

FINANCING A FOSSIL FUTURE

Tracing the money pipeline of fossil gas in Southeast Asia

Published by: Center for Energy, Ecology, and Development

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June 2022

This report is available at <https://ceedphilippines.com>.

Currencies: USD refers to US dollars in this report.

Foreword: Confronting a Fossil Future

Five years ago, I wrote about the crossroads that the Philippines and Southeast Asia were confronting as the last battleground of coal. Back then Southeast Asian nations – specifically Indonesia, Vietnam, the Philippines, Myanmar, Malaysia, and Cambodia – were among the top 30 countries with the biggest coal expansion plans. With a total planned capacity of 125,307 MW, they accounted for nearly 15% of the total coal power in the global pipeline.

It was also the time, where global shifts were starting to unfold veering away from the dirtiest energy source in the world. From coal pipeline fleets being defeated in the Philippines, government policies in South Korea and other Asian countries, to major bank policies and massive energy finances diverted away from coal financing. Shifts were finally happening, with policies in the Philippines, Vietnam, and even Indonesia. The hope to achieve the 1.5°C global goal was appearing on the horizon. Unfortunately for the country and the region, that was not the end of the story. Indeed, we've finally started to move away from coal, only for another fossil fuel to take its place – fossil gas.

A massive 138 GW of new gas-fired power plants and 118 liquified natural gas terminals are being proposed or already being built in the region. With a massive USD 34.8 billion being poured in, which surpasses even that of China's gas pipeline in 2022. Lead by the same countries that have embarked on a coal avalanche in the region five years ago, and the very same countries that have vast renewable energy potentials – Vietnam, Indonesia, Philippines and Thailand.

The Philippines alone boasts more than 10 times of renewable energy potential compared to its total installed power capacity at present. This clearly is not a case of fossil gas being a bridge fuel, instead it is a massive detour. This is a major challenge for the climate vulnerable region given the very small window we collectively have in avoiding runaway climate change in this decade.

This study comes at a perfect time. While we regret to be facing this challenge in the region, instead of leapfrogging towards 100% renewable energy systems, we can definitely say that we are in a better situation confronting this massive challenge compared to 8-10 years ago. Renewable energy technologies are far more competitive now, if not cheaper, compared to coal and fossil gas. There are also more policies and mechanisms in place to advance renewable energy. Global fossil gas, on the other hand, is at an all time high now – thus the myth that fossil gas can bring the needed development and poverty alleviation, specially in a region with high level of energy poverty, can be debunked.

We hope that this study will provide energy transition advocates, academics, NGOs, communities and movements in the region a wealth of data and analysis on who to engage and put pressure on.

As the famous saying goes, “We do not inherit the earth from our ancestors; we borrow it from our children”. We owe it to our children and their children, and grandchildren to overcome this new challenge.

– Gerry Arances, Founder and Executive Director, Center for Energy, Ecology, and Development

Messages

“Caritas Philippines stands in solidarity with communities across Southeast Asia impacted by ecological devastation from fossil gas and all other fossil fuels. The dire state of our Common Home calls for urgent and united action to end our dependence on dirty energy and other destructive industries. Fossil gas companies and their financial supporters also bear this responsibility. We cannot allow them to continue peddling lies of gas and LNG as beneficial when it is people and our planet that suffer.”

– Bishop Colin Bagaforo, National Director, Caritas Philippines

“Financing a Fossil Future is an important report as it reveals the companies and financiers that are accelerating fossil dependency in a region that is already disproportionately impacted by climate change. This report will be a key tool for campaigners worldwide to hold banks and investors accountable and demand a swift and just shift to sustainable energy.”

– Heffa Schuecking, Founder and Executive Director, Urgewald

“As this report reveals that Japanese financial institutions, both private and public, have been instrumental in promoting gas expansion in the developing nations of Southeast Asia, it is a significant step for the Japanese government to join the latest G7 commitment to end new direct public support for the international unabated fossil fuel energy sector by the end of 2022. However, we are highly concerned that the Japanese government arbitrarily interprets the wordings and continues to push fossil fuel projects in the way of a false solution, such as CCUS or ammonia co-firing technology. In addition to the climate crises, the fossil fuel projects are depriving the local fishing community of a healthy marine ecosystem. Fossil fuel extraction is also fueling conflicts globally. We continuously call on the Japanese financiers to exit gas and other fossil fuel financing in a responsible manner.”

– Hozue Hatae, Development Finance and Environment Team, Friends of the Earth Japan

“There is no room for half-baked promises at a time when all hope of keeping climate chaos at less catastrophic levels is quickly vanishing. There is a logical step for financial institutions that pledged to achieve net-zero: to come out with strict restrictions against backing new gas, LNG, and other fossil fuel projects or companies with dirty expansion plans.”

– Lucie Pinson, Founder and Executive Director, Reclaim Finance

“The ongoing failure of international climate diplomacy has shown market triumphalism over mitigation of the climate crisis and the climate risks continue to be mispriced in financial markets. This report can serve as a guiding map to locate and deal with the dirty economy and extractivism, the factors behind climate chaos.”

– Muhammad Reza Sahib, National Coordinator, KRuHA

“This study is the result of detailed and investigative research and CEED is commended for its work. Most importantly this study follows the money where financing for fossil gas is concerned. That is critical as the real means to having a fossil free future including fossil gas, is to end its financing and shift it to renewable solutions.”

– Nithi Nesadurai, Director and Regional Coordinator, Climate Action Network Southeast Asia (CANSEA)

“The financial sector as a whole, and North American banks in particular, continue to jeopardize our future by financing the fossil fuel industry. They are stoking climate flames even when they claim to know better. In doing so, they are going against the best interests of climate-impacted communities. It’s no surprise that JPMorgan Chase is also hovering in Southeast Asia’s gas industry - it is, after all, the world’s biggest fossil fuel banker. Financiers need to move past their empty promises, clean up their act, and cut out their support for gas and other fossil fuels.”

-- Pallavi Phartiyal, Deputy Executive Director, Rainforest Action Network (RAN)

"This report exposing the financial actors behind the gas build out in Southeast Asia by CEED comes at a very critical time amidst current global climate and energy debates. The study expertly illustrates the existing architecture behind gas expansion in the region and the various gas and LNG projects which threaten the 1.5C pathway forward. The findings of the report will most certainly prove to be a tactical resource for climate and energy campaigners everywhere.

From the perspective of the NGO Forum on ADB, the role of regional MDBs -- such as ADB and AIIB -- have been clearly articulated in this study, and we express our solidarity with the recommendations urging these banks to unequivocally stay away from offering any support for new fossil gas related projects or for gas companies. We congratulate CEED on this thorough work, and look forward to the report's dissemination among community advocates leveraging their collective power to win fossil fuel free futures."

– Rayyan Hassan, Executive Director, NGO Forum on ADB

“The gas industry is eyeing Southeast Asia as one of the last bastions of opportunity to reap profits at the expense of communities and our planet. This report clearly lays out the need to stop this massive gas expansion, end financing for gas and shift investment to the clean energy solutions that are already cheaper and readily available.”

– Susanne Wong, Asia Program Manager, Oil Change International

Executive summary

Key findings

Vietnam and the Philippines have the largest planned gas expansion in development

- If all planned gas expansion of 138 GW capacity in development is built, gas-fired operating capacity in SEA, 89 GW as of GEM's February data, will increase by more than twofold.
- Vietnam leads the region's planned gas expansion, with 56.3 GW in pre-construction and construction stages, or in development. The Philippines follows behind with 29.9 GW in development.
- Philippine conglomerate San Miguel Corporation Global Power Corporation's (SMC Global Power'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 Global Power's eight proposed gas-fired power plants will have a capacity of 12.3 GW, in addition to the 1.8-GW plant that is under construction.
- 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's first LNG terminals.
- Cambodia and Indonesia make up 65% of new gas pipelines in the region. Cambodia has the most gas pipeline projects with a combined length of 2,553 km, followed by Indonesia's 2,249 km. Thailand ranks third with 1,113 km.

Financial institutions Banks with net-zero pledges and Thai local banks are leading fossil gas financing in Southeast Asia in the decade of action

- Financial institutions Banks are funding the gas industry despite pledging to decarbonize the global economy. Fifteen financiers banks financed arranged for USD 1.7 billion in loans and bonds to oil and gas companies, – some are, or are currently holding these bonds –, after joining the Net-Zero Banking Alliance, Net-Zero Asset Owners Alliance, or Net Zero Asset Managers initiative. Among the 15 financiers banks are top fossil gas financiers BNP Paribas, CIMB Bank, and Mizuho Financial. Except for CIMB Bank, Mizuho Financial, and Nomura Holdings, these financiers banks are headquartered in Western countries. They include France's BNP Paribas, Germany's Allianz and Deutsche Bank, Netherland's ING, Switzerland's Credit Suisse, and UBS, United Kingdom's Barclays and Standard Chartered, and United-States' BlackRock, Citigroup, Morgan Stanley, and Wells Fargo & Company. Allianz and BlackRock participated by purchasing bonds from Philippines-based SMC Global Power.
- Other notable public financial institutions that provided fossil gas financing in the region are supported the fossil gas financing are: Asian Development Bank, South Korea's Korea Development Bank and Export-Import Bank of Korea, Germany's KfW, Thailand's Government Savings Bank and Export-Import Bank of Thailand, Norway's DNB Bank, and Japan's Japan Bank for International Cooperation and Nippon Export and Investment Insurance.

- The landscape shifted entirely at the start of the new decade, where Thai banks became top financiers, and transactions in Thailand leaned toward bond issuances. Meanwhile, financiers based in the United States and the United Kingdom climbed to third and fifth spots, if financiers/banks are ranked based on financing only from January 2020 to March 2022, up from their ninth and eighth places if financing since 2016 is considered. The jump in ranking can be attributed to the participation of American banks in the underwriting of bonds for Philippines-based SMC Global Power/San Miguel Corporation and of British banks for San Miguel Corporation and Thailand-based Ratch Group.
- Loans and credit and bonds were almost equally used in financing transactions. Companies also used Islamic finance, which is considered a growing segment of the global financial system and used in countries with a predominant and minority Muslim population alike. Three-quarters of the total financing was provided for the fossil gas companies' general corporate finance, including financing acquisitions, debt refinancing, and investments, and a quarter for their project finance. These findings highlight the need to close glaring loopholes in fossil fuel pledges or divestments that cover only direct loans or credits to and project financing of fossil gas projects.
- The decrease in fossil gas financing from 2020 to early 2022 in countries like Indonesia and Malaysia and the almost steady amount of financing in Thailand, amid the expansion of the gas and LNG industries across Southeast Asia during this period, indicates two possible scenarios: (1) financial closure has not yet been reached for new projects, or (2) there is a lack of transparency and public disclosure on financial transactions involving fossil gas-related operations and companies.

Recommendations

More than five years since 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 a net-zero CO₂ emissions by mid-century—without false solutions, in accordance with the P1 Scenario of the IPCC's Special Report on Global Warming of 1.5°C¹. 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,

¹ In the IPCC's P1 Scenario, the 1.5°C Paris goal is achieved through a downsized energy system, which enables rapid decarbonization of energy supply, and with afforestation as the only Carbon Dioxide Removal option considered. Neither fossil fuels with CCS nor bioenergy with CCS are used.

- 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.

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 Southeast Asia, starting with prohibiting financing for new fossil gas projects and for all companies engaged in fossil gas expansion projects.
 - 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.
- 2. 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.
 - 3. 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.

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I. Introduction: Southeast Asia: From Coal's Last Bastion to Fossil Gas Hub

Lying along the Western rim of the Pacific Ocean, Southeast Asia (SEA) is a largely maritime subregion of Asia. Its 11 countries boast of diverse cultures and abundant natural resources, with SEA also nestling the marine biodiversity-rich Coral Triangle. Comprised of growing economies, SEA largely expanded its use of coal in the last decade to power countries' respective growth. In 2019, while the rest of the world dropped in their reported coal power generation, that of SEA's grew by 12%. Altogether, SEA more than doubled its use of coal since [2010](#). As such, the region earned its notoriety as the coal industry's 'last bastion'.

With its location and geography, SEA experiences some of the harshest impacts of climate change - a reality whose exacerbation the region ironically contributes to due to its dependence on coal. Moreover, extreme dependence on coal also exposes power consumers in SEA to volatile power prices.

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. Even as the fight against remaining projects and to phase out coal continues, Southeast Asian peoples are now forced to confront another fossil fuel: natural gas, more appropriately referred to as fossil gas.

Coal's last bastion is swiftly turning into Asia's fossil gas and LNG hub, with governments and power companies promoting massive gas expansion plans under the guise of development. Today, SEA has 117 GW of new fossil gas capacity in the pre-construction stage, eclipsing East Asia's 77 GW in the expansion of fossil gas power plants that have yet to be constructed. 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.²

That fossil gas, and its supercooled form liquefied natural gas (LNG), is falsely touted as a clean alternative to coal is dangerous for climate-vulnerable SEA and far from the development purported by proponents. While burning gas emits less carbon dioxide (CO₂) than oil or coal, it is primarily composed of methane, which leaks into the atmosphere at every stage of its life. Methane traps heat in the atmosphere far more effectively than carbon dioxide does. If viewed in over 10- to 20-year time scales, the influence of methane is at least as large as that of CO₂.³ Even as the 2021 assessment report of the Intergovernmental Panel on Climate Change's

² Global Energy Monitor. Boom and Bust Gas Report 2022. (March 2022). https://globalenergymonitor.org/wp-content/uploads/2022/03/GEM_BoomBustGas2022_FINAL.pdf

³ International Panel on Climate Change. Climate Change 2021: The Physical Science Basis - Technical Summary, p. TS-67. https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_TS.pdf

(IPCC) calls for strong, rapid, and sustained reductions in methane emissions alongside those of CO₂, its scale is instead expected to grow amidst plans of massive expansion. LNG import terminals and gas pipelines to be developed in Asia would enable 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.

Gas expansion will also worsen SEA's energy security and dependence on imported fossil fuels. Countries without a local supply or with a depleting supply of fossil gas will need to import LNG and build the necessary infrastructure to receive it. However, even after developing the necessary LNG infrastructure, SEA countries will have to confront the many challenges that LNG-dependent countries are facing today. The world's largest LNG importers, including China and Japan, are already in Asia. Increasing demand for LNG in Asia and political instability in top LNG exporters like Russia have already resulted in its tight supply and caused prices to soar to record highs.

Moreover, SEA's gas plans threaten the rich marine biodiversity housed in the region. Nowhere is this more explicit than in the Amazon of the oceans in the Philippines, the Verde Island Passage, which is home to 60% of all known shorefish species in the world - but also to plans for eight new gas power plants and seven new LNG terminals.

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 who bear the brunt of the climate crisis, and who are entitled to just contributions and reparations from developed nations to make way for climate mitigation and adaptation. Financial support from public and private sectors alike, however, is 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.

Following the Paris Agreement, businesses, governments, financial institutions, and other climate actors have bannered green initiatives under pressure from civil society and frontline communities. The United Nations, for example, convened a Net-Zero Asset Owner Alliance launched in 2019⁴; a Net-Zero Banking Alliance, which represents 40% of global banking assets, was launched in April 2021⁵; and most recently, the Glasgow Financial Alliance for Net Zero was formed by 450 financial institutions from 45 countries, with assets worth USD 130 trillion.⁶

According to the International Energy Agency, in a net-zero emissions scenario by 2050, there is no more need for fossil fuel exploration, significant investment in new oil and gas pipelines,

⁴ UN-convened Net-Zero Asset Owner Alliance. <https://www.unepfi.org/net-zero-alliance/>

⁵ Net-Zero Banking Alliance. <https://www.unepfi.org/net-zero-banking/>

⁶ Glasgow Financial Alliance for Net Zero. <https://www.gfanzero.com/>

and liquefied natural gas (LNG) liquefaction facilities currently under construction or at the planning stage. The IPCC's Special Report on Global Warming of 1.5°C also provides for a 1.5°C model pathway without false solutions, such as carbon capture storage (CCS). In what is called a P1 Scenario, the 1.5°C Paris goal is achieved through a downsized energy system, which enables rapid decarbonization of energy supply, and with afforestation as the only Carbon Dioxide Removal option⁷ considered. Neither fossil fuels with CCS nor bioenergy with CCS are used.⁸

Despite several net-zero pledges in place, these have made little to no dent in climate and energy transition action. Financial institutions have remained wedded to fossil fuels. A 2021 report by a coalition of NGOs found that some of the banks' pledges are "dangerously weak, half-baked, or vague"⁹.

This Report provides an overview of the fossil gas industry in SEA, including the biggest developers and top financiers dooming the region to a fossil future. It also looks at how these institutions are exposing themselves to stranding assets and reputational risks as more frontline communities rise against fossil gas, even as they deal the final blows to the coal industry.

Case studies are provided for Thailand, which has a well-established gas sector, and the Philippines, which seeks to expand its LNG infrastructure amidst depleting domestic supply. They take a closer look at controversial projects—Atlantic Gulf & Pacific's (AG&P) Linseed Field Corporation (Linseed) LNG Terminal, San Miguel Corporation Global Power Holdings' (SMC Global Power) Excellent Energy Resources, Inc.'s (EERI) 1.75 GW gas power plant, and RATCH Group and Gulf Energy Development's Hin Kong Power Company 1.4 GW gas power plant.

II. Methodology

This report covers transactions between oil and gas companies and financial institutions that offered financing services, such as lending (loans and credit services), investment (stocks and bonds), and Islamic finance (any financing activity that abides by Islamic law), from January 1, 2016 to March 31, 2022.

⁷ Carbon dioxide removal (CDR) pertains to anthropogenic activities removing CO₂ from the atmosphere and durably storing it in geological, terrestrial, or ocean reservoirs, or in products. It includes existing and potential anthropogenic enhancement of biological or geochemical sinks and direct air capture and storage, but excludes natural CO₂ uptake not directly caused by human activities.

IPCC, Special Report on 1.5°C, Summary for Policymaker, Box SPM.1: Core Concepts Central to this Special Report, 26.

16. Greenpeace USA, Carbon Capture Scam (CCS): How a false climate solution bolsters big oil, April 2015, 6.

⁸ IPCC, Special Report on 1.5°C, Summary for Policymaker, 16.

⁹ Rainforest Action Network (RAN), BankTrack, Indigenous Environmental Network (IEN), Oil Change International (OCI), Reclaim Finance, Sierra Club, and urgewald. Banking on Climate Chaos: Fossil Fuels Finance Report 2022. (March 2022). https://www.ran.org/wp-content/uploads/2022/03/BOCC_2022_vSPREAD-1.pdf

These companies are primarily engaged in the fossil gas and LNG business, from exploration and development to transportation, gasification, storage, re-gasification, and pipelines, and finally, to power generation.

Loans and credit services for general corporate purposes were included if provided to developers whose businesses are limited to fossil gas-related operations to address the fact that a significant portion of total financing for the fossil gas industry was intended for general corporate purposes and other non-project finance purposes. The same rule was followed for equity investments. As for bonds, only underwriting services were considered. However, when information on bondholders is available, such as in the case of SMC Global Power's USD 600-million and USD 150-million senior perpetual capital securities listed in the Singapore Exchange Securities Trading Limited, it is included in the review.

Rankings for top developers are categorized into two: "post-Paris" and "projects under development". "Post-Paris" refers to developers of projects with operations expected to start in January 2016 to March 2022, while "projects in development" refers to developers of projects that are proposed or under construction as of March 2022.

As for financiers, rankings are categorized into two: "post-Paris" and "2020-onwards". "Post-Paris" refers to transactions made from January 2016 to March 2022, while "2020-onwards" points to those made from January 2020 to March 2022.

The "post-Paris" and "projects under development" or "2020-onwards" rankings are shown to capture the major players in the massive build-up of gas projects at the start of this critical decade of action for the climate crisis, and following the release of seminal reports such as the IPCC's Special Report on Global Warming of 1.5°C, and several net-zero pledges.

Developers and financiers are ranked based on their parent or holding companies, considering the broad range of corporations covered, including affiliates and associates. For companies with more than one owner, the parent listed is the majority shareholder or the shareholder who holds the largest equity in the company. Financiers are ranked based on the total amount of transactions that they participated in. The reason is that data on financiers' known share in transactions is predominantly unavailable.

The transaction and project data in this report is mainly sourced from Refinitiv, a third-party provider of market and infrastructure data, through its platforms Refinitiv Infra360 and Refinitiv Loan Connector. In addition to the Refinitiv platforms, the following publicly available online sources were used:

- Philippine Department of Energy's Key Energy Statistics and List of Private Sector-Initiated Projects
- Thailand Energy Planning and Policy Office's Energy Statistics
- Global Energy Monitor's Global Gas Plant Tracker as of February 2022, Global Infrastructure Tracker for Pipelines as of December 2020, and Global Infrastructure

Tracker for LNG Terminals as of June 2021 (for the post-Paris rankings because these databases show the expected year of operation of the projects)

- Global Energy Monitor's March 2022 LNG Terminals Summary Tables, Pipeline Summary Tables, and Gas Plants Summary Tables
- Urgewald's Global Oil and Gas Exit List
- Reclaim Finance's Oil and Gas Policy Tracker
- Listed corporate securities and issuer disclosures in the Philippine Dealing System Holdings Corp. (PDS) Group,
- Final Prospectuses and Offer Supplements for the Issuance of Corporate Bonds
- News reports

All amounts in this report are expressed in US dollars (USD) unless otherwise indicated.

While the data search was conducted for all Southeast Asian countries, the final dataset only reflected transactions in seven countries: Indonesia, Malaysia, Myanmar (Burma), the Philippines, Singapore, Thailand, and Vietnam.

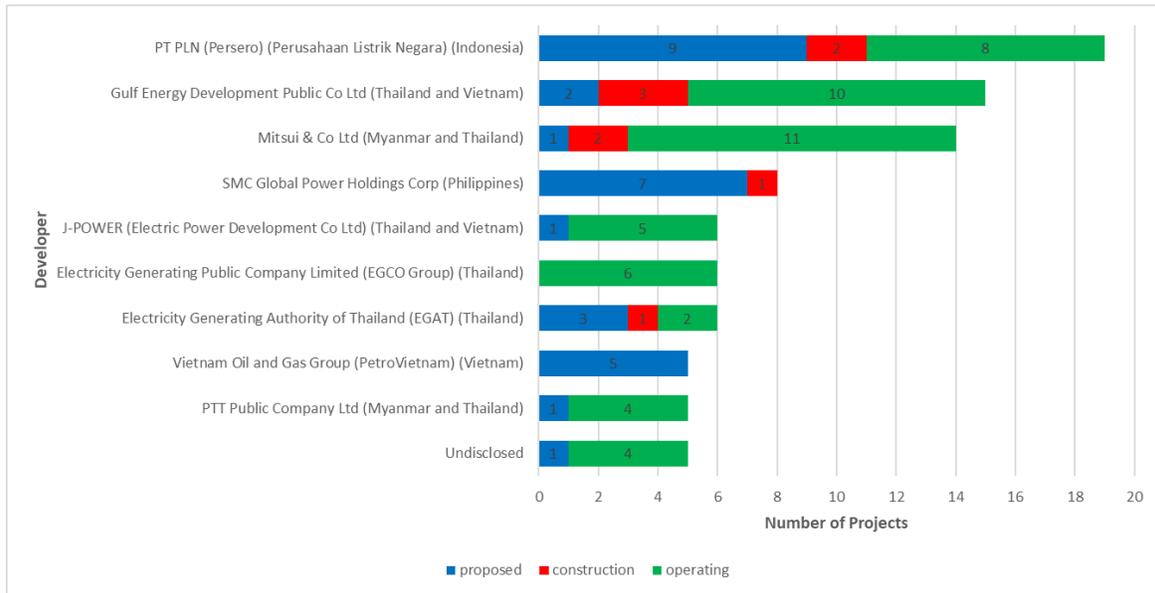
To capture major developments after the first quarter of 2022, these were included in the narrative and analysis of the report, although absent in the dataset.

This initiative is guided and motivated by similar efforts across the world such as those by Unfriend Coal in the insurance sector, Banking on Climate Change in the banking sector, and Withdraw from Coal - Coal Divestment Scorecard in the Philippines.

