

FinTech in ASEAN 2023: Seeding the Green Transition





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Foreword

In a rapidly warming world, the global climate crisis casts an ominous shadow over our future, while in the realm of FinTech, a growing challenge emerges: a funding slowdown. As 2023 is on track to become the hottest year on record, we are in the midst of a funding winter where both global and ASEAN FinTech funding have hit their lowest levels since 2020.

But there are green shoots. Amid this climate and funding emergency, certain businesses in the ASEAN region are stepping up to lead the charge in the green initiative, acknowledging the pivotal role they play in safeguarding the environment. Despite challenges such as increased costs, difficulties in accessing and gathering reliable quality data, and a lack of sustainable financing options in the region, these companies remain committed in their pursuit of net-zero goals.

As pressure mounts on businesses to cut back on carbon emissions, Green FinTechs are conceiving solutions that can help companies either kick-start or sustain their green journey. For some firms, it is about delivering regulatory-approved sustainability reporting; for others, it is about how they can streamline carbon accounting processes.

For this year's *FinTech in ASEAN: Seeding the green transition* report, we look at how Green FinTechs and businesses can work together to create meaningful, lasting impact for a more sustainable future for ASEAN.



Janet Young

Managing Director and Head,
Group Channels and Digitalisation,
Strategic Communications and Brand,
UOB



Wanyi Wong

FinTech Leader,
PwC Singapore



Shadab Taiyabi

President,
Singapore FinTech Association



Executive Summary



ASEAN's YTD FinTech funding higher than 2020's lows

Amidst a testing macro environment, ASEAN's year-to-date (YTD) funding clocked US\$1.3 billion, or 3 per cent of global FinTech funding¹, the region's lowest in three years. While fundraising has been falling since 3Q 2022, YTD funding has bettered the lows of 2020.



Singapore and Indonesia lead the pack

Together, Singapore and Indonesia accounted for 86 per cent of FinTech funding in ASEAN, continuing a similar trend from last year. On the other hand, the Philippines saw its funding share reduced from 7 per cent to 2 per cent, largely due to the lack of mega deals in YTD 2023.



A reversal of fortune for early stage firms

While average funding among the top 10 funded companies fell by more than 50 per cent YTD 2023 (US\$94 million), early stage firms are taking a bigger slice of the pie. Six out of the top 10 are early stage companies, compared with only two last year.



Cryptocurrency and insurtech firms continue to charm

Despite the funding winter, cryptocurrency companies struck the most deals but at smaller deal sizes. However, its share of funding declined by 10 percentage points, which could be due to investors steering clear of overvaluing this sector. Significantly, insurtech companies doubled its proportion of deals versus last year, from 6 to 12 per cent.



FinTechs rise to meet green demand

Sustainability has become a priority for many countries in recent years. The transition to a low-carbon economy, paired with heightened regulatory requirements and the growing focus on carbon reporting, have made way for Green FinTechs to enter the equation.

While each differs in the services and tools they provide, Green FinTechs strive to enable businesses in achieving their green goals, as well as to sustain them as the journey begins.



Chapter 1

Down but not out: FinTechs ride funding slump

Persistent global headwinds and an ebbing funding momentum have taken their toll on FinTech start-ups. This year, investments into ASEAN's FinTech firms have plunged to their lowest since 2020, following five quarters of decline.

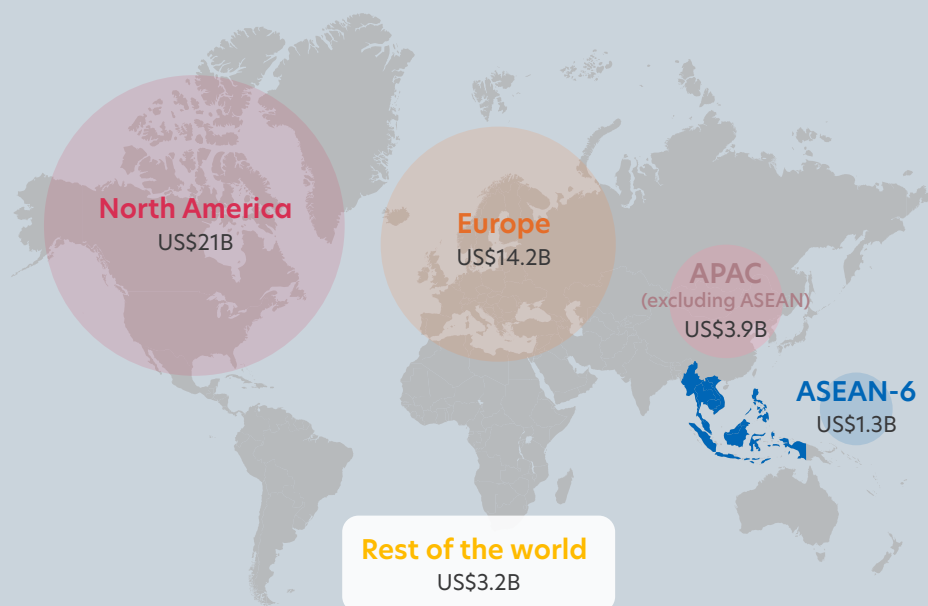
Geopolitical tensions, a humanitarian crisis in Gaza, the ongoing Russia-Ukraine war, and the Fed's interest rate hikes (hitting a 22-year high) continue to stir uncertainty.

In this chapter, we review FinTech investments in ASEAN's six biggest economies: Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam - also known as 'ASEAN-6'.

Global FinTech funding plunges after two-year highs

- Global FinTech funding experienced a decline as high interest rates and uncertain economic conditions persisted in 2023. The US\$44 billion received to date has yet to surpass 2020's FY funding of US\$58 billion.

- Investments in ASEAN-6 declined sharply by 75 per cent, while its share of total FinTech funding dropped by two percentage points to 3 per cent this year.



