

Finance and Governance for a Viet Nam's Just Energy Transition

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At COP26 in Glasgow, the Government of Viet Nam entered an historic commitment to achieve net-zero carbon emissions by 2050 and to phase out coal-fired power plants before this date. These and related climate pledges are a turning point in the country's energy transition and journey to sustainable development. The announcement of the net zero target established Viet Nam as a leader among developing countries in reducing carbon emissions and limiting the negative impact of climate change. It also has important implications for domestic policymaking and financial markets.

Fulfilling these pledges while also continuing to meet Viet Nam's growing demand for energy will be a massive challenge. In the electricity sector alone, the Government estimates that installed power generation capacity will need to increase five-fold by 2050. With limited scope for new large-scale hydroelectric power, the additional capacity will come mostly from solar, onshore and offshore wind, and emerging technologies like green hydrogen.

Like all economic transitions, the shift from coal to renewable energy will produce winners and losers. Countries that can produce abundant wind and solar energy cheaply will be winners, while coal producers will eventually lose a source of export revenues. Advanced countries that industrialized burning cheap fossil fuels will enjoy an advantage over many developing countries that face higher energy prices during the industrialization process. Households will need to spend more on energy and taxpayers may find that their tax bills rise as government impose carbon and other taxes to encourage more efficient use of fossil fuels and to finance climate change mitigation and adaptation. Energy-intensive businesses like steel production could see their profit margins decline. Workers in industries producing or dependent on fossil fuels will lose jobs and may need to relocate and retrain.

A Just Energy Transition shares the costs and benefits of the transition fairly among countries, regions, industries, communities and individuals. However, a just transition is difficult to achieve because people and institutions act in a self-interested manner, seeking to maintain existing advantages while shifting the costs of the transition to other parties. So, coal-producing countries and regions oppose policies to accelerate the transition, while those that do not possess reserves of fossil fuels support them. Owners of automobiles powered by internal combustion engines object to carbon taxes, while buyers of electric vehicles favor tax incentives for new car purchases. Accommodating these conflicting interests at the international, national, and local levels involves a complex balancing act, and there is no guarantee that interests will align. Technological lock-in (path dependence) can result if losers from the transition dig in their heels and the winners lack the political influence needed to engender change.

The world has experienced many economic transitions. Some have been more just than others. An active and open consultation among all affected parties is essential to achieve a fair distribution of the costs and benefits of the transition from fossil fuels to renewable energy. This includes an inclusive dialogue among nations, especially countries like Viet Nam that are among the most vulnerable to the negative effects of climate change, though not a major contributor to it. Governments must keep their citizens well-informed about the costs of the transition and should be willing to take part in an open and

evidence-based discussion of the costs and benefits of the transition in the short, medium and long term. Careful analysis is needed to capitalize on the largest benefits of the transition while minimizing costs.

Financing the Just Energy Transition

Financing is an important component of the Just Energy Transition. In Viet Nam, the development of renewable energy sources requires a massive investment effort that could absorb as much as \$60 billion per year by 2050. For a middle-income country like Viet Nam, this represents a substantial commitment of capital. Many commentators have focused on the scale of the financing challenge and have concluded that Viet Nam will find it difficult to raise the capital on the scale required to realize its clean energy ambitions.

However, much of what has been claimed about the financial constraints on a just transition is unduly pessimistic. Finance is not a zero-sum game. Increasing the flow of resources available for investment in the just energy transition does not necessarily mean reducing investment elsewhere. The key determinant of the supply of finance is not the existence of pre-existing stocks of national savings, but rather the *risk-adjusted profitability of investment projects*. Investors estimate potential returns on investment and gather as much information as they can on price, production, regulatory and other risks associated with each energy project. If the returns are high enough, and risks can be managed or hedged, the capital needed for investment will be forthcoming.

Viet Nam's solar power boom, which began in 2019 and continued until last year, was an important lesson in renewable energy financing. Fixed feed-in tariffs, set at a relatively high level, boosted the profitability and solar projects and effectively eliminated price risk for investors. From a standing start, investors installed 16.6 GW of capacity by the end of 2021. Most of the investment capital absorbed by these projects came from domestic banks.

