522	13.218	189	52		197	433	483	
8	Bac Kan	341	8.828	139	48		73	251	235	

9	Lang Son	597	18.088	166	45		62	209	453	
10	Tuyen Quang	215	6.156	534	111		176	276	906	
11	Thai Nguyen	204	6.809	94	41		87	52	101	
12	Phu Tho	81	2.477	71	26		45	29	49	
13	Bac Giang	741	29.634	708	157		697	352	1.117	
14	Hoa Binh	164	5.470	114	42		57	50	224	
15	Thanh Hoa	523	17.428	55	14		55	154	110	
16	Nghe An	640	18.581	154	48		136	439	253	
17	Ha Tinh	379	12.645	274	112		190	140	730	
18	Quang Binh	182	6.272	271	60		96	187	300	
19	Quang Tri	39	508	34	8		64	9	43	
20	Thua Thien Hue	449	22.453	561	89		121	74	648	
21	Quang Nam	579	19.219	118	35		111	135	152	
22	Quang Ngai	621	30.475	241	20		31	87	37	
23	Binh Dinh	352	15.208	323	54		82	86	460	
24	Phu Yen	286	14.315	327	61		109	68	331	
25	Hai Phong	30,4					-			
26	Gia Lai	971	35.998	848	166		564	355	1.277	
27	Kon Tum	384	12.157	203	33		87	106	158	
28	Dak Lak	752	26.825	824	129		422	492	1.359	
29	Dak Nong	581	24.185	374	47		140	200	415	
30	Lam Dong	560	20.096	446	66		164	251	494	
31	Binh Thuan	734	33.383	654	95		1.015	1.018	1.321	
32	Binh Phuoc	490	27.201	519	79		449	397	855	
33	Tay Ninh	131	7.254	134	48		145	160	236	
34	Ben Tre	340	22.694	352	102		172	134	299	
35	Tra Vinh	311	20.393	321	84	3	321	190	514	
36	An Giang	503	26.252	361	113	374	873	342	869	
37	Kien Giang	1.195	36.547	538	83	255	1.841	1.547	1.289	
38	Can Tho	446	29.719	164	17		61	79	137	
39	Soc Trang	425	25.375	452	82		318	505	1.293	
40	Bac Lieu	981	42.066	295	46	406	1.008	797	769	
41	Long An	484	21.571	272	110	486	750	786	435	
42	Tien Giang	228	14.234	275	85	175	536	327	617	
43	Vinh Long	193	14.516	369	73	11	253	143	296	
44	Dong Thap	741	44.970	414	89	415	994	673	1.168	
45	Hau Giang	412	14.280	256	44	313	427	407	302	
46	Ca Mau	787	58.427	404	67	40	739	507	1.101	
II	Power supply to islands	6.925	4.800	7	4	-	19	144	9	
1	Con Co Island - Quang Tri	627	180	1	1					

	22 kV terrestrial underground cable							2		
	22 kV submarine cable							26		
	22 kV line on the island						3	5	6	
2	Supply of renewable power in Khanh Hoa Province	15								Ninh Tan, Ninh Dao, Diep Son island village, Van Thanh commune; Bich Dam island
3	Supply of renewable power in Kien Giang Province	50								Tho Chau Island
4	Power supply to An Son - Nam Du island, Kien Giang	1.433	2.112	5	2					
	22 kV submarine cable							39		
	22 kV medium voltage line						18	7	9	
5	Power supply to Con Dao, Ba Ria - Vung Tau	4.800	2.500	1	1					
	110 kV submarine cable							78		
	110 kV terrestrial underground cable							15		
	10 kV overhead line							5		
	110 kV electrical substation						1			
	22 kV connected medium voltage line							1		
III	Backup	97								

APPENDIX V

LIST OF TRANSMISSION GRID PROJECTS

(Enclosed with the Prime Minister's Decision No. 262/QĐ-TTg dated April 01, 2024)

Table 1: List of new and renovated 500 kV electrical substations

No.	Name of electrical substation	Capacity (MVA)	Type	Operation schedule		State invested	Considered for private sector involvement	Note
				2023-2025	2026-2030			
I	North							
1	West of Hanoi	1.800	Renovated	X		X		

2	Long Bien	1.800	New		X	X		
3	Son Tay	900	New		X	X		
4	Dan Phuong	1.800	New		X	X		
5	South of Hanoi	900	New		X	X		
6	Hai Phong	1.800	New		X	X		
7	Gia Loc	900	New		X	X		
8	Pho Noi	1.800	Renovated		X	X		
9	Hung Yen	900	New		X	X		
10	Nam Dinh	2.700	New		X	X		Name in the adjusted PDP VII is 500 KV substation Nam Dinh Thermal Power. Reserving land for future connecting 220 kV substation.
11	Thai Binh	1.200	New	X		X		
12	Nho Quan	1.800	Renovated	X		X		Completed
13	Hoa Binh 2	Switching station	New		X	X		Connected to Lao electricity
14	Lao Cai	2.700	New	X		X		Considered for transformer 3 installation depending on small-scale hydropower development and purchase of power from China
15	Thai Nguyen	900	New		X	X		
16	Viet Tri	1.800	Renovated		X	X		
17	Vinh Yen	1.800	New	X		X		
18	Bac Giang	900	New		X	X		
19	Yen The	900	New		X	X		
20	Bac Ninh	1.800	New		X	X		
21	Quang Ninh	1.200	Renovated	X		X		
22	Lai Chau	2.700	Renovated	X	X	X		Transformer 1,2 (2x900 MVA); 2021 - 2025

								period Transformer 3 (900 MVA); 2026-2030 period; Synchronizing local power source with power imported from Laos
23	Son La	2.700	Renovated		X	X		
24	Hoa Binh	1.800	Renovated		X	X		
25	Thanh Hoa	1.800	New	X	X	X		2021-2025 period: 1200 MVA 2026-2030 period: 1800 MVA
26	Nghi Son	1.800	Renovated		X	X		
27	Nam Cam	Switching station	New		X	X		500 kV switching station, connected on a single 500 kV line of Vung Ang - Nho Quang (new)
28	Quynh Luu	1.800	New	X		X		
29	Bac Bo 1	1.800	New		X		X	Synchronized depending on scale and availability of local power sources
30	Bac Bo 2	1.800	New		X		X	Synchronized depending on scale and availability of local power sources
31	Bac Bo 3	900	New		X		X	Synchronized depending on scale and availability of local power sources
32	Lang Son	1.800	New		X		X	Synchronized depending on scale and availability of local power sources
33	Reserved for additional 500 kV electrical	1.800	New and renovated		X	X	X	Reserved for load growth and power source development

	substation newly built or renovated							
34	Installing reactors and capacitors when energizing 500 kV circuit 3-line from Quang Trach - Pho Noi			X		X		<p>- Newly constructed power transmission grid projects or recently added investment projects to improve transmission grid capacity and ability to control and operate the power system.</p> <p>- Installing reactors and capacitors when the 500 kV Quynh Luu, 500 kV Nam Dinh, 500 kV Thai Binh substations are not synchronized in due course so as to maintain the load capacity and other technical factors upon energization. (Document No. 6127/EVNNPT-KH+DT dated December 21, 2023 of the National Power Transmission Corporation.</p>
35	Constructions and projects improving the ability to control and operate electrical substations and power system			X	X	X	X	<p>Including but not limited to projects that: Replace, install reactors, capacitors, SVC, SVG, FACTS equipment, BESS, synchronous compensators, etc.; expand feeder bays in substations, renovate, improve graphs of substations in a flexible manner; install short-circuit current limiters, replace and upgrade devices to resist short-</p>

								circuit currents, establish automatic circuit; install, replace equipment, control system, SCADA/ EMS, SCADA/DMS systems, automate the station, etc. The scale and location will be decided when setting up the project
II Central								
1	Lao Bao (Huong Hoa)	1.800	New		X	X		Relieving local power sources. Proposed land reservation for future expansion.
2	Quang Tri 2 switching station	Switching station	New		X	X		Switching on circuit 3 and 4 (Quang Trach - Doc Soi)
3	Quang Tri	900	New	X		X		
4	Quang Binh	900	New		X		X	Synchronizing local power source
5	Thanh My	1.800	Renovated		X	X		
6	Doc Soi	1.200	Renovated	X		X		
7	Binh Dinh	900	New		X	X		Preventing overload, relieving local power sources
8	Van Phong	1.800	New		X	X		Connected to distribution yard of Van Phong 1 Thermal Power Plant
9	Pleiku 2	1.800	Renovated	X		X		Preventing overload, relieving the source capacity
10	Krong Buk	1.800	New	X		X		Preventing overload, relieving the source capacity
11	Dak Nong	1.800	Renovated	X		X		
12	Da Nang	1.800	Renovated		X	X		
13	Dung Quat	900	New		X	X		Considering prioritizing

								the construction of Dung Quat 220 kV distribution yard and 220 kV connecting line supplying power to Dung Quat 2 220 kV substation in the 2021-2025 period
14	Kon Tum	Switching station	New		X	X		500 kV switching station connected to Lao electricity when increasing the import of electricity from Southern Laos
15	Nhon Hoa	1.800	New	X	X		X	Transformer 1 (900 MVA): 2021-2025 period Transformer 2 (900 MVA): 2026-2030 period.
16	Reserved for additional 500 kV electrical substation newly built or renovated	1.800	New and renovated		X	X	X	Reserved for load growth and power source development
17	Constructions and projects improving the ability to control and operate electrical substations and power system			X	X	X	X	Including but not limited to projects that: Replace, install reactors, capacitors, SVC, SVG, FACTS equipment, BESS, synchronous compensators, etc.; expand feeder bays in substations, renovate, improve graphs of substations in a flexible manner; install short-circuit current limiters, replace and upgrade devices to resist short-circuit currents,

								establish automatic circuit; install, replace equipment, control system, SCADA/ EMS, SCADA/DMS systems, automate the station, etc. The scale and location will be decided when setting up the project
III South								
1	Ninh Son	1.800	New		X	X		Relieving local power sources
2	Son My	900	New		X		X	Communication transformers in Son My Electricity Center, synchronized with Son My II Thermal Power Plant
3	Hong Phong	900	New		X	X		Synchronized depending on scale and availability of local power sources
4	South Central Coast 1	1.800	New		X		X	Synchronized depending on scale and availability of local power sources
5	South Central Coast 2	1.800	New		X		X	Synchronized depending on scale and availability of local power sources
6	Cu Chi	1.800	New	X	X	X		Transformer 1 (900 MVA): 2021-2025 period Transformer 2 (900 MVA): 2026-2030 period
7	Tay Ninh 1	1.800	New		X	X		
8	Tay Ninh 2	900	New		X	X		
9	Binh Duong 1	1.800	New	X		X		

10	Long Thanh	1.800	Renovated		X	X		
11	Dong Nai 2	1.800	New	X		X		
12	North of Chau Duc	1.800	New		X	X		
13	Long An	1.800	New	X		X		
14	Tien Giang	900	New		X	X		
15	Thot Not	1.800	New	X	X	X		Transformer 1 (900 MVA): 2021-2025 period Transformer 2 (900 MVA): 2026-2030 period
16	Long Phu	1.500	New		X	X		Relieving local power sources.
17	Bac Lieu	1.800	New		X		X	Synchronized depending on scale and availability of local power sources
18	Di Linh	1.800	Renovated		X	X		Relieving local power sources
19	Thuan Nam	2.700	Renovated		X		X	Relieving local power sources
20	Nha Be	1.800	Renovated	X		X		
21	Cau Bong	2.700	Renovated		X	X		
22	Chon Thanh	1.800	Renovated	X		X		
23	Tan Uyen	2.700	Renovated		X	X		
24	Tan Dinh	2.700	Renovated		X	X		
25	Song May	2.700	Renovated	X		X		
26	Phu My	900	Renovated		X	X		
27	Duc Hoa	1.800	Renovated	X		X		
28	O Mon	1.800	Renovated	X		X		
29	Duyen Hai	900	Renovated		X	X		Relieving local power sources
30	Southern region 1		New		X		X	Synchronized depending on the scale and progress of the

								Southern offshore wind power source, expected capacity of 900 MVA, not included in the load of the 500 kV backup substation
31	Southern region 2		New		X		X	Synchronized depending on the scale and progress of the Southern offshore wind power source, expected capacity of 900 MVA, not included in the load of the 500 kV backup substation
32	Reserved for additional 500 kV electrical substation newly built or renovated	2.100	New and renovated		X	X	X	Reserved for load growth and power source development
33	Designing flexible graphs for busbar segments for 500 kV Ca Na LNG Distribution Yard				X		X	Limiting short-circuit currents, increasing electricity supply reliability
34	Installing 500 kV shunt reactors to optimize compensation capacity after having 500 kV circuit 3-line			X		X		<p>- Newly constructed power transmission grid projects or recently added investment projects to improve transmission grid capacity and ability to control and operate the power system.</p> <p>- Optimizing compensation capacity after having 500 kV circuit 3-line.</p> <p>Maintaining voltage at</p>

								110 kV/220 kV/500 kV. Minimize the operation time of hydroelectric generating units with synchronous compensation regime to absorb/generate reactive power to regulate voltage, causing loss of received electricity for compensation (Document No. 6127/EVNNPT-KH+DT dated 21/ December 2023 of the National Power Transmission Corporation).
35	Constructions and projects improving the ability to control and operate electrical substations and power system			X	X	X	X	Including but not limited to projects that: Replace, install reactors, capacitors, SVC, SVG, FACTS equipment, BESS, synchronous compensators, etc.; expand feeder bays in substations, renovate, improve graphs of substations in a flexible manner; install short-circuit current limiters, replace and upgrade devices to resist short-circuit currents, establish automatic circuit; install, replace equipment, control system, SCADA/ EMS, SCADA/DMS systems, automate the station, etc. The scale and location will be decided when setting up the project

Table 2: List of new and renovated 500 kV lines

No.	Name of line	Number of circuits	X	km	Type	Operation schedule		State invested	Considered for private sector involvement	Note
						2023 - 2025	2026 - 2030			
I	North									
1	West of Hanoi - Thuong Tin	2	X	40	New	X		X		Completed. Connected to 500 kV Western Hanoi substation
2	2 nd Circuit in Nho Quan - Thuong Tin	1	X	75	New	X		X		Converting ingle circuit into double circuit
3	Hai Phong - Thai Binh	2	X	35	New		X	X		Connected to 500 kV Hai Phong substation
4	Nam Dinh I Thermal Power Plant - Pho Noi	2	X	123	New	X		X		The Project “500 kV Line of Nam Dinh I Thermal Power Plant - Pho Noi” is agreed upon and named according to this Decision, thereby replacing all names of the Project present in other legal documents such as: 500 kV line of Nam Dinh 1 Thermal Power - Pho Noi, 500 kV Line of Nam Dinh 1 - Pho Noi, etc.
5	Nam Dinh I - Thanh Hoa Thermal Power Plant	2	X	73	New	X		X		The Project “Nam Dinh I - Thanh Hoa Thermal Power Plant 500 kV Line” is agreed upon and

									named according to the Decision approving investment guidelines No. 1241/QĐ-TTg dated October 24, 2023, thereby replacing all names of the Project present in other legal documents such as: 500 kV line of Nam Dinh 1 - Thanh Hoa Thermal Power, 500 kV Nam Dinh 1 - Thanh Hoa Line, etc.
6	Thai Binh - Branch to Nam Dinh I - Pho Noi Thermal Power Plant	4	X	2	New	X		X	Connected to 500 kV Thai Binh substation
7	Lao Cai - Vinh Yen	2	X	210	New	X		X	Connected to 500 kV Lao Cai substation, relieving small-scale hydropower and expecting purchase of electricity from China
8	Vinh Yen - Branch to Son La - Hiep Hoa and Viet Tri - Hiep Hoa	4	X	5	New	X		X	Connected to 500 kV Vinh Yen substation
9	Bac Ninh - Branch to Dong Anh - Pho Noi	2	X	3	New	X		X	Connected to 500 kV Bac Ninh substation
10	Connected to expanded Hoa Binh Hydropower	2	X	2	New	X		X	Synchronizing expanded Hoa Binh Hydropower, switching over Hoa Binh - Nho Quan
11	Thanh Hoa	2	X	5	New	X		X	Connected to 500 kV

	- Nho Quan - Ha Tinh								Thanh Hoa substation, ensuring electricity supply
12	Cong Thanh - Branch to Nghi Son - Nho Quan Thermal Power	2	X	5	New		X	X	Synchronizing Cong Thanh Thermal Power
13	Quynh Luu - Thanh Hoa	2	X	91	New	X		X	Increasing capacity for transmission between North Central Coast and Northern Region, replacing Quynh Lap - Thanh Hoa Thermal Power Line
14	Quang Trach - Quynh Luu	2	X	226	New	X		X	Increasing capacity for transmission between North Central Coast and Northern Region, replacing 500 kV Vung Ang 3 - Quynh Lap Thermal Power Line
15	Vung Ang - Branch to Ha Tinh - Da Nang (M3,4)	2	X	16	New	X		X	Switching on 500 kV Ha Tinh - Da Nang line, 2 nd circuit
16	Vung Ang - Quang Trach	2	X	33	New	X		X	Completed
17	Long Bien - Branch to Pho Noi - Thuong Tin	2	X	5	New		X	X	Connected to 500 kV Long Bien substation
18	West of Hanoi - Vinh Yen	2	X	44	New		X	X	
19	South of Hanoi - Branch to	4	X	5	New		X	X	Connected to 500 kV Southern Hanoi substation

