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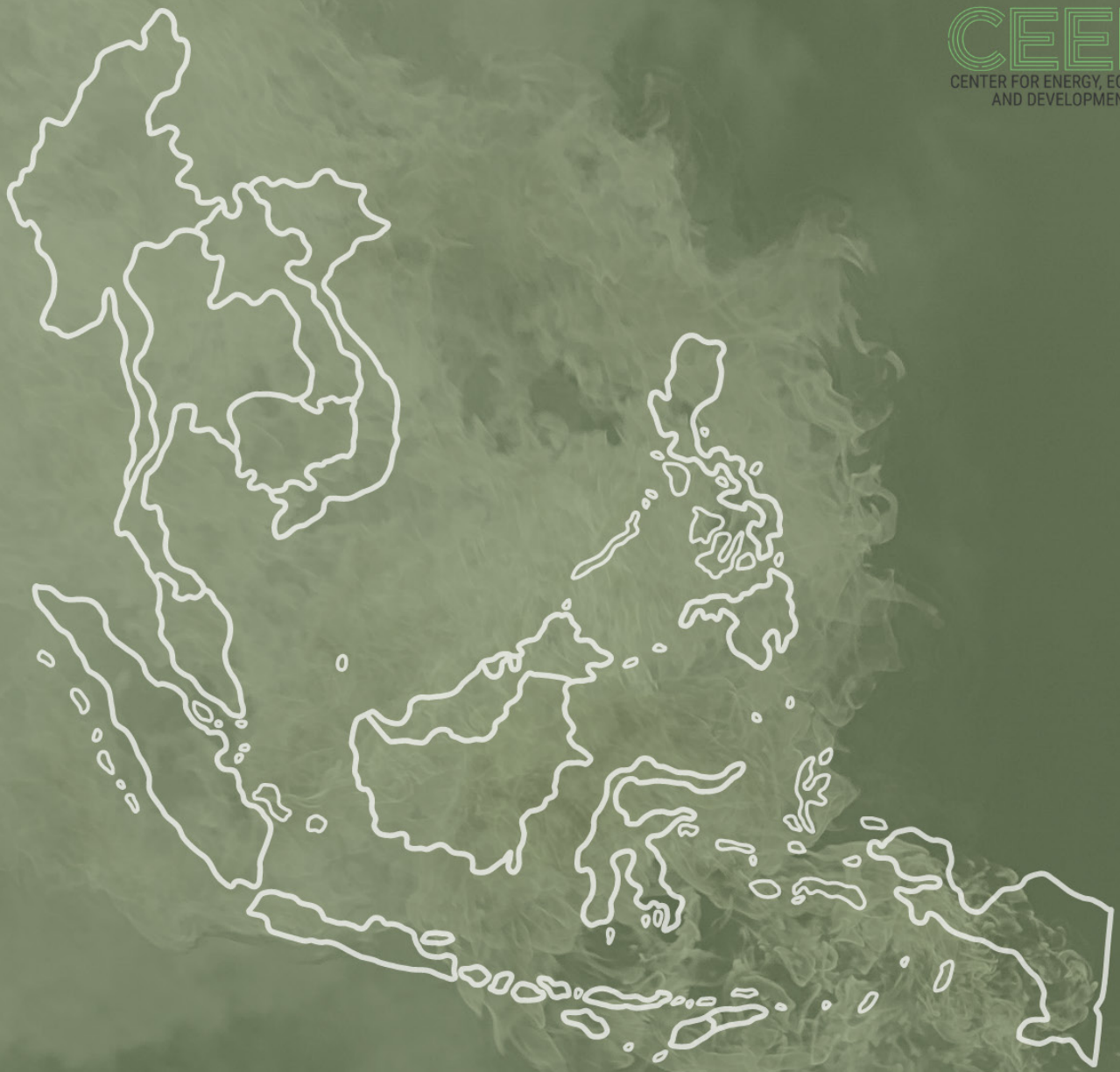

# Financing a Fossil Future

## SPECIAL REPORT ON HIGH PRICES AND FOSSIL GAS EXPANSION IN SOUTHEAST ASIA

**Financing a Fossil Future**
## Special Report on High Prices and Fossil Gas Expansion in Southeast Asia

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# I. Introduction

This special report is a condensed version of the recently published study by the Center for Energy, Ecology, and Development (CEED) entitled "Financing a Fossil Future: Tracing the Money Pipeline of Fossil Gas in Southeast Asia",[1] which covers the top developers and financial institutions behind the massive natural gas, or more appropriately called fossil gas, and liquified natural gas expansion in Southeast Asia (SEA) from January 1, 2016 to March 31, 2022. This special report includes an extended and updated discussion on recent developments concerning the soaring prices of fossil fuels in the Southeast Asian (SEA) region amidst the geopolitical implications of Russia's invasion of Ukraine.

Since 2010, Southeast Asia more than doubled its coal use, contrary to the trends of decline in coal power generation in the rest of the world. The start of the new decade saw the work of civic movements and communities resisting coal bear fruit with a noticeable slash in SEA's coal pipeline. Bankrolling coal expansion became a magnet for risks of stranding assets, forcing financial institutions to pull out and even warn against coal investments. Unfortunately, this positive development is being taken advantage of today not by genuinely clean energy from renewables. Coal's last bastion is swiftly turning into Asia's fossil gas and LNG hub.

Southeast Asia is emerging as a developing market for fossil gas in recent years. With its massive 117 GW of gas power plants in the pipeline, SEA has surpassed East Asia's 77 GW under development.[2] The total estimated capital cost of pre-construction and in-construction projects will reach up to USD 102 billion as of March 31, 2022, far higher than East Asia's which is estimated at USD 84 billion.[3]

However, contrary to the claim that fossil gas is a clean fuel, studies show that the large composition of fossil gas is methane. When methane leaks into the atmosphere, it has a global warming potential of 28 to 34 times higher than carbon dioxide ($CO_2$) over a 100-year timescale.[4] Even as the World Energy Outlook 2022 of the International Energy Agency calls for strong, rapid, and sustained reductions in methane emissions by as much as 75% by 2030 in their Net Zero Emissions Scenario alongside those of $CO_2$, the scale of methane to be released is instead expected to grow amidst plans of massive fossil gas expansion. This significantly reduces any chance of limiting the global mean temperature increase to 1.5°C.

The continued dependence on imported fossil fuels will also worsen SEA's energy insecurity and vulnerability to fluctuating international prices and foreign exchange movement. The Russia and Ukraine conflict is exacerbating the already tight supply and the high cost of fossil gas in the global market since the second half of 2021. Supply cuts of Russian gas to Europe resulted in a demand surge for liquefied natural gas (LNG) to offset Europe's energy deficit, positioning itself in direct competition with Asia's largest importers. This led to tighter supply, and prices rallied to new highs.[5] Similarly, thermal coal prices soared to record highs, inflicting a significant blow to SEA countries whose coal-fired generation comprises more than 40% of the total power generation mix.[6]

Moreover, the threat to marine biodiversity in the region is no exception to the long list of environmental impacts of gas expansion plans. For example, the Verde Island Passage (VIP) in the Philippines, touted as the Amazon of the oceans, is home to over 1,736 fish species, 338 coral species, and thousands of other marine organisms.[7] This globally significant marine biodiversity hotspot is threatened by massive fossil gas proposals– eight new gas power plants and seven new LNG terminals in the pipeline, on top of the already existing coal and gas fleet in the area.

In the face of all these, there is an urgent need to shift all financing away from fossil

fuels. Energy transition and climate action must be accomplished equitably and through common but differentiated responsibilities, with historically polluting developed nations obliged to transition far more rapidly. This, however, does not justify a fossil lock-in for developing nations that bear the brunt of the climate crisis and are entitled to just contributions and reparations from developed nations to make way for climate mitigation and adaptation. From 2016 to 2021, G20 and Multilateral Development Banks' public finance of fossil fuel projects that were channeled to select SEA countries[8] amounted to USD 2.8 billion, or 12 times more than public financing for renewable energy projects in the region.[9] Financial support from public and private sectors alike is either limited or still not channeled to sustainable development of developing nations such as those in SEA, but to continued fossil fuel dependence, emboldening proponents to doom already vulnerable peoples to a fossil future.

