



Phasing-out coal in Vietnam

Status quo

During the past three decades of fast and energy-intensive economic growth, Vietnam passed the middle-income country threshold in 2011. In the same period, electricity demand grew by 10 to 11% per year on average.

The electricity generation mix in Vietnam is dominated by coal (53% of generation in 2020), with massive capacity additions between 2010-2020. Hydro (26%) and natural gas (16%) also play important roles while solar and wind generated 5% of electricity. Avoiding new coal-fired power plants and eventually phasing-out coal in Vietnam are key to a sustainable energy system. With a projected installed capacity of more than 49 GW by 2030, coal capacity would more than quadruple from 2015 levels. This number however is likely to be revised.

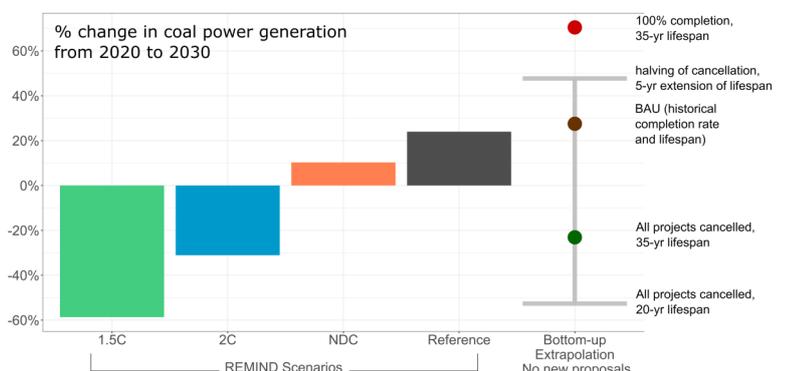
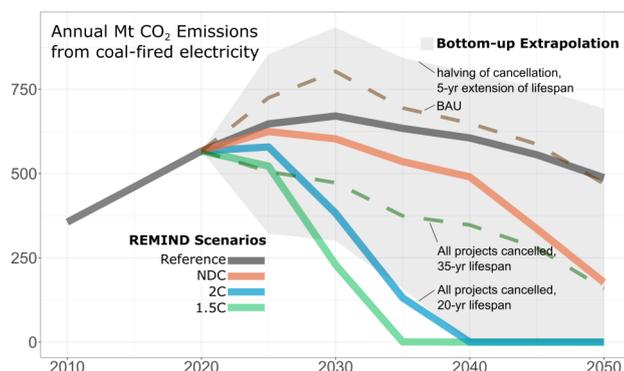
Yet, Vietnam's 8th Power Development Plan foresees to slow down coal development and increasingly build renewable capacities, as well as natural gas. Insufficient grid capacity has however been hampering recent efforts to integrate more renewables generation (mostly from solar PV) since 2020.

Coal phase-out scenarios

To limit global warming, the Paris Agreement from 2015—signed and ratified by Vietnam—requires keeping the average temperature increase to well below 2°C and possibly 1.5°C above pre-industrial levels.

Scenarios on carbon emission pathways project that emissions from coal-fired electricity generation need to reach net-zero by 2035 to remain below 1.5°C and by 2040 to remain below 2°C (see left figure below). Achieving the 1.5°C target implies that, by 2030, electricity generation from coal in South-East Asia needs to decrease by almost 60% compared to today's levels. Allowing for 2°C warming would still require the region's current generation to decrease by 30% by 2030 (see right figure below).

Achieving the 1.5°C target does not allow for any additional coal development, but instead implies even reducing the lifespans of operating plants to 20 years.



REMIND model results and bottom-up extrapolation for coal in South-East Asia.

Left: CO₂ emissions for different scenarios (1.5C, 2C, NDC and Reference). “NDC” represents the first-round Nationally Determined Contributions, “Reference” the currently implemented national policies. The grey area shows bottom-up extrapolation assuming no new coal project proposals. **Right:** coal phase-out in 2030 in percentage of the 2020 generation for different scenarios and bottom-up extrapolation with varying assumptions on completion rates of new coal plant projects and lifetimes of existing plants. Extrapolation is conducted using the Global Coal Plant Tracker January 2021 release and the IEA World Energy Balances 2017 edition.

Political economy

The electricity market in Vietnam remains largely government-controlled. Addition of power plants is enshrined in ten-year Power Development Plans, with the current plan covering the period 2021-2030. The state-owned monopoly utility Vietnam Electricity (EVN) under the Energy Ministry functions as a single buyer of electricity and controls most of the transmission. Together with other state-owned enterprises (SOEs) in the energy sector, it controls up to 90% of generation capacity. Electricity prices are politically controlled and do not reflect generation costs. High financing costs and limited credit lines for renewables have hampered private sector-driven solar PV and wind development in the past.

Vietnam's focus on coal is also driven by the incumbent networks between decision-makers in the Communist Party, key ministries and the SOEs. That is, a variety of actors has substantial interest to keep up coal use as they either derive direct monetary benefits or political power from it.

More recently, financial and structural constraints have led to a stronger dependence on—mostly international— independent power producers to meet capacity addition needs. In the past, barriers for renewable energy investors were high. Market regulations were volatile and tailored to the fossil-leaning energy SOEs. Direct and indirect support to SOEs further exacerbates the lock-in of coal-fired power generation and undermines ongoing efforts to reform the electricity sector. Recent regulatory reforms have proven that, if incentives are right and investment risks mitigated, private developers can deliver fast on renewable capacity additions. While still planning to increase coal-fired generation capacity, the 8th Power Development Plan slightly reduces the amount of capacity to be added compared to the previous one.

Due to budgetary pressures related to the economic consequences of the Covid-19 pandemic, coal investments have been paused in favor of lower-cost alternatives, most prominently solar PV. This offers a window of opportunity to avoid that these shelved plans to construct coal-fired power plants will be reactivated once the economy recovers.

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Solutions

Achieving a coal phase-out requires policies that take political economy factors into account. We propose **three mechanisms to phase-out coal** and safeguard the transition to cleaner alternatives in Vietnam:

- i) **Restructure the electricity sector:** Electricity market reforms that stabilize investors' expectations and dissolve existing regulatory imbalances compared to coal could trigger new investments in renewables. This was proven recently as around 20 GW of solar (rooftops and grid-connected combined) have been built in conjunction with further steps to liberalize the power market. A full transition of Vietnam's power sector will, however, require more fundamental structural reforms, such as deregulating electricity tariffs and withdrawing the government as a majority shareholder of the—currently state-owned—enterprises.
- ii) **Shift financing from coal to renewables:** The expansion of renewables can be accelerated by shifting financial support from international donors and investors away from coal. Given the high cost of capital in Vietnam, which constitute a major stumbling block for RE projects and grid extensions, de-risking instruments such as loan guarantees can be highly efficient to support RE investments. These could be strengthened by holding private banks and other financial institutions, such as pension funds, accountable for their portfolios.
- iii) **Build momentum in civil society:** Finally, public concern about climate change and environmental pollution could provide a more important motivation for the Communist Party to reconsider its focus on coal-based electricity generation. In this regard, civil society organizations could become important actors in support of an energy transition. In the past, the Communist Party of Vietnam has demonstrated that it is highly attentive to public sentiment, and several planned coal-fired power plants have been shelved due to concerns about local pollution. A coordinated effort by relevant civil society organizations could hence have substantial influence on national energy policies.



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