	Nho Quan - Thuong Tin								
20	Dan Phuong - Branch to West of Hanoi - Vinh Yen	4	X	5	New		X	X	Connected to 500 kV Dan Phuong substation
21	Son Tay - Dan Phuong	2	X	20	New		X	X	Connected to 500 kV Son Tay substation
22	Gia Loc - Branch to Thai Binh - Pho Noi	4	X	13	New		X	X	Connected to 500 kV Gia Loc substation
23	Hung Yen - Branch to Nghien Son LNG - Long Bien	4	X	5	New		X	X	Connected to 500 kV Hung Yen substation
24	500 kV Hoa Binh 2 Switching Station - Branch to Hoa Binh - Nho Quan	4	X	5	New		X	X	Connected to 500 kV Hoa Binh 2 Switching Station
25	Sam Nuea - 500 kV Hoa Binh 2 switching station	2	X	110	New		X	X	Connected to Lao power source, 110 km in length in Vietnamese territory
26	500 kV Hoa Binh 2 switching station - West of Hanoi	2	X	80	New		X	X	Relieving capacity of Lao hydropower
27	Lang Son - Branch to Bac Bo 3 - Thai Nguyen	4	X	5	New		X	X	Synchronized depending on scale and availability of local power sources. If 500 kV Bac Bo 3 - Thai Nguyen line is behind schedule, build state-invested

									500 kV double-circuit Lang Son - Yen The line of 110 km in length in advance.
28	Hiep Hoa - Thai Nguyen	2	X	34	New		X	X	Connected to 500 kV Thai Nguyen substation
29	Bac Giang - Bac Ninh	2	X	40	New		X	X	
30	Bac Giang - Branch to Quang Ninh - Hiep Hoa	4	X	5	New		X	X	Connected to 500 kV Bac Giang substation
31	Yen The - Branch to Bac Bo 3 - Thai Nguyen	4	X	10	New		X	X	Connected to 500 kV Yen The substation. If 500 kV Bac Bo 3 - Thai Nguyen line is behind schedule, build 500 kV double-circuit Yen The - Thai Nguyen line of 70 km in length in advance.
32	Quang Ninh I LNG - Quang Ninh	2	X	30	New		X	X	
33	Renovating Vung Ang - Nho Quan (1 st circuit)	2	X	360	Renovated		X	X	Converting existing 500 kV line into double-circuit line, considered for connection to 500 kV Hoa Binh 2 Switching station
34	Nam Cam - Branch to Vung Ang - Nho Quan	2	X	12	New		X	X	Switching on single circuit Vung Ang - Nho Quan line
35	Quang Trach II LNG - Quang Trach	2	X	1	New		X	X	Synchronizing Quang Trach II LNG

36	Bac Bo 1 - Hai Phong	2	X	25	New		X	X	Synchronized depending on scale and availability of local power sources
37	Bac Bo 3 - Thai Nguyen	2	X	250	New		X	X	Synchronized depending on scale and availability of local power sources If the 500 kV Lang Son substation is constructed in advance, build a new state-invested 500 kV double-circuit Bac Bo 3 – Lang Son line of 80 km in length.
38	Bac Bo 2 - Thai Binh	2	X	50	New		X	X	Synchronized depending on scale and availability of local power sources
39	Nghi Son LNG - Long Bien	2	X	212	New		X	X	Synchronizing Nghi Son LNG
40	Nghi Son LNG - Quynh Lap LNG	2	X	25	New		X	X	Synchronizing Quynh Lap LNG
41	Connected to Quynh Lap LNG	2	X	20	New		X	X	Build a new 500 kV double-circuit Quynh Lap LNG line - Quynh Luu, synchronizing Quynh Lap LNG.
42	Connected to 500 kV Quynh Luu substation	4	X	1	New	X		X	Switching on 500 kV Quang Trach - Quynh Luu - Thanh Hoa line (because the segment Quang Trach - Thanh Hoa is constructed in advance). Being part of the backup 500

									kV line.	
43	Reserved for additional 500 kV line newly built or renovated			400	New and renovated		X	X	X	Reserved for load growth and power source development
II Central										
1	Quang Trach - Doc Soi	2	X	500	New		X		X	Completed
2	Quang Tri - Branch to Vung Ang - Da Nang	4	X	6	New		X		X	Connected to 500 kV Quang Tri substation
3	Quang Tri 2 Switching Station - Branch to Quang Trach - Doc Soi	4	X	5	New		X		X	Connected to Quang Tri 2 switching station
4	Lao Bao - 500 kV Quang Tri 2 switching station	2	X	31	New		X		X	Connected to 500 kV Lao Bao substation
5	Quang Binh - Branch to Vung Ang - Quang Tri	4	X	5	New		X		X	Connected to 500 kV Quang Binh substation
6	Monsoon - Thanh My	2	X	45	New		X		X	Synchronized with Monsoon Wind Power (Laos)
7	Thanh My - Branch to Quang Trach - Doc Soi	4	X	35	New		X		X	Connected to 500 kV Thanh My substation
8	Dung Quat CCGT -	2	X	8	New		X		X	

	Doc Soi								
9	Dung Quat CCGT - Binh Dinh	2	X	200	New		X	X	Relieving capacity of Dung Quat CCGT. Replacing 500 kV Central region CCGT line under adjusted PDP VII
10	Binh Dinh - Krong Buk	2	X	216	New		X	X	Connected to 500 kV Binh Dinh substation.
11	Van Phong I - Thuan Nam Thermal Power Plant	2	X	157	New	X		X	Completed Synchronizing Van Phong 1 Thermal Power Plant
12	Expanded Ialy hydropower - Ialy hydropower	1	X	2	New	X		X	Synchronizing expanded Ialy hydropower
13	Nhon Hoa - Branch to Pleiku - Dak Nong	2	X	4	New	X		X	Connected to 500 kV Nhon Hoa substation to group renewable energy power plants, including Nhon Hoa 1 (50 MW), Nhon Hoa 2 (50 MW) wind power plants and adjacent renewable energy sources. Approved according to Document No. 323/TTg-CN dated March 17, 2021 of the Prime Minister and Document No. 1301/BCT-DL dated March 11, 2021 of the Ministry of Industry and Trade
14	Krong Buk - Branch to Pleiku 2 - Chon Thanh	4	X	2	New	X		X	Connected to 500 kV Krong Buk substation

15	Quang Tri Thermal Power Plant - Quang Tri	2	X	17	New		X	X		
16	Xebanghieng Power Plant complex (Laos) - 500 kV Lao Bao	2	X	20	New		X	X		Synchronizing Xebanghieng Power Plant complex (Laos), whole line of 45 km, including 20 km in Vietnamese territory
17	Central Region CCGT - Doc So	2	X	18	New		X	X		Synchronizing Central Region CCGT
18	Van Phong - Binh Dinh	2	X	224	New		X	X		
19	Hatsan (Laos) - Kon Tum	2	X	100	New		X	X		In case of increasing the purchase of electricity from Laos
20	Kon Tum – branch to Thanh My - Pleiku 2	4	X	5	New		X	X		Connected to 500 kV Kon Tum switching station, in case of increasing the purchase of electricity from Laos
21	Converting Thanh My - Pleiku 2 into double circuit	2	X	199	New		X	X		Renovating 1 st circuit, connected to 500 kV Pleiku switching station. Increasing transmission capability, reserved for connection to power source from Laos
22	Krong Buk - Tay Ninh 1	2	X	313	New		X	X		
23	2 nd Circuit in Da Nang - Doc Soi	2	X	100	New		X	X		Building new 2 nd circuit, renovating 1 st circuit, in case of failure to expand

									feeder bay of Doc Soi, connecting 2 nd circuit to Central Region CCGT	
24	Hai Lang LNG - Quang Tri Thermal Power Plant	2	X	6	New		X	X	Synchronizing Hai Lang LNG phase 1, in case Quang Tri Thermal Power Plant is behind schedule, build in advance around 23-km Hai Lang LNG - Quang Tri line connected to Hai Lang LNG phase 1.	
25	Reserved for additional 500 kV line newly built or renovated			33 6	New and renovated		X	X	X	Reserved for load growth and power source development
III South										
1	Ninh Son - Branch to Van Phong I Thermal Power Plant - Thuan Nam	4	X	18	New		X	X		Connected to 500 kV Ninh Son substation
2	Ninh Son - Chon Thanh	2	X	27 5	New		X	X		Relieving capacity of power sources. Replacing 500 kV Thuan Nam - Chon Thanh line approved under the Document No. 1891/TTg-CN dated December 27, 2018 to facilitate the investment, construction, management and operation.
3	Cu Chi - Branch to	2	X	16	New		X		X	Connected to 500 kV Cu Chi substation

	Chon Thanh - Duc Hoa								
4	Tay Ninh 1 - Branch to Chon Thanh - Duc Hoa	4	X	2	New		X	X	Connected to 500 kV Tay Ninh 1 substation
5	Binh Duong 1 - Branch to Song May - Tan Dinh	2	X	35	New		X	X	Connected to 500 kV Binh Duong 1 substation
6	Binh Duong 1 - Chon Thanh	2	X	17	New		X	X	Establishing loop network, increasing electricity supply reliability in the Southeast region
7	Long Thanh - Branch to Phu My - Song May	2	X	17	New		X	X	Completed. Connected to 500 kV Long Thanh substation
8	Dong Nai 2 - Branch to Vinh Tan - Song May	4	X	5	New		X	X	Switching on circuit 3 and 4 of 500 kV Vinh Tan - Branch to Song May - Tan Uyen line
9	Nhon Trach 4 Power Plant - Branch to Phu My - Nha Be	2	X	4	New		X	X	Synchronizing Nhon Trach 4 Power Plant; selecting conductor of a proposed cross section appropriate to cross section of 500 kV Phu My - Nha Be line after improving load capacity
10	North of Chau Duc - Branch to Phu My - Song May and Phu My - Long Thanh	4	X	11	New		X	X	Connected to 500 kV Northern Chau Duc substation
11	Song Hau -	2	X	97	New		X	X	Synchronizing Song

	Duc Hoa (phase 2)								Hau I Thermal Power; phase 1 completed in 2020
12	Duc Hoa - Chon Thanh	2	X	104	New	X		X	Switching over connection to My Tho - Chon Thanh
13	500 kV Duc Hoa - Phu Lam - Cau Bong (2 nd circuit)	2	X	13	New	X		X	Connected to 500 kV Duc Hoa substation additionally switching on remaining circuits of 500 kV Phu Lam - Cau Bong line
14	Long An - Nha Be - My Tho	2	X	1	New	X		X	Connected to 500 kV Long Bien substation
15	O Mon - Thot Not	2	X	35	New	X		X	Expanding transmission grids in the Mekong delta; relieving capacity of O Mon Electricity Center
16	Bac Lieu LNG - Thot Not	2	X	130	New		X	X	Synchronizing Bac Lieu LNG
17	Bac Ai Pumped-storage Hydropower - Ninh Son	2	X	25	New		X	X	Synchronizing Bac Ai Pumped-storage Hydropower, replacing 500 kV Bac Ai Pumped-storage Hydropower line - Branch to Van Phong - Thuan Nam
18	Connected to Pumped-storage Hydropower of the South Central Coast			30	New		X	X	Pumped-storage Hydropower of the South Central Coast is Phuoc Hoa Pumped-storage Hydropower. Connecting Phuoc Hoa Pumped-storage Hydropower to 500 kV Ninh Son substation using

									double circuit line, clarified during the period of connection agreement.	
19	Ca Na LNG - Thuan Nam	2	X	30	New		X	X	Synchronizing LNG Ca Na. Proposing design for 500 kV Ca Na LNG distribution yard with flexible operation graphs and busbar segments	
20	Ca Na LNG - Binh Duong 1	2	X	280	New		X	X	Synchronizing Ca Na LNG; relieving capacity of Ca Na LNG and local power source	
21	Hong Phong - Branch to Vinh Tan - Song May	4	X	10	New		X	X	Synchronized depending on scale and availability of local power sources	
22	Son My - North of Chau Duc	2	X	80	New		X	X	Synchronizing Son My II Thermal Power Plant	
23	South Central 1 - Thuan Nam	2	X	20	New		X		X	Synchronized depending on scale and availability of local power sources
24	South Central 2 - Thuan Nam	2	X	50	New		X		X	Synchronized depending on scale and availability of local power sources
25	Increasing load capacity of 500 kV Northern Chau Dung - Song May line	1	X	58	Renovated		X	X		Synchronized with Son My Electricity Center
26	Increasing load capacity of	1	X	92	Renovated		X	X		Synchronized with Son My Electricity Center

	500 kV Northern Chau Dung - Long Thanh - Song May line								
27	Long Thanh - Branch to North of Chau Duc - Song May	2	X	17	New		X	X	Strengthening the transmission of local power sources. Selecting conductor of a proposed cross section appropriate to cross section of 500 kV Northern Chau Duc - Song May line after improving load capacity
28	Increasing load capacity of 500 kV Phu My - Nha Be line and Phu My - Nhon Trach 4 Power Plan - Nha Be line	2	X	43	Renovated		X	X	Increasing the capability for relieving the capacity of local power sources
29	Tay Ninh 2 - Branch to Chon Thanh - Tay Ninh 1	4	X	30	New		X	X	Connected to 500 kV Tay Ninh 2 station, considered for single-circuit connection in advance
30	Tien Giang - Branch to O Mon - My Tho	4	X	5	New		X	X	Connected to 500 kV Tien Giang substation
31	Thot Not - Duc Hoa	2	X	13 5	New		X	X	Synchronizing generator set No. 2 of Bac Lieu LNG; considering additional

									installation of busbar segment coupling devices in 500 kV Duc Hoa distribution yard and coupling of bus bars in direction of transmission from Thot Not to Cau Bong; or installation of 500 kV Thot Not - Duc Hoa line connected to Cau Bong to limit short-circuit currents
32	Increasing load capacity of 500 kV Duc Hoa - Cau Bong line	2	X	24	Renovated		X	X	Synchronizing generator set No. 2 of Bac Lieu LNG; relieving Bac Lieu LNG and renewable energy sources in the Mekong Delta
33	500 kV Bac Lieu substation - Bac Lieu LNG - Thot Not	2	X	20	New		X	X	Connected to 500 kV Bac Lieu substation
34	Vinh Tan III Thermal Power Plant - Vinh Tan	2	X	1	New, synchronizing Vinh Tan III Thermal Power Plant		X	X	Synchronizing Vinh Tan III Thermal Power Plant
35	Song Hau II Thermal Power Plant - Song Hau	2	X	1	New, synchronizing Song Hau II Thermal Power Plant		X	X	Synchronizing Song Hau II Thermal Power Plant
36	Connecting 500 kV Nam Bo 1 station			40	New		X	X	Synchronized depending on scale and availability of offshore wind power sources in Southern Vietnam
37	Connecting			40	New		X	X	Synchronized

	500 kV Nam Bo 2 station								depending on scale and availability of offshore wind power sources in Southern Vietnam	
38	Reserved for additional 500 kV line newly built or renovated			360	New and renovated		X	X	X	Reserved for load growth and power source development

Note: In 2031-2035 period, build structures which connect important power sources and in which investment is prioritized as specified in the Decision No. 500/QĐ-TTg:

- Connecting Long Son LNG with approximately 72 km of 500 kV line,
- Connecting Long An II LNG with approximately 30 km of 500 kV line,
- Connecting Dong Phu Yen Pumped-storage Hydropower with approximately 140 km of 500 kV line,
- Connecting Don Duong #1 Pumped-storage Hydropower with approximately 140 km of 500 kV line.

Table 3: List of new and renovated 220 kV electrical substations

No.	Name of electrical substation	Capacity (MVA)	Type	Operation schedule		State invested	Considered for private sector involvement	Note
				2023-2025	2026-2030			
I	North							
1	Van Tri	750	Renovated	X		X		
2	West of Hanoi	750	Renovated		X	X		
3	Long Bien	750	Renovated	X		X		Completed
4	Thanh Xuan	750	New	X		X		
5	Dai Mo (My Dinh)	750	New	X		X		
6	Hoa Lac	500	New		X	X		

7	Me Linh	500	New	X		X		
8	Van Dien	750	New	X		X		
9	Long Bien 2 (Gia Lam)	750	New			X	X	
10	Soc Son 2	500	New			X	X	
11	Phu Xuyen	500	New			X	X	
12	Hoa Lac 2	500	New			X	X	
13	Cascaded Dan Phuong	500	New			X	X	Cascaded in 500 kV Dan Phuong station
14	Chuong My	250	New			X	X	
15	Cau Giay	500	New			X	X	
16	Hai Ba Trung	500	New			X	X	
17	Ung Hoa	500	New			X	X	
18	Vat Cach	500	Renovated			X	X	
19	Hai Phong Thermal Power	500	Renovated			X		X
20	Thuy Nguyen	500	Renovated	X			X	
21	Duong Kinh	500	New	X		X	X	Transformer 1 (250 MVA): 2021-2025 period Transformer 2 (250 MVA): 2026-2030 period
22	An Lao	500	New			X	X	Considered for Transformer 3 if necessary
23	Cat Hai	500	New			X	X	
24	Dai Ban	250	New			X	X	
25	Do Son	250	New			X	X	
26	Tien Lang	250	New			X	X	
27	Gia Loc	500	New	X			X	
28	Tan Viet	500	New			X	X	
29	Pha Lai Thermal	750	Renovated			X	X	

	Power							
30	Thanh Ha	250	New		X	X		
31	Hai Duong Thermal Power	500	Renovated		X	X		
32	Tu Ky	250	New		X	X		
33	Nhi Chieu	250	New		X	X		
34	Yen My	500	New	X		X		
35	Cascaded 500 kV Pho Noi	500	New	X		X		Transformer 1 (250 MVA): operated in 2022 Transformer 2 (250 MVA): 2021-2025 period
36	Pho Cao	500	New	X		X		
37	Bai Say	500	New		X	X		
38	Cascaded Hung Yen	250	New		X	X		Hung Yen City
39	Van Giang	250	New		X	X		
40	Dong Van	500	New		X	X		
41	Ly Nhan	500	New		X	X		
42	Hai Hau	500	New	X		X		
43	Nam Dinh 3	750	New		X		X	Synchronized together with the development of specialized load
44	Nam Dinh 2	250	New		X	X		
45	Nghia Hung	250	New		X	X		
46	Thai Thuy	500	Renovated	X		X		
47	Vu Thu	500	New	X	X	X		Transformer 1 (250 MVA): 2021-2025 period Transformer 2 (250 MVA): 2026-2030 period
48	Quynh Phu	250	New		X	X		