Total funding amount YTD 2023: US\$43.5B
FY2022: US\$107B

Figure 1 | Global FinTech funding trends, YTD 2023

Source: Tracxn, as at 30 September 2023, accessed on 4 October 2023

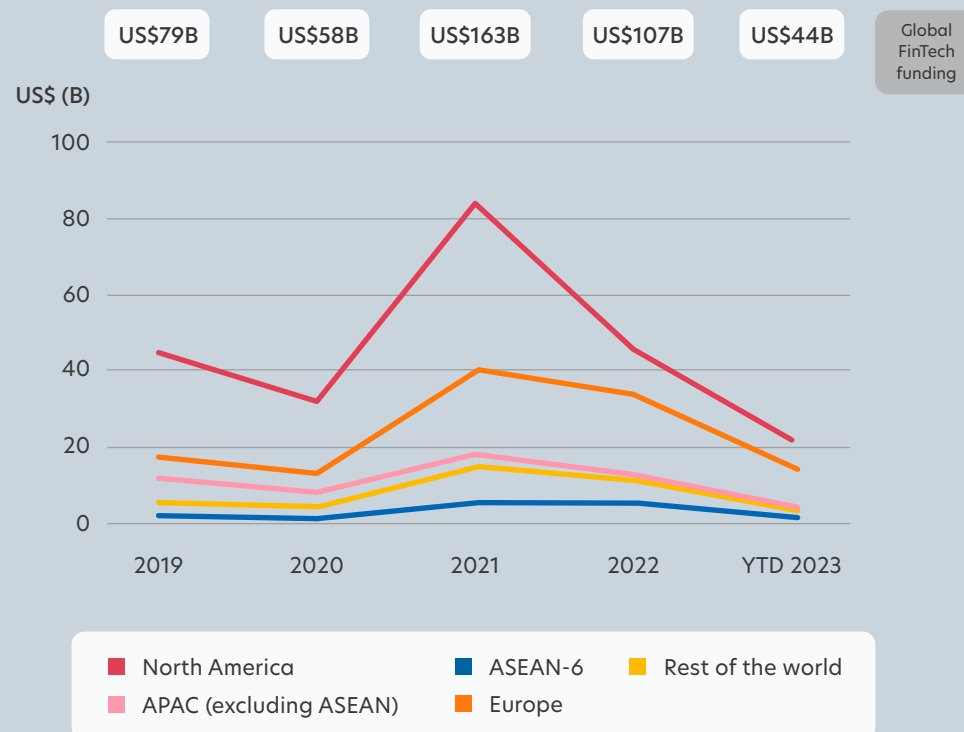


Figure 2 | Global FinTech funding split by region, 2019 - YTD 2023

Source: Tracxn, as at 30 September 2023, accessed on 4 October 2023

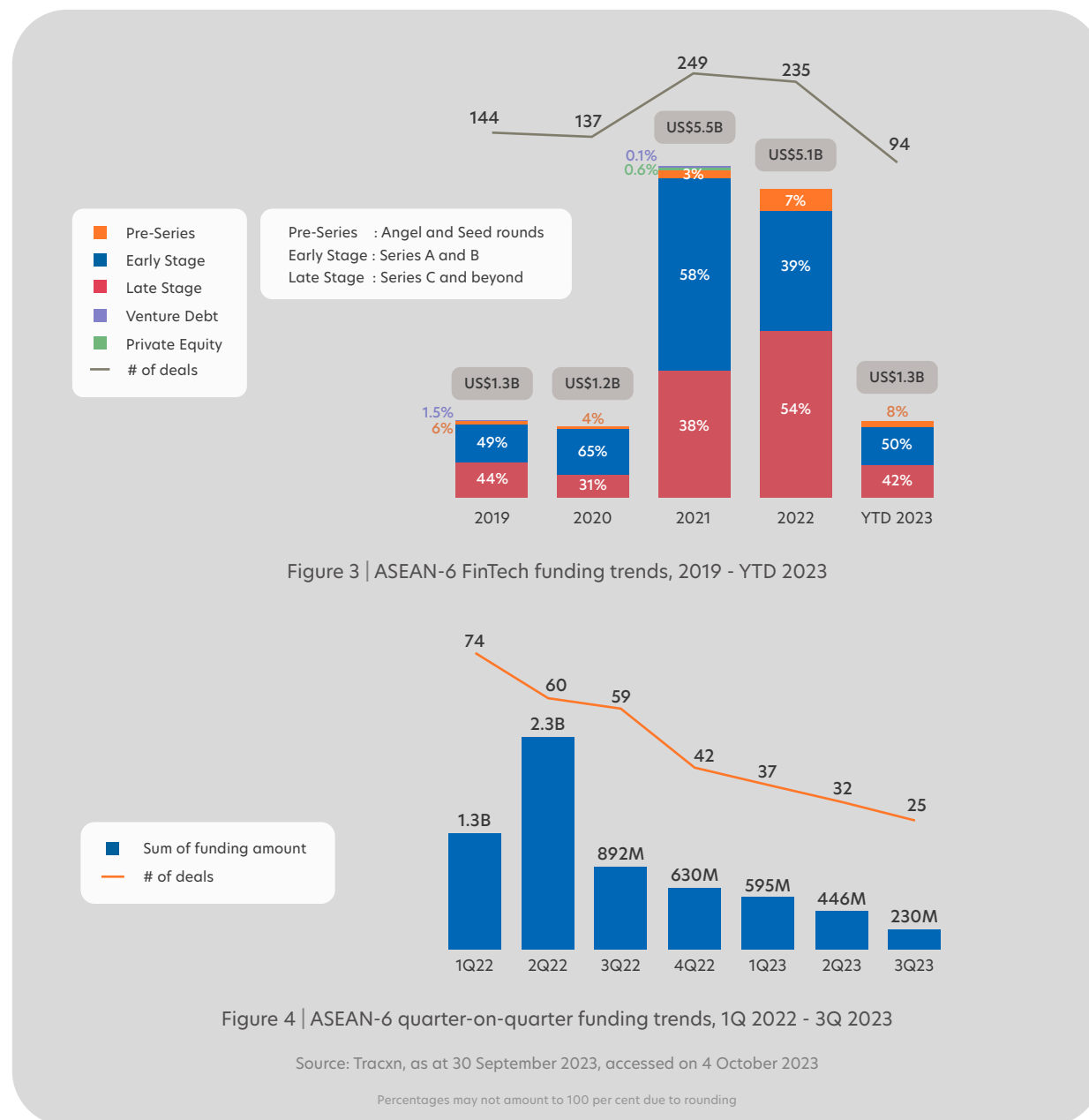
• ASEAN's year-to-date funding is higher than 2020's lows

- Funding for YTD 2023 clocked US\$1.3 billion, the region's lowest since 2020.
- The number of deals dropped by more than 50 per cent (94 vs 193 year-on-year), with the average deal size slumping to pre-COVID levels (US\$13.5 million in YTD 2023 vs US\$9 million in 2019).
- Both the funding amount and number of deals have been falling quarter-on-quarter since 3Q 2022 (see Figure 4).
- Investments into early stage firms made up half the total FinTech funding in YTD 2023. Investors whom we spoke to cited new ideas and smaller capital outlays as the reasons why early stage firms attracted more funding.
- Given the challenging macro environment, investors are scrutinising company fundamentals closely before participating in new funding rounds.

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The first reason for 2023's pullback is due to the huge funding surge that the FinTech sector received in 2022, as a result of VCs holding back during the pandemic. Second, driven by buoyant policies and market conditions, start-ups have ridden a wave of abundant capital in the last decade. With the change in macro conditions, it is natural that fundamentals are scrutinised.

James Tan
Managing Partner, Quest Ventures



● Singapore and Indonesia continue to lead FinTech investments in region

- Singapore and Indonesia accounted for more than 86 per cent of total FinTech funding in the region.
- The Philippines saw a reduction in its share of the funding pie with no mega deals in YTD 2023.
- This year, Vietnam and Malaysia experienced a modest increase in the proportion of number of deals within the region (6 and 4 percentage points respectively).

