

Renewable energy storage vietnam

Clean EDGE Asia Fellow Nguyen Linh Dan provides an assessment of the factors shaping Vietnam's renewable energy sector and the opportunities for private-sector engagement. She details domestic policies and strategies set by the government that are driving growth in the country's renewable energy sector and considers the impact of international factors and options for increased cooperation with and investment from the private sector.

Vietnam is a dynamic emerging economy with almost 100 million people. Before the Covid-19 pandemic, the country used to experience 6%-7% of annual GDP growth, resulting in a dramatic rise in energy demand and greenhouse gas emissions. Given the forecasts for continuously high economic growth until 2030, rising energy demand will lead to severe power shortages if left unaddressed.[1]

Hydropower has been a clean, stable, and reliable source of energy for Vietnam, according to the APEC Energy Working Group's Expert Group on Energy Data and Analysis; however, the share of hydropower in the country's power mix has been shrinking (from 37% in 2019 to 30% in 2020) due to saturation.[2] Reservoir capacity constraints mean that hydropower is unable to meet growing demand. Fossil fuels (coal, gas, and oil) now contribute around half of the generation mix. Coal has been the cheapest and most available source of supply, but Vietnam has become increasingly reliant on imports. Meanwhile, renewables, including small hydropower, solar, wind, and biomass, account for only 16% of power generation.

In 2015, the government announced the first-ever national development strategy for renewable energy, aiming for renewables to account for around 32% of total primary supply and electricity generation by 2030. The solar power development plan (first announced in 2017 and updated in 2020), along with feed-in tariff (FIT) revision of wind, aims to generate as many as 18.9 gigawatts (GW).[3] This is far more than the 1,000 megawatt (MW) target originally set a few years ago for 2020.

This essay provides an assessment of the factors shaping Vietnam's renewable energy sector and the opportunities for private-sector engagement. It first details domestic policies and strategies set by the government that are driving growth in the country's renewable energy sector. It then considers the impact of international factors, including the Covid-19 pandemic, on this growth. Finally, the essay concludes by considering options for increased cooperation with and investment from the private sector.

Vietnam is a socialist republic with a one-party system led by the Communist Party of Vietnam, with the Politburo serving as the highest decision-making body in the country.[4] The Politburo oversees the party and its resolutions have a significant impact on the government's policies and strategies, including in the energy sector. Coming thirteen years after the latest versions of the national energy development strategy and outlook (Resolution No. 18-NQ/TW of 2007, followed by Decision No. 1855/QD-TTg in the same year), the Politburo's Resolution 55 (2020) came as the most comprehensive and leading-edge guidance in the rapidly

changing energy field. All relevant legal documents have been revised based on the spirit of the resolution.

Resolution 55 sets the following goals for the "National Energy Development Strategy to 2030 with a Vision to 2045": (1) to maintain the national energy security as the firm foundation for socioeconomic development while rapidly and sustainably developing the energy sector; (2) based on the socialist-oriented market mechanism, to quickly develop a competitive and transparent energy market, diversify forms of ownership (especially the private sectors) and business models, and eliminate monopolies or unfair competition; (3) to develop and diversify energy forms; (4) to accelerate digital transformation and R&D in order to become more technology self-sufficient; and (5) to emphasize energy efficiency and environmental protection.

The third key viewpoint related to the energy supply share in Resolution 55 can be analyzed into the following elements:

There has been no mention of a future restart of plans to build nuclear power plants after construction was halted in 2016. Nuclear power can be listed under clean, zero-carbon energy, together with renewable energy, because it is generated without carbon dioxide byproducts. The main issues that hinder its development in Vietnam are the huge investment cost, hazardous waste, lengthy construction time, and other management or knowledge-transfer concerns.[6]

Resolution 55 also highlights and paves the way for the private sector, including foreign investors, to participate in the electricity market, which has long been monopolized by Vietnam Electricity. The resolution targets a more diversified, transparent, and digitalized buying-selling mechanism. It states that Vietnam should "continue to promote and attract foreign investment on a large scale and with high quality and efficiency" and "create an open investment regime and reform administrative procedures to ensure the progress of power projects." The ultimate goal is to ensure a secure, sufficient, and sustainable supply at a reasonable price for the long term.

The National Power Development Plan 8 (PDP8) and the National Energy Master Plan for the Period 2021-2030, Vision 2050, are being drafted roughly at the same time. Vietnam has never had an all-inclusive energy plan that covers energy use in demand sectors. In the past, the power sector was always a top priority. The PDP8 still draws slightly more attention from the public as the share of fuel input to the power system continues to change with the increasingly high penetration of renewable energy in recent years. Other sectors like industry, transportation, and building are gradually making their way into the master plan, although they still struggle with data collection for demand.

The implementation of the PDP7 has revealed shortcomings and limitations in planning capacity, such as risk management challenges and inflexibility to change, including cancellation of nuclear power plants, higher renewable shares, and diversified stakeholders in the market.[7] Now that the power structure has changed, especially since the penetration of renewable energy, many power projects are behind schedule or have not been implemented. Emerging environmental protection issues and the involvement of the private sector have sparked a lively discussion on how the new strategies are formed. The drafting of the PDP8 started in late



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2019 and went through public review several times. The government conducted a further review after the 15th National Assembly in mid-2021.

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