49	Cascaded 500 kV Thai Binh	250	New		X	X		
50	Cascaded 500 kV Nho Quan	500	Renovated		X	X		
51	Ninh Binh 2	500	New		X	X		
52	Tam Diep	250	New	X		X		
53	Gia Vien	500	New		X	X		Built new, in case of relocating 220 kV Ninh Binh substation. Considering building 220 kV Gia Vien substation in advance to ensure local power supply
54	Bac Quang	500	New	X		X		
55	Ha Giang	375	Renovated		X	X		
56	Cao Bang	500	Renovated		X	X		
57	Bat Xat	500	New	X		X		
58	Cascaded 500 kV Lao Cai	500	New		X	X		
59	Van Ban	250	New		X	X		
60	Bac Ha	250	New		X		X	Installed in Distribution Yard of Bac Ha Thermal Power Plant
61	Bac Kan	375	Renovated	X		X		
62	Dong Mo	250	New	X		X		
63	Lang Son	500	New	X	X	X		Transformer 1 (125 MVA): Completed in 2022; Transformer 2 (250 MVA): Completed in July, 2023; Replacing Transformer 1 (250 MVA): 2026-2030 period

64	Lang Son 1	500	New	X			X	Synchronized depending on scale and availability of local power sources
65	Lang Son 2	500	New			X	X	Synchronized depending on scale and availability of local power sources
66	Tuyen Quang	500	Renovated			X	X	
67	Nghia Lo	250	New	X			X	Considered for installation of Transformer 2 depending on local small-scale hydropower development
68	Luc Yen	250	New	X			X	
69	Yen Bai	500	Renovated			X	X	
70	Luu Xa	500	Renovated	X			X	Completed
71	Song Cong	250	New			X	X	
72	Phu Binh 2	750	New			X	X	
73	Dai Tu	250	New			X	X	
74	Bac Giang 1	500	New	X			X	Synchronized depending on scale and availability of local power sources
75	Cascaded 500 kV Viet Tri	500	New			X	X	
76	Phu Tho 2	500	New	X		X	X	Transformer 1 (250 MVA): 2021-2025 period Transformer 2 (250 MVA): 2026-2030 period
77	Phu Tho 3	250	New			X	X	
78	Vinh Tuong	500	Renovated	X			X	
79	Ba Thien	500	New	X			X	

80	Phuc Yen	250	New		X	X		
81	Chan Hung	250	New		X	X		
82	Tam Duong	500	New		X	X		
83	Yen Dung	500	New		X	X		
84	Lang Giang	500	New	X	X	X		Transformer 1 (250 MVA): 2021-2025 period Transformer 2 (250 MVA); 2026-2030 period
85	Hiep Hoa 2	250	New		X	X		
86	Cascaded 500 kV Bac Giang	250	New		X	X		
87	Viet Yen	250	New		X	X		
88	Tan Yen	250	New		X	X		
89	Bac Ninh 6	500	New		X	X		
90	Bac Ninh 4	500	New		X	X		
91	Cascaded 500 kV Bac Ninh	500	New		X	X		
92	Bac Ninh 7	250	New		X	X		
93	Bac Ninh 5	500	New	X	X	X		Transformer 1 (250 MVA): 2021 - 2025 period Transformer 2 (250 MVA): 2026-2030 period
94	Trang Bach	500	Renovated	X		X		Completed
95	Hoanh Bo	500	Renovated		X	X		
96	Cascaded 500 kV Quang Ninh	500	Renovated		X	X		
97	Hai Ha	500	Renovated	X		X		
98	Yen Hung	750	New	X	X	X		Transformer 1 (250 MVA): Completed in

								2022; Transformer 2 (250 MVA): 2024; Transformer 3 (250 MVA): depending on the demand for load development
99	Cong Hoa	250	New		X	X		
100	Khe Than	126	New		X	X		Synchronized together with the development of specialized load
101	Mong Cai	250	New		X	X		
102	Cam Pha	500	Renovated		X	X		
103	Nam Hoa	500	New	X		X		
104	Hai Ha Industrial Park	500	New		X	X		Transformer 2 reserved for further development of Hai Ha Industrial Park
105 ₁	Quang Ninh	500	New	X			X	Synchronized depending on scale and availability of local power sources
106	Muong Te	750	Renovated	X		X		
107	Than Uyen	750	Renovated	X		X		
108	Sin Ho	250	New		X	X		Relieving small-scale hydropower
109	Phong Tho	750	New	X	X	X		Relieving small-scale hydropower Transformer 1,2 (2x250 MVA): 2021 - 2025 period Transformer 3 (250 MVA): 2026-2030
110	Pac Ma	750	New	X	X	X		Relieving small-scale hydropower Transformer 1,2 (2x250 MVA): operated in 2021-2025

								Transformer 3 (250 MVA): 2026-2030
111	Dien Bien	500	New	X	X	X		2021-2025 period: 250 MVA (2x125 MVA) 2026-2030 period: 2x250 MVA
112	Dien Bien 1	500	New		X		X	Synchronized depending on scale and availability of local power sources
113	Muong La	500	Renovated		X	X		
114	Song Sap 2A	200	New	X			X	Completed. Relieving hydropower capacity according to Document No. 136/TTg-CN dated January 29, 2021
115	Phu Yen	375	New		X		X	Supply of power to specialized load
116	Moc Chau	250	New		X	X		
117	Song Ma	250	New		X		X	Synchronized depending on scale and availability of local power sources
118	Son La 1	500	New	X			X	Synchronized depending on scale and availability of local power sources
119	Yen Thuy	250	New	X			X	Transformer 1 (125 MVA): Completed in March, 2022; Transformer 2 (125 MVA): 2026-2030 period;
120	Hoa Binh	500	Renovated		X	X		
121	Tan Lac	250	New		X	X		
122	Bim Son	500	Renovated	X			X	Completed
123	Nong Cong	500	Renovated		X	X		
124	Nghi Son	750	New	X	X	X		Transformer 1,2

	Economic Zone							(2x250 MVA): 2021 - 2025 period Transformer 3 (250 MVA): 2026-2030 period
125	Tinh Gia	500	New		X	X		
126	Sam Son	500	New	X		X		
127	Hau Loc	500	New		X	X		
128	Thieu Hoa	250	New		X	X		Replacing cascaded 220 kV Thanh Hoa substation
129	Ba Thuoc	250	New		X	X		
130	Thanh Hoa 1	250	New	X			X	Synchronized depending on scale and availability of local power sources
131	Dong Vang	500	New		X		X	
132	Thieu Yen	250	New		X	X		
133	Tuong Duong	250	New	X	X	X		Transformer 1 (125 MVA): Completed in 2022; Transformer 2 (125 MVA): 2026-2030 period Relieving capacity of small-scale hydropower
134	Nam Cam	500	New	X		X		
135	Quy Hop	250	New		X	X		Relieving capacity of small-scale hydropower
136	Do Luong	500	Renovated	X	X	X		Transformer 1 (250 MVA): Completed in 2022; Transformer 2 (250 MVA): 2026-2030 period
137	Ha Tinh	500	Renovated	X		X		
138	Vung Ang	500	New	X	X	X		Transformer 1 (125 MVA): 2024

								Transformer 2 (250 MVA): 2027 Replacing Transformer 1 (250 MVA): 2030	
139	Vung Ang 2	500	New	X			X	Synchronized together with the development of specialized load	
140	Can Loc	250	New		X	X			
141	Nghi Son 2	500	New		X		X	Synchronized together with the development of specialized load	
142	Ha Tinh 1	500	New	X			X	Synchronized depending on scale and availability of local power sources	
143	Reserved for additional 220 kV electrical substation newly built or renovated	2.000	New and renovated	X	X	X	X	Reserved for load growth and power source development	
144	Designing flexible graphs for 4 busbar segments, including but not limited to distribution yards of 220 kV Thai Binh CCGT, 500 kV substations of Quynh Luu, Vinh Yen, Long Bien, Hai Phong, 220 kV substations of Hai Ba Trung, Nghia Hung, Hau				X	X	X	X	Limiting short-circuit currents, increasing electricity supply reliability

	Loc, Tam Diep, Bac Ninh 4, Dong Ky, Cat Hai, Nam Hoa, Long Bien 2, Hoa Lac, Tan Viet, Hiep Hoa 2, Phu Binh 2, Dong Van, Ly Nhanh, Duong Kinh, Pho Cao							
145	Installing short-circuit current limiting reactors in 220 kV bus bars of 500 kV substations of Pho Noi, Tay Hanoi, Hiep Hoa, Dan Phuong, Bac Ninh, Pha Lai Thermal Power, Trang Bach			X	X	X	X	Limiting short-circuit currents
146	Improving diagrams of flexible 220 kV bus bars, 4 busbar segments in 500 kV substations of Nho Quan, Son La, Dong An and 220 kV substations of Van Tri, Vat Cach, Long			X	X	X	X	Limiting short-circuit currents, increasing electricity supply reliability

	Bien, Truc Ninh, Thai Binh, Ha Dong, Thanh Nghi, Bac Ninh 2, Hai Duong Thermal Power							
147	Constructions and projects improving the ability to control and operate electrical substations and power system			X	X	X	X	Including but not limited to projects that: Replace, install reactors, capacitors, SVC, SVG, FACTS equipment, BESS, synchronous compensators, etc.; expand feeder bays in substations, renovate, improve graphs of substations in a flexible manner; install short-circuit current limiters, replace and upgrade devices to resist short-circuit currents, establish automatic circuit; install, replace equipment, control system, SCADA/EMS, SCADA/DMS systems, automate the station, etc. The scale and location will be decided when setting up the project
II Central								
1	Dong Hoi	375	Renovated		X	X		
2	Le Thuy	500	New	X			X	Relieving capacity of local sources
3	Ba Don	500	Renovated		X	X		
4	Huong Linh	250	New	X			X	Relieving capacity of local sources

5	Huong Tan	500	New	X			X	Completed. Relieving capacity of local sources
6	Dong Ha	500	Renovated	X	X	X		Replacing Transformer 1 (250 MVA): 2021-2025 period; Replacing Transformer 2 (250 MVA): 2026-2030 period
7	Dong Nam	250	New		X	X		
8	Lao Bao	750	Renovated		X	X		
9	Phong Dien	375	Renovated		X	X		
10	Chan May	250	New	X	X	X		Transformer 1 (125 MVA): 2021-2025 period Transformer 2 (125 MVA): 2026-2030 period
11	Huong Thuy	250	New		X	X		
12	Ngu Hanh Son	500	Renovated	X		X		Completed
13	Hai Chau	250	New	X		X		
14	Lien Chieu	500	New		X	X		
15	Da Nang Airport	250	New		X	X		
16	Tien Sa (An Don)	250	New		X	X		
17	220 kV Dak Ooc switching station	Switching station	New	X		X		Connected to Laos hydropower
18	Duy Xuyen	250	New	X	X	X		Transformer 1 (125 MVA): operated in 2022 Transformer 2 (125 MVA): 2026-2030 period
19	Tam Hiep	250	New	X		X		

20	Thanh My	500	Renovated		X	X		
21	Tam Ky	500	Renovated		X	X		
22	Dien Ban	250	New		X	X		
23	South of Hoi An	250	New		X	X		
24	Dung Quat 2	500	New	X		X		
25	Doc Soi	500	Renovated		X	X		
26	Quang Ngai 2	250	New		X	X		
27	Nhon Hoi	500	New		X	X		
28	Phuoc An	500	Renovated	X		X		
29	Phu My	375	Renovated		X	X		
30	Phu My 2	450	New		X		X	Synchronized together with the development of specialized load
31	Tuy Hoa	500	Renovated	X	X	X		Replacing Transformer 1 (250 MVA): 2021 - 2025 period Replacing Transformer 2 (250 MVA): 2026 - 2030 period
32	Song Cau	500	New		X	X		
33	South of Phu Yen	250	New		X	X		
34	Van Phong	500	Renovated		X	X		
35	Cam Ranh	500	New	X		X		Completed
36	Van Ninh	500	New	X	X	X		Transformer 1 (250 MVA): 2021-2025 period Transformer 2 (250 MVA): 2026-2030 period
37	Cam Thin	250	New		X	X		
38	220 kV Bo Y switching station	Switching station	New	X		X		Energized in April, 2023

								Switching station, connected to Lao hydropower
39	Bo Y	250	New		X	X		
40	Kon Tum	500	Renovated	X		X		
41	Nuoc Long hydropower	175	New		X		X	Relieving hydropower capacity according to Document No. 136/TTg-CN dated January 29, 2021 hydropower complex under Document No. 136/TTg-CN dated January 29, 2021
42	Chu Se	250	New	X	X	X		Transformer 1 (125 MVA): operated in 2; Transformer 2 (125 MVA): 2021-2025 period
43	An Khe	250	New	X		X		
44	Cascaded 500 kV Pleiku 2	250	New	X		X		
45	Krngu Pa	250	New	X		X		Relieving local power sources, invested in depending on the availability of new sources of renewable energy which suit local potentials.
46	Gia Lai 1	250	New		X		X	Synchronized depending on scale and availability of local power sources
47	Krong Ana	375	Renovated		X	X		5
48	Cascaded 500 kV Krong Buk (Cu M'Gar)	500	New		X	X		
49	Ea Kar	250	New		X	X		
50	Dak Nong	500	Renovated		X	X		

51	Dak Nong 2	250	New		X	X		
52	220 kV substation of Dak Nong aluminium smelting plant	1.184	New	X			X	Under the Decision No. 500/QĐ-TTg, this substation is named on the list of electrical grids as “Điện phân nhôm” (“Aluminium smelting”)
53	Reserved for additional 220 kV electrical substation newly built or renovated	500	New and renovated	X	X	X	X	Reserved for load growth and power source development
54	Renovating flexible 220 kV busbar graphs, 4 busbar segments in 500 kV Doc Soi substation			X	X	X		Limiting short-circuit currents
55	Installing short-circuit current limiting reactors in 220 kV bus bars of Dung Quat CCGT (for 220 kV Doc Soi - Dung Quat CCGT line)				X	X		Limiting short-circuit currents
56	Constructions and projects improving the ability to control and operate electrical substations and power system			X	X	X	X	Including but not limited to projects that: Replace, install reactors, capacitors, SVC, SVG, FACTS equipment, BESS, synchronous compensators, etc.; expand feeder bays in substations, renovate, improve graphs of

								substations in a flexible manner; install short-circuit current limiters, replace and upgrade devices to resist short-circuit currents, establish automatic circuit; install, replace equipment, control system, SCADA/EMS, SCADA/DMS systems, automate the station, etc. The scale and location will be decided when setting up the project
III South								
1	Ta Nang	500	New			X	X	Synchronized depending on scale and availability of local power sources
2	Da Nhim switching station	Switching station	New			X	X	Relieving local power sources, due to failure to expand the 220 kV feeder bay in 220 kV Da Nhim Hydropower station
3	Ca Na	500	New			X	X	
4	Dong Quan The	480	New			X	X	Synchronized together with the development of specialized load
5	South of Ham Thuan	500	New	X			X	
6	Vinh Hao	500	New	X			X	Synchronized depending on scale and availability of local power sources
7	Hoa Thang	500	New	X			X	Synchronized depending on scale and availability of local power sources
8	Hong Phong	500	New	X			X	Synchronized

								depending on scale and availability of local power sources
9	Ham Cuong	250	New	X			X	Synchronized depending on scale and availability of local power sources
10	Wind power 1 Binh Thuan	250	New	X			X	Synchronized depending on scale and availability of local power sources
11	Tan Cang	500	New	X		X		
12	Tan Son Nhat	500	New	X		X		
13	Dam Sen	500	New	X		X		
14	Thu Thiem	500	New	X		X		
15	Binh Chanh 1	500	New		X	X		
16	Ba Queo (Vinh Loc)	500	New	X		X		
17	District 7	500	New	X		X		
18	South of Hiep Phuoc	500	New		X	X		
19	District 9	500	New		X	X		
20	Northwest Cu Chi	250	New		x	x		
21	Phu Hoa Dong	250	New		X	X		
22	Binh Chanh 2	250	New		X	X		
23	Phuoc Long	500	New	x	x	x		Transformer 1 (250 MVA): 2021-2025 period Transformer 2 (250 MVA): 2026-2030 period
24	East of Binh Phuoc	500	New		x		x	Synchronized depending on scale and availability of local power sources
25	Dong Xoai	250	New		x	x		

26	Tan Bien	500	New	X		x		
27	Phuoc Dong	500	New		x	x		
28	Ben Cau	250	New		x	x		
29	Tay Ninh 3	250	New		x	x		
30	Tan Chau 1	500	New		x		x	Synchronized depending on scale and availability of local power sources
31	Ben Cat 2	500	New	x		x		Ensuring local power supply
32	Tan Dinh 2	500	New	x		x		
33	An Thanh (VSIP)	500	New		x	x		
34	Binh My	500	New	x	x	x		Transformer 1 (250 MVA): 2021-2025 period Transformer 2 (250 MVA): 2026-2030 period
35	North of Tan Uyen	500	New		x	x		
36	Lai Uyen	500	New	x	x	x		Transformer 1 (250 MVA): 2021-2025 period Transformer 2 (250 MVA): 2026-2030 period
37	An Phuoc	500	New	x		x		Completed
38	Tam Phuoc	500	New	x	x	x		Transformer 1 (250 MVA); 2021-2025 period Transformer 2 (250 MVA): 2026-2030 period
39	Thong Nhat	500	New		x	x		
40	Nhon Trach Industrial	500	New	x		x		

