



VIETNAM'S RENEWABLE ENERGY LANDSCAPE POST-NEW POLICY IMPLEMENTATION

June 19, 2023 > [Vietnam](#) > economy

The National Power Development Plan for the period 2021-2030, with a vision towards 2050 (PDP8), was officially announced by the Prime Minister of Vietnam on May 15, 2023.

This significant development is expected to drive new waves of investment and growth in Vietnam's power market, particularly in the renewable energy sector, in the upcoming phase.

1. Emerging Power Development Trends in Vietnam

The rapid economic rebound following the pandemic, coupled with the ongoing Russia-Ukraine conflict since February 2022 and the escalating prices of fossil resources, has led to a growing global energy crunch[1]. Vietnam, like many other countries, is also grappling with this issue. In order to mitigate the impact of this energy crunch, both the Vietnamese government and governments worldwide are actively seeking alternative energy solutions to foster sustainable development in the energy sector.

Renewable energy has emerged as the most promising and appealing solution for achieving sustainability, as evidenced by the continuous increase in investment in renewable energy systems compared to fossil fuel-based power. According to the World Energy Investment 2023 report released in late May[2], renewable energy investments have surpassed those in traditional power sources. This trend reflects the recognition of the potential and attractiveness of renewable energy as a key driver of sustainable development in Vietnam and globally.



Under the PDP8, the Prime Minister of Vietnam has laid out a strategic roadmap to gradually decrease the reliance on coal-fired power generation. The plan includes measures such as importing liquefied natural gas (LNG) for power generation at a reasonable scale and placing significant emphasis on promoting renewable energy sources, particularly wind power and rooftop solar (RTS) for self-consumption.

The PDP8 aims to diversify Vietnam's energy mix by reducing the proportion of coal-based power generation while prioritizing the adoption of cleaner and more sustainable alternatives. This includes actively exploring the potential of wind power and encouraging the implementation of rooftop solar systems for individual consumption. The government's commitment to these initiatives signifies a strong drive towards a greener and more environmentally friendly energy sector in Vietnam.

Vietnam's Government is seeking consultation on a draft decision that pertains to the mechanism of direct power sale and purchase agreements (DPPA) between power plant owners and off-takers with high power consumption. This draft decision builds upon the updated guidance provided in PDP8. According to the draft decision, investors are permitted to register and participate in the pilot DPPA mechanism. However, the cumulative capacity of the registered projects must not exceed 1,000 MW. [3]

2. The status of renewable energy in Vietnam

(a) The shrinking investment in RTS

During recent years, RTS systems with a commercial operation date (COD) prior to December 31, 2020, were permitted to connect to EVN's power grid and sell their surplus electricity at a favorable price[4]. However, following this period, the absence of a legal framework for the sale of RTS-generated power has resulted in investors being unable to sell their abundant power to EVN.

After a prolonged period of anticipation, the release of PDP8 has provided clear guidelines indicating that renewable energy systems (RTS) are intended solely for self-consumption purposes. This implies that RTS systems should not be connected to EVN's power grid, and the timeframe for recovering the invested capital in RTS projects will be extended.



As a result, the required capital for RTS investments is expected to decrease in the coming period.

(b) Renewable sources of energy are “no longer renewable”

In the context of hydroelectricity, which constitutes a significant portion of Vietnam's renewable energy market according to PDP8, the current depletion of rivers – the primary power source in North Vietnam – during the ongoing summer season is causing severe power shortages in the region. Despite support from Central and South Vietnam[5], the low water levels in the rivers of the North pose a risk to power security and the supply of electricity for daily activities throughout the remaining dry season of 2023. [6]

This situation serves as a critical indication that alternative energy solutions need to be urgently explored to address the emerging energy crisis.

(c) The urgent need for a better national power grid

According to PDP8, there is a significant projected increase in the proportion of green power in Vietnam's energy mix. It is anticipated to surge to 30.9 – 39.2% by 2030 and further rise to 67.5 – 71.5% by 2050. This ambitious target reflects the Vietnamese Government's strong commitment to the development of green power.

However, Vietnam is currently encountering various challenges concerning renewable energy sources, particularly due to the fluctuating electricity generation caused by changes in natural factors that serve as the primary fuel for these renewable power plants. These factors pose a hurdle to the stable and consistent production of electricity from renewable sources.[7]

Solar power systems, including RTS systems, can be affected by variations in sunlight throughout the day and obstructions that cast shadows on the system during the daytime, leading to a decrease in power generation. Moreover, with the increasing vertical development in urban areas, solar productivity of RTS systems installed on rooftops of buildings or residential houses may diminish over time due to shading from surrounding structures.

Similarly, hydropower and wind power plants are also subject to fluctuations in productivity caused by climatic factors. Changes in water levels and flow rates in rivers



can impact the output of hydropower plants, while variations in wind speed and direction influence the generation capacity of wind power plants. These climatic factors introduce a level of unpredictability and intermittency in the power generation of both hydropower and wind power systems.

As outlined in PDP8, there is a clear focus on prioritizing renewable energy development, particularly during the 2021-2030 timeframe. The long-term vision until 2050 aims to reduce reliance on fossil fuels, as well as decrease greenhouse gas emissions. One of the objectives is to address challenges that arise in the operation and maintenance (O&M) of the grid[8], specifically concerning the connection of power systems with unstable capacity to the national power grid.

