

Update on the revised implementation plan and progress of Power Development Plan 8: challenges and directions

**Electricity and Renewable Energy Authority
– Ministry of Industry and Trade**

TWG1 meeting, 8 November 2024

1. Assessment of PDP8 implementation

- **Coal-fired power:**
 - Remove many coal-fired power projects and switch to use LNG for power generation (Bac Lieu, Quang Trach 2)
 - As per Vietnam's commitment at COP26 and through JETP, no newly-built coal-fired thermal plants; existing coal-fired power plants gradually switch to co-firing with biomass, ammonia after 2035
- **Gas –fired power:**
 - Domestic gas-fired power: Speed up the building of O Mon projects (3.150 MW), to be into operation in 2027; the Ca Voi Xanh project to be operational before 2030;
 - LNG thermal power: By 2030 with a total capacity of 22.564 MW.
- **Renewable energy:**
 - Hydropower: By 2030: 29.436MW, mainly small hydropower and expansion of existing large hydropower, Bac Ai Pumped-Storage Hydropower project.
 - Wind power: By 2030 complete 27.880 MW (include 6.000 MW of Offshore wind power);
 - Solar power: By 2030 to have more 1.500 MW of all sources and 2.600 MW of self-consumed rooftop solar;
 - Biomass, Waste-to-Energy: By 2030: 2270 MW;

2. Challenge

- Biggest challenge: investment funds for coal-fired power decrease, countries and international partners are prone to not providing financing for coal-fired power; high investment rate for CCS technology.
- Clean Energy Technology (biomass, ammonia, hydrogen) are still immature, high costs
- Incomplete legal framework for nuclear power development
- Second challenge: Electricity prices are likely to increase when power generation from market-driven imported LNG accounts for a larger share of the power mix => leading to difficulties in PPA negotiation (in terms of Qc and contract validity period);
- Third challenge: Tmax of coal-fired and gas-fired power will drop significantly => Reduced efficiency of the projects; last but not least, pricing for hydrogen in the future and require thoroughly studying.

3. Difficulties

(in implementing the PDP)

Coal-fired power

- **Difficult to mobilize investment:** After COP26, many countries and financial institutions stop financing coal-fired power projects, even for foreign BOT investors
- **Effect of trade embargo** (Long Phu I)

Gas-fired power

- **Domestic gas-fired power:** Two biggest cluster projects, O Mon Block B and Ca Voi Xanh, are behind schedule due to some issues as follows:
 - ✓ Procedures, guidance – regulations;
 - ✓ Negotiation with upstream investment partners (Ca Voi Xanh); site clearance for onshore pipelines, etc.
- **LNG power:**
 - ✓ Large number of projects (17), total capacity (by planning) of up to 22.560 MW;
 - ✓ Complexity, linkage of the fuel supply chain;
 - ✓ Require costly infrastructure for a not-large scale (1200-1500 MW);
 - ✓ LNG prices fluctuate unpredictably and tend to be high

3. Difficulties

(in implementing the PDP)

Renewable energy

- **Solar power:**
 - ✓ Need long-term and stable incentive mechanisms
 - ✓ Total capacity as per planning is limited, not commensurate with its potential
- **Wind power:**
 - ✓ Need clear regulations on marine spatial inspection to develop offshore wind power

Electricity market

- ✓ Delayed in development of the electricity market
- ✓ Electricity prices are not allowed for flexible adjustment to reflect inputs, which causes incorrect signals for investors and does not encourage the efficient and economic use of electricity.

Relatively high risk of ensuring the progress of power sources development => Require many innovative supporting measures, and adjusting the power planning as well as the implementation plan of the PDP.

4. The need for adjusting the implementation plan of PDP8

- Currently, many high-priority power generation projects are facing delays or difficulties in implementation. Grid projects are encountering challenges in the investment preparation stage, leading to delayed progress of operations against the plan.
- Advances in science and technology drive the investment cost of energy storage systems to decrease rapidly, creating more favorable conditions for the integration of renewable energy sources such as solar and wind power into the power system. The capacity of power generation from waste (which offers co-benefits of energy and environment) remains limited.
- As stipulated in Article 53 of the Planning Law, there have been recent adjustments to the strategic development goals of the industry and sector, leading to changes in the planning objectives. The National Maritime Spatial Plan has been approved by the National Assembly, so the PDP must also be accordingly updated and adjusted to ensure its alignment.