## II. LNG Trade Flows and Prices

### Malaysia leads LNG exports in SEA as Thailand LNG imports accelerate

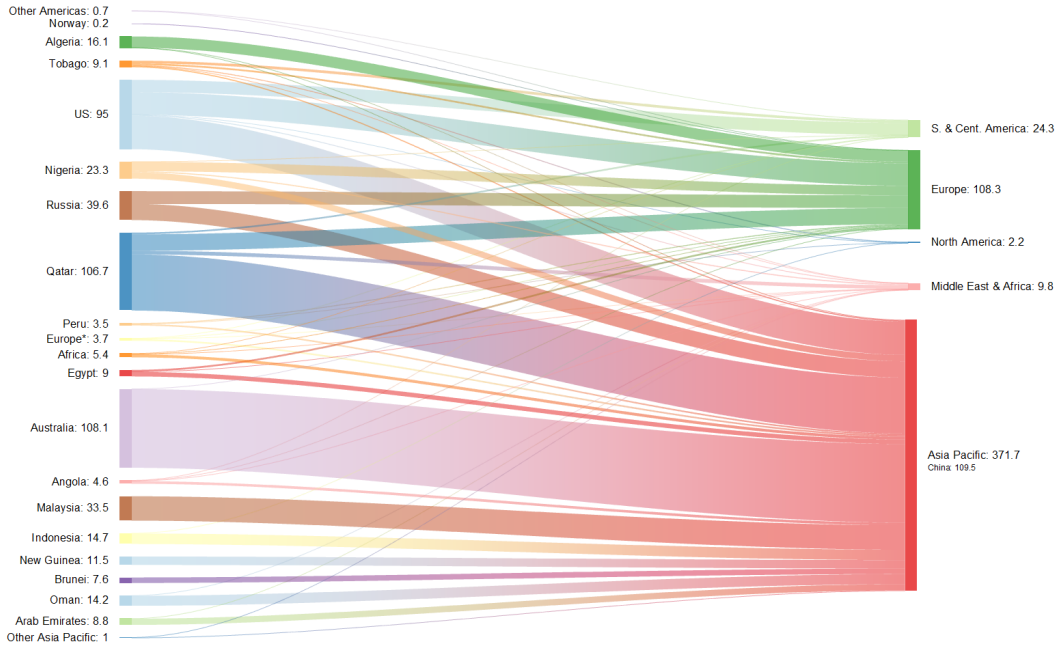
Over the years, LNG has become a more popular fuel option for countries that seek to improve energy sufficiency while avoiding further exposure to coal investment risks. In 2021, the top LNG exporter was Australia, with a share of 20.9%, followed closely by Qatar (20.7%) and the United States (18.4%). The bulk of this volume was delivered to the Asia Pacific, where the top two LNG importers are located.

In SEA, Malaysia has been the top LNG exporter since 2005, with a maintained minimum volume of 30 billion per cubic meter (bcm). Second on the list is Indonesia, where declining export was observed, recording 14.6 bcm in 2021 compared to 28.7 bcm in 2011. Brunei is also a key exporter among SEA countries, registering 7.6 bcm of export in 2021. Most of the exported volume was delivered to the Asia Pacific, particularly to China, Japan, and South Korea, the top three key players in North East Asia.

In 2021, China registered a total imported volume of 109.5 bcm, eclipsing Europe (108.5 bcm) and Japan (101.3 bcm). As such, China overtook Japan as the world's largest LNG importer as it boosted its economic recovery from the Covid-19 pandemic. China and Japan, along with South Korea, had a combined import volume of around 275 bcm, representing 53% and 74% of total LNG imports globally and in the Asia Pacific, respectively.

Meanwhile, Thailand was the top LNG importer in the SEA region, with a record high volume of 9.2 bcm in 2021 and year-on-year growth of 24% since 2011. Singapore also imported 5.1 bcm, while Malaysia shipped 2.5 bcm in 2021.[10]

**Figure 1. 2021 LNG trade flow in billions per cubic meter (bcm)**




Data Source: BP Statistical Review of Energy 2022

## The tug-of-war on LNG supply

Russia is Europe's largest gas supplier through pipelines[11], accounting for about 40% of the EU's gas supply. Russia's invasion of Ukraine puts Europe in a tight spot as it faces uncertainty over Russia's gas exports. This resulted in Europe relying more on LNG to compensate for the supply deficit. As Europe plans to reduce its reliance on Russian gas, the increase in its LNG demand caused the global market to tighten even further, placing itself in direct competition with Asia, where most of the LNG volume is delivered.

The week following the invasion, Asian LNG spot prices surged by 53.6%, while Dutch Title Transfer Facility (TTF) hub was up by 50-60%, signaling a market panic over Russian gas supply uncertainty.[12] In March 2022, a month after the invasion, Europe's LNG imports increased by 32%, and the United States delivered most of this increase.[13] In June 2022, the Russian gas supply was cut down from 170 mcm to 40 million cubic meters (mcm) per day, resulting in a 75% reduction. The following month, Russia shut the pipelines for 10 days for maintenance and supplied only 20 mcm per day when it went back into operation.[14] In the first half of 2022, Europe's LNG imports increased by 63% and the US became the largest exporter of LNG in the world with the majority of the volume shipped to Europe.[15]

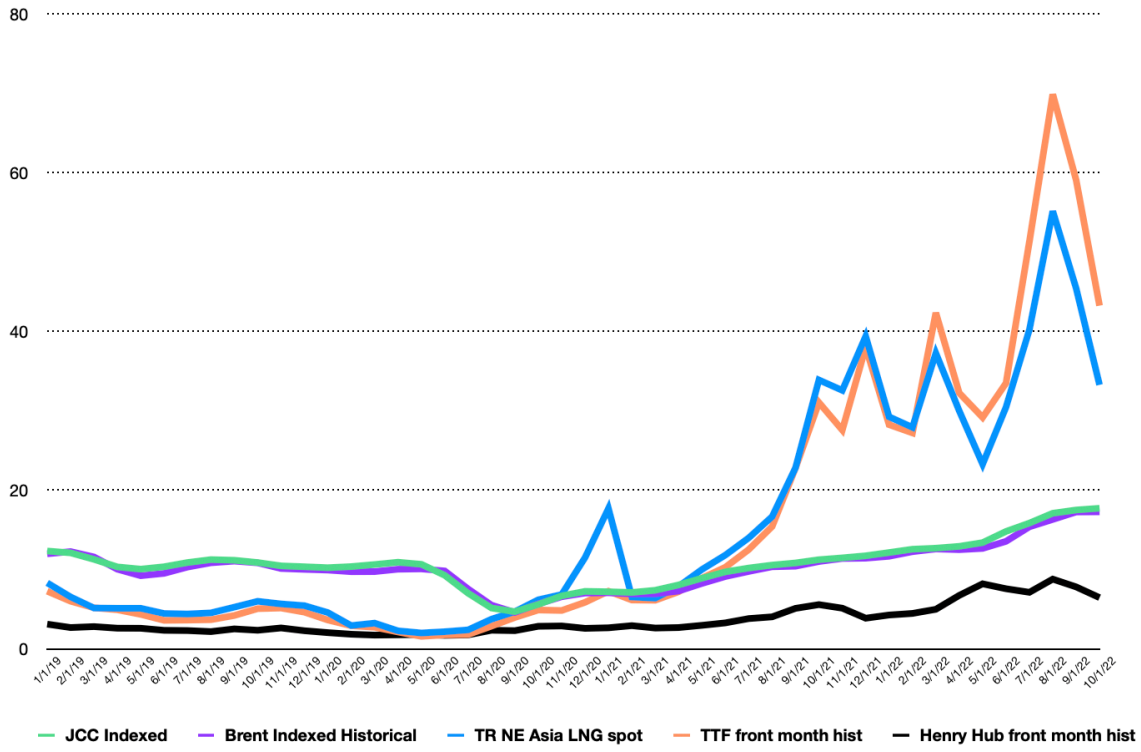
In August 2022, the Asian LNG spot market price hit a new high, trading over USD 70 per mmBTU as key country LNG importers restocked volumes for the winter season and the Nord Stream 1 pipeline had its three-day maintenance outage. The same month also recorded the highest monthly average LNG price for Dutch TTF and NE Asia LNG spot price, reaching USD 70 per mmBTU and USD 55 per mmBTU, respectively. NE Asia LNG monthly average spot price more than doubled while Dutch TTF registered a 350% increase compared to the same month in 2021. In late September 2022, the Nord Stream Pipeline 1 shut down indefinitely after reported leaks and has not been reopened since.[16] While this caused a price increase in the Europe market, NE Asia LNG monthly average spot price eased down to USD 33 per mmBTU in October 2022, or almost back to the January level (pre-invasion) as the

gas demand of Asian importers stabilized; however, this price level is still considered high for many developing countries. From 2020 until the first half of 2021, when several LNG projects in SEA were announced, the monthly average price of Asia LNG spot only ranges from USD 2 to USD 17 per mmBTU. Bloomberg New Energy Finance (BNEF) outlook shows that the global LNG market will be tight until 2026, and only then NE Asia LNG spot price will stabilize at USD 10 per mmBTU.[17]

Following the LNG price surge, many Asian countries have experienced difficulty securing LNG supply from the market. In South Asia, Pakistan could not afford the high LNG prices due to its low foreign exchange reserves. Similarly, Bangladesh has been forced to cut its LNG imports due to soaring prices and limited supply. Imports are reportedly down to 30% in 2022 compared to 40% in 2021. LNG's unaffordability has shaken these countries' overall economies as the problem has already cascaded to non-power industries.[18]

Additionally, the limited supply and soaring prices of LNG contributed to the shelving of proposed LNG projects, including those in Vietnam and the Philippines with a total of USD 96.7 billion worth of investment.[19] In the Philippines where there is growing opposition against planned fossil gas and LNG expansions, two expected LNG terminals expected to come into operation this year were delayed to next year, partly because of recent geopolitical events.[20] Meanwhile, cutting LNG imports and switching to alternative fossil fuels have been considered in Thailand to mitigate the looming fuel shortage.[21]

