STOP FUELLING UNCERTAINTY
Why Asia should avoid the LNG trap

Summary for Policymakers

Vietnam is approaching a key point in determining the future direction of its power system and the technologies that it wishes to turn to, as the country begins its transition away from the coal-fired supplies it currently relies upon.

The country’s current plans are heavily based on becoming more dependent on gas-fired power. The Vietnamese government reduced the scale of this planned pipeline in the latest draft of its Power Development Plan¹, but still identified potential for more than 46 GW of gas-fired capacity by 2045 from just 8 GW currently. This will not only require investment at the power plant-level to deliver, but also significant levels of additional capital investment in the infrastructure needed to receive the liquefied natural gas (LNG) cargoes necessary to fuel the new capacity.

However, with global gas prices having hit record highs over the past year and the continuing Russia-Ukraine conflict highlighting how quickly geopolitics can alter the supply picture, this further strengthens the arguments to move away from depending on volatile fossil fuels - undermining the notion that gas is a transition fuel – and accelerating the transition to a cleaner and more secure energy economy.

Vietnam’s vast natural resources and potential for continued rapid development in the renewable energy sector provide the country with the opportunity to leapfrog gas as a primary energy source and to plan now for a coal-to-clean transition.

Against this background, Carbon Tracker’s latest report Stop Fuelling Uncertainty concludes that this pathway is the most cost-effective way for the Vietnamese government to deliver its goal of net zero emissions by 2050.

Headline Takeaways

New solar and onshore wind will be cheaper overall investments than new gas plant capacity in Vietnam:

• New solar capacity is already cheaper to build and operate than new gas, while solar with battery storage is projected to beat new gas by 2029. This leaves new gas plant developers with an extremely limited period in which to get their unit built and operating before finding the asset is either stranded or has its operating hours severely constrained due to the increased competition from renewables and battery storage flexibility services.

• New onshore wind farms are also projected to be cheaper investments than new gas by just 2023, and with battery storage included by 2030.

• To support the continued rapid development of renewables in Vietnam, the government should seek to remove potential barriers to deployment, by providing clarity over future feed-in tariff subsidy availability for renewables, and by future-proofing the grid to ensure system infrastructure can accommodate increased renewables penetration.

Date: June 2022

Vietnam’s potential in the offshore wind sector is huge:

- Vietnam’s estimated 3,000 kilometres of coastline and strong wind speeds mean the country has plentiful potential for investment in the offshore wind sector, with the World Bank having estimated the country’s technical potential for capacity at nearly 600 GW\(^2\).
- On a cost basis, offshore wind farms also compete favourably with new gas in Vietnam and are expected to become cheaper overall investments by just 2025.
- Offshore wind farms can deliver capacity factors of more than 40%, with this figure projected to reach levels well above 50% by the end of this decade as turbine infrastructure continues to improve\(^3\), meaning reliability and production levels are comparable to that of gas plant facilities even without storage capacity installed.
- The Contracts for Difference subsidy mechanism has been a successful instrument in kick-starting offshore wind sector deployment in a range of countries globally and should be considered by the Vietnamese government.
- Policymakers should ensure that permitting procedures are simple to navigate to ensure potential project developers are not deterred. Port infrastructure must also be capable of facilitating an expanding offshore wind industry.

Consumer energy bills in Vietnam will rise significantly if the country’s new gas pipeline is built:

- Even under generous business-as-usual conditions, virtually the entirety (98%) of Vietnam’s planned new build gas plant pipeline is projected to be unable to recover its initial investment.
- This means that, for projects to be viable investments, Vietnam’s electricity tariffs will need to rise significantly to fund Power Purchase Agreements (PPAs) at levels which at least equal the levelised cost of energy (LCOE) for new gas.
- Given that the LCOE of new renewables is either already lower or will fall below that of new gas over the next few years, PPAs for new gas which lift consumer electricity bills appear difficult to justify and should consequently be discarded.

New gas build in Vietnam will result in infrastructure stranding:

- Investment in new gas-fired power stations dependent on LNG for their fuel supplies means that most planned projects in Vietnam rely on LNG terminals being developed alongside. In other words, many proposed gas plants in the country are only viable if additional capex is spent on related LNG infrastructure.
- Vietnam has a current pipeline of 13 planned LNG terminals, although only two have begun construction\(^4\). Of these two, the first phase alone of the Thi Vai terminal is estimated to cost around $285 million to build. Building the entire pipeline consequently has the potential for several billion dollars of infrastructure to strand.
- Vietnam also requires significant investment in its grid infrastructure for whatever future path it chooses for its energy supplies. Centring these connections around gas plants rather than renewables will increase the amount of infrastructure that could strand and mean that new renewables capacity face grid access issues which could slow deployment rates.

Regardless of the economics, nations should not be increasing their dependence on gas:

- The Russia-Ukraine conflict shows how gas supplies can be weaponised by regimes, and that fossil fuel supply is subject to sovereign risk and volatile markets.
- Planning a power system based on renewables with battery storage will in contrast reduce exposure to price volatility and sovereign risk — in short, improving national energy security.
- Delivering net zero emissions through accelerating the deployment of renewables therefore not only represents the best option for nations’ climate ambitions but should — as the UN Secretary-General recently highlighted — also be the path to energy security.

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1 Released on 26th April 2022. Stop Fuelling Uncertainty report was published on 8th April 2022 and modelled the previous maximum estimate of —56 GW of planned capacity.
4 Global Gas Infrastructure Tracker – Global Energy Monitor