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Policy brief

Lessons from attracting international capital for renewables in Vietnam

Summary

- Between 2017 and 2021, Vietnam experienced the fastest annual proportional increase in renewables ever seen globally.
- Vietnam achieved this by using the state-owned energy company, Vietnam Electric (EVN), as a state tool for creating a renewables market, implementing a green national strategy and reducing investor risks.
- The successes were particularly driven by EVN's financial support for renewables projects. EVN intentionally and sustainably incurred losses when buying renewable electricity from the margin between high state-determined feed-in tariffs (FITs) and a low state-controlled electricity price. EVN was thus the implementing organ for the state's policy on using FITs.
- This technology-specific loss was made possible through direct state financial backing of EVN and by not publicly listing the company, allowing the state to set the prices of both buying and selling renewable electricity.
- Domestic banks, project developers and Asian regional equity investors viewed the FITs as high enough to compensate for all other risks. While most loans originated in domestic banks and were given to project developers, equity came from both domestic project developers and international investors. Their risk assessment is in direct contrast to that of advanced-economy financiers and companies that did not involve themselves. Through FITs, the projects then sell the electricity to EVN.
- Other emerging markets and developing economies (EMDEs) can learn from this experience, given their shared need to mobilise international capital.
- Specifically, the case of Vietnam suggests that it is possible to design policies to reduce project risks, such as through FITs, without providing the types of guarantees that entail a large and difficult-to-control financial burden on states, such as dollar-denominated debt, offtake commitments and compensation for project delays.
- Furthermore, the fact that Vietnam drew on international capital from other EMDEs suggests that this is a promising avenue for similar countries, given that equity investors based in advanced economies remain reluctant to commit capital without burdensome guarantees.

Policy briefs provide analysis on topical issues, presenting specific recommendations to inform ongoing policy debates. Drawing on the Grantham Research Institute's expertise, they summarise either our research findings or the state of knowledge about a particular issue.

This policy brief was written by **Mathias Larsen**.

This policy brief sets out how Vietnam has used the state-owned energy company, Vietnam Electric (EVN), to provide strategic financial support for renewables projects in order to attract overseas capital, and the lessons that other emerging markets and developing economies (EMDEs) can draw from this experience.

Background: the political economy of developing renewables in Vietnam

The growth of Vietnam's renewable energy capacity has defied expectations. From 2017 to 2021, the country's wind and solar capacity essentially grew from nil to 20GW. At 27% of electricity generation capacity, this is a higher proportion than in many advanced economies and constitutes the fastest proportional increase seen anywhere globally. In fact, the scale-up exceeded expectations set by the Vietnamese government in 2016 twentyfold. This created a dramatic change in the country's electricity system, which until that period depended largely on hydro and coal power (IEA, 2022).

"The scale-up exceeded expectations set by the Vietnamese government."

The development has been based on a mission-drive by the government. Several earlier policies highlighted renewables, such as the Power Development Plan 7 and the Green Growth Strategy from 2013. Yet, as argued by Deputy Minister of the Ministry of Industry and Trade Dang Hoang An (2022), today's progress is mostly a direct result of Decision No. 2068/QD-TTG issued by the Prime Minister in 2015, establishing the country's renewable strategy to 2030, including a vision for 2050. To realise this goal, the government issued numerous incentive mechanisms that led to the rapid scale-up of wind and solar capacity, including tax breaks, land grants and high feed-in tariffs (FITs – see Box 1 for an explanation of these).

From that already substantial progress, Vietnam has further increased its ambitions. At the UN climate conference COP26 in 2021, Vietnam announced that it would achieve net zero by 2050 and signed a joint statement pledging to phase out coal by 2040 and not build new coal plants (UK COP26, 2021). Such targets go beyond expectations for a country with a GDP per capita of just US$3,373 and make Vietnam one of the few countries with climate targets aligned with the Paris Agreement.

The motives behind these ambitions are first, that Vietnam is among the five countries likely to be most affected by climate change (World Bank, 2021) and second, that Vietnam aims to increase its energy security, as its hydropower potential is now fully utilised and the fossil fuels it uses are largely imported (Gverdtsiteli, 2023). Furthermore, as international financiers are reducing their backing for coal, this source of financing for coal use in Vietnam is no longer an option either.