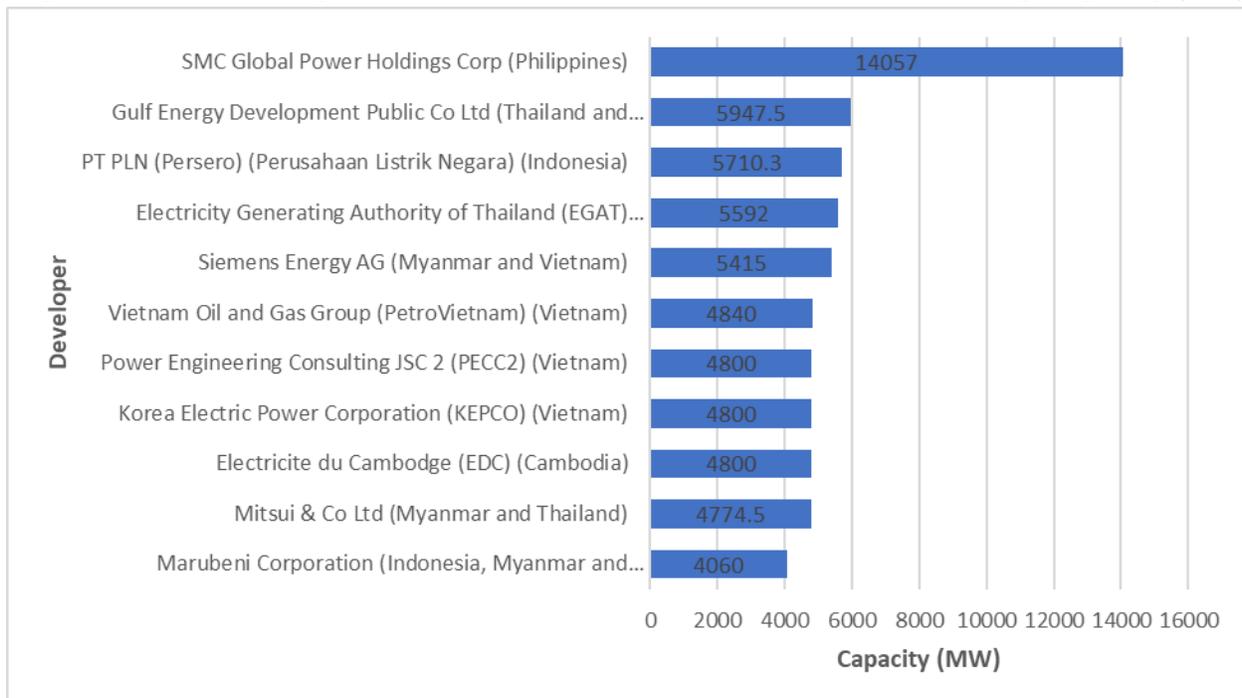
III. Driving Southeast Asia's Fossil Future

WHO ARE DRIVING THE POST-PARIS FOSSIL GAS PROJECTS IN SEA?¹⁰

Top Post-Paris Developers of Gas-fired Power Plants in Southeast Asia by Number of Projects

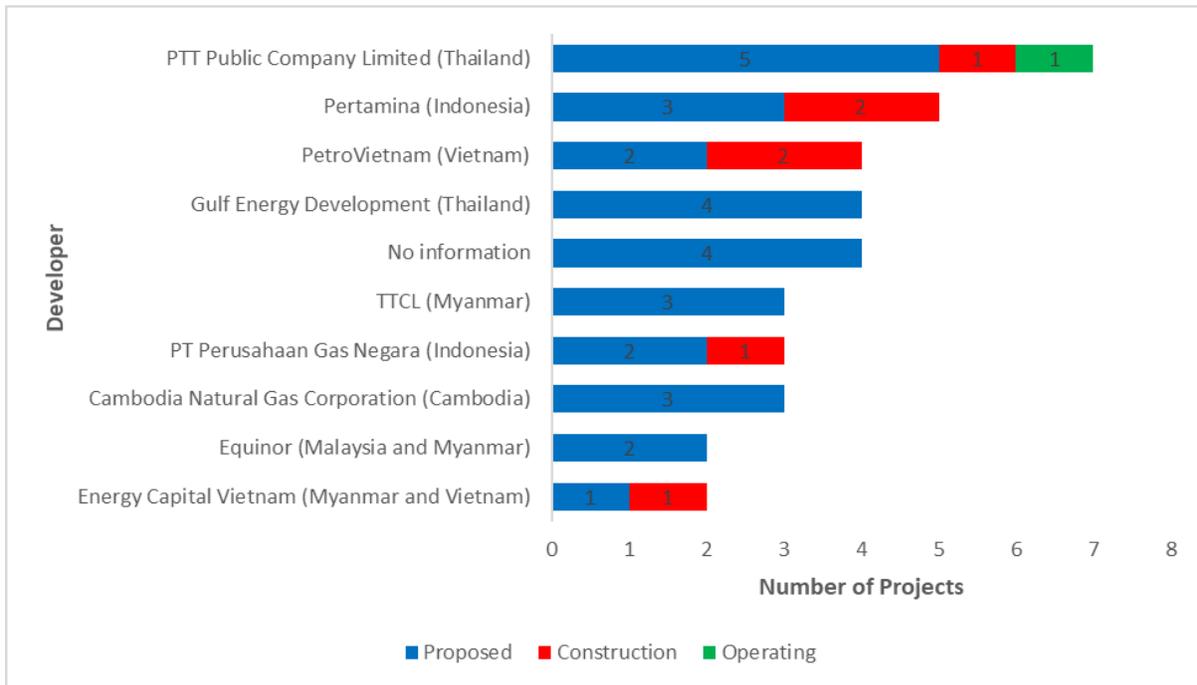


Top Post-Paris Developers of Gas-fired Power Plants in Southeast Asia by Capacity (MW)

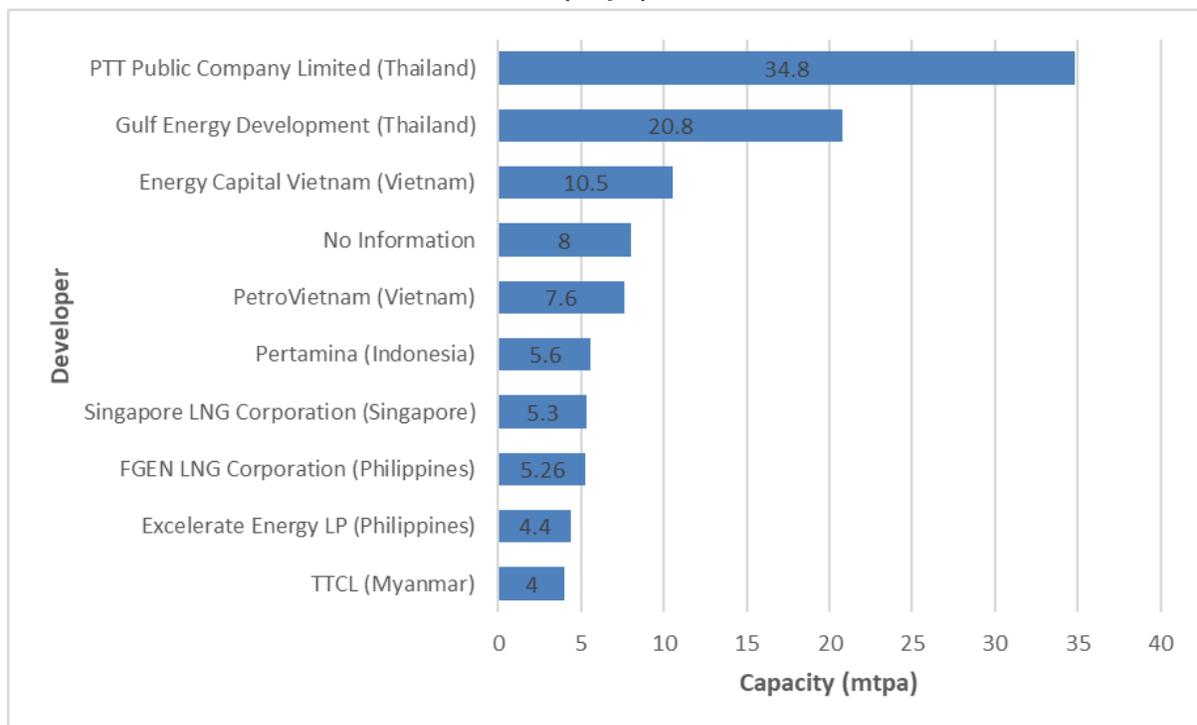


¹⁰ Note: The country/ies indicated beside the developer in parenthesis reflects the location of the projects.

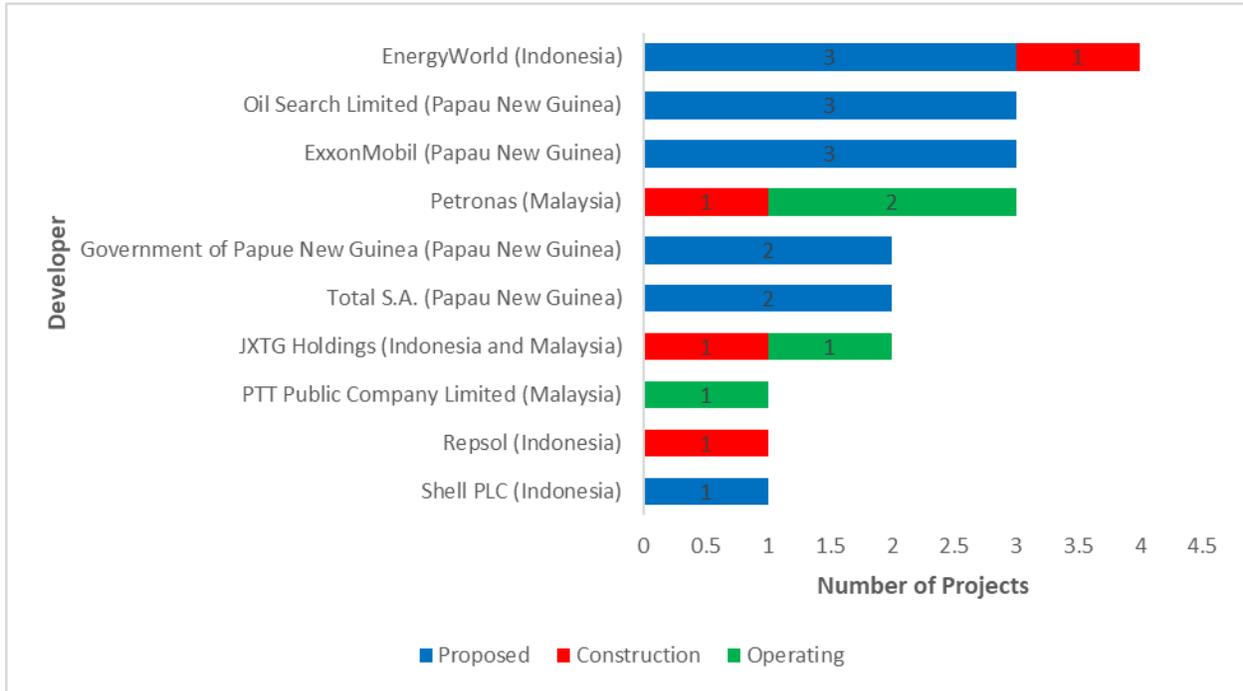
Top Post-Paris Developers LNG Import Terminals in Southeast Asia by Number of Projects



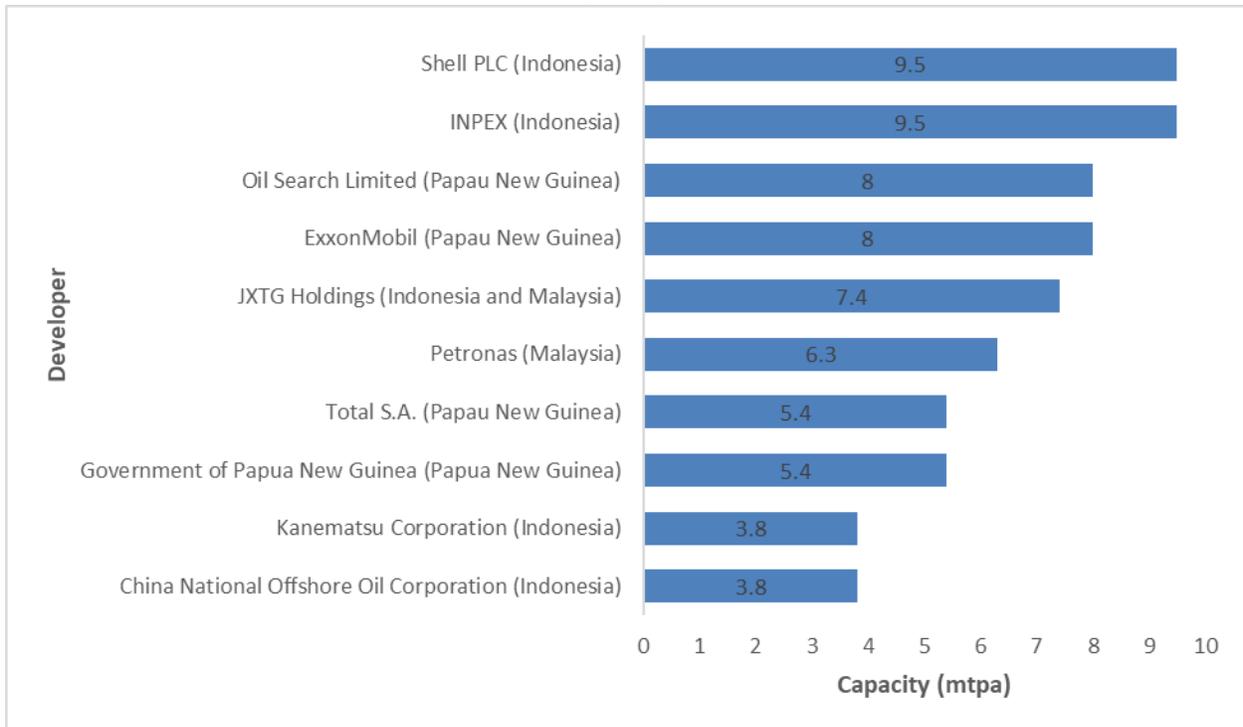
Top Post-Paris Developers of LNG Import Terminals in Southeast Asia by Capacity (mtpa)



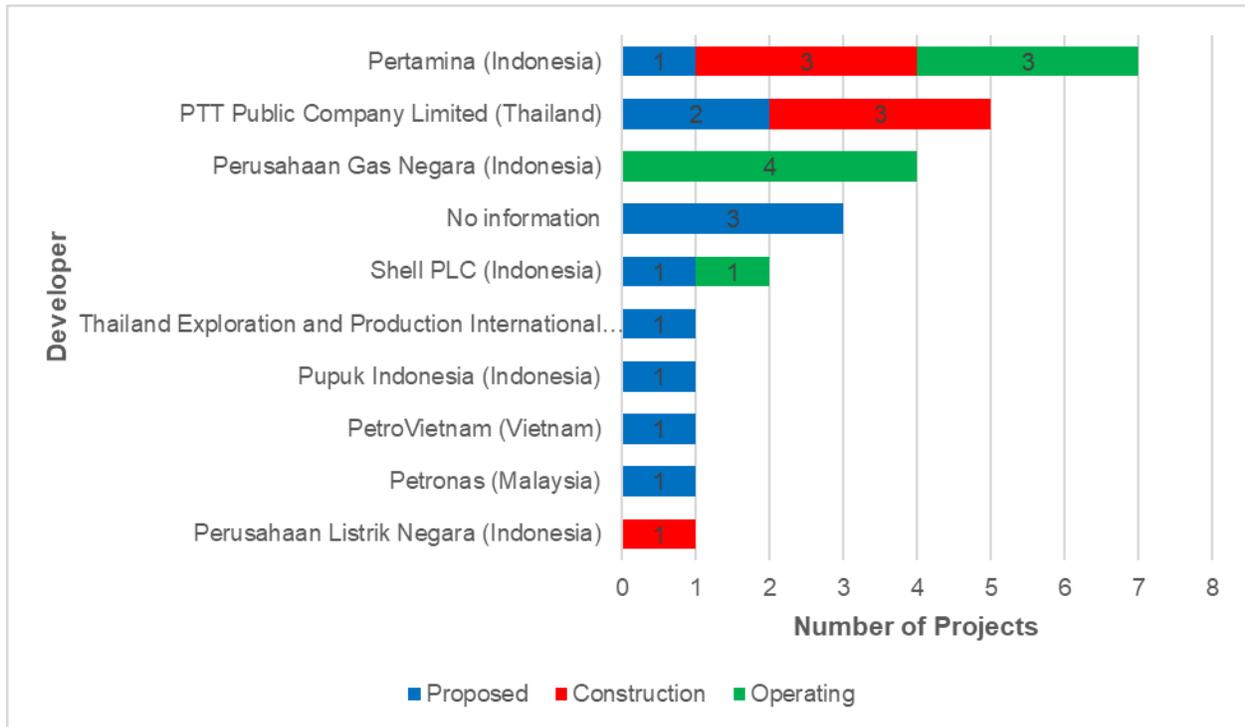
Top Post-Paris Developers LNG Export Terminals in Southeast Asia by Number of Projects



Top Post-Paris Developers of LNG Export Terminals in Southeast Asia by Capacity (mtpa)



Top Post-Paris Developers of Gas Pipelines in Southeast Asia by Number of Projects



Southeast Asia has significant gas reserves, which is why it has some of the biggest LNG exporters globally, such as Indonesia and Malaysia. A booming energy consumption amid a declining production in mature reservoirs, such as those in Thailand and the Philippines, is making the region also home to some of the emerging LNG importers. Vietnam and the Philippines are looking into increasing the share of gas in their energy mix while Cambodia, which had never consumed natural gas, is now using it for power generation.

The SEA countries have different experiences with gas energy but are heading toward the same treacherous path: they are resorting to fossil gas to fulfill their growing energy needs, despite warnings of fossil fuel's capacity for tremendous turmoil.

Since the adoption of the Paris Agreement in 2015, SEA countries at various levels of fossil gas production and dependence have been hugely investing in natural 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 pre-construction or construction stages – or in development – and 21.4 GW has started operations since the Paris agreement.¹¹

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 buildout. EGAT has the second highest number of power plants in the region; 15 are in Thailand and 1 in Indonesia. EGAT owns two in five power plants that have been built and proposed in Thailand in the last six years.

Other developers own and operate gas-fired power plants across several countries. Thailand-based Gulf Energy Development has 15 projects in Thailand and Vietnam. Japan-based Mitsui & Co has 14 projects in Myanmar (Burma) and Thailand. United States-based J-POWER has

¹¹ Global Energy Monitor's data as of February 2022 shows that planned gas expansion in SEA has 120 GW of gas-fired capacity in pre-construction and under construction. The 120 GW includes 12.5 GW in the Philippines, which excludes some projects that have been announced but are not yet reflected in the Department of Energy's list of private sector-initiated projects. Therefore, if these projects are included, the Philippines has about 30 GW of capacity in development as of March 2022. Using this figure, the total planned capacity in SEA now becomes 138 GW. Global Energy Monitor. Boom and Bust Gas Report 2022. (March 2022). https://globalenergymonitor.org/wp-content/uploads/2022/03/GEM_BoomBustGas2022_FINAL.pdf

six projects in Thailand and Vietnam. Thailand's state-owned PTT has four operating and one proposed power plants in Myanmar (Burma) and Thailand.

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.¹² Those that are currently in development will add a whopping 149.8 mtpa more.¹³

Much of the development in LNG infrastructure consists of LNG import facilities. Many of these facilities are operated and owned by domestic companies, state-owned and private corporations alike. The major contributor to this rapid buildout 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.

The LNG export buildout is concentrated in only three countries: Indonesia, Papua New Guinea, and Malaysia, countries within the Coral Triangle that represents 30% of the world's coral reefs. All export terminal projects have overseas investors involved, except for the two export facilities, one under construction and one operating, owned by Malaysia's state-owned Petronas.

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. The American multinational company ExxonMobil and Papua New Guinea's largest exploration company Oil Search Limited¹⁴ have interests in three proposed

¹² Figure is based on GEM's Global Fossil Infrastructure Tracker (GFIT) for Terminals as of June 2021. According to GEM, updates to status that have occurred after June 2021 are not reflected in the GFIT database. This might explain the inconsistencies of data on capacities and number of projects that are in development and operating between the GFIT database and GEM's updated summary tables as of March 2022. Since the latter does not differentiate between projects that began operations before 2016, or prior to the Paris Agreement, and those completed from 2016 onwards, the GFIT database is used in the discussion on overall projects that are in development and operating from January 2016 to March 2022. Based on this condition, the operating import and export capacities of LNG terminals stand at 9.35 mtpa and 4.8 mtpa, respectively.

¹³ Figure is based on GEM's updated summary tables and CEED's dataset on LNG terminals in the Philippines, both as of March 2022. According to GEM, the total import capacity in development stands at 107.01 mtpa, which includes the 10.5 mtpa in the Philippines. The Philippine figure has been updated to 36.53 mtpa, which brings the total import capacity in development to 133.04 mtpa. The total export capacity in development is 16.8 mtpa.

¹⁴ The merger of Oil Search Limited and the Australian company Santos Limited in December 2021 gave the former's shareholders a 38.5% stake in the merged group. The merger combined LNG assets across Papua New Guinea and Australia. "Merger of Santos and Oil Search implemented." 2021. Santos. News

projects in Papua New Guinea, which have a cumulative capacity of 8 mtpa. Other developers include EnergyWorld from Germany, Repsol from the United States, Mitsubishi, LNG Japan, JXTG Holdings, and Kanematsu from Japan, state-owned China National Offshore Oil Corporation, and BP from the United Kingdom.

One in 10 LNG import facility projects in SEA from 2016 to the present is owned by PTT. EnergyWorld owns one in three export facility projects.

Gas pipeline projects growing in Indonesia, Myanmar (Burma), and Thailand

About 5,190 km length of new gas pipelines in the post-Paris era either have started operations or are in development.¹⁵ Several of these gas pipeline projects have been developed in countries with significant gas reserves and mature gas markets such as Indonesia, Myanmar (Burma), Thailand, and Malaysia.

Sixteen of the 25 gas pipeline projects are in Indonesia. The two longest pipelines are also in Indonesia: the 1,018 km-long West Kalimantan-Central Kalimantan and 687 km-long Natuna-West Kalimantan gas pipelines, which form part of the proposed \$518-million Trans Kalimantan gas pipeline project. The Kalimantan Island has significant onshore and offshore resource potential, which the Indonesian government plans to use to address the country's rising energy demands. Five pipeline projects, three under construction and two proposed, with a combined length of 953 km are in Thailand. Malaysia is proposing a 410 km-long pipeline expansion of the Sabah–Sarawak Integrated Oil and Gas Project.

The significant role of the state in this sector is evident in the leading developers. Pertamina, an Indonesian state-owned oil and natural gas corporation, is responsible for six projects (two operating, three under construction, and one proposed), with a total length of 986 km. State-owned PTT is solely responsible for the five projects in Thailand and state-owned Petronas for the pipeline expansion proposal in Malaysia. Together with a Thai company, state-owned Myanmar Oil and Gas Enterprise (MOGE) is proposing the Zawtika Replacement Gas Pipeline; the existing gas pipeline transports a third of the daily gas production of the M-9 Zawtika field to Myanmar and two-thirds to Thailand. Finally, state-owned PetroVietnam is also proposing an expansion of the Nam Con Son 2 Gas Pipeline.

and Announcements, December 17. <https://www.santos.com/news/merger-of-santos-and-oil-search-implemented/>

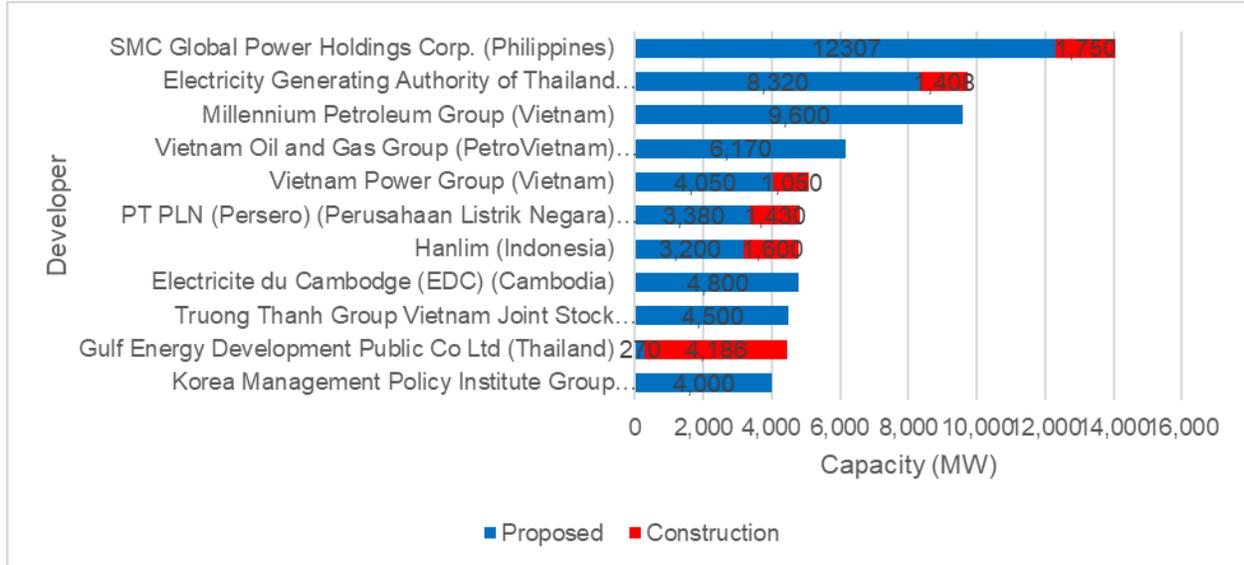
¹⁵ Figure is based on GFIT for Pipelines as of December 2020. Although this dataset is not updated, it was used to compute for the gas pipeline projects that have started operations from 2016 onwards. The 5,190 km comprises 4,653 km of pipeline projects in development and 537 km of projects that begun operations from 2016 onwards. The total length of the gas pipeline projects in development has now increased to 7,342 km based on GEM's summary tables as of March 2022.

All gas pipeline developers are part of the Global Oil & Gas Exit List (GOGEL)¹⁶ for upstream and midstream expansion, except for Pupuk Indonesia, which is not part of the lists for both sectors, and MOGE, which is not part of the list for midstream expansion.

