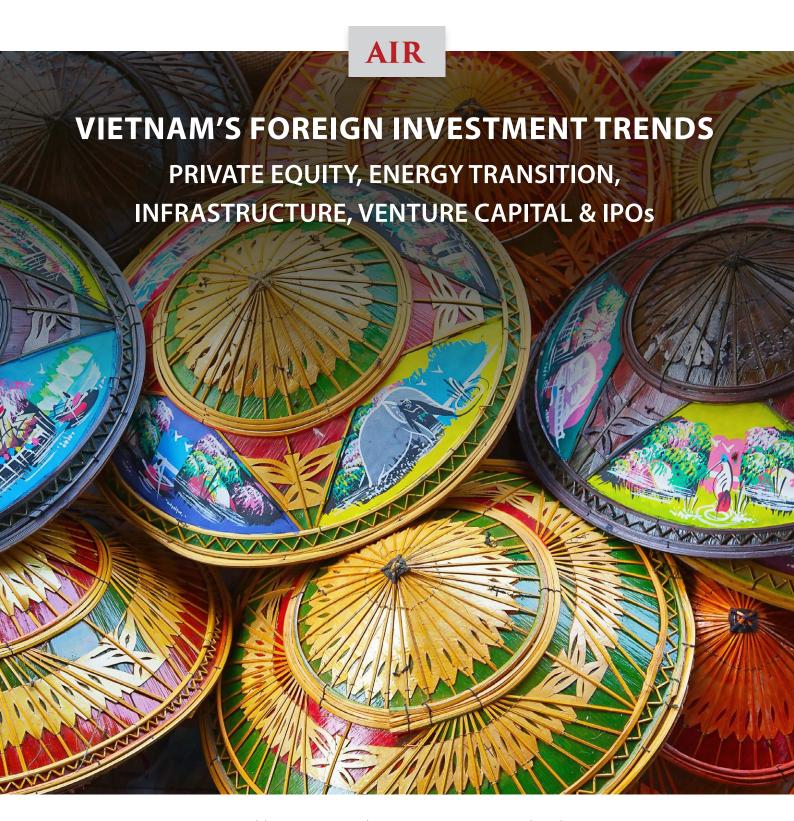
Tracking Global Investment Flows Into China & Asia

·Q3 July-September 2023 Issue ·



A Publication From China Investment Research Ltd.

TABLE OF CONTENTS

Introduction	3
Vietnam – FDI 2022-2023	5
Vietnam Infrastructure	9
Vietnam – Energy Transition	16
Vietnam Private Equity	23
Vietnam VC	27



INTRODUCTION



This research has been written to focus on near term gains Vietnam has accomplished over the past 2 years and over the next 2 years. While we address longer term growth plans (post 2025), we focus on the near term.

It is designed to provide detailed data – sometimes from bottom up,, on energy transition and infrastructure as well as capital flows in FDI (and including below/outside of official FDI), Private Equity (PE) and Venture Capital (VC), to readers already familiar with Vietnam. Our specific focus is on Governments, rating agencies, corporate and institutional investors – specifically on information they cannot obtain from major investment banks or rating agencies.

FDI – continues to grow quickly, in part due to issues with Chinese trade and in part due to a number of well-designed and targeted FTEs. While the focus remains manufacturing, it is moving up the value chain from electronics to semiconductors, SMART manufacturing and greentech. Sources of inbound FDI are also broadening from their historical Asian big 5 (led by Singapore), to also include the EU, GCC and MENA. We expect the latter two will continue to grow over the near term.

Infrastructure - after being labelled a problem by a major rating agency two years ago, Vietnam's logistics industry has begun to attract considerable capital to led by multimodal logistics programmes and new industrial parks at both ends of the country. In digitization, both cloud computing and data centres have seen considerable growth. Ports have also attracted new investment, with Gemalink upgraded port handling 1 million TEUs in 2022, with a much larger port being discussed post 2025. In transportation, a 260 km portion of the much larger North South expressway and a 12.5 km section of the Hanoi Metro Line will be operational by end of 2023; both represent small components of major infrastructure projects to be completed in the future – after having already encountered a number of delays.

Energy Transition - our analysis discusses Vietnam's meteoric rise from its 196th global solar ranking in 2010 to 9th place in 2021 (rising above both Spain and France); how the grid was not prepared for this burst of growth; government changes required during 2021 and 2022 to return normalcy to the grid as well as major plans via JETCO and PD8 to position Vietnam's energy transition up until 2050. We also discuss the EU's role in assisting the transition to build wind. This is a major component of Vietnam's future

success, and judging from the outside capital it has been attracting from around the world, Vietnam is focused on delivering.

Financials: PE and VC - relative to PE, Vietnam saw over \$400 million inbound investment from mostly Asian and USA based PE firms through 2021 – across a number of sectors. Activity in 2022 was focused mostly in real estate with smaller volumes. This is in line with other Asian countries in 2022. Similar to PE, VC investment into Vietnamese tech start-ups reached record levels during 2019-2021. In 2021, investment in Vietnamese start-ups reached US\$1.3 billion, 4X larger than 2020; similar to other Asian markets, growth was reduced in 2022. The 2019-2021 growth was led by international VC investors; over the past few years a domestic VC industry is being built – which we analyze in this section.

In general, these are a very positive set of results for Vietnam, although there is still work required in completing major long term infrastructure projects, further developing its financial markets and the challenge of raising US\$135 billion to fund energy transition from coal and hydro to renewable by 2030.

ASIA INVESTMENT RESEARCH

We are available for bespoke, Asia focused financial research projects.

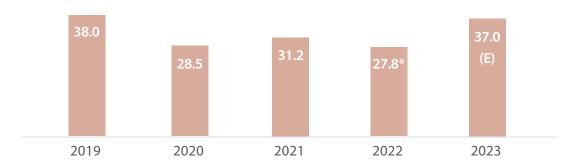
Please enquire at info@asiainvestmentresearch.org

Website: www.asiainvestmentresearch.or

VIETNAM - FDI 2022-2023

In 2022, Vietnam continued its #1 ranking as Southeast Asia's fastest-rising economy, with GDP increasing by 8%, well above earlier forecasts. This was led by manufacturing as many international companies are turning to Vietnam for its cost competitiveness, lower taxation, comprehensive (15) Free Trade Agreements and SEZs.

2022 FDI (\$ billions)

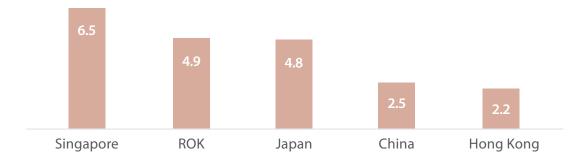


^{*} of which \$12.5 billion

Note: Midpoint in estimate by Ministry of Planning and Investment.

Processing and manufacturing industry continued to lead with \$16.8 billion, or 60.6% of total registered investment capital. The 8.1% expansion of the manufacturing sector was the main driver, and with the automotive industry thought to be key to future growth. Real estate ranked 2nd with \$4.45 billion (16.1%), electricity production/distribution was 3rd with over \$2.26 billion and science and technology related with \$1.29 billion.

2022 FDI by Country (\$ billions)



In 2022, foreign investors invested in 54 provinces/cities; Ho Chi Minh City ranked 1st, with more than \$3.9 billion, Bình Dương 2nd with over \$3.14 billion and Quảng Ninh 3rd with a total registered investment capital of circa \$2.4 billion.

Selected Key 2022 Investments/Announcements

- In August 2022, Apple supplier Foxconn (Taiwan) announced it had signed a \$300 million MoU with Vietnamese developer Kinh Bac City to expand its facility which has been in Bac Giang for 15 years to diversify and boost production. The company's new factory, on a plot of 50.5 hectares (125 acres) in Bac Giang's Quang Chau Industrial Park, is expected to generate 30,000 local jobs. The move follows a report this week that Foxconn has started test production of the Apple Watch in northern Vietnam.
- In September 2022, Lotte Group (Korea) held a groundbreaking ceremony for its Eco Smart City project in Ho Chi Minh City of the \$856 million (VND20.1 trillion) construction of the Lotte Eco Smart City Thu Thiem... as an economic hub that has been inspired by Pudong District in Shanghai and to provide over 5 million jobs throughout the project. Once entering Vietnam in 1996, Lotte Group has been expanding its business in distribution businesses, now employing about 20,000 employees.
- In December 2022, Samsung Electronics (Korea), the largest single foreign investor in Vietnam, announced that it will raise its total investment in Vietnam (key production site) from \$18 to \$20 billion (to be completed by year end). Samsung produces about 50% of its smartphones in Vietnam, accounting for nearly 20% of Vietnam's overall exports.
- Also in December 2022, LG Corporation (Korea) announced that it will invest an additional \$4 billion in Vietnam; since entering Vietnam in 1995, LG has invested \$5.3 billion in multiple fields, including cameras, electronics, household appliances, and auto component production. LG recruits 27,000 domestic employees, and its member companies generate 70,000 jobs for local people.

Over the past two years, the EU has also seen considerable growth both in trade with and investment into Vietnam. Trade had doubled to in just the past two years. Relative to investments, numerous and sizeable investments by Germany, France and Scandinavia, led by Denmark – especially in energy transition have now reach combined invested capital exceeding \$20 billion (official figures). This is still a fraction of the investment from countries from leaders Singapore, South Korea and Japan and greater China, it is a major change with additional future growth to follow across manufacturing, digitisation and energy transition.

In July 2022, the Vietnamese government approved the Action Program on Green Energy Transition and Reducing Carbon and Methane Emissions in the Transport Sector, which aims to achieve net-zero emissions in the transport sector by 2050. The decision sets specific national objectives related to promoting electric vehicle development, including:

- In the first period, from 2022 to 2030, promoting production, assembly, import, and use of electric vehicles (EVs), and developing charging infrastructure;
- In the second period, from 2031 to 2050, ending, by 2040, the production, assembly, and import of fossil-fueled cars, motorcycles, and mopeds for domestic use; and by 2050, requiring that 100% of road motorized vehicles be powered by electric and green energy, and developing a charging infrastructure system across the country to meet the demand of people and businesses.