Vietnam needs international financial and tech nological resources to achieve its climate goals. The World Bank (2022) estimates that adaptation to the impacts of climate change will cost Vietnam up to US$411 billion by 2050, while mitigation will cost it up to US$368 billion by 2040. Cumulatively, this amounts to around 10% of GDP per year. Built into these calculations is the expectation that continued rapid growth will increase electricity demand fivefold by 2050 (Wignaraja, 2022). It is clear that the Vietnamese public and private sectors, even together, are not able to finance the green transition. In recognition, Vietnam has used EVN

to provide strategic financial support for renewables projects in order to attract overseas capital.

Using feed-in tariffs as the central tool instead of other state guarantees for reducing risks

As the central tool for making renewables investments a profitable proposition for private capital, the Vietnamese state put in place a high level of FITs: US$85/MWh for wind and US$93.5/MWh for solar – between US$1 and US$6 above the levelised cost of electricity (LCOE) for both technologies (Lee et al., 2019). Simultaneously, land lease exemptions were given for at least 14 years and up to the duration of the whole project lifespan, along with four years of corporate tax exemption, which was to be gradually phased out through to the 15th year of operation (Do et al., 2021). Critically, the power-purchase agreement included the FIT but no state guarantees for EVN payment, curtailment risks, project risks, country risks, arbitration risks or termination risks.

"Vietnam has used EVN to provide strategic financial support for renewables projects in order to attract overseas capital."

Box 1. Feed-in tariffs: an explainer

Principles: FITs guarantee the price that electricity is sold at from a power-generation project to a given buyer. For example, the state can commit to buying electricity from wind power at a certain price for a given number of years instead of letting the open market set the price. The advantage of FITs is that a stable price reduces project risks. Project developers can then demonstrate higher profitability and access debt and equity financing on better terms.

History: FITs have been used to support renewables for several decades. Since the early 2000s, Germany and Spain have used these tariffs to successfully incentivise the financing of renewables, which, at the start of that period, were still far more expensive than fossil fuel alternatives. Since renewables have become price-competitive, most countries have moved to an auction process for power projects and use open market trading to set prices for all electricity. In advanced economies, FITs have been used primarily to address technology risks, while in EMDEs such as in Vietnam they are used to address project- and country-related risks.

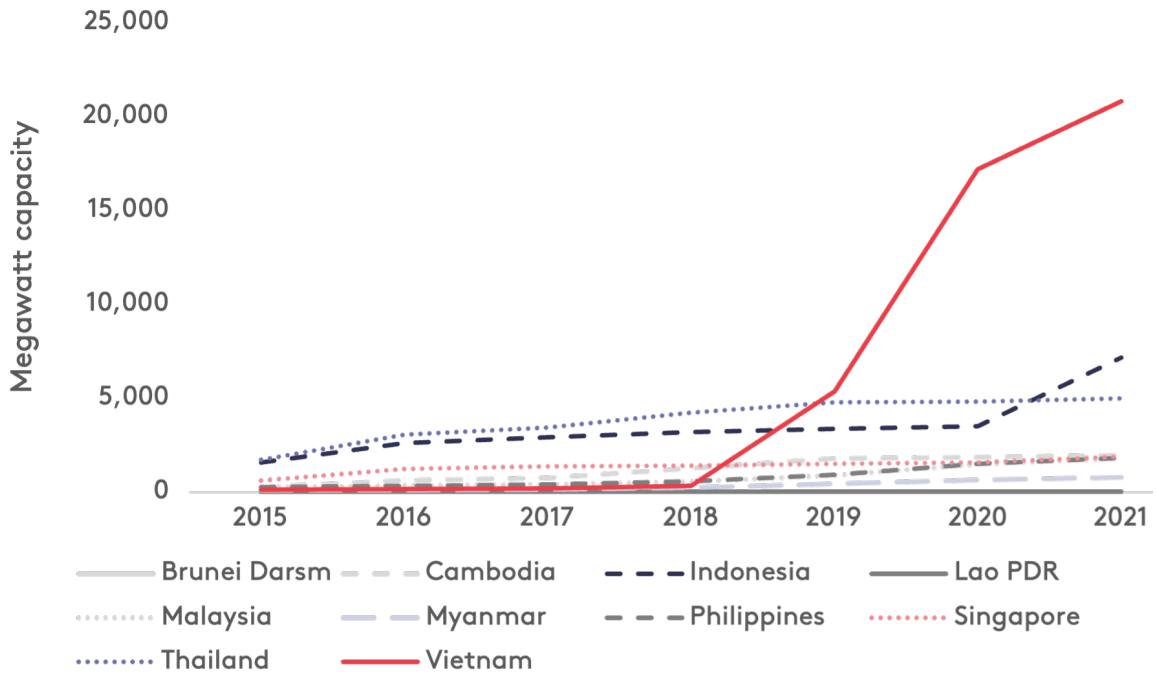
Contrasting views: As the share of renewables increases, the average prices paid for renewable power fall, eroding the profitability of projects. For example, when the wind blows or the sun shines, the price of electricity falls. Without the price guarantee entailed by FITs, with higher interest rates, and with greater electricity price fluctuations, the profitability of renewables projects has declined sharply in Europe. This is why renewable installations have fallen in recent years (Christophers, 2024). There is therefore disagreement between those who believe FITs should be rescinded as renewables' prices drop and those who argue FITs remain necessary as renewables are less competitive in spot-markets.

