Ministry of Industry and Trade
ELECTRICITY AND RENEWAL ENERGY AUTHORITY

RENEWABLE ENERGY DEVELOPMENT STRATEGY OF VIETNAM TO 2030, OUTLOOK TO 2050

REPORT ON IMPLEMENTATION BY 2022

Hanoi, March 2023

According to the Decision No. 2068/QD-TTg, dated November 25, 2015, of the Prime Minister approving Vietnam's Renewable Energy Development Strategy to 2030, with an outlook to 2050, Vietnam will develop conventional hydropower contributing to the socio-economic development of the localities; on-site power supply, improve the safety of power supply. The production target from hydropower will increase from about 56 billion kWh in 2015 to nearly 90 billion kWh in 2020 and reach about 96 billion kWh by 2030. Pumped-storage hydropower alone performs the task of storing and demand response in the power system, improving flexibility and efficiency in power system operation; the capacity will reach about 2,400 MW by 2030 and about 8,000 MW by 2050.

The strategy clearly defines that utilities are responsible for purchasing all electricity produced from the grid-connected renewable energy sources in the areas under their management.

The cost of purchasing electricity from power generation projects using renewable energy sources is accounted for in the electricity cost of the utilities, fully calculated and included in the electricity retail price structure, and recovered through sales revenue. Furthermore, power projects using renewable energy sources for electricity production are connected in priority to the national electricity system. Therefore, connection costs and other relevant costs reasonably incurred by the grid units (electricity transmission and distribution units) due to the purchase of electricity produced from renewable energy sources are included in the transmission and distribution cost by the grid companies.

The electricity selling price is determined according to the conditions of different regions and the characteristics of power generation technology from various renewable energy sources, according to the principle of helping to promote the development and use of renewable energy, ensuring investors recover their costs and have reasonable profits.

Regarding an off-grid (isolated) power system using an independent power source to produce electricity from renewable energy sources, the investor shall develop an electricity price scheme and determine the total amount of support from the state budget and submit it to the ministries directly concerned for appraisal and report to the Prime Minister for approval. The total amount of support is deducted from the Sustainable Energy Development Fund.

Projects developing and using renewable energy sources are exempt from import tax on imported goods to create fixed assets for the project; imported goods such as raw materials, supplies and intermediate products that cannot be produced in the country and are imported to serve the project's production in accordance with current regulations on export and import tax; exemption and/or reduction of corporate income tax as for projects in the fields of incentive preference investment in accordance with current law.

Regarding land, projects will be exempted or reduced from land use levy and land rent in accordance with current law applicable to projects in the fields of incentives preference investment.

In the coming time, to develop renewable energy, Vietnam needs to encourage and mobilize all resources from society and people to increase access to modern, reliable energy sources. Promote the development and use of renewable energy sources, increase domestic energy supply, and gradually increase the proportion of renewable energy sources in national energy production and consumption to reduce dependence on fossil fuel, contributing to energy security, climate change mitigation, and environmental protection and sustainable socio-economic development.

Regarding biomass energy sources, priority will be given to the production of electricity, biogas, and biomass pellets directly used as fuel and liquid biofuel, increasing the rate of waste use of industrial and agricultural crops for energy purposes from about 45% in 2015 to 50% in 2020, about 60% in 2030 and about 70% in 2050; the rate of treatment of livestock waste for energy purposes (biogas) from about 5% in 2015 to about 10% in 2020, about 50% in 2030, by 2050 most of the livestock waste will be treated; The ratio of waste-to-energy conversion will increase from negligible at present to 30% by 2020, about 70% by 2030, and most of it will be utilized for energy purposes by 2050.

In terms of wind power, priority will be given to on-land development, research and develop

offshore wind power sources on the continental shelf after 2030. The target of wind power generation will increase from about 180 million kWh in 2015 to about 2.5 billion kWh in 2020, about 16 billion kWh in 2030 and about 53 billion kWh in 2050. Bringing the share of electricity produced from wind power in total electricity production from the current negligible level to about 1.0% in 2020, about 2.7% in 2030 and about 5.0% in 2050.

In terms of solar energy, it is expected that electricity produced from solar energy will increase from about 10 million kWh in 2015 to about 1.4 billion kWh in 2020; about 35.4 billion kWh in 2030 and about 210 billion kWh in 2050. Bringing the share of electricity produced from solar energy in total electricity production from the current negligible level to about 0, 5% in 2020, about 6% in 2030 and about 20% in 2050. In particular, develop equipment using solar energy to provide heat for households, industrial production, agriculture, and services.

Based on the above development strategy, the evaluation report on the implementation of the Renewable Energy Development Strategy (RE) in the period 2015-2021 was summarized and evaluated, specifically as follows:

1. –Update on RE Capacity and production in 2022

As of December 31, 2022, the total installed capacity (already COD) of the entire power system was about 77,800 MW, 1,400 MW increased compared to the installed capacity in 2021, of which the total RE installed capacity (except hydropower) was 20,165 MW counting for 26.4%, hydropower (including small hydropower) was 22,544 MW accounting for 29%. Viet Nam is on top among ASEAN countries in term of

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Table 1. Installed capacity per technology (MW)

No.	Technology	2022
1	Hydro power	17,703
2	Small hydro power	5,296
3	Solar power	16,568
4	Wind power	5,059
5	Biomass + waste	395
6	**Total**	**80,704**

Table 2. Power production per technology (million kWh)

No.	Technology	2022
1	Hydro power	95,929
2	Small hydro power	…..
3	Solar power	28,397
4	Wind power	9,090

[1] Report on the implementation of the 2022 plan, objectives and tasks of the 2023 plan in 2023 of EVN

5	Biomass + waste	378
6	**Total**	**271,103**

2. About the electricity selling price for transitional wind and solar power projects

- On October 3, 2022, the Minister of Industry and Trade issued Circular No. 15/2022/TT-BCT stipulating the method of building a price bracket for power generated from solar and wind power transitional plants (Circular 15).

- On January 7, 2023, the Ministry of Industry and Trade promulgated the price bracket for power generated from solar and wind power transitional plants in Decision No. 21/QD-BCT.

Transitional wind and solar power projects as prescribed at Point b, Clause 2, Article 1 of Circular 15 shall negotiate with the EVN to determine the electricity selling price.

3. Practical Significance for RE Development

- Supplementing a clean power source for Vietnam's power system ensuring electricity supply for the economy and national energy security.
- Vigorously promoting domestic enterprises to invest in renewable energy projects; Mobilizing domestic financial resources and domestic banks to participate in lending for renewable energy projects; Stimulating capital market and domestic lending market for renewable energy projects.
- Creating a driving force for the adequate development of the new technology market; Domestic investors, design, construction, installation companies, domestic banks... accumulate experience in investment activities in renewable energy projects.
- Stimulating the domestic market for the production of solar and wind power equipment such as photovoltaic panels, electrical equipment, electric cables, electrical panel cabinets...
- Effective exploitation of arid lands, low agricultural production efficiency, even fallow.
- Mobilizing capital directly from people to invest in rooftop solar power, contributing to local power supply, reducing investment costs and transmission loss.