From the perspective of profitability and risk management, fixed feed-in tariffs worked. There was no shortage of capital holding back investment in solar energy. However, fixed tariffs were an expensive solution because they did not adjust prices to take into account:

- Varying levels of efficiency among power producers;
- Changes in the cost of generating renewable energy over time.

In a well-governed system, power is purchased from the efficient providers while less efficient producers can only sell power at the margins (or during peak periods when prices are high). But fixed feed-in tariffs do not differentiate between efficient and inefficient producers, and therefore the power network overpays for electricity. Moreover, as technologies advance, the cost of generating renewable energy falls. Fixed tariffs allow producers to capture all the gains from technological change—gains that are not passed on to power purchasers.

During the solar boom, new projects came online so quickly that they outstripped the capacity of the national electricity grid to integrate and distribute the electricity produced. Lack of capacity to absorb renewable energy produced by new suppliers increased the risks associated with energy generation, and therefore reduced the amount of financing available for the just energy transition.

Governance and the Just Energy Transition

From this perspective, financing the just transition is largely a governance issue. In well-governed system, electricity producers compete to sell energy to the grid and to consumers at the lowest price. Clear rules of the game and transparent implementation of them reduces production and regulatory risks. A smart auction system that buys power from the cheapest producer at any moment in time ensures that distributors and consumers do not overpay for power and incentivizes producers to lower costs.

In a well-governed system, financing decisions favor efficient technologies and companies. Companies that have a track record of producing at low cost will attract financing, and companies using older or inferior technologies will not. As technologies change, the cost per unit of the cheapest technologies will fall, which will have an impact on the kinds of projects that attract financing. Solar and wind have already replaced coal and gas as the cheapest sources of electricity, although peak loads remain a problem because of the cost of storage. The cost of hydrogen electrolyzers is also falling rapidly, and this may turn out to provide an attractive option for industry and transportation. As the battery prices fall and new storage technologies come on stream, the need to maintain coal and gas-fired power plants to meet peak demand will be reduced.

High and volatile oil, gas and coal prices, like those that we have seen during the war in Ukraine, make renewables even more competitive. Greater reliance on renewables will strengthen Viet Nam's national energy security as domestic gas supplies decline.

The most urgent infrastructure requirement is modernization of the electricity grid to redistribute power from surplus to deficit regions, and deliver power efficiently within regions. Smart grid technology that uses artificial intelligence to purchase power at the lowest price and balance energy supply and demand across locations and over time, will replace fixed feed-in tariffs.

The Government can finance investments through the normal channels of taxation, domestic bond issuances and Official Development Assistance. Viet Nam's energy partnership with the G7 countries, announced in May, is another potential source of support. UNDP is working closely with the Government to realign key national strategies with COP26 priorities National Climate Change Strategy, Power Development Plan 8, Viet Nam's Nationally Determined Contribution (NDC) and the National Adaptation Plan, and realize the benefits of the Just Energy Partnership. Carbon taxes are necessary because they raise revenue for public investment and also discourage inefficient use of fossil fuels.

Green bonds are another potential source of dollar financing for public investment projects that require imports of capital goods and technology. As a general principle, foreign borrowing should not be used to finance domestically produced goods and services. However, if investors' interest in green bonds is sufficiently high, they could provide a cost-effective alternative to other sources of overseas borrowing.

The Government can lessen the burden on the national grid by facilitating direct power purchasing agreements. Many producer of manufactured exports, especially foreign invested firms, are eager to bolster their eco-friendly credentials. They would like to be able to make the claim that their production facilities are partly or even totally powered by renewable energy. This is not yet possible through the national grid in Viet Nam but could arranged in the form of direct power purchase agreements linking solar and wind power generators to manufacturing facilities. It is likely that some companies would be interested in developing their own renewal energy systems to power their factories. This will increase

the share of renewables in domestic production and thereby help Viet Nam achieve its international commitments and would also reduce pressure on the national grid.