The intention behind the arrangement in Vietnam was to use the FIT, land grant and tax benefits to compensate for all other risks. The government was aware that EVN and its subsidiaries could not finance a renewables scale-up, so it decided to liberalise the market and compensate for the risks by involving both domestic and international investors. When the FITs and surrounding terms were announced in 2017, advanced-economy investors and industry associations said the power-purchase-agreement terms were 'unbankable' and 'uninvestable' because the Vietnamese state provided no guarantees (Larsen, 2024). Therefore, they argued that no one would invest if the terms were not improved.

However, in stark contrast to the predictions of these overseas investors, the result was a world-record-setting expansion of wind and solar in Vietnam. By the end of 2021, 16GW of solar and 4GW of wind provided 27% of the country's electricity generation capacity. As shown in Figure 1, this far exceeds the share in other ASEAN countries. The projects were financed largely through loans from local banks and investors from Vietnam and other Asian countries (Vu, 2022). Most of the engineering, procurement and construction work on both wind and solar installations was carried out by Chinese companies, given the lack of specialised equipment and scale of Vietnamese engineering, procurement and construction (EPC) companies. For example, in 2018, Vietnam only had five cranes large enough to handle wind turbines, so Chinese EPC companies were hired to bring in the equipment. China supplied almost all solar equipment, while Western companies supplied most of the wind equipment.

"By the end of 2021, 16GW of solar and 4GW of wind provided 27% of Vietnam's electricity generation capacity."

Figure 1. Cumulative wind and solar capacity by year across all ASEAN countries in MWh



Source: IRENA (2022)

In terms of financial decisions, domestic and regional financiers calculated the risks to be low enough to carry out the project, even without any state guarantees. For example, energy demand was rising fast, so curtailment was unlikely, Vietnam had enough foreign reserves to maintain currency stability, and EVN's state backing made bankruptcy improbable.

The projects were financed through debt and equity, with at least 20% equity as required by the Vietnamese Renewable Energy Law (Wong, 2018). Most projects were developed by domestic companies in partnership with regional investors, with EVN buying the power generated at the prices set in the FITs. The majority of the debt came from Vietnamese banks at a 9–11% interest rate for project developers, who would carry projects on their balance sheet instead of through special purpose vehicles, given the comparatively small average project size. Equity financing came from Vietnamese project developers and regional investors. Most of the Vietnamese project developers were private companies active in real estate, which were able to use their experience in this sector to expand into renewables. A competitive advantage for doing so came from their existing ties with local government and experience in planning, financing and constructing real estate and infrastructure projects.

