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ECONOMIC EVALUATION OF LNG POTENTIAL IN VIETNAM

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ABSTRACT

The potential for liquified natural gas (LNG) to transform the energy sector and economy in growing countries such as Vietnam is substantial. This white paper provides an in-depth analysis of the Vietnamese gas-to-power sector and how LNG investment may lead the way for greater economic growth. Special emphasis is placed on the role that United States (US) LNG production may play in this energy transition and the importance of foreign, as well as domestic, investment over the coming decades. The white paper also highlights the regulatory and policy changes that will facilitate LNG investment and usher in an era of lower carbon emissions and sustainable economic prosperity. Among the many findings identified in the study, several key results include:

- Vietnam's power demand is forecast to increase over 300% by 2050 while the economy is expected to grow at 4.6% per year over the same period suggesting that a need for LNG presents a huge opportunity for investors.
- While the current regulatory and policy framework in Vietnam poses some challenges, strategies aimed at the three specific areas related to minimum dispatch factor, fuel-cost pass through, and power tariffs provide significant promise for encouraging LNG investment.
- Vietnam may attain its goals of meeting energy power demand during a period of high economic growth while simultaneously reducing carbon emissions by optimizing its use and mix of domestic resources along with US supply of LNG volumes.

EVALUATION OF LNG POTENTIAL IN VIETNAM

1. Background and Objective

Wood Mackenzie and Oklahoma State University have jointly developed this white paper analyzing the energy market landscape in Vietnam and forecasting the outlook for gas in the country's energy mix through 2050, including the requirement for LNG and identifying key regulatory changes that can support the development of integrated LNG-to-power projects. The forward-looking statements and forecasts for Vietnam represent Wood Mackenzie's independent view developed through our own assessment of expected market developments.

The white paper also highlights the increasing role of US LNG exports within the global LNG context and analyzes how LNG based power generation can help Vietnam lower emissions by burning less coal .

We have structured this white paper into the following sections:

- Section 2 captures our key research highlights from the analysis presented in this white paper.
- Section 3 provides an overview of Vietnam's current energy landscape, outlining the country's current primary energy mix and how this mix is expected to evolve, thereby providing context for the role of gas.
- Section 4 focuses on the role of gas within the energy mix, which is primarily for power generation and examines how LNG will bridge the gap due to demand outpacing domestic supply. We also highlight the regulatory steps that can support the development of integrated LNG-to-power projects.
- Section 5 highlights the increasing role of US volumes within the global LNG context and qualitatively captures the benefits of US LNG for Vietnam buyers, including estimates for the lower emissions from consuming US LNG relative to burning coal for power generation in Vietnam.

2. Research Highlights from the Study

- **LNG will play an important role in meeting Vietnam's growing power demand**

  Even after considering the potential for new domestic production from discoveries in Central Vietnam and growth in renewables (mainly solar and wind) capacity, LNG will play an important role in meeting the country's power demand.

  - Vietnam's power demand is forecast to increase from 330 terawatt-hour (TWh) in 2025 to 1,100 TWh by 2050, driven mainly by average annual economic growth of 4.6% per annum during 2025-50. Forecasts indicate that new gas/LNG fired power plants are required to meet the increasing demand. Vietnam's Revised Power Development Plan VIII (Revised PDP8) plans for ~45 gigawatt (GW) of additional gas-fired capacity by 2050 (including some that will later be converted to or co-fired with hydrogen), despite plans to increase wind and solar capacity by ~500 GW over the same period. However, we highlight that Wood Mackenzie's forecasts for both gas fired power and renewables capacity are less optimistic than the Government plans.
  - Domestic gas production is forecast to increase in the 2030s led by monetization of large discoveries in Central Vietnam. However, overall gas supply will still be insufficient to meet the increasing demand in power and industrial sectors.
  - LNG demand is forecast to increase from 0.5 million tons per annum (Mtpa) in 2025 to 17 Mtpa by 2050 after considering demand from power and non-power sectors, with ~65% of this demand concentrated in the Southern region. Further upside for LNG demand exists if domestic discoveries are delayed or production is lower than our forecasts.

- **Addressing regulatory and policy changes will make investment in Vietnam more attractive**

  Vietnam can accelerate LNG-to-power project developments and attract international capital by addressing key regulatory gaps and improving investment terms. Proactive reforms will create a predictable, bankable environment for investors.

  - Key regulatory issues requiring attention:
    - **Minimum dispatch factor**: LNG-to-power projects will need a minimum dispatch factor given the need to sign take-or-pay obligations in LNG sales and purchase agreements (SPA). Whilst new regulations allow a 65% minimum dispatch for up to 10 years, it remains to be seen whether the current percent level and duration will suffice international financing requirements or needs to be increased.
    - **Fuel-cost pass through**: Adjustments will need to be automatic, without the need for regular Ministry of Industry and Trade (MOIT) approvals, given LNG prices in US$/mmbtu terms will change monthly.
    - **Power tariffs**: Power purchase agreements (PPA) should be denominated in United States dollar (USD) and Vietnamese dong (VND) conversions will need to be done continuously at prevailing exchange rates, for the entire tariff, as opposed to the current mechanism where such USD to VND conversion is permitted only for the principal component of the debt.