**Figure 2. LNG Average Monthly Prices (USD/mmBTU)[22]**




Data Source: Refinitiv

### Rising power rates across SEA countries

End-consumers are greatly affected by the rising fuel cost and energy crisis. The soaring prices of fossil fuels translated to higher residential power rates across SEA countries. In the Philippines, residential electricity rates outside Metro Manila are on the verge of breaching Php 20 per kWh level, or more than doubled compared to the average rate of distribution utilities in 2021. Thailand's Energy Regulatory Commission (ERC) also announced a series of increases in electricity tariff rates due to the high prices of LNG imports. In January 2022, power rate increased to THB 3.78 per kWh or 4.6% increase from the 2021 average rate. The Commission further raised it to THB 4 per kWh in April 2022 as the LNG price continued to rise. For the last quarter of 2022, the ERC announced another price hike, reaching THB 4.72 per kWh or a 25% increase since the beginning of 2022.[23] Similarly, Indonesia raised its electricity tariff by 18% to Rp 1699.53 per kWh in the third quarter of 2022 from Rp 1,444.70 per kWh in 2021.[24] In Singapore, household electricity tariff peaked at 30.17 cents per kWh in the third quarter of 2022, or 29% higher compared to the same period in 2021.[25]

The situation in Europe, and the wave of impacts in SEA, makes the compelling case against heavy reliance on imports for energy sufficiency - a lesson every country must learn, especially SEA countries with a long list of gas-related projects currently underway. Energy security and affordability remain critical issues in many developing countries, which fossil gas and LNG cannot solve. Leaders must look for better alternatives and long-term sustainable solutions, and only renewable energy holds the key.

## III. Expansion Projects and Financing

Since the adoption of the Paris Agreement in 2015, SEA countries have been making huge investments in fossil gas infrastructure across the supply chain, from LNG terminals to pipelines to regasification facilities and power plants.

### Thailand and Indonesia top the gas plant expansion

In the downstream sector, over 138 GW of planned gas-power capacity is in preconstruction or construction stages – or in development – and 21.4 GW has started operations since the Paris agreement.[26] Thailand's state-owned Electricity Generating Authority of Thailand (EGAT), and its privatized subsidiaries, Electricity Generating (EGCO Group) and Ratch Group, together own the largest gas capacity that has been proposed, constructed, and operated since 2016. Together, their facilities operate at a combined capacity of 15.4 GW.

The Indonesian state-owned PT Perusahaan Listrik Negara (PLN or State Electricity Company, Persero) owns the highest number of gas-fired power plants that have been built and proposed in SEA from 2016 onwards. Its 19 power plants account for 67% of Indonesia's fossil gas buildup. EGAT has the second highest number of power plants in the region; 15 are in Thailand and one in Indonesia. EGAT owns two in five power plants that have been built and proposed in Thailand in the last six years.

### Thailand's PTT leads LNG imports and overseas investors, LNG exports

In the midstream sector, aggressive LNG terminal buildout can be observed in LNG exporting countries like Indonesia and Malaysia and countries that are importing or now seeking to import LNG due to a depleting supply from local gas fields, such as Thailand, the Philippines, and Vietnam. LNG terminals that started operations from 2016 onwards have already added 14.2 mtpa capacity.[27] Those that are currently in development will add a whopping 149.8 mtpa more.[28]

The major contributor to this rapid buildup of LNG import infrastructure is Thailand's PTT, with 33.3 mtpa of capacity in development and 1.5 mtpa operating capacity. Three of PTT's planned LNG import facilities, with a combined capacity of 20.8 mtpa, are jointly owned with Gulf Energy Development. United States-based Energy Capital Vietnam trails far behind with 10.5 mtpa of capacity in development, followed by Vietnamese state-owned PetroVietnam with 7.6 mtpa of capacity in development. Shell PLC, a multinational oil and gas company based in the United Kingdom, and INPEX, Japan's largest oil and gas company, own the largest proposed LNG export facility - the 9.5 mtpa onshore Abadi LNG terminal.

## Vietnam and the Philippines have the largest planned gas expansion

Vietnam leads the region's planned gas expansion, with 56.3 GW in pre-construction and construction stages. The Philippines follows behind with 29.9 GW in development. Philippine conglomerate San Miguel Corporation's (SMC's) 14.1 GW of proposed projects accounts for half of the planned gas expansion in the Philippines and is also by far the largest in the region. SMC's eight proposed gas-fired power plants will have additional capacity of 12.3 GW, on top of the 1.8-GW plant that is under construction. Its proposed power plants include the massive 6.49 GW Navotas LNG power plant and the highly contested 1.75 GW power plant in Batangas that is scheduled to be commissioned by the end of 2022. EGAT is second in leading the development of new gas capacity, with a cumulative 9.7 GW in the pre-construction and construction stages. It has five proposed power plants and one that is underway. United States' Millennium Petroleum Group ranks third, with 9.6 GW in the pre-construction stage.

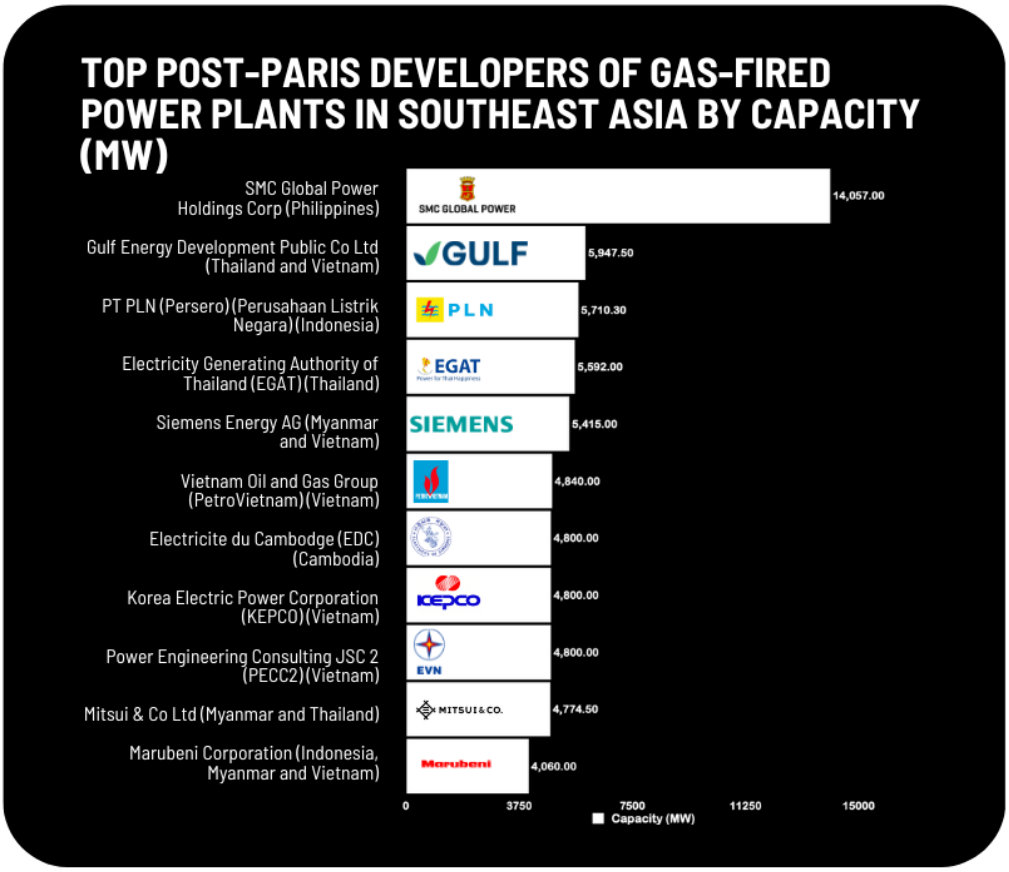
Thailand constitutes almost a third of new LNG import capacity in development in the region. Its 40.3 mtpa of new capacity is about four times more than the current operating capacity of 11.5 mtpa. The Philippines has 36.5 mtpa of LNG import capacity in development, the second largest in the region. These projects will be the Philippines' first LNG terminals.