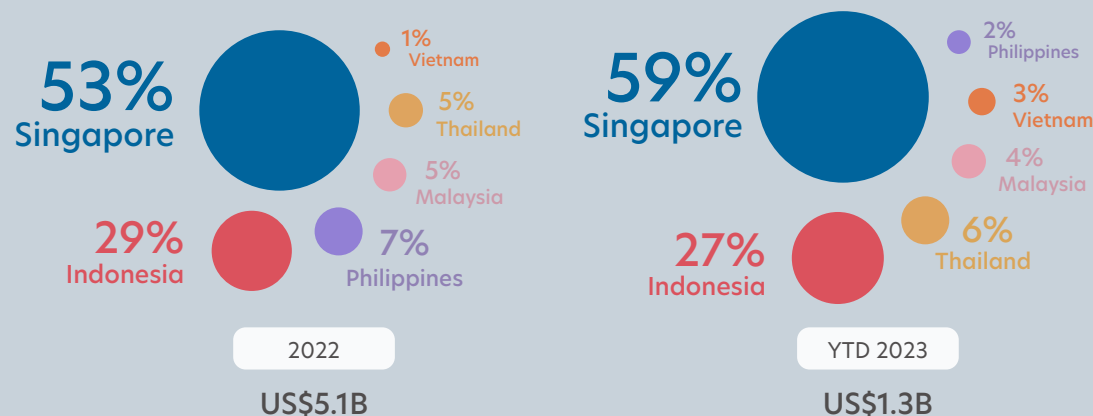


Figure 5 | Share of funding amount by country, 2022 vs YTD 2023

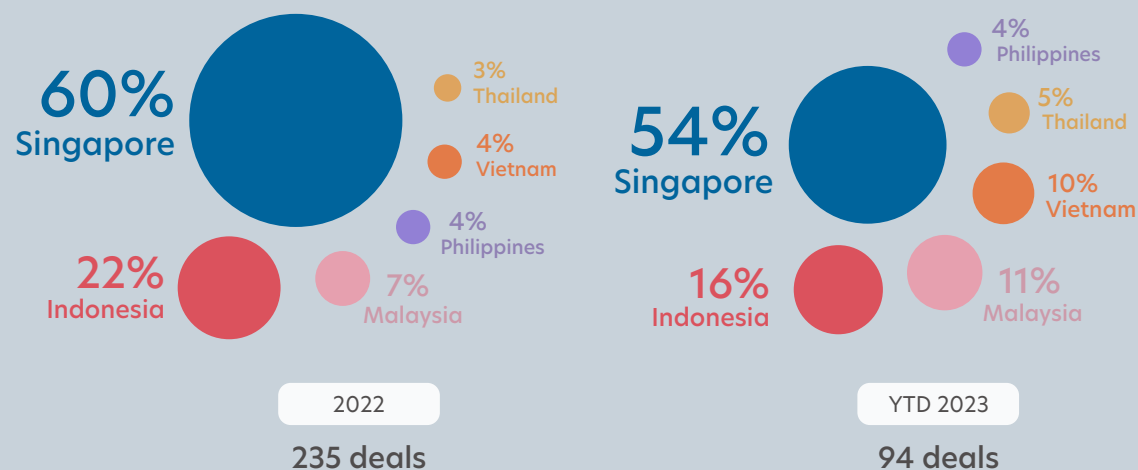
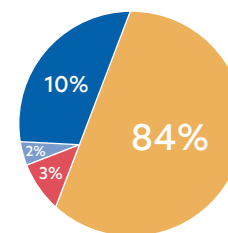
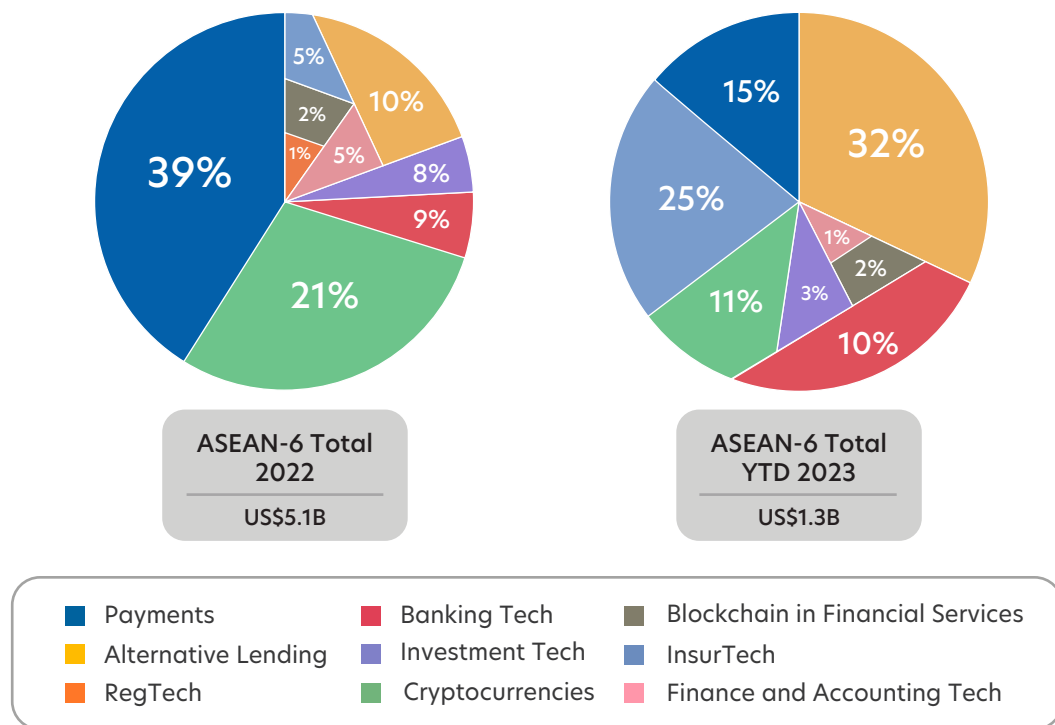


Figure 6 | Share of funding deals by country, 2022 vs YTD 2023

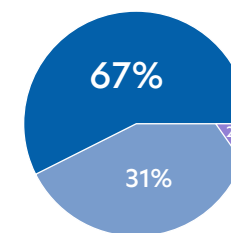
Source: Tracxn, as at 30 September 2023, accessed on 4 October 2023

Alternative lending and insurtech lead funding numbers

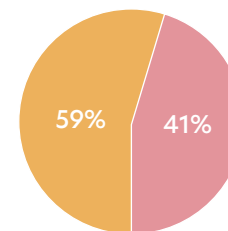
- For the first time, alternative lending firms raised the most funding, receiving almost a third of total ASEAN-6 investments with US\$408 million.
- Both alternative lending and insurtech firms buck the decline in funding for YTD 2023 by exceeding their total funding amounts for 2022, in part due to the mega deals led by Kredivo, Bolttech and Advance Intelligence Group.
- Payments declined by 24 percentage points, rounding up the top three at US\$186 million.



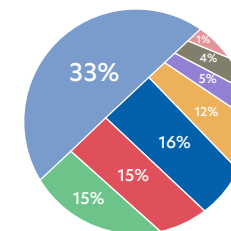
Indonesia
US\$340M



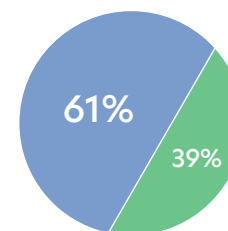
Malaysia
US\$50M



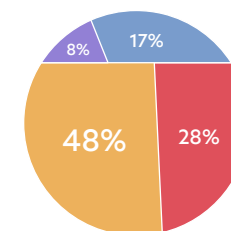
Philippines
US\$27M



Singapore
US\$747M



Thailand
US\$71M



Vietnam
US\$36M

Figure 7 | Funding breakdown by FinTech categories, 2022 vs YTD 2023

Source: Tracxn, as at 30 September 2023, accessed on 4 October 2023

• Cryptocurrency firms struck the most deals, but at smaller deal sizes

- The cryptocurrencies category remained attractive, inking the highest number of deals. However, its share of funding amount declined by 10 percentage points (see Figure 7), as investors steered clear of overvaluation in the sector.
- Insurtech doubled its proportion of deals in ASEAN-6 from 6 per cent to 12 per cent YTD 2023.