	Park							
41	Dinh Quan	500	New	x		x		
42	Long Khanh	500	New	x		x		
43	Ho Nai	500	New		x	x		
44	Dau Giay	500	New		x	x		
45	Bien Hoa	500	New		x	x		
46	Dong Nai 3	500	New		x		x	Synchronized depending on scale and availability of local power sources
47	Phu My 3 Industrial Park	500	New	x		x		
48	Phuoc Thuan (Dat Do)	500	New	x		x		
49	Long Son	250	New	x		x		
50	Hoa Binh	500	New	x		x		Synchronized depending on scale and availability of local power sources
51	Phu My City	250	New		x	x		
52	Ben Luc	500	New	x		x		Completed
53	Duc Hoa 2	500	New	x		x		
54	Cascaded 500 kV Duc Hoa	500	New	x	x	x		Transformer 1 (250 MVA): 2021-2025 period Transformer 2 (250 MVA): 2026-2030 period
55	Duc Hoa 3	500	New	x		x		
56	Tan Lap	250	New		x	x		
57	Can Giuoc	250	New		x	x		
58	Lap Vo	250	New	x		x		
59	Hong Ngu	250	New		x	x		
60	Cho Moi	250	New	x		x		
61	Chau Thanh	250	New	x		x		

	(An Giang)							
62	Tan Phuoc (Cai Be)	500	New	x		x		Another name of 220 kV Cai Be substation under the adjusted PDP VII approved in the Prime Minister's Decision No. 428/QD-TTg dated March 18, 2016
63	Go Cong	500	New	x		x		Transformer 1 (250 MVA): 2021-2025 period Transformer 2 (250 MVA): 2026-2030 period
64	Vinh Long 3	500	New	x		x		
65	Binh Dai	500	New	x			x	Synchronized depending on scale and availability of local power sources
66	Thanh Phu	500	New	x			x	Synchronized depending on scale and availability of local power sources
67	An Bien (Vinh Thuan)	500	New	x		x		Another name of 220 kV Vinh Thuan substation under the adjusted PDP VII approved in the Prime Minister's Decision No. 428/QD-TTg dated March 18, 2016
68	Phu Quoc	500	New		x	x		
69	Duyen Hai	250	New	x		x		
70	Tra Vinh 3	450	New		x		x	Built new and synchronized together with the development of specialized load
71	Ca Mau 3	450	New		x		x	Built new and synchronized together with the development

								of specialized load
72	Vinh Chau	500	New	x		x		Synchronized depending on scale and availability of local power sources
73	Tran De	500	New		x		x	Synchronized depending on scale and availability of local power sources
74	Bac Lieu 3	750	New		x		x	Synchronized depending on scale and availability of local power sources
75	Bac Lieu 4	750	New		x		x	Synchronized depending on scale and availability of local power sources
76	Nam Can	500	New	x	x	x		Transformer 1 (250 MVA): 2021-2025 period Transformer 2 (2025 MVA): 2026-2030 period
77	Duc Trong	500	Renovated		x	x		
78	Bao Loc	500	Renovated		x	x		
79	Da Nhim Hydropower	375	Renovated		x	x		
80	Phuoc Thai	625	Renovated		x	x		Relieving local power sources
81	Ham Thuan Hydropower	125	Renovated		x	x		
82	Dai Ninh Hydropower	250	Renovated		x	x		
83	Nha Be	750	Renovated	x		x		
84	Binh Tan	750	Renovated	x		x		
85	Cascaded 500 kV Chon Thanh	500	Renovated	x		x		
86	Tay Ninh 2	500	Renovated	x		x		Completed

87	Tan Dinh	750	Renovated		x	x		
88	Tri An Hydropower	500	Renovated	x		x		
89	Chau Duc	500	Renovated	x		x		
90	Ba Ria	250	Renovated		x	x		
91	Can Duoc	500	Renovated	x		x		
92	Sa Dec	500	Renovated	x		x		
93	Long Xuyen	500	Renovated	x		x		
94	My Tho	500	Renovated	x		x		
95	Cai Lay	500	Renovated		x	x		
96	Mo Cay	500	Renovated		x	x		
97	Can Tho	500	Renovated	x		x		
98	O Mon	500	Renovated	x		x		
99	Thot Not	375	Renovated		x	x		
100	Tra Noc	500	Renovated		x	x		
101	Chau Thanh (Hau Giang)	500	Renovated		x	x		
102	Tra Vinh	500	Renovated		x	x		
103	Gia Rai	250	Renovated		x	x		
104	Bac Lieu	375	Renovated		x	x		
105	Reserved for additional 220 kV electrical substation newly built or renovated	2.125	New and renovated	x	x	x	x	Reserved for load growth and power source development
106	Designing flexible graphs for 4 busbar segments, including but not limited to 220 kV distribution yards of 500 kV substations of			x	x	x		Limiting short-circuit currents, increasing electricity supply reliability

	Long Thanh, Chon Thanh, Ninh Son, Dong Nai 2, Thot Not, 220 kV substations of Ba Queo, Tan Cang, Nam Hiep Phuoc, Tam Phuoc, Tan Dinh 2, Phu My 3 Industrial Park, Phu My City, Binh My, Binh Chanh 2, Phu Hoa Dong, An Phuoc, Binh My							
107	Installing short-circuit current limiting reactors in 220 kV bus bars of 500 kV substations of Vinh Tan, Bac Chau Duc, 220 kV substations of Ba Queo (for 220 kV Ba Queo - Dam Sen line)			x	x	x		Limiting short-circuit currents
108	Renovating 220 kV flexible busbar and busbar segment graphs in 500 kV substations of			x	x	x		Limiting short-circuit currents, increasing electricity supply reliability

	Duc Hoa, O Mon, 220 kV substations of Ninh Phuoc, Long Thanh, Cu Chi							
109	Constructions and projects improving the ability to control and operate electrical substations and power system			x	x	x	x	Including but not limited to projects that: Replace, install reactors, capacitors, SVC, SVG, FACTS equipment, BESS, synchronous compensators, etc.; expand feeder bays in substations, renovate, improve graphs of substations in a flexible manner; install short-circuit current limiters, replace and upgrade devices to resist short-circuit currents, establish automatic circuit; install, replace equipment, control system, SCADA/EMS, SCADA/DMS systems, automate the station, etc. The scale and location will be decided when setting up the project

Note:

For renewable energy projects that are yet to be approved on this list of power sources, synchronous electrical grids connecting these projects will be reviewed and decided when they are approved afterwards

Table 4: List of new and renovated 220 kV lines

No.	Name of line	Number of circuits	km	Type	Operation schedule	State invested	Considered for private sector	Note
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									involvement
						2023-2025	2026-2030		
I	North								
1	Van Dien - Branch to Ha Dong - Thuong Tin	4	x	4	New	x		x	Connecting 220 kV Van Dien substation, including connection to Van Dien Substation to establish Van Dien - Hoa Binh; Van Dien - Xuan Mai
2	South of Hanoi - Thanh Xuan	4	x	16	New	X		X	Connected to 220 kV Thanh Xuan substation
3	500 kV Dong Anh - Van Tri	2	x	13	New		X	X	
4	Increasing load capacity of Hoa Binh - Chem	1	x	74	Renovated	X		X	Completed. Ensuring power supply to Hanoi
5	Increasing load capacity of Ha Dong - Chem	1	x	16	Renovated	X		X	Ensuring power supply to Hanoi
6	Dai Mo (My Dinh) - Branch to South of Hanoi - Thanh Xuan	4	x	2	New	X		X	Connected to 220 kV Dai Mo substation
7	Me Linh - Branch to Soc Son - Van Tri	2	x	2	New	X		X	Connected to 220 kV Me Linh substation
8	500 kV Southern Hanoi - Hoa Lac	2	x	14	New		X	X	Connected to 220 kV Hoa Lac substation
9	Ung Hoa - Branch to Ha Dong - Phu	2	x	4	New		X	X	Connected to 220 kV Ung Hoa substation

	Ly								
10	2 nd circuit of Ha Dong - Ung Hoa - Phu Ly	2	x	40	New		X	X	Converting single circuit into double circuit, expanding 02 feeder bays in 220 kV Ung Hoa station
11	Increasing load capacity of Hiep Hoa - Soc Son	2	x	10	Renovated		X	X	Increasing double-circuit load capability of 220 kV Hiep Hoa - Soc Son line, removing the other two circuits to limit short-circuit currents
12	Increasing load capacity of Ha Dong - Thuong Tin	2	x	16	Renovated	X		X	
13	Converting 220 kV Son Tay - Vinh Yen line from single circuit to double circuit	2	x	30	Renovated		X	X	Converting single circuit into double circuit, and establishing double-circuit Son Tay - Vinh Yen line
14	Long Bien - Mai Dong	2	x	16	New	X		X	Built new, underground cable
15	Long Bien 2 - Branch to Mai Dong - Long Bien	4	x	3	New		X	X	Connected to 220 kV Long Bien 2 substation
16	Increasing load capacity of Thuong Tin - Pho Noi	2	x	33	Renovated	X		X	Increasing single-circuit load capacity of Thuong Tin - 220 kV Pho Noi substation, single-circuit load capacity of Thuong Tin - 500 kV Pho Noi substation
17	Increasing load capacity	1	x	25	Renovated		X	X	

	of Xuan Mai - Ha Dong								
18	Increasing load capacity of Van Tri - Tay Ho - Chem	2	x	20	Renovated		X	X	Ensuring power supply to Hanoi
19	An Lao - Branch to Dong Hoa - Thai Binh	4	x	2	New		X	X	Connected to 220 kV An Lao substation
20	Cat Hai - Dinh Vu	2	x	12	New		X	X	In case of failure to expand feeder bay of 220 kV Dinh Vu substation, considered for connection to single-circuit 220 kV Dinh Vu - Duong Kinh line
21	Duong Kinh - Branch to Dong Hoa - Dinh Vu	4	x	3	New	X		X	Connected to 220 kV Duong Kinh substation, switching over connection of Hai Duong 2 - Dong Hoa and Dong Hoa - Dinh Vu to create Hai Duong 2 - Dinh Vu
22	Nam Hoa - Cat Hai	2	x	12	New		X	X	
23	500 kV Hai Duong - Pho Noi Thermal Power	2	x	60	New	X		X	
24	Gia Loc - Branch to Hai Duong Thermal Power - Pho Noi	4	x	5	New	X		X	Connected to 220 kV Gia Loc substation
25	Bai Say - Kim Dong	2	x	12	New		X	X	Connected to 220 kV Bai Say

									substation
26	500 kV Hai Phong - Gia Loc	2	x	35	New		X	X	The Project “220 kV 500 kV Hai Phong - Gia Loc Line” is agreed upon and named according to this Decision, thereby replacing all names of the Project present in other legal documents such as: 220 kV Hai Phong line, 500 KV Gia Loc line, 220 kV line of 500 kV Hai Phong substation - Gia Loc, 500kV Gia Loc - Hai Phong line, etc.
27	Thanh Ha - Branch to 500 kV Hai Phong - Gia Loc	2	x	7	New		X	X	Connected to 220 kV Thanh Ha substation
28	Tan Viet (Binh Giang) - Branch to Gia Loc - Pho Noi	4	x	3	New		X	X	Connected to 220 kV Tan Viet substation
29	Yen My - Branch to 500 kV Pho Noi - 500 kV Thuong Tin	2	x	2	New	X		X	Connected to 220 kV Yen My substation
30	Pho Cao - Branch to Thai Binh - Kim Dong	4	x	1	New	X		X	Connected to 220 kV Pho Cao substation
31	2nd circuit of Nho Quan - Phu Ly	2	x	27	New	X		X	Built new and converted from single circuit to double circuit

32	Ly Nhan - Branch to Thanh Nghi - Thai Binh	4	x	2	New		X	X		Connected to 220 kV Ly Nhan substation
33	Dong Van - Phu Ly	2	x	15	New		X	X		Connected to 220 kV Dong Van substation, in case of failure to expand feeder bay of Phu Ly, considered for connection to Ha Dong - Phu Ly
34	500 kV Nam Dinh Thermal Power - Ninh Binh 2	2	x	30	New		X	X		Large cross-section phase conductors
35	Hai Hau - Truc Ninh	2	x	16	New	X		X		Connected to 220 kV Hai Hau substation
36	500 kV Nam Dinh Thermal Power - Hai Hau	2	x	10	New		X	X		Connected to 500 kV Nam Dinh substation
37	500 kV Nam Dinh Thermal Power - Hau Loc	2	x	48	New		X	X		Connected to 500 kV Nam Dinh substation
38	500 kV Nam Dinh Thermal Power - Nam Dinh 3	2	x	18	New		X	X		Synchronized together with the development of specialized load. Consistent with name of the project 500 kV Nam Dinh - Nam Dinh 3.
39	Vu Thu - Branch to Thai Binh - Nam Dinh and Thai Binh - Ninh Binh	4	x	2	New	X		X		Connected to 220 kV Vu Thu substation
40	Increasing	2	x	53	Renovated	X		X		

	load capacity of Dong Hoa - Thai Binh								
41	500 kV Thai Binh - Thanh Nghi	2	x	60	New	X	X		The Project “220 kV Thai Binh 500 kV - Thanh Nghi” is agreed upon and named according to this Decision, thereby replacing all names of the Project present in other legal documents such as: 220 kV Thai Binh - Thanh Nghi line, 220 kV line of 500 kV Thai Binh substation - Thanh Nghi, 220 kV 500 kV Thai Binh - Thanh Nghi line, etc.
42	500 kV Thai Binh - Branch to Thai Binh - Kim Dong	4	x	5	New	X	X		Connected to 220 kV side of Thai Binh 500 kV
43	Tam Diep - Branch to Bim Son - Ninh Binh	4	x	5	New	X	X		Connected to 220 kV Tam Diep substation on one circuit in advance, synchronized with 220 kV Gia Vien - Tam Diep - Bim Son line on the other circuit
44	Gia Vien - Branch to 500 kV Nho Quan - Ninh Binh	4	x	2	New	X	X		Connected to 220 kV Gia Vien substation
45	Gia Vien - Nam Dinh	2	x	7	New	X	X		Connected to Gia Vien - Nam Dinh, in case of relocating 220 kV Ninh Binh

									substation
46	Increasing load capacity of 500 kV Nho Quan - Ninh Binh	2	x	26	Renovated		X	X	
47	Converting 220 kV 220 kV Tam Diem - Gia Vien - Bim Son line from single circuit to double circuit	2	x	34	Renovated		X	X	220 kV Ninh Binh - Tam Diep - Bim Son line replaces 220 kV Ninh Binh - Tam Diep - Bim Son in case of relocating 220 kV Ninh Binh substation
48	Ninh Binh 2 - Branch to Ninh Binh - Thai Binh	2	x	19	New		X	X	Connected to 220 kV Ninh Binh 2 substation
49	Bac Quang - Branch to Bao Thang - Yen Bai (Bac Quang - Luc Yen)	2	x	43	New	X		X	Completed in July, 2023. Connected to 220 kV Bac Quang substation, increasing the purchase of electricity from China
50	Installing 2 nd circuit of Ha Giang - China-Vietnam Border	1	x	30	New		X	X	Increasing the purchase of electricity from China
51	Bac Quang - China-Vietnam Border (Ha Giang Province)	2	x	55	New		X	X	Increasing the purchase of electricity from China
52	Increasing load capacity of Ha Giang - Branch to Bac Me	42	+	51	Renovated	X		X	Increasing load capacity of AC410 sections on Ha Giang - Bac Me Hydropower (42

	Hydropower and Ha Giang - Thai Nguyen								km) and Ha Giang - Thai Nguyen (51 km)
53	Installing 2 nd circuit of Cao Bang - Bac Kan	1	x	71	New	X		X	Installing 2 nd circuit of Cao Bang - Bac Kan
54	Lao Cai - Bao Thang	2	x	18	New	X		X	Completed
55	Connected to 500 kV Lao Cai	4	x	5	New	X		X	Connected to 500 kV Lao Cai substation, branch to Bao Thang - Yen Bai
56	Bat Xat - 500 kV Lao Cai	2	x	42	New	X		X	Connected to 220 kV Bat Xat substation
57	Than Uyen - 500 kV Lao Cai	2	x	65	New	X		X	Connected to 220 kV Thanh Uyen substation, relieving small-scale hydropower. Name of 220 kV Thanh Uyen Line - 500 kV Lao Cai Project is agreed upon and named according to this Decision, thereby replacing all names of the Project present in other legal documents such as: 220 kV Thanh Uyen line - 500 kV Lao Cai substation, 220 kV line of 500 kV Lao Cai substation - Than Uyen
58	500 kV Lao Cai substation - Vietnamese Border -	2	x	40	New		X	X	Increasing the purchase of electricity from China

	China								
59	Bac Ha Hydropower - connected to 500 kV Lao Cai	1	x	5	New		X	X	Reducing load of 220 kV Bao Thang - 500 kV Lao Cai line
60	Bac Giang - Lang Son	2	x	102	New		X	X	Completed. Connected to 220 kV Lang Son substation
61	Dong Mo - Branch to Bac Giang - Lang Son	4	x	3	New		X	X	Connected to 220 kV Dong Mo substation
62	Yen Son Hydropower - Branch to Tuyen Quang Hydropower - Tuyen Quang	2	x	8	New		X	X	Synchronized with Yen Son hydropower
63	Increasing load capacity of Yen Bai - Viet Tri	2	x	67	Renovated		X	X	Renovated, increasing load capacity
64	Huoi Quang - Nghia Lo	2	x	103	New		X	X	Relieving small-scale hydropower
65	Nghia Lo - Viet Tri (500 kV Viet Tri)	2	x	93	New		X	X	Relieving small-scale hydropower
66	Luc Yen - Lao Cai - Yen Bai	4	x	5	New		X	X	Connected to 220 kV Luc Yen substation
67	Connected to Bac Quang - Luc Yen	2	x	1	New		X	X	Switching connection from Bac Quang to Luc Yen
68	Increasing load capacity of Yen Bai - Tuyen Quang	2	x	36	Renovated		X	X	Increasing load capacity, increasing the purchase of electricity from China