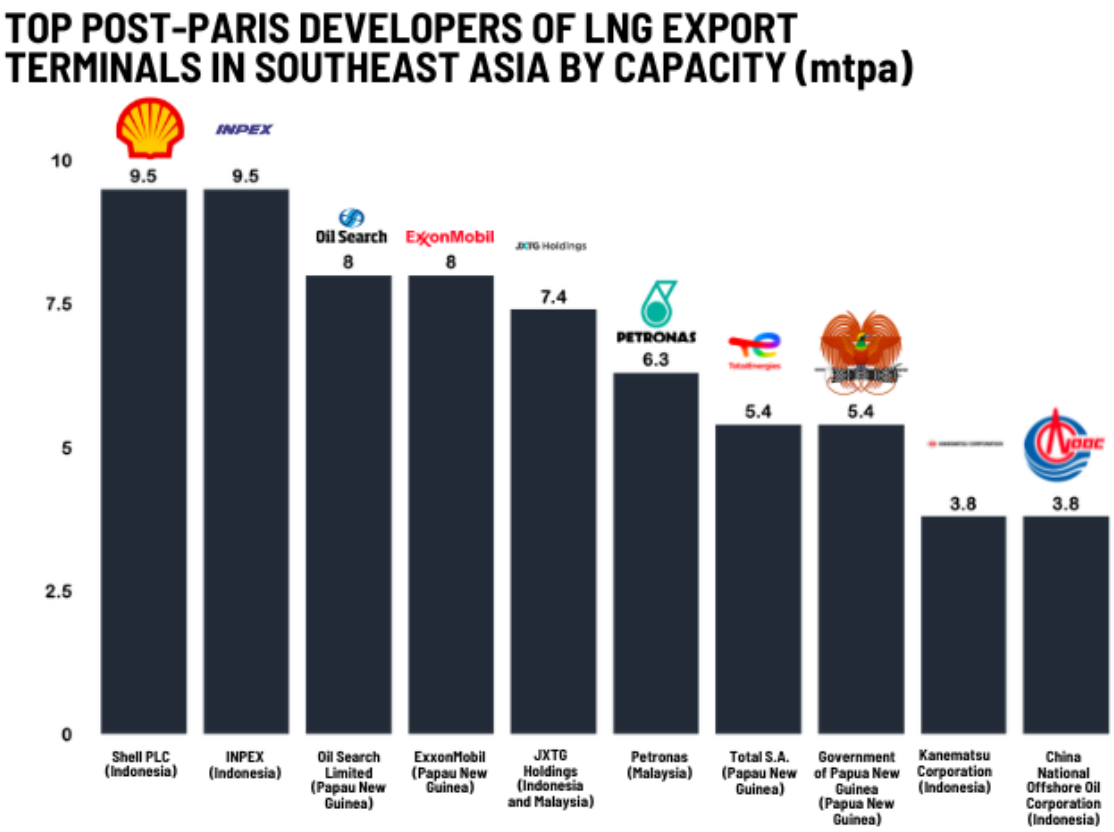
## Japan banks top the list as the biggest financiers of fossil gas

Since the signing of the Paris Agreement, 123 financial institutions channeled USD 33.4 billion into the fossil gas industry in SEA between January 2016 and March 2022.

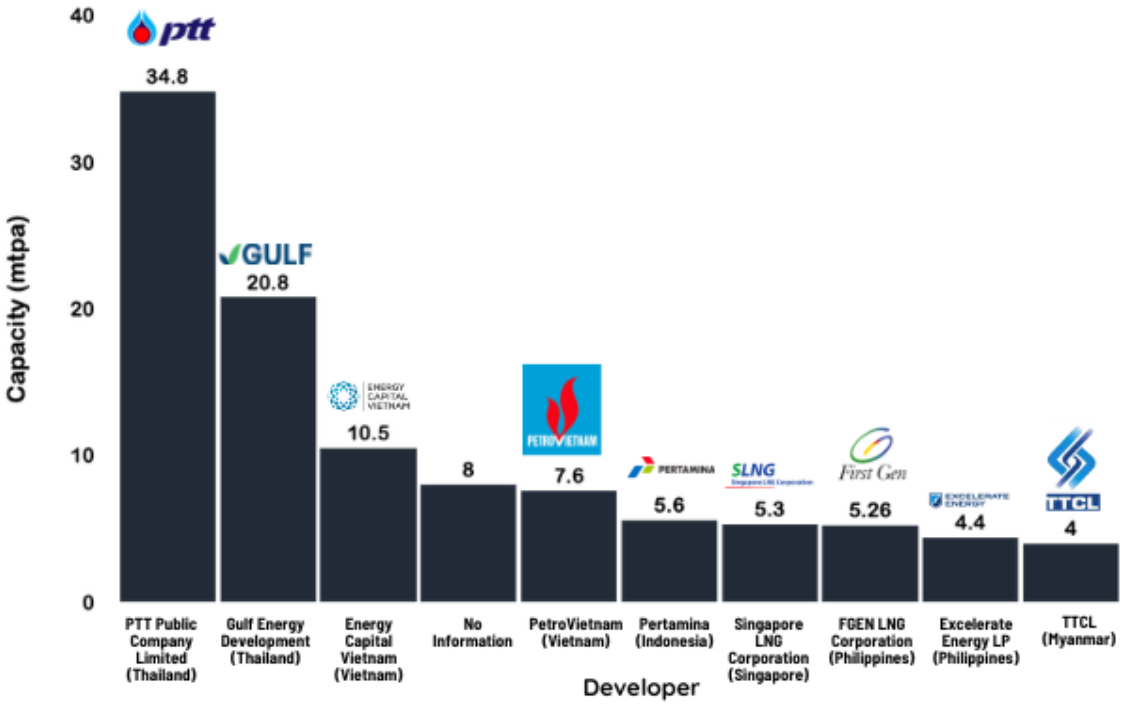
Based on the total amount of transactions with the bank's participation, the three biggest financiers of fossil gas across the region include Japan's Sumitomo Mitsui Financial (USD 13 billion) and Mizuho Financial (USD 10.9 billion), and Singapore's DBS Bank (USD 8.2 billion). The next largest financiers, funneling at least USD 8 billion into the gas industry, are Singapore's Oversea-Chinese Banking, Japan's Mitsubishi UFJ, and Malaysia's CIMB Bank.

**Figure 3. Top Post-Paris Developers of Fossil Gas-related Projects**



## TOP POST-PARIS DEVELOPERS OF LNG IMPORT TERMINALS IN SOUTHEAST ASIA BY CAPACITY (mtpa)




### Gas-reliant countries raised the biggest financing, local banks leading

Together, four private banks in Singapore, which is almost entirely dependent on fossil gas for power generation[29], dominate overall fossil gas financing in SEA. They supported 43.5% or USD 15.1 billion of the total financing for gas and LNG projects locally and abroad. Eight public and private banks in Malaysia, which has the world's biggest fossil gas reserves and is among the world's largest LNG exporters, financed projects mostly in Malaysia with USD 12.2 billion.

Japan and China, the world's major traders and importers of LNG have heavily financed gas and LNG projects beyond their borders through their public and private financial institutions. Seven Japanese public and private banks participated in a total of USD 15 billion in financial support while six Chinese state-owned banks were involved in USD 10.8 billion funding.

About 79% of fossil gas financing was poured into the gas industries of Indonesia, Malaysia, and Thailand, countries where gas traditionally plays a vital role in the energy mix. Indonesia and Malaysia are both exporters and importers of gas, while Thailand's gas production has been inadequate in recent years, prompting the country to import piped gas and LNG from other countries. Nearly a third of the amount or USD 10.3 billion was channeled into oil and gas companies operating in Indonesia and about a quarter each, or at least USD 7.5 billion, to companies in Malaysia and Thailand.

Banks arranged for USD 4.5 billion in loans and bonds to the upstream developers in net LNG exporters Indonesia and Malaysia. The top financier of the upstream sector in the region is Sumitomo Mitsui Financial, having participated in 64% of the total financing. It is followed by Netherlands' ING, Indonesia's Bank Mandiri, and Singapore's DBS Bank, each participating in 55% of the total financing.

Singapore's DBS Bank contributed to raising 85% of the total financing for midstream developers. Three banks from Japan and one each from South Korea, Singapore, and France participated in at least 70% of the total financing: Sumitomo Mitsui Financial, Korea Development Bank, Oversea-Chinese Banking, Mizuho Financial, Mitsubishi UFJ, and BNP Paribas.

Notably, several public financial institutions helped bankroll 84% of the total financing for midstream projects. These include three Indonesian state-owned banks, three Chinese state-owned banks, South Korea's Korea Development Bank, JBIC, Germany's KfW, and the Asian Development Bank.

Thai and Japanese banks emerged as the most engaged in the downstream industry, as half of the total financial support for this sector was funded by a joint venture between a Thai and a Japanese developer. The top financiers consist of Mizuho Financial, Sumitomo Mitsui Financial, Bank of Ayudhya, and TMBThanachart Bank, and the export credit agencies JBIC and Export-Import Bank of Thailand.

### Financing fell for Indonesia and Malaysia from 2020 onwards, while Thai banks led the financing

Standing at only USD 3.2 billion and USD 4.8 billion, the amounts of fossil gas financing in 2020 and 2021 are among the lowest in the last six years. Financing ebbed in these years, following the COVID-19 crisis, for previously well-funded countries—Indonesia and Malaysia—but seemingly started to slowly take off for the Philippines, Vietnam, and Myanmar (Burma).