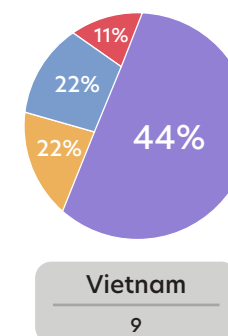
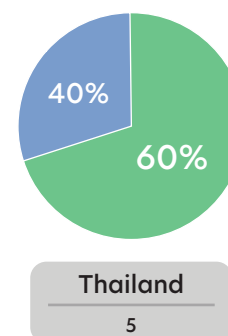
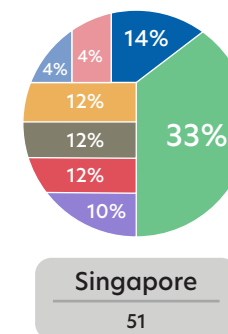
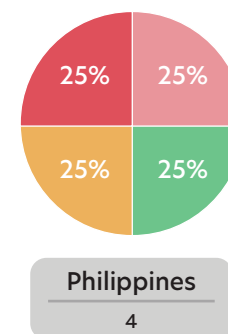
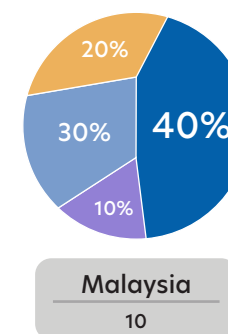
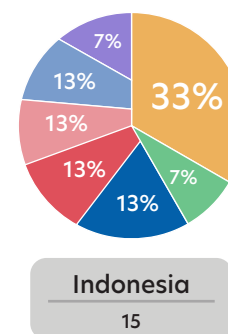
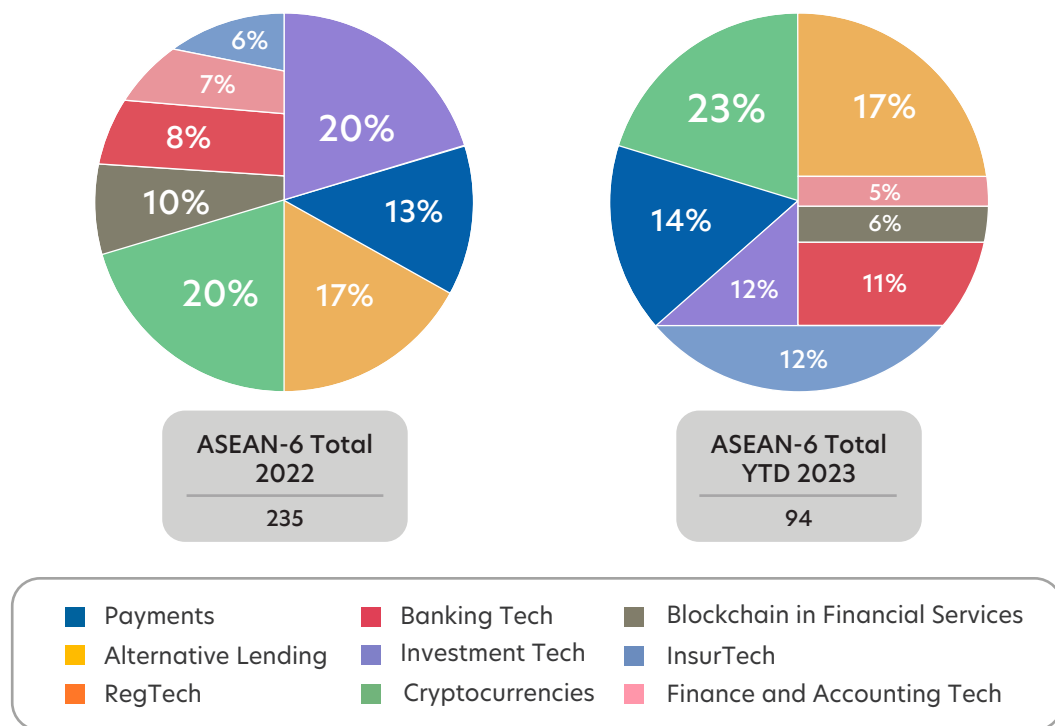


Figure 8 | Number of funding deals by FinTech categories, 2022 vs YTD 2023

Source: Tracxn, as at 30 September 2023, accessed on 4 October 2023

Early stage FinTechs secure more backing

- Average funding amount among the top 10 funded firms saw a decline of more than 50 per cent in YTD 2023 to US\$ 94 million as the region saw only three mega deals (deals >US\$100M), which accounted for close to 50 per cent of total FinTech funding.
- While payments dominated the top 10 list in 2022, there is a wider spread among FinTech categories this year, with the three mega deals coming from alternative lending, insurtech and banking tech.











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Early stage (<US\$25M) opportunities are peaking again since the pandemic. This trend is indicative of a new cycle, targeting early stage startups with the potential to become growth-stage leaders.

Tan Yinglan

Founding Managing Partner, Insignia Ventures Partners

YTD 2023

Company	Category	Funding stage	Round name	Funding amount US\$ (M)
 Kredivo	Alternative Lending	Late Stage	Series D	270
 Bolttech	InsurTech	Early Stage	Series B	246
 Aspire	Banking Tech	Late Stage	Series C	100
 Advance Intelligence Group	Alternative Lending	Late Stage	Series E	80
 Thunes	Payments	Late Stage	Series C	72
 Roojai	InsurTech	Early Stage	Series B	42
 Finture	Payments	Early Stage	Series B	35
 Endowus	Investment Tech	Early Stage	Series B	35
 Soft Space	Payments	Early Stage	Series B	32
 hi	Cryptocurrencies	Early Stage	Series A	30
Average funding amount: US\$94M				

2022











Company	Category	Funding stage	Round name	Funding amount US\$ (M)
 Coda Payments	Payments	Late Stage	Series C	690
 Amber Group	Cryptocurrencies	Late Stage	Series C	500
 Xendit	Payments	Late Stage	Series D	300
 DANA	Payments	Late Stage	Series D	250
 Voyager Innovations	Payments	Late Stage	Series F	210
 TNG Digital	Payments	Early Stage	Series A	168
 Fazz	Banking Tech	Late Stage	Series C	150
 Funding Societies	Alternative Lending	Late Stage	Series C	144
 TONIK	Banking Tech	Early Stage	Series B	131
 Opn	Payments	Late Stage	Series C	120
Average funding amount: US\$266M				

Table 1 | Top 10 funded FinTech firms in ASEAN-6, 2022² vs YTD 2023

Source: Tracxn, as at 30 September 2023, accessed on 4 October 2023

Tips for start-ups to survive the funding winter

Consider strategic investments if you have adequate reserves



This is the time to strengthen one's competitive advantage and product-led growth. As valuation premiums decline due to macro conditions, companies can consider strategic investments if they are well-resourced.

Do what it takes to survive



Make the necessary reductions, including considering down rounds or significant operational cuts.

Be aware—but not obsessed—with macro conditions



Think long term - be thoughtful with cash spend and leverage your runway to grow healthily before thinking about a new round.

Stay prepared and be adaptable



For start-ups that require funding in the near-term, stay laser-focused on running a tight ship and demonstrate a clear path to profitability with reasonable assumptions. Have a clear narrative of how funds will be used to investors.

Prioritise growth areas



Reassess the foundational tenets of your business, focus on driving retention and increasing margins for profitability.

“

For FinTechs that have a shorter funding runway, the focus should be on survivability. Make the necessary reductions, raise financing at less than ideal terms if you have to, in order to survive.

James Tan
Managing Partner, Quest Ventures

How does a company sustain its competitive advantage in times like this? For FinTechs with multiple business lines and target market segments, the keyword is prioritisation.

Tan Yinglan
Founding Managing Partner, Insignia Ventures Partners

Start-ups that require funding in the near-term will have to run a tight ship and demonstrate a clear path towards profitability. In this climate, startups should optimise to raise adequate funding in a timely manner, even at lower-than-expected valuations.

Weisheng Neo
Partner, Qualgro

In the near term, start-ups that require funding can cut costs and plan for growth in 2025 – after the perceived volatility posed by the 2024 US presidential elections and war in Gaza has ebbed.