- **LNG will play a strategic role in Vietnam's energy transition and there is potential for US LNG volumes to physically flow to Vietnam**

  The increasing share of US volumes in global LNG supply means that some volumes from the country can play a role in meeting Vietnam's LNG demand. LNG consumption can facilitate emissions reduction, especially in the coal dominated economies in Southeast and South Asia, including in Vietnam which currently ranks as the fifteenth largest greenhouse gas (GHG) emitter globally.

  - US LNG will contribute around 40% of the global supply by mid-2030s and there is potential for the share of US to increase further with several projects targeting Final Investment Decision (FID) in the next few years.
  - US LNG supply will help meet Asian demand, and some volumes may potentially be consumed in Vietnam. Whilst it is difficult to accurately predict the quantity of US LNG that may physically flow to Vietnam, given there is no LNG SPA yet signed by Vietnamese buyers, we estimate the potential for around 1.5 Mtpa US LNG to flow to Vietnam based on high-level estimates for LNG flows and considering Vietnam's share within Asian LNG demand.

- The significant increase in LNG supply expected over the coming years, primarily driven by new US volumes, will help alleviate supply concerns and exert downward pressure on LNG prices (especially spot volumes) and thus support the penetration of LNG into the Vietnamese markets. The integrated LNG-to-power projects currently being evaluated will support energy security in Vietnam given their development is crucial to meeting the increasing power demand, especially as the Government progresses with its plans to reduce coal-fired generation in order to lower emissions. Moreover, there is a clear risk that Vietnam will be unable to achieve sustainable economic growth without these LNG fired power projects. Additionally, such projects will also drive economic activities in the country and facilitate job creation, including significant employment potential in the construction phase that is expected over the next 10 to 15 years.
- LNG consumption will support emissions reduction by helping Vietnam avoid the emissions that would otherwise be emitted if demand were to be met with coal-fired generation. The potential avoided emissions for US LNG versus coal in power generation in Vietnam ranges from around 78 to 140 grams of carbon dioxide equivalent per megajoule of energy (gCO2e/MJ), depending on the quality of coal and its value chain as well as the supply source for the LNG.

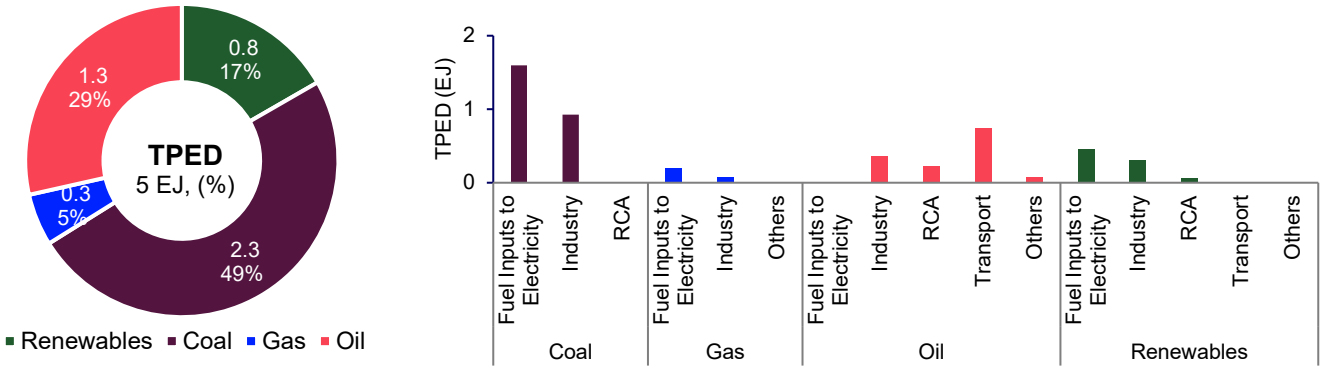
3. Vietnam Current Energy Landscape

Vietnam has achieved remarkable economic progress over the past 10 years, with real gross domestic product (GDP) growing at an annual average of 6.2% between 2015-2024[1]. However, this growth has been supported by an increasing reliance on coal-based energy, which saw the country's coal-based power generation capacity double from 13.5 GW in 2015 to 27 GW by 2024. The industrial sector accounted for 60% of the end-use energy demand in the country, being the key driver of the booming electricity demand and energy intensity. The high energy intensity requirement in Vietnam's steel, cement and textile sectors is mainly due to their relatively old technologies.

Vietnam is strategically positioned to capitalize on the global trend of outsourcing, exploiting its low labor costs amidst a growing pool of skilled workers. The country is actively expanding its electronics manufacturing and chip-making industry, including assembling, testing, packaging, manufacturing, labs and design. Manufacturers are embracing advanced technologies such as robotics, the Internet of Things (IoT) and cloud-based software.

Vietnam's total primary energy demand (TPED) has grown at a compound annual growth rate (CAGR) of 6.5%, from 2.7 exajoule (EJ) in 2015 to 5 EJ by 2025. Currently, 78% of Vietnam's energy demand (Figure 1) is met by a combination of coal and oil. Both gas and renewables will play a critical role in reducing the country's reliance on these fossil fuels. The share of renewables in meeting energy demand is projected to double from 16% in 2025 to 32% by 2050, while gas is expected to increase significantly from 6% to 15% over the same

Figure 1: Vietnam Total Primary Energy Demand (2025)



NOTE: RENEWABLES INCLUDE BIO ENERGY AND HYDRO

[1] Vietnam National Statistics Office (www.nso.gov.vn)

SOURCE: WOOD MACKENZIE

Coal - Driven by the strong coal demand from both power generation and industrial sectors in Vietnam, production has maintained its momentum. However, it has still lagged demand, making coal imports increasingly necessary. Most of the thermal coal consumption in Vietnam is for power generation and industrial heat for manufacturing (e.g. cement production).