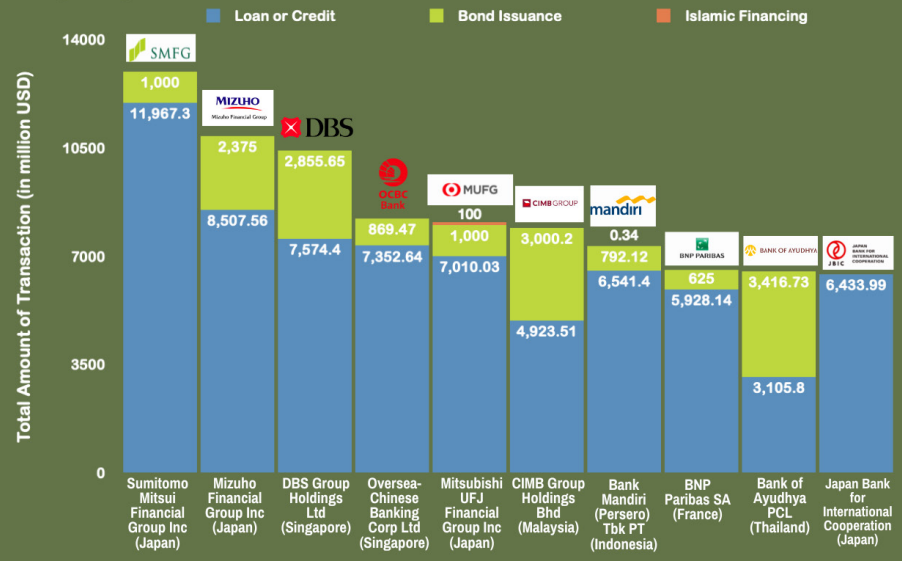
The decrease in fossil gas financing in 2020 and 2021 despite the massive expansion of the gas industry in the region during this period may indicate a lack of financial closure reached for proposed projects or a lack of public disclosure on energy finance. This especially applies to many of the proposed projects in Indonesia, Malaysia, Vietnam, and the Philippines that are not reflected in the data.

However, unlike its neighbors with fluctuating financing, Thailand shows a different picture, with almost constantly increasing financing for existing and proposed gas projects since 2016. A reason could be that most financing requirements were raised by state-owned oil and gas company PTT, which might have encouraged local banks to invest in local projects. Over the years, half of the total financing in Thailand supported the oil and gas companies' operations, while the other half, the building of new gas-fired power plants, pipelines, and an LNG terminal.

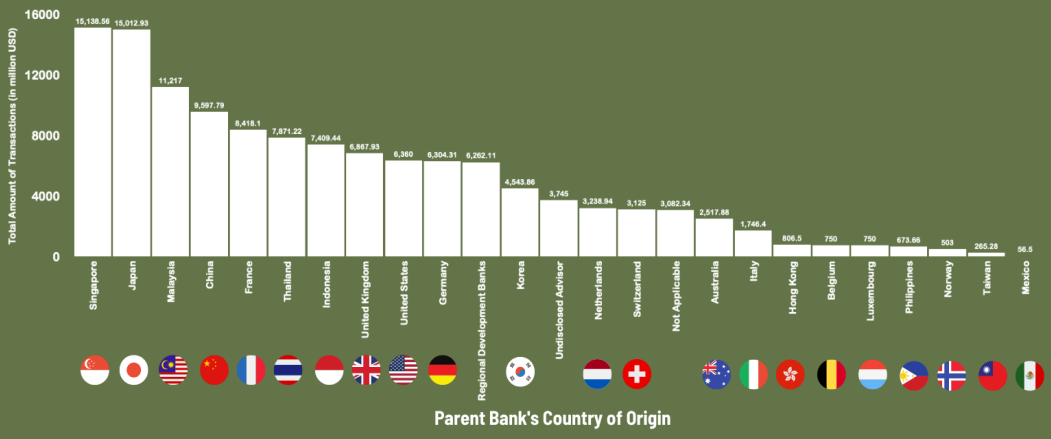
Thai banks took over the top spots in the region's fossil gas financing from 2020 to the first quarter of 2022. Bank of Ayudhya, Siam Commercial, Kasikornbank, Bangkok Bank, and Krung Thai Bank are the top financiers during this period. Thailand naturally also emerged as the top country of origin of the financiers that sustained fossil gas financing in the region in the same period.