Vietnam has the potential to become the leader in EV demand and EV production in the ASEAN especially in the electric two-wheeler (E2W) market.10 The country's E2W market is the second largest in the world (after China's) and the largest and fastest growing in the ASEAN region.

2023

Q1

Despite all of the 2022 momentum in GDP and FDI, in 2023, both GDP and FDI growth are off from prior projections. Vietnam's GDP grew 3.32% in the first quarter, down from 5.92% in Q4 2022, amid slower exports due to weakening global demand. Thousands of jobs have been cut this year in Vietnam's footwear and garment industry which is one of the world's top production hubs for large international players such as Adidas and Nike.

The quarterly business climate index confirmed that Vietnam remained a top destination for foreign corporate investment, but lower global demand and uncertainty over the political and regulatory domestic situation led most managers to remain cautious. A survey which focused on European companies and individuals operating in Vietnam, showed that 58% of the more than 200 surveyed managers did not plan to change their investment plans in Vietnam this quarter, but a small percentage wanted to increase current staff levels.⁽¹⁾

Vietnam received \$4.3 billion in FDI in Q1, down 2.2% from a year earlier, according to the latest government data released in late March. By the end of April 2023, the amount increased to \$8.9 billion. While investments were across 18 sectors, processing and manufacturing investments led, with over \$5.1 billion (57.8% of their total investment).

Seventy-seven countries/territories invested during this period: Singapore led with \$2.2 billion, followed by Japan with nearly \$2 billion and China with \$752 million. Hanoi was the top FDI destination, attracting more than \$1.1 billion. Bac Giang was second, followed by HCMC, Binh Duong and Dong Nai.

Selected Key Q1 Investments

- On 2nd January, Hainan Longi Green Energy Technology Co. Ltd. signed a MoU to manufacture solar panels with a capacity 3,500 MW/year and investment capital of \$140 million, commencing in Q1. The Bac Giang Chairman, a neighbour of Hanoim praised foreign businesses for contributing to provincial economic growth of 19.3% in 2022, an all-time record.
- On 5th January 2023, Yadea Group (China) signed a MoU to build an electric motorcycle manufacturing plant and R&D centre in the northern province of Bac Giang, a gateway to Hanoi capital The \$100 million plant will be built on an area of more than 23ha at Tan Hung industrial park in Lang Giang district, will have a design capacity of circa 2 million units/year; create 3,500 jobs for locals. Yadea sold circa 500,000 electric motorbikes in Vietnam with 500,000 exported globally.
- On 7th January, Ingrasys (Singapore) was approved as investor and Fulian Co as operator on the \$621 million Fulian precision technology factory project. The 49.6-ha project in Quang Chau Industrial Park will produce electronic components, computers, and communications devices. Ingrasys is a subsidiary of Foxconn (Taiwan), the world's largest electronics manufacturer.
- On 6th March, Reuters reported that after China ended its zero-COVID-19 policy in December, Chinese firms spent the first 50 days of 2023 investing in 45 new projects in Vietnam, the most from a single country, Vietnamese government data showed.

⁽¹⁾ https://www.reuters.com/markets/asia/foreign-executives-cautious-over-vietnam-investment-eu-business-body-2023-04-11/#:~:text=The%2 Netherlands%2C%20France%2C%20Luxembourg%20and,invested%20capital%20exceeding%20%2420%20billion.

In February 2023, a study released by JETRO indicated that of the Japanese investors in Asia-Pacific polled in the survey said, they plan to expand operations in Vietnam within the next two years.

The rate is the highest in the ASEAN region and third in Asia-Pacific, only after India (72.5%) and Bangladesh (71.6%). Another survey of JETRO also revealed Vietnam ranks only after the US, as a favourite destination for investment for Japanese companies.

Q2 – Additional Countries

In this quarter, we highlight a new set of loans from Japan, Vietnam's largest investor to date as well as developing trade and investment relationships in Israel and the UAE – important growth markets.

Israel

On April 2, officials from both Vietnam and Israel announced they had concluded the seven-year negotiations for the bilateral FTA. The Vietnamese official recommended that Israeli companies come and focus their investment in agriculture, high-tech agriculture, material industry, information and technology, green production, clean production, and industrial infrastructure development.

Israel is one of its major trade partners with Vietnam; it is the third largest export market and the fifth largest trade partner West Asia region. In 2022, bilateral trade values increased by nearly 18% on-year to \$2.2 billion; Vietnam exported US\$786 million to Israel, while imports from Israel were \$1.4 billion. Major Vietnamese exports included smart phones and finished components, aquatic and agricultural produce, footwear, and textile and garments.⁽²⁾

UAE

In April 2023, The UAE and Vietnam agreed to start talks on establishing a comprehensive economic partnership agreement (CEPA), as the two countries seek to promote collaboration in trade, investment, economy, industry, energy, logistics, agriculture and infrastructure.⁽³⁾

The UAE is Vietnam's number one Arab trade partner, accounting for 39% of its total trade with the Arab countries. Volume of non-oil trade between the two countries reached \$8bn (Dhs29.4bn) in 2022 while trade in goods other than mobile phones and accessories jumped to 46% from less than 36% in 2019.

Japan

In May 2023, the Ministry of Finance of Vietnam and the Ministry of Foreign Affairs of Japan signed three exchange documents related to loans with a total value of nearly 61 billion yen (\$440 million) at the G7 Summit in Hiroshima.⁽⁴⁾

The three loans included:

- A 50 billion yen budget support loan
- The loan for a project of Lam Dong province is worth 4.7 billion yen, with the goal of supporting the agricultural infrastructure of the province with sub-projects in the fields of transportation, irrigation and flower trading center
- The loan for the Binh Duong province project worth 6.3 billion yen is for the development of a rapid bus system connecting traffic between Binh Duong province and HCMC and Dong Nai province

 $^{(2) \} https://hanoitimes.vn/vietnam-israel-conclude-free-trade-agreement-talks-expect-robust-bilateral-trading-323297.html$

 $⁽³⁾ https://gulfbusiness.com/uae-to-launch-free-trade-talks-with-vietnam/\#: \sim : text = The \%20 UAE \%20 and \%20 Vietnam \%20 have, \%2C \%20 logistics \%2C \%20 agriculture \%20 and \%20 infrastructure.$

⁽⁴⁾ https://vietnam.postsen.com/local/337715/Vietnam-%E2%80%93-Japan-signed-3-important-documents-worth-440-million-USD.html/

VIETNAM INFRASTRUCTURE

Overview

This section sets out some of Vietnam's leading infrastructure projects with a focus on the ones most relevant to drive economic growth both over 2023/2024 as well as showing progress on the larger projects being operational 2025 onwards.

Near Term (2023-2024)

Logistics – this has been an area in which Vietnam has underperformed, with limited extent and quality of network infrastructure being "key challenges to investors," according to Fitch. Suddenly, over the past 2 years, this segment has begun to attract financially sophisticated investors following its status as an emerging global production hub. However, sustainable long-term growth needs infrastructure development, which we are beginning to see happening as set out below, across many areas.

- In February 2023, Singapore and Vietnam signed several MoUs to enhance economic cooperation in key sectors in Singapore. The deals cover activities for 2023 which include deepening agri-trade cooperation through business matchmaking and facilitating Singaporean companies to invest in Vietnam's agriculture and logistics sector.
- Also in February, IFC announced in Singapore that more than \$2 billion would be invested in Vietnam's logistics sector over the next five years via a new partnership between the IFC, Singapore's YCH Group and Vietnam's T&T Group. One of the projects is a multimodal logistics project covering 83 hectares, called the Vietnam "super port". Located roughly 60 kms outside of Hà Nội in the northern province of Vĩnh Phúc, the Vĩnh Phúc Inland Container Depot (ICD) Logistics Centre (Vietnam SuperPort) project will be developed by T&Y Superport Vĩnh Phúc JSC, a JV between Singapore's YCH Group and Vietnamese conglomerate T&T Group (sponsors). The project is set to be one of the country's first ICDs with multimodal facilities, including an international distribution centre and an inland port for rail connectivity and air transportation.
- In March, e-commerce company Lazada Logistics Vietnam on Thursday officially inaugurated a commodity sorting centre called Lazada Logistics Park at Sóng Thần 1 Industrial Zone in the southern province of Bình Dương. Covering an area of 20,000 sq.m, the Lazada Logistics Park, whose capacity is 1 million parcels per day, is the biggest and most modern logistic centre in the province. Lazada said its new sorting center is equipped with modern technologies such as Al and machine learning, and 99% of the sorting lines are automated.
- Also in March, Cainiao Vietnam, a subsidiary of Cainiao Network, the logistics arm of Alibaba Group, announced the signing of an MOU with Sagawa Vietnam to promote stronger collaboration in Vietnam's logistics sector. Located at the Cainiao P.A.T. Logistics Park and Cainiao Dong Nai Smart Logistics Park, the premium warehouse space offers a strategic geographical advantage for business tenants due to its high accessibility. Both parks boast multiple access points that link directly to Ho Chi Minh City, Long Thanh International Airport, and major seaports, such as Cat Lai and Cai Mep-Thi Vai, making them an ideal choice for businesses looking for an efficient way to transport goods and expand their business opportunities
- This follows a 2022 move by GLP (Singapore) which announced the establishment of GLP Vietnam Development Partners I ("GLP VDP I") with an investment capacity of \$1.1 billion. GLP VDP I, which will focus on developing modern and environmentally friendly logistics facilities in Greater Hanoi and Greater

Ho Chi Minh City, is seeded with six development sites with a total land area of close to 900,000 square metres and has a robust development pipeline of further opportunities. It is set to be one of the largest logistics development funds in Southeast Asia ("SEA").