69	Increasing load capacity of Luc Yen - Yen Bai	2	x	58	Renovated		X	X		Increasing load capacity, increasing the purchase of electricity from China
70	500 kV Hiep Hoa - Phu Binh 2	2	x	14	New		X	X		Connected to 220 kV Phu Binh 2 substation
71	Song Cong - Branch to Tuyen Quang - Phu Binh	2	x	2	New		X	X		Connected to 220 kV Song Cong substation
72	Phu Binh 2 - Branch to Thai Nguyen - Bac Giang	2	x	13	New		X	X		Connected to 220 kV Phu Binh 2 substation
73	Increasing load capacity of Hiep Hoa - Phu Binh	1	x	10	Renovated		X	X		Renovated, increasing load capacity of ACSR410
74	Increasing load capacity of Thai Nguyen - Luu Xa - Phu Binh	1	x	30	Renovated	X		X		
75	500 kV Viet Tri - Viet Tri	2	x	10	Renovated	X		X		
76	Increasing load capacity of 500 kV Viet Tri - Vinh Tuong	1	x	27	Renovated	X		X		
77	Increasing load capacity of 500 kV Viet Tri - Vinh Yen	1	x	36	Renovated	X		X		
78	500 kV Viet Tri - Ba Thien (500 kV Vinh	2	x	43	New	X		X		Replacing two 220 kV lines Viet Tri - Tam Duong and Tam Duong - Ba

	Yen)								Thien in adjusted PDP VII
79	Phu Tho 2 - Branch to Son La - Viet Tri	2	x	1	New	X		X	Connected to 220 kV Phu Tho 2 substation
80	Ba Thien (500 kV Vinh Yen) - Branch to Vinh Yen - Soc Son	2	x	13	New	X		X	Connected to 220 kV Ba Thien substation. Renovating and increasing load capability of existing segments from 220 kV Vinh Yen to connection point.
81	Tam Duong - Branch to 500 kV Viet Tri - Ba Thien (500 kV Vinh Yen)	4	x	2	New		X	X	Connected to 220 kV Tam Duong substation
82	500 kV Vinh Yen - Me Linh	2	x	25	New		X	X	220 kV Ba Thien substation cascaded in 500 kV Vinh Yen station. Name of 220 kV line of Vinh Yen 500 kV - Me Linh Project is agreed upon and named according to this Decision, thereby replacing all names of the Project present in other legal documents such as: 220 kV Me Linh - Ba Thien line, 220 kV Ba Thien - Me Linh line, 500 kV Me Linh - Vinh Yen, etc.
83	Me Linh -	2	x	2	New		X	X	220 kV line of 500

	Branch to Soc Son - Van Tri (2 nd circuit)								kV Vinh Yen - Me Linh and Me Linh - Van Tri built and changed into Vinh Yen - Van Tri to limit short-circuit currents
84	Vinh Tuong - Vinh Yen	2	x	8	New		X	X	Built new, renovated and converted to double-circuit Vinh Tuong - Vinh Yen line
85	2 nd Circuit of Pha Lai - Bac Giang Thermal Power	2	x	27	Renovated	X		X	Converted from single circuit to double circuit
86	Connected to An Khanh Bac Giang Thermal Power Plant	4	x	14	New	X		X	Synchronized with Khanh Bac Giang Thermal Power Plant, connected to 220 kV Bac Giang - Lang Son line
87	Lang Giang - Branch to Bac Giang - Thai Nguyen	2	x	2	New	X		X	Connected to 220 kV Lang Giang substation
88	Yen Dung - Branch to Pha Lai Thermal Power - Quang Chau	2	x	2	New		X	X	Connected to 220 kV Yen Dung substation
89	Bac Ninh 4 - Dong Anh	2	x	11	New		X	X	Connected to 220 kV Bac Ninh 4 substation. Name of the Project 220 kV Bac Ninh 4 - Dong Anh is agreed upon and named according to this Decision, thereby replacing all names of the Project present in

									other legal documents such as: connected 220 kV Bac Ninh 4 line, 220 kV line of 500 kV Dong Anh - Bac Ninh 4 substation, 220 kV Bac Ninh 4 line - 500 kV Dong Anh, etc.
90	Bac Ninh 5 - Branch to 500 kV Bac Ninh - Pho Noi	2	x	4	New	X		X	Connected to 220 kV Bac Ninh 5 substation
91	Bac Ninh 6 - Branch to Pha Lai - 500 kV Pho Noi	2	x	3	New		X	X	Connected to 220 kV Bac Ninh 6 station, considered use of four-circuit poles, installing 02 circuits in advance
92	500 kV Bac Ninh - Branch to 2 kV Bac Ninh 2 - Pho Noi	4	x	3	New		X	X	Connected to 220 kV side of 500 kV Bac Ninh
93	500 kV Bac Ninh - Bac Ninh 4	2	x	13	New		X	X	
94	Khe Than - Branch to Trang Bach - Hoanh Bo	2	x	2	New		X	X	Connected to 220 kV Khen Than substation
95	Cong Hoa - Branch to Cam Pha - Hai Ha	2	x	2	New		X	X	Build 04 new circuits, installing 02 circuits in advance, connected to 220 kV Cong Hoa substation
96	Yen Hung - Branch to Uong Bi Power Plant - Trang Bach	2	x	12	New	X		X	Completed. Connected to 220 kV Yen Hung substation

97	Yen Hung - Nam Hoa	2	x	30	New	X		X		Connected to 220 kV Nam Hoa substation
98	Hai Ha - Mong Cai	2	x	40	New		X	X		
99	Phong Tho - Than Uyen	2	x	65	New	X		X		Relieving small-scale hydropower
100	Muong Te - Lai Chau	2	x	50	New	X		X		Relieving hydropower, energized in February, 2021
101	Pac Ma - Muong Te	2	x	36	New	X		X		Relieving hydropower
102	Nam Ou 7 - Lai Chau	2	x	65	New		X	X		Connected to Nam Ou 5, 6, 7 Hydropower (Laos). Whole line of 2x97 km, including 2x65 km in Vietnamese territory. Synchronized with hydropower sources from Laos.
103	Nam Ou 5 - Dien Bien	2	x	22	New		X	X		Connected to Nam Ou 5, 6, 7 Hydropower (Laos). Whole line of 2x73 km, including 2x22 km in Vietnamese territory. Synchronized with hydropower sources from Laos.
104	Increasing load capacity of Son La - Viet Tri	1	x	167	Renovated	X		X		
105	Son La - Dien Bien 500 kV	2	x	133	New	X		X		Connected to 220 kV Dien Bien substation. Name of 220 kV 500 kV

									Son La - Dien Bien Line is agreed upon and named according to this Decision, thereby replacing all names of the Project present in other legal documents such as: 220 kV Son La - Dien Bien Line, 220 kV line of 500 kV Son La - Dien Bien substation, etc.
106	Increasing load capacity of 500 kV Son La - Son La	1	x	41	Renovated		X	X	Synchronized depending on scale and availability of local power sources
107	Increasing load capacity of 500 kV Son La - Muong La	1	x	21	Renovated		X	X	Synchronized depending on scale and availability of local power sources
108	Increasing load capacity of Muong La - Son La	1	x	32	Renovated		X	X	Synchronized depending on scale and availability of local power sources
109	Suoi Sap 2A - Branch to Son La - Viet Tri	2	x	5	New	X		X	Completed. Relieving hydropower capacity according to Document No. 136/TTg-CN dated January 29, 2021
110	Phu Yen - Branch to Son La - Viet Tri	2	x	7	New		X	X	Connected to 220 kV Phu Yen substation (power supply to specialized load)
111	Yen Thuy - Branch to Hoa Binh -	2	x	2	New	X		X	Connected to 220 kV Yen Thuy substation

	Nho Quan								
112	Nghi Son Economic Zone - Nghi Son - Nghi Son Thermal Power	4	x	2	New	X		X	Connected to 220 kV Nghi Son Economic Zone substation
113	Nghi Son 2 - Branch to Nghi Son Thermal Power - Nong Cong	4	x	2	New		X	X	Connected to 220 kV Nghi Son 2 substation, synchronized together with the development of specialized load
114	500 kV Thanh Hoa - Sam Son	2	x	36	New	X		X	Connected to 220 kV Sam Son substation
115	500 kV Thanh Hoa - Branch to Nong Cong - Thanh Hoa	4	x	7	New	X		X	Connected to 220 kV side of 500 kV Thanh Hoa substation
116	500 kV Thanh Hoa - Hau Loc	2	x	35	New		X	X	Connected to 220 kV Hau Loc substation. Name of the Project “220 kV 500 kV Thanh Hoa -Hau Loc” is agreed upon and named according to this Decision, thereby replacing all names of the Project present in other legal documents such as: 220 kV line of 500 kV Thanh Hoa substation - Hau Loc, 200 kV Hau Loc - 500 kV Thanh Hoa, 220 kV line of 500 kV Thanh Hoa - Hau Loc, etc.

117	500 kV Thanh Hoa - Bim Son	1	x	36	New		X	X	Converting 220 kV Ba Che - Bim Son from one circuit to two circuits
118	Nam Sum Hydropower (Laos) - Nong Cong	2	x	129	New	X		X	Another name of 220 kV line “220 kV Nam Sum - Nong Cong Switching Station (with transmission line in the Vietnamese territory)”, approved in the Prime Minister’s Document No. 1889/TTg-CN dated December 27, 2018. Synchronized with Nam Sum Hydropower Plant cluster in Lao
119	3 rd circuit of Thanh Hoa - Nghì Son - Quynh Luu	1	x	83	New		X	X	Installing 2nd circuit
120	Increasing load capacity of Nong Cong - 500 kV Thanh Hoa	2	x	26	Renovated		X	X	Renovated when relieving Nghì Son 2 Thermal Power through 220 kV grid.
121	Nghì Son Thermal Power - Branch to Nong Cong - Quynh Luu	2	x	10	New		X	X	Nong Cong - Nghì Son and Nghì Son - Quynh Luu built and combined into Nong Cong - Quynh Luu. Replacing 220 kV Nghì Son Thermal Power - Branch to Nghì Son - Vinh line
122	Nong Cong -	2	x	42	New		X	X	Phase 2 of Nghì

	Nghi Son - switching to Nghi Son Thermal Power								Son Thermal Power - Nong Cong - Quynh Luu, restoring 220 kV Non Cong - Quynh Luu line to its original condition
123	Tinh Gia - Branch to Nong Cong - Nghi Son	2	x	8	New		X	X	Connected to 220 kV Tinh Gia substation
124	My Ly - Ban Ve	1	x	72	New	X		X	Synchronized with My Ly hydropower
125	Dong Vang - Branch to Nghi Son Thermal Power - Nong Cong	4	x	4	New		X	X	Synchronized together with load development
126	Nam Cam - Branch to Quynh Luu - Hung Dong	4	x	3	New	X		X	Connected to 220 kV Nam Cam substation
127	Quy Hop - 500 kV Quynh Luu	2	x	62	New		X	X	Connected to 220 kV Quy Hop substation, relieving small-scale hydropower.
128	Connected to 500 kV Quynh Luu substation	4	x	5	New	X		X	Connected to 220 kV side of 500 kV Quynh Luu
129	Do Luong - Nam Cam	2	x	32	New	X		X	Relieving capacity of Lao hydropower and hydropower in the West of Nghe An
130	Increasing load capacity of Hung Dong - Quynh Luu - Nghi Son	2	x	100	Renovated		X	X	Renovated, increasing double-circuit load capacity, Relieving capacity of Lao hydropower and

									hydropower in the West of Nghe An	
131	Nam Mo 2 (Laos) - Tuong Duong	2	x	77	New	X		X	Synchronized with Nam Mo (Laos) hydropower cluster	
132	Tuong Duong - Do Luong	2	x	100	New	X		X	Synchronized with Nam Mo (Laos) hydropower cluster	
133	Tuong Duong - Branch to Ban Ve Hydropower - Do Luong	2	x	3	New	X		X	Completed. Connected to 220 kV Tuong Duong substation	
134	Vung Ang - 500 kV Vung Ang Thermal Power	2	x	13	New	X		X	Connected to 220 kV Vung Ang substation	
135	Vung Ang 2 - Branch to Vung Ang - 500 kV Vung Ang Thermal Power	2	x	2	New	X		X	Connected to 220 kV Vung Ang 2 substation, synchronized together with the development of specialized load	
136	Increasing load capacity of Ha Tinh - Hung Dong	2(3)	x	66	Renovated			X	X	Preventing overload in dry seasons. Considered for increasing 1 st circuit of lines in operation from 1990 to 02 circuits, dismantling or keeping the other circuits if 220 kV feeder bays in 500 kV Ha Tinh substation and 220 kV Hung Dong substation are expanded.
137	500 kV Dan Phuong - Me Linh	2	x	15	New			X	X	Van Tri - Soc Son and 500 kV Vinh Yen - Me Linh -

									500 kV Dan Phuong built and considered for changing into double-circuit connection
138	Connected to 500 kV Dan Phuong	4	x	11	New		X	X	Branch to Chem - Van Tri and Chem - Tay Ho
139	Soc Son 2 - Branch to Hiep Hoa - Dong Anh	2	x	3	New		X	X	Connected to 220 kV Soc Son 2 substation
140	500 kV Son Tay - Hoa Lac 2	2	x	15	New		X	X	Connected to 220 kV Hoa Lac 2 substation
141	500 kV Son Tay - Hoa Lac 2	2	x	12	New		X	X	Connected to 220 kV side of 500 kV Son Tay substation
142	500 kV Son Tay - Branch to Son Tay - Vinh Yen	4	x	5	New		X	X	Connected to 220 kV side of 500 kV Son Tay substation
143	500 kV Dan Phuong - Cau Giay	2	x	20	New		X	X	Overhead line and underground cable (inner city), connected 220 kV Cau Giay substation
144	Hai Ba Trung - Thanh Cong	2	x	5	New		X	X	Underground cable, connected to 220 kV Hai Ba Trung substation
145	Hai Ba Trung - Mai Dong	2	x	3	New		X	X	Underground cable, connected to 220 kV Hai Ba Trung substation
146	Chuong My - Branch to Hoa Binh - Ha Dong	2	x	2	New		X	X	Connected to 220 kV Chuong My substation
147	500 kV Southern	2	x	15	New		X	X	Connected to 220 kV Phu Xuyen

	Hanoi - Phu Xuyen								substation
148	Connected to 500 kV Southern Hanoi substation	2	x	15	New		X	X	Connected to 500 kV Southern Hanoi substation, branch to Ha Dong Phu Ly and Ung Hoa - Phu Ly
149	500 kV Long Bien - Long Bien 2 - Mai Dong	4	x	10	New		X	X	Connected to 220 kV side of 500 kV Long Bien substation
150	500 kV Hai Phong - Duong Kinh	2	x	8	New		X	X	
151	500 kV Hai Phong - Tien Lang	2	x	14	New		X	X	Connected to 220 kV Tien Lang substation
152	Bac Bo 1 - Do Son	2	x	10	New		X		X Synchronized depending on scale and availability of local power sources
153	Bac Bo 3 - Hai Ha	2	x	20	New		X		X Synchronized depending on scale and availability of local power sources
154	Do Son - Duong Kinh	2	x	8	New		X	X	Connected to 220 kV Do Son substation
155	Dai Ban - Branch to Hai Duong 2 - Duong Kinh	4	x	2	New		X	X	Connected to 220 kV Dai Ban substation
156	Nhi Chieu - Mao Khe - Hai Duong 2	4	x	2	New		X	X	Connected to 220 kV Nhi Chieu substation
157	Tu Ky - Branch to 500 kV Hai Phong - Gia Loc	4	x	4	New		X	X	Connected to 220 kV Tu Ky substation

158	500 kV Gia Loc - Branch to Gia Loc - 500 kV Hai Phong	4	x	5	New		X	X		Connected to 500 kV Gia Loc substation built, in case of failure to allocate land for cascading 220 kV Gia Loc
159	500 kV Hung Yen - Dong Van	2	x	14	New		X	X		Connected to 500 kV Hung Yen substation
160	Van Giang - Branch to 500 kV Long Bien - 500 kV Thuong Tin	4	x	2	New		X	X		Connected to 220 kV Van Giang substation
161	500 kV Hung Yen (Hung Yen City) - Branch to Kim Dong - Pho Cao	4	x	5	New		X	X		Connected to 500 kV Hung Yen substation
162	Nam Dinh 2 - Branch to Truc Ninh - Ninh Binh and Truc Ninh - Nam Dinh	2	x	2	New		X	X		Connected to 220 kV Nam Dinh 2 substation
163	Thai Binh LNG - Tien Lang	2	x	56	New		X	X		Synchronizing Thai Binh LNG
164	Thai Binh LNG - Truc Ninh	2	x	50	New		X	X		Synchronizing Thai Binh LNG
165	Nghia Hung - Branch to 500 kV Nam Dinh Thermal Power - Hau Loc	4	x	2	New		X	X		Connected to 220 kV Nghia Hung substation
166	Quynh Phu - Branch to Thai Binh -	4	x	2	New		X	X		Connected to 220 kV Quynh Phu substation