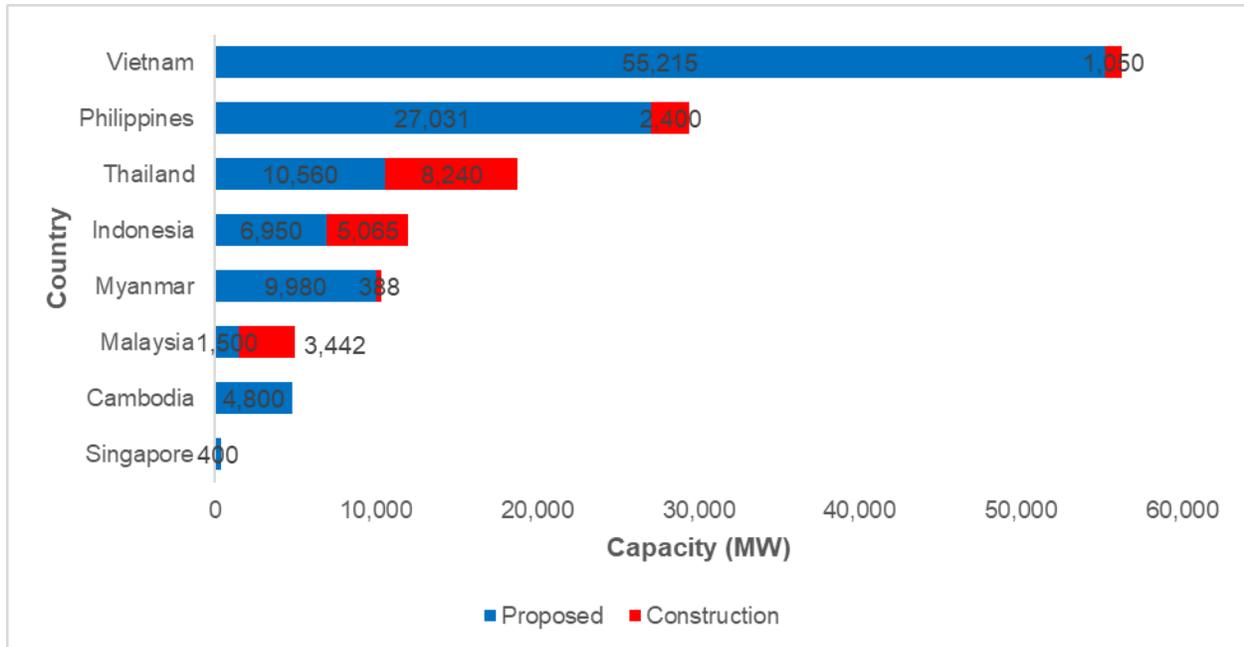
¹⁶ GOGEL is a public database that identifies the largest oil and gas expansionists and the companies responsible for the most controversial forms of oil and gas production. It provides the information financial institutions need to stop enabling fossil fuel expansion and begin steering toward an oil and gas exit.

WHO ARE DRIVING THE FOSSIL GAS PROJECTS CURRENTLY IN DEVELOPMENT IN SEA?

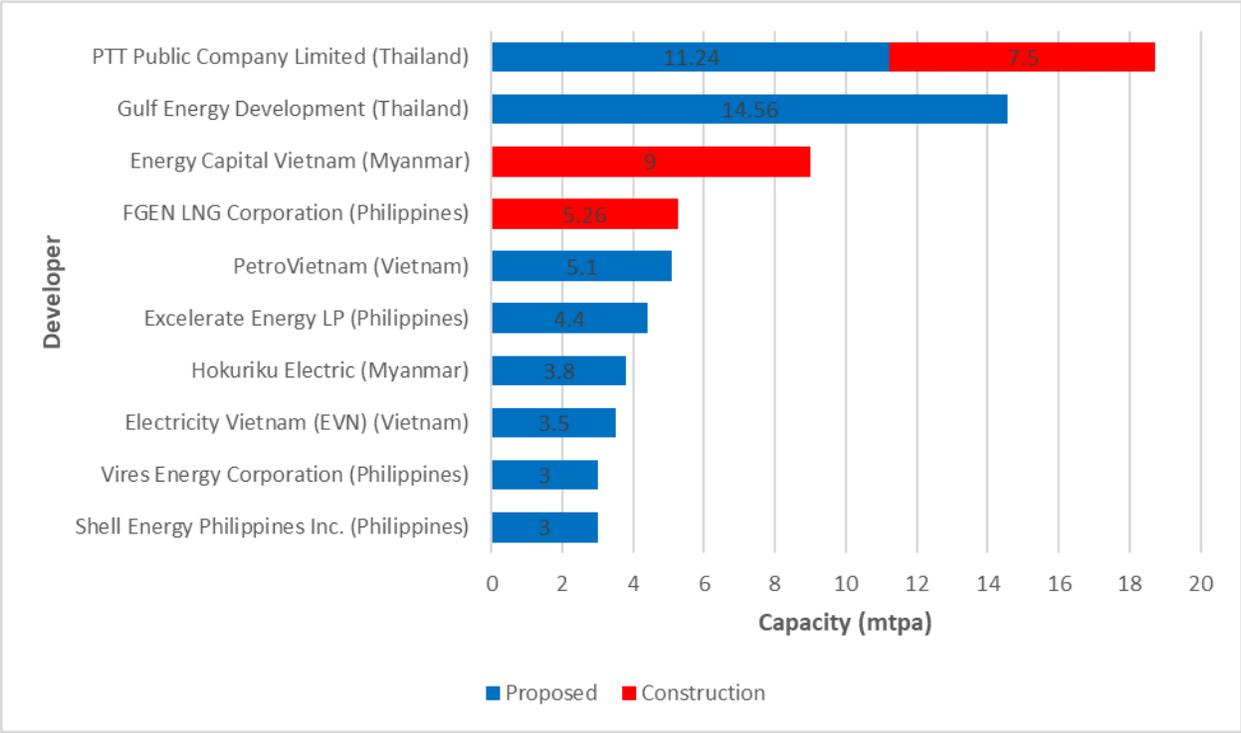
Top Developers of Gas Power Plants in Development in Southeast Asia by Capacity (MW)



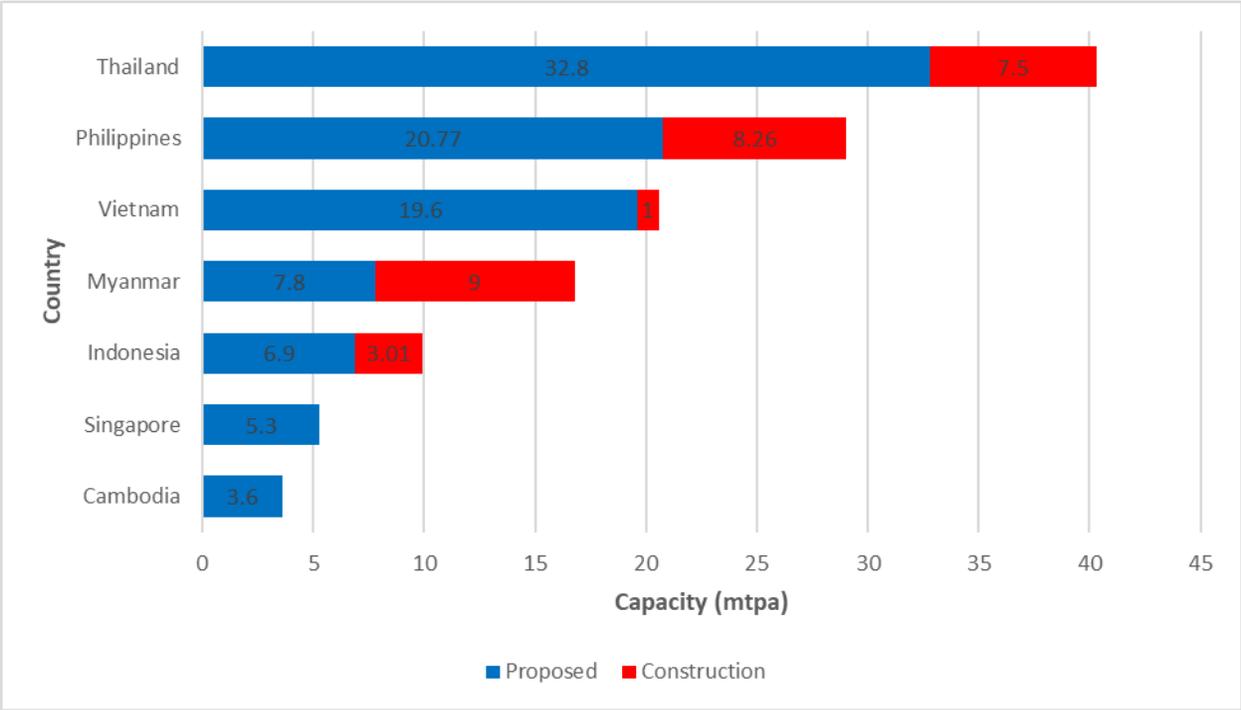
Top Countries of Gas Power Plants in Development in Southeast Asia by Capacity (MW)



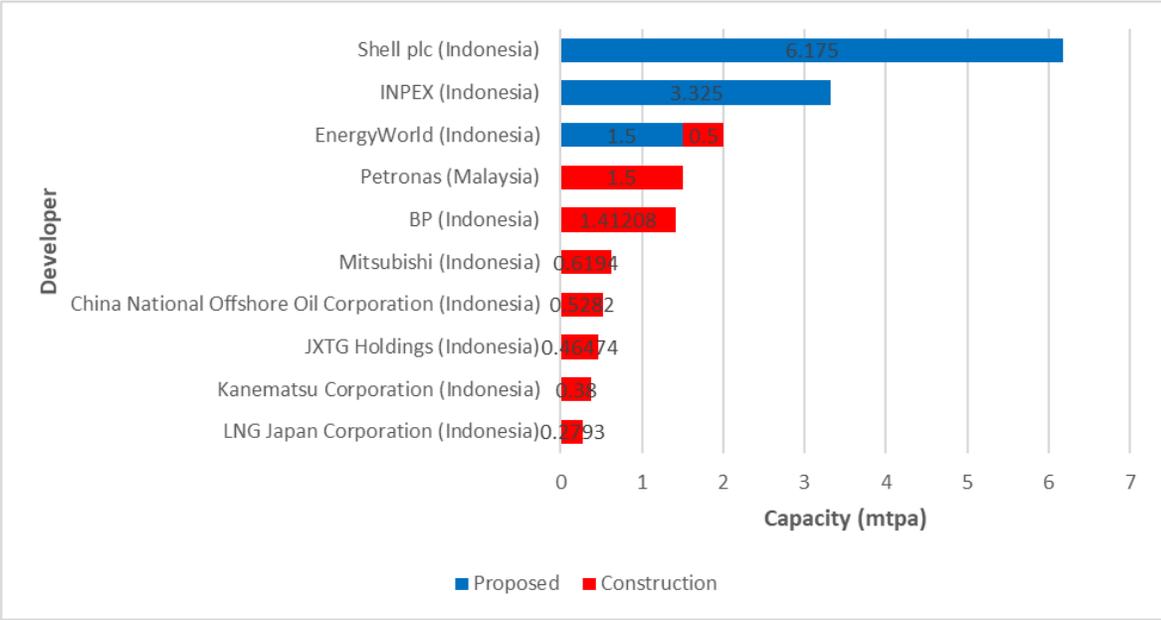
Top Developers of LNG Import Terminals in Development in Southeast Asia by Capacity (mtpa)



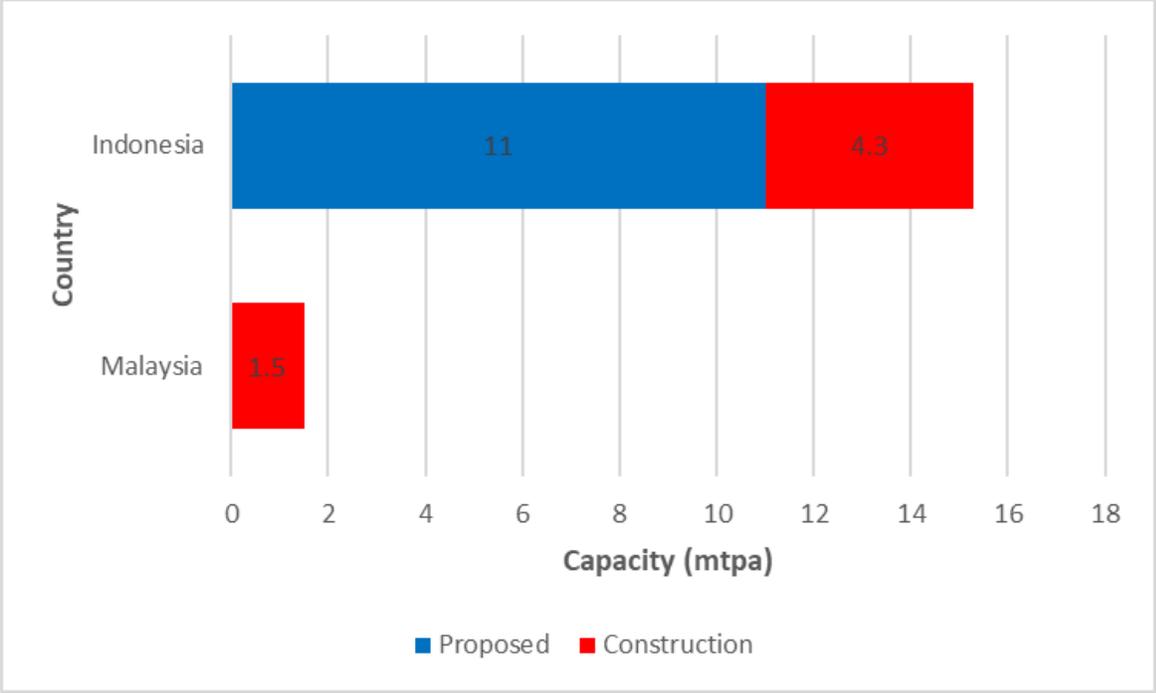
Top Countries where LNG Import Terminals are in Development in Southeast Asia by Capacity (mtpa)



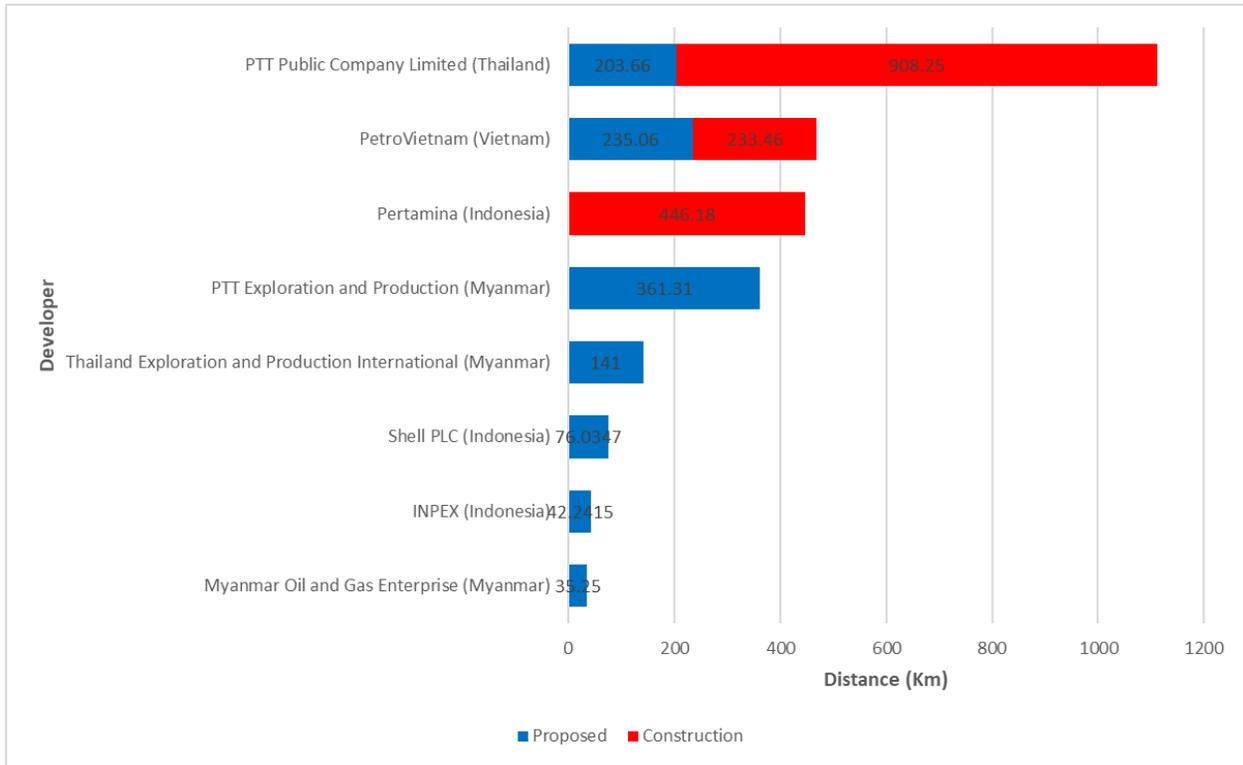
Top Developers of LNG Export Terminals in Development in Southeast Asia by Capacity (mtpa)



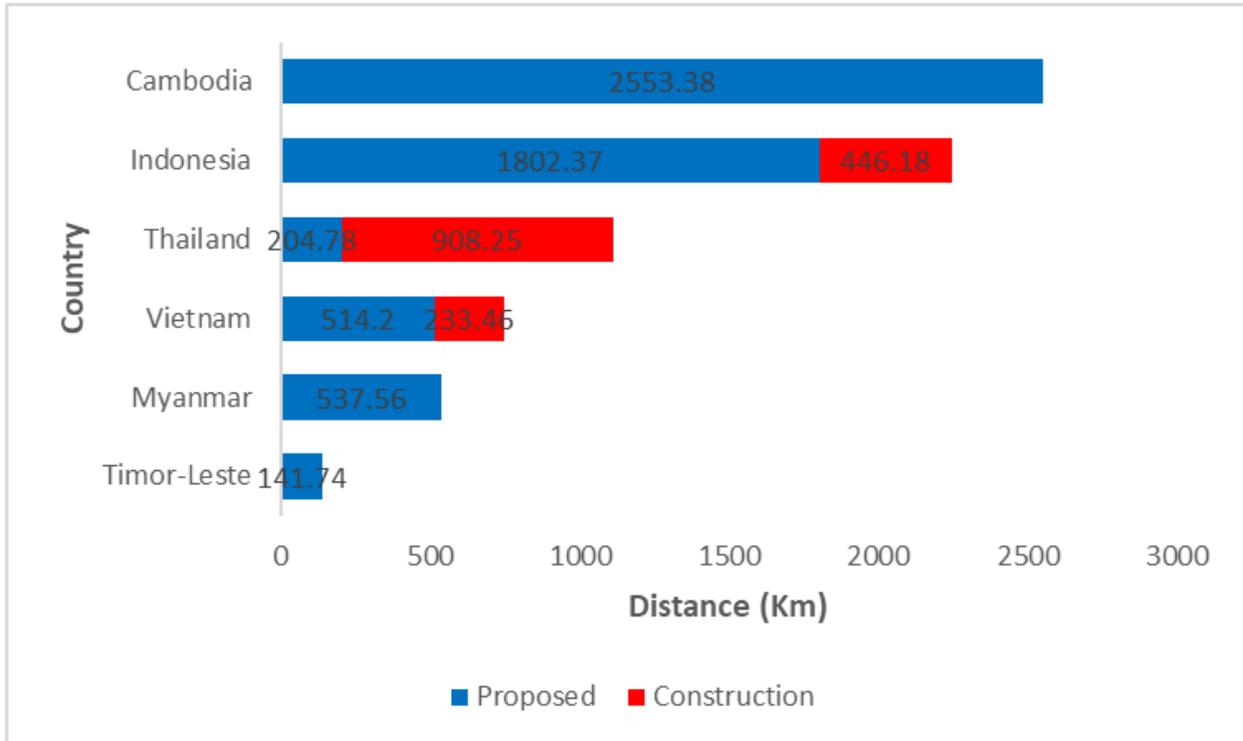
Top Countries where LNG Export Terminals are in Development in Southeast Asia by Capacity (mtpa)



Top Developers of Gas Pipelines in Development in Southeast Asia by Distance (km)



Top Countries of Gas Pipelines in Development in Southeast Asia by Distance (km)



Fossil gas power plants that are pre-construction are massively expanding in SEA more than anywhere else in the globe. If all planned gas expansion of 138 GW capacity is built, gas-fired operating capacity in SEA, 89 GW as of GEM's February data, will increase by more than twofold. To capture this massive build-up of gas projects at the turn of the critical decade of climate action, developers for all gas projects currently under development – proposed and under construction – in SEA are also presented.

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. The large growth in gas development in Vietnam is in line with the country's draft Power Development Plan 8 (PDP8), which aims to increase its gas-fired power capacity to 22.4 GW by 2030 and 55.8 GW by 2040. The Philippine Energy Plan 2018-2040 also targets a higher natural gas share in the power generation mix by 2030.

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 a capacity of 12.3 GW, in addition to 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 cumulative 9.7 GW in 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 and the Philippines have the largest planned LNG import terminals

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's first LNG terminals.

Thailand's PTT tops the list of developers of LNG terminals with 18.74 mtpa of planned import capacity, followed by another Thai company Gulf Energy Development with 14.56 mtpa. Vietnamese companies Energy Capital Vietnam and PetroVietnam have 9 mtpa and 5.1 mtpa of new capacity, respectively. In the Philippines, the developers include First Gen of Lopez Holdings, EnergyWorld from Germany, Excelerate Energy from the United States, and Vires Energy from Singapore.

Cambodia and Indonesia have the most planned pipelines

Cambodia and Indonesia make up 65% of new gas pipelines in the region. Cambodia has the most gas pipeline projects with a combined length of 2,553 km, followed by Indonesia's 2,249 km. Thailand ranks third with 1,113 km.

PTT, which is the proponent of all of Thailand's new pipelines, emerges as the top developer. Next are PetroVietnam and Pertamina, which are each seeking to build over 400 km of gas pipelines in Vietnam and Indonesia, respectively.

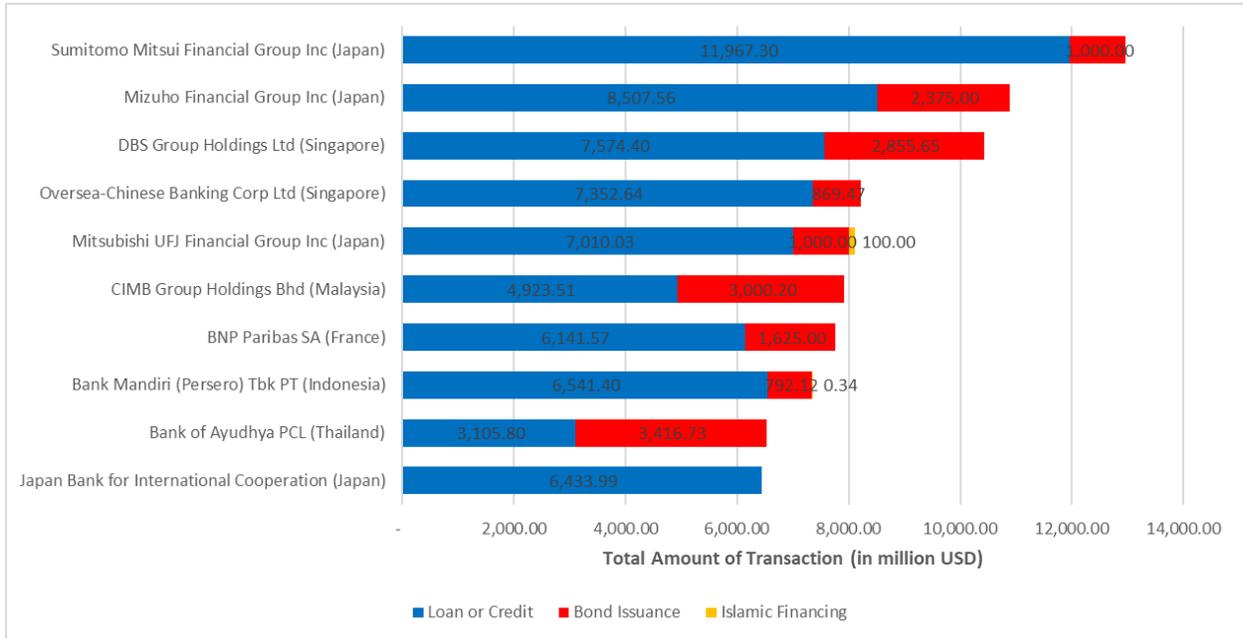
Key Findings

- 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.
- LNG terminals that started operations from 2016 onwards have already added 14.2 mtpa capacity. Those that are currently in development will add a whopping 149.8 mtpa more. The LNG export buildout is concentrated in only three countries: Indonesia, Papua New Guinea, and Malaysia, countries within the Coral Triangle.
- About 5,190 km length of new gas pipelines in the post-Paris era either have started operations or are in development. Several were developed in countries with significant gas reserves and mature gas markets such as Indonesia, Myanmar (Burma), Thailand, and Malaysia.
- All gas pipeline developers are part of the Global Oil & Gas Exit List (GOGEL) for upstream and midstream expansion, except for Pupuk Indonesia.
- If all planned gas expansion of 138 GW capacity in development is built, gas-fired operating capacity in SEA, 89 GW as of GEM's February data, will increase by more than twofold.
- Vietnam leads the region's planned gas expansion, with 56.3 GW in pre-construction and construction stages, or in development. 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 a capacity of 12.3 GW, in addition to the 1.8-GW plant that is under construction.
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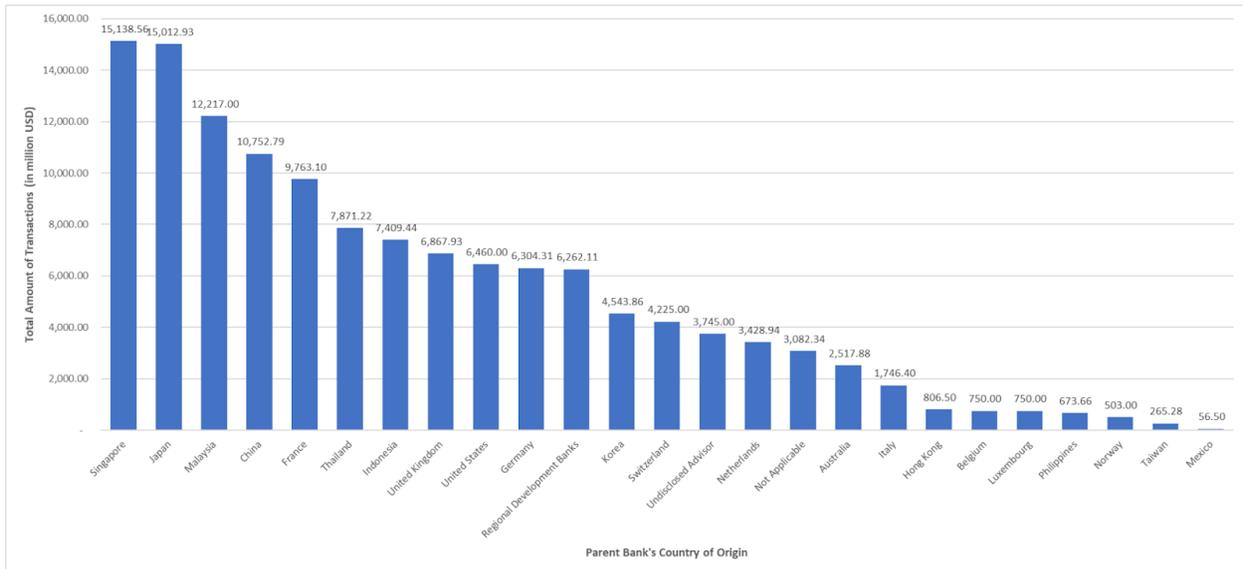
IV. Fueling Southeast Asia's Fossil Future

WHO ARE FUELING THE POST-PARIS FOSSIL GAS PROJECTS IN SEA?