National Power grid upgrades – As discussed in our Energy Transition section and according to Institute of Energy of Vietnam (IEV), Vietnam is set to face a surge in power demand and consumption over the coming decade, impacting its energy security. Vietnam expects power consumption to grow 10-12% annually through 2030, one of the fastest power consumption growth rates in Asia.

There were localized power shortages in the manufacturing hub of HVMV beginning in 2021, and it is possible that by 2030 it will lack more than 10,000MW or 7.5% of total capacity. In PD8, total investment capital for the 2021-2030 period will be about \$128.3 billion (average about \$12.8 billion/year), of which \$950 million will be for power generation/source/plants and about \$32.9 billion (\$3.3 billion/year) for power grids.

Digitisation/Cloud Computing – following the COVID-19 pandemic, the digital transformation process has been viewed as a great opportunity to accelerate growth. Further, the Vietnam government has increased its efforts in using public digital for citizens in tandem with technology migration. As of June 2022, 46% of the administrative services were conducted online, a 1.6X increase from 2021.

Cloud computing has played an important role in Vietnam's digital transformation, cloud computing and grown significantly along with a fast rate of adaptation. By September 2022, about 56% of enterprises and organizations have chosen to use cloud services with an average investment of more than 66 million VND / year. According to the National Institute of Information and Communications Strategy, by the end of 2022, the cloud computing market in Vietnam reached 200 million USBs (equivalent to VND 4,600 billion) and 27 data centres.

The biggest highlight is that Vietnam has been shaping up as Southeast Asia's most impressive economic success over the last few years (32% CAGR from 2028-2022), outperforming all of its Southeast Asian peers.

Data Centres

In 2019, a study by Cushman & Wakefield on data center markets in Asia Pacific came out, and Vietnam was in the ninth place out of 11 countries considered. The country was said to have been rather incompetent compared to the development of other markets in the region. Vietnam's digital economy has been growing at the fastest pace in Southeast Asia, about 38 per cent annually compared to the region's average of 33 per cent since 2015.

Overall, its internet economy has grown 16 percent from 2019 to US\$14 billion among the highest in Southeast Asia as per a report by Google. The report projected Vietnam to grow its digital economy from 2020 to 2025 by 29 percent, second only to the Philippines at 30 percent. The country's ICT sector is also gaining strong momentum with robust digital infrastructure, with an annual growth rate of cloud computing to be more than 30%, boasting 27 data centers in 2022.

Vietnam's data center market size is expected to increase to more than \$1 billion by 2028 from \$561 million in 2022, growing at a CAGR of 10.68%, according to Research and Markets, the world's top market research store. In its report, "Vietnam Data Center Market – Investment Analysis & Growth Opportunities 2023-2028", the firm said existing operators are expanding their presence in the country by investing in new facilities.

The market's strong growth is being driven by government efforts and initiatives, for example, the Digital Transformation Program 2025 which aims to transfer around 50% of the business to digital platforms.

- In August 2022, Amazon Web Services (AWS) announced the launch of its edge data centers in Hanoi and Ho Chi Minh City.
- NTT Global Data Centers is building its second data center in Vietnam as a partnership with domestic firm QD.Tek. The facility, called NTT Global Data Centers HCMC1 and located in HCMC's Saigon Hi-Tech Park, is set to open in 2024. The project's total investment has not been disclosed.
- Singapore's Keppel Corporation now has plans to expand its business in Vietnam for stronger growth in an alternative manufacturing hub for investors and companies seeking to diversify from China.

Gemalink Deep Sea Port



Gemalink deep-sea port is one of the seaports with the deepest draft in Vietnam, and with this specification, Gemalink port is one of the few seaports has a strong attraction to shipping lines, especially those operating mother vessels with a tonnage of up to 250,000DWT – the world's largest container vessel size to optimize operational efficiency nowadays.

Since being put into operation in early 2021, Gemalink deep-sea port has always been a bright spot in Cai Mep – Thi Vai Port area, a cluster of ports ranked 11 out of 370 efficient ports by the World Bank. At the beginning of

the spring of 2022, Gemalink port set a record in Vietnam's port industry with a throughput of 1 million TEUs after being put into operation for more than a year.

In December 2022, Gemadept and its partners announced they are implementing procedures to kick-off construction of Phase 2 of Gemalink Deepsea Port in 2023. When Phase 2 is completed and put into operation from 2025, it will double the designed capacity of Gemalink port, equivalent to 3 million TEUs/year with 1.5 km of berth length and total area up to 72ha. Gemalink will become the largest modern deepsea port in Cai Mep – Thi Vai port cluster, as well as in the region.

In March 2023, the southern province of Ba Ria-Vung Tau held a welcome ceremony on March 30 at Gemalink International Port, the country's deepest and largest deep-water seaport, at the Cai Mep – Thi Vai port cluster, for the 24,188 TEU Container Vessel "OOCL Spain", on its first voyage to connect Europe and Asia. OOCL Spain is named among the largest container ships in the world.

The vessel has been awarded three "Smart Ship" notations by the American Bureau of Shipping ("ABS"). This is recognition, that OOCL's use of the latest intelligent technology onboard, together with big data acquisition, will optimise the operations of OOCL Spain, enabling fuel efficiency improvements, gains in structural health monitoring, and long-term navigational safety.

North South Expressway (3 sections only) – The project has a total length of 2,063 kms (1,282 mi), built via 18 sections with a total cost estimate of VND 350 trillion (\$18.5 billion).

In January, it was reported that Vietnam will benefit from a series of major transport infrastructure projects in 2023. The Ministry of Transport has set a goal of completing three component projects of the North-South Expressway project before April 30, Vietnam's Reunification Day. The three projects of Mai Son-National Highway No. 45, Vinh Hao-Phan Thiet and Phan Thiet-Dau Giay have a total length of 260 km and are part of the North-South Expressway, which has been delayed for numerous reasons over the past 3 years.

In addition, the government regularly inspects the construction sites and urges the units to speed up progress and to complete six other component projects of National Highway 45-Nghi Son, Nghi Son-Dien Chau, Dien Chau-Bai Vot, Nha Trang-Cam Lam, Cam Lam-Vinh Hao, My Thuan Bridge 2 also during 2023.

Hanoi Metro Line



In March 2023, Hanoi announced that the elevated section of the Nhon-Hanoi Station metro line should start running in August, after the city missed the previous deadline.

In a recent statement sent to the central government, Hanoi authorities said the Nhon–Hanoi metro line will have its final contract package completed in May so that the entire line will be assessed for safety approval in August. The line's elevated section, however, will be put into service in August, the city promised.

The Nhon-Hanoi Station route, the capital's second metro line, is to run 12.5 kilometers

from Nhon in the western district of Nam Tu Liem, via Kim Ma Street to the downtown Hanoi Railway Station.

The route's elevated section was initially scheduled for completion in February 2018 but it was later delayed to December 2022.

The Hanoi Metropolitan Railway Management Board (MRB), which manages the entire project, said last July that it's unlikely that the elevated track will meet the deadline set for December 2022, and added that it's not clear when the section can be finished.

The committee also admitted that it has not been strict in directing the implementation of the project or addressing problems occurring during the construction of the project. The city also rescheduled the deadline for operating the entire line to 2027 and raised the total investment fund of the line by almost VND1.9 trillion (US\$80.75 million) to VND34.826 trillion. The entire line is now 75.6% complete, with the elevated section 97.6% finished and the underground section 33%.

This marks the second time the project's capital has been readjusted, with the first readjustment made in 2014 to raise the funding from VND18 trillion to around VND33 trillion. When construction started in 2009, the Nhon–Hanoi Station metro line was originally set for completion in 2015. Until now, it has been rescheduled four times.

The capital city's first metro line, also the country's first, Cat Linh – Ha Dong, started running in November 2022

Longer Term (2025+)

Long Thanh International Airport

Long Thanh International Airport, a key national project, covering more than 5,580 hectares in Long Thanh district, about 40 kilometers east of HCMC, the new airport is expected to help ease overloading at Tan Son Nhat International Airport in HCMC, Vietnam's southern economic hub.

The airport project has a total estimated investment of VND336.63 trillion (\$14.12 billion), with three phases. The first phase, costing VND110 trillion, will include a runway, passenger terminal and auxiliary works capable of serving 25 million passengers/ year.

In the second phase, an additional runway and terminal will be built to reach a capacity of 50 million passengers/year. The remaining items will be completed in the third phase to reach a capacity of 100 million.

Work began in 2021 and the new airport is set to open in 2025. The second phase is scheduled for completion by 2050.

However, the project continues to experience delays. In May 2023, the selection of a contractor to build the passenger terminal is facing challenges because none of the applicants have been able to commit to meeting the construction deadline thus the second bidding invitation for the design, construction, and equipment installation for the terminal was extended to June 12 instead of April 28. With a total investment of VND35.23 trillion (\$1.49 billion) this is the biggest package for the first phase of the airport.

Hanoi Ring Road

In June 2022, the Vietnam government announced the \$3.8 billion Ring Road 4 project, a motorway bypass around Hanoi. Ring Road 4 will run 113km around the city, connecting the province of Hung Yen in the south and Bac Ninh to the northeast. It will be built by a mixture of PPP and direct public investment, with the Hanoi People's Council acting as client. The project will consist of four lanes with a total width of 17m, allowing an average speed of 80km/hr. Altogether, the road which will cover an area of 13 km², and for construction purposes will be divided into seven sub-projects.

The council also announced that it has allocated \$1.4 billion to the project over the next four years. Private sector investors are expected to contribute \$1 billion, with the state paying the remainder. Public finance will take the form of an issue of bonds, to be paid back by selling public land, the value of which will be raised by the road.

In February 2023, to the Hanoi Transport Construction Investment Project Management Council announced that the No.4 Ring Road project preparation process is on track, ensuring that construction can start in June as planned, although completion date has been moved back from 2026 to 2027.