## Figure 4. Top Post-Paris Financiers of the Fossil Gas Industry in SEA

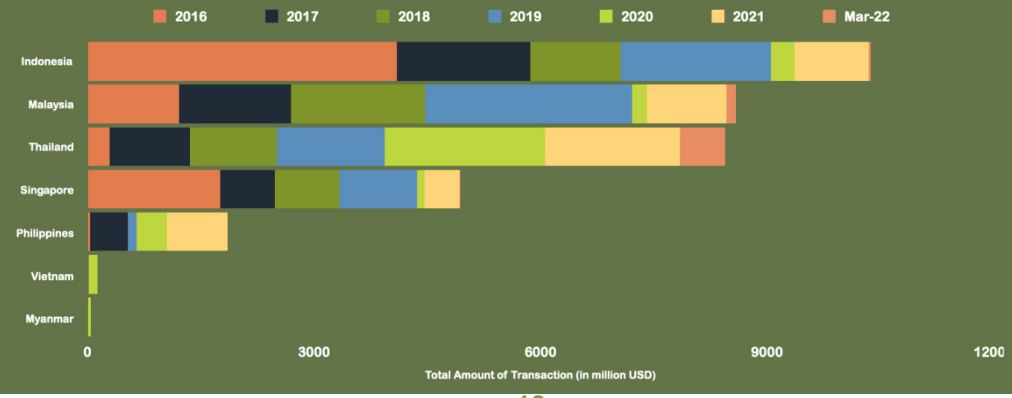
### TOP POST-PARIS FINANCIERS OF THE FOSSIL GAS INDUSTRY IN SOUTHEAST ASIA



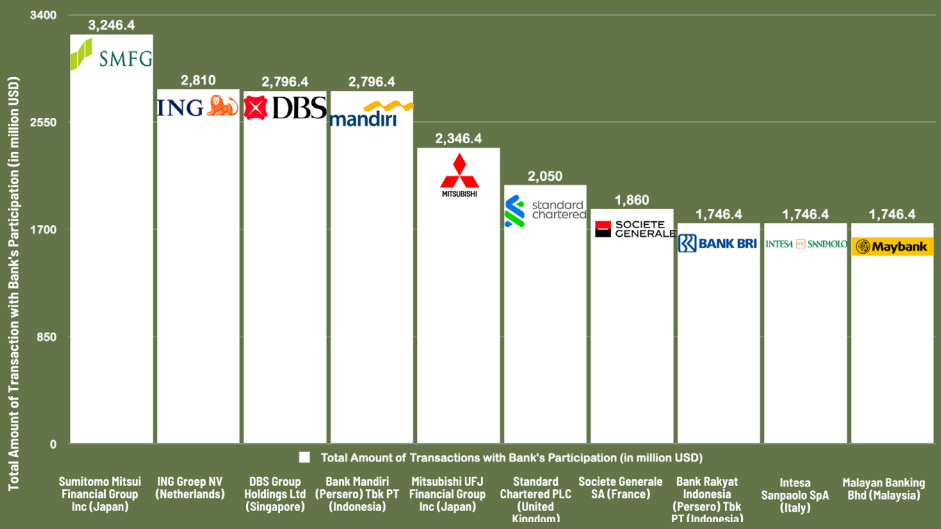

### COUNTRY OF ORIGIN OF POST-PARIS FINANCIERS OF THE FOSSIL-GAS INDUSTRY IN SOUTHEAST ASIA



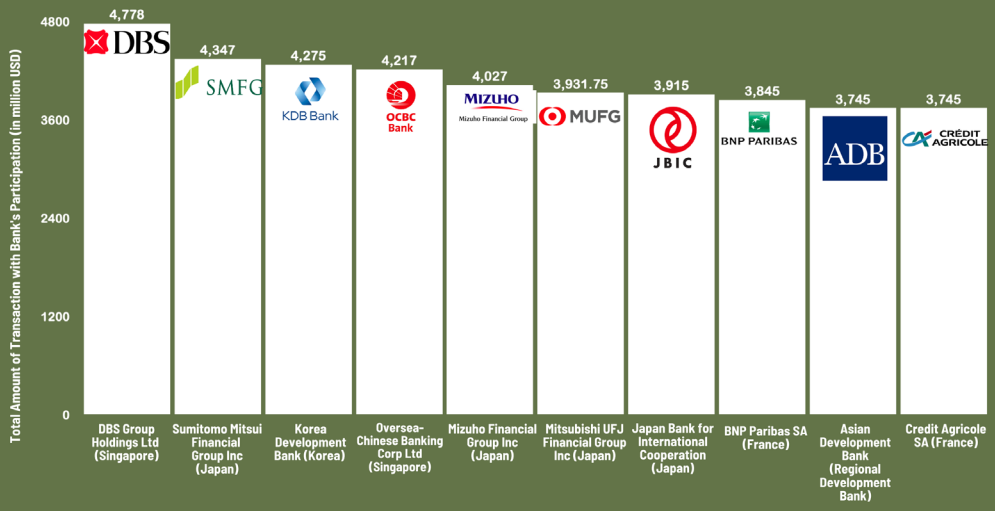

### POST-PARIS FINANCING FOR SOUTHEAST ASIA'S FOSSIL GAS INDUSTRY BY COUNTRY



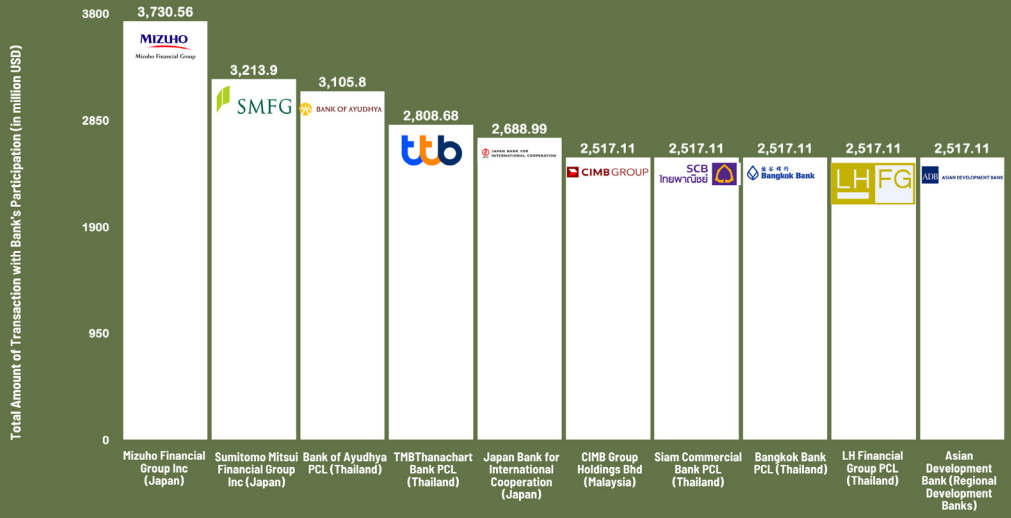
## TOP POST-PARIS FINANCIERS OF UPSTREAM GAS PROJECTS IN SOUTHEAST ASIA




## TOP POST-PARIS FINANCIERS OF MIDSTREAM GAS PROJECTS IN SOUTHEAST ASIA




## TOP POST-PARIS FINANCIERS OF DOWNSTREAM GAS PROJECTS IN SOUTHEAST ASIA



# IV. Philippine Case Study

## Philippine Generation Mix is predominantly composed of fossil fuels

The Philippines' power generation from fossil fuels in 2021 accounted for 77.6%, while the rest is renewable energy. Standing over are coal-fired power plants with 58.48% of the total power generation share, followed by fossil gas with 17.6%.[30] Most of the thermal coal used is imported from Indonesia. Fossil gas is extracted mainly from the Malampaya gas field, which is depleting rapidly and is expected to exhaust completely in 2027.[31]

In 2020, the Department of Energy announced a coal moratorium which caused a total of 6 GW combined capacity to be shelved from the coal pipeline, bringing the country closer to the end of a coal pipeline and the start of the phase-out of existing coal-fired power plants. The looming depletion of the largest gas field and the coal moratorium opened a promising window of opportunity to tap the country's renewable energy potential. However, an expensive detour happened with seven LNG terminals and 27 gas-fired power plants with a combined rated capacity of 29.6 GW already in the pipeline.

With the expressed support from the current administration, the expansion of the fossil gas projects is expected to continue, on top of the pending bills that seek to develop the country's midstream and downstream fossil gas industry. While fossil gas is considered a transition or bridge fuel in the proposed bills, they are suspiciously mum on the need to phase out coal and oil.[32] Promoting fossil gas without a coal phase-out policy followed by a clear fossil gas exit strategy may crowd out renewables and result in a carbon lock-in.

## Geopolitical instability, currency depreciation, and fossil fuel dependence brought nightmares to electricity consumers

High electricity rates have been observed across the Philippines as a repercussion of the ongoing geopolitical crisis in Ukraine and the continuing depreciation of the Philippine peso against the US dollar. In Senate Resolution 107,[33] several provinces mentioned experiencing power rate hikes on top of the power outages, causing consumer outbursts. Residential electricity rates are on a trajectory to break Php 20 per kWh,[34] affecting the cost of living of Filipinos on top of the high inflation experienced in the country. This only shows the consequence of being highly dependent on expensive imported fossil fuels.

The massive fossil gas expansion will further threaten the country's energy security and worsen electricity costs, with little prospect of when the war will end. If all 27 proposed gas-fired power plants come online, the Philippines will be forced to rely on expensive imported fuel to keep these fossil fuel plants running. The experience of coal power supply agreements has proven that consumers are at the short end of the stick. Power supply agreements involving imported fuels pass-on risks from volatile fuel costs and foreign exchange to consumers, driving even higher electricity prices.

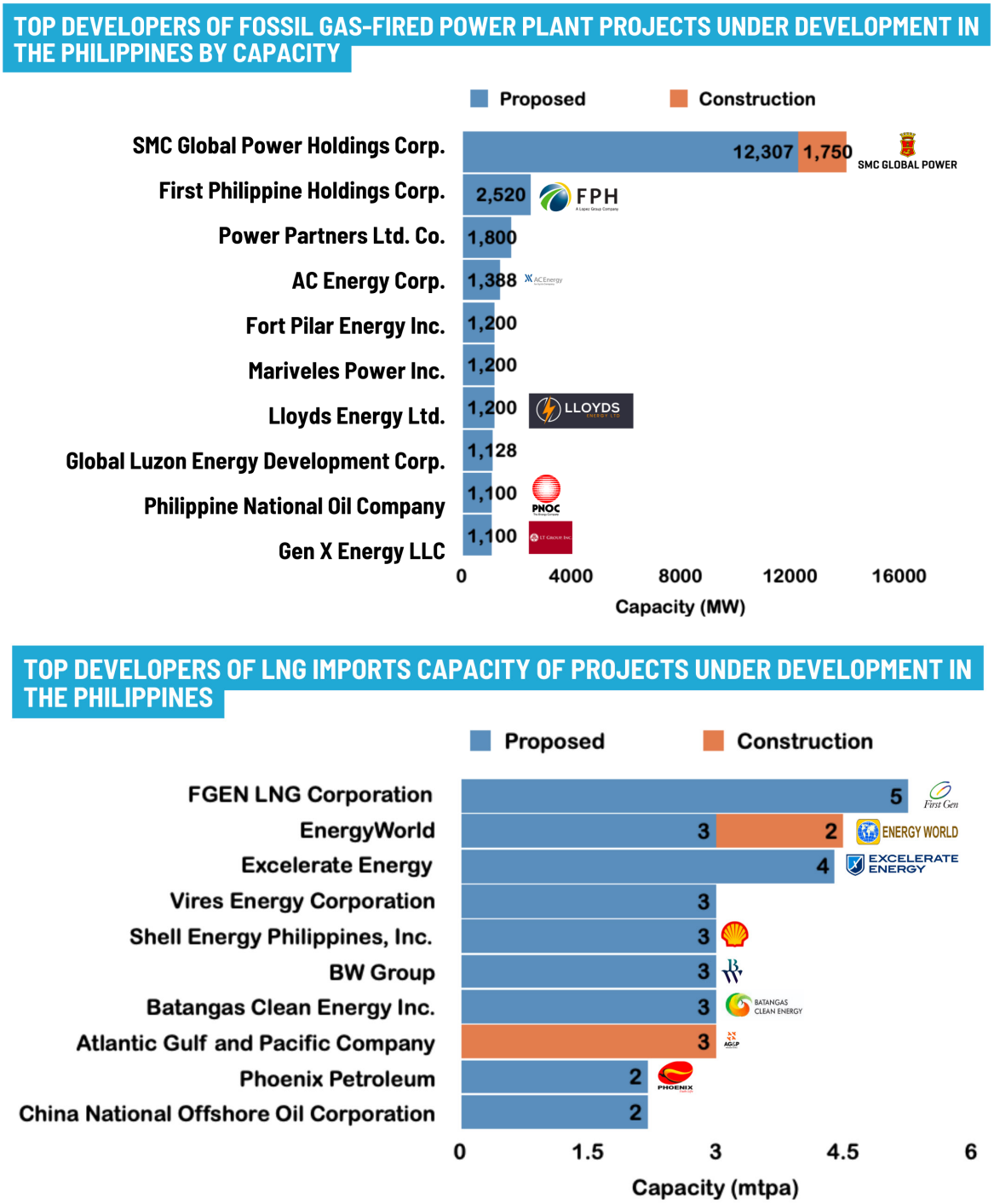
## San Miguel Corporation (SMC) Global Power: Philippines' largest coal developer, now top fossil gas developer

In the past year alone, SMC Global Power, the country's largest coal developer, overtook the Lopez Group after announcing its intention to construct several gas-fired power plants across the country. SMC Global Power already has one gas-fired power plant under construction, the highly contested Excellent Energy Resources, Inc.'s 1.75 GW power plant scheduled to be commissioned at the end of this year in the Verde Island Passage.

The company proposes seven more gas-fired power plants for a total combined capacity of 14.1 GW under development.

Other developers have also ventured into the fossil gas industry. First Philippine Holdings (FPH) Corporation, a member of the Lopez Group, ranks second on the list with a combined capacity of 2.52 GW proposed power plants. Regarding LNG import terminal capacity, FGEN LNG Corporation under the Lopez group tops the list with a capacity of 5 mtpa. Other notable developers such as Aboitiz, Meralco PowerGen, Shell Philippines, and AC Energy have also expressed their interest in the fossil gas industry.