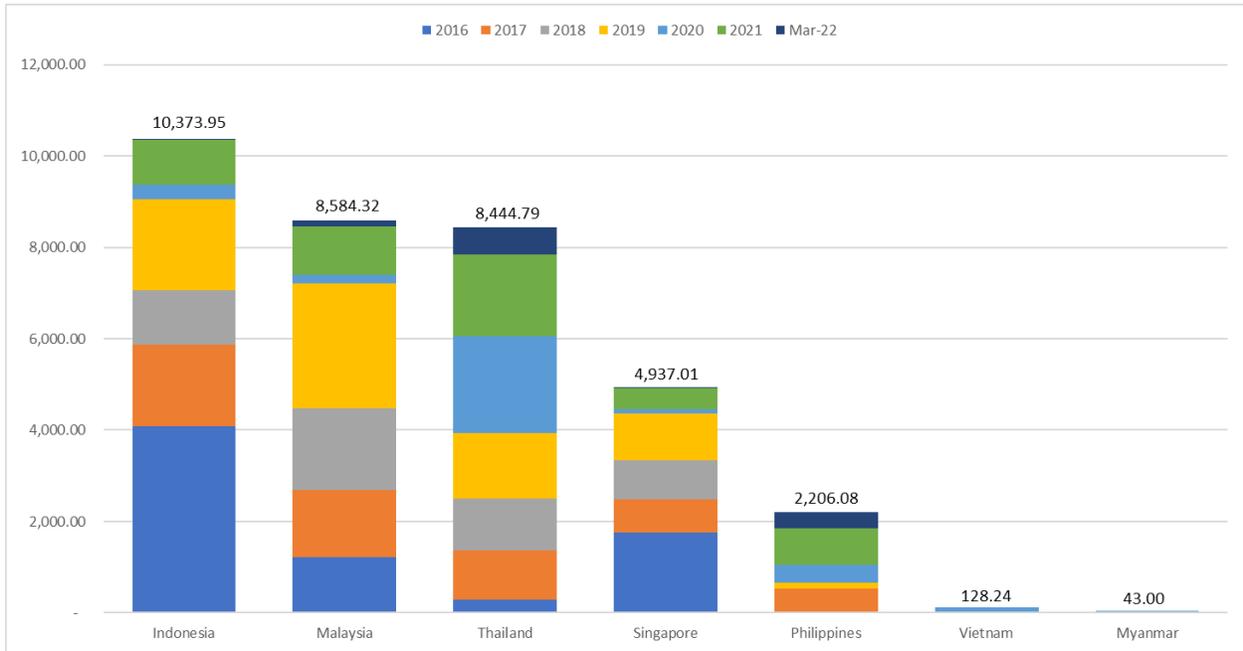
Top Post-Paris Financiers of the Fossil Gas Industry in Southeast Asia



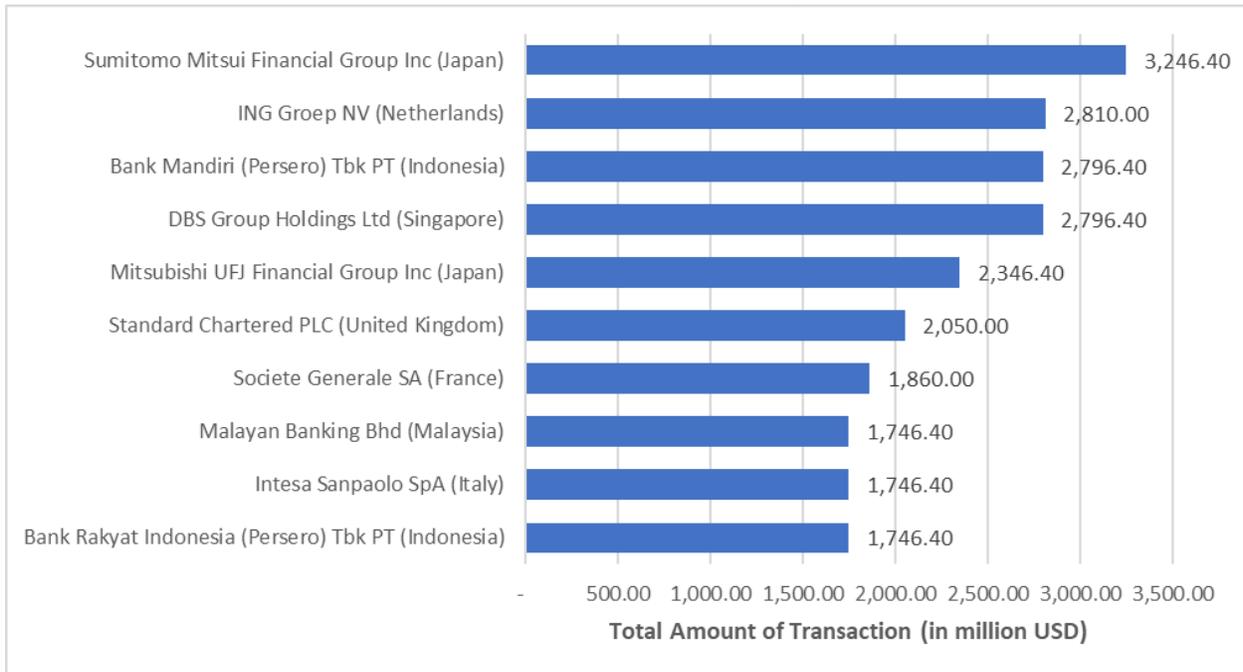
Country of Origin of Post-Paris Financiers of the Fossil Gas Industry in Southeast Asia



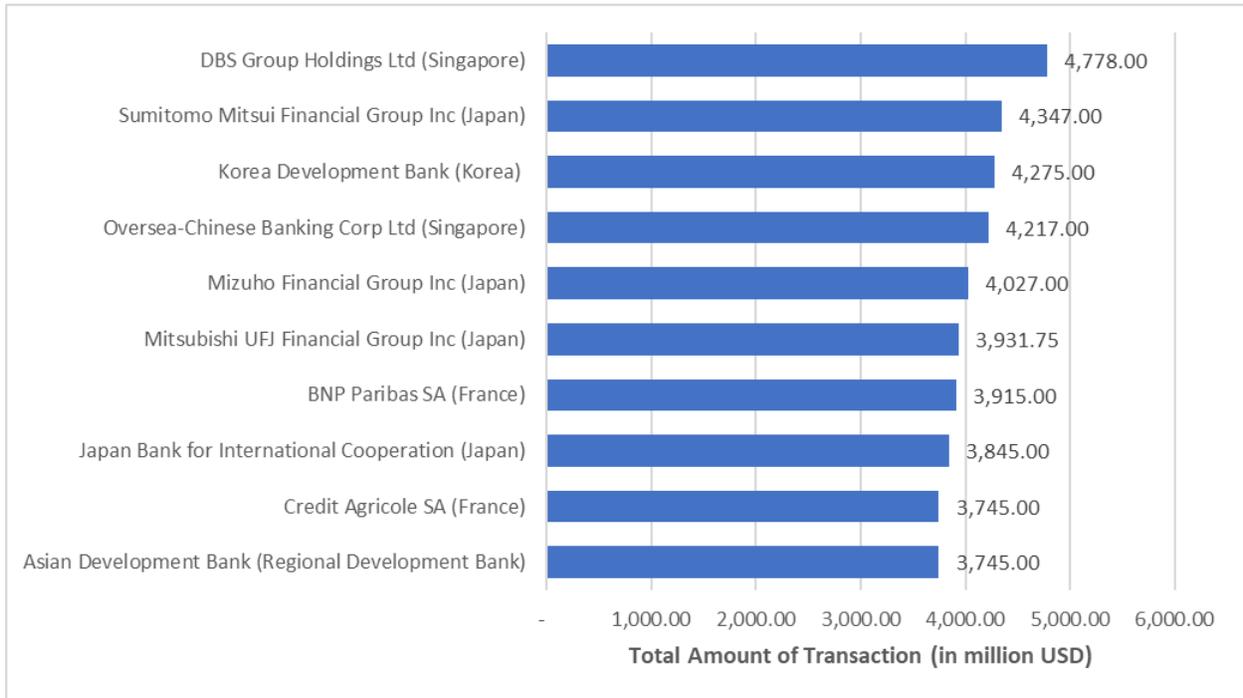
Post-Paris Financing for Southeast Asia's Fossil Gas Industry by Country



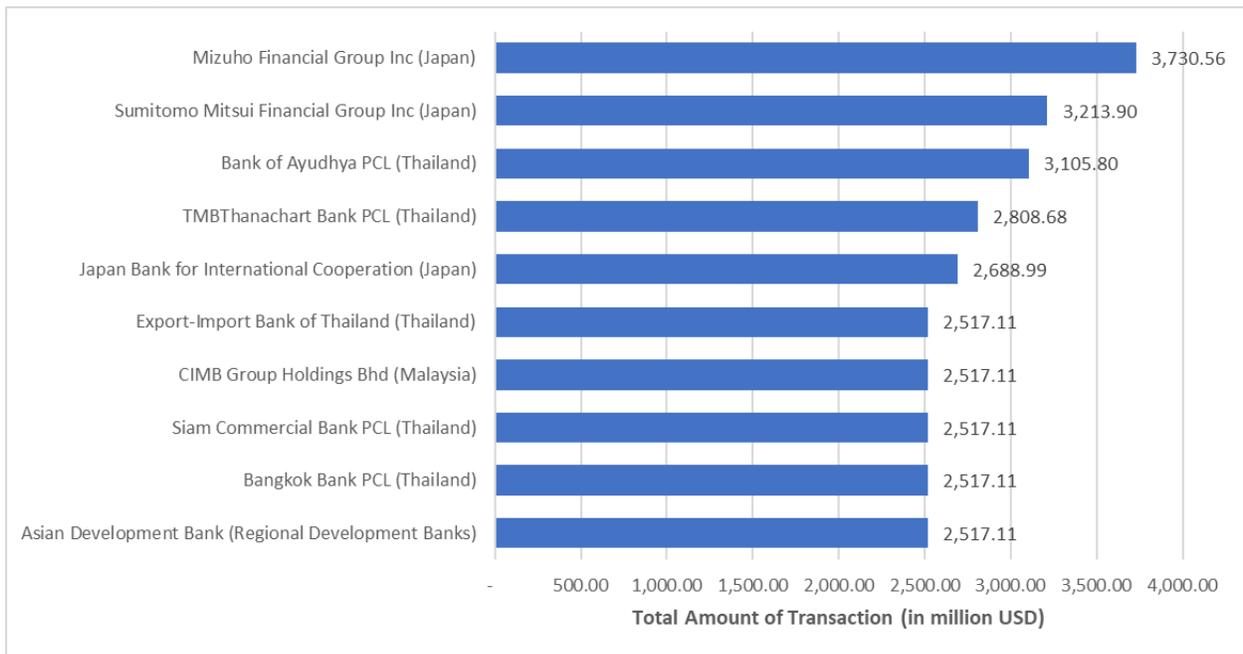
Top Post-Paris Financiers of Upstream Gas Projects in Southeast Asia



Top Post-Paris Financiers of Midstream Gas Projects in Southeast Asia



Top Post-Paris Financiers of Downstream Gas Projects in Southeast Asia



Since the signing of the Paris Agreement six years ago, 123 financial institutions have channeled USD 34.8 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.

Sumitomo Mitsui Financial, Mizuho Financial, DBS Bank, Oversea-Chinese Banking, and Mitsubishi UFJ Financial are the top lenders, each participating in at least USD 7 billion worth of loans and credit guarantees. The top banks that underwrite fossil gas projects are Malaysia's Malayan Banking, Thailand's Bank of Ayudhya, Siam Commercial, and Kasikornbank, and CIMB Bank. Five banks were involved in Islamic financing: Malaysia's Malayan Banking and Bank Pembangunan Malaysia, Singapore's United Overseas Bank, Mitsubishi UFJ, and Indonesia's state-owned Bank Mandiri. Only two arranged for equity investment: the Japan Bank for International Cooperation (JBIC) and United States-based I Squared Capital Advisors.

Banks' slow response in meeting net-zero target

Since the Paris Agreement, some banks and institutional investors are yet to realize their role in fighting climate change while others are slow in delivering their commitments to net-zero emissions.

Except for CIMB Bank from Malaysia and some asset managers from Singapore, no financial institution from SEA is a signatory to the Glasgow Financial Alliance for Net Zero (GFANZ). Launched in April 2021, this Alliance aims to decarbonize the global economy and is thus far the biggest network, representing USD 130 trillion in assets in 45 countries as of November 2021.

Only 30 of the 123 financiers of fossil gas companies in the region are signatories of either the Net-Zero Banking Alliance, Net-Zero Asset Owner Alliance, or Net-Zero Asset Managers Initiative, which form part of the larger GFANZ.

Worse, 15 of the 30 signatories supported USD 1.7 billion in fossil gas financing after signing the commitment. These 15 financial institutions, except for CIMB Bank, Mizuho Financial, and Nomura Holdings, are headquartered in Western countries. They include France's BNP Paribas, Germany's Allianz and Deutsche Bank, Netherland's ING, Switzerland's Credit Suisse and UBS, United Kingdom's Barclays and Standard Chartered, and United-States' BlackRock, Citigroup, Morgan Stanley, and Wells Fargo & Company. Allianz, BlackRock, and UBS are bondholders of SMC Global Power's USD 600-million and USD 150-million senior perpetual capital securities listed in the Singapore Exchange Securities Trading Limited.

Top listed financiers also scored poorly in the Oil and Gas Policy Tracker's criterion scores for immediate exclusion of oil and gas projects, exclusion of companies with oil and gas expansion plans, and the quality of gas phase-out commitments. The Tracker assesses good practices among financial institutions and points out loopholes and inconsistencies in declared policies. Mizuho Financial and Sumitomo Mitsui Financial scored a 0 out of 10 in each criterion while

BNP Paribas managed a low score of 4 out of 10 in the criteria for immediate exclusion of oil and gas projects, a score of 1 out of 10 for exclusion of companies with oil and gas expansion plans, and a 0 out of 10 for quality of oil and gas phase-out commitments.

Banks in gas-reliant countries leading fossil gas financing

Together, four private banks in Singapore, which is almost entirely dependent on fossil gas for power generation,¹⁷ 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 both locally and abroad. Eight public and private banks in Malaysia, which has among the world's biggest fossil gas reserves and is among the world's largest LNG exporter,¹⁸ financed projects mostly in Malaysia with USD 12.2 billion.

Japan and China, which are the world's major traders and importers of LNG,^{19,20} 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.

Governments propping up the fossil gas industry

Governments themselves have supported the gas industry in SEA through public financial institutions and other entities where they have majority stakes. More than half of fossil gas financing in the region was aided by state-owned banks, bilateral development banks, and export-credit agencies.

At the top of the list of state-owned financing is China through Agricultural Bank of China, Bank of China, China Construction Bank Corp, China Development Bank, CITIC Securities, and Industrial and Commercial Bank of China. Through these banks, the Chinese government helped finance a total of USD 10.8 billion worth of deals. Half of this amount went to Indonesian fossil gas projects while nearly a third to Thailand. Next is Malaysia, through Bank Pembangunan Malaysia, CIMB Bank, and Export-Import Bank of Malaysia. They collectively supported USD 8.6 billion in financing, half of which was directed into Malaysian projects and the other to Thai projects. The Indonesian government also channeled major financing amounting to USD 7.4 billion into local projects through state-owned Bank Mandiri, Bank Negara Indonesia, Bank Rakyat Indonesia, and Bank Tabungan Negara.

¹⁷ Energy Market Authority. Gas Market Overview. https://www.ema.gov.sg/Gas_Market_Overview.aspx

¹⁸ Global Energy Monitor. Malaysia and fossil gas. (2021). https://www.gem.wiki/Malaysia_and_fossil_gas

¹⁹ Ministry of Economy, Trade and Industry. Japan's Energy 2020. (February 2021). https://www.enecho.meti.go.jp/en/category/brochures/pdf/japan_energy_2020.pdf

²⁰ Institute for Energy Research. China's Economy is Based on Fossil Fuels. (January 2021). <https://www.instituteforenergyresearch.org/international-issues/chinas-economy-is-based-on-fossil-fuels/>

Other notable public financial institutions that supported the fossil gas financing are: Asian Development Bank, South Korea's Korea Development Bank and Export-Import Bank of Korea, Germany's KfW, Thailand's Government Savings Bank and Export-Import Bank of Thailand, Norway's DNB Bank, and Japan's JBIC and Nippon Export and Investment Insurance.

Gas-oriented countries raised the biggest financing

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 8.4 billion, to companies in Malaysia and Thailand.

Three-quarters of the total financing was provided for the fossil gas companies' general corporate finance, including financing acquisitions, debt refinancing, and investments, and a quarter for their project finance. The money facilitated the construction and development of new LNG terminals, LNG vessels, and gas-fired power plants, refinancing of existing debts and capital expenditure, and acquisition of other gas projects and gas operators.

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 Netherland's ING, Indonesia's Bank Mandiri, and Singapore's DBS Bank, each participating in 55% of the total financing.

Banks funded the development of the Jambaran-Tiung Biru Unitisation gas field in Indonesia, with USD 1.8 billion, and the floating production storage and offloading facility at the Gumusut-Kakap deep-water field in Malaysia, with USD 1.06 billion. They also financed Medco Energi Internasional's operations in Indonesia, including its interests in the Aceh Block A gas field, and the acquisition of Ophir Energy, which had deep-water acreage positions in Asia and Africa, with USD 1.6 billion.

The midstream sector had considerable assistance from banks from Singapore, Japan, and South Korea, countries that usually receive LNG exports from Indonesia and Malaysia. Banks also financed the LNG infrastructure development of Thailand, which is expected to increase its gas imports, and the Philippines and Vietnam, which are looking to import LNG.

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.

The USD 3.7 billion support for Indonesia's Tangguh LNG expansion project of the United Kingdom-based BP accounted for much of the total financing that flowed into the midstream sector. Singapore's development of LNG vessels and terminals was financed with USD 846.8 million, Thailand's 342.8 km underground pipeline and an LNG terminal, with USD 624.3 million, the Philippines' LNG terminal in Batangas, with USD 118.1 million, and Vietnam's Phase 2 of Nam Con Son 2 gas pipeline, with USD 112 million.

Thai and Japanese banks emerged as the most engaged in the downstream industry, as half of the total financial support for this sector funded 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.

Thailand's Gulf Energy Development and Japan's Mitsui & Co. raised a total of USD 2.5 billion in two tranches to build and operate a 2.5 GW combined cycle gas turbine power plant. The rest of the USD 5.4 billion in financing funded the development and expansion of gas-fired power plants in the Philippines (USD 806 million), Malaysia (USD 653 million), Indonesia (USD 650 million), and Myanmar (Burma) (USD 43 million).

Financing fluctuated over the years

The trend in annual fossil gas financing in the last six years shows that 2016 and 2019 had the most financing, each amounting to USD 7.3 billion. In both years, gas corporations were consistently financing their current operations in Singapore and Malaysia with a cumulative USD 3.1 billion in bonds.

Substantial amounts of transactions in 2016 and 2019 are attributed to fossil gas projects in Indonesia; USD 3.7 billion in loans were channeled into the USD 8-billion expansion of the Tangguh LNG facility, which started construction in 2016,²¹ and USD 1.7 billion to the upstream Jambaran Tiung Biru project in 2019.²² In 2019 too, USD 1.4 billion in loans funded the construction of what will be the fourth-largest gas-fired power plant in Thailand.²³

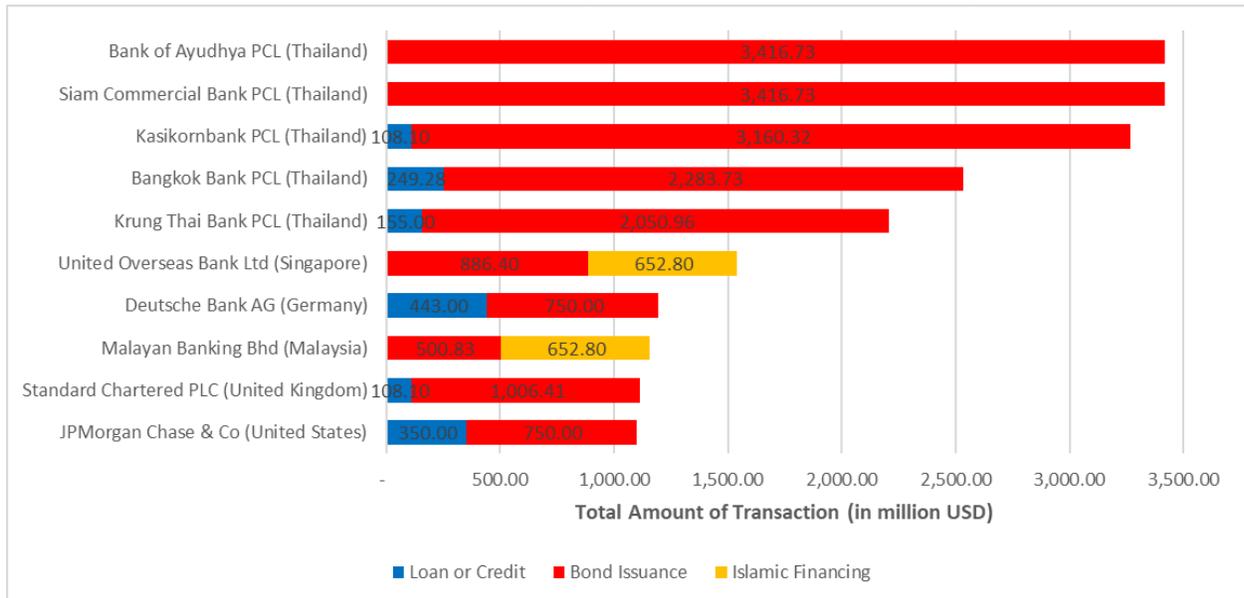
²¹ NS Energy. Tangguh Expansion Project, Papua Barat. <https://www.nsenergybusiness.com/projects/tangguh-expansion-project-papua-barat/>

²² Asmarini, W. & Nangoy, F. UPDATE 2-Indonesia is unlikely to begin natural gas imports in 2025 - minister. Reuters. (July 2019). <https://www.reuters.com/article/indonesia-gas-idUKL4N24W1RT>

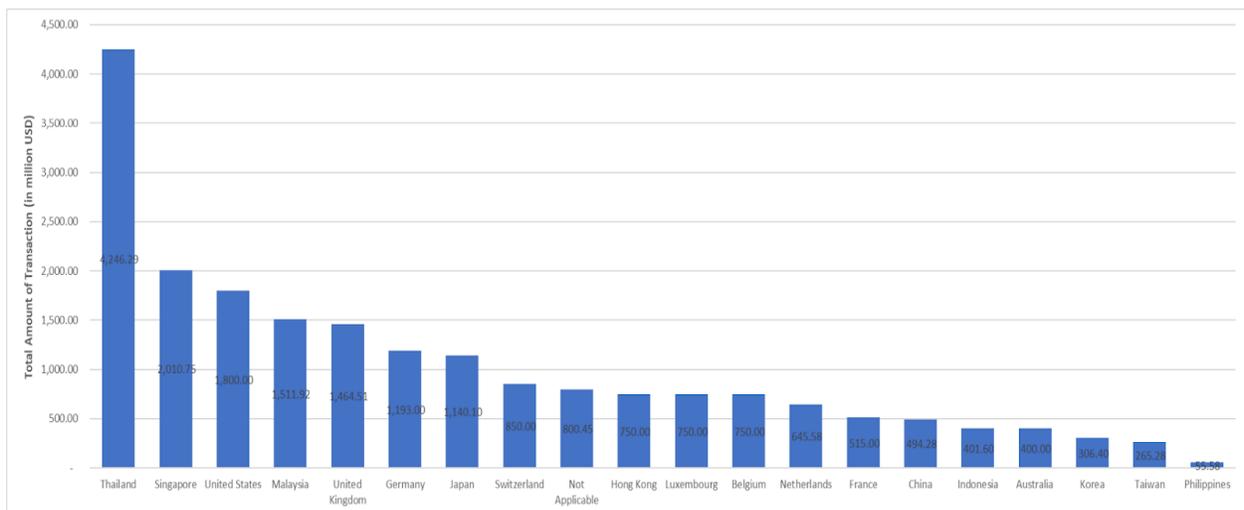
²³ Asian Development Bank. ADB, Gulf PD Sign Deal to Build 2,500 MW Power Plant in Thailand. (November 2019). <https://www.adb.org/news/adb-gulf-pd-sign-deal-build-2500-mw-power-plant-thailand>

WHO ARE FUELING THE FOSSIL GAS PROJECTS CURRENTLY UNDER DEVELOPMENT IN SEA?