Frank Troise
Managing Partner and CEO, SoHo Capital

This funding winter has caused companies to be more practical and grounded where profitability and cost is key.

Ben Cheah
Partner, InnoVen Capital

”

Chapter 2

Carbon conundrum: FinTechs rise to meet green demand

Sustainability has become a growing priority in recent years, as pressure mounts on industries to cut back on carbon emissions that cause global warming.

As the low-carbon transition gathers pace, Green FinTechs are coming to the fore with new solutions to help businesses both start and expand their sustainability journey. This includes meeting the growing focus on high quality sustainability reporting that regulators around ASEAN and the Asia Pacific are expecting, with reliable and transparent carbon data.

In this chapter, we explore some of the solutions Green FinTechs are currently providing and how they can play a role in helping businesses in their sustainability journey, and the challenges SMEs face in their green adoption.



• Though nascent, investors' interest in ASEAN's Green FinTech / GreenTech sector is growing

- Despite a decline in GreenTech funding³ this year, the US\$169 million funding received has surpassed 2021's US\$129 million total, and is on track to exceed the number of funding deals.
- The average funding amount has been trending upwards for the past five years, from US\$1.8M in 2019 to US\$8.5M in YTD 2023.
- Investors we spoke to picked out carbon emissions management and reporting, as well as green financing solutions as key growth areas for Green FinTechs.
- As regulators impose climate reporting requirements on more businesses, GreenTech and Green FinTech start-ups that offer innovative sustainability solutions have a growth advantage.

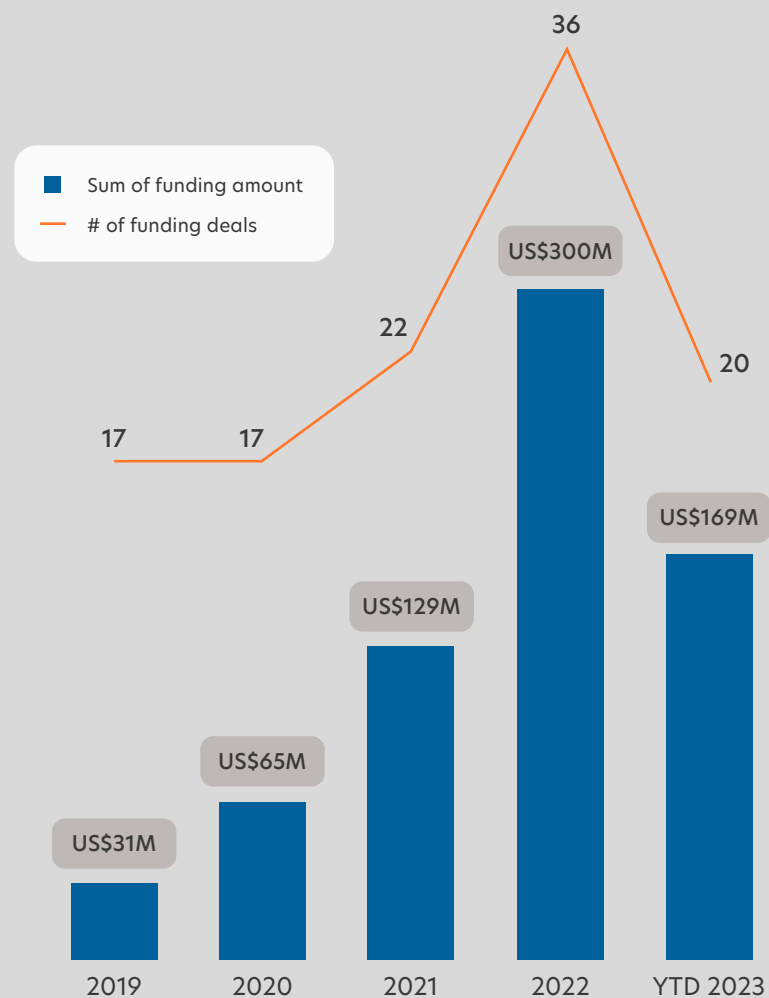


Figure 9 | ASEAN-6 Green FinTech and GreenTech funding trends, 2019 - YTD 2023

Source: Tracxn, as at 30 September 2023, accessed on 5 October 2023

The case for sustainable businesses

- The pursuit of sustainability has gained momentum among businesses in ASEAN. According to the *UOB Business Outlook Study 2023 (SME and Large Enterprises)*⁴, more than 40 per cent of businesses have started to adopt sustainable practices. The motivating factors for going green range from gaining an improved reputation and being able to attract investors, to adhering to regulatory standards and retaining talent.
- Meanwhile, barriers to adoption include increased customer costs and a lack of sustainable financing solutions.
- Yet as regulators extend climate reporting requirements to more companies along the global value chain, businesses—and their upstream and downstream network—are considering how to accurately measure and track their carbon emissions.

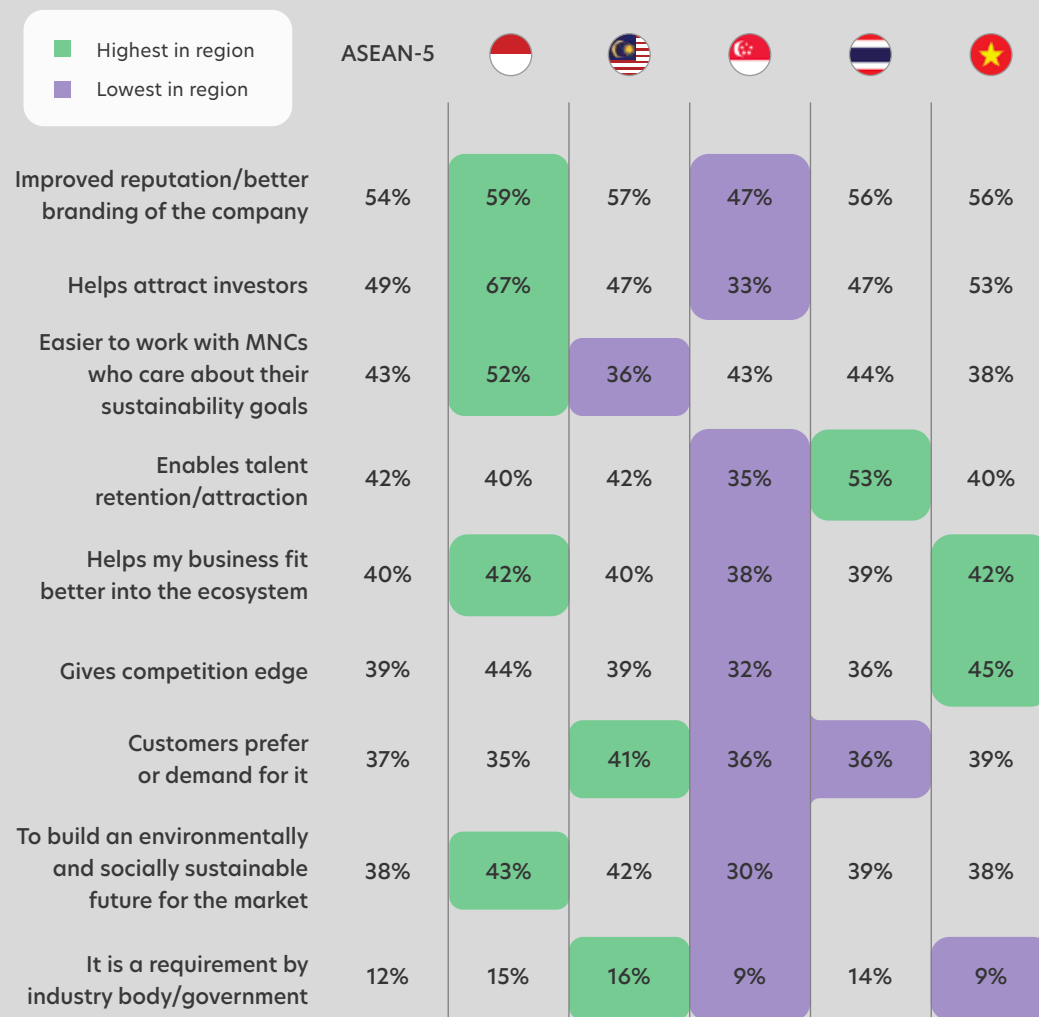


Table 2 | Why is sustainability important to your business?