- **Power Generation -** In 2023, Vietnam released its Power Development Plan VIII (PDP8), outlining the development target for the period of 2021-2030 and a vision through 2050. This PDP8 document was later revised in 2025, officially referred to as Revised PDP8. The Revised PDP8 aims to limit coal-fired capacity to 31 GW by 2030, restricted to projects already listed in PDP7 and only those currently under construction. Post 2030, coal-fired power plants will gradually be phased out and replaced with more sustainable fuels, such as biomass. Based on the Revised PDP8, coal demand is likely to rise gradually until 2030 with the commissioning of new coal-fired power plants, then decline. The country's coal output is estimated to peak at 58 million tons by 2030 and decrease over the longer term as Vietnam transitions to more sustainable energy resources.
- **Industrial -** In 2025, industries accounted for ~33% of the Vietnamese TPED. Coal is used to meet 56% of the energy demand from industrial sectors, with cement production being the largest consumer, followed by iron and steel manufacturing.

Oil – Transport sector represents the largest share in oil demand at 53%, followed by industry (25%), residential, commercial, and agriculture sectors. The transport sector in Vietnam contributed 15% of TPED in 2025 and is almost exclusively fuelled by petroleum products. Gasoline and diesel dominate, although government mandate is pushing the development of renewable gasoline blends. The Vietnamese government is expecting electrification to accelerate post-2025, gradually replacing gasoline and diesel[2].

Gas – More than 70% of Vietnam's gas demand comes from the power sector, a share that is expected to increase as the government targets the development of ~45 GW of new gas-fired power plants capacity by 2050 (including some that will later be converted to or co-fired with hydrogen). Gas-for-power demand is expected to grow 8% annually between 2025 and 2030, among the highest growth rates in APAC countries. Vietnam's healthy economic growth and burgeoning population are vital for robust power demand expansion. The industrial sector will continue to be the mainstay of non-power gas demand growth.

Renewables – Renewable energy demand is dominated by power generation, which accounts for 55% of total consumption. Industry represents the second-largest offtake at 38%, while residential, commercial, and agriculture (RCA) sectors comprise the remaining 7%.

KEY TAKEAWAYS

- Significant growth in Vietnam's TPED is expected to continue through 2050.
- Renewables share of TPED will likely double by 2050 and account for over a third of total demand.
- Gas share of TPED will more than double by 2050 and account for 15% of total demand, mainly driven by the power sector.
- Industrial sector is a major energy consumer and relies heavily on coal.
- Oil demand will continue to be dominated by transport and industry, but government mandates will reduce dependence on oil with development of renewable fuel blends and electrification.
- Revised PDP8 provides guidance for future power development in Vietnam with long-term goals including a reduction in emissions.

[2] Vietnam Energy Outlook Report: Pathways to Net Zero, 2024. DEA, MOIT, REA.

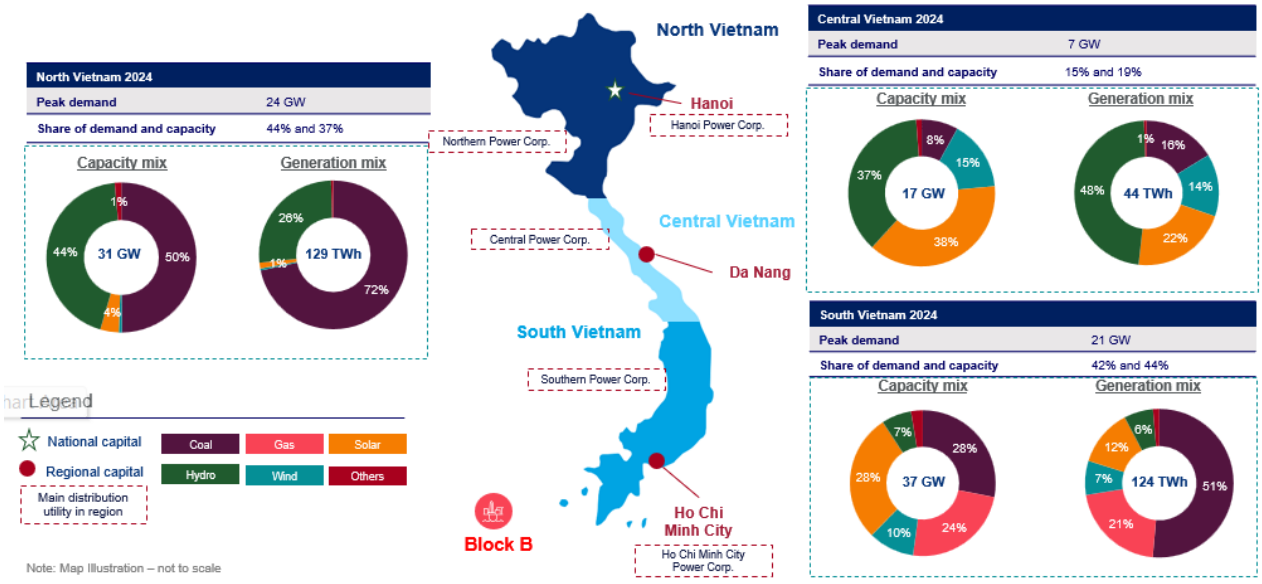
4. Role of Gas in the Energy Sector

While gas currently accounts for a relatively small share of energy demand (~6% of TPED), its role in the energy mix is expected to expand, driven primarily by the power sector as electricity demand in the country increases and there is limited new coal build beyond 2030, as indicated in the Revised PDP8. Vietnam is one of the leading power markets in Southeast Asia with 330 TWh of power demand in 2025, which accounted for 25% of the electricity consumed within the Southeast Asian region. Power demand growth is forecast to be robust in Vietnam averaging 5% per year to 2050 accompanied by a strong GDP growth outlook.