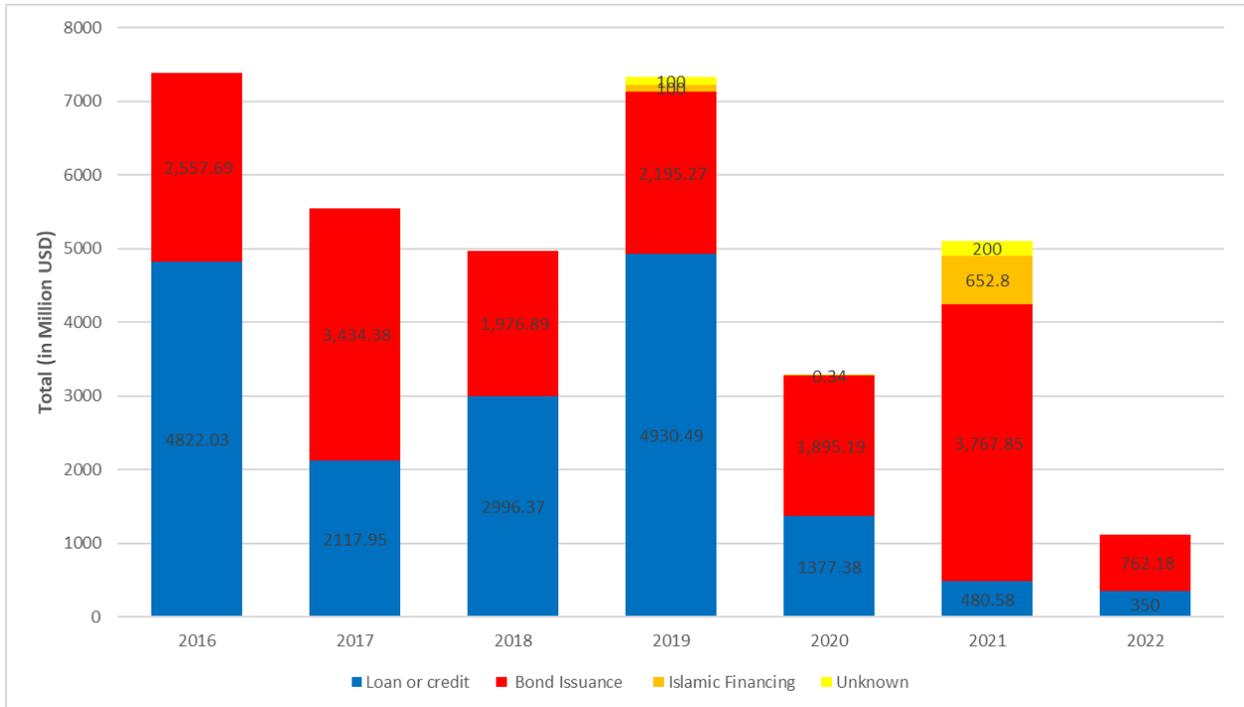
Top Financiers of the Fossil Gas Industry in Southeast Asia, January 2020-March 2022



Country of Origin of the Financiers of the Fossil Gas Industry in Southeast Asia, January 2020–March 2022



Types of Financing for Southeast Asia’s Fossil Gas Industry, January 2016–March 2022



Similar to developers, financial institutions were also ranked from “2020-onwards” to capture the major players behind projects under development.

Financing fell for Indonesia and Malaysia from 2020 onwards

Standing at only USD 3.3 billion and USD 5.1 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.

Companies with operations in Indonesia and Malaysia raised mostly investment and working capital finance worth about only USD 1 billion, instead of funding huge projects like in the previous years. For the Philippines, banks raised funds for the Udenna Corporation’s USD 400 million loan to acquire stakes in the Malampaya offshore field and SMC Global Power’s total of USD 750 million bond issuances to develop its 1.75GW combined cycle gas power plant in Batangas.

Based on the data, in 2020, financing was raised for Vietnam for the second time and Myanmar (Burma) for the first time in six years: USD 112 million in loans for the former's Nam Con Son 2 gas pipeline project and USD 43 million in bilateral letter of credit for Myanmar (Burma)'s gas-fired power generation activities.

Unlike its neighbors with fluctuating amounts of financing, Thailand shows a different picture, with an almost constant increasing financing for both 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 leading fossil gas financing in the decade of action

The drop in financing for the gas industry in Indonesia and Malaysia and the constant flow of funds into Thailand explain why from 2020 to the first quarter of 2022, Thai banks took over the top spots in the region's fossil gas financing. 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.

Deutsche Bank, JPMorgan Chase, and Standard Chartered also took up spots from 2020 onwards. These institutions have net-zero goals and are signatories to GFANZ but scored very low nonetheless in the Oil and Gas Policy Tracker's criteria for immediate exclusion of oil and gas projects. All three scored 0 out of 10 for the two remaining criteria - exclusion of companies with oil and gas expansion plans - and the quality of gas phase-out commitments.

Notably, the United States and the United Kingdom climb to third and fifth spots, if banks are ranked based on financing only from January 2020 to March 2022, up from their ninth and eighth places if overall financing since 2016 is considered. The jump in ranking can be attributed to the participation of American and British banks in the underwriting of bonds for Philippine-based SMC Global Power and Thailand-based Ratch Group.

Bank lending showing a downward trend since 2020

Fossil gas financing in the last six years is almost equally split between loans and credit guarantees, at USD 17 billion, and investments through underwriting bonds, at USD 16.6 billion. Islamic financing and equity investment represent a tiny fraction of the overall financing.

Loan and credit guarantees were used mostly by companies operating in Indonesia, the Philippines, and Vietnam. Most underwritings of gas projects were performed for the bond issuances of oil and gas companies operating in Malaysia, Thailand, and Singapore. These countries respectively sourced 72%, 52%, and 49% of their financing through bonds.

Underwriting trends went in opposite directions for these countries in 2020 and 2021. While underwriting transactions dipped in Malaysia and Singapore, they increased in Thailand. For example, underwriting transactions in Malaysia averaged USD 1.4 billion before 2020 but decreased to USD 195 million in 2020 and USD 408 million in 2021; for Thailand in the same years, the total went from USD 582 million to USD 1.4 billion and USD 1.8 billion.

Although underwriting trends moved differently for each country, the total amount of bonds banks underwrote for companies in the entire region did not have a considerable change over the years. Instead, the notable change is seen in the drop in total loans and credit granted by banks in 2020 and 2021.

Islamic finance was used by Indonesian and Malaysian companies from 2019 to 2021. This type of finance, which refers to any banking or financing activity that adheres to Islamic law, is considered by the Asian Development Bank (ADB) as "one of the fastest growing segments of the global financial system." According to ADB, it is used not only in countries with a predominantly Muslim population like Indonesia and Malaysia but also in those with a minority one like China and the United Kingdom.

Key Findings

- Financial institutions are funding the gas industry despite pledging to decarbonize the global economy. Fifteen financiers arranged for USD 1.7 billion in loans and bonds to oil and gas companies, or are currently holding these bonds, after joining the Net-Zero Banking Alliance, Net-Zero Asset Owners Alliance, or Net Zero Asset Managers initiative. Among the 15 financiers are top fossil gas financiers BNP Paribas, CIMB Bank, and Mizuho Financial. Except for CIMB Bank, Mizuho Financial, and Nomura Holdings, these financiers are headquartered in Western countries. They include France's BNP Paribas, Germany's Allianz and Deutsche Bank, Netherland's ING, Switzerland's Credit Suisse, and UBS, United Kingdom's Barclays and Standard Chartered, and United-States' BlackRock, Citigroup, Morgan Stanley, and Wells Fargo & Company.
-
- Other notable public financial institutions that provided fossil gas financing in the region are supported the fossil gas financing are: Asian Development Bank, South Korea's Korea Development Bank and Export-Import Bank of Korea, Germany's KfW, Thailand's Government Savings Bank and Export-Import Bank of Thailand, Norway's DNB Bank, and Japan's Japan Bank for International Cooperation and Nippon Export and Investment Insurance.
- Post-Paris, the top five fossil gas financiers consist of banks from Japan and Singapore, countries that are dependent on fossil gas for electricity. These financiers are also the top lenders, each participating in at least USD 7 billion worth of loans and credit guarantees.
- Considerable financing—over half in fact—was supported by state-owned banks, bilateral development banks, and export-credit agencies. There are three state-owned banks in

Malaysia and four in Indonesia. Fossil gas plays a major role in the energy mix of these countries.

- Loans and credit and bonds were almost equally used in financing transactions. Companies also used Islamic finance, which is considered a growing segment of the global financial system and used in some countries with a predominant and minority Muslim population alike. Three-quarters of the total financing post-Paris were provided for the fossil gas companies' general corporate finance, including financing acquisitions, debt refinancing, and investments, and a quarter for their project finance.
- The landscape shifted entirely at the start of the new decade, where Thai banks became top financiers, and transactions in Thailand comprised largely of bond issuances. Meanwhile, financiers based in the United States and the United Kingdom climb to third and fifth spots, if financiers are ranked based on financing only from January 2020 to March 2022, up from their ninth and eighth places if financing since 2016 is considered. The jump in ranking can be attributed to the participation of American and British banks in the bonds for Philippines-based SMC Global Power and Thailand-based Ratch Group.
- The decrease in financing from 2020 to early 2022 in countries like Indonesia and Malaysia and the almost steady amount of financing in Thailand, amid the expansion of the gas and LNG industries across SEA during this period, indicates two possible scenarios: (1) financial closure has not yet been reached for new projects, or (2) there is a lack of transparency and public disclosure on financial transactions involving fossil gas-related operations and companies.
- Considering that only a fourth of total financing post-Paris was intended for project finance, that bond issuances were used equally as loans and credits, and that Islamic finance was also used, it is now more imperative to close glaring loopholes in fossil fuel pledges or divestments that cover only direct loans or credits to fossil gas projects. These pledges should be extended to include (1) financing for general corporate and other non-project finance purposes, for as long as it is intended to bankroll the operations of fossil gas companies; (2) indirect financing through intermediaries; (3) other financial services such as underwriting of bonds; and (4) Islamic finance.

V. Philippine Case Study: Fossil Gas & LNG Boom in Batangas Spells Doom for Amazon of the Oceans

After the coal moratorium, fossil gas is now the preferred end-fuel

In the past decade, the Philippines saw massive coal expansion with 16 new coal-fired power plants and one additional unit for an existing coal plant coming online. With an additional 4.45 GW, these new coal plants raised the country's total coal capacity to almost 12 GW.

However, at the turn of the decade, and after years of resistance from frontline coal communities and environmental groups, the Department of Energy announced a coal moratorium with the aim of improving energy sustainability, reliability, and flexibility by expanding the use of renewable energy. A total of 10 projects with a combined capacity of over 6 GW were shelved from the coal pipeline following the coal moratorium, bringing the country closer to the end of the coal pipeline, and the start of the phase-out of existing coal-fired power plants.

While the coal moratorium creates an opportunity to tap the country's at least 250 GW renewable energy potential, the Department of Energy, however, positioned the new preferred end-fuel that is threatening a detour in the country's energy transition—fossil gas.

After the adoption of the Paris Agreement in 2016, gas-fired power projects in the pipeline amounted to 2 GW only. However, since the coal moratorium, several fossil gas projects have cropped up. 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, many of which will be built in Batangas, specifically along the Verde Island Passage.

The expansion of the fossil gas projects in the Philippines is expected to continue if pending bills that seek to develop the midstream and downstream fossil gas industry are passed. Both Senate and House Energy Committees are proposing the climate-blind bills—Senate Bill No. 1819, otherwise known as the “Midstream Natural Gas Industry Development Act”, which is pending before the Senate Energy Committee, and House Bill No. 3031, otherwise known as the “Downstream Natural Gas Industry Development Act”, although it is still subject to further work by the Technical Working Group.²⁴

While fossil gas is being considered as a transition or bridge fuel in both bills, they are suspiciously mum on the need to phase-out coal, and even oil. These bills mandate the preparation of development plans, the inclusion of fossil gas in the energy mix, and granting of incentives to the midstream and downstream fossil gas industries without imposing restrictions

²⁴ Center for Energy, Ecology, and Development. Why the Midstream and Downstream Natural Gas Industries Bills are Climate-Blind. (April 2021).

on capacity, lifespan, technology, and emissions. The promotion of 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.

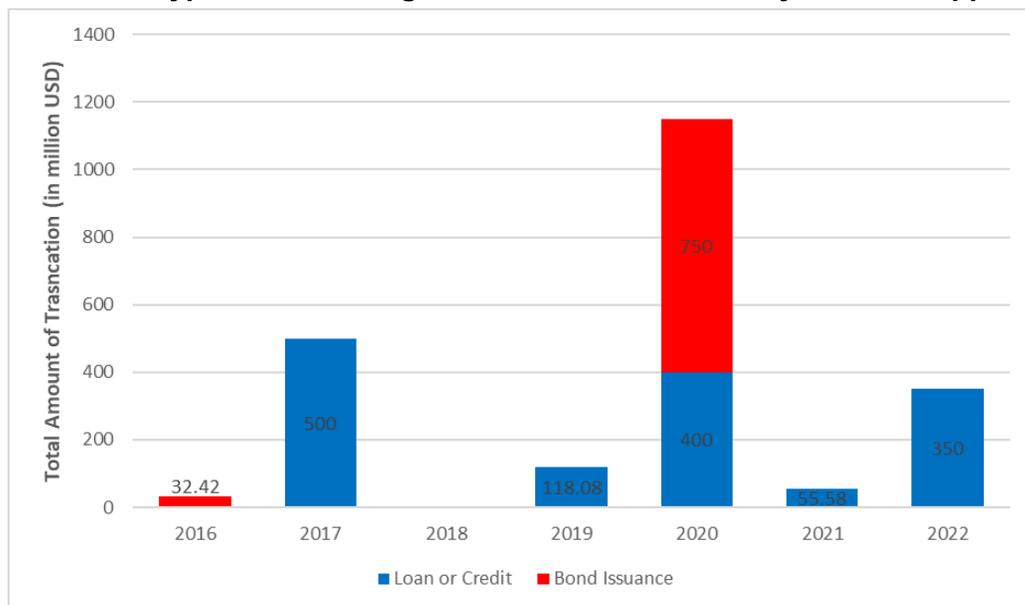
Massive fossil gas expansion also threatens the Philippines’ energy security. Malampaya, the largest producing gas field and the primary source of fossil gas in the country, is depleting rapidly and no new gas fields are currently in development. Operating gas-fired power plants are already undergoing de-rating due to supply restrictions from Malampaya and have even contributed to thin or insufficient reserves in the Luzon Grid, triggering last year’s red alert and this year’s yellow alert and consequent increase in electricity rates.

If all 27 proposed gas-fired power plants come online, the Philippines will be forced to rely on imported fuel to keep these fossil fuel plants running. The country is however all too familiar with the challenges of relying on imported fuel when it dealt with the Oil Crisis of 1973, and enacted the Oil Exploration and Development Act and several laws thereafter mandating the integrated and intensive exploration, production, and development of indigenous energy resources.

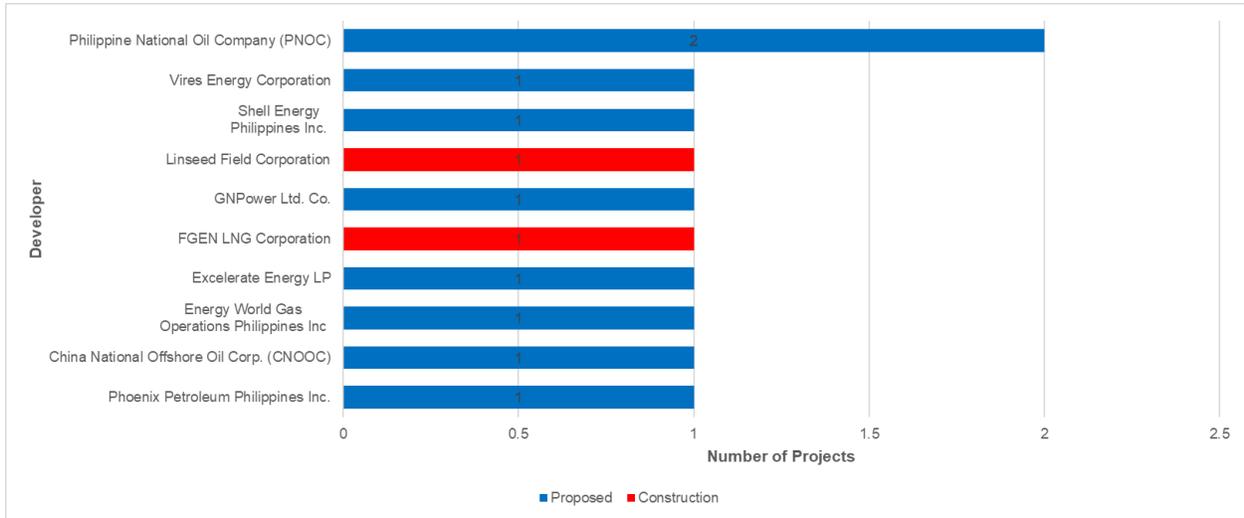
Electricity consumer groups are also raising the implications of importing fuels to electricity rates. The experience of coal power supply agreements has proven that consumers are at the short end of the stick, as power supply agreements involving imported fuels pass on risks from volatile fuel costs and foreign exchange to consumers.

WHO ARE DRIVING AND FUELING THE POST-PARIS FOSSIL GAS PROJECTS IN THE PHILIPPINES?

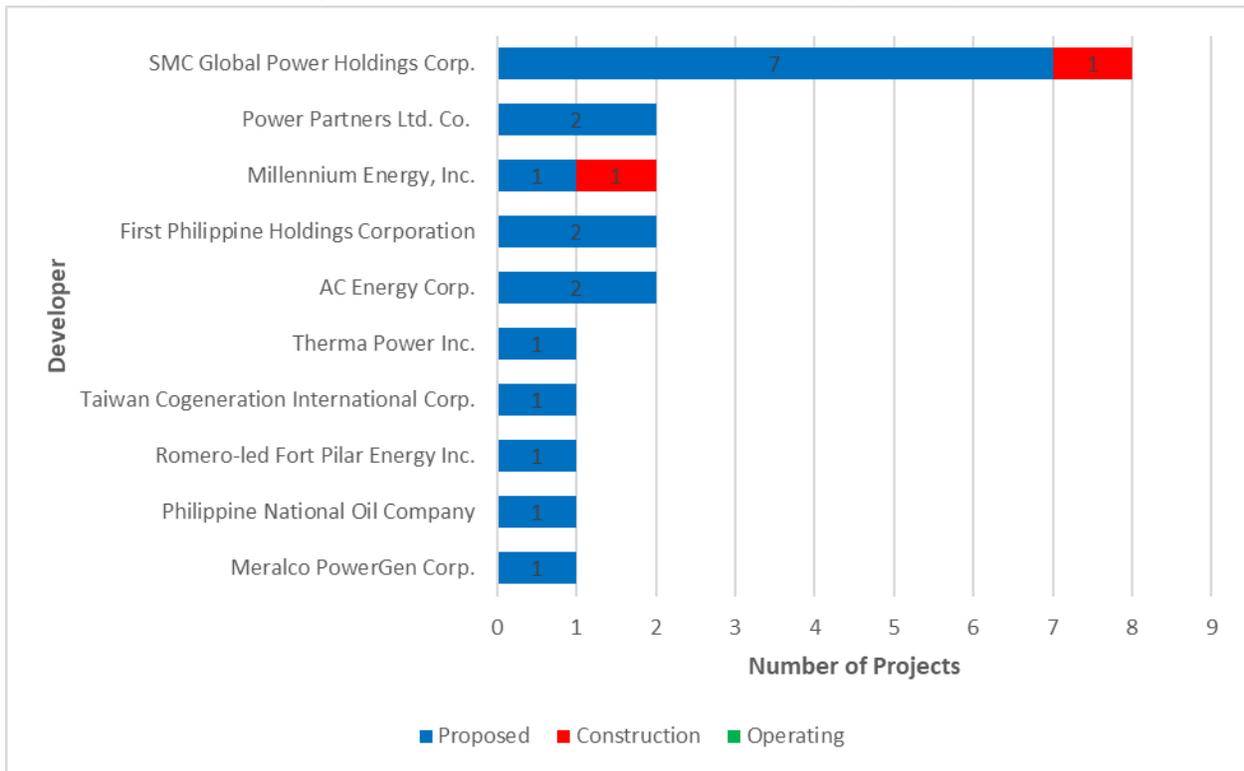
Post-Paris Types of Financing for the Fossil Gas Industry in the Philippines



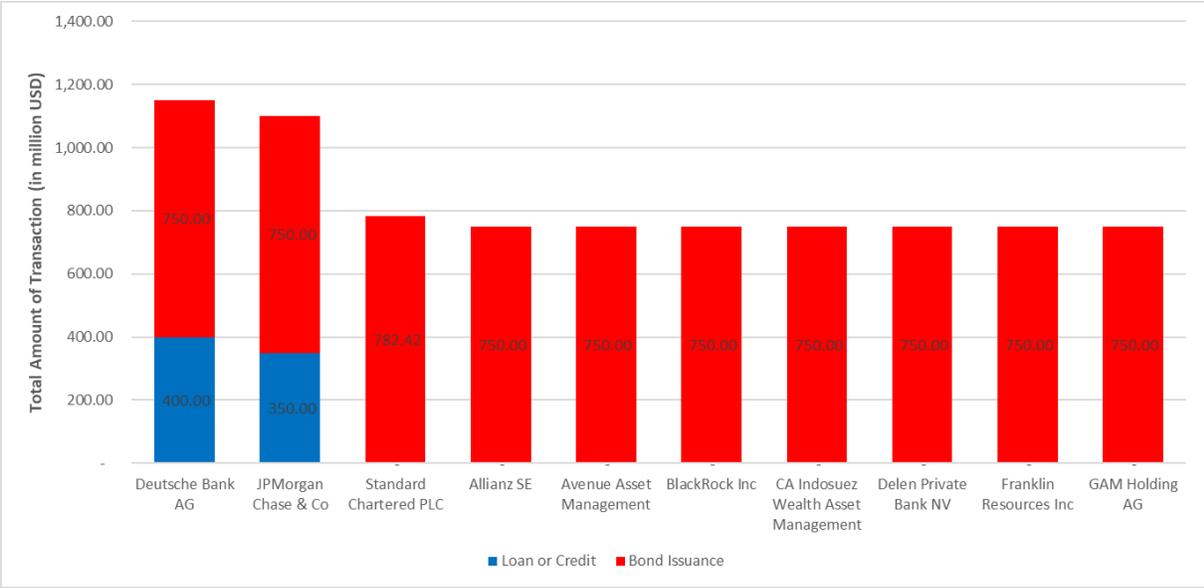
Top Post-Paris Developers of LNG Terminals in the Philippines by Number of Projects



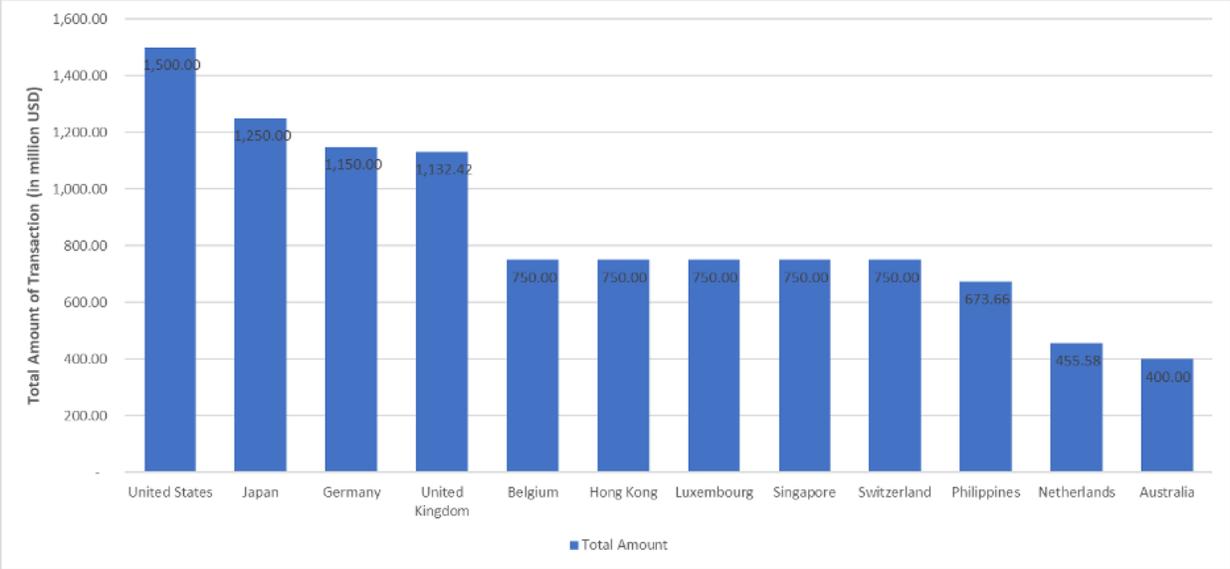
Top Post-Paris Developers of Gas Power Plants in the Philippines by Number of Projects



Top Post-Paris Financiers of the Fossil Gas Industry in the Philippines

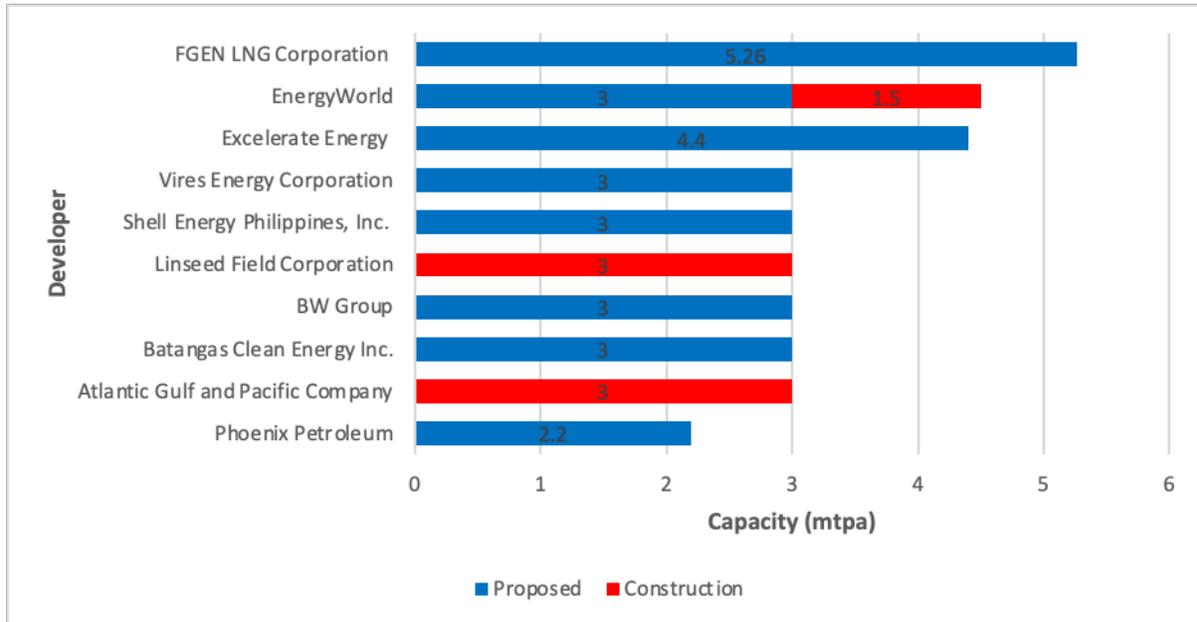


Post-Paris Country of Origin of Financiers of the Fossil Gas Industry in the Philippines

