

Briefing Paper – LNG’s role in reducing Vietnam’s Coal reliance & carbon footprint

Written by: John Goyer for the *Asian Economic Forum*
March 04th, 2022

Introduction

The Biden Administration has correctly emphasized the urgent need to adopt measures to reduce global greenhouse gas emissions in line with the goals of the Paris Agreement. Encouraging steps are being taken in a number of fast-growing and developing countries to transition towards less carbon-intensive forms of power generation, including nations in Southeast Asia. This region is particularly vulnerable to climate change impacts, including rising sea levels, heat waves, drought, and more intense and frequent rain events,¹ and has thus put emphasis on developing less carbon-intensive forms of energy.

Currently, lower carbon intensive and renewable energy meet only 15% of Southeast Asia’s energy demand, while coal consumption still is rising. The region’s population is expected to increase by more than 100 million persons by 2035, and energy demand is forecast to grow 60% by 2040, meaning that Greenhouse Gas (GHG) emissions will surge unless the region significantly ramps up lower carbon energy sources, including a rapid transition away from coal to renewables and natural gas-fired power generation, as part of a longer-term transition to a net-zero future.

Natural gas is the most immediately available, affordable and scalable alternative to the growing demand for coal in Southeast Asia and helps ensure grid reliability as renewable energy scales up. As the world’s largest natural gas producer, the United States has the potential to help Southeast Asia meet its growing energy demand while simultaneously providing grid stability and reducing GHG emissions levels. Investments in natural gas today can be decarbonized in the future via carbon capture and storage (CCS) and a significant increase in hydrogen production, which many projects are being designed with an eye toward, as those technologies become more viable. In the United States, natural gas usage has increasingly replaced coal and crude oil, and GHG emissions have fallen. Between 2005 and 2019, U.S. emissions fell nearly 1% annually, on average, according to the Environmental Protection Agency,² even as energy consumption increased during this same period.

The Biden Administration’s just-released Indo-Pacific Strategy affirms that the United States will work with partners in that part of the world to develop targets, strategies, plans, and policies consistent with limiting the global temperature increase to 1.5 degrees Celsius, *and will seek to serve as the preferred partner as the region transitions to a net-zero future.*³ (Emphasis added). Depending on how this policy is implemented, it could help substantially lower emissions in the region, and globally.

This paper focuses specifically on Vietnam, which despite decarbonization pledges, and an impressive expansion of its solar and wind capacity, still places coal prominently in its future power generation capacity plans. Vietnam is therefore a good test case for the Biden Administration’s climate strategy.

The Problem

Vietnam’s rapid economic growth and its increasing energy demand have led to an exponential increase in GHG emissions (see chart below). Vietnam’s national carbon intensity per GDP increased 48% between 2000 and 2010, the second highest in East Asia. Between 2010 to 2020, Vietnam’s CO2 emissions nearly quadrupled, largely from coal-based power generation, as well as industrial expansion, and its growing transport sector. Vietnam is the 9th largest consumer of coal globally,⁴ and the rising air pollution levels contributed to over 60,000 deaths in 2017, according to the World Bank.⁵

Coal has far outstripped other types of fuels as a source of CO2 emissions in Vietnam. In 2020, coal accounted for 126 million tons of CO2 emissions, half of Vietnam’s total, and far ahead of any other source of emissions. As a result, Vietnam is considering its energy transition policies and measures to encourage renewable energy growth. At the beginning of 2022, it established a carbon market, and has laid out plans for substantial growth in solar and wind capacity.

¹ <https://www.weforum.org/agenda/2021/08/southeast-asi-weather-extremes-global-warming-2030-ipcc-report/>

² <https://insideclimatenews.org/news/10012022/us-emissions-surged-in-2021-heres-why-in-six-charts/>

³ <https://www.whitehouse.gov/wp-content/uploads/2022/02/U.S.-Indo-Pacific-Strategy.pdf>