North-South Express Railway

The Vietnam North–South express railway is a proposed high-speed railway that would replace the current North-South railway between Hanoi and Ho Chi Minh City. The new railway would be a double-track standard gauge (1,435 mm) electric railway with a track length of 1,570 km. Train speeds have been proposed from anywhere between 150 km/h to 350 km/h. The current Hanoi – HCMC railway is a single-track metre-gauge railway using diesel locomotives. This railway was completed in 1936 (known then as the Transindochinois Railway), and the journey took 40 hours.

In August 2020 the Ministry of Transport (MoT) was in the preparation process stage, with an estimated investment of \$58.7 billion. The railway would be built in stages, with the first phase beginning with Hanoi – Vinh and Ho Chi Minh City – Nha Trang between 2020-2032.

The second phase between 2030-2045 would complete the remaining sections.

In May 2023, it was reported that The North-South Express Railway should be constructed within only 16 years, instead of 30 years as the MOT proposed, and could be implemented in the form of a PPP, the State Appraisal Council has concluded.

The council's conclusion on the project's pre-feasibility study has been sent to the Ministry of Transport, the Government Office, and localities where the railway will pass through.

The high-speed railway was proposed by the transport ministry to run 1,559 kilometers, starting at Ngoc Hoi Station in Hanoi and finishing at Thu Thiem Station in Ho Chi Minh City, but the council's report proposed cutting the length to 1,508.6 kilometers.

Regarding implementation time, the council asked the ministry to accept recommendations made by the project consulting consortium. The consortium argued that the construction time for the railway of up to 30 years as proposed by the transport ministry was too long, which could lead to the risk of investment capital hikes and limit opportunities for socio-economic development.

If preparations for the project runs from 2023-2025, construction time should be cut to 16 years, from 2025-2041. The consultants also recommended the project be divided into two phases. Phase 1 (2025-2035) will see site clearance on the entire route and the construction of two sections: Ngoc Hoi (Hanoi)-Vinh and Nha Trang-Thu Thiem (HCMC). The total length of these two sections will be about 621.31 kilometers.

Phase 2 (2035-2041) will see the construction of the Vinh-Nha Trang section, 886.75 kilometers long.

According to the transport ministry proposal, the cost of the project would be \$58.7 billion if the design and exploitation speeds are 350 kph and 320 kph, respectively. But the council said this faster option would actually cost \$64.6 billion.

MSC-Phu Loi Islet Port

In July 2022, Geneva based Mediterranean Shipping Company (MSC), the world's biggest shipping line ranked by fleet capacity, announced that it wants to build a new transhipment "super port" in south Vietnam. According to local media, MSC-owned Terminal Investment Ltd (TIL) has signed an agreement with HCMC to build a \$6 billion port on Phu Loi Islet in the coastal district in Can Gio. The proposed facility would have a 7.2km wharf, annual capacity of 15m TEUs and be capable of handling 24,000 TEU containerships.

Can Gio Port is expected to handle up to 80% transhipment and 20% gateway cargo, some reports suggest, with the project's backers apparently eyeing Singapore's success.

MSC is partnering with Vietnam National Shipping Lines and Saigon Port to build the terminal, with the first phase of construction earmarked to begin in 2024, with a target launch date of 2028. MSC proposed to invest \$660 million for the project's first phase.

Vietnam's container throughput has seen record growth in recent years, in line with the country's export boom. The volume of container goods transhipped via Vietnam's port system in 2021 was 23.9 million TEUs, mainly via ports in Ho Chi Minh City and Vung Tau in the south and Hai Phong, the north's port and logistics hub, according to the Vietnam Maritime Administration. However, the ratio of international trans shipments was low, showing high potential for development.

While container growth has been strong, question marks remain over the need for an additional deepwater port next to HCMC, given the recent success and planned expansion at Cai Mep, where both Maersk and CMA CGM have terminal investments.

In line with growth in ports , in September 2022, Cai Mep International Terminal (CMIT) – APM Terminal's JV with Vietnam Maritime Corporation and Saigon Port, welcomed MSC's largest container vessel call ever in Vietnam.

The mega container vessel is operated on 2M Alliance's Pearl service, connecting Vietnam with the US West Coast. With an average crane productivity of nearly 32 containers/hour/crane and 23-row outreach, CMIT successfully handled almost 16,000 TEUs of import, export, trans-shipment and empty containers, keeping her journey timely after only 54 hours' port stay.

The CMIT deep-water port is categorised as a special port cluster according to the master plan of Vietnam's seaport system 2021-2030. The vision to 2050 was approved by the Prime Minister on September 22, 2021. In August 2022, the Ministry of Transport approved a total investment of over \$60 billion from the state budget to upgrade the CM-TV channel.

CMIT, located 50 kms southwest of HCMC, was ranked 11th most efficient container port in the world in 2021 by the World Bank and S&P Global Market Intelligence.



VIETNAM - ENERGY TRANSITION

Overview

This analysis discusses Vietnam's meteoric rise from its 196th global solar ranking in 2010 to 9th place in 2021 (rising above both Spain and France); how the grid was not prepared for this burst of growth; government changes required during 2021 and 2022 to return normalcy to the grid as well as major plans via JETCO and PD8 to position Vietnam's energy transition up until 2050.

Solar Growth

Solar power projects are both the fastest and easiest to scale: in Viet Nam, the average time has been nine months. In 2018, Vietnamese solar generation was close to zero TWh; however, by June 2022, solar accounted for 11% (14 TWh) of Vietnam's electrical power. However, while the growth was rapid, linking it to the grid and integrating it into the country's future plans were not easy.

Viet Nam's rapid solar generation was led by supportive government policies and international investors/ partners. The first feed-in-tariff (FIT) was introduced by the Vietnamese government in 2017 which enabled solar (and wind) power projects – both utility scale and rooftop – that started generating before June 2019 – to sell their electricity to Viet Nam Electricity (EVN) at a price of \$93.5 per MWh for 20 years. At that time, this was the most generous FIT in all of Southeast Asiaand well above Thailand's the FIT for rooftop solar of circa \$57 per MWh.

At the utility level, the Vietnamese government opened up the electricity market for bilateral power purchase agreements (PPAs) to reduce the monopoly of EVN and to increase investment and market competition. It also exempted solar (and wind) generators from corporate income tax for the first four years of operation, with a 50% reduction for the following nine years and then a 10% cut until the fifteenth year of operation; technologies and hardware were also exempted from import tariffs.

Driven by favourable FIT policies Vietnam's grid-connected 4.46 GW solar power capacity by end of June 2019 led Vietnam to overtake Thailand with the largest installed capacity for solar and wind power in Southeast Asia.

By the end of 2020, when the second round of the FIT closed, there were over 101,000 rooftop solar systems installed across resident, commercial, and industrial buildings throughout Viet Nam. This represented a massive 25-fold increase on installed capacity in 2019. In the December 2020 (alone) nearly 7GWs of roof solar was installed⁽¹⁾. Vietnam's total solar power capacity reached 16,500MW, far surpassing the government's prior target of 850MW.

Crushing the Grid

Strong rooftop solar growth increased installed capacity by January 2021 to over 9.5GW, resulting in Vietnam being the third largest solar market in the world in 2020. However, Vietnam's power grid lacked adequate grid structure to accommodate this level of generation.

The country's power grid had suffered with the amount of renewable energy sources which had gone to waste after some 365 million kWh of solar power was curtailed in 2020 to avoid straining the transmission and grid infrastructure. Thus, the government undertook a series of moves, including opting to reduce the FIT, and begin to chase local smaller producers to limit growth (sometimes chasing door to door).

(1) https://www.rapidtransition.org/stories/viet-nams-rapid-rise-to-becoming-a-solar-powered-state/

The Government also launched a number of initiatives and projects to upgrade and expand the transmission network. By 2030, the total capital investment into power grids is expected to be around \$33 billion. This investment will cover the construction of new transmission lines and substations, as well as the deployment of smart grids and other emergent technologies.

2021

Across the highly productive regions of southern Vietnam and the Central Highlands, authorities were requesting small-scale energy producers and industrial solar farms to limit their operations due to infrastructure limitations. Meanwhile, the Government embarked on signing a number of partnerships with major international solar partners.

We list some of these below in 2021. Note these partnerships were centred around Japan, but also saw partnerships with EU countries focussed in Germany, France, Spain and Ireland.

Japan

- In May, the Japan International Cooperation Agency (JICA) signed a facility agreement to provide up to \$25 million for the construction of wind energy projects in Vietnam together with other co-sponsors ADB and the Australian Export Finance (EFA). This project is JICA's first funding for wind power generation in Vietnam.
- In October, Sojitz Corporation and Osaka Gas Corporation formed a JV with Looop Inc., a Tokyo-based electric power startup, to begin a rooftop solar power company in Vietnam for industrial and commercial customers. SOL Energy Co., established in Dong Nai province, owned 70% by Sojitz Osaka Gas Energy Co., an existing JV between Sojitz and Osaka Gas, and 30% by Looop.
- In December, Marubeni Green Power Vietnam signed a corporate power purchase agreement (PPA) with Ajinomoto Vietnam Co. Ltd., in which Marubeni Green Power (MAGPOV) will supply electricity generated by a rooftop solar PV system in Vietnam at Long Thanh facility in Dong Nai province.

EU

- In June 2021, Mainstream Renewable Power (MRP) (Ireland) signed an agreement to acquire an 80% shareholding in Technology and Development Joint Stock Company Limited (D&T), which is developing a 405MW portfolio of solar projects in the Dak Nong province.
- In June 2021, EDP Renováveis (France), the renewable energy company of the EDP group, signed a contract with Trina Solar (China), one of the world's leading manufacturers of photo-voltaic and intelligent energy solutions, to acquire a 28 MWac (35 MWdc) photo-voltaic solar energy project, totaling €30.3 million. The Trung Son photo-voltaic solar energy project, located in Khanh Hoa Province, Vietnam, has been in operation since December 2020 and has a Power Purchase Agreement (CAE) signed with Vietnam Electricity (EVN), at a tariff of 20-year FiT.
- In October 2021, EDF Renewables (France) agreed to invest a minimum of \$100 million in VinaCapital's SkyX Solar, a rooftop solar power developer in Vietnam. With this funding, SkyX Solar which has around 30MWp of solar projects under operation, to further develop 200MWp of rooftop solar and distributed solar projects for commercial/industrial customers in Vietnam over the next few years.