A National Energy Bank

Some complex projects will not attract commercial financing from banks or the bond market because they are too large or slow gestating, taking years to design and build. Banks with short-term liabilities find it difficult to finance projects that take five years or even more to generate cashflow. Many of these projects are also capital-intensive and import-intensive, requiring large-scale dollar financing. Domestic commercial banks may not have sufficient access to dollar funding (liabilities) to finance large dollar loans.

To address this problem, developing and advanced countries have created National Development Banks to increase the supply of long-term financing for large projects. Banks like KfW in Germany, BDNES in Brazil and the Korean Development Bank borrow cheaply on domestic and international capital markets and use their financial power to stimulate domestic lending by commercial banks and other financial institutions. They use various instruments to achieve this goal, for example:

- Direct lending at favorable interest rates
- Co-financing loans from commercial banks and other financial institutions
- Structured finance to reduce the risk exposure associated with, bonds and other financial instruments
- Securitization of long-term bank loans
- Direct equity participation in ventures with high social rate of return
- Technical support for borrowers and lenders.

National development banks are generally publicly owned, although many banks invite private participation to impose market discipline on operations and improve the quality of management. Most national development banks generate positive returns for their investors as their cost of funding is low. Because they can lend countercyclically (increase lending during bad times and reduce lending during boom times), public banks are an important instrument of fiscal policy. In the aftermath of the global financial crisis, the German bank KfW expanded lending when commercial banks were reducing the size of their balance sheets in response to funding constraints.

Countries in every part of the world are now establishing specialized energy banks and non-bank financial institutions to expand energy financing by providing guarantees for commercial bank loans, organizing structured finance for complex, slow-gestating projects, and taking equity stake in projects that deliver important social benefits.¹ By the end of 2018, the China Development Bank had accumulated \$1.9 trillion in green assets.² Australia's Clean Energy Finance Corporation (<https://www.cefc.com.au/>) has provided A\$10 billion in loans during its ten years of existence. There are many other examples. And these institutions do not only lend to renewable energy projects; they also finance agricultural technologies to reduce carbon emissions, green transport infrastructure and vehicle procurement, home insulation for greater efficiency and energy-efficient manufacturing technologies.

¹ M. Mazzucato, and G. Semieniuk, G. (2017) 'Public Financing of Innovation: New Questions'. *Oxford Review of Economic Policy*, 33(1): 24–48.

² T. Marois (2021) *Public Banks: Decarbonization, Definancialization and Democratization*, Cambridge University Press, p. 126.

Viet Nam would benefit from the creation of a National Energy Bank to finance the just energy transition and ensure that the benefits of the transition are widely shared and that the government plays a role in ensuring that the costs are not disproportionately borne by the poor and near poor. A National Energy Bank would invest in solar and wind power generation, and in Vietnamese companies producing equipment for and providing maintenance for solar and wind energy systems. It would support agricultural modernization, climate-resilient housing, green transport and green industry. Large-scale investment in renewable energy would create a large internal market for domestic companies, stimulating growth and employment generation. Government could provide additional support for research and development and building linkages between domestic and foreign companies and national universities and research institutes.

Closing Remarks

Realizing a just transition from fossil fuels to renewable energy is the defining development challenge of our generation. With sensible forward-looking policies that favor inclusive and sustainable development, commitment and close collaboration among development partners, Viet Nam will reduce dependence on imported fossil fuels, achieve energy independence, clean air and contribute to the global effort to limit the impact of climate change.

Access to finance is often presented as the main obstacle to achieving a just transition. We often imagine that capital is a lump of savings that must be distributed among competing investment priorities. But this is incorrect. It is more correct to say that it is investment that drives savings, rather than the other way around. And investment in turn is driven by the risk-adjusted profitability of investment. If investment in renewable energy is profitable, the financing will be found.

Yet profitable investment in renewable energy requires good governance, and for this reason, financing the just energy transition is largely a governance issue. Clear, enforceable rules, transparency and open access reward efficient producers and drive down prices for consumers. We have seen that countries have deployed national development banks to increase the risk-adjusted profitability of energy and other green investments, a strategy that could be adopted in Viet Nam to accelerate the energy transition. Development partners can contribute to the process by sharing lessons on the use public institutions to stimulate green finance in their home markets, and assisting Viet Nam in the creation of new Energy Bank to finance the Just Energy Transition.