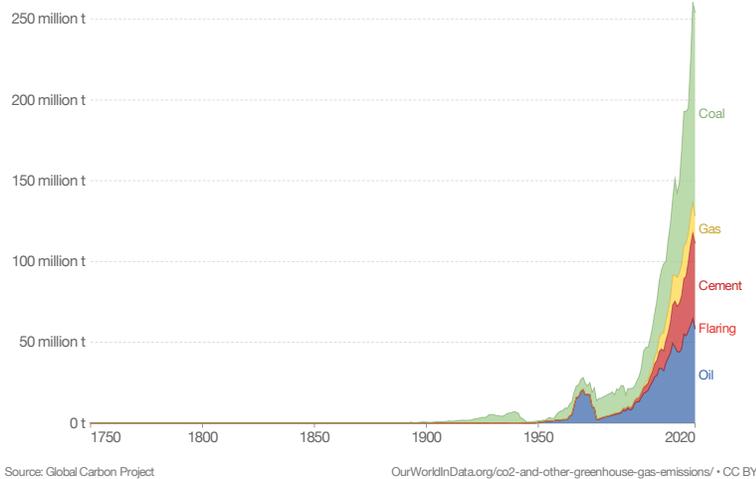
⁴ <https://energytracker.asia/vietnam-coal-cop26/>

⁵ <https://www.worldbank.org/en/news/feature/2021/11/11/carbon-pricing-aids-vietnam-s-efforts-towards-decarbonization>
www.asianeconomicforum.com

a platform for dialogue for regional Asian communities and global stakeholders

CO₂ emissions by fuel type, Vietnam

Annual carbon dioxide (CO₂) emissions from different fuel types, measured in tonnes per year.



At COP26 in Scotland in November 2021, Vietnam's Prime Minister Pham Minh Chinh announced that Vietnam will aim to achieve net-zero emissions by 2050. This was a sharp departure from its previously announced power development plan, which had called for upwards of 50GW of installed coal-fired capacity by 2035.

Following COP26, Vietnam's coal-fired capacity plan was sent back to the drawing board, and a revised version, reflecting Vietnam's COP commitments, has yet to be issued.⁶ However, given its high degree of coal dependency, whatever final form the plan takes, it is highly unlikely to be sufficient

for Vietnam to fulfill its COP26 commitments.

LNG CAN PLAY AN IMPORTANT ROLE IN VIETNAM'S CLEAN ENERGY FUTURE...

Vietnam is well placed to substitute much of its planned coal-fired capacity with liquified natural gas (LNG). There is tremendous Vietnamese government interest in doing so, given that natural gas is the cleanest-burning fossil fuel when produced responsibly. As the U.S. Energy Information Administration explains, "Burning natural gas for energy results in fewer emissions of nearly all types of air pollutants and carbon dioxide ... than burning coal or petroleum products to produce an equal amount of energy."⁷ This is especially evident in the United States, where coal produces roughly twice as much carbon dioxide per unit of energy as natural gas and causes 20% of U.S. energy emissions despite accounting for only 10% of U.S. energy consumption.⁸

As the world's largest LNG producer, the United States is in an excellent position to assist Vietnam, as well as its neighbors, in lowering GHG emissions as the world seeks to undergo a larger and longer-term transition to net-zero carbon emissions. U.S. companies, as the most environmentally responsible players in the industry, are Vietnam's preferred choice. Numerous projects are under development or under negotiation with U.S. partners to develop LNG-fired electrical generating and industrial capacity in Vietnam.

But this transition period - specifically how energy is generated between now and the carbon-free future that we must aspire to - is the challenge. Realizing a net-zero future should be humanity's goal and should guide leaders and policy makers. But the transition will be a decades-long process during which, absent a complete and catastrophic shutdown in economic activity, other fuels, particularly LNG, can both support economic growth, provide grid reliability, and be integrated into long-term energy plans. Further advances in hydrogen and CCS will enable greater benefits from LNG.

...BUT HELP IS NEEDED

While LNG has strong attractions as a substitute for coal, the LNG supply chain is complex and difficult for new and upcoming LNG importers like Vietnam to navigate. Considerable resources are required for both the exporter and importer of LNG to build and operate the required infrastructure. While importing LNG in the necessary volumes requires a different planning framework and risk calculus than is the case with coal, long term LNG sales and purchase agreements provide long-term value for both sides. U.S. LNG exporters and project developers must take into account the uncertainty of long-term deals and investments in Vietnam. For its part, Vietnam will not consider U.S. suppliers that do not have, in effect, some form of a U.S. Government seal of approval. And it is here that official U.S. Government support can make or break such projects. So far, it's been breaking them.