Vietnam's solar growth needs to also be seen in a global context solar generation growth remains very strong, as it is the "cheapest electricity in history" (according to the IEA). This is a result of rapid cost reductions as production scales-up and technologies improve, with the unit cost of electricity from solar declining by 85% over the last decade, according to the Intergovernmental Panel on Climate Change (IPCC).

Led by lower pricing, solar is likely to continue being the most popular new energy generating technology. In 53 of the 112 nations Bloomberg NEF surveyed as part of their 2021 annual report, solar was the top technology added, up from just 14 % in 2012. The IEA expects solar to surpass coal power as the largest source of global power generation by 2027; BloombergNEF expects annual solar PV demand to surge by more than 150 percent by 2030.

In 2023, solar demand is set to increase again by between 20-30% due in part from the situation with Russian energy; which is affecting supply chain issues.

2022

In May 2022, Vietnam's National Load Dispatch Center (NLDC) decided against approving any solar or wind energy facilities in 2022. Citing insufficient input facilities to transfer renewable energy to the grid, NLDC does not want to add any more wind and solar power capacity to the national plan in 2022⁽²⁾.

This decision followed a January 2022 announcement by the World Bank urging Vietnam to launch competitive bidding programmes for renewable energy in lieu of the expired FITs while also modernising the national grid and introducing energy storage systems.⁽³⁾

2022 - Shift to Wind

As it did in solar, when reaching out to partners, these were leading/global players, mostly based in EU countries.

- In February 2021, Siemens Gamesa (Germany/Spain) won its largest nearshore project to date in Vietnam the 100MW Tra Vinh Dong Hai 1 wind farm. Located in Tra Vinh province, the project will feature 25 SG 5.0-145 turbines with a flexible power rating. It is the first nearshore project by Trungnam Group as the Vietnamese energy and infrastructure developer expands to the nearshore sector to complement its existing renewables portfolios for solar and onshore wind projects.
- In March 2021, Iberdrola (Spain), Cosmo Eco Power (Japan) engineering Hitz (Switzerland) agreed to co-develop a 600MW offshore wind farm in Japan. The 3 companies signed an agreement to work on the Seihoku-oki wind farm project in Aomori Prefecture. The wind farm will enter the second round of Japan's capacity auction, due to be held in 2021.⁽⁴⁾
- In July 2021, Iberdrola (Spain) acquired Sowitec Vietnam's 550 MW green pipeline. Sowetic Vietnam (part of German group) owns six renewable projects under development: five onshore wind farms and one 50MW floating photovoltaic project.⁽⁵⁾
- In September 2021, Ørsted, the world's most sustainable energy company, and T&T Group, a leading Vietnamese cross-industry company with 80,000 employees, announced the signing of a MOU to launch a strategic collaboration on offshore wind in Vietnam. This collaboration between together a multi-GW pipeline of greenfield offshore wind projects located off the coasts of the Binh Thuan and Ninh Thuan provinces, Vietnam's most suitable areas for offshore wind development.

⁽²⁾ https://www.eqmagpro.com/no-solar-wind-energy-for-vietnam-in-2022-due-to-grid-constraints-media-eq-mag-pro/

⁽³⁾ https://www.aljazeera.com/economy/2022/5/18/after-renewables-push-vietnam-has-too-much-energy-to-handle

⁽⁴⁾ https://www.power-technology.com/news/iberdrola-sowitec-vietnam/

 $^{(5) \} https://www.mainstreamrp.com/news/Agreement-with-AIT-to-co-develop-500-mw-offshore-wind-project/$

- In October 2021, EDF Renewables (France) has agreed to invest a minimum of \$100 million in VinaCapital's SkyX Solar, a rooftop solar power developer in Vietnam as the market continues to boom. With this funding, SkyX Solar which has around 30 MWp of solar projects under operation, to further develop 200MWp of rooftop solar and distributed solar projects for commercial/industrial customers in Vietnam over the next few years.
- In November 2021 Orsted (Denmark), announced plans to invest up to \$13.6 billion in an offshore wind farm in the north Vietnamese port city of Hai Phong. Once operational, the plant will have a total capacity of 3,900MW.⁽⁶⁾
- In November 2021, BCG Energy and Siemens Gamesa (Germany/Spain) signed a cooperation agreement on a \$400 million wind power development in Vietnam. Under the terms of the agreement, Siemens Gamesa will be the supplier of equipment and technical solutions for BCG Energy to implement more than 500MW of wind power projects in Vietnam. BCG Energy currently owns 577.1MW of capacity in Vietnam; planning 1.5GW of generating capacity by 2023.
- In March 2022, Vestas (Denmaerk) secured a 100 MW order in Vietnam for an undisclosed project. The order covers supply, supervision of the installation, and commissioning of the wind turbines. With this project, Vestas' total capacity of onshore wind turbines in Vietnam will surpass 1.6 GW.
- In August 2022, Ørsted (Denmark) and PetroVietnam Form Offshore Wind Partnership, Ørsted and PetroVietnam Technical Services Corporation Mechanical & Construction (PTSC M&C) signed a MoU to launch collaboration on offshore wind projects in Vietnam and globally.
- In September 2022, several companies collaborated with Siemens (Germany) on another major wind deal. EKF Denmark's Export Credit Agency (EKF) and Siemens Gamesa, have been strategic business partners for years. The wind project is backed by a buyer credit guarantee from EKF; the guarantor behind is the Vietnamese bank MB Bank; the buyer credit guarantee for the financing of the project was arranged by another business partner of EKF, German Landesbank Baden-Württemberg (LBBW). The 75MW wind farm project⁽⁷⁾ in Vietnam's Ca Mau-province in the southern part of the country consists of 18 units of SG 5.0-145 turbines with flexible power rating from 4-5MW. The wind farm will be able to supply electricity to approximately 180,000 Vietnamese households.
- In November 2022, Ørsted (Denmark) and T&T signed a landmark agreement with the Ministry of Planning and Investment's (MPI) National Innovation Center (NIC) to bolster technical capacity and build technological expertise in Vietnam's offshore wind sector. The goal of this 5-year deal is to launch an offshore wind R&D and training centre under NIC.
- In November 2022, Copenhagen Infrastructure Partners (CIP) signed three MoUs with Xuân Cầu Holdings, PTSC M&C and Semco Maritime, and with Pacific Corporation JSC to develop multiple GW of offshore wind projects in North Vietnam. The agreement marks an important milestone for the collaboration between a local developer and an international offshore wind company towards establishing offshore wind in Vietnam in this estimated \$10 billion project⁽⁸⁾

⁽⁶⁾ https://scandasia.com/orsted-group-to-invest-up-to-13-6-billion-usd-in-offshore-wind-farm-in-hai-phong/

⁽⁷⁾ https://stateofgreen.com/en/news/siemens-gamesa-project-resulting-in-ekfs-largest-wind-financing-ever-in-vietnam/

 $^{(8) \} https://real assets.ipe.com/news/cip-consortium-plans-to-develop-10bn-offshore-wind-project-in-vietnam/10046985. article to the constraint of the co$

Future

As 2022 ended and through the first several months of 2022, JETP and PDP 8 agreements became a focus.

JEPT – Vietnam

In December 2022, officials from Viet Nam and the International Partners Group (IPG), including the EU, the UK, France, Germany, the USA, Italy, Canada, Japan, Norway and Denmark agreed a Just Energy Transition Partnership (JETP). The Partnership will support Viet Nam to deliver on its ambitious Net Zero 2050 goal, accelerate the peaking of its greenhouse gas emissions and transition away from fossil fuels to clean energy.

The JETP plans to mobilise an initial \$15.5 billion of public and private finance over the next 3–5 years to support Viet Nam's green transition finance in the form of grants, low interest loans, and investment. The Partnership will support Viet Nam in working towards a number of ambitious new targets:

- Bringing forward the projected peaking date for all greenhouse gas emissions in Viet Nam from 2035 to 2030.
- Reducing peak annual power sector emissions by up to 30%, from 240 megatons to 170 megatons, and bringing forward the peaking date by five years to 2030.
- · Limiting Viet Nam's peak coal capacity to 30.2GWs down from a current planning figure of 37GWs.
- Accelerating the adoption of renewables so that renewable energy accounts for at least 47% of electricity generation by 2030, up from the current planned share of 36%.
- The successful delivery of these ambitious targets will result in around 500 megatons (0.5 billion tonnes) of emissions saved by 2035.

Initial contributions to the Viet Nam JETP include \$7.75 billion in pledges from the IPG together with the ADB and the IFC. This is supported by a commitment to work to mobilise and facilitate a matching \$7.75 billion in private investment from an initial set of private financial institutions coordinated by the Glasgow Financial Alliance for Net Zero (GFANZ), which is dominated by major Western banks.

Vietnam is the third country to adopt a JETP, following the successful launch of the South Africa JETP at COP26 in 2021 and the Indonesia JETP signed at the latest COP27.

The Vietnam JETP was originally expected to be finalised at the COP27 together with the US\$20 billion JETP announced for Indonesia. However, it was reported that Vietnam wanted a larger share of the JETP funding to be in the form of grants, rather than loans.⁽⁹⁾

Q1 2023 - Current

In March 2023, the power production of the entire Vietnam system reached 23.2 billion kWh, down 0.7% y-o-y. Accumulating the whole first quarter, the power output of the whole system reached 61.83 billion kWh – down 1.6% over the same period. The mobilizing ratio of some power source types to the total power output of the whole system was as follows:

- Hydropower reached 15.38 billion kWh, accounting for 24.9%.
- Mobilized coal-fired power reached 28.03 billion kWh, accounting for 45.3%.