4.1. Power Generation

In the power generation sector, coal is the dominant fuel source, accounting for 55% of total electricity generation in 2024, followed by hydro at 21% and gas at 9%. North and South Vietnam accounted for 86% of Vietnam's electricity demand (Figure 2) as the regions are home to the main economic centres of Hanoi and Ho Chi Minh, respectively.

FIGURE 2: REGIONAL ELECTRICITY DEMAND OVERVIEW



Source: Wood Mackenzie

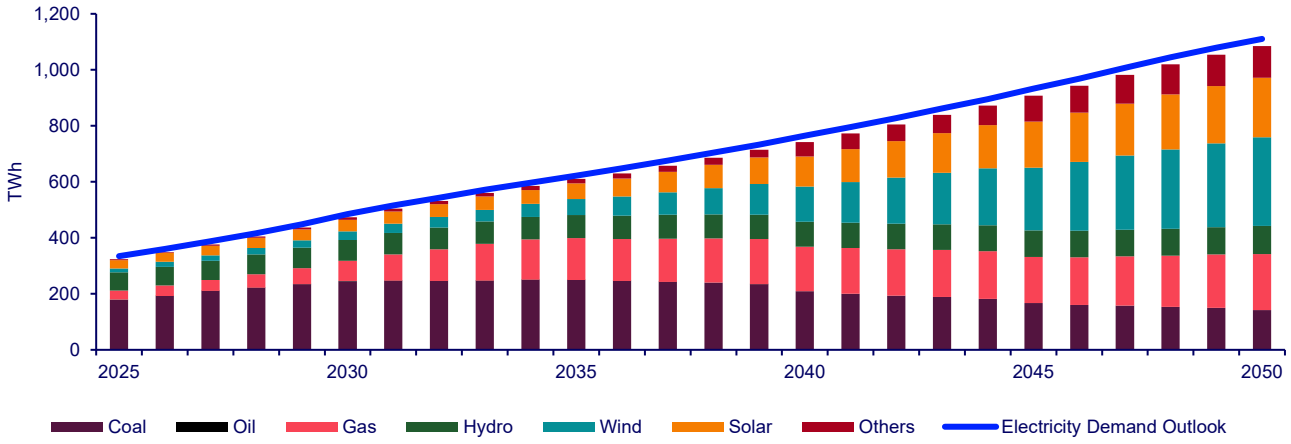
Gas demand from the power sector will rise significantly in the short term as the country builds more gas-fired capacity to enhance system reliability and meet increasing demand. This will mainly include the 3 GW domestic gas fired power generation capacity that will be supplied with volumes from Block B, an upstream asset located offshore Southwest Vietnam. Vietnam has plans to develop up to 36 GW of LNG-to-power capacity by 2035, with 50% (18 GW) located in the north and the remaining 50% in the south, though we opine that regulatory changes as noted below, will be required for realization of such plans:

- **Minimum dispatch factor:** LNG-to-power projects will need a minimum dispatch factor given the need to sign take-or-pay obligations in LNG SPAs. Whilst new regulations allow a 65% minimum dispatch for up to 10 years, it remains to be seen whether the current percent level and duration will suffice international financing requirements or needs to be increased.
- **Fuel-cost pass through:** Adjustments will need to be automatic, without the need for approvals, given LNG prices in US$/mmbtu terms will change monthly.
- **Power tariffs:** PPA should be denominated in USD and VND conversions will need to be done continuously at prevailing exchange rates and should apply for the entire tariff component as opposed to the current mechanism of applying it only for the principal component of the debt.

Vietnam's power generation mix is undergoing a major transformation, with wind and solar coupled with battery storage set to drive long-term growth. Gas will also play an increasingly important role to address renewables intermittency as well as to maintain grid stability as coal use gradually declines. The share of power generation from wind and solar between 2025 and 2030 is forecast to be around 15%. With the development of more battery storage in the longer term as it becomes cost competitive, renewables generation will accelerate in the 2030s and we forecast the share of electricity generation from wind and solar to rise to 32% by 2040 and further to 49% by 2050.

Despite wind and solar generation accelerating in the 2030s, gas fired generation will continue its growth trajectory in the medium to long term. Gas-fired power generation is expected to grow rapidly, increasing from 33 TWh in 2025 to 200 TWh by 2050 (Figure 3) at a CAGR of 7.6%.