⁶ <https://www.eceee.org/all-news/news/vietnam-targets-net-zero-but-struggles-to-break-coal-dependence/>

⁷ <https://www.eia.gov/energyexplained/natural-gas/natural-gas-and-the-environment.php>

⁸ https://foreignpolicy.com/2022/01/25/us-natural-gas-france-deal-cheniere-energy-transition-climate-change/?utm_source=PostUp&utm_medium=email&utm_campaign=Editors%20Picks%20OC&utm_term=39107&tpcc=Editors%20Picks%20OC

U.S. Barriers

In January of 2021, President Biden issued an Executive Order (EO) on tackling climate change at home and abroad, a key tenet of which was that the United States would no longer provide public financial backing for fossil-fuel intensive projects abroad. The implementation guidelines were divulged in a leaked cable to US Embassies abroad in late 2021. The guidance, which remains “interim” as of this writing, explicitly rules out financial, diplomatic, and other forms of support for fossil fuel projects, except under very circumscribed conditions.⁹

Other U.S. obstacles to greater LNG exports have taken different forms. In some cases, delayed consideration of export permits from the U.S. Department of Energy (DOE) have limited U.S. companies’ ability to expand production and sale of LNG to foreign buyers. At present, there are at least half a dozen export applications that have been pending with DOE for over a year, impacting the decision making of investors and LNG buyers alike.

Another prerequisite for potential U.S. exporters is a creditworthiness letter from an agency such as the Development Finance Corporation (DFC) or the Export-Import Bank (Ex-Im) of the United States. Similar to a pre-qualification from a bank, it is a stamp of approval that allows an importer or investor to inject their capital into a project. In many cases, importers or investors – including those from Vietnam - will not even consider a U.S. partner that does not have a creditworthiness letter.

To be clear, this is not the same as actual financial support from DFC, Ex-Im, or other government agencies. A letter of creditworthiness is not political or financial risk insurance, nor is it a loan or a guarantee. As such, it carries no liability for the U.S. taxpayer. Moreover, producers and exporters do not necessarily seek direct financial support for all potential LNG projects; in some cases, the private markets are sufficient. Where they are not, DFC and Ex-Im play an essential role, and should stand ready to be supportive. However, in keeping with the direction of the Executive Order, both agencies are disinclined toward supporting LNG projects, at least pending the final guidance.

Options

There are options that the Biden Administration can consider that will support long-term climate goals, while recognizing the needs of developing countries, and the realities of the global marketplace, and the energy security benefits that U.S. LNG brings to Vietnam and other countries in the Indo-Pacific.

First, the Biden Administration should be sensitive to the needs of developing countries. Countries like Vietnam are setting ambitious climate goals and want to reduce emissions while maintaining high rates of economic growth. They recognize LNG’s potential as a key fuel in this respect, and want to purchase it from the United States, whose LNG is among the cleanest in the world. To somehow expect that Vietnam, or any other country, can leapfrog from oil and coal straight to zero carbon sources is fanciful, and ignores their legitimate economic development aspirations.

Second, that the Biden Administration’s policy needs more pragmatism and flexibility than is currently envisaged. If the Indo-Pacific Strategy’s energy transition goals are sincere, then special dispensation should be given to LNG projects such those envisaged for Vietnam, where they would clearly and readily displace coal, thereby substantially reducing GHGs. Moreover, such projects should be backed up by appropriate U.S. government advocacy, funding, and diplomatic support.

Third, the Biden Administration has flagged concerns about the investment risks created by the buildup of LNG-fueled power generating capacity. However, the energy industry is shifting toward hydrogen, (a natural progression as hydrogen can ultimately be produced from LNG), and new LNG facilities can be designed with an eye toward eventual large-scale hydrogen production as the technology improves and hydrogen-produced energy prices fall in the long term. Vietnam has already approved a 300 MW hydrogen project, though it won’t be able to operate on commercial terms for years.