(9) https://ec.europa.eu/commission/presscorner/detail/en/ip_22_7671

- Gas-fired power reached 7.14 billion kWh, accounting for 11.6%.
- Renewable energy reached 10.22 billion kWh, accounting for 16.5% (of which solar power reached 6.45 billion kWh, and wind power reached 3.47 billion kWh).
- Imported electricity reached 953 million kWh, accounting for 1.5%.
- Power transmission output in March 2023 reached 17.91 billion kWh. Accumulated in the first quarter of 2023, transmission power output reached 48.27 billion kWh, down 1.4% over the same period in 2022.

Power Development Plan VIII (PDP 8) – \$135 billion financing needs to 2030

In May 2023, Vietnam's Prime Minister approved the national electricity planning period 2021–2030, with a vision to 2050 (Power Development Plan VIII or PDP 8). The plan involves new energy sources, smart grid development, and a 6GW offshore wind target.⁽¹⁰⁾

Vietnam's onshore wind power capacity is expected to reach 21.9GW by 2030; offshore wind power for new energy production to reach 15GW by 2035 and 24GW by 2050; solar power to increase 4.1GW by 2030 and reach a total capacity of between 168.6GW and 189.3GW by 2050; and hydropower is expected to reach 29.3GW by 2030.

For coal-fired power plants, Vietnam will continue to implement only those projects which are already in the revised Power Master Plan VII and under construction until 2030. Fuel switching to biomass and ammonia for power plants that have been operating for 20 years will happen; if fuel switching is not possible, plants over 40 years will be terminated. By 2050, Vietnam intends to no longer use coal to generate electricity and to have completely converted these plants to biomass and ammonia with a total capacity of 25.6–32.4GW.

For planned projects, PDPVIII lists 15 LNG thermal power plants with a total generation capacity of 28.5GW during 2021–2035; five coal-fired power plants, total capacity of 6.1GW under construction during 2021–2030; 25 medium and large hydropower plants with total capacity 2.8GW during 2021–2030; and five coal-fired power plants behind schedule, which are allowed to be extended till June 2024 and be terminated if cannot be implemented.

The plan also lists 14 potential hydropower projects with potential capacity of 1.1GW which will be considered later, and 27 solar power projects with unoperated capacity of 4.1GW will be considered after 2030.

By 2030, the goal is for Vietnam's to be among the top four most reliable power supplies in ASEAN, and for its electricity access index to be in the top three. PDP 8 targets peak greenhouse gas emissions of no more than 170 million tons by 2030 and anticipates the construction of a smart grid.

PDP 8 also includes 5-10GW of energy exports by 2030. The government estimates the total investment in development of power sources and transmission grids at around \$134.7 billion in the 2021–2030 period, and \$399.2–523.1 billion in the 2031–2050 period.

Vietnam's technical potential is vast – with up to 600GW of offshore wind technically possible.(11)

 $^{(10) \} https://en.evn.com.vn/d6/news/Operational-situation-in-March-and-work-goals-and-tasks-in-April-2023-66-142-3407. aspx and the sum of t$

⁽¹¹⁾ https://www.4coffshore.com/news/vietnam27s-pdp-8-finally-approved-nid27636.html

The macro shifts are set out in this chart below and are significant especially in the shift from coal to renewables:

There were 8 VC investments in H2, 7 in financial and 1 in services. Again, very little seed activity as investors were moving to re-risking as year progressed. The presence of corporates including Sinar Mas and MUFG as well as major PE firms such as KKR also sent strong messages for additional future investment once the domestic Indonesian and indeed global markets settle.

Vietnam Energy 2025-2045							
Energy	2025	2045					
Coal	30.4%	13.0%					
Hydro	27.1%	11.5%					
Renewables *	23.3%	51.8%					
LNG	15.5%	20.5%					
Imports	3.7%	3.2%					



^{*}Defined as solar, wind and biomass.

VIETNAM PRIVATE EQUITY 2022-2023

Overview

Similar to many other Asian countries, the Vietnam PE market started only early this century due in part to a shortage of private enterprises which were prepared for PE investors and unclear regulatory framework on private investments. This began to change when Vietnam first established a common legal framework for the establishment and management of both SOEs and private enterprises. Other key reasons which led to record levels of growth one- and one-half decades later include Vietnam joining the WTO in 2007, signing a number of free trade agreements, development of their domestic stock exchanges and then lifting foreign ownership restrictions. As momentum build from successful local deals, combined with Vietnam's impressive GDP growth, increasing amounts of capital, first international and then domestic became attracted to this business.

As a result, both PE deal volume and aggregate amounts have grown considerably particularly over the past decade. Larger deals involving PE investors have become more common – there were more than 30 deals valued at \$100 million or higher over the last five years including the 10 largest of all time.

The Largest Vietnam PE Investments – Led by International Institutions

During the last three years, the largest PE investments based on transaction values were made by major international, mostly Asian investors from Singapore (GIC and Temasek), Japan (SMBC Consumer Finance Co, Mizuho Bank), Korea (SK South East Asia Investment), Greater China (Alibaba Group, Baring Private Equity Asia) and USA (KKR, Warburg Pincus) with an average deal size of \$400 million.⁽¹⁾

However, since 2020, domestic PE investors have become much more active and were involved in 240 deals with a total deal value of over \$1.9 billion, representing approximately 30% and 23% by volume and value respectively.⁽²⁾

2022

Selected Significant International Investments

Real Estate

Real estate as an asset class has been attracting considerable interest from PE funds seeking Vietnam real estate deals. In H1 2022, office, industrial, and project development land accounted for 39%, 35%, and 26% of the total invested capital in Vietnam, respectively. In FDI, real estate ranked second among the most invested sectors, accounting for 26% of total inflows. Investors from Singapore, Korea, Denmark, China, and Japan were the leaders in the amount invested in Vietnam.⁽³⁾

• In January 2022, GLP (China) launched its first Vietnam logistics development fund with \$1.1 billion capacity. APG Asset Management (Netherlands) and Manulife Financial (Canada) have committed to the fund, GLP Vietnam Development Partners I. The fund will focus on investing in logistics infrastructure in the Greater Hanoi and Greater Ho Chi Minh areas and will be one of the biggest logistics development funds in Southeast Asia, GLP said. (4)

 $^{(1) \} https://www.bdapartners.com/insights/breaking-down-barriers-the-rise-of-private-equity-in-vietnam/linearing-down-barrier-equity-in-vietnam/linearing-down-barrier-equity-in-vietnam/linearing-equity-in-vietnam/linearing-equity-in-vietnam/line$

 $^{(2) \} https://www.grantthornton.com.vn/insights/articles/private-equity1/pe2022-ma-vietnam-an-attractive-market-for-private-equity-investors/articles/private-equity1/pe2022-ma-vietnam-an-attractive-market-for-private-equity-investors/articles/private-equity1/pe2022-ma-vietnam-an-attractive-market-for-private-equity-investors/articles/private-equity1/pe2022-ma-vietnam-an-attractive-market-for-private-equity-investors/articles/private-equity-in$

⁽³⁾ https://hanoitimes.vn/private-equity-funds-seek-vietnams-real-estate-ma-deals-321375.html

 $^{(4) \} https://www.yicaiglobal.com/news/chinese-investment-firm-glp-sets-up-usd 11-billion-vietnam-logistics-fund and the properties of t$

- In February 2022, CapitaLand Development (CLD) announced a cooperation with Bac Giang People's Committee. It outlines their mutual interest in exploring the development of CLD's first industrial park, logistics park and township development in Vietnam at a cost of \$1 billion (VND22.7 trillion). The MoU marks one of the largest investments between a Singaporean company and the Vietnamese government.⁽⁵⁾
- In June 2022, Gaw Capital Partners (Hong Kong) announced that it had completed the acquisition of greenfield land located in Saigon Hi-Tech Park, one of the key high-tech focused business parks in HCMC.
 This land will be further developed into a carrier neutral Tier III Data Center, which will act as the seed investment of Gaw Capital's Pan-Asia IDC platform.⁽⁶⁾
- In June 2022, The No Va Land Investment Group (Novaland) announced a \$250 million financing from a consortium led by Warburg Pincus (USA). This transaction marks the sixth investment in Vietnam by Warburg Pincus. Since 2013, Warburg Pincus has invested over \$1.5 billion of equity capital into several of Vietnam's leading businesses, across sectors. The firm has completed two of the largest IPOs ever in the country: Vincom Retail and Techcombank. Prior to this capital raise Novaland Group acquired the Kenton Node project, a luxury apartment project in Phuoc Kien. (7)

Other Sectors

- In March 2022, Golden Gate Group (the leading restaurant chain in Vietnam) announced the sale of 36% of shares to a group of three new stakeholders from Singapore; Seletar Investments Pte Ltd (Temasek Holdings investment fund), the Seatown Private Capital Master Fund and Periwinkle Pte Ltd. As part of the deal, Prosperity Concepts (consortium of Partners Group (Switzerland)/CDH(China) exited their 3-year investment. Although the deal value was not officially announced, it was calculated to be in excess of \$230 million. Temasek Fund has been involved in investment activities since 2004 with investments in VNG, Scommerce, and Vinhomes. To date, the fund has directly invested more than \$1 billion in Vietnam in many different sectors.⁽⁸⁾
- In July 2022, OnPoint (e-commerce) closed US\$50 million in series B funding from SeaTown Private Capital Master Fund, a fund managed by SeaTown Holdings International, an indirect subsidiary of Temasek Holdings (Singapore). OnPoint said this is the largest private fundraising round in Vietnam's ecommerce-enabler industry in the last five years. In 2020, OnPoint raised over US\$8 million in a series A funding round led by Kiwoom Investment (Korea) and Daiwa-SSIAM Vietnam Growth Fund II (Japan). (9)
- In December 2022, Sapien Group, an Australia-based financial services group, launched its Vietnam chapter with a strategy to invest at least A\$100 million (\$67.8 million) in Vietnam annually. The Vietnamese unit eyes to aid SMEs to boost production, job creation, and incomes. Sapien Ventures, under Sapien Group, will focus its investments in startups related to fintech, blockchain, artificial intelligence (AI), big data. Sapien Capital Partner, another unit under the same roof, will invest in education, high-tech agriculture, and renewable energy. (10)