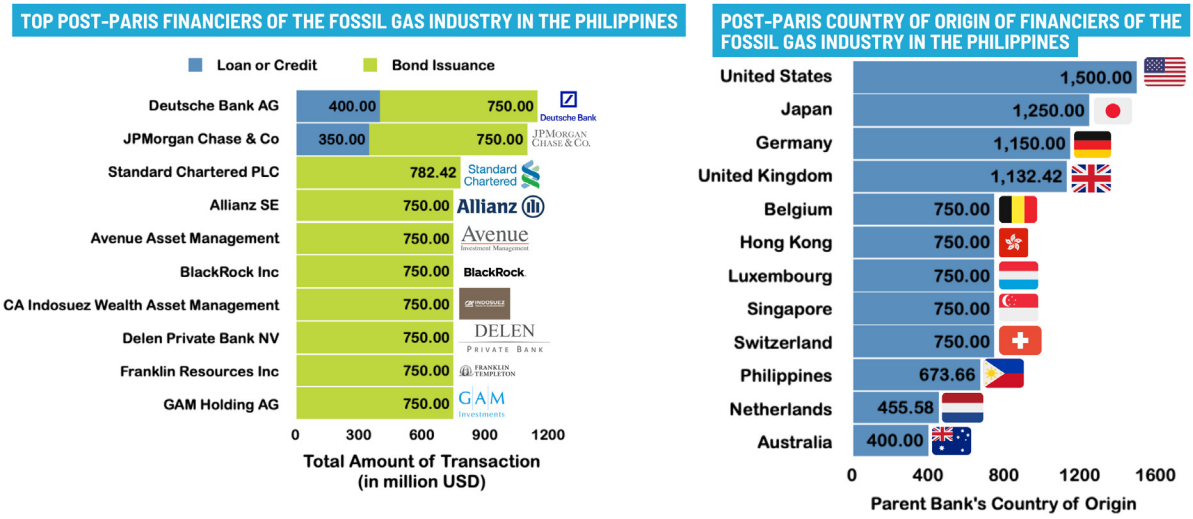
**Figure 5. Top Developers of Fossil Gas-related Projects in the Philippines**



## International financiers with net-zero pledges are fueling the country's fossil future

The top four financiers of fossil gas expansion in the Philippines 2020-onwards contributed to almost half of the total fossil gas financing, each accounting for at least USD 1.1 billion. Funding from the United States contributed USD 1.5 billion, the largest among all countries, followed by Japan (USD 1.2 billion), Germany (USD 1.2 billion), and the United Kingdom (USD 1.2 billion). On the other hand, local financing notably accounted for only 6.5% or USD 674 million. Of these financing, transactions are predominantly through bond issuance.

**Figure 6. Top Post-Paris Financiers of the Fossil Gas Industry in the Philippines**




The top financiers are Deutsche Bank AG, JPMorgan Chase & Co., Standard Chartered PLC, Allianz SE, BlackRock, and GAM Holding. Notably, all of these financial institutions made various net-zero pledges. Deutsche Bank, JPMorgan Chase and Co., and Standard Chartered are members of the Net-Zero Banking Alliance. Insurance giant Allianz is also a member of the Net-Zero Insurance Alliance. Asset managers such as BlackRock, Franklin Resources, and GAM Holding are members of the Net-Zero Asset Management Initiative.

## Projects experiencing delay amidst growing opposition and Russia-Ukraine conflict

Linseed Field Corporation's LNG terminal and FGEN's floating storage and regasification unit (FSRU) and LNG terminal should be commercialized this 2022. However, these projects encountered a delay in their target operations and are expected to start commercial operations in the first quarter of 2023. Reasons for the delay were (1) the delay of equipment delivery and limited movement of employees brought by COVID pandemic and (2) the disruptions in the global gas market caused by the Russia-Ukraine conflict.[35]

The Institute for Energy Economics and Financial Analysis (IEEFA) recent analysis shows that the current LNG prices are not affordable for developing countries. In fact, LNG costs three times higher than coal on a per-unit of energy basis.[36] The Institute also warned investors that if high LNG prices and procurement challenges continue, LNG-related projects will face the risk of stranding, including those in the Philippines.[37]

SMC Global Power proposed LNG projects also faced strong opposition from civil society organizations, environmentalists, and faith-based groups, which led to the postponement and cancellation of ECC public scoping and

the deferment of the said projects. Their 600 MW LNG Combined Cycle Power Plant in Tabango, Leyte, faced strong resistance from local communities, leading to the cancellation of its scheduled public scoping. In Lapu-Lapu City, Cebu, their proposed 600 MW LNG Combined Cycle Power Plant also faced strong opposition from various stakeholders, resulting in the postponement of public scoping. On the day of the public hearing, SMC Global Power announced the project's deferment indefinitely.

### Consumers's historic win: Energy Regulatory Commission junks coal and fossil gas company's bid to increase power rates

SMC Global Power, through its subsidiaries South Premiere Power Corporation and San Miguel Energy Corporation, filed separate joint motions with Meralco, the largest distribution utility in the country, for price adjustments to cover a fraction of the incurred losses amidst the increasing price of imported thermal coal and supply disruption in Malampaya.

The move was mainly driven by imposed straight or fixed energy pricing structures in the power supply agreements entered by SMC and Meralco. Under the said tariff structure, the fluctuation risks of fuel cost, currency exchange, and consumer price index are assumed by the generation companies, as opposed to the pass-through structure, where consumers bear the burden of fluctuations. Ahead of the Commission's decision, SMC expressed its intention to terminate its PSAs with Meralco if ERC would not grant its requests for price adjustment. However, the Commission denied these motions, citing provisions from the contracts that did not necessarily support the claims of SPPC and SMEC. The ERC further reminded the applicants of their obligations under the PSAs, which they entered into of their own free will, and Meralco's duty as a distribution utility to provide electricity in the least cost manner.[38]

The massive gas expansion projects in the Philippines exposed the government's conflicting policies on fossil fuel and renewable energy. While the Department of Energy issued a coal moratorium, its technology-neutral policy in achieving the country's capacity still puts renewable energy technologies at a disadvantage. After the adoption of the Paris Agreement in 2016, gas-fired power projects in the pipeline amounted to 2 GW only. By 2022, there are already seven LNG terminals, and 27 gas-fired power plants with a combined rated capacity of 29.6 GW in the pipeline, almost 15 times larger than that of the pipeline in 2016. The lack of an energy transition plan aligned with the 1.5°C Paris commitment goal paves the way for the unregulated number of gas-related projects, and what should be a bridge fuel is becoming the new preferred baseload plant in replacement of coal.

## V. Methane Emissions

### Methane is the second largest greenhouse gas (GHG), concentration level is "growing dangerously fast"

Methane (CH4) holds the second largest GHG concentration in the atmosphere next to carbon dioxide. Methane has a shorter atmospheric residence time but has a global warming potential of 28 to 34 times more than CO2 in a 100-year timescale and 80 times more powerful in a 20-year period. Since the industrial revolution, it has caused nearly 30% of the global average temperature rise.[39]

A report published by Nature early in 2022 says that the methane concentration level in the atmosphere passed 1,900 parts per billion (ppb) in 2021 and has been accelerating at a faster rate since 2007.[40] It is estimated that the methane emissions in 2021 are 15% higher than the recorded emissions in 1984-2006.[41] With its high global warming potential, limiting the temperature to 1.5 C will make it even harder.

### Energy industry is the second contributor to anthropogenic methane emissions, China tops the list of methane emitters

In 2021, about 60% of the global methane emissions came from anthropogenic[42] emissions, with agricultural activities topping the list, having a total methane emission of 141.4 million tonnes (Mt). Energy-related activities, which is second on the list, is comprised of 135.2 Mt – 43.6 Mt from coal mining, 42.9 Mt from oil extraction, 39.6 Mt from gas extraction, process, and transportation, and 9 Mt from bioenergy's incomplete combustion.[43]

China is the top emitter, releasing 58.4 Mt of methane in 2021. India is next on the list with 31.8 Mt, and closely followed by the United States with 31.5 Mt. Russia ranked fourth, but among the countries leading oil and gas production, it produced the highest methane emission.[44] Also, among the countries mentioned, China, India, and Russia did not participate in the Global Methane Pledge launched during the Conference of Parties (COP) 26 in Glasgow, Scotland.

The Pledge was participated by 122 countries, representing about 50% of the global anthropogenic methane emissions. With the collective voluntary pledge, it is poised to reduce at least 30% of global methane emissions by 2030 from 2020 levels. Among SEA countries, Indonesia, Malaysia, Singapore, Vietnam, and the Philippines signed the Pledge, while Brunei, Myanmar, and Thailand did not participate.[45]

Amidst plans of gas expansion, methane concentration is expected to grow as fossil gas emits leaked methane in all stages of its life. Developing LNG terminals and gas pipelines in Asia would enable the consumption of imported gas enough to produce 117 gigatonnes of carbon dioxide equivalent (Gt CO2-eq) over their lifespans. This is a quarter of all emissions the world can produce while maintaining a good chance of limiting global warming to 1.5°C.