FIGURE 3: VIETNAM ELECTRICITY DEMAND AND POWER GENERATION BY FUEL (2025-2050)



Note: Others include Storage, Biomass, Nuclear
Source: Wood Mackenzie

4.2. Non-Power Demand

Currently, Vietnam's gas demand is heavily concentrated in South Vietnam, accounting for approximately 99% of total consumption. This is primarily because most of the country's domestic gas fields and its two operational LNG regasification terminals are located there. The southern region is also home to Vietnam's key commercial and industrial hubs, as well as all its fertilizer plants.

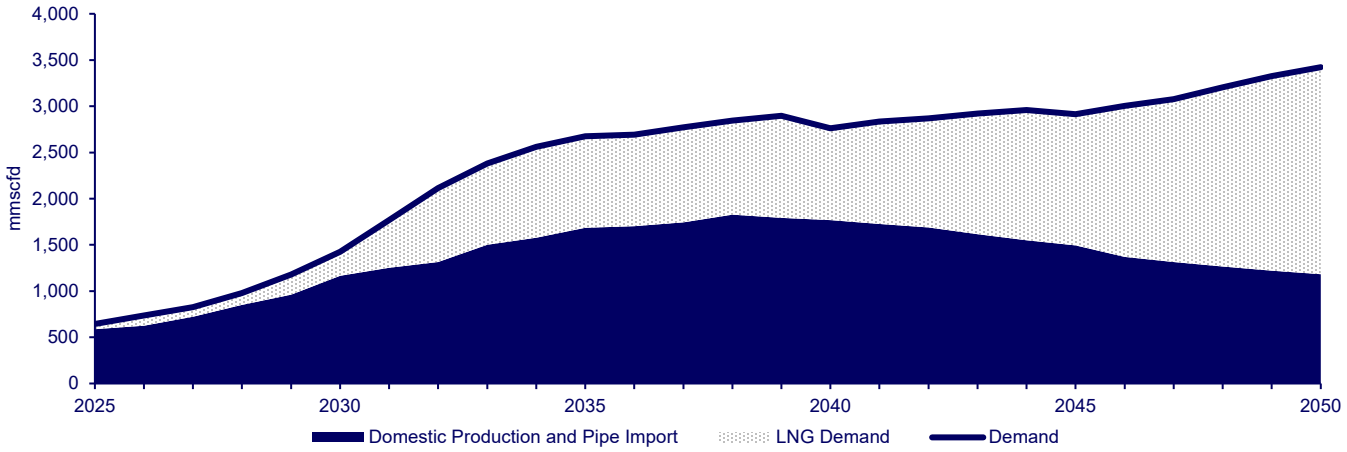
The industrial sector will continue to be the mainstay of non-power gas demand growth. In this sector, supply scarcity and pipeline connectivity constraints will temper gas demand growth in the near term but Block B's commercialization between 2027 and 2028 in South Vietnam and other large fields in Central Vietnam being monetized in the 2030s may unlock latent industrial demand in their respective regions. North Vietnam will also see a jump in demand as the Ham Rong, Hac Long and Bach Long fields come onstream through tiebacks to the existing Thai Binh field.

4.3. Gas Supply Demand Balance and LNG Outlook

Domestic supply growth will fall short of meeting the projected increase in demand, necessitating higher LNG imports over the coming years (Figure 4).

We forecast that domestic gas supply in Vietnam will peak at around 1,800 million standard cubic feet per day (mmscfd) in the late 2030s before declining thereafter. Production from Block B in the Malay Basin, located offshore southwest of Vietnam, is expected to start up in the late 2020s and will temporarily reverse the decline from other maturing fields in the country. We expect material production from fields in the Central Vietnam region to commence in early 2030s and to form the bulk of the domestic supply in the 2040s, though we acknowledge that it is difficult to accurately predict the timing for such production, given that upstream producers have not yet taken an FID on these projects. Additionally, exploration activities in historically prolific basins such as Nam Con Son and Cuu Long, may also help to potentially unlock additional supply.

FIGURE 4: VIETNAM GAS SUPPLY-DEMAND BALANCE (2025-2050)



SOURCE: WOOD MACKENZIE

Meanwhile, we forecast overall gas demand to double from 600 mmscfd in 2025 to 1,200 mmscfd by 2030, primarily driven by rising consumption from the power sector. Beyond 2030, gas demand is expected to continue rising, reaching 3,400 mmscfd by 2050 to support Vietnam's growing economy.

The widening gap between domestic gas supply and demand will necessitate Vietnam to increase its LNG imports from around 0.5 Mtpa in 2025 to nearly 17 Mtpa by 2050. However, it is worth highlighting that the magnitude and the timing of LNG import requirements will depend on the following key factors:

1) the country's capacity to commercialize discovered gas fields, particularly in Central Vietnam (e.g., Ca Voi Xanh, Ken Bau and Bao Vang),
2) Vietnam's success in attracting investments for upstream exploration to discover additional resources, and;
3) the ability of the Government to attract foreign investments into the LNG-to-power sector by removing policy hurdles.