Source: UOB Business Outlook Study 2023. Base: Those who regard sustainability as important (n=2,557)

Calculating carbon emissions: What are Scopes 1, 2 and 3?

The Greenhouse Gas Protocol (GHG Protocol) is the most commonly used framework to measure GHG emissions, which are further categorised into Scope 1 (direct emissions from company facilities and company vehicles), Scope 2 (indirect emissions from purchased energy), and Scope 3 (indirect emissions from upstream and downstream activities)⁵.



Learn more about emissions from the value chain:
go.uob.com/emissions

Scope 3

Indirect emissions from the value chain typically make up **90%** of a company's emissions

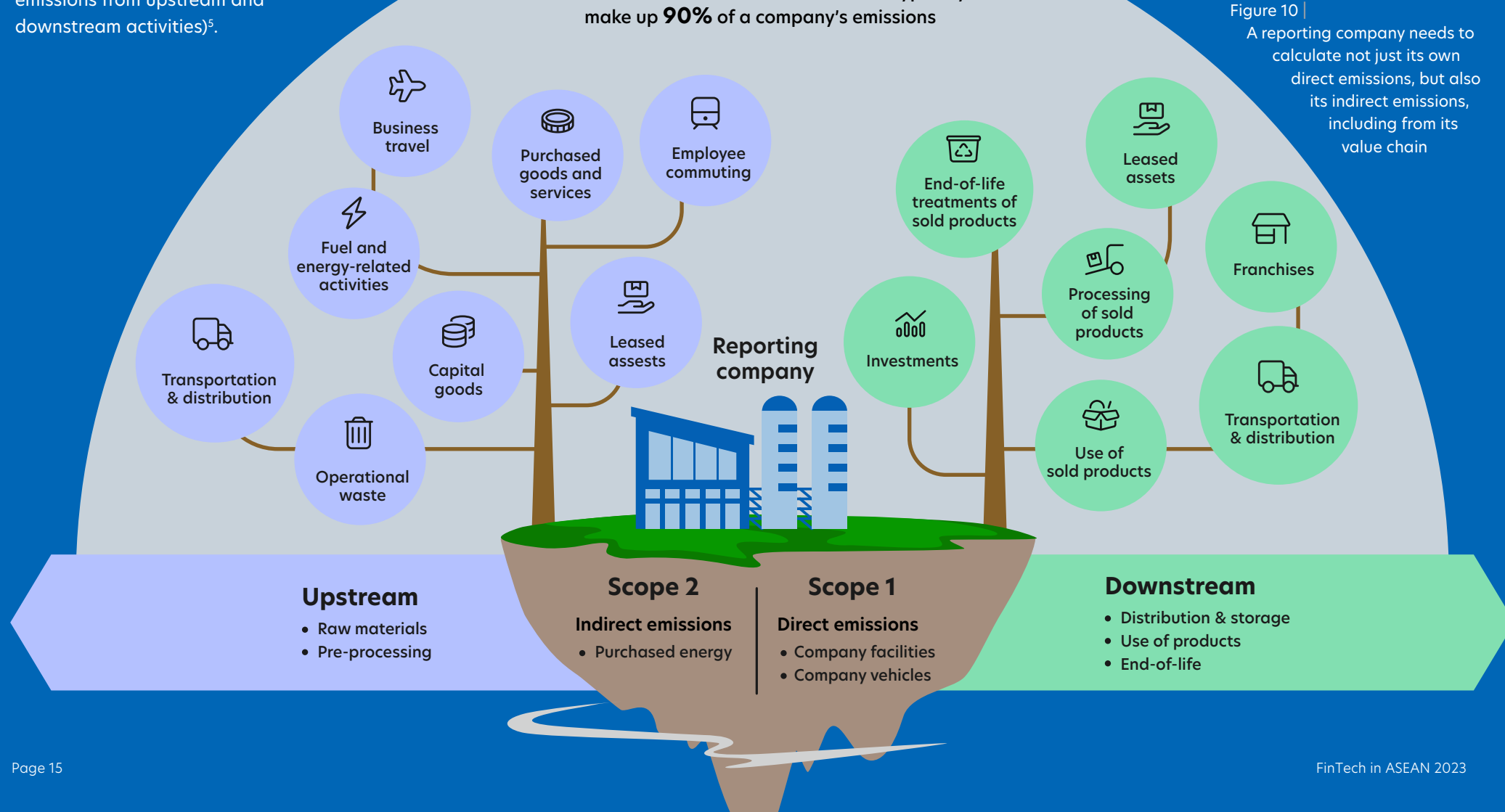


Figure 10 |
A reporting company needs to calculate not just its own direct emissions, but also its indirect emissions, including from its value chain

• The need for green

- An increased focus on sustainability has created demand for Green FinTech, in part due to the roles played by regulators, consumers and relevant stakeholders.

Drivers of Green FinTech



Regulators

From the regulators' perspective, there has been a growing focus on sustainability reporting across ASEAN, where companies are expected to disclose their environmental impact.



Consumers

In terms of appealing to the public, Gen Z is one of the most eco-conscious generations. They prefer products and services that align with their values, showcasing why sustainability within businesses is a crucial strategy.



Stakeholders

Investors, financial institutions (FIs) and employees are putting pressure on companies to adopt more sustainable strategies and to report on their progress. Even suppliers—particularly those that work with MNCs—are eager to adopt green solutions that can open the doors to sustainability-linked loans and support the reporting requirements of MNCs.

“

We are at the start of a paradigm shift where most companies need to understand their ESG impact and metrics. Historically, this has been driven by government regulations, shareholders and financial reporting, but now to remain competitive, we expect Green FinTech and AI tools such as Singapore-based Bluesheets, that can provide more efficient and accurate traceability, monitoring and reporting, to come to the forefront.

Herston Elton Powers

Co-founder and Managing Partner, 1982 Ventures

“

Green FinTech represents an exciting trajectory within the investment landscape. At the forefront of our investment strategy are opportunities that either amplify market-driven climate action or lend credence and integrity to the carbon market.

Liu Gen Ping

Partner, Vertex Ventures

Enter the Green FinTechs

The Singapore FinTech Association (SFA) has surveyed the ecosystem and developed a Green and Sustainable FinTech Landscape Map. As part of the SFA taxonomy, there are six key categories for Green FinTechs currently operating. These are data analytics, data collection, carbon services, reporting, infrastructure and RegTech.

Green and sustainable FinTech landscape map 2023

Green FinTechs are companies that use innovative technologies to enable financial processes and products, delivering environmental benefits and contributing to a net zero economy. They can help organisations meet the need for quality, regulatory-approved sustainability reports that are reliable and transparent on aspects like carbon data.

In this section, we explore the solutions that Green FinTechs provide, and where potential challenges and opportunities may lie.