	Dong Hoa									
167	Cao Bang - Lang Son	2	x	120	New		X	X		
168	Bao Lam - Bac Me	2	x	30	New		X	X	Relieving capacity of Ha Giang small-scale hydropower	
169	Van Ban - Branch to Than Uyen - 500 kV Lao Cai	4	x	10	New		X	X	Connected to 220 kV Van Ban substation, relieving capacity of small-scale hydropower	
170	Lang Son 1 - Dong Mo	2	x	60	New	X			X	Synchronized depending on scale and availability of local power sources
171	Lang Son 2 - 500 kV Lang Son 1	2	x	20	New		X		X	Synchronized depending on scale and availability of local power sources
172	Hiep Hoa 2 - Branch to 500 kV Hiep Hoa - Phu Binh 2	4	x	5	New		X	X		Connected to 220 kV Hiep Hoa 2 substation
173	500 kV Thai Nguyen - Branch to Malungtang - Thai Nguyen	2	x	12	New		X	X		Connected to 220 kV side of 500 kV Thai Nguyen substation. Switching on 220 kV Malungtang - Thai Nguyen line (Ha Giang - Thai Nguyen)
174	500 kV Thai Nguyen - Branch to Tuyen Quang (Substation) - Phu Binh	2	x	12	New		X	X		Connected to 220 kV side of 500 kV Thai Nguyen substation
175	500 kV Thai Nguyen -	2	x	9	New		X	X		Connected to 220 kV side of 500 kV

	Branch to Luu Xa - Phu Binh								Thai Nguyen substation
176	Dai Tu - Branch to Ha Giang - 500 kV Thai Nguyen and Tuyen Quang - 500 kV Thai Nguyen	4	x	2	New		X	X	Connected to 220 kV Dai Tu substation
177	Phu Tho 3 - Branch to Nghia Lo - 500 kV Viet Tri	4	x	5	New		X	X	Connected to 220 kV Phu Tho 3 substation
178	500 kV Bac Giang - Branch to An Khanh Bac Giang Thermal Power Plant - Lang Son	4	x	8	New		X	X	Connected to 220 kV side of 500 kV Bac Giang substation
179	Connected to 500 kV Yen The	4	x	4	New		X	X	Switching on 02 circuits of Phu Binh 2 - Branch to Lang Giang - Thai Nguyen
180	500 kV Yen The - Viet Yen	2	x	25	New		X	X	Connected to 220 kV Viet Yen substation
181	Tan Yen - Branch to Yen The - Viet Yen	4	x	5	New		X	X	Connected to 220 kV Tan Yen substation
182	Phuc Yen - Branch to 500 kV Vinh Yen - 220 kV Vinh Yen	2	x	2	New		X	X	Connected to 220 kV Phuc Yen substation
183	Chan Hung - Branch to 500 kV Viet Tri -	2	x	2	New		X	X	Connected to 220 kV Chan Hung substation

	220 kV Vinh Yen										
184	Bac Giang 1 - Lang Son 1	2	x	35	New	X			X	Synchronized depending on scale and availability of local power sources	
185	Dong Mo - Son Dong	2	x	60	New		X	X			
186	Bac Ninh 7 - Branch to 500 kV Dong Anh - Bac Ninh 4	4	x	2	New		X	X		Connected to 220 kV Bac Ninh 7 substation	
187	500 kV Bac Ninh - Bac Ninh	2	x	10	New		X	X		220 kV Pha Lai - Bac Ninh and Bac Ninh - Quang Chau lines built, synchronized, and combined into Pha Lai - Quang Chau to limit short-circuit currents	
188	Hai Ha Industrial Park - Hai Ha	2	x	10	New		X	X		Ensuring electricity supply to Hai Ha Industrial Park and relieving capacity of Hai Ha Thermal Power Cogeneration in case of increasing electricity capacity sold to electrical grid.	
189	Increasing load capacity of Quang Ninh - Hoanh Bo	2	x	20	New		X	X			
190	Quang Ninh 1 - Branch to Hoanh Bo - Son Dong Thermal Power and	4	x	5	New	X				X	Synchronized depending on scale and availability of local power sources

	Hoanh Bo - Trang Bach								
191	500 kV Lai Chau - Phong Tho	2	x	60	New		X	X	Relieving hydropower capacity, reducing load of 500 kV Lai Chau substation, large cross-section phase conductors
192	Sin Ho - Branch to 500 kV Lai Chau - Phong Tho	4	x	5	New		X	X	Connected to 220 kV Sin Ho substation, relieving local power sources
193	Muong Te - Sin Ho	2	x	35	New		X	X	Capacity of small- scale hydropower in Muong Te
194	Dien Bien 1 - Dien Bien	2	x	23	New		X	X	Synchronized depending on scale and availability of local power sources
195	Dien Bien 1 - Lai Chau	2	x	52	New		X	X	Synchronized depending on scale and availability of local power sources
196	Moc Chau - Branch to Trung Son Hydropower	2	x	35	New		X	X	Connected to 220 kV Moc Chau substation
197	Song Ma - 500 kV Son La	2	x	83	New		X	X	Relieving small- scale hydropower
198	Son La 1 - Branch to Son La - Suoi Sap 2A	2	x	4	New	X		X	Synchronized depending on scale and availability of local power sources
199	Connected to Tan Lac	6	x	5	New		X	X	Tan Lac - Hoa Binh - Yen Thuy built and connected to Trung Son

									Hydropower, establishing double-circuit 220 kV Hoa Binh - Tan Lac, Tan Lac - Yen Thuy and Tan Lac - Trung Son Hydropower - Hoi Xuan Hydropower
200	Thieu Hoa - 500 kV Thanh Hoa	2	x	5	New		X	X	Connected to 220 kV Thieu Hoa substation
201	Thieu Hoa - Thieu Yen	2	x	25	New		X	X	Connected to 220 kV Thieu Yen substation
202	Hoi Xuan Hydropower - Ba Thuoc	2	x	30	New		X		Connected to 220 kV Ba Thuoc substation
203	Thanh Hoa 1 - Branch to Nghi Son - Nong Cong	4	x	2	New	X			Synchronized depending on scale and availability of local power sources
204	Tuong Duong - Quy Hop	2	x	80	New		X	X	Relieving small-scale hydropower, and increasing electricity import from Laos
205	Nam Mo 1 Hydropower - My Ly - Ban Ve	2	x	18	New		X		Synchronized with Nam Mo 1 Hydropower (Vietnam)
206	Can Loc - Branch to Ha Tinh - Hung Dong	4	x	2	New		X	X	Connected to 220 kV Gia Loc substation
207	Ha Tinh 1 - Branch to Vung Ang - Ha Tinh	4	x	4	New	X			Synchronized depending on scale and availability of local power sources
208	Reserved for additional	350			New and renovated	X	X	X	Reserved for load growth and power

	220 kV line newly built or renovated								source development
II	Central								
1	Ba Don - Branch to Vung Ang - Dong Hoi	2	x	3	New		X	X	Switching on the remaining circuit, in case of increase in local power sources connected to 220 kV Ba Don substation
2	B&T1 Wind Power - Branch to Dong Hoi - Dong Ha on 2 nd circuit	2	x	10	New	X		X	Adding connecting structures for B&T Wind Power in order to meet the N-1 criterion
3	Connected to 500 kV Quang Tri	6	x	2	New	X		X	Switching to Dong Ha - Hue and Dong Ha - Phong Dien
4	Dong Ha - Hue on 3 rd circuit	1	x	78	New		X	X	Installing 3 rd circuit on existing 2 nd circuit of 220 kV Dong Hoa - Hue line
5	Quang Tri 1 TNC Wind Power - Huong Tan	1	x	11	New	X		X	Synchronizing Quang Tri 1, 2 TNC Wind Power, connection plan approved under Document No. 911/TTg-CN dated July 15, 2020
6	Huong Linh - Lao Bao	1	x	12	New	X		X	Relieving wind power, proposing the use of large cross-section phase conductors, approved under Document No. 911/TTg-CN dated July 15, 2020
7	Huong Hoa 1 LIG Wind	1	x	13	New	X		X	Synchronizing Huong Hoa 1 LIG

	Power - Huong Tan								Wind Power, approved under Document No. 911/TTg-CN dated July 15, 2020
8	Huong Hoa 2 LIG Wind Power - Huong Hoa 1 LIG	1	x	8	New	X		X	Synchronizing Huong Hoa 2 LIG Wind Power, approved under Document No. 911/TTg-CN dated July 15, 2020
9	Tai Tam Wind Power - Lao Bao	1	x	12	New	X		X	Completed. Relieving wind power, proposing the use of large cross-section phase conductors, approved under Document No. 911/TTg-CN dated July 15, 2020
10	Huong Tan - Lao Bao	1	x	12	New	X		X	Completed. Relieving wind power, proposing the use of large cross-section phase conductors, approved under Document No. 911/TTg-CN dated July 15, 2020
11	Amacao Wind Power - Lao Bao	1	x	8	New	X		X	Completed. Relieving wind power, proposing the use of large cross-section phase conductors, approved under Document No. 911/TTg-CN dated July 15, 2020
12	500 kV Lao Bao - Branch to Lao Bao -	4	x	5	New		X	X	Connected to 220 kV side of 500 kV Lao Bao substation

	Dong Ha								
13	500 kV Lao Bao - Branch to Tai Tam Wind Power - Lao Bao	2	x	5	New		X	X	Connected to 220 kV side of 500 kV Lao Bao substation
14	Phong Dien - Branch to Dong Ha - Hue (2 nd circuit)	2	x	5	New		X	X	Switching on one more circuit, increasing the capability for relieving capacity of power source from 220 kV Phong Dien substation; currently switching on 01 circuit only
15	Chan May - Branch to Hoa Khanh - Hue	4	x	5	New	X		X	Connected to 220 kV Chan May substation
16	Hai Chau - Hoa Khanh	2	x	10	New	X		X	Considered for switching on 1 circuit of Da Nang - Hoa Khanh
17	Hai Chau - Ngu Hanh Son	2	x	10	New		X	X	
18	Duy Xuyen - Branch to Da Nang - Tam Ky	4	x	2	New	X		X	Completed. Connected to 220 kV Duy Xuyen substation
19	500 kV Thanh My - Duy Xuyen	2	x	69	New	X		X	
20	Tam Hiep - Branch to Tam Ky - Doc Soi	4	x	1	New	X		X	Connected to 220 kV Tam Hiep substation
21	Lien Chieu - Branch to Hoa Khanh - Hue	4	x	3	New		X	X	Connected to 220 kV Lien Chieu substation

22	Dak Mi 2 - Branch to Dak My 3 - Dak My 4A	2	x	5	New	X		X	Completed. Synchronizing Dak Mi 2 Hydropower
23	Nam Emoun Hydropower - Dak Ooc switching station	2	x	51	New	X		X	Synchronizing Nam Emoun Hydropower (Laos), installing 1 circuit in advance
24	220 kV Dak Ooc switching station - Branch to Xekaman 3 - Thanh My	4	x	2	New	X		X	Connected to 220 kV Dak Ooc switching station, synchronizing Nam Emoun Hydropower (Laos)
25	220 kV Dak Ooc switching station - Song Bung 2 Hydropower	2	x	10	New		X	X	Relieving capacity of power sources imported from Laos
26	Increasing load capacity of Dak Ooc - Thanh My	2	x	31	Renovated		X	X	Relieving capacity of power sources imported from Laos
27	2 nd circuit of Quang Ngai - Quy Nhon (Phuoc An)	2	x	142	New	X		X	Installing 2 nd circuit, replacing 1st circuit phase conductors, increasing the capability for relieving capacity of power sources
28	Phuoc An - Branch to An Khe Hydropower - Quy Nhon (1 st circuit)	2	x	2	New		X	X	
29	Increasing load capacity of Doc Soi -	2	x	8	Renovated		X	X	Considered for construction of new Doc Soi -

	Dung Quat								Dung Quat CCGT section, boosting the progress of distribution yard of Dung Quat CCGT in order to minimize blackout time of 220 kV Doc Soi - Dung Quat line.
30	Dung Quat CCGT - Dung Quat 2	2	x	3	New	X		X	Supplying power to 220 kV Dung Quat 2 substation
31	Dung Quat CCGT - Branch to Doc Soi - Dung Quat	4	x	3	New	X		X	Connected to 220 kV distribution yard of Dung Quat CCGT
32	Installing 2 nd circuit of Doc Soi - Quang Ngai	2	x	59	New	X		X	Installing 2 nd circuit, considered for use of super-temperature conductor for both circuits when developing renewable energy and small-scale hydropower in the area (Kon Plong Wind Power, Dak Re Hydropower Complex, Nuoc Long Hydropower Complex)
33	Nuoc Long Hydropower Complex - Branch to Upper Kon Tum - Quang Ngai	2	x	4	New			X	Relieving hydropower capacity according to Document No. 136/TTg-CN dated January 29, 2021
34	Increasing load capacity of Pleiku 2 -	1	x	151	New			X	Building new 2 nd circuit or replacing super-

	Phuoc An								temperature conductor
35	Phuoc An - Nhon Hoi	2	x	15	New		X	X	Connected to 220 kV Nhon Hoi substation
36	500 kV Binh Dinh - Branch to Phuoc An - Phu My	4	x	5	New		X	X	Connected to 220 kV side of 500 kV Binh Dinh substation
37	500 kV Binh Dinh - Branch to An Khe - Quy Nhon and Pleiku 2 - Phuoc An	4	x	35	New		X	X	Connected to 220 kV side of 500 kV Binh Dinh substation
38	Phu My - Branch to Phuoc An - Quang Ngai (2 nd circuit)	2	x	2	New	X		X	Switching on 01 more circuit, increasing the capability for relieving capacity of power source from 220 kV Phu My substation; currently switching on 01 circuit only
39	Bo Y - Kon Tum	2	x	52	New		X	X	Connected to 220 kV Bo Y substation
40	Dak Mi 1 Hydropower - Dak My 2 Hydropower	1	x	15	New	X		X	Synchronizing Dak Mi 1 Hydropower
41	Nam Kong 3 - 220 kV Bo Y switching station	2	x	76	New	X		X	Synchronizing Nam Kong 1, 2, 3 Hydropower (Laos)
42	220 kV Bo Y switching station - Branch to Xekaman 1 - Pleiku 2	4	x	2	New	X		X	Connected Bo Y switching station, Nam Kong 1, 2, 3 Hydropower (Laos)

43	Kon Plong Wind Power - Upper Kon Tum Hydropower - Quang Ngai	2	x	19	New	X			X	Synchronizing Kon Plong Wind Power, connection plan approved under Document No. 911/TTg-CN dated July 15, 2020	
44	Dak Lo 3 Hydropower - Branch to Upper Kon Tum - Quang Ngai	4	x	1	New			X		Relieving hydropower capacity, connection plan as specified in Document No. 136/TTg-CN dated January 29, 2021 and Document No. 29/BCT-DL dated January 05, 2021	
45	Increasing load capacity of Kon Tum - Pleiku	2	x	36	Renovated			X	X		
46	Increasing load capacity of Pleiku - An Khe Biomass Power - An Khe Hydropower	1	x	98	Renovated	X				X	
47	Chu Se - Pleiku 2 - Krong Buk	4	x	2	New	X			X	Completed. Connected to 220 kV Chu Se substation, switching on both circuits	
48	2 nd circuit of Pleiku 2 - Krong Buk	1	x	141	New	X			X	Converted from single circuit to double circuit	
49	Krong Pa - Chu Se	2	x	63	New	X			X	Connected to 220 kV Krong Pa substation	
50	Nhon Hoa 1 Wind Power - Krong Buk -	4	x	4	New	X				X	Connecting Nhon Hoa 1, 2 Wind Power; connection

	Pleiku 2								plan approved under Document No. 911/TTg-CN dated July 15, 2020. As soon as 500 kV Nhon Hoa substation is put into operation, Nhon Hoa 1 and 2 Wind Power will be connected to 500 kV Nhon Hoa Substation, disconnected on both circuits and allow 220 kV Kron Buk - Pleiku 2 line to be restored in accordance with Document No. 323/TTg-CN dated March 17, 2021 of the Prime Minister and Document No. 1301/BCT-DL dated March 11, 2021 of the Ministry of Industry and Trade.
51	Ia Pet Dak Doa Wind Power - Pleiku 3	2	x	23	New	X		X	Completed. Synchronizing Ia Pet - Dak Doa Wind Power, connection plan approved under Document No. 911/TTg-CN dated July 15, 2020
52	Ia Le 1 Wind Power - Krong Buk - Pleiku 2	2	x	6	New	X		X	Completed. Synchronizing Ia Le 1 Wind Power, connection plan approved under Document No. 911/TTg-CN dated July 15, 2020

53	Ia Boong Wind Power - Chu Prong - Nhon Hoa 1 Wind Power	1	x	8	New	X	X	Synchronizing Ia Boong Wind Power Plant - Chu Prong. Revised location and connection plan of Ia Boong Wind Power Plant - Chu Prong are proposed under Document No. 3225/BCT-DL dated June 9, 2022, Document No. 4776/BCT-DL dated August 11, 2022, Document No. 6660/BCT-DL dated October 26, 2022 of Ministry of Industry and Trade and Document No. 835/TTg-CN dated September 22, 2022 of the Prime Minister.
54	Hung Hai Gia Lai Wind Power - Branch to Pleiku 2 - An Khe Hydropower	2	x	14	New	X	X	Completed. Synchronizing Hung Hai Gia Lai Wind Power, connection plan approved under Document No. 911/TTg-CN dated July 15, 2020
55	Yang Trung Wind Power - Pleiku 2 - An Khe Hydropower	2	x	25	New	X	X	Completed. Synchronizing Yang Trung Wind Power, replacing 220 kV Yang Trung Wind Power - Pleiku 2 - An Khe line approved under Document No. 911/TTg-CN dated July 15, 2020. If Yang