KEY TAKEAWAYS

- Consistent with the Revised PDP8 curtailing future coal development, the role of gas in Vietnam's energy mix will expand as the demand for energy increases.
- Vietnam's power demand growth is forecast to average 5% per year to the year 2050 accompanied by a strong GDP growth outlook.
- Gas demand from the power sector will rise significantly in the short term as the country builds more gas-fired capacity to enhance system reliability to meet the increasing demand for electricity.
- Vietnam plans to develop up to 36 GW of LNG-to-power capacity by 2035 but will need to address regulatory and policy challenges related to minimum dispatch factor, fuel-cost pass through, and power tariffs.
- Vietnam's power generation mix is undergoing a major transformation with wind, solar, and advances in battery storage being a major component of this change.
- Gas-fired generation will continue its growth trajectory in both the short and long run and is expected to grow rapidly, increasing from 33 TWh in 2025 to 200 TWh by 2050 at a CAGR of 7.6%.
- Gas demand is expected to continue rising, reaching 3,400 mmscfd by 2050 to support Vietnam's growing economy.
- The widening gap between domestic gas supply and demand means that Vietnam will need to increase its LNG imports from around 0.5 Mtpa in 2025 to nearly 17 Mtpa by 2050.

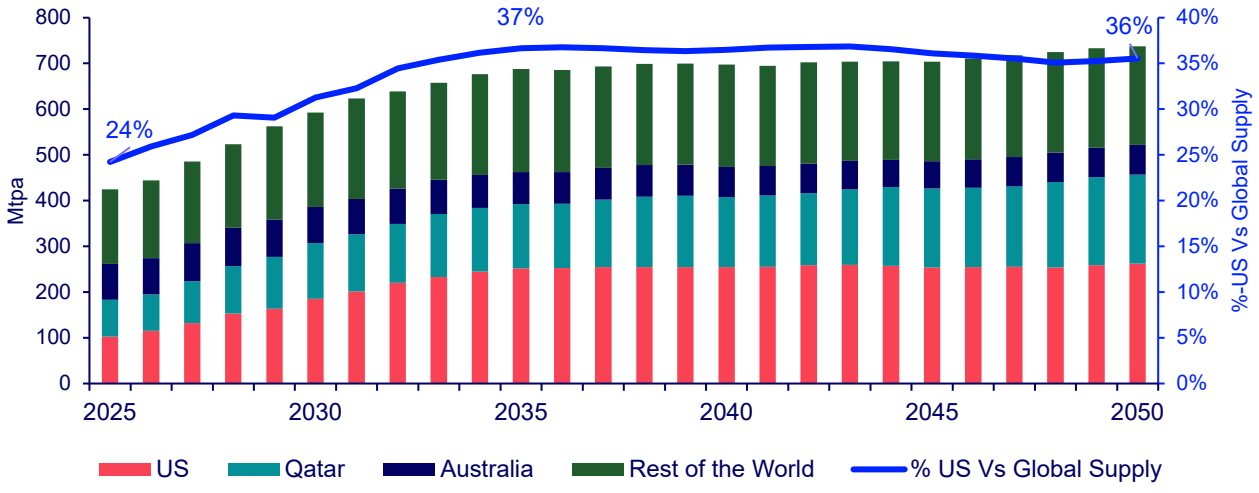
5. Role of US LNG in meeting Asian LNG Demand and Benefits of US LNG for Vietnam

5.1. The Rise of US LNG

US LNG capacity is set to rise from ~100 Mtpa in 2025 to more than 200 Mtpa by the mid-2030s. US LNG will contribute to around 40% of the global supply by mid-2030s and there is potential for the share of US volumes to increase further with several projects targeting FID over coming years. US LNG supply will help meet Asian demand, including some volumes being potentially consumed in Vietnam.

US LNG is playing a strategic role for Asian buyers, offering price index diversification, option for cargo cancellation, albeit at a fee, as well as diversion flexibility for trading purposes.

FIGURE 5: US VERSUS GLOBAL LNG SUPPLY (2025-2050)



SOURCE: WOOD MACKENZIE

5.2. Benefits of US LNG for Vietnam

Whilst it is difficult to accurately predict the physical flow of US LNG into Vietnam, the growing share of US within global LNG supply means that some US volumes could potentially be consumed in Vietnam. Based on Wood Mackenzie's LNG trade flow analysis and considering our estimate of ~20% Asian LNG demand being met by physical flow of US LNG in the mid-2030s, we estimate ~1.5 Mtpa US LNG could flow to Vietnam in 2035. We acknowledge these are high-level estimates and the real drivers for US LNG flow to Vietnam will be guided by the counterparty LNG sellers with whom LNG SPAs are signed by Vietnamese buyers alongside their behaviour towards supplying volumes to meet such contractual commitments in the Vietnamese market.

It is worth highlighting that the significant increase in LNG supply over the coming years, which is primarily driven by new US volumes, as well as a portion from Qatar, will help alleviate concerns that Vietnam buyers had regarding supply availability, especially during 2022-24 when markets tightened with European LNG demand increasing post the Russia-Ukraine crisis that began in February 2022. The increased supply availability will also exert downward pressure on LNG prices (especially spot prices) and will support the penetration of LNG into the Vietnamese markets.