Reporting

Sustainability reporting, supervision and monitoring for corporates



Carbon services

Carbon credit services, trading, advisory, tracking



Data collection

IoT, smart meters, drones, satellites, AI, capturing data at source



RegTech

Regulatory reporting, supervision and monitoring for FIs and corporates



Infrastructure

ESG data registries, carbon registries



Data analytics

Business intelligence, analysis of existing ESG data, scorings, ratings



Sustainability transition roadmap

- As businesses embark on their green journey, the five-phase sustainability transition roadmap is useful in charting a company's general approach. SMEs that are considering sustainability but need guidance can also try the [UOB Sustainability Compass⁶](#), an online tool that generates a customised report based on the company's sector and sustainability maturity stage.

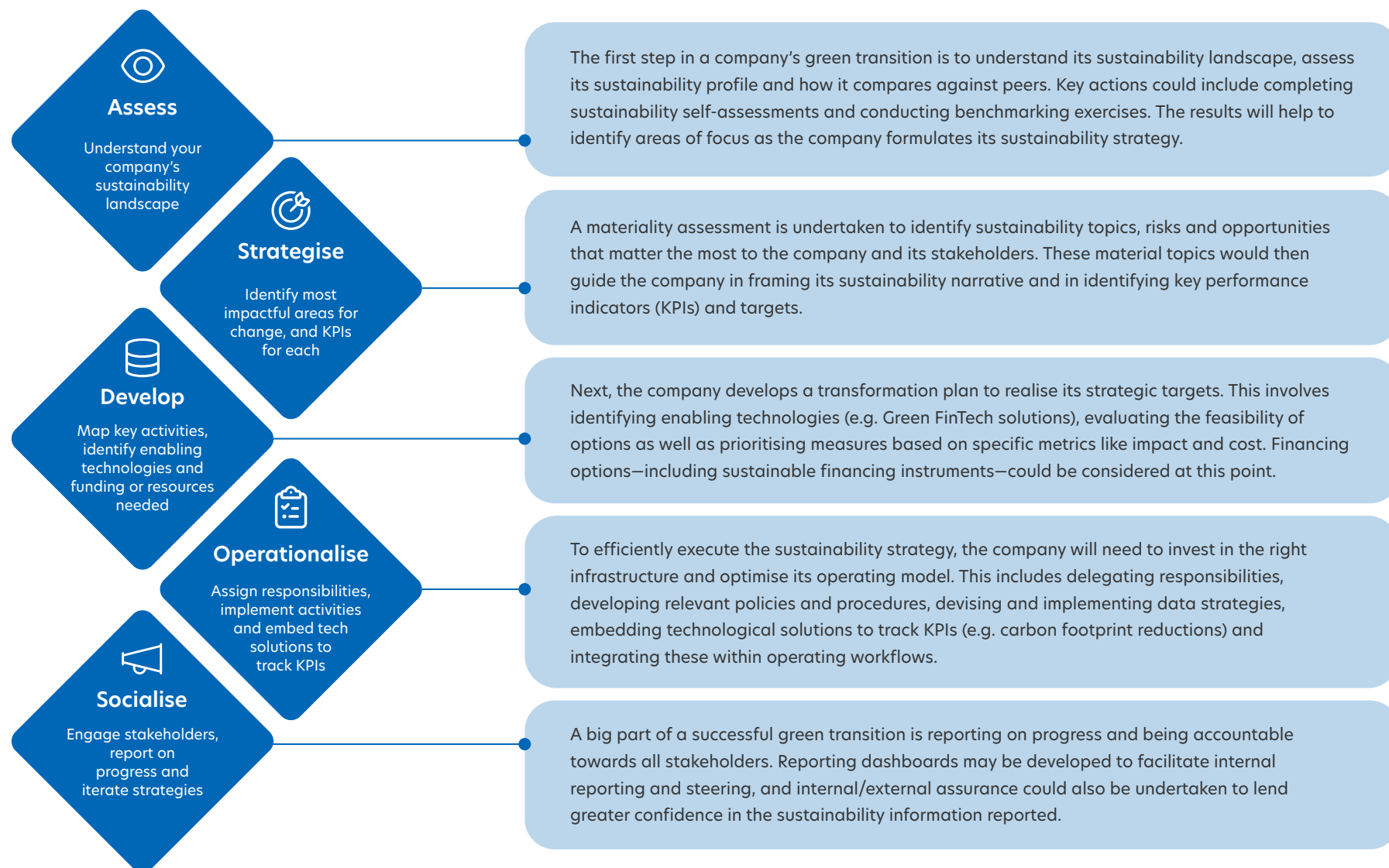


Figure 11 | Stages of the sustainability transition roadmap for businesses



Explore how Green FinTechs can help at each stage:
go.uob.com/roadmap



Types of green FinTech enablers and where they can help

Assess

Strategise

Develop

Operationalise

Socialise

Data analytics

Business intelligence, analysis of existing ESG data, scorings, ratings



Data collection

IoT, smart meters, drones, satellites, AI, capturing data at source



Carbon services

Carbon credit services, trading, advisory, tracking



Reporting

Sustainability reporting, supervision and monitoring for corporates



Infrastructure

ESG data registries, carbon registries



RegTech

Regulatory reporting, supervision and monitoring for FIs and corporates



Figure 12 | Stages of the sustainability transition roadmap, mapped against Green FinTech enablers

Case Study #1

Daya Selaras and STACS: Easing ESG reporting



- A large packaging manufacturer in Indonesia, Daya Selaras Group places sustainability at the heart of its business. It provides “circular” packaging products, for example, new corrugated cardboard products from wastepaper that was produced from other paper manufacturing facilities.
- In 2021, Daya Selaras embraced sustainability as part of its core strategy and formed the Daya Selaras Group’s (DSG) sustainability team. The company supported and struck partnerships with different waste aggregators, collectors and recycling start-up companies, which to date, comprises about 300 partners from Indonesia’s recycling industry.
- Daya Selaras understood that transformation is needed across the company – from top management down – to align with and execute its sustainability initiatives. As part of this renewed focus, the firm turned to STACS to help improve their ESG reporting.



- As one of Asia’s leading ESG registries, STACS helps companies comply with ESG regulations by allowing companies to report simplified ESG metrics and automatically calculate their carbon emissions in line with the GHG protocol. This is crucial for impact reporting and monitoring, besides ensuring green integrity and providing significant time savings.
- Specifically, STACS’ ESGpedia platform is designed to accelerate the sustainability transition for businesses and SMEs across Asia, providing the ESCAP Sustainable Business Network (ESBN) Asia-Pacific Green Deal digital assessment through an easy-to-use portal. This allows companies to take and assess their current sustainability performance. Firms can also explore other digital tools that can help convert operational data – fuel and refrigerant consumption for example – to GHG emissions.
- SMEs who use the ESGpedia platform are able to create their ESG profile, which aggregates data including their ESG credentials as well as the sustainability options they might have used, including carbon offsets and renewable energy certificates. This central repository can connect with a large range of providers and provide a single view to SMEs.
- All the data collected from the self-assessment and ESGpedia’s AI-powered engine are then harmonised into a single company ESG profile within the platform, which allows for large corporates who use SMEs as part of their value chain, to assess their entire Scope 3 emissions more easily. It will also allow for banks to better provide green financing to SMEs as data quality from SMEs improves.
- ESGpedia provides digital automation to transform operational and portfolio data into sustainability requirements aligned with today’s regulatory needs – like ESRS, ERQ, and more, to address the lack of data in the Asia Pacific market, especially around SMEs.