									Trung Wind Power is put into operation before Hung Hai Gia Lai Wind Power, invest in synchronizing 220 kV Yang Trung Wind Power - Branch to Pleiku 2 - An Khe line. Hung Hai Gia Lai Wind Power to be connected on both circuits of 220 kV Yang Trung Wind Power - Branch to Pleiku 2 - An Khe line.
56	An Khe - Branch to Pleiku 2 - Phuoc An	2	x	1	New	X		X	Connected to 220 kV An Lao substation
57	Krong Ana - Branch to Krong Buk - Buon Kuop	2	x	22	New	X		X	Completed. Connected to 220 kV Krong Ana substation
58	500 kV Krong Buk - Krong Buk	2	x	27	New	X		X	Connected to 220 kV Krong Buk substation, phase line
59	2 nd circuit of Krong Buk - Nha Trang	1	x	151	New	X		X	Converted from single circuit to double circuit
60	Krong Buk Wind Power - Branch to Krong Buk - Pleiku 2	2	x	2	New	X		X	Completed. Synchronizing Krong Buk 1, 2 Wind Power, Cu Ne 1, 2 Wind Power, connection plan approved under Document No. 911/TTg-CN dated July 15, 2020
61	Increasing	1	x	28	Renovated		X	X	Relieving capacity

	load capacity of Srepok 3 Hydropower - Buon Kuop								of power sources
62	Ba Ha River Hydropower - 500 kV Krong Buk	2	x	113	New		X	X	Increasing the capability for relieving the capacity of local power sources
63	Increasing load capacity of Buon Kuop - Buon Tua Shra - 500 kV Dak Nong	1	x	112	Renovated	X			X Relieving capacity of power sources
64	Increasing load capacity of Dak Hoa Wind Power - Buon Kuop - 500 kV Dak Nong	2	x	2	New	X			X Completed. Connected to Dak Hoa Wind Power, connection plan approved under Document No. 911/TTg-CN dated July 15, 2020
65	220 kV substation of Dak Nong aluminium smelting plant - Branch to Binh Long - 500 kV Dak Nong	4	x	3	New		X	X	Synchronized with load
66	220 kV substation of Dak Nong aluminium smelting plant - Branch to Buon Kuop - 500 kV Dak Nong	2	x	6	New		X	X	Synchronized with load
67	Increasing load capacity of Tuy Hoa -	2	x	118	Renovated		X	X	Increasing the capability for relieving the

	Van Phong - Nha Trang								capacity of local power sources
68	Tuy Hoa - Phuoc An	2	x	95	New		X	X	Increasing the capability for relieving the capacity of local power sources
69	HBRE An Tho - Thuy Hoa	1	x	16	New	X		X	Synchronizing An Tho Wind Power
70	Increasing load capacity of Tuy Hoa - Quy Nhon	1	x	93	Renovated	X		X	Increasing the capability for relieving the capacity of local power sources
71	Connected to 220 kV Song Cau substation	4	x	5	New		X	X	220 kV Song Cau Substation built and connected, Phase 1: Connected via existing 220 kV Tuy Hoa - Quy Nhon line. Phase 2: Connected via 2 circuits of 220 kV Tuy Hoa - Phuoc An as soon as this line is put into operation.
72	Nha Trang - Thap Cham	2	x	89	New	X		X	
73	Cam Ranh - Branch to Nha Trang - Thap Cham	4	x	1	New	X		X	Completed. Connected to 220 kV Cam Ranh substation
74	Van Ninh - Branch to Van Phong - Tuy Hoa	4	x	2	New	X		X	Connected to 220 kV Van Ninh substation
75	500 kV Van Phong - Branch to Tuy Hoa -	2	x	26	New	X		X	Completed. Connected to 220 kV side of 500 kV Van Phong

	220 kV Van Phong (1 st circuit)								substation
76	500 kV Van Phong - Branch to Tuy Hoa - 220 kV Van Phong (2 nd circuit)	2	x	26	New	X		X	Completed. Connected to 220 kV side of 500 kV Van Phong substation
77	Le Thuy - Dong Hoi - Dong Ha	4	x	2	New	X			X Synchronized depending on scale and availability of local power sources, cascading 500 kV Quang Binh substation
78	Increasing load capacity of Dong Hoi - Dong Ha	2	x	108	Renovated			X	X When Quang Tri Wind Power develops extensively
79	Quang Tri CCGT - Dong Nam - 500 kV Quang Tri	2	x	5	New			X	X Synchronizing Quang Tri CCGT
80	500 kV Quang Tri - Dong Nam	2	x	27	New			X	X Connected to 220 kV Dong Nam substation
81	Huong Thuy - Branch to Hue - Hoa Khanh	4	x	2	New			X	X Connected to 220 kV Huong Thuy substation
82	Increasing load capacity of Hue - Hoa Khanh	2	x	82	Renovated			X	X
83	Increasing load capacity of Da Nang - Tam Ky - Doc Soi	2	x	100	Renovated			X	X
84	Tien Sa - Hai	2	x	4	New			X	X Connected to 220

	Chau - Ngu Hanh Son								kV Tien Sa substation
85	Da Nang Airport - Branch to Hoa Khanh - Da Nang	2	x	5	New		X	X	220 kV substation of Da Nang Airport connected via underground cable
86	Dung Quat - Dung Quat 2	2	x	3	New		X	X	Meeting the N-1 criterion
87	Dien Ban - South of Hoi An	2	x	24	New		X	X	Connected to 220 kV Southern Hoi An substation
88	500 kV Da Nang - Dien Bien	2	x	12	New		X	X	Connected to 220 kV Dien Ban substation
89	Quang Ngai 2 - Branch to Doc Soi - Quang Ngai	4	x	2	New		X	X	Connected to 220 kV Quang Ngai 2 substation
90	Phu My 2 - Phu My	2	x	20	New		X		X Synchronized together with the development of specialized load
91	Southern Phu Yen - Branch to Nha Trang - Tuy Hoa	4	x	4	New		X	X	Connected to 220 kV Southern Phu Yen substation
92	500 kV Van Phong - 220 kV Van Phong	2	x	20	New		X	X	
93	Cam Thinh - Branch to Cam Ranh - Thap Cham	4	x	3	New		X	X	Connected to 220 kV Cam Thinh substation
94	220 kV Bo Y switching station - Bo Y	2	x	30	New		X	X	
95	Upper Kon Tum - Kon Tum	2	x	83	New		X	X	Relieving capacity of hydropower and wind power, increasing the

									connectivity
96	Ea Kar - Branch to Krong Buk - Nha Trang	4	x	2	New		X	X	Connected to 220 kV Ea Kar substation
97	Gia Lai 1 - Pleiku 3	2	x	20	New		X	X	Synchronized depending on scale and availability of local power sources
98	Dak Nong 2 - Branch to Buon Kuop - Buon Tua Srah	2	x	10	New		X	X	Connected to 220 kV Dak Nong 2 substation
99	Connected to Offshore Wind Power of Central Vietnam	60			New		X	X	Synchronized depending on scale and availability of local power sources
100	Reserved for additional 220 kV line newly built or renovated	490			New and renovated	X	X	X	Reserved for load growth and power source development
101	South								
1	2 nd circuit of Bao Loc - Song May	2	x	118	Renovated			x	Renovating 1 st circuit, building 2 nd circuit, increasing reliability
2	220 kV Da Nhim switching station - Branch to Thap Cham - Da Nhim	2	x	1	New		x	x	Synchronizing 220 kV Da Nhim switching station
3	220 kV Da Nhim switching station - Duc Trong - Di	2	x	85	New		x	x	Relieving local power sources; replacing structures that improve 220 kV Da Nhim - Duc

	Linh								Trong - Di Linh line from single circuit to double circuit due to difficulties in energizing existing line and failure to expand 220 kV Da Nhim Hydropower Substation
4	Dong Nai 2 Hydropower - Branch to Duc Trong - Di Linh and switching over connection (Duc Trong - Dong Nai 2 Hydropower instead of Duc Trong - Di Linh), increasing load capacity of 220 kV Dong Nai 2 Hydropower - Di Linh line	1	x	15	New		x	x	Building new, renovating, creating 220 kV single-circuit line of Duc Trong - Dong Nai 2 Hydropower - Di Linh replacing 220 kV double-circuit line of Dong Nai 2 Hydropower - Di Linh
5	Duc Trong -0 Branch to 220 kV Da Nhim switching station - Di Linh	2	x	1	New		x	x	Relieving local power sources
6	Nha Trang - Thap Cham	2	x	88	New		x	x	
7	500 kV Ninh Son - Branch to Thap Cham - Ninh Phuoc	4	x	22	New		x	x	Connected to 500 kV Ninh Son substation
8	500 kV Ninh Son - Ninh	2	x	35	New		x	x	Replacing 220 kV Ninh Phuoc - Vinh

	Phuoc								Tan line due to difficulty in direction
9	500 kV Ninh Son - 220 kV Da Nhim switching station	2	x	18	New		x	x	Relieving local power sources
10	Thap Cham - 220 kV Da Nhim switching station	2	x	46	New		x	x	Relieving local power sources
11	500 kV Vinh Tan - Ca Na	2	x	14	New		x	x	Connected to 220 kV Ca Na substation
12	Ninh Phuoc - 500 kV Thuan Nam	2	x	25	New	x		x	Completed. Relieving local power sources
13	Ham Tan - Branch to Phan Thiet - Chau Duc (2 nd circuit)	2	x	6	New	x		x	
14	Ham Thuan Nam - Branch to Phan Thiet - Ham Tan	4	x	4	New	x		x	Connected to 220 kV Ham Thuan Nam substation
15	Vinh Hao - Branch to Vinh Tan - Phan Ri	2	x	2	New	x		x	Connected to 220 kV Vinh Hao substation
16	Hoa Thang - Branch to Phan Thiet - Phan Ri	2	x	7	New	x		x	Connected to 220 kV Hoa Thang substation
17	Increasing load capacity of Ham Thuan - Da My - Xuan Loc	2	x	95	Renovated		x	x	
18	Increasing	1	x	55	Renovated		x	x	

	load capacity of Phan Thiet - Ham Thuan								
19	Cat Lai - Tan Cang	2	x	15	New	x		x	
20	Binh Chanh 1 - Cau Bong	2	x	13	New		x	x	
21	Thuan An - Tan Son Nhat	2	x	15	New		x	x	
22	Tan Son Nhat - Branch to Hoc Mon - Thu Duc	2	x	9	New	x		x	
23	Phu Lam - Dam Sen	2	x	6	New	x		x	
24	Dam Sen - Ba Queo - Tan Son Nhat	2	x	10	New	x		x	Ba Queo - Tan Son Nhat section: 2021-2025 period Dam Sen - Ba Queo section: 2026-2030 period
25	500 kV Long Thanh - Hi-tech	2	x	25	New	x		x	
26	500 kV Cu Chi - Branch to Cu Chi - Trang Bang	4	x	1	New	x		x	Connected to create 220 kV line of 500 kV Cu Chi - Trang Bang and 500 kV Cu Chi - Tan Dinh
27	500 kV Cu Chi - Branch to Cu Chi - Tan Dinh	2	x	1	New	x		x	Connected to create 220 kV line of 500 kV Cu Chi - 220 kV Cu Chi
28	Thu Thiem - Branch to Cat Lai - Tan Cang	4	x	1	New	x		x	
29	Tao Dan - Tan Cang	2	x	7	New	x		x	

30	District 7 - Nha Be and expanding 220 kV feeder bay in 500 kV Nha Be substation	2	x	6	New	x	x		Connected to 220 kV District 7 substation, in case of failure to expand 220 kV feeder bay in 500 kV Nha Be substation, considering connection of District 7 - Branch to Nhon Trach 1&2 Thermal Power - Nha Be (2x7km), using large cross-section conductor	
31	District 9 - Branch to Long Thanh - Hi-tech	4	x	5	New		x	x		
32	Hiep Phuoc LNG Phase 1 - Branch to Phu My - Can Duoc	4	x	3	New		x		x	Synchronizing LNG Hiep Phuoc Phase 1
33	Increasing load capacity of Phu My - Can Duoc	2	x	57	Renovated		x	x		Synchronizing LNG Hiep Phuoc Phase 1
34	Southern Hiep Phuoc - Branch to Phu My - Can Duoc	4	x	2	New		x	x		Connected to 220 kV Southern Hiep Phuoc substation. Selecting conductor of a proposed cross section appropriate to cross section of 220 kV Phu My - Can Duoc line after improving load capacity
35	Increasing load capacity of Thu Duc - Tan Uyen - Long Binh	2	x	44	Renovated		x	x		Considering load capacity of existing underground cable

36	Increasing load capacity of Binh Long - Chon Thanh	2	x	32	Renovated	x		x		Relieving local power sources
37	Phuoc Long - Branch to Binh Long - Dak Nong	2	x	5	New	x		x		
38	Dinh Quan - Branch to Bao Loc - Song May	4	x	1	New	x		x		
39	Tan Bien - Tay Ninh	2	x	25	New	x		x		
40	500 kV Tay Ninh 1 - Branch to Tay Ninh 2 - Trang Bang	4	x	8	New		x	x		Connected to 500 kV Tay Ninh 1 substation
41	500 kV Tay Ninh 1 - Phuoc Dong	2	x	8	New		x	x		
42	Chon Thanh - Ben Cat	2	x	28	New	x		x		
43	Ben Cat 2 - Branch to Tan Dinh - Cu Chi	4	x	1	New	x		x		
44	Ben Cat 2 - Branch to Chon Thanh - Ben Cat	2	x	20	New		x	x		Connected to 220 kV Chon Thanh - Ben Cat line on 01 circuit
45	Tan Dinh 2 - Branch to My Phuoc - Ben Cat	4	x	11	New	x		x		
46	500 kV Binh Duong 1 - Branch to Uyen Hung - Song May	4	x	40	New	x		x		Connected to 500 kV Binh Duong 1 substation
47	An Thanh	4	x	3	New		x	x		

	(VSIP) - Branch to Tan Uyen - Thuan An								
48	Binh My - Branch to Binh Duong 1 - Song May	4	x	3	New	x		x	
49	Lai Uyen - Branch to Chon Thanh - Ben Cat	4	x	1	New	x		x	
50	Bac Tan Uyen - Branch to Binh My - Song May	2	x	7	New		x	x	
51	Song May - Tam Phuoc	2	x	14	New	x		x	
52	An Phuoc - Branch to Long Binh - Long Thanh	4	x	1	New	x		x	Completed
53	Tam Phuoc - Branch to Long Binh - Long Thanh	4	x	1	New	x		x	Completed
54	500 kV Long Thanh - Branch to Long Binh - Long Thanh	4	x	10	New	x		x	Connected to 500 kV Long Thanh substation
55	500 kV Dong Nai 2 - Branch to Xuan Loc - Long Thanh	4	x	12	New	x		x	
56	Long Khanh - Branch to Xuan Loc - Long Thanh	4	x	1	New	x		x	
57	Nhon Trach 3 Power Plant -	2	x	10	New	x		x	Synchronizing Nhon Trach 3

	Branch to My Xuan - Cat Lai								Power Plant; replacing Nhon Trach 3 Power Plant - Cat Lai line (directing to Thu Duc) due to difficulty in line direction
58	Nhon Trach 3 Power Plant - 500 kV Long Thanh	2	x	44	New	x		x	Synchronizing Nhon Trach 3 Power Plant
59	Nhon Trach Industrial Park - Branch to Nhon Trach 3 Power Plant - 500 kV Long Thanh	4	x	3	New	x		x	Synchronizing 220 kV substation of Nhon Trach Industrial Park. If Nhon Trach 3 Power Plant is behind schedule, considering construction of 220 kV line of Nhon Trach Industrial Park - Long Thanh
60	Increasing load capacity of Song May - Long Binh (1 st circuit)	1	x	16	Renovated	x		x	
61	Increasing load capacity of Song May - Long Binh (2 nd circuit)	1	x	25	Renovated	x		x	
62	Thong Nhat - Branch to Bao Loc - Song May	4	x	2	New		x	x	
63	Increasing load capacity of Tan Dinh - Binh Hoa	2	x	11	Renovated		x	x	
64	Expanded Tri An	2	x	1	New		x	x	Synchronizing expanded Tri An

	Hydropower - Tri An Hydropower								Hydropower
65	Increasing load capacity of Phu My - Tan Thanh	2	x	11	Renovated		x	x	
66	Increasing load capacity of Phu My - Long Thanh	2	x	25	Renovated	x		x	
67	Phu My 3 Industrial Park - Branch to Tan Thanh - Chau Duc	4	x	1	New	x		x	
68	500 kV Northern Chau Duc - Branch to Chau Duc - Tan Thanh	4	x	10	New		x	x	
69	3 rd and 4 th circuits of Phu My - Tan Thanh and connected to 220 kV Tan Thanh substation	2	x	10	New	x		x	
70	Phuoc Thuan (Dat Do) - Branch to Phan Thiet - Tan Thanh and Ham Tan - Tan Thanh	4	x	6	New	x		x	
71	Long Son - Branch to Chau Duc - Phu My 3 Industrial Park	2	x	8	New	x		x	Considered for the use of conductor with cross section appropriate to cross section of 220 kV renovated line of Chau Duc -

									Phu My 3 Industrial Park (2026-2030 period)
72	Increasing load capacity of Tan Thanh - Vung Tau	2	x	30	Renovated		x	x	
73	Ben Luc - Branch to Phu Lam - Long An (2 nd circuit)	2	x	1	New	x		x	Completed
74	Increasing load capacity of Long An - Ben Luc	2	x	14	Renovated		x	x	
75	Go Cong - Can Duoc	2	x	27	New	x		x	
76	500 kV Duc Hoa - Branch to Phu Lam - Long An (2 nd circuit)	2	x	20	New	x		x	Connected to 220 kV side of 500 kV Duc Hoa Substation on remaining circuit of 220 kV line of Phu Lam - 500 kV Long An
77	Duc Hoa 2 - Branch to 500 kV Duc Hoa - Duc Hoa 1	4	x	10	New	x		x	
78	Duc Hoa 3 connected to 220 kV line of 500 kV Duc Hoa - Branch to Phu Lam - Long An	4	x	6	New	x		x	
79	Installing 3 rd and 4 th circuits of 220 kV line of 500 kV Duc Hoa -	2	x	25	New		x	x	Considered for connection to 220 kV substation of Northwest Cu Chi