The aim is to mitigate the obstacles faced in integrating renewable energy sources with variable power generation into the existing power grid infrastructure. By doing so, the goal is to ensure a more stable and reliable operation of the grid, promoting the sustainable growth of renewable energy while minimizing disruptions and enhancing the overall efficiency of the power system.

In order to create a solid foundation for implementing the plans outlined in PDP8, it is crucial to prioritize the construction, improvement, and maintenance of the national power grid in Vietnam. This is essential for effectively harnessing renewable energy resources, alleviating stress on the electricity supply, and addressing the challenges experienced during the dry season. PDP8 recognizes the significance of this mission and provides specific requirements in this regard.

Firstly, there is a focus on maintaining and upgrading the existing national grid to ensure a stable connection and efficient transmission of electricity, thus maximizing the productivity of power plants. This involves enhancing the infrastructure and capabilities of the grid to accommodate the increasing share of renewable energy sources.

Secondly, PDP8 emphasizes the need to develop one-way super high-voltage transmission lines, particularly to support the exploitation of large-scale power plants, including offshore wind power systems. This strategic orientation aims to facilitate the effective integration of these power sources into the grid, enabling their significant contribution to the energy mix.



By addressing these priorities, Vietnam can establish a robust power grid infrastructure that enables the successful utilization of renewable energy resources, enhances electricity transmission capabilities, and strengthens the resilience of the power system.

(d) Lack of a legal framework for offshore wind power plants

Apart from the improvement of the national power grid, the legal framework for renewable energy investment is a significant concern for energy investors in Vietnam.

PDP8 acknowledges that offshore wind power has great potential for Vietnam's energy future. However, the current Vietnamese laws do not sufficiently cover the development of offshore wind power projects. There is a lack of legal provisions to determine the competent authority responsible for approving investment policies, the procedure for contractor selection, and the mechanism for determining prices in wind power projects, as defined in the applicable investment laws.[9]

To foster a more favorable environment for renewable energy projects in Vietnam, it is necessary for the National Assembly to issue comprehensive legislation or provide guidance to competent authorities to establish a robust legal framework for such projects. This comprehensive legal framework would address key aspects of offshore wind power project development, including investment approval, procurement procedures, and pricing mechanisms. By doing so, it would provide clarity and certainty for investors and facilitate the growth of renewable power in Vietnam.

3. What's next?

With the strategic plan and goals outlined in PDP8, significant transformations are expected in Vietnam's energy market, particularly concerning the statutory procedures for investment and the prioritization of renewable power sources. The updates in PDP8 indicate a shift in the structure of the renewable energy industry, moving from small power systems to larger-scale power plants. These larger projects necessitate substantial capital investment, as well as the expertise and know-how from investors, particularly those from developed countries with extensive experience in the field.

Consequently, there is a strong anticipation of a substantial increase in foreign investment capital in the green power sector in Vietnam in the coming years.[10] The expansion of foreign investment is expected to contribute to the development and growth of the



renewable energy industry in Vietnam, bringing in advanced technologies, financial resources, and international best practices. This influx of foreign investment capital will play a significant role in driving the expansion of the green power sector and supporting the achievement of the renewable energy targets outlined in PDP8.

While there are predictions and indications regarding the development of the green energy sector in Vietnam, a comprehensive and detailed guidance from the Government is necessary to provide a clearer vision. As renewable energy continues to gain importance, it is expected that the government will provide further guidance and regulations to support the growth and implementation of green energy projects in Vietnam.

These guidelines would outline specific procedures, policies, and incentives to attract investment, streamline processes, and ensure the effective integration of renewable energy sources into the national energy system. They would provide clarity and direction for investors, project developers, and other stakeholders in the green energy sector.

It is important to keep an eye on the government's updates and official announcements to gain a more comprehensive understanding of the future direction and specific measures that will shape the green energy sector in Vietnam.

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Footnotes

[1] <https://www.iea.org/topics/global-energy-crunch>

[2] <https://iea.blob.core.windows.net/assets/8834d3af-af60-4df0-9643-72e2684f7221/WorldEnergyInvestment2023.pdf>

[3] <https://baochinhphu.vn/thi-diem-mua-ban-dien-truc-tiep-giua-don-vi-phat-dien-voi-khach-su-dung-dien-lon-102220509160349789.htm>



[4] The RTS system having commercial operation date (COD) until the end of 31 December 2020 and connected to EVN's power grid shall sell the power to EVN at a favourable price (i.e. Feed-in Tariff) in accordance with Decisions 11/2017/QĐ-TTg and 13/2020/QĐ-TTg regarding incentives for development of solar energy in Vietnam

[5] <https://e.vnexpress.net/photo/environment/da-river-dries-up-amid-summer-blackouts-4615662.html>

[6] <https://vietnamnews.vn/environment/1534291/northern-region-faces-high-risk-of-serious-electricity-shortage.html>

[7] <https://npc.com.vn/goc-nhin-bao-chi/ly-do-viet-nam-van-nguy-co-thieu-dien-du-nhieu-dien-gio-mat-troi-20119.html>

[8] <https://vov.vn/kinh-te/van-hanh-hop-ly-luoi-truyen-tai-tang-hieu-qua-cho-dien-nang-luong-tai-tao-post1002512.vov>

[9] <https://vneconomy.vn/phat-trien-dien-gio-ngoai-khoi-van-kho-do-thieu-hanh-lang-phap-ly.htm>

[10] <https://tapchitaichinh.vn/dau-tu-nuoc-ngoai-tro-thanh-don-bay-cho-thi-truong-nang-luong-tai-tao-viet.html>

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