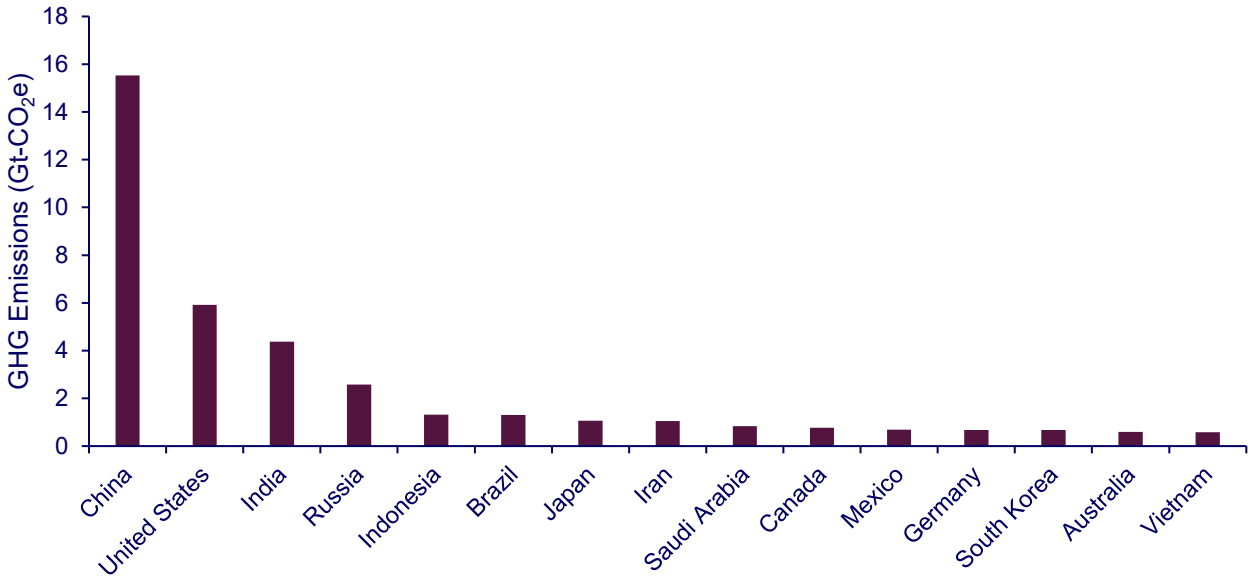
The integrated LNG-to-power projects will support energy security efforts in Vietnam given their development is crucial to meeting the increasing power demand, especially as the Government progresses with its plans to reduce coal fired generation in order to lower emissions. There is a clear risk that Vietnam will be unable to achieve sustainable economic growth without these LNG fired power projects *(see section 5.3)*. Additionally, such projects will also drive economic activities in the country and facilitate job creation, including significant employment potential in the construction phase that is expected over the next 10 to 15 years.

The US Government can explore ways to make US LNG exports to Vietnam more attractive (e.g. finalize the framework currently under discussions that can lower the tax rate for US LNG imports into Vietnam) which can increase the attractiveness of US LNG and benefit the US LNG developers that are looking for counterparties. Also, US financial institutions can provide capital for LNG-to-power and regas projects as well as consider providing guarantees to reduce risks for international investors.

5.3. Benefits from LNG Vs Coal

Vietnam ranks among the top 15 GHG emitting countries globally, with estimated emissions of approximately 0.58 gigatonnes (Gt) of CO_2-e in 2024 (Figure 6). This high emission level is primarily driven by the country's reliance on coal and oil for energy, as outlined in Section 3 regarding Vietnam's TPED.

FIGURE 6: TOP GREENHOUSE GAS-EMITTING COUNTRIES (2024)