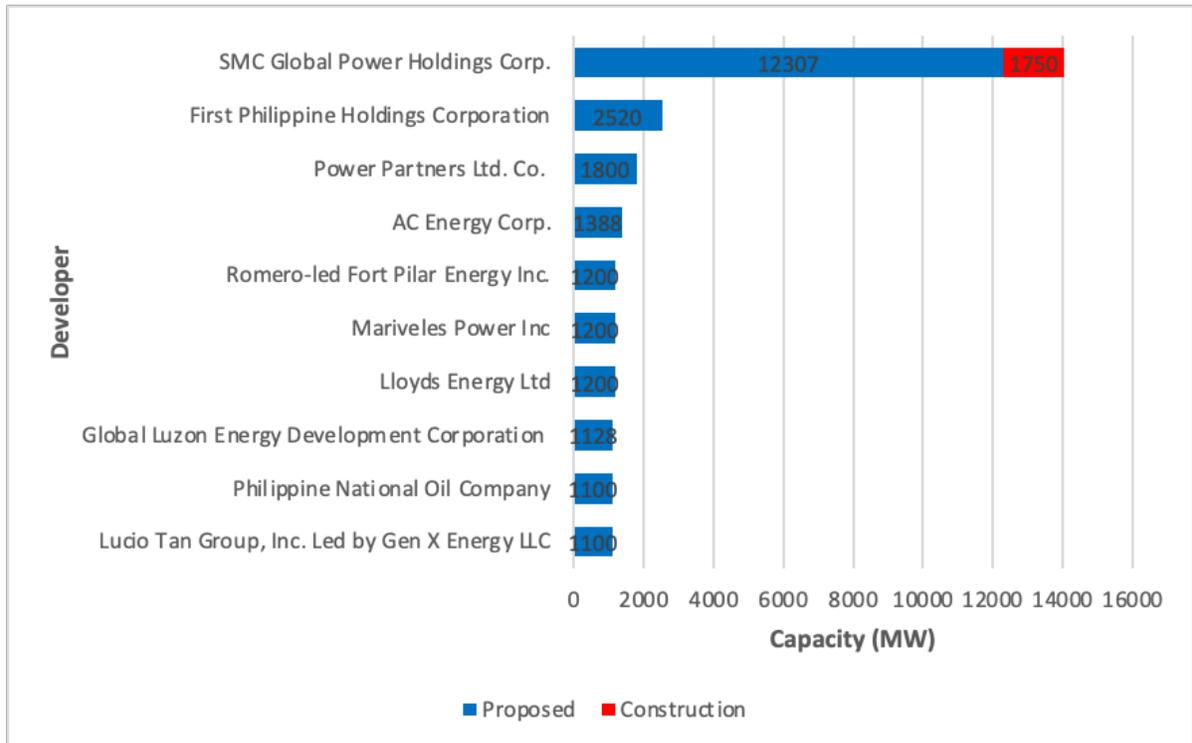


WHO ARE DRIVING AND FUELING THE LATEST FOSSIL GAS PROJECTS IN THE PHILIPPINES?

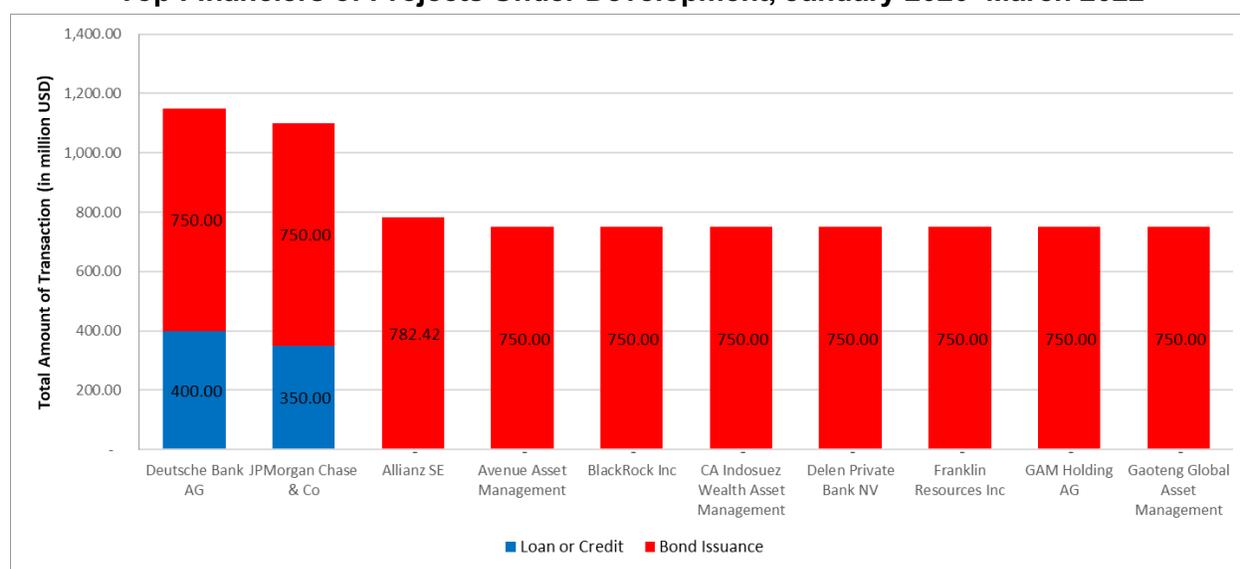
Top Developers of LNG Imports Terminals Under Development in the Philippines by Capacity



Top Developers of Fossil Gas Projects Under Development in the Philippines by Capacity



Top Financiers of Projects Under Development, January 2020–March 2022



SMC Global Power: *Philippines' largest coal developer, now top fossil gas developer*

Until recently, the Lopez Group's First Philippine Holdings Corporation was the largest developer of gas projects in the Philippines. First Gen Corporation, the primary holding company for First Philippine Holdings Corporation's power generation and energy-related businesses, which developed the country's first gas-fired power plant in 2000, owns four of the six operating gas-fired power plants in the country. In addition to its existing portfolio of power plants, it is also proposing the 1.26 GW Santa Maria Combined-Cycle Power Plant in Batangas and the Floating Storage & Regasification Unit Terminal in Batangas City, targeted for commercial operation later this year. The Conglomerate has however made a net-zero pledge last year, and committed to phase-out its gas-fired power plants or consider a fuel shift to hydrogen as part of its decarbonization strategy.²⁵

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. Unlike the Lopez Group, SMC Global Power has not made any similar net-zero pledge, although it has announced in 2018 that it will invest in up to 10 GW of renewable energy developments in the next 10 years.²⁶

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 end of this year in the Verde Island Passage. The company is proposing seven

²⁵ Velasco, M. First Gen sets phaseout of gas plants for 'net zero' pathway. Manila Bulletin. (October 24, 2021). <https://mb.com.ph/2021/10/24/first-gen-sets-phaseout-of-gas-plants-for-net-zero-pathway/>

²⁶ San Miguel Corp opts for tidal in 10GW renewable energy dive. Offshore Energy. (July 31, 2018). <https://www.offshore-energy.biz/san-miguel-corp-opts-for-tidal-in-10gw-renewable-energy-dive/>

more gas-fired power plants, for a combined capacity of 14.1 GW under development. These include the following controversial projects – the massive 6.49 GW Navotas LNG power plant in Metro Manila, and Reliance Energy Development Inc.'s 300 MW LNG power plant in the Philippines' Renewable Energy Capital Negros Occidental, to name a few.

Other top coal developers have also ventured into the fossil gas industry, such as the Aboitiz Group and Meralco PowerGen Corporation's Redondo Peninsula Energy Inc. 600 MW gas-fired power plant in Subic, Zambales. Meralco PowerGen Corporation has also mentioned that it is considering converting its highly opposed 1.2 GW Atimonan coal-fired power plant in Quezon Province into a gas facility.²⁷

AC Energy, which operates bunker/diesel power barges in Bulacan and the 2 x 135 MW South Luzon Thermal Energy Corporation coal-fired power plant that is frequently on unplanned outage, is also proposing the 138 MW Argao Floating Combined-Cycle Gas Turbine Power Plant, 1.1 GW Batangas Clean Energy, Inc. Gas Power Plant, and 1.25 GW Ingrid3 Power Corporation Stellar Dual-Fired Power Plant.

There are also notable foreign developers making a foray into the country's fossil gas industry, such as the United States' Excelerate Energy which is proposing a Floating Storage & Regasification Unit Terminal in Batangas City, and Australia's Energy World LNG Storage and Regasification Terminal in Pagbilao, Quezon.

There is no proposed gas pipeline in the Philippines yet.

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. Financing from the United States contributed USD 1.5 billion, the largest among all countries. Japan (USD 1.2 billion), Germany (USD 1.2 billion), and the United Kingdom (USD 1.2 billion) follow behind. Local financing notably accounted for only 6.5% or USD 674 million. Of these financing, transactions are predominantly through bond issuance. Bond issuance is the primary form of financing for post-Paris and 2020-onwards fossil gas projects.

In 2020, there has been a massive increase and entry of bond issuance in the Philippines amassing USD 750 million, topping over the USD 400 million in loans or credit. Financing in 2020 has also skyrocketed more than twice as compared to the years prior, 2016 to 2019, and years after, 2021 to 2022. This is the same year that SMC Global Power started announcing fossil gas projects.

²⁷Business World. Meralco weighs foray into gas business. (March 3, 2021). <https://www.bworldonline.com/editors-picks/2021/03/03/347849/meralco-weighs-foray-into-gas-business/>

Top fossil gas financiers post-Paris and 2020-onwards barely varied in the Philippines. Among 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 have 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 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.

The Oil and Gas Policy Tracker further established that net-zero pledges offer very little enforcement to curb financiers' practices. Aside from Deutsche Bank, JPMorgan Chase, and Standard Chartered, Allianz and BlackRock did not fare well in the tracker's criterion scores. Both scored a 0 out of 10 for the exclusion of companies with oil and gas expansion plans criteria and the quality of gas phase-out commitments criteria. Allianz however managed a 5 out of 10 for the immediate exclusion of oil and gas projects criteria.

Linseed Field Corporation's LNG Terminal and Excellent Energy Resources, Inc.'s 1.75 GW Gas Power Plant

Many of the proposed gas-fired power plants are located in Batangas, one of the five provinces within the VIP—the center of the center of marine shorefish biodiversity. The VIP holds a unique position as the most biodiverse marine habitat in the world, and also the hotspot for rapid expansion of fossil gas in the Philippines. VIP, touted as the Amazon of the oceans, houses about 60% of the world's known shorefish species.²⁸ That's over 1,736 fish species, 338 coral species, and thousands of other marine organisms. VIP spans five provinces: Batangas, Occidental Mindoro, Oriental Mindoro, Marinduque and Romblon. The abundant marine biodiversity in VIP support over seven million people in the provinces within its corridor through fishing, aquaculture, and tourism.

Among the long list of gas projects being proposed in VIP, and the first few to come online, are Atlantic Gulf & Pacific's subsidiary Linseed Field Corporation's LNG import terminal (Ilijan LNG Import Facility) and SMC Global Power's subsidiary Excellent Energy Resources, Inc.'s 1.75 GW gas-fired combined-cycle power plant.

The Ilijan LNG Import Facility is an onshore terminal to be built on a 9-hectare Agro-forestry land in Batangas City, with 137,000 m³ storage capacity. The USD 304 million-project is scheduled to be commissioned by June 2022 and expected to operate for the next 35 years.²⁹ The terminal is intended to supply regasified LNG to the existing 1.2 GW Ilijan Combined-Cycle Power Plant that is currently sourcing gas from the Malampaya gas field, and its future expansion plant with 850 MW Combined-Cycle Power Plant.

²⁸ Carpenter, K. & Springer, V. The Center of the Center of Marine Shore Fish Biodiversity. (2005).

²⁹ Linseed Field Power Corporation. Environmental Impact Statement Summary for the Public - Ilijan LNG Import Facility Project.

China Banking Corporation and China Bank Capital and Development Bank of the Philippines (DBP) have reportedly granted AG&P a term loan facility worth PHP 6 billion.³⁰ Meanwhile, Osaka Gas and JBIC reportedly invested USD 100 million worth of equity³¹ and I Squared Capital even more at USD 300 million worth of equity.³²

EERI's gas-fired power plant project is proposed to be built adjacent to the Ilijan LNG Import Facility. The PHP 67.863 billion-project is scheduled to be operational by June-December 2024, and expected to operate for 25-30 years.³³ In 2021, SMC Global Power issued USD 600 million senior perpetual capital securities and an additional USD 150 million securities, which are listed in the Singapore Exchange Securities Trading Limited (SGX-ST). SMC Global Power's disclosures indicate that the net proceeds of the securities will be used primarily for investments in the EERI gas-fired power plant and related assets or for general corporate purposes.

For the USD 600 million securities, Credit Suisse (Hong Kong) Limited, DBS Bank Ltd, Mizuho Securities Asia Limited, Standard Chartered Bank, and UBS AG Singapore Branch acted as joint lead managers. DB Trustees (Hong Kong) Limited acted as trustee, and Deutsche Bank AG, Hong Kong branch acted as paying agent. For the additional securities worth USD 150 million, Standard Chartered Bank and Mizuho Securities Asia Limited once again acted as joint lead managers, DB Trustees (Hong Kong) Limited as trustee, Deutsche Bank AG, Hong Kong branch acted as paying agent, and Latham & Watkins as listing agent.

Currently, the bondholders for the securities are UBS AG, BlackRock Inc, CA Indosuez Wealth Asset Management SA/Luxembourg, Allianz SE, Schroders PLC, UOB Asset Management Ltd, GAM Holding AG, JPMorgan Chase & Co, Janus Henderson Group PLC, AVENUE ASSET MANAGEMENT, Mirabaud & Cie Banquiers, Oversea-Chinese Banking Corp Ltd, GAOTENG GLOBAL ASSET MANAGEMENT, Delen Private Bank Luxembourg SA, Franklin Resources Inc, Universal Investment Co LLC, CAPFI DELEN ASSET MGMT.

³⁰China Banking Corporation. (CBC) China Banking Corporation - About China Bank. (June 28,2019). <https://www.chinabank.ph/news.aspx?title=China+Bank,+China+Bank+Capital+bag+awards+from+The+Asset+for+groundbreaking+infrastructure+deals>

³¹ Offshore Energy. World Maritime News. Osaka Gas, JBIC Invest USD 100 Mn in LNG Import Terminal Firm. (July 23, 2019). <https://www.offshore-energy.biz/osaka-gas-jbic-invest-USD-100-mn-in-lng-import-terminal-firm/>

³² Business Wire. I Squared Capital Invests in AG&P City Gas. (August 23, 2021). <https://www.businesswire.com/news/home/20210822005034/en/I-Squared-Capital-Invests-in-AGP-City-Gas>

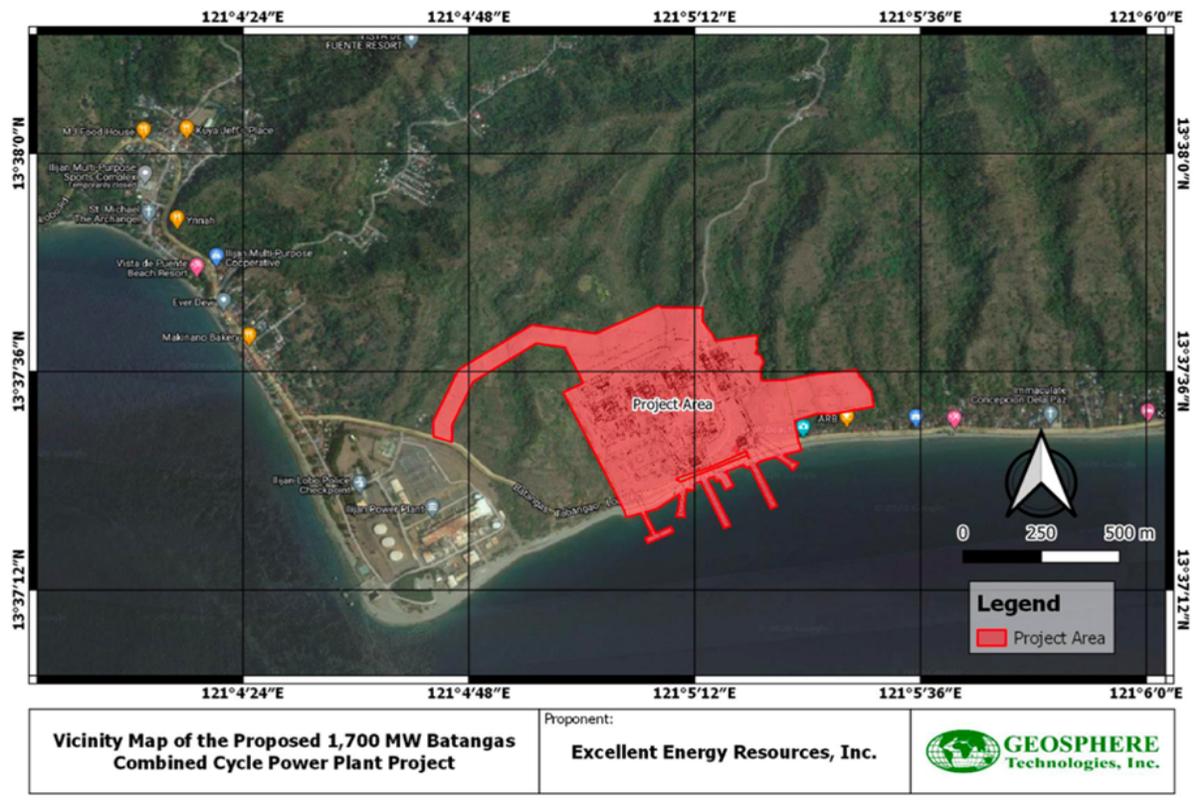
³³ Department of Energy. Private Sector Initiated Power Projects as of March 2022. https://www.doe.gov.ph/sites/default/files/pdf/electric_power/luzon_committed_2022_mar-31.pdf

Ilijan LNG Import Facility Project Location Map



Project map of AG&P's LNG Import Terminal alongside KEILCO's Ilijan Power Plant. Source: Linseed Field Power Corporation, Environmental Impact Statement

Vicinity Map of Proposed Batangas Combined Cycle Gas Power Plant Project



Project Map of EERI's 1.75 GW gas-fired power plant adjacent to AG&P's LNG Import Terminal and KEILCO's power plant. Source: Excellent Energy Resources, Inc., Environmental Impact Statement Report



BEFORE: KEILCO's Ilijan Power Plant. The vast greenery behind said power plant is the project location of AG&P and EERI (photo taken in 2013). Source: KEPCO



AFTER: The project site of AG&P's LNG Import Terminal and EERI's gas-fired power plant (photos taken in January 2022)

International financiers are bankrolling AG&P and SMC Global Power projects

The Financiers of the AG&P's LNG Terminal and SMC Global Power's 1.75 GW Gas Plant

International Financiers of AG&P's LNG Terminal



I SQUARED CAPITAL

I Squared Capital invested USD 300 Million worth of equity.



JBIC and Osaka Gas invested USD 100 Million worth of equity.



China Bank Capital as Lead Arranger, China Bank and Development Bank of the Philippines as lenders funded a PHP 6-Billion Term Loan Facility.

International Financiers of SMC Global Power's 1.75 GW Gas Project



Deutsche Bank



LATHAM & WATKINS LLP



Credit Suisse (Hong Kong) Limited, DBS Bank Ltd, Mizuho Securities Asia Limited, Standard Chartered Bank, and UBS AG Singapore Branch acted as joint lead managers of SMC Global Power's senior perpetual capital securities worth USD 600 million listed in the Singapore Exchange Securities Trading Limited. DB Trustees (Hong Kong) Limited acted as trustee, and Deutsche Bank AG,

Hong Kong branch acted as paying agent. In SMC Global Power's additional senior perpetual capital securities worth USD 150 million listed in the Singapore Exchange Securities Trading Limited, Standard Chartered Bank and Mizuho Securities Asia Limited once again acted as joint lead managers, DB Trustees (Hong Kong) Limited as trustee, Deutsche Bank AG, Hong Kong branch acted as paying agent, and Latham & Watkins as listing agent.



Schroders



JPMORGAN CHASE & Co.



CAPFI DELEN
ASSET MANAGEMENT

DELEN
PRIVATE BANK
LUXEMBOURG



UBS AG, BlackRock Inc, CA Indosuez Wealth Asset Management SA/Luxembourg, Allianz SE, Schroders PLC, UOB Asset Management Ltd, GAM Holding AG, JPMorgan Chase & Co, Janus Henderson Group PLC, AVENUE ASSET MANAGEMENT, Mirabaud & Cie Banquiers, Oversea-Chinese Banking Corp Ltd, GAOTENG GLOBAL ASSET MANAGEMENT, Delen Private Bank Luxembourg SA, Franklin Resources Inc, Universal Investment Co LLC, CAPFI DELEN ASSET MGMT are bondholders of SMC Global Power's

senior perpetual capital securities with a combined worth of USD 750 million.

Protect Verde Island Passage, the Amazon of the Oceans

Considering the alarming expansion of fossil gas projects in VIP, on top of an already existing coal and gas fleet, several environmental, conservation, and faith-based groups launched the Protect VIP Campaign on 27 September 2021. The Protect VIP Campaign was launched to celebrate the beauty and significance of the VIP, oppose practices that harm it, and ultimately urge local, national, and environmental authorities to act on existing commitments to preserve the area. The Campaign mentions numerous developments in the vicinity of VIP that now gravely threaten it through reckless tourism practices, chemical and water pollution, destructive industrial activity, unsustainable fishing practices, human waste, and intensifying climate change. But the most alarming among these is the expansion of a fossil fuel industry in the province of Batangas, on top of an already existing coal and gas fleet.

To date, 12,500 individuals have signed the Campaign's online petition which calls on: (1) concerned government agencies and local government units to fulfill their mandate under EO 578 to ensure the protection, conservation, and sustainable resource use of the VIP Marine Corridor; and (2) the DENR Environmental Management Bureau and the local government of Batangas City to cease issuing permits for the establishment of fossil gas plants and LNG terminals in Batangas City.

Since the launch of the campaign, over 25 student leaders, religious groups, and various environmental organizations sent protest letters to all of the financiers of Linseed's Ilijan LNG import facility and EERI's gas-fired power plant to urge them to withdraw their investments and financial services to the projects. Representatives of the Campaign Network have met with Development Bank of the Philippines, Standard Chartered, and JBIC to further discuss their involvement in these projects, the hazards that the project inflicts on the health, livelihood, and environment of the stakeholders of VIP, and several irregularities in the environmental permitting process of the projects.

A series of legal complaints have also been filed, starting with a complaint about illegal tree cutting under the Revised Forestry Code and followed by a complaint about premature land conversion. VIP stakeholders have also alleged that Linseed and EERI have committed violations of the terms and conditions of their Environmental Compliance Certificate, and that certain parameters in the coastal water of the project site exceed Water Quality Guidelines.

Most recently, the Protect VIP Campaign celebrated Earth Day through a landmark fluvial parade participated by fishermen, religious groups, environmentalists, and concerned citizens in Batangas to protest against a fossil gas project site in Barangay Ilijan. A total of 25 boats decorated with "Protect VIP" flags and banners and volunteered by fisherfolk across six

municipalities of Batangas from Calatagan, Balayan, Lian, Mabini, Nasugbu, to Batangas City joined in the fluvial parade which sailed to the front of Linseed and EERI's projects.³⁴



Batangueño fishermen hold a fluvial protest in front of LNG facilities, signifying the threat of these projects over the marine life of Verde Island Passage and their livelihood.

During the fluvial protest, fisherfolk stressed their fear that additional gas-fired power plants will threaten their livelihood, which is already at stake with only five operating gas-fired power plants. They are concerned that fish stock will continue to dwindle if more projects are to come. One fisherman shared that many of them sail for nine hours only to sell their catch for PHP 35 per kilogram. On top of that is the degradation and overexploitation of coastal and marine habitats, erosion, and siltation from denuded watersheds also heavily impacted seagrasses and coral reefs.

Youth advocates and environmentalists, including renowned climate activist and muralist AG Saño, also joined the call to Protect VIP on Earth Day by painting a 25-meter mural that shows the diverse marine life in the VIP, and highlights the need to stop pollution, fight climate change, and promote renewable energy.

³⁴ Cabico, G. K. . Batangas folk call for protection of livelihood, Verde Island Passage from gas expansion. Philstar Global. (April 22, 2022) https://www.philstar.com/headlines/2022/04/22/2176044/batangas-folk-call-protection-livelihood-verde-island-passage-gas-expansion?fbclid=IwAR0ee9L3h1N-FFOiR1oXaTteSve5gqs1T5pP70g_TkxdYF4pqFaP6RYIWRQ



Youth and environmentalists paint and protest in front of their 25-meter mural in Batangas City calling for protection of marine biodiversity hotspot Verde Island Passage from pollution, climate change, and dirty energy projects.