Asian regional partners played a central role in providing equity finance. They entered into partnerships with Vietnamese project developers primarily to provide equity but also to bring in expertise in energy project development and, in some instances, to help domestic project development access regional banks. Examples of the largest regional partners include the following: ACEN, an energy company from the Philippines; Renova, an energy company from Japan; Koyo Corporation, a multi-sector conglomerate from Japan; and Gulf Energy, B. Grimm Power and Sermsang, all energy companies from Thailand. Given that these energy companies have projects across Asia, they are accustomed to working in institutional environments with higher degrees of uncertainty than their advanced-economy counterparts.

The size of equity stakes held by regional investors ranges between 50% and 100% (Larsen, 2024). In addition to partnering from the early stages, several projects developed by Vietnamese companies were subsequently sold off to Asian energy companies, allowing the Vietnamese companies to make a profit in the short term and use the capital from sales to develop new projects. This is a similar process to that used by the same companies in real estate. The regional partners would also often use their own staff or other partners to provide expertise to Vietnamese projects. For example, B. Grimm Power from Thailand has used the regional engineering company, Aurecon, for numerous energy projects and therefore also used them for its projects in Vietnam. Furthermore, regional partners were able to raise capital from regional banks and capital markwets – as the company ACEN did in receiving a loan from Philippines-based Rizal Commercial Bank – and by issuing green bonds on the Singapore Exchange (ACEN, 2018). In the end, most investors involved made high returns. What can be concluded from this experience is that in the eyes of Vietnamese and other Asian investors, the generous FIT outweighed the risks.

"In the eyes of Vietnamese and other Asian investors, the generous FIT outweighed the risks."

How Vietnam's experience is relevant to other countries

The core principle of Vietnam's approach to attracting overseas capital for scaling up renewables was to steer industry development while reducing investors' risk and controlling the state's own risk. The success of this approach suggests that key lessons can be learned by other EMDEs.

In practice, Vietnam's approach entailed long-term mission policies such as an ambitious net-zero-by-2050 target and a state-owned enterprise (EVN) taking on large losses to offset investors' risk without resorting to state guarantees. Despite losses on renewables, EVN was making money on other businesses that helped to sustain it in spite of technology-specific losses. In this way, the mission signalled to the industry that there would be a large market in the long run, while high FITs compensated for a long list of risks investors would prefer to offset with state guarantees. Simultaneously, EVN kept electricity costs low to support the poor parts of the population, reduce inflationary pressure and support Vietnam's exports. What was harmful to EVN financially was good for Vietnam as a country. The result was that advanced-economy financial institutions and companies viewed the risks as too high and consequently stayed away. However, domestic banks, project developers and regional Asian equity investors viewed the risks as lower and provided levels of financing that exceeded expectations.

In terms of de-risking and coordination, EVN represented the state in compensating for risks. Doing so through FITs rather than guarantees allowed the state to maintain complete control over its own risk. This stands in contrast to cases of developing countries guaranteeing currency, operational, project risks and more, only to end up with a heavy financial burden on the state (Gabor, 2021). As most of these risks are related to the nature of new markets, in this case wind and solar, once the market is mature, the risks may be evaluated as lower, and FITs can eventually be reduced or removed. By first using FITs and then shifting to an auction-based model, the Vietnamese state got the industry going while letting the private sector scale up in ways similar to those seen in advanced economies (Bell, 2020). The key difference is that advanced economies in the past used FITs to cover technology costs, while Vietnam used them to cover country-related risks.

"What was harmful to EVN financially was good for Vietnam as a country."

Conclusion

Vietnam's rapid expansion of renewable energy between 2017 and 2021 offers clear lessons for other countries, particularly EMDEs. By using a state-owned utility as a market-making tool, Vietnam reduced investor risk without relying on costly sovereign guarantees. High, technology-specific FITs created credible revenue streams that attracted domestic banks and regional investors. Importantly, this approach avoided dollar-denominated debt and rigid offtake guarantees that can burden public balance sheets. Vietnam's experience shows that in EMDEs, well-designed pricing policies operationalised through state-owned enterprises can mobilise private and regional capital at scale, even where advanced-economy investors remain cautious.

"By using a state-owned utility as a market-making tool, Vietnam reduced investor risk without relying on costly sovereign guarantees."

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