⁽⁵⁾ https://vietnamnews.vn/pr/brand-info/1160061/capitaland-arm-signs-mou-for-us1-billion-investment-in-viet-nam.html

⁽⁶⁾ https://www.gawcapital.com/wp-content/uploads/2022/06/Press-Release-Gaw-Capital-Partners-Completes-Acquisition-of-Greenfield-Land-in-Saigon-Hi-Tech-Park_HK.pdf

⁽⁷⁾ https://english.thesaigontimes.vn/novaland-gets-us250-million-investment-from-warburg-pincus-led-consortium/

⁽⁸⁾ https://en.vietnamplus.vn/singaporean-investors-buy-36-percent-of-local-restaurant-chain/223544.vnp

⁽⁹⁾ https://www.techinasia.com/temaseks-seatown-injects-50m-vietnamese-ecommerce-enabler

 $^{(10)\} https://theinvestor.vn/australia-fund-sapien-debuts-in-vietnam-to-invest-68-mln-yearly-d2852.html$

2022 Vietnam within the Asia Pacific PE context

Following two high growth years (peaking in 2021) and driven by market uncertainties, Asia-Pacific PE funds activities slowed considerably during 2022. This can be seen across a number of metrics.

- Aggregate deal value plummeted 44% to \$198 billion from its peak of \$354 billion in 2021, slightly below where it finished 2020.
- The volume of exits fell by 34% from the 2021 peak. Finally, PE capital raised by closed funds continued its 6-year decline.
- After peaking at \$352 billion in 2016 and remaining almost flat during 2017, there followed a number of years of annual declines led by China. In 2022, the decline continued, this time by 43% to \$105 billion, representing a mere fraction of the 2016/2017 levels. Industry analysts are not optimistic for a sharp improvement in 2023.⁽¹¹⁾

Despite the unpredictable investment climate, Asia-Pacific dry powder—the level of unspent private equity capital—rose to a record \$676 billion. Returns of Asia-Pacific-focused funds remained strong, private equity continued to outperform public markets and valuation levels were lower.

2023

As for 2023, the overall market uncertainty, higher inflation and weaker growth are likely to have a strong impact on investment choices and portfolio performance in the coming year. The best firms are adapting their strategies and employing scenario planning to identify winners in the right sectors.

Domestic PE activity

In these conditions, the three leading Vietnam domestic PE firms have all made major moves to date, ranging from a 2nd fund for SMEs (addressing lack of liquidity), strengthening international partnership or focussing on niches such as green/climate related investments.

- In January 2023, ABB (Vietnam PE) announced that it is seeking to raise \$100 million for its second fund in H2 2023. ABB, which is associated with local investment banking company Asia Business Builders, launched its first \$20 million PE fund in 2018, which is now fully invested. The second vehicle will continue to back growing Vietnamese SMEs that are already making money or substantial revenue.
- In March 2023, VinaCapital (leading domestic Vietnam asset manager), and Ryobi (Japan) signed a deal to form a business alliance to jointly explore real estate and other investment opportunities in Vietnam including companies in PE, VC, infrastructure and energy. The VinaCapital-Ryobi strategic partnership was based on relationships with Aozora Bank's Japan Desk in Vietnam. (12)
- In May 2023, Mekong Capital is planning to build a climate fund worth up to \$200 million as early as 2024, focusing on investments that will help with the regeneration of forests in the Mekong region. The HCMC-based firm is setting up a team for the fund, which will look at businesses that will help restore forests including those involved in organic and seaweed farming in the Mekong region comprising Laos, Cambodia, Thailand and Vietnam. (13)

⁽¹¹⁾ https://www.bain.com/insights/asia-pacific-private-equity-report-2023/

⁽¹²⁾ https://theinvestor.vn/vinacapital-teams-up-with-japans-ryobi-in-vietnam-investment-d4025.html

⁽¹³⁾ https://www.reuters.com/sustainability/vietnams-mekong-capital-plans-southeast-asia-climate-fund-early-2024-2023-05-30/

In May 2023, UAE's Minister of Economy held a meeting with the Vietnamese Vice President to discuss the strengthening of economic partnership between the two countries by boosting trade and investment exchanges. Both countries discussed enhancing opportunities for cooperation and dialogue at the private sector level and increasing the UAE's investments in the Vietnamese market in new economy sectors. Currently, the UAE's investments in Vietnam amount to AED 260 million (USD 71 million), and several UAE companies such as DP World, Emirates Investments Group, Mubadala, and Borouge have invested there. (14)

We believe that future investment amounts from the UAE will be substantially larger than the amounts invested to date, and that many of these investments will be of private equity.



 $^{(14) \} https://www.moec.gov.ae/en/-/uae-and-vietnam-discuss-strengthening-of-economic-cooperation$

VIETNAM VC 2022-2023

Overview

Venture capital investment into Vietnamese tech startups reached record levels during 2019-2021. In 2021, investment in Vietnamese startups reached \$1.3 billion, 4X larger than 2020. At the start of2022, it was estimated that a record \$2 billion will be invested in Vietnamese startups, led by completed deals such as Sky Mavis with \$150 million, OnPoint \$50 million and Timo \$20 million⁽¹⁾.

Vietnam currently spends about 1% of its GDP on innovation compared to most developed economies which invest circa 3%. However, this has not stopped Vietnam from attracting new capital in its startup sector since the government has played an active role in developing and supporting the VC ecosystem. In 2016, the government approved national program Project 844, the "Initiative for Start-up Ecosystem in Vietnam until 2025", which provides training, investment, and networking opportunities for the start-up community. Decree 38/ND-CP was set up in 2018 to provide a clear legal framework and favourable climate for VC funds. Start-up funding also became more accessible through state-backed funds, such as the \$520,000 SpeedUp programme by HCMC Science and Technology Department.

In a recent KPMG-HSBC joint study on Asia-Pacific's technology-focused startup scenes, Vietnam was ranked as one of Asia's newest and most dynamic; two wit the 1600 start-ups at the beginning of the pandemic, nearly doubled to 3,000 by the end (including the country's four unicorns. (2)

International Investors

Vietnam's strong GDP growth has also played a major role in attracting international VC investment. Historically, the largest VCs in the Vietnamese market have been mainly overseas funds, such as Genesia Ventures, Y Combinator Management, Wavemaker Partners, FEBE Ventures, Jungle Ventures and Venturra Capital. Jungle Venture had the largest total transaction value (\$103 million) as well as the average deal size (\$15 million). A larger-than-average transaction value of Jungle Venture was led by contributed by investments into KiotViet (\$45 million) and Global Online Financial Solutions (\$20 million), where Jungle Venture co-invested with other funds. (3)

During the period of 2013-2021, fintech companies attracted investments totalling slightly over \$1.0 billion while retail (e-commerce) attracted over \$900 million.

Domestic VC Funds

Some active domestic players entering in venture capital market include Do Venture, Mekong Capital and VinaCapital Ventures. We set out below the 3 largest Vietnam-focused VC funds closed between 2021 and 2022.⁽⁴⁾

AVV Alpha (\$64 million): HCMC based Ascend Vietnam Ventures (AVV) recently closed its flagship, early-stage VC fund AVV Alpha at \$64 million in June 2022, exceeding its original target of \$50 million. The fund, dedicated to Vietnam will seed up to \$2 million into 25 start-ups, in verticals such as blockchain, edtech, fintech, gaming, SaaS, wealth management and wellness. AVV is supported by IFC, the private sector arm of the World Bank Group.

⁽¹⁾ https://hanoitimes.vn/2023-a-year-of-high-quality-startups-in-vietnam-323131.html

⁽²⁾ Source: Tracxn

⁽³⁾ https://www.grantthornton.com.vn/insights/articles/private-equity1/pe2022-ma-vietnam-an-attractive-market-for-private-equity-investors/

 $^{(4) \} https://www.preqin.com/insights/research/blogs/the-top-3-vietnam-focused-vc-funds-amid-record-asean-fundraising and the second second$

- ThinkZone Fund II (\$60 million): Accelerator and VC firm ThinkZone Ventures raised \$60 million in February 2022 solely from Vietnamese LPs; even more difficult during the pandemic, when overseas outreach was extremely challenging due travel restrictions. The fund will invest in pre-seed to Series A rounds in fintech, edtech and ecommerce in Vietnam. Its LPs include local conglomerates such as IPA Investments Corporation, Phu Thai Holdings and Stavian Group.
- Do Ventures Fund I (\$50 million): Do Ventures raised \$50 million in its first fund from Korean internet leader Naver, Sea, the parent company of Garena and Shopee, as well as Vertex Holdings (Singapore). The company will invest in B2C and B2B platforms to back early-stage Vietnamese start-ups and help traditional businesses digitalize faster.⁽⁵⁾

The higher number of dedicated VC funds and an increasing commitment from Vietnamese LPs are signs of a gradually maturing VC ecosystem.

Table 1 below lists a number of international investors in 2022 deals. We also mention two here. ABB II, a follow-on fund by ABB Private Equity (Singapore), is attempting raise \$100 million to invest in SME companies with a focus on social impact. Nextrans (Korea) also launched a Vietnam-focused fund with a target size of \$50 million, will invest in sustainability areas such as electric vehicles and solutions that target food waste, as well as tech areas like Proptech and software as a service (SaaS).