Moreover, the non-participation of some SEA countries in the Pledge will bolster planned fossil gas projects in the region. Thailand is the largest consumer of fossil gas in SEA, with over 32.27 GW of installed fossil gas capacity and supplying 54% of the country's power generation. After the Paris Agreement, 10 more LNG terminals, 3 more gas pipelines, and 4 more gas-fired power plants are expected to be developed. Its non-commitment to the Pledge undermines its Prime Minister's bold declaration during COP26 of raising its ambition to 40% GHG emission reduction by 2030 and net-zero GHG emissions by 2050. Thailand must step up with its methane emission mitigation measures and get on track with 1.5°C pathway, including the cancellation of gas projects in the pipeline and the implementation of planned policies and targets such as its Climate Change Act, National Energy Plan, and Long-Term Low Greenhouse Gas Emissions Development Strategy (LT-LEDS).[46]

## VI. Recommendations

More than five years after the adoption of the Paris Agreement in 2015, gas development is expanding at a rapid pace in Southeast Asia. Behind it are financial institutions building reputations as climate and clean energy foes instead of improving their energy and sustainability policies. To avert a fossil future for Southeast Asia, financial institutions should:

1. Adopt a Paris-aligned policy that pursues a 1.5°C Pathway-reaching a global CO2 emissions decline of 45% from 2010 levels by 2030, and net-zero CO2 emissions by midcentury-without false solutions, in accordance with the P1 Scenario of the IPCC's Special Report on Global Warming of 1.5°C. This policy should:

    a. Prohibit all financing, whether direct or indirect, for new oil and gas fields and LNG terminals and all companies listed in the Global Oil & Gas Exit List

b. Set stringent restrictions on new fossil gas power plant projects and expansion projects if determined to be a necessary and economically viable bridge fuel for a country's low-carbon transition (Use the Oil and Gas Policy Tool here)

c. Set and disclose a timeline and measurable targets (including short-, medium-, and long-term targets) in phasing out all fossil gas exposure, and pursue early retirement, in case of equity investments, of existing fossil gas power projects on a 1.5°C-aligned timeline.

2. A distinction should be made regarding the critical roles of regional development banks and local banks in adopting a Paris-aligned policy.

a. Regional development banks should lead the adoption of the most ambitious Paris-aligned energy policies and strategies to finance the necessary energy transformation in SEA, starting with prohibiting financing for new fossil gas projects and for all companies engaged in fossil gas expansion projects, and

b. Local banks should align financial flows to rapid and just transition pathways that are in accordance with their country's fair share in the 1.5°C Paris goal, which prohibits financing for new oil and gas fields.

3. Withdraw and prohibit financing for fossil gas projects that violate human rights, endanger critically important and biologically diverse ecosystems and habitats, and pose grave reputational risks.

4. Disclose all financial services provided to fossil gas-related operations and fossil gas companies and adopt the full recommendations of the Task Force on Climate-related Disclosures to support its shareholders and stakeholders in appropriately assessing and pricing climate-related risks, and to ensure that the overall effects of climate change become routinely considered in business and investment decisions.

## Endnotes

1 CEED 2022. Financing a Fossil Future: Tracing the Money Pipeline of Fossil Gas in Southeast Asia. https://ceedphilippines.com/sea-fossil-future/

2 As of February 2022. Pipeline projects include plants in pre-construction stage only.

3 Global Energy Monitor. Boom and Bust Gas Report 2022. (March 2022). https://globalenergy- monitor.org/wp-content/uploads/2022/03/GEM_BoomBustGas2022_FINAL.pdf

4 The United Nations Economic Commission for Europe (UNECE). https://unece.org/challenge

5 IEEFA 2022. Delays of LNG terminals in the Philippines reflect supply and cost uncertainties. https://ieefa.org/resources/delays-lng-terminals-philippines-reflect-supply-and-cost-uncertainties

6 International Energy Agency 2022. Southeast Asia Energy Outlook 2022 https://iea.blob.core.windows.net/assets/e5d9b7ff-559b-4dc3-8faa-42381f80ce2e/SoutheastAsiaEnergyOutlook2022.pdf

7 Protect VIP. About the Verde Island Passage. https://www.protectvip.org/aboutvip

8 Select SEA countries include Indonesia, Thailand, Myanmar, and the Philippines.

9 Oil Change International 2022. Public Finance for Energy Database. https://energyfinance.org/#/data

10 BP 2022. BP Statistical Review of World Energy 2022. https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2022-full-report.pdf

11 Pipelines include Nord Stream 1 (Russia's largest gas pipeline to Europe), Nord Stream 2, Yamal, Blue Stream, Turkstream, and via Ukraine.

12 Refinitiv Reuters News February 25, 2022 GLOBAL LNG-Asian LNG prices surge on Ukraine invasion, NS2 halt

13 Refinitiv News 2022. GLOBAL LNG-Asian LNG prices stable on weak demand - Reuters News

14 BBC News 2022. Nord Stream 1: How Russia is cutting gas supplies to Europe. https://www.bbc.com/news/world-europe-60131520

15 U.S Energy Information Administration 2022. The United States became the world's largest LNG exporter in the first half of 2022. https://www.eia.gov/todayinenergy/detail.php?id=53159

16 See footnote 11

17 BNEF 2022. Global LNG Market Outlook 2022-2026. https://spotlight.bloomberg.com/story/global-lng-market-outlook/page/1?bbgsum-page=DG-WS-PROF-BLOG-POST-139527&tactic-page=602005

18 Nikkei Asia 2022. LNG price spike causes energy crises in strapped Asian nations. https://asia.nikkei.com/Business/Energy/LNG-price-spike-causes-energy-crises-in-strapped-Asian-nations

19 IEEFA 2022. The economic case for LNG in Asia is crumbling. https://ieefa.org/resources/economic-case-lng-asia-crumbling

20 See Section IV for the complete Philippine discussion.

21 Bloomberg 2022. Thailand at Risk of Fuel Crunch With Imported Gas Too Pricey. https://www.bloomberg.com/news/articles/2022-06-22/thailand-at-risk-of-fuel-shortages-with-imported-gas-too-pricey#xj4y7vzkg

22 Refinitiv 2022. LNG Spot Prices

23 Bangkok Post 2022. Record-high electricity price rise approved. https://www.bangkokpost.com/business/2369045

24 Indonesia Cabinet Secretariat 2022. Gov't adjust electricity tariffs. https://setkab.go.id/en/govt-adjusts-electricity-tariffs/

25 SP Group 2022. Electricity Tariff Revision for the period 1 October 2022 to 31 December 2022. https://www.spgroup.com.sg/wcm/connect/spgrp

26 Global Energy Monitor's data as of February 2022. Global Energy Monitor. Boom and Bust Gas Report 2022. (March 2022). https://globalenergymonitor.org/wp-content/uploads/2022/03/GEM_BoomBustGas2022_FINAL.pdf

27 Figure is based on GEM's Global Fossil Infrastructure Tracker (GFIT) for Terminals as of June 2021.

28 Figure is based on GEM's updated summary tables and CEED's dataset on LNG terminals in the Philippines, both as of March 2022.

29 Energy Market Authority. Gas Market Overview. https://www.ema.gov.sg/Gas_Market_Overview.aspx

30 Department of Energy 2022. Power Statistics 2021. https://www.doe.gov.ph/sites/default/files/pdf/energy_statistics/2021_power_statistics_03_gross_generation_per_plant_type_per_grid.pdf

31 Business World 2021. Malampaya depletion expected by 1st quarter of 2027. https://www.bworldonline.com/economy/2021/05/19/369673/malampaya-depletion-expected-by-1st-quarter-of-2027/

32 Center for Energy, Ecology, and Development 2021. Why the Midstream and Downstream Natural Gas

Industries Bills are Climate-Blind.

33 Senate of the Philippines 19th Congress. Philippine Senate Resolution No. 107. http://legacy.senate.gov.ph/lisdata/3881335270!.pdf

34 CEED analysis on the publicly available data requested from Freedom of Information.

35 Business Mirror 2022. DOE: Liquefied natural gas projects encounter delays.https://businessmirror.com.ph/2022/09/20/doe-liquefied-natural-gas-projects-encounter-delays/

36 See footnote 2

37 IEEFA 2022. The economic case for LNG in Asia is crumbling. https://ieefa.org/

resources/economic-case-lng-asia-crumbling

38 ERC 2022. ERC Denies MERALCO, SPPC, and SMEC's Plea for Price Increase. https://www.erc.gov.ph/ContentPage/82854

39 IEA 2022. Overview – Global Methane Tracker 2022. https://www.iea.org/reports/global-methane-tracker-2022/overview

40 Nature 2022. Scientists raise alarm over 'dangerously fast' growth in atmospheric methane. https://www.nature.com/articles/d41586-022-00312-2

41 National Oceanic and Atmospheric Administration 2022. Increase in atmospheric methane set another record during 2021. https://www.noaa.gov/news-release/increase-in-atmospheric-methane-set-another-record-during-2021

42 Emissions from human activities are known as anthropogenic emissions

43 IEA 2022. Methane and climate change – Global Methane Tracker 2022 – Analysis. https://www.iea.org/reports/global-methane-tracker-2022/methane-and-climate-change

44 IEA 2022. Total methane emissions and methane intensity of production in selected oil and gas producers, 2021. https://www.iea.org/data-and-statistics/charts/total-methane-emissions-and-methane-intensity-of-production-in-selected-oil-and-gas-producers-2021

45 Global Methane Pledge 2022. About the Global Methane Pledge. https://www.globalmethanepledge.org/

46 Climate Action Tracker 2022. Thailand Overview. https://climateactiontracker.org/countries/thailand/

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