Key Findings

- In the past decade, the Philippines saw massive coal expansion with 16 new coal-fired power plants and one additional unit for an existing coal plant coming online. With an additional 4.45 GW, these new coal plants raised the country's total coal capacity to almost 12 GW.
- While the coal moratorium shelved a total of 10 projects with a combined capacity of over 6 GW and created an opportunity to tap the country's at least 250 GW renewable energy potential, the Department of Energy, however, positioned the new preferred end-fuel that is threatening a detour in the country's energy transition—fossil gas.
- 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, many of which will be built in Batangas, specifically along the Verde Island Passage.
- Until recently, the Lopez Group's First Philippine Holdings Corporation was the largest developer of gas projects in the Philippines. First Gen Corporation owns four of the six operating gas-fired power plants in the country, and is also proposing the 1.26 GW

Santa Maria Combined-Cycle Power Plant in Batangas and the Floating Storage & Regasification Unit Terminal in Batangas City. The Conglomerate has however made a net-zero pledge last year, and committed to phase-out its gas-fired power plants or consider a fuel shift to hydrogen as part of its decarbonization strategy.

- In the past year alone, SMC Global Power, the country's largest coal developer, overtook the Lopez Group. It is already constructing one gas-fired power plant and proposing seven more for a combined capacity of 14.1 GW, including the following controversial projects – the massive 6.49 GW Navotas LNG power plant in Metro Manila, Reliance Energy Development Inc.'s 300 MW LNG power plant in the Philippines' Renewable Energy Capital Negros Occidental, and the highly contested Excellent Energy Resources, Inc.'s 1.75 GW power plant scheduled to be commissioned end of this year in the Verde Island Passage, to name a few.
- Other top coal developers have also ventured into the fossil gas industry, such as the Aboitiz Group, Meralco PowerGen Corporation, and AC Energy. There are also notable foreign developers making a foray into the country's fossil gas industry, such as the United States' Excelerate Energy and Australia's Energy World.
- The top four financiers of fossil gas expansion in the Philippines in 2020-onwards contributed to almost half of the total fossil gas financing, each accounting for at least USD 1.1 billion each. Financing from the United States contributed USD 1.5 billion, the largest among all countries. Japan (USD 1.2 billion), Germany (USD 1.2 billion), and the United Kingdom (USD 1.2 billion) follow behind. Local financing notably accounted for only 6.5% or USD 674 million.
- In 2020, there has been a massive increase and entry of bond issuance in the Philippines amassing USD 750 million, topping over the USD 400 million in loans or credit. Financing in 2020 has also skyrocketed more than twice as compared to the years prior, 2016 to 2019, and years after, 2021 to 2022.
- Top fossil gas financiers post-Paris and 2020-onwards barely varied in the Philippines. Among 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 have made various net-zero pledges.
- Among the long list of gas projects being proposed in VIP, and the first few to come online, are AG&P's Linseed LNG import terminal and SMC Global Power's EERI 1.75 GW gas-fired combined-cycle power plant.
- AG&P's has reportedly received a term loan facility worth PHP 6 billion from China Banking Corporation and China Bank Capital and Development Bank of the Philippines, and an equity investment from Osaka Gas, JBIC, and I Squared Capital.
- Several local and international banks assisted SMC Global Power in managing and listing securities in the Singapore Exchange Securities Trading Limited to finance the EERI gas-fired power plant and related assets or for general corporate purposes. Some of the notable banks are DBS Bank Ltd, Mizuho Securities Asia Limited, Standard Chartered Bank, UBS AG Singapore Branch, and Deutsche Bank AG.
- Some of the notable bondholders are BlackRock Inc, Allianz SE, GAM Holding AG, JPMorgan Chase & Co, and Oversea-Chinese Banking Corp Ltd.

- Considering the alarming expansion of fossil gas projects in VIP, on top of an already existing coal and gas fleet, several environmental, conservation, and faith-based groups launched the Protect VIP Campaign in 2021. The Campaign has raised the alarms over the expansion of fossil gas projects in VIP, on top of an already existing coal and gas fleet.
- The Campaign has an ongoing online petition calling for the protection, conservation, and sustainable resource use of the VIP Marine Corridor with 12,500 signatures. It has sent protest letters to all of the financiers of Linseed's Ilijan LNG import facility and EERI's gas-fired power plant to urge them to withdraw their investments and financial services to the projects. It has also pursued a series of legal complaints against the proponents, starting with a complaint about illegal tree cutting under the Revised Forestry Code and followed by a complaint about premature land conversion.
- Most recently, the Protect VIP Campaign celebrated Earth Day through a landmark fluvial parade participated by fishermen, religious groups, environmentalists, and concerned citizens in Batangas to protest against a fossil gas project site in Barangay Ilijan, and by painting a 25-meter mural that shows the diverse marine life in the VIP, and highlights the need to stop pollution, fight climate change, and promote renewable energy.

VI. Thailand Case Study: ADB, JICA, and AIIB withdraw from 1.4 GW Hin Kong Gas Power Plant, more called to exit

Similar to the Philippines, Thailand is also being positioned as a regional LNG hub in Asia, considering its strategic location near the emerging LNG markets in SEA such as the Philippines, Vietnam, and Myanmar (Burma),³⁵ and some of the world's biggest LNG buyers like China and Japan.³⁶ In September 2020, Thailand's Supawat Tatthong, PTT PCL's Vice President for gas business development, announced that PTT aims to meet 70% of the global LNG trade and become Asia's regional LNG hub.³⁷ PTT is Thailand's state-owned oil and gas company and the top developer of gas power plants and pipelines in Thailand.

Unlike the Philippines which has only three producing gas fields, six operating gas-fired power plants, and neither gas pipelines nor LNG terminals in place, Thailand has a far more mature fossil gas industry considering that it is also the largest consumer of fossil gas in SEA. Thailand has more than 13 producing gas fields,³⁸ 2 operating LNG terminals,³⁹ over 20 operating gas pipelines,⁴⁰ and more than 60 gas-fired power plants.⁴¹ With over 32.27 GW of installed fossil gas capacity,⁴² fossil gas supplies 54% of the country's gross power generation, followed by coal and lignite at 36%.⁴³ Thailand has increased its purchase of imported LNG over the years from 25% in 2016 to 31% in 2020.⁴⁴

³⁵ Offshore Technology. LNG to play a more important role in meeting south-East Asia's gas demand needs. (March 21, 2022) <https://www.offshore-technology.com/comment/lng-south-east-asia-gas-demand/>

³⁶ Valle, S.. China to overtake Japan as World's top LNG buyer in weeks, ICIS says. Reuters. (2021, June 9) <https://www.reuters.com/article/us-china-lng-japan-idUSKCN2DL2UB>

³⁷ LNG Journal. Thailand to become an Asian LNG hub. <https://lngjournal.com/index.php/shipping-news-old/item/101109-thailand-to-become-an-asian-lng-hub>

³⁸ Energy, Policy, and Planning Office. Energy Statistics of Thailand 2021. Table 3.1-1M Production and Import of Natural Gas.

³⁹ Global Energy Monitor, Global Fossil Infrastructure Tracker - LNG Terminals - June 2021.

⁴⁰ Global Energy Monitor, Global Fossil Infrastructure Tracker - Gas Pipelines - December 2020.

⁴¹ Global Energy Monitor, Global Gas Plant Tracker - February 2022.

⁴² Global Energy Monitor, Gas Plants Summary Tables - Asia Gas Tracker March 2022.

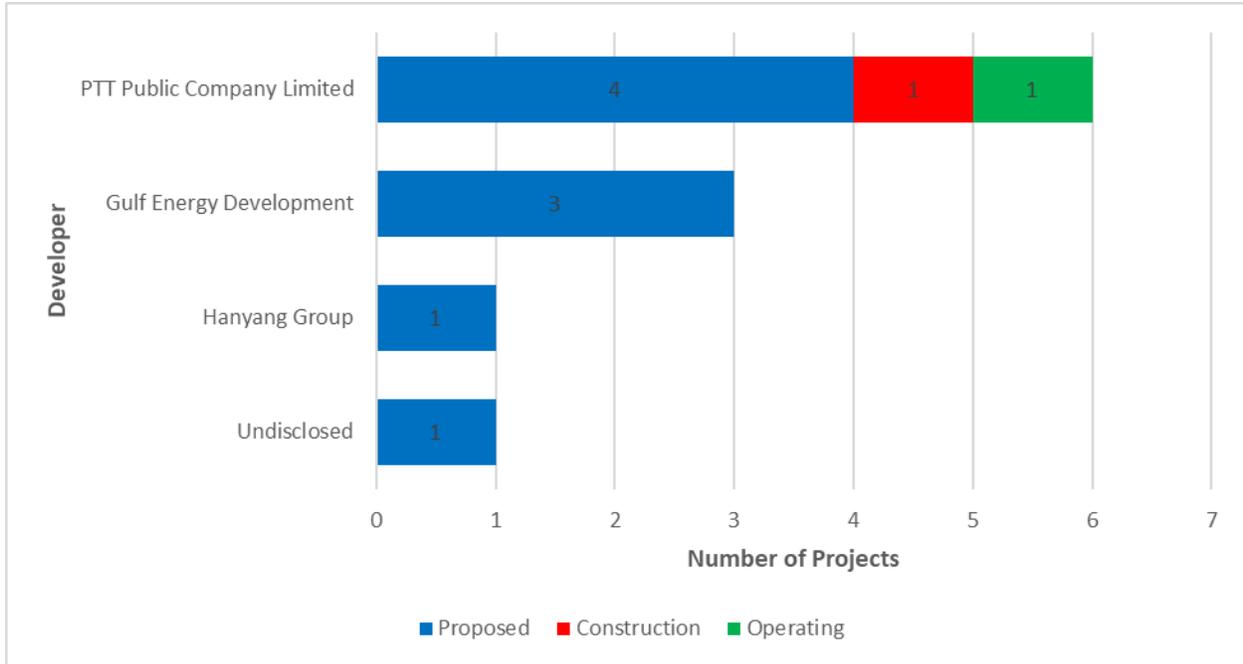
⁴³ Energy, Policy, and Planning Office. Generation (on EGAT system).

http://www.eppo.go.th/epposite/images/Energy-Statistics/energyinformation/Energy_Statistics/Electricity/T05_02_03-2.xls

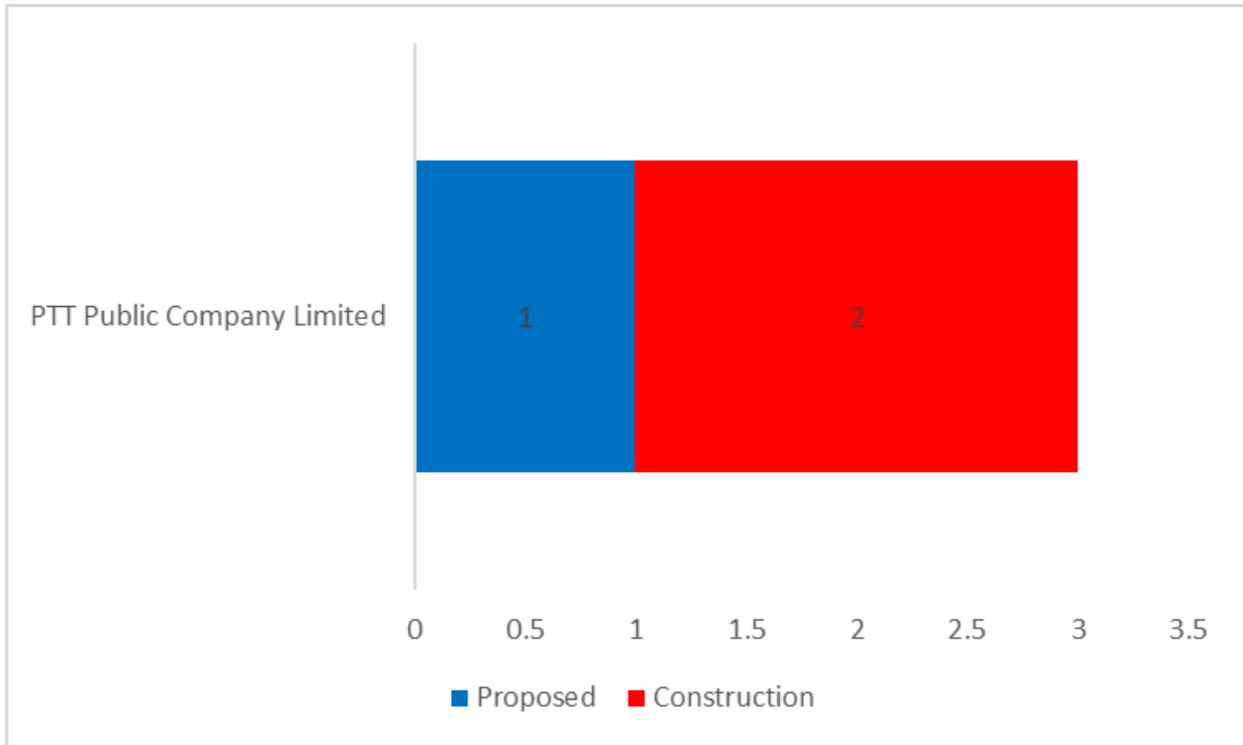
⁴⁴ Energy, Policy, and Planning Office. Energy Statistics of Thailand 2021. Tables 3.1-1Y and 3.1-1M Production and Import of Natural Gas.

WHO ARE DRIVING AND FUELING THE POST-PARIS FOSSIL GAS PROJECTS IN THAILAND?

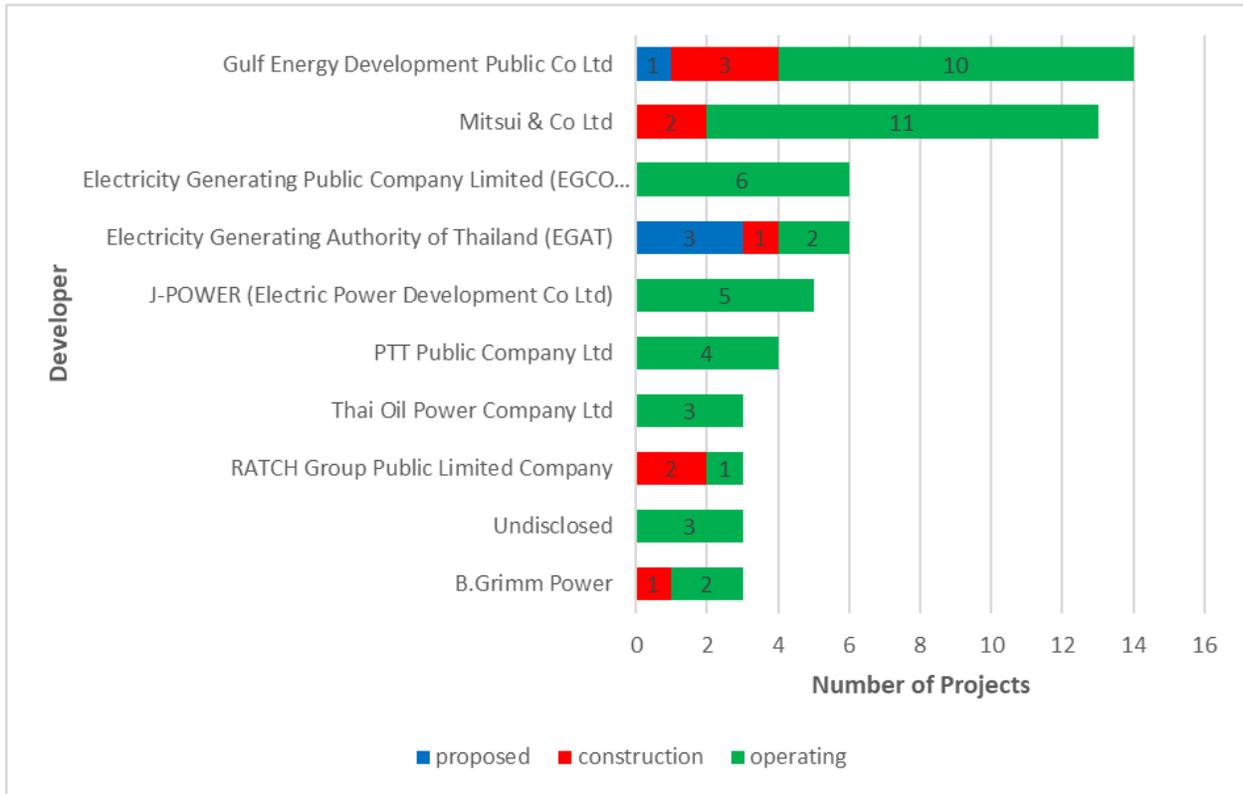
Top Post-Paris Developers of LNG Terminals in Thailand by Number of Projects



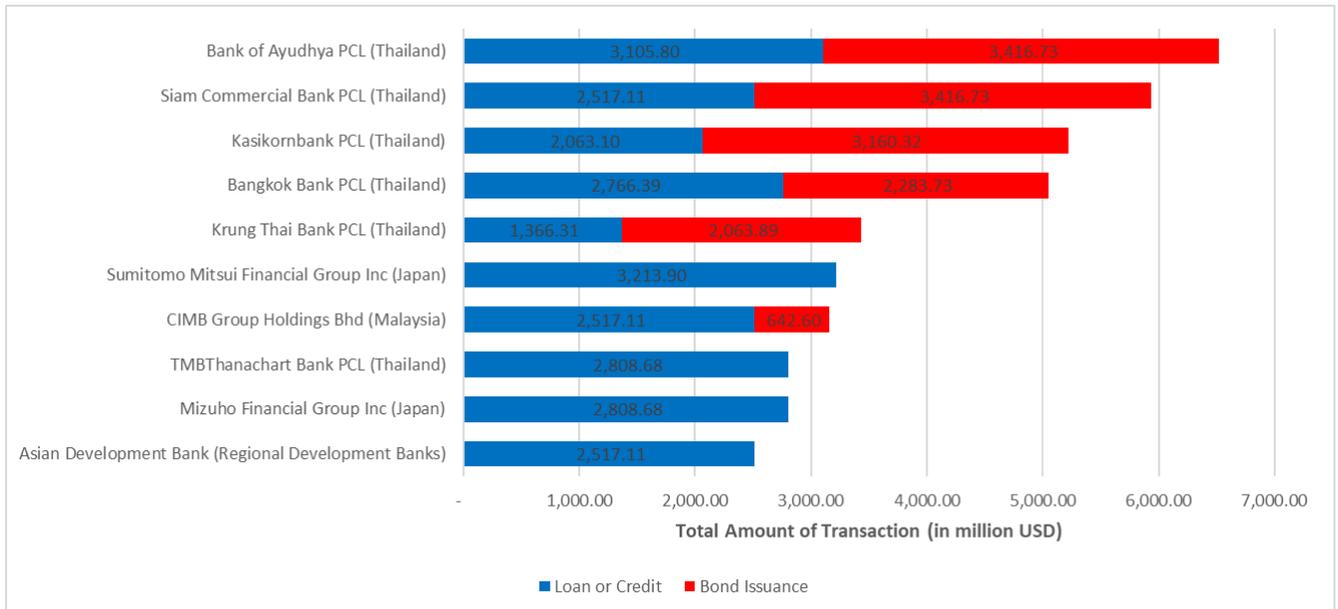
Top Post-Paris Developers of Gas Pipelines in Thailand by Number of Projects



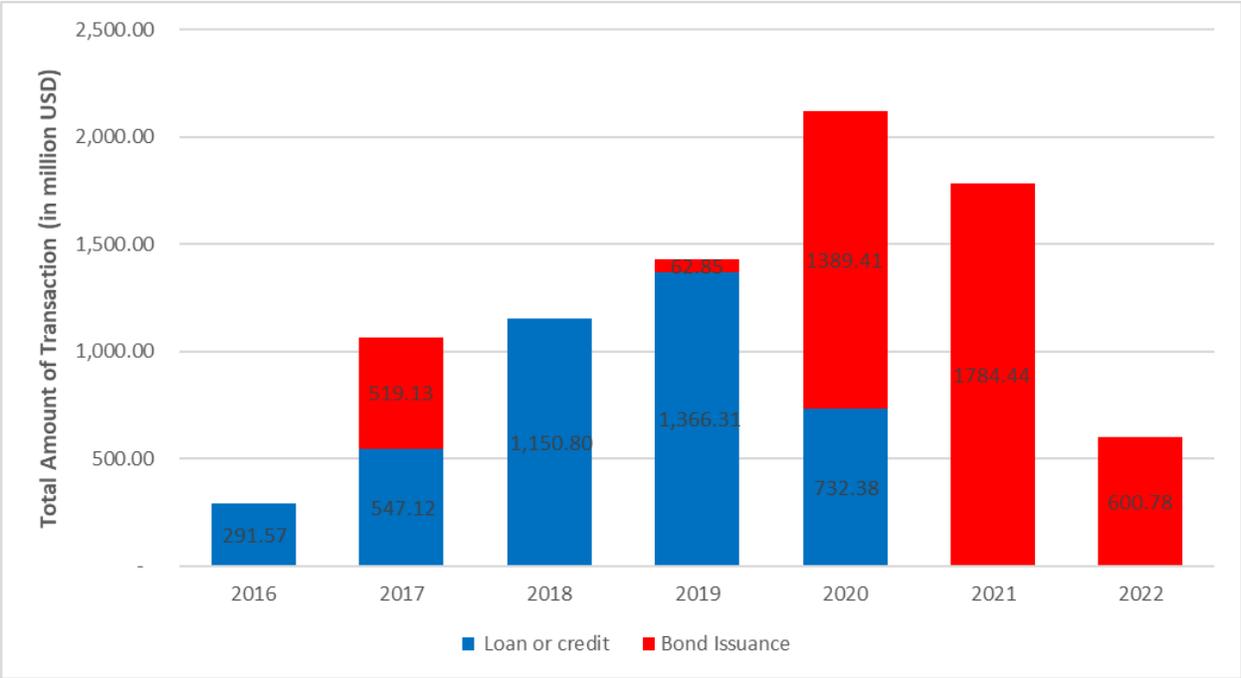
Top Post-Paris Developers of Gas-fired Power Plants in Thailand by Number of Projects



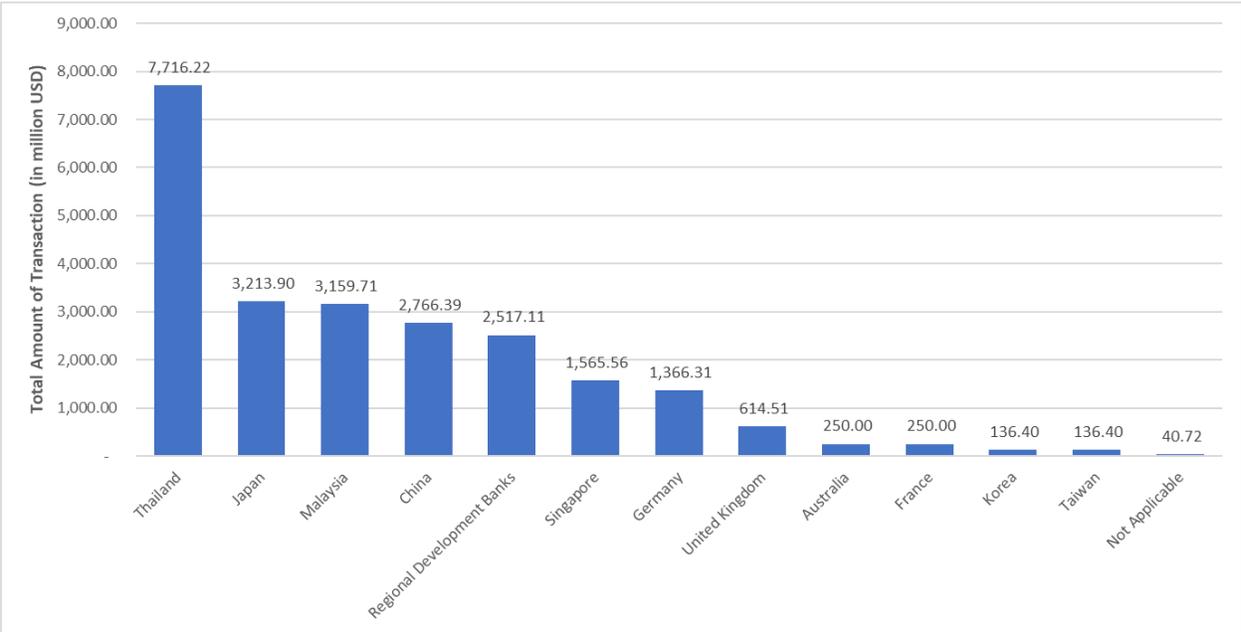
Top Post-Paris Financiers of the Fossil Gas Industry in Thailand



Post-Paris Types of Financing for the Fossil Gas Industry in Thailand

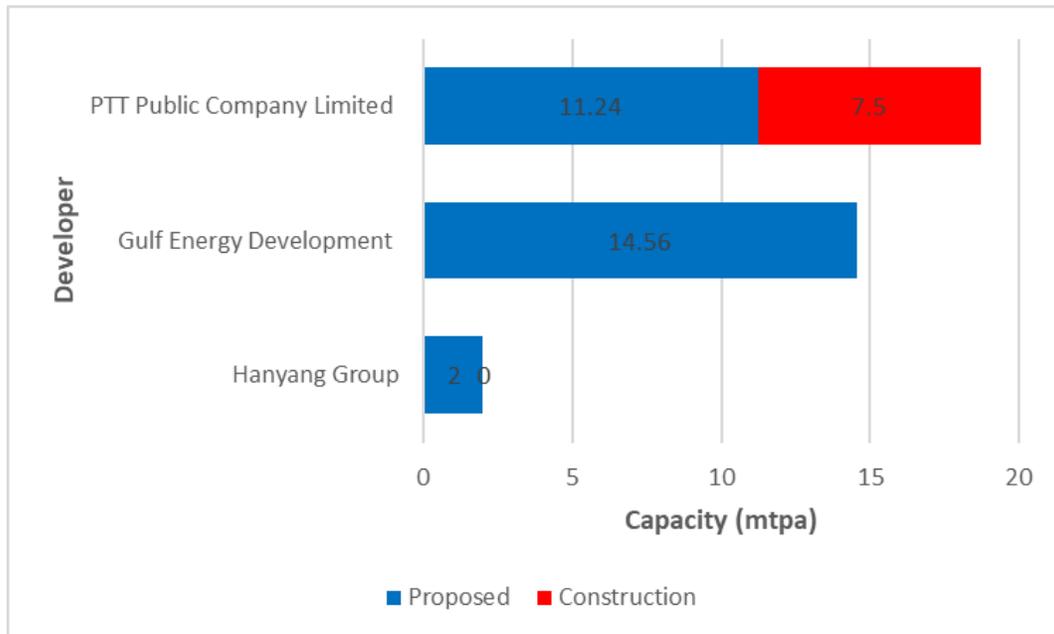


Post-Paris Country of origin of Financiers of the Fossil Gas Industry in Thailand

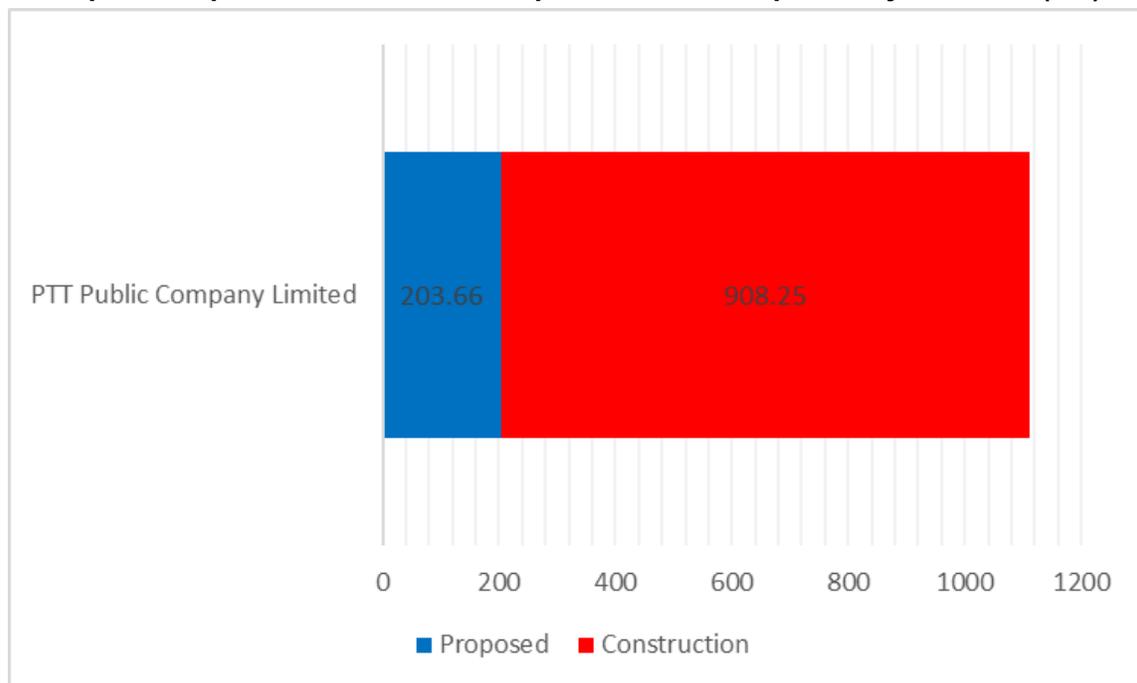


WHO ARE DRIVING AND FUELING THE LATEST FOSSIL GAS PROJECTS IN THAILAND?