2022 Activity versus 2021

In April 2023, the Vietnam Innovation & Tech Investment Report 2023, was released by Do Ventures and Vietnam National Innovation Center (NIC). As noted previously, Do Ventures is an early-stage VC firm focusing on IT companies in Vietnam and Southeast Asia, while NIC belongs to the Ministry of Planning and Investment.

The report stated that startups in Vietnam secured 134 deals with VC investment of \$634 million in 2022, down 19% and 56% year-on-year respectively. The joint authors said the sharp decline in VC was partly due to the profound impact of global turbulences, including financial uncertainty and market volatility.

The total value of deals worth above \$10 million fell to \$423 million, or one-third of that in 2021, accounting for 67% of the total figure in 2022. The total value of deals below \$10 million declined slightly to \$211 million.

Among South East Asia, Vietnam retained its 3rd ranking by volume, with 16% of the region's total, following Singapore with 39% and Indonesia with 26%. Ranked by aggregate value, Vietnam fell to 4th position with 8% of the regional total, following Indonesia's 44%, Singapore with 27%, and the Philippines with 9%. It is worth noting that Singapore and Indonesia had much later stage investments and little seed/pre-seed, while Vietnam's seed levels were strong.

Financial services attracted the largest amount of 2022 VC investment with \$214 million and was the only sector which saw substantially increased funding, up from \$61 million in 2021. Retail (e-commerce) saw the second-highest level with \$204 million, but down 57% from \$469 million in 2021.

Other industries attracting VC investment included (by ranking) logistics and transportation, edtech, medtech and healthcare came next followed by foodtech, proptech/SaaS deals and finally media and travel.

 $^{(5) \} https://theinvestor.vn/vietnam-startups-secure-634-mln-in-2022-funding-d4335.html$

Vietnam recorded 137 funds investing in startups in 2022, of which 30 were local funds (accounting for biggest portion for the first time), followed by Singaporean funds with 29 and North American funds with 19. As noted above, local VC firms have begun to play an increasingly important role in Vietnam's startup ecosystem, with 61 deals worth \$287 million in 2022, a record high in terms of value.⁽⁶⁾

Below in Table, we have set out information on VC investments in circa 20 deals announced during 2022.

2022 VC Selected Investments							
Date	Company Name	Industry	Seed/Series	Amount (\$m)	Investors		
28/11/11	Cooky VN	e-Commerce	ND	4.5	Do Ventures (Vietnam), Nextrans (Korea)		
24/11/22	Dat Bike	Mobility	ND	5.3	Jungle Partners (Singapore), GSR Ventures, InnoVen Capital		
14/10/22	Piktina	Fashion	Seed	1.0	Touchstone Partners		
14/09/22	FlexOs	Saas HR Tech	Seed	1.0	Do Ventures, VIK Partners, Vulpes Ventures		
06/09/22	Tititada	Fintech	Pre-Seed	1.5	Golden Gate Ventures (GGV)		
05/09/22	Coolmate	e-Commerce	Series A	2.3	GSR Ventures, Do Ventures		
01/09/22	Medici Vietnam	Insurtech	Series A	ND	Jungle Ventures		
18/07/22	MFast	Fintech	Series A	2.5	Do Ventures, JAFCO Asia, AVV		
06/07/22	Azota	Edtech	Per-Series A	2.4	GGV Capital, Nextrans		
22/06/22	Finhay	Fintech	Series B	25.0	OpenSpace Ventures, Insignia Ventures (Singapore)		
06/05/22	VN Green Holdings	Renewable Energy	ND	45.0	IFC		
06/04/22	Sky Mavis	Blockchain	ND	150.0	Binance, Animoca Brands, Accel		
30/03/22	Mandu	e-Commerce	Seed	1.0	AW		
21/03/22	Ringle	Edtech	Series A	ND	Do Ventures		
24/02/22	Open Commerce Group	SME Financing / Tech	Series A	7.0	Do Ventures, VNG		
08/02/22	Selly	Social Commerce	Pre-Series A	2.6	Cyber Agent Capital		
08/02/22	Infina	Fintech	Seed	4.0	Sequoia, Saison Capital, Y Combinator		
06/01/22	TIMO	Digital Bank	ND	20.0	Square Peg, Granite Oak Fin Asset		
05/01/22	Foodmtp	e-Commerce	Seed	3.0	AVV+3		

Source: Numerous Company Reports, Grisons Peak

(6) ibid

As can be seen from the deals in Table above, the data supports the conclusions set out previously. Of the 14 deals with seed/series data, 43% were seed/pre-seed, 50% were Series A/pre-Series A; there was only 1 Series B. These numbers portend a healthy future as these companies grow to raise capital in higher rounds – supporting future growth.

Vietnam IPO/Stock Market Activity in 2022

Extreme volatility seen during 2022 in the Vietnam stock markets was not helpful for VC investors contemplating public market exits – at least over the short term. However, despite the very difficult H2, there were bright shoots in the IPO markets.

In 2022, the Vietnamese IPO market saw 8 IPOs (6 in H1) with proceeds of \$71 million, much higher than 2021's \$16 million total. While volumes and aggregate amounts increased the combined market capitalization for the eight deals was \$537 million, about one-third of the \$1.65 billion posted in 2021 – indicating much smaller issuers.

Another positive in 2022 was that Vietnam's IPO market focus had shifted from real estate in 2021, due in part to the financial difficulties of some major domestic players, to industrial and consumer companies in 2022. It is expected that consumer products will continue to play an expanded future role, with highly anticipated upcoming IPOs in this sector.⁽⁷⁾

Strengthening the Domestic VC Ecosystem

In addition, there were a number of other steps taken during 2022 to further position the ecosystem for growth involving both international and domestic players.

In May 2022, GGV (Singapore) and NIC announced a cooperation targeting the development of the Vietnam start-up community and innovation ecosystem. GGV will increase its investment, promote exchange, encourage new ideas and innovations and act as a catalyst to promote the position of Vietnamese startups in the region.⁽⁸⁾

In August 2022, Thailand's Kasikornbank (KBank) announced plans to broaden its 70-year presence in the Vietnamese market, aiming to build a loan book worth THB20bn and a retail customer base of 1.2 million by 2023, while expanding its portfolio of products and services. During the next three years, KBank aims to focus on the development of technologies and manpower, investment in start-ups, through its KVision fund (previously raised \$245 million).⁽⁹⁾

In late December 2022, during the Vietnam Venture Summit, 39 VC funds committed a combined \$1.5 billion to Vietnam in 2023-2025. The event was held by Vietnam's Ministry of Planning and Investment and co-organized by the NIC and GGV. According to Minister of Planning and Investment, Vietnam VC agreements accounted for 19% of the deals in Southeast Asia during H1 2022. In 2021, Vietnamese start-ups raised a record-breaking \$1.4 billion, which was 1.6 X more than in 2019, according to the NIC. The founding partner of GGV said Vietnam, Singapore and Indonesia form a start-up golden triangle in Southeast Asia.⁽¹⁰⁾

⁽⁷⁾ https://theinvestor.vn/vietnam-ipo-proceeds-quadruple-in-2022-to-71-mln-deloitte-d3874.html

⁽⁸⁾ https://vir.com.vn/indicators-ripe-for-wave-of-tech-startup-successes-95574.html

⁽⁹⁾ https://www.retailbankerinternational.com/news/kbank-to-expand-in-vietnam/

⁽¹⁰⁾ https://english.thesaigontimes.vn/us1-5-billion-venture-capital-pledged-to-vietnam/

2023

According to Crunchbase venture and growth investors in private companies continued to scale back their investment pace in Q1 2023. Global VC funding in the first quarter reached \$76 billion — marking a 53% decline year over year from \$162 billion in the Q1 2022. When removing the two large deals (Microsoft and Stripe) with a total of \$16.5 billion, the total would be close to \$60 billion – a decline of 63%.

Every funding stage in Q1 was down 44%-54% year over year, a clear signal that the slowdown is not confined to just late-stage funding. Investors across each stage scaled back as they took time to assess new investment opportunities while guiding existing portfolio companies.⁽¹¹⁾

In May 2023, during a visit to Tokyo, a partner in Mekong Capital said that valuations in Vietnam could fall 50% from their recent peaks as company founders adjust to a decline in VC investments. He also said that his firm sees a "massive opportunity" to profit from the change and is considering launching a new fund in Vietnam "maybe in next year."⁽¹²⁾

Despites the rough start in 2023, both domestically and globally, we did want to end on a positive note of a VC investment partnership involving a local VC firm and a major MENA sovereign wealth fund which continues to grow over time.

- In March 2023, Mekong Capital announced that Mekong Enterprise Fund IV has completed an investment of \$20 million in F88, a domestic consumer finance group, part of the \$50 million pre-2024 IPO funding round which also saw participation from Vietnam-Oman Investment (VOI) Fund. The latest deal is Mekong Capital's third investment in F88, following its two earlier investments announced in 2017 and 2020. VOI was established in 2008 as a JV between the Oman Investment Authority and the State Capital Investment Corporation of Vietnam, or SCIC. (13)
- In 2022, F88 received \$70 million as international loans, with \$60 million from Hong Kong headquartered CLSA Capital Partners, and \$10 million from Lendable (UK).⁽¹⁴⁾

As can be seen throughout this document, Vietnam and MENA/GCC countries continue to grow closer both in a trade and investment –a trend we see accelerating throughout the foreseeable future.

ASIA INVESTMENT RESEARCH



AIR provides bespoke, unique, data-driven analysis into markets throughout Asia. With 30 years of corporate banking, legal and tax experience, and offices throughout Asia, Europe, and the UK, we can provide the Asian research you need to make informed investment decisions about where to place your capital.

Contact us today: info@asiainvestmentresearch.org

Web: www.asiainvestmentresearch.org

OUR CONTRIBUTORS

China Investment Research

China analytical and financial data www.chinainvestmentresearch.org