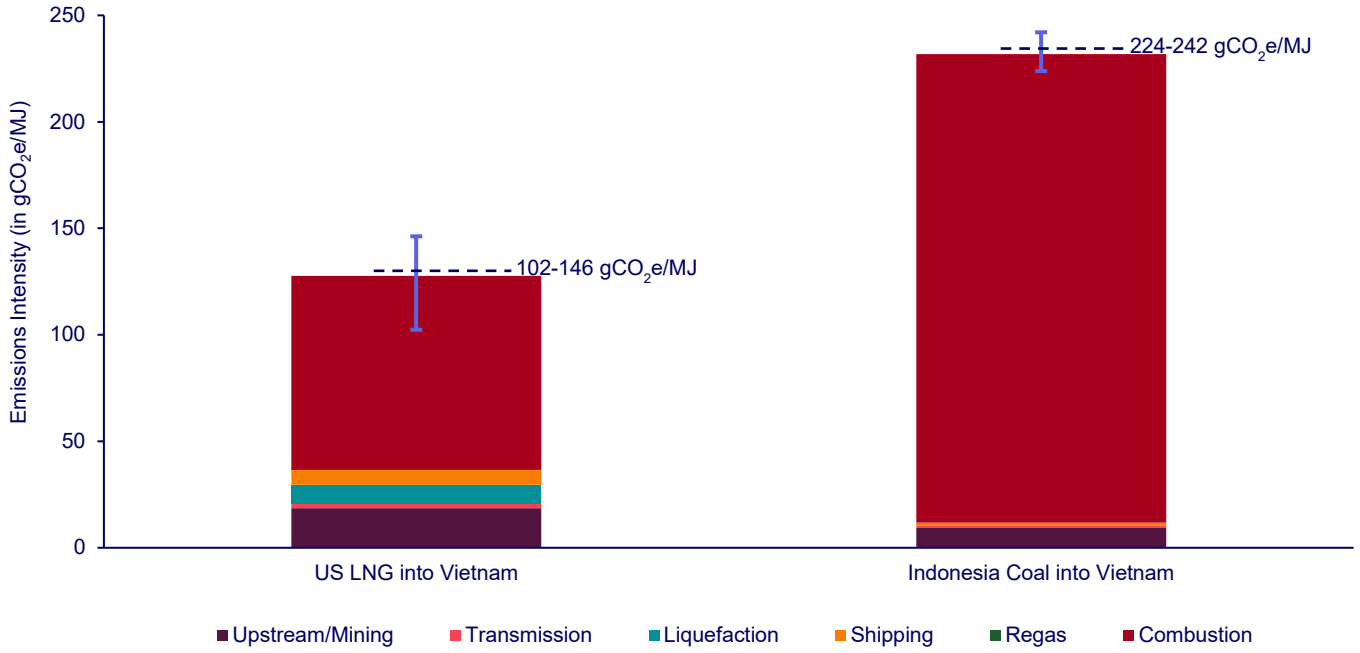


NOTE:
1) GLOBAL WARMING POTENTIAL (GWP) 100 YEAR FOR METHANE: 28 (IPCC AR5)
SOURCE: CRIPPA, MONICA; GUIZZARDI, DIEGO; PAGANI, FEDERICO; BANJA, MANJOLA; MUNTEAN, MARILENA; SCHAAF, EDWIN; KÖYKKÄ, JUHA; GRASSI, GIACOMO; ROSSI, SIMONE; BRANDAO DE MELO, JOANA; JACOME FELIX OOM, DUARTE; BRANCO, ALFREDO; SUAREZ-MORENO, MARIA; SAN-MIGUEL, JESUS; MANCA, GIOVANNI; PISONI, ENRICO; PEKAR, FERENC (2025): EDGAR 2025 GREENHOUSE GAS EMISSIONS. EUROPEAN COMMISSION, JOINT RESEARCH CENTRE (JRC) [DATASET]
PID: HTTP://DATA.EUROPA.EU/89H/D8E966B3-FF36-4B40-A365-F1776CF603D4

While LNG still emits CO_2, in coal-dominated economies particularly across Asia including Vietnam, the transition to LNG provides immediate benefits by lowering emissions per unit of electricity generation.

The full life-cycle emission of power generation in Vietnam from coal sourced within the region ranges from 224-242 gCO_2e/MJ, depending on coal quality and origin (Figure 7). In comparison, the full life-cycle emissions of power produced from US-sourced LNG, ranges from 102-146 gCO_2e/MJ, depending on the supply chain and the upstream source. Therefore, using LNG imported from the US to displace coal in power generation can help reduce emissions by approximately half.

FIGURE 7: US LNG VERSUS COAL – FULL LIFE-CYCLE EMISSION INTENSITY OF POWER GENERATED IN VIETNAM



NOTE:
1) RANGE BARS SHOW RANGE OF LOWEST TO HIGHEST EMITTING LNG SUPPLIES AND COAL TYPES INTO EACH MARKET
2) GLOBAL WARMING POTENTIAL (GWP) 100 YEAR FOR METHANE: 28 (IPCC AR5)
SOURCE: WOOD MACKENZIE

KEY TAKEAWAYS

- US LNG capacity is set to rise from ~100 Mtpa in 2025 to more than 200 Mtpa by the mid-2030s and is expected to contribute around 40% of the global supply of LNG by mid-2030s.
- According to Wood Mackenzie's LNG trade flow analysis around physical supply of US LNG to Asia and considering Vietnam LNG demand within the Asian context, it is conservatively estimated that about 1.5 Mtpa of US LNG could flow to Vietnam as early as 2035.
- The increased supply availability will exert downward pressure on LNG prices (especially spot prices) and support the penetration of LNG into the Vietnam markets.
- Vietnam currently ranks among the top 15 GHG emitting countries globally, with 2024 estimated emissions of approximately 0.58 gigatonnes (Gt) of CO_2-e; it is estimated that using LNG imported from the US to displace coal in the power sector may reduce emissions from coal-fired generation by about half.

6. Final Remarks on LNG Potential in Vietnam

Vietnam has experienced significant economic growth over the past 10 years, a trend that is expected to continue through the coming decades. However, this growth has been supported by a reliance on coal-based energy, which saw the country's coal-based power generation capacity double from 13.5 GW in 2015 to 27 GW by 2024. The industrial sector accounts for almost two-thirds of the end-use energy demand in Vietnam and has traditionally been a key driver of the increase in electricity demand and energy intensity. As shown in this study, Vietnam is strategically

positioned to capitalize on the global trend of outsourcing, exploiting its low labor costs amidst a growing pool of skilled workers.

In the coming years, growing energy demand will exceed the country's ability to be energy independent, but with some changes to the regulatory and policy environment, Vietnam can be an attractive destination for investment from other countries. The US is particularly well-suited to satisfy this demand for energy in the form of LNG, and together the two countries will likely benefit from the installation of modern energy infrastructure and a transition to a more environmentally friendly, lower emissions future.

As a potential supplier of LNG to Vietnam, the US will experience many economic benefits. As the US LNG sector continues to grow and expand, there will be additional construction of liquification facilities, storage facilities, midstream infrastructure, etc. The direct and secondary economic impacts from these activities will be felt all along the energy supply chain from upstream to downstream activities. Moreover, the ongoing operations of these energy-related assets will work to create and sustain US jobs, labor income, economic output, and government revenues, including those generated from property taxes where these facilities and assets are located. Research has shown that US economic stability and energy infrastructure go hand in hand. From an economic perspective, US policy that facilitates or encourages investment in Vietnam with US LNG supply is expected to lead to a more resilient, stable, and stronger US economy.