4. The need for adjusting the implementation plan of PDP8

- Development of new power sources according to PDP8 requires legal regulations and policy mechanisms (LNG power sources, offshore wind power, nuclear power, geothermal power, etc.)
- Power supply in the period 2025-2030 may face difficulties if the power sources approved in PDP8 are not completed as planned. It is necessary to review and evaluate the capability to develop these power sources and adjust the power mix to meet demand, especially in the period to 2030, in the Northern region.
- Some power grid projects according to PDP8 are not synchronized with related planning issued recently such as land use planning, urban planning, general planning, grid network development plan in the provincial planning, etc. Therefore, it is necessary to review and supplement to ensure compliance with relevant planning to evacuate the capacity of power sources and satisfy increasing local loads.

5. Directive documents to adjust the implementation plan

- PDP8 is planned for the period 2021-2030, according to the Planning Law, planning needs to be reviewed every 5 years to make adjustments in line with the socio-economic development situation.
- MOIT issued Document No. 7942/BCT-ĐL dated 08 October 2024 to report to the Prime Minister on review of the PDP8 implementation plan and proposed adjustment of the PDP8.
- On 15 October 2024, Deputy Prime Minister Bùi Thanh Sơn assigned MOIT to urgently review and adjust the PDP8 as in Document No. 7564/VPCP-CN of the Government Office.

5. Directive documents to adjust the implementation plan

- On 15 October 2024, MOIT sent Document No. 8216/BCT-DL to other ministries and agencies, requesting their comments on the task of Revising the PDP8 and SEA (Strategic Environment Assessment) Report of the revised PDP VIII project.
- On 25 October 2024, MOIT reported to the Prime Minister through Document No. 8549/BCT-DL on the task of Revising PDP8 and SEA Report of the revised PDP VIII project.
- At present, MOIT is assembling all feedback and comments of the ministries, and agencies and preparing a consolidated report that would incorporate feedback and address the comments before submitting the final report to the Prime Minister for approval.

6. Suggested measures

- Review and revise, adjust, and complete legal documents and framework, policies and mechanisms on Electricity Law, DPPA, two-component electricity price, electricity market
- Attract investment to develop power sources and grids, establish mechanisms to support investment and technology transfer, and develop equipment supply chains.
- Study to decrease administrative procedures to facilitate investment, and site clearance to meet project implementation progress.
- Develop and complete standards system, technical regulations, legal regulations, and instructions to ensure the flexibility of newly built power plants, and solutions to improve the operational flexibility of existing power plants.

6. Suggested measures (continued)

- Enhance forecasting capabilities of power demand and renewable energy generation. Strengthen weather forecasting capacity and renewable energy source capacity for power system's dispatching levels.
- Develop and attract a skilled workforce to fulfill meet the requirement of implementing advanced technologies in energy systems development and operation
- Strengthen international partnerships to attract foreign investment and foster technological self-reliance.
- Consider fostering power sources that can be quickly built such as rooftop solar. Consequently, the need and role of ESS (BESS, PSP) should be stressed.
- Imported electricity should be at an appropriate scale to supplement the power shortages due to delayed progress of power projects
- Possibility of nuclear power penetration (after 2040), → **It's high time to take this into account for optimization.**

7. Suggestions for future support (For exchange and discussion)

Topics	Specific actions/activities	Partners
Strengthening energy planning	<ul style="list-style-type: none">• Review and revise PDP to ensure energy security and power supply in line with NetZero targets by 2050.• Study to develop nuclear power to ensure energy security and diversitification	EREA, IoE, NSMO, EVN, MPI, MONRE, DOITs
Renewable energy policy design	<ul style="list-style-type: none">• Consider an optimal share of RE in the energy planning.• Evaluate and propose policy instruments for RE, support to design policies and mechanisms for RE development	EREA, ERAV, EVN
Grids Improvement & integration	<ul style="list-style-type: none">• Support to develop regulations and standards for grids improvement for a larger integration of RE	ERAV, EVN, NPT, and NSMO
Distributed energy resources	<ul style="list-style-type: none">• Support to develop legal framework for DERs development (Rooftop solar, community grids, small-scale RE).	EREA, ERAV, DOITs
Harmonize policies and standards according to international standards.	<ul style="list-style-type: none">• International experience and lessons learned	International organisations and development partners

Thank you