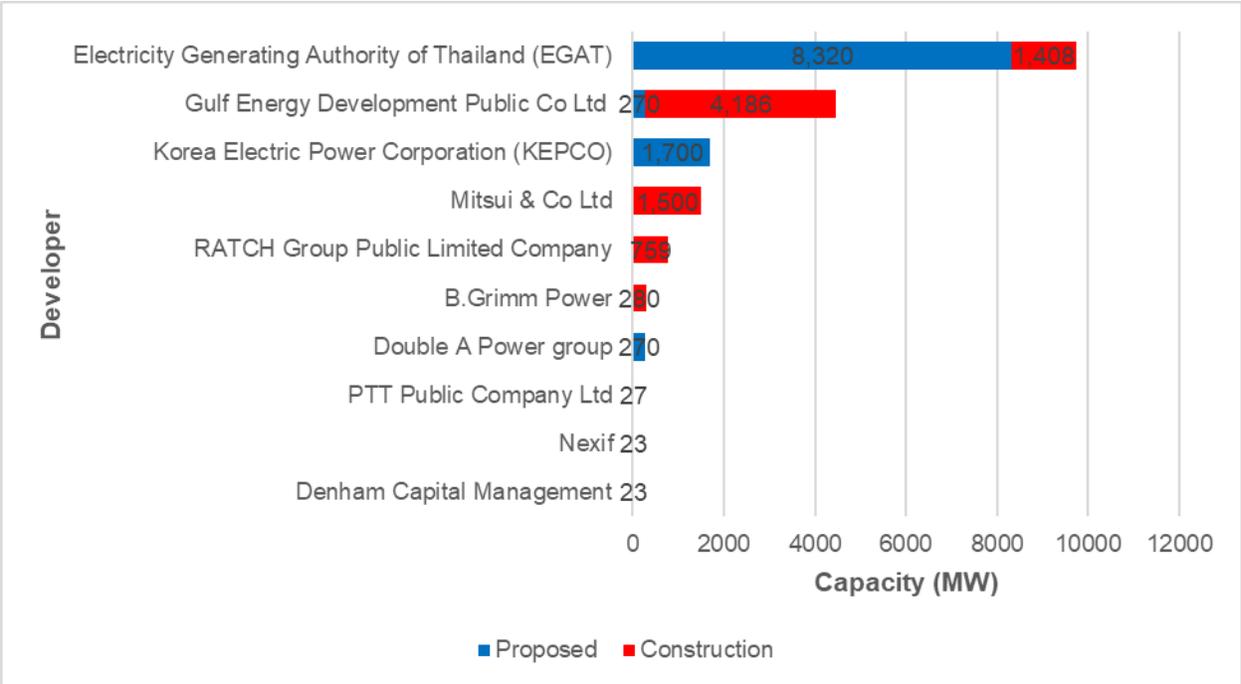
Top Developers of Thailand LNG Import Terminals in Development by Capacity (mtpa)



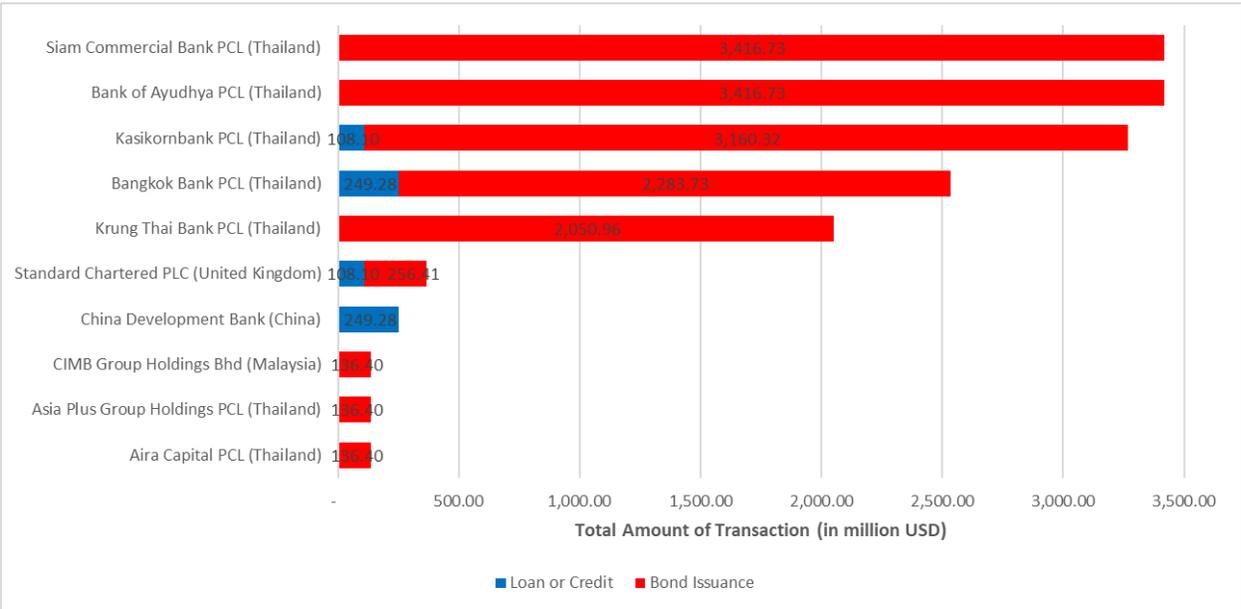
Top Developers of Thailand Gas Pipelines in Development by Distance (km)



Top Developers of Thailand Gas Power Plants in Development by Capacity (MW)



Top financiers based on the total amount of transactions, Thailand, January 2020–March 2022



Massive fossil gas build-up ahead

With a massive fossil gas infrastructure already in place, Thailand's pipeline projects show a massive build-up ahead. After the Paris Agreement, 10 more LNG terminals were proposed. PTT expectedly tops the list of developers of LNG projects, proposing half of these projects.

Gulf Energy Development follows PTT, proposing three more LNG terminals—the Gulf MTP LNG Terminal, Gulf of Thailand FSRU LNG Terminal, and Samut Prakan FSRU Terminal. Hanyang Group is also developing the proposed Chana LNG Terminal.

For gas pipelines, PTT, which has been the sole developer of Thailand's gas pipelines since 1981, is proposing three more pipelines post-Paris.

As for gas-fired power plants, Gulf Energy Development tops the list, with 10 operating power plants, 3 under construction, and 1 plant proposed. All in all, Gulf Energy Development has a total of 5.8 GW operating gas power plants and 7.8 GW more under construction across the provinces of Pathum Thani, Ratchaburi, Rayong, Ayutthaya, Saraburi, Nakorn Ratchasima, Prachinburi, and Chachoengsao.⁴⁵

It is followed by Mitsui & Co Ltd, which is constructing 2 more power plants on top of its 11 existing plants. Electricity Generating PCL ranks third for operating six power plants. EGAT, the leading state-owned power utility in Thailand, holds majority equity in Electricity Generating PCL at 25.41%.⁴⁶

EGAT is also among the top developers with three proposed projects—the Nam Phong power station, Surat Thani power station, and Wang Noi power station—and the Bang Pakong power station under construction.

Across LNG terminals, gas pipelines, and gas-fired power plants, there is an evident high concentration of ownership among the same developers—PTT, Gulf Energy, Development, and EGAT.

The top proponents of projects in development as of March 2022 mirror all of the projects that have been proposed and are already under construction post-Paris. There are no major changes in terms of the developer companies.

Local, public Thai banks fueling the fossil gas build-up, leaning towards debt securities underwriting

⁴⁵ GULF. Power Generation Overview. https://www.gulf.co.th/en/power_generation.php

⁴⁶ Electricity Generating Authority of Thailand. Annual Report 2019. <https://www.egat.co.th/en/images/annual-report/2019/annual-report-2019-en.pdf>

Local, public Thai banks are leading the financing for the fossil gas build-up post-Paris and 2020-onwards. Bank of Ayudhya and Siam Commercial Bank top the list, with the former being the leading financing post-Paris, and Siam leading from 2020-onwards. Kasikornbank, Bangkok Bank, and Krung Thai Bank place third, fourth, and fifth, respectively, in both rankings.

Only three foreign banks were included among the top financiers from 2016 until March 2022. Japan's Sumitomo Mitsui Financial Group (ranked sixth) and Mizuho Financial Group (ranked ninth) also provided loans and credits to Thai gas projects, together with Malaysia's CIMB Bank (ranked seventh) and Thailand's TMBThanachart Bank (ranked eighth). Notably, Asian Development Bank (ADB) is the only regional development bank, and ironically one that touts itself as a climate bank, but made it among the top banks fueling the fossil gas industry in Thailand after the Paris Agreement was signed.

For projects in development starting 2020, Japanese banks, ADB, and TMBThanachart Bank were dropped from the list and replaced by Standard Chartered which is financing the construction of a new 92 MW gas-fired cogeneration combined cycle power plant in Rayong province by Nexif Energy, China Development Bank, and two other Thai local banks—Asia Plus Group Holdings and Aira Capital. CIMB dropped a notch in ranking from 7th post-Paris to 8th in 2020-onwards.

After the Paris Agreement, over 70% of the financing for Thailand's fossil gas projects was facilitated through loans and credits. At the start of the decade, available data on financing reveals that nearly all financing for Thai gas projects was facilitated by banks through underwriting debt securities rather than providing loans or credits.

Thai PM Prayut's bold, net-zero declaration



PM Prayut is sided by UK PM Boris Johnson and UN chief António Guterres at COP26. Credit: Thai Gov. Source: BKK Tribune, 2 November 2021.

The massive fossil gas infrastructures in development are however being built on shaky ground after Thailand Prime Minister Prayut Chan-o-cha's bold net-zero declaration at COP26 in Glasgow. From the initial goal of reaching carbon neutrality by 2050 and net-zero GHG emissions by 2065, Prime Minister Prayut announced that Thailand can raise its ambition to 40% GHG emissions reduction by 2030 and net-zero GHG emissions by 2050 if there is adequate and equitable support for technology, finance, capacity building, as well as cooperation under the convention.

This precise pronouncement has been cited by several organizations across the country in calling on developers and financiers alike to exit the controversial 1.4 GW Hin Kong Gas-fired Combined-Cycle Power Plant.

The 1.4 GW Hin Kong Gas-fired Combined-Cycle Power Plant

In Mueang district, Ratchaburi province of Thailand, Hin Kong Power Company is proposing to build a 1.4 GW gas-fired combined-cycle power plant estimated to be worth USD 694.94 million. Hin Kong Power Company is a special purpose joint venture between RATCH Group and Gulf Energy Development PCL, with the former holding majority equity at 51%.

RATCH Group is a top developer of gas-fired power plants in Thailand. RATCH Group owns several fossil gas power plants, including the 3.64 GW and 1.49 GW combined-cycle power plants, 234 MW Ratchaburi World Cogeneration Power Plant, 99.23 MW Berkprai Cogeneration Power Plant in Ratchaburi province, 139.13 MW SPP Cogeneration Power Plant and 119.15

MW RATCH Cogeneration Power Plant in Pathum Thani, 92 MW Nexif Energy Power Plant in Rayong Province, and 40 MW REN Cogeneration Power Plant in Nakornratchasima.⁴⁷

As early as 2019, Hin Kong Power Company has secured a 25-year power purchase agreement with the EGAT. With the project slated for commissioning only in March 2024 and January 2025, this power purchase agreement guarantees that the project will operate profitably for the next 25 years or at least until 2050, derailing Thailand's carbon neutrality goal by 2050.

JICA, ADB, and AIIB withdraw from Hin Kong

When the JICA announced that it was considering financing the massive 1.4 GW Hin Kong Gas Project together with ADB through a syndicated loan agreement on January 8, 2021, it was met with fierce opposition. About 48 organizations from over 15 countries, through a joint statement,⁴⁸ called out JICA and ADB to withdraw all financing for the Hin Kong Gas Project due to the following reasons:

1. There is no merit to JICA's justification that the project will supply Thailand's increasing electricity demand due to the rise of digitalization and electric vehicles because there is in fact an existing energy surplus in Thailand;
2. Fossil gas-fired power plants are producing 60% of the country's electricity. It is illogical to add the same kind of power plant to serve as bridge fuel;
3. Building a gas-fired power plant is not aligned with the Paris agreement, the net-zero greenhouse gas emission by 2050 policy set by Japan's Prime Minister Yoshihide Suga, and JICA's own guidelines for the selection of overseas projects as the same requires that the project must be "pioneering"; and
4. According to a Thailand opposition lawmaker, illegality is suspected because there was no bid placed when RATCH Group received an order for this project.

Months later, financing giants JICA and ADB backed out from the Hin Kong Gas Project but not long after, Asian Infrastructure Investment Bank (AIIB), another development financing giant in Asia, also announced its interest to fund the project. This was met with an even stronger opposition – this time from 55 organizations also from over 15 countries.

In a statement addressed to AIIB president Jin Liquin and its Board of Directors, the organizations reiterated the same line of arguments raised to JICA and ADB, but also brought up RATCH Group's alarming track record of handling project accidents. RATCH Group acted as a construction advisor and co-sponsor in Xe Pian-Xe Namnoy Dam in Lao PDR, which collapsed before becoming operational in 2018, killing 49 people and leaving thousands of riparian villages homeless and without lands to cultivate. As of 2022, RATCH Group has yet to properly compensate the victims of the said project accident. It is precisely due to RATCH's poor reputation for addressing social and environmental issues as well as human rights

⁴⁷ RATCH Group. Project Location. <https://www.ratch.co.th/en/business/project-location/thailand>

⁴⁸ Joint Statement - We stand against JICA and ADB's financing of Hin Kong Gas Power Project in Muang Ratchaburi, Thailand.

violations that it is currently in the exclusion list of three huge global asset managers—Robeco AM, State Street Global Advisors, and Storebrand.

On February 1, 2022, AIIB officially withdrew from the gas project considering the project misaligned with its climate-related policy, but other financiers remained.

Remaining financiers called to exit Hin Kong Project

With JICA, ADB, and AIIB out of the picture, Hin Kong Company is still seeking to close a USD 400 million loan deal with at least 11 more banks. The loan is reportedly equally divided into a US Dollar tranche and a Thai Baht tranche.⁴⁹

⁴⁹ IJGlobal. AIIB out, others in on Thai gas-fired. (February 11, 2022). <https://www.ijglobal.com/articles/161951/aiib-out-others-in-on-thai-gas-fired>

The Remaining Financiers of the 1.4 GW Hin Kong Gas Power Plant

Mizuho, Sumitomo Mitsui Banking Corporation, Sumitomo Mitsui Trust Bank, Société Générale, Natixis, Standard Chartered, Bank of China, Oversea-Chinese Banking, and Industrial and Commercial Bank of China (ICBC), Bangkok Bank, and Siam Commercial Bank



MIZUHO



The US Dollar tranche amounting to USD 250 Million will be funded by Mizuho, Sumitomo Mitsui Banking Corporation, Sumitomo Mitsui Trust Bank, Société Générale, Natixis, Standard Chartered, Bank of China, Oversea-Chinese Banking, and Industrial and Commercial Bank of China (ICBC).



The Thai Baht tranche which consists of roughly USD 150 Million will be funded by Siam Commercial Bank and Bangkok Bank.

Many of the remaining financiers of the Hin Kong Project are among the top financiers of fossil gas projects in SEA. Among the top post-Paris financiers of the fossil gas industry in SEA, Sumitomo Mitsui Financial Group, which owns Sumitomo Mitsui Banking Corporation and Sumitomo Mitsui Trust Bank, ranks first, Mizuho Financial Group second, and Oversea-Chinese Banking fourth.

Meanwhile, Siam Commercial Bank and Bangkok Bank place eight and ninth, respectively, in the top post-Paris financiers for downstream gas projects. These same local banks ranked second and fourth, respectively, in the top gas financiers for 2020-onwards, together with Standard Chartered which ranked ninth in the same list.

Siam Commercial Bank is the first Thai bank established by a Royal Charter, and with no less than the King of Thailand, King Vajiralongkorn as the largest single shareholder. Bangkok Bank is the sixth largest bank in SEA and the largest bank in Thailand by total assets, and a leading provider of corporate finance.

Bank of China and Industrial and Commercial Bank of China are also part of the list of top state-owned banks financing fossil gas projects in the region, including projects in Indonesia and Malaysia. As for Société Générale and Natixis, although they are not part of any of the top financiers list in SEA, they are listed in the top 30 financiers of fossil fuels in the world according to the latest League Table in the Banking on Climate Chaos Fossil Fuel Finance Report 2022.⁵⁰

While most of these banks have a history of financing fossil gas projects in the region, they have made Net-Zero pledges recently. As members of the Net-Zero Banking Alliance, Sumitomo, Mizuho, Standard Chartered, and Société Générale have all committed to align their lending and investment portfolios with net-zero emissions by 2050. This commitment will be nothing short of a false promise if they will support the Hin Kong Gas Project, which is guaranteed to operate until 2050, and possibly beyond. According to the Oil and Gas Policy Tracker, Sumitomo, Mizuho, and Standard Chartered have not been proactive in excluding oil and gas.

The domestic banks, Siam Commercial Bank and Bangkok Bank, have not adopted strong climate commitments as compared to the international lenders who are explicit with their goal of carbon neutrality by 2050. However, assessing and managing climate-related financial risks, including the policy risks and stranding assets risk of fossil gas power projects, should be a growing concern for these banks, especially following Thai PM Prayut Chan-o-cha's bold net-zero pledge by 2065, or even earlier at 2050 with adequate and equitable support.

Key Findings

⁵⁰ Rainforest Action Network (RAN), BankTrack, Indigenous Environmental Network (IEN), Oil Change International (OCI), Reclaim Finance, Sierra Club, and urgewald. Banking on Climate Chaos: Fossil Fuels Finance Report 2022, p.34. (March 2022). https://www.ran.org/wp-content/uploads/2022/03/BOCC_2022_vSPREAD-1.pdf

- With a massive fossil gas infrastructure already in place, Thailand's pipeline projects show a massive build-up ahead. After the Paris Agreement, 10 more LNG terminals, 3 more gas pipelines, and 4 more gas-fired power plants are expected to be developed.
- Across the entire fossil gas infrastructures,—LNG terminals, gas pipelines, and gas-fired power plants—there is an evident high concentration of ownership among the same developers—PTT, Gulf Energy, Development, and EGAT.
- PTT, a Thai state-owned oil and gas company, tops the list of developers for LNG projects, proposing half of all terminals in development, the sole developer for gas pipelines, and the sixth top developer of gas-fired power plants.
- Gulf Energy Development follows PTT in the list of top LNG terminal developers, proposing three LNG terminals—the Gulf MTP LNG Terminal, Gulf of Thailand FSRU LNG Terminal and Samut Prakan FSRU Terminal; and leads the development of gas-fired power plants, with a total of 5.8 GW operating gas power plants and 7.8 GW more under construction across the provinces of Pathum Thani, Ratchaburi, Rayong, Ayutthaya, Saraburi, Nakorn Ratchasima, Prachinburi, and Chachoengsao.
- The top proponents of projects in development as of March 2022 mirror all of the projects that have been proposed and are already under construction post-Paris. There are no major changes in terms of the developer companies.
- Local, public Thai banks are leading the financing for the fossil gas build-up post-Paris and 2020-onwards. Bank of Ayudhya and Siam Commercial Bank top the list, with the former being the leading financing post-Paris, and Siam leading from 2020-onwards. Kasikornbank, Bangkok Bank, and Krung Thai Bank place third, fourth, and fifth, respectively, in both rankings.
- Foreign banks, Japan's Sumitomo Mitsui Financial Group (ranked sixth) and Mizuho Financial Group (ranked ninth) provided loans and credits to Thai gas projects, together with Malaysia's CIMB Bank (ranked seventh).
- Notably, ADB is the only regional development bank, and ironically one that touts itself as a climate bank, that made it to the top banks fueling the fossil gas industry in Thailand after the Paris Agreement was signed.
- Japanese banks and ADB are noticeably lacking in the 2020-onwards Top Financiers Ranking but are replaced by Standard Chartered and China Development Bank, along with two other Thai local banks—Asia Plus Group Holdings and Aira Capital.
- After the Paris Agreement, over 70% of the financing for Thailand's fossil gas projects was facilitated through loans and credits. A stark contrast to the financing of projects currently in development, in which nearly all financing is being facilitated by banks through underwriting debt securities.
- The massive fossil gas infrastructures in development are however being built on shaky ground after Thailand Prime Minister Prayut Chan-o-cha's bold net-zero declaration at COP26 in Glasgow. From the initial goal of reaching carbon neutrality by 2050 and net-zero GHG emissions by 2065, Prime Minister Prayut announced that Thailand can raise its ambition to 40% GHG emissions reduction by 2030 and net-zero GHG emissions by 2050 if there is adequate and equitable support for technology, finance, capacity building, as well as cooperation under the convention.

- This precise pronouncement has been cited by several organizations across the country in calling on developers and financiers alike to exit the controversial 1.4 GW Hin Kong Gas-fired Combined-Cycle Power Plant.

VII. Recommendations

The Southeast Asian countries have different experiences with gas energy but are heading toward the same treacherous path. The expansion of the gas and LNG industries is driven by growing demand and declining production.

Financiers 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 mid-century—without false solutions, in accordance with the P1 Scenario of the IPCC’s Special Report on Global Warming of 1.5°C⁵¹. 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,
 - 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.

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.
2. 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.

⁵¹ In the IPCC’s P1 Scenario, the 1.5°C Paris goal is achieved through a downsized energy system, which enables rapid decarbonization of energy supply, and with afforestation as the only Carbon Dioxide Removal option considered. Neither fossil fuels with CCS nor bioenergy with CCS are used.

3. 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.

Endorsements

This report is endorsed by the following organizations:

Climate Action Network Southeast Asia (CANSEA)
Caritas Philippines
EarthRights International
Friends of the Earth US
Friends of the Earth Japan
Healthy Public Policy Foundation
KRuHA
NGO Forum on ADB
Oil Change International
Rainforest Action Network
Reclaim Finance
The Sunrise Project
Urgewald

Disclaimer: The organizations listed as endorsers endorse the contents of this report as a whole, but not every organization necessarily endorses the ranking for every company.

Acknowledgements

This report benefited from the additional research provided by:

Suphakit Nuntavorakarn, Tara Foundation
Thunyaporn Surapakdee, Fossil gas narratives project
Dr. Akanit Kwangkaew, Fossil gas narratives project
Pannida Panpued, Fossil gas narratives project
Katrin Ganswindt, Urgewald
Beau O'Sullivan, The Sunrise Project