The Biden Administration could readily work with the energy industry to incorporate hydrogen standards into new LNG projects to address the stranded asset concern. In addition, advances in CCS could further extend the viability of many of these assets. Importantly, this is the model being pursued in the European Union, which has included natural gas in its Green Taxonomy, recognizing its potential to provide the foundation and infrastructure necessary to support a future hydrogen economy.

⁹ <http://priceofoil.org/content/uploads/2021/12/US-Fossil-Fuel-Guidance-December-2021.pdf>
www.asianeconomicforum.com

a platform for dialogue for regional Asian communities and global stakeholders

Fourth, the United States can go a long way toward supplying the world with more LNG, provided that the commercial and policy environments are supportive. At present, U.S. LNG exports to Southeast Asia range from negligible to nonexistent,¹⁰ and existing U.S. export facilities are operating close to their maximum capacity. As new export facilities come online, more U.S. LNG can be supplied to the world market, at lower cost than many other suppliers, continuing to make it more cost-competitive with coal (assuming that DOE issues the necessary export permits).

Fifth, the Biden Administration should consider the strategic benefits of supplying LNG to Southeast Asia. Energy security is an absolute priority in the region, particularly given several countries' offshore exploration projects are subject to relentless Chinese bullying, intimidation, and coercion, and where Chinese-backed coal plants contribute mightily to regional emissions and debt. The Russian invasion of Ukraine should make it clear that energy security is essential to economic growth. In that context, partnership with the United States as a reliable fuel supplier will support regional development and stability.

Conclusion

COP26 President Alok Sharma urged negotiators to “consign coal power to history,” but that history hasn't arrived yet. Despite the call in the Glasgow Climate Pact for a “phase-down” in coal power, some coal-reliant countries have indicated that they will not completely stop using coal until the 2040s or later. Vietnam's neighbors, such as Indonesia, also remain dependent on coal, which accounts for 60% of its generating capacity. Malaysia has said it will cut emissions intensity by 45% by 2030, but also plans to ramp up its use of coal power.¹¹

“Perfect is the enemy of the good” is a shopworn phrase that accurately describes current U.S. policy around LNG. LNG is a fossil fuel, it carries risk, and it is not carbon-free. However, in the United States, increased natural gas use has offset coal and oil-fired power production and is the primary reason the United States has been able to decarbonize as much as it has. This positive experience can be replicated in Vietnam and in many other countries, which would mean sustained growth, regional stability and lower GHGs while the world undertakes the necessary longer-term transition to carbon neutrality.

In Vietnam's case, another cliché applies: the Hobson's Choice. The United States can either supply LNG to Vietnam to substitute for coal, or it can adhere to rigid policy of zero support for LNG, and stand idly by while Vietnam, and many other countries, construct substantial new coal-fired generating capacity.

Author: *John Goyer* is the Executive Director, Southeast Asia at the US Chamber of Commerce in Washington D.C. The opinions expressed in this paper are those of the author and not necessarily those of the U.S. Chamber of Commerce.

Copyright © Asian Economic Forum. All rights reserved

The Asian Economic Forum (a nonprofit organization) is an economic focused 'think tank' with a research interest in public policy. Our long-term goal is to highlight economic policies that enable economic growth, stability, transparency and free markets in Asia and also enable global stakeholders to have more engagement opportunities in Asia in addition to their traditional points of interaction. The conclusions and recommendations of any Asian Economic Forum Policy / Briefing Paper (s) are solely those of its author(s), and do not reflect the views of the Asian Economic Forum, its management, or its other Research Resident or Non-Resident Fellows or Scholars. Funding Requests are written independently and in consultation with its Board of Governors, Chair of Committees or its duly appointed Officers.

Copyright © Asian Economic Forum. All rights reserved

¹⁰ https://www.eia.gov/dnav/ng/ng_move_expc_s1_m.htm

¹¹ <https://www.weforum.org/agenda/2021/08/southeast-asi-weather-extremes-global-warming-2030-ipcc-report/>
www.asianeconomicforum.com