	Duc Hoa 1								
80	500 kV Long An - Branch to Can Duoc - Phu My	4	x	1	New		x	x	
81	500 kV Thot Not - Lap Vo	2	x	22	New	x		x	
82	Hong Ngu - Chau Doc	2	x	40	New		x	x	
83	Sa Dec - O Mon - Vinh Long (2 nd circuit)	2	x	1	New		x	x	Connected to 220 kV Sa Dec substation and remaining circuit of 220 kV O Mon - Vinh Long line
84	Long Xuyen - Branch to Chau Doc - Thot Not (2 nd circuit)	2	x	1	New		x	x	Connected to 220 kV Long Xuyen Substation and remaining circuit of 220 kV Chau Doc - Thot Not line
85	Chau Thanh (An Giang) - Branch to Long Xuyen - Chau Doc	4	x	2	New	x		x	
86	Cho Moi - Chau Thanh (An Giang)	2	x	9	New	x		x	
87	Converting 220 kV Chau Doc - Kien Binh 1 line from single-circuit to double-circuit	2	x	75	Renovated		x	x	Converting line from single-circuit to double-circuit, increasing load capacity
88	Tan Phuoc (Cai Be) - Branch to 500 kV My Tho - Long An	4	x	7	New	x		x	
89	My Tho -	2	x	4	New		x	x	Connected to 220

	Branch to 500 kV My Tho - Can Duoc (2 nd circuit)								kV My Tho substation and on remaining circuit of 220 kV My Tho - 500 kV Can Duoc line
90	Can Duoc - Branch to 500 kV Phu My - My Tho (2 nd circuit)	2	x	5	New		x	x	Connected to 220 kV Can Duoc substation and on remaining circuit of 220 kV Phu My - 500 kV My Tho line
91	Increasing load capacity of 500 kV My Tho - My Tho - Can Duoc	2	x	55	Renovated		x	x	
92	Vinh Long 3 - Branch to Vinh Long 2 - Tra Vinh	4	x	1	New	x		x	
93	Ben Tre - Binh Dai	2	x	50	New	x		x	Synchronized depending on scale and availability of local power sources
94	Thanh Phu - Branch to Hai Phong Wind Power - Mo Cay	4	x	3	New	x		x	Synchronized depending on scale and availability of local power sources In case Hai Phong Wind Power is behind schedule, build 220 kV double-circuit Thanh Phu - Mo Cay line in advance synchronized with 220 kV Thanh Phu Substation, Hai Phong Wind Power connected to 220 kV Thanh Phu

									substation via double-circuit 220 kV line.		
95	2 nd circuit of 220 kV Rach Gia 2 - Kien Binh line	2	x	74	Renovated	x		x	Converting line from single circuit to double circuit		
96	An Bien (Vinh Thuan) - Branch to Ca Mau Thermal Power - Rach Gia	2	x	17	New	x		x			
97	220 kV Duyen Hai - 500 kV Duyen Hai - Mo Cay	4	x	3	New	x		x			
98	Tra Vinh 3 - 500 kV Duyen Hai	2	x	3	New		x		x	Synchronized with 220 kV Tra Vinh 3 substation	
99	Ca Mau 3 - Branch to Ca Mau - Nam Can	2	x	26	New		x			x	Synchronized with 220 kV Ca Mau 3 substation
100	Chau Thanh (Hau Giang) - O Mon - Soc Trang	4	x	2	New	x			x		Completed
101	Kien Binh - Phu Quoc	2	x	84	New	x			x		Completed
102	Vinh Chau - Long Phu - Soc Trang (1 st circuit)	2	x	20	New	x			x		Completed. Connected to 220 kV Vinh Chau substation, relieving local power sources
103	Ca Mau - Nam Can	2	x	58	New	x			x		
104	Bac Lieu - Branch to Ca Mau Thermal	2	x	5	New	x			x		Relieving local power sources; naming the work

	Power - Soc Trang (2 nd circuit)							approved under Document No. 441/TTg-CN dated April 16, 2020 “ĐD 220 kV mạch kép đầu nối TBA 220 kV Bạc Liêu chuyển tiếp trên ĐD ND Cà Mau - Bạc Liêu” (“220 kV double-circuit line connecting to 220 kV Bac Lieu substation and on Ca Mau Thermal Power - Bac Lieu line”)
105	Phuoc Thai - Branch to Vinh Tan - Thap Cham (2 nd circuit)	2	x	3	New	x	x	Connected to 220 kV Phuoc Thai substation on remaining circuit of 220 kV Vinh Tan - Thap Cham line, serving local electricity sources, relieving local power sources
106	Duc Trong Wind Power - Branch to Da Nhim - Duc Trong	2	x	1	New	x	x	Synchronizing Duc Trong Wind Power Plant. Revised location and connection plan of Duc Trong Wind Power Plant are proposed under Document No. 3225/BCT-DL dated June 9, 2022, Document No. 4776/BCT-DL dated August 11, 2022, Document No. 6660/BCT-DL dated October 26, 2022 of Ministry of Industry and Trade and Document No.

									835/TTg-CN dated September 22, 2022 of the Prime Minister. Synchronized with 220 kV Da Nhim Switching Station - Duc Trong - Di Linh line.	
107	Phuoc Huu Wind Power - 220 kV Ninh Phuoc	1	x	2	New	x			x	Connected to Phuoc Huu Wind Power, replacing 110 kV Phuoc Huu Wind Power - 110 kV Ninh Phuoc line approved under Decision No. 3768/QD-BCT dated January 27, 2011 due to inability of the 110 kV grid to serve. 220 kV Phuoc Huu Wind Power step-up substation having capacity of 63 MVA.
108	Ninh Thuan 5 Wind Power - Ninh Phuoc	2	x	2	New	x			x	Completed. Synchronizing Ninh Thuan 5 Wind Power
109	Lac Hoa 2 Wind Power - Hoa Dong 2 Wind Power	1	x	6	New	x			x	Relieving local power sources, connection plan approved under Document No. 911/TTg-CN dated June 24, 2020
110	Phase 3 Bac Lieu Wind Power - Bac Lieu	2	x	18	New	x			x	Synchronizing Phase 3 Bac Lieu Wind Power, connection plan approved under Document No. 209/QD-TTg dated February 09, 2018

111	Hoa Binh - Branch to Gia Rai - Bac Lieu	2	x	13	New	x		x	Connected to 220 kV Hoa Binh substation (Bac Lieu Province) on 220 kV Gia Rai - Bac Lieu line, relieving local power sources
112	Hoa Binh connected to 220 kV line connected to Hoa Binh 5 Wind Power	4	x	5	New	x		x	Connected to 220 kV Hoa Binh substation (Bac Lieu Province), relieving local power sources
113	Vien An Wind Power - Nam Can	1	x	20	New	x		x	Proposing 110 kV connection (Document No. 3487/UBND-KT dated May 16, 2023 of the People's Committee of Ca Mau province)
114	Ca Mau 1 Wind Power complex - Ca Mau	2	x	52	New	x		x	Synchronizing Ca Mau 1 Wind Power complex
115	Long My 1 Wind Power - Branch to Ca Mau Thermal Power - O Mon	2	x	1	New	x		x	Synchronizing Long My 1 Wind Power
116	Ben Tre Wind Power No. 19 - Binh Dai	2	x	12	New	x		x	Building new, synchronizing Ben Tre Wind Power No. 19, relieving capacity of Ben Tre Wind Power No. 19 and No. 20 with a few adjustments to Document No. 911/TTg-CN, replacing 220 kV

									Ben Tre Wind Power No. 19 - Ben Tre line of approximately 50 km in length due to difficulty in expanding the feeder bay in 220 kV Ben Tre substation. The actual length is around 0.03 km.	
117	Hai Phong Wind Power - Mo Cay	2	x	50	New	x			x	Synchronizing Hai Phong Wind Power, connection plan approved under Document No. 911/TTg-CN dated July 15, 2020
118	Dong Hai 1 Wind Power - South Central Tra Vinh Solar Power	1	x	7	New	x			x	Completed. Synchronizing Dong Hai 1 Wind Power, connection plan approved under Document No. 911/TTg-CN dated July 15, 2020
119	Dong Thanh 1 Wind Power - 500 kV Duyen Hai	2	x	4	New	x			x	Synchronizing Dong Thanh 1 Wind Power relieving capacity of Dong Thanh 1 and Dong Thanh 2 Wind Power with a few adjustments to Document No. 911/TTg-CN, replacing 220 kV Dong Thanh 1 Wind Power - Dong Hai 1 - 500 kV Duyen Hai line to avoid overloading 220 kV Dong Hai 1 Wind Power -

									South Central Tra Vinh Solar Power - 500 kV Duyen Hai line.
120	Thang Long Wind Power - 220 kV Duyen Hai	1	x	12	New	x		x	Synchronizing Thang Long Wind Power, connection plan approved under Document No. 911/TTg-CN dated July 15, 2020
121	Soc Trang 4 Wind Power - Vinh Chau	2	x	5	New	x		x	Synchronizing Soc Trang Wind Power, connection plan approved under Document No. 911/TTg-CN dated July 15, 2020
122	Phu Cuong 1A and 1B Wind Power - Vinh Chau	2	x	22	New	x		x	Synchronizing Phu Cuong 1A and 1B Wind Power; connection plan approved under Document No. 911/TTg-CN dated July 15, 2020
123	Ta Nang - Branch to Duc Trong - Di Linh (new circuit)	2	x	20	New		x	x	Synchronized depending on scale and availability of local power sources
124	Dong Quan The - Branch to Vinh Tan - 220 kV Quan The switching station	2	x	1	New		x	x	Synchronized together with the development of specialized load
125	Dong Quan The - Ca Na	1	x	7	New		x	x	Synchronized together with the development of specialized load
126	Hong Phong - Branch to Phan Thiet -	2	x	1	New	x		x	Synchronized depending on scale and availability of

	Phan Ri								local power sources	
127	Ham Cuong - Ham Thuan Nam	2	x	7	New	x			x	Synchronized depending on scale and availability of local power sources
128	Binh Thuan 1 Wind Power - Branch to Vinh Tan - Phan Thiet	2	x	4	New	x			x	Synchronized depending on scale and availability of local power sources
129	500 kV Hong Phong - Branch to Phan Ri - Phan Thiet	4	x	5	New		x	x		Connected to 500 kV Hong Phong substation
130	Tri An Hydropower - 500 kV Song May	1	x	24	Renovated		x	x		Increasing capacity load, relieving the capacity of local power sources
131	Increasing load capacity of Phan Ri - Phan Thiet	2	x	52	Renovated		x	x		Increasing load capacity of ACSR-2x330mm2 section on 220 kV Phan Ri - Phan Thiet line to relieve capacity of local power sources
132	Phan Ri - Dai Ninh Hydropower	2	x	40	New		x	x		Increasing the capability for relieving the capacity of local power sources
133	Increasing load capacity of Ham Tan - Chau Duc and Ham Tan - Da Bac Solar Power - Chau Duc	2	x	60	Renovated		x	x		Relieving capacity of local power sources
134	500 kV Son My - Ham	4	x	4	New		x	x		Connected to 500 kV Son My

	Tan - Phuoc Thuan (Dat Do)									substation, considered for conductor of a cross section appropriate to cross section of renovated 220 kV Ham Tan - Chau Duc line and Ham Tan - Da Bac Solar Power - Chau Duc line
135	Northwest Cu Chi - 500 kV Cu Chi	2	x	12	New		x	x		
136	Binh Chanh 1 - Duc Hoa	2	x	10	New		x	x		
137	Phu Hoa Dong - Branch to Cu Chi - Cau Bong	4	x	5	New		x	x		
138	Binh Chanh 2 - Branch to Duc Hoa - Phu Lam	4	x	2	New		x	x		
139	Increasing load capacity of Cau Bong - Cu Chi	2	x	22	Renovated		x	x		
140	Increasing load capacity of Cau Bong - Binh Tan - Phu Lam	2	x	34	Renovated		x	x		
141	Dong Xoai - Chon Thanh	2	x	20	New		x	x		
142	Binh Long - Chon Thanh (3 rd and 4 th circuit)	2	x	32	New		x	x		Relieving local power sources
143	Dong Binh Phuoc -	4	x	12	New		x		x	Synchronized depending on scale

	Branch to Binh Long - Aluminium smelting plant								and availability of local power sources
144	Increasing load capacity of 220 kV line of 500 kV Chon Thanh - My Phuoc	2	x	45	Renovated		x	x	Increasing load capacity, relieving local power sources
145	Increasing load capacity of 220 kV My Phuoc - 500 kV Tan Dinh line	2	x	17	Renovated		x	x	Increasing load capacity, relieving local power sources
146	Tan Chau 1 - Tan Bien	2	x	16	New		x		x Synchronized depending on scale and availability of local power sources
147	500 kV Tay Ninh 2 - Ho Dau Tieng Solar Power - Tay Ninh	4	x	3	New		x	x	Connected to 220 kV side of 500 kV Tay Ninh 2 substation
148	500 kV Tay Ninh 2 - Tay Ninh (connected to Tan Bien)	2	x	6	New		x	x	Connected to 220 kV side of 500 kV Tay Ninh 2 substation
149	Tay Ninh 3 - 500 kV Tay Ninh 2	2	x	16	New		x	x	
150	Ben Cau - 500 kV Tay Ninh 1	2	x	12	New		x	x	
151	Tan Dinh 2 - Binh My	2	x	14	New		x	x	
152	Bien Hoa - Branch to Tan Uyen -	4	x	1	New		x	x	

	Long Binh								
153	Dau Giay - 500 kV Dong Nai 2	2	x	30	New		x	x	
154	Dau Giay - 500 kV Long Thanh	2	x	12	New		x	x	
155	Dong Nai 3 - Tan Uyen	2	x	55	New		x		x Synchronized depending on scale and availability of local power sources
156	Increasing load capacity of 220 kV Long Thanh - An Phuoc - Tam Phuoc	2	x	16	Renovated		x	x	
157	Increasing load capacity of 500 kV Long Thanh - 220 kV Long Thanh	2	x	19	Renovated		x	x	
158	Ho Nai - Song May - Tam Phuoc	4	x	1	New		x	x	
159	Phu My City - Branch to Phu My - Ba Ria	4	x	2	New		x	x	
160	Phu My City - 500 kV Bac Chau Duc	2	x	30	New		x	x	
161	Increasing load capacity of Ben Luc - Phu Lam	2	x	28	Renovated		x	x	
162	Tan Lap - Branch to 500 kV Duc Hoa - Long An	2	x	9	New		x	x	

163	Can Giuoc - Branch to 500 kV Long An - South of Hiep Phuoc	4	x	3	New		x	x		
164	Long An I LNG - 500 kV Long An	2	x	18	New		x	x		Synchronized with Long An I LNG, depending on availability of power sources; proposing distribution yard for 220 kV Long An I LNG with flexible busbar segment graphs.
165	Long An I LNG - Ben Luc	2	x	30	New		x	x		Synchronized with Long An I LNG, depending on availability of power sources; proposing distribution yard for 220 kV Long An I LNG with flexible busbar segment graphs.
166	Lap Vo - Hong Ngu	2	x	55	New		x	x		
167	500 kV Tien Giang - Branch to Vinh Long - Sa Dec	4	x	15	New		x	x		
168	500 kV Tieng Giang - Branch to Cai Lay - Cao Lanh	4	x	4	New		x	x		
169	Increasing load capacity of Tra Vinh - Vinh Long 2	2	x	62	Renovated		x	x		
170	Bac Lieu 3 -	2	x	30	New		x		x	Synchronized

	500 kV Bac Lieu								depending on scale and availability of local power sources
171	Bac Lieu 4 - 500 kV Bac Lieu	2	x	10	New		x	x	Synchronized depending on scale and availability of local power sources
172	Tran De - 500 kV Long Phu	2	x	24	New		x	x	Synchronized depending on scale and availability of local power sources
173	Mo Cay - 500 kV My Tho	2	x	42	New		x	x	Synchronized depending on scale and availability of local power sources
174	Vinh Chau - Branch to Long Phu - Soc Trang (2 nd circuit)	2	x	20	New		x	x	Connected to 220 kV Vinh Chau substation, switching on the remaining circuit of 220 kV Long Phu - Soc Trang line
175	500 kV Bac Lieu - Branch to Gia Rai - Hoa Binh	4	x	6	New		x	x	Synchronizing 500 kV Bac Lieu station
176	220 kV line temporarily connected to Nhon Trach 3 Power Plant - branch to Nhon Trach 1,2 - Bau Sen						x	x	Establishing temporary connection to test power supply and relieve capacity of Nhon Trach 3 Power Plant when the project “220 kV Nhon Trach 3 - 500 kV Long Thanh substation line” is yet to be put in operation. The temporarily

								connected line will be dismantled when the 220 kV Nhon Trach 3 - Long Thanh line is put into operation.
177	Reserved for additional 220 kV line newly built or renovated	430	New and renovated	x	x	x	x	Reserved for load growth and power source development

Note:

1. For substations

- The lists of substations do not include step-up substations of power source projects. For offshore wind power sources, step-up substations shall be still included in the list of 500 kV substations to facilitate the agreement on allocation of land for constructing substations but shall not be included in the total volume of construction and investment capital for electrical grid works. Capacity listed in the tables refers to total capacity of all transformers in each substation. During each phase, scale of substations will be appropriately selected depending on load and power source capacity relief demand.

- In case of irregular load growth in specific areas which results in change(s) to the scale or connection of transmission line and substations, submit reports to the Prime Minister to acquire permission.

2. For lines

- Length of each line will be decided during investment preparation phase.

- In case of irregular load growth in specific areas which results in change(s) to the scale or connection of transmission line and substations, submit reports to the Prime Minister to acquire permission.

3. For renewable energy projects that are yet to be approved on this list of power sources, synchronous electrical grids connecting these projects will be reviewed and decided when they are approved afterwards;