Case Study #2

Doxa and Kimly Construction: Lowering barriers to green financing



- Doxa is a FinTech start-up based in Singapore. The company brings together buyers, suppliers, and financiers on its enterprise-grade platform, Doxa Connex, to help digitalise the end-to-end procurement-to-payment workflow. Leveraging cloud computing and microservices, Doxa focuses on an industry notorious for its complexity and challenges – construction.
- Like most construction firms, Singapore's Kimly Construction is bogged down by a ton of administrative processes and manual documentation, raising the risk of delays and errors.
- By connecting all the parties in the construction value chain, Doxa Connex enables Kimly Construction to seamlessly create, transfer and process digital trade documents like orders, claims, invoices and payments – increasing their productivity, data and documentation accuracy, as well as providing them with faster access to financing.
- With this ready commercial data and traceable workflow on Doxa Connex, Kimly Construction and its suppliers are then able to easily submit Green and Sustainable Trade Financing applications to UOB via SGTraDex, which automatically calls up the project-specific green certification data from ESGpedia for verification. This greatly eliminates the existing friction in the financing process and improves the speed and accuracy of processing for all parties.

Seeds of change: Opportunities in the making

As the Green FinTech space is still nascent, not many businesses may be aware about how GreenTechs and Green FinTechs can help them. We spoke with a few start-ups in this space to understand more about how they are supporting the green transition.

HydroNeo



Category: Data collection
Country: Thailand



HydroNeo helps shrimp farmers in Asia by making their operations more efficient, productive, and sustainable with its farm-embedded IoT Smart Farm System for aquaculture, while expanding their product and service offerings to digitalise the whole value chain.

HydroNeo's IoT system monitors water quality, for example DO (dissolved oxygen), pH and more in real-time, and alerts the customer about any unwanted changes via a smartphone app. Advanced automation features and management tools are also incorporated. The system seamlessly integrates into any existing farm infrastructure and provides comprehensive monitoring and control capabilities.

An opportunity for a sustainable supply chain

Companies can partner HydroNeo to improve the sustainability of their supply chain, ensuring that products are sourced and produced in an environmentally responsible manner. This helps to reduce environmental risks and improves transparency in the shrimp farming value chain.

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Farmers often miss access to meaningful technology and insights to the latest industry research. This slows down the adoption of innovation. GreenTechs like HydroNeo build strong relationships with our farm customers and establish trust in technology. Farmers listen to our ideas and recommendations and become, over time, multipliers within their communities.

Fabian Reusch
Managing Director, HydroNeo

Carbonwize (formerly cWallet)



Category: Carbon services
Country: Thailand



Carbonwize is a platform that allows companies to perform carbon accounting, enabling real-time carbon tracking which is the tracking of carbon emissions down to the life cycle of a product.

By integrating directly with a company's database system i.e. Enterprise Resource Planning (ERP), businesses can automate the calculation of their carbon footprint with the embedded calculator that pulls data from their ERP system. Companies can tap this automated solution to monitor and report their emissions and tracking in real time, rather than wait for annual reviews or audits, while complying with the likes of ISO (International Organisation for Standardisation) and GHG protocol standards. This frees up more time for businesses to devise decarbonisation strategies.

An opportunity to make carbon accounting accessible

One of the biggest challenges in a company's sustainability journey today is the need for specialised skills or methods in order to complete carbon accounting. Paired with the shortage of experts in this field, solutions that can automate carbon accounting – like Carbonwize's – are naturally sought after. However, there are businesses that are hesitant in terms of adoption, in part due to their impression that carbon accounting is unnecessary.



Building a sustainable business isn't just about one company; it involves the entire supply chain. To reduce one's carbon emissions, collaboration is necessary among suppliers, vendors and stakeholders. Reporting emissions for one company alone is a daunting task – scaling this to an entire supply chain amplifies the challenge.

Natalie Lerthatsilp
Co-founder and CEO, Carbonwize

Unravel Carbon



Category: Carbon services
Country: Singapore



Unravel Carbon is a company that utilises artificial intelligence and data science to simplify and streamline the carbon accounting and decarbonisation process. Its strength lies in its focus on Scope 3 emissions, which tends to be a significant endeavour for most companies at this stage.

Additionally, Unravel Carbon enables its customers to onboard their suppliers on the platform. This helps improve traceability and transparency across the whole value chain, improving the quality of Scope 3 emissions data.

An opportunity for companies to focus on decarbonisation strategies

The issue that Unravel Carbon has identified and is solving, is that companies are perceived to be spending 90 per cent of effort on collecting data and measuring carbon footprint, while only 10 per cent is spent on developing strategies to decarbonise.

There is a need to support green adoption by improving not just data accessibility, but also tailored quality data from various industries, which remains a challenge.



Accessing quality data has been challenging and complex for organisations. Data collection and management usually takes up to six to nine months for baseline emissions.

Grace Sai
Co-founder and CEO, Unravel Carbon

Amartha



Category: Microfinancing
Country: Indonesia



A peer-to-peer lending marketplace for impact investors, Amartha aims to serve the underserved segments and considers sustainability initiatives to be a key component of corporate risk management. The Indonesia-based firm has also set a sustainability goal of creating shared prosperity by carrying out ethical lending practices, promoting sustainable financing, and supporting women's empowerment.

An opportunity to support green demand

Sustainable financing has risen, partly due to an increase in awareness of environmental issues among venture capitalists and sovereign wealth funds, whose concerns lie in ESG performance indicators as part of their investment mandates.

Green funds, blended finance schemes and sustainable investment initiatives are just some of the options available to investors, with individuals now afforded a wider variety to choose portfolios that align with their environmental values, such as investing in companies with net zero commitments.



GreenTech with AI capabilities is crucial in the optimisation and scalability of sustainable initiatives for developing communities.

Aria Widyanto
Chief Risk & Sustainability Officer, Amartha



Looking ahead:

What's next for FinTech?

While the decline in FinTech funding has coincided with a similar downward trajectory for the tech sector, certain trends have been picked out that could signal a potential recovery. Some of these include the accelerated digitalisation of traditional industries in emerging markets, along with the rapid advancement in artificial intelligence (AI) – for example, generative AI applications in FinTech – that can help reshape FinTech innovations.

The phased implementation of open banking – a system that enables third-party access to financial data – across the region, also heralds a transformative era in financial data management and accessibility. Such positive signs have led to industry experts predicting a rebound in FinTech funding.

• Navigating the green horizon

- In the space of Green FinTechs and the businesses they work with, achieving green goals remains a bumpy journey and a work-in-progress - albeit one that continues to unearth gaps and opportunities for companies to provide solutions.
- There is neither a one-size-fits-all technology that can halt environmental threats immediately, nor are there specific regulations that can be laid down right away to alleviate climate issues. What is certain, is that FinTech and GreenTech can work together to create impact, in tangible and meaningful ways.

• Sustainable financing solutions

- The success of most green initiatives depends on more than just the vision or innovative technology behind it, but also whether investors view them as reliable, noteworthy projects that can genuinely add value to the cause.
- FinTech and GreenTech, in this case, can identify and monitor complex data points that are used as evidence of sustainable practices of the company and to a certain extent, prevent actions like greenwashing.
- The identification of the above, along with the scalability and replicability of the projects, the presence of local government support, as well as adaptive credit scoring systems that unlock funding access to approved companies, can build a case for larger sustainable funding opportunities.



Seeding the green transition






- The rising prominence of green development across the ASEAN region has undeniably catalysed a fundamental shift in the priorities of businesses from profit alone, to priorities around the planet as well.
- The concerted efforts of governments and regulatory bodies to enforce sustainability and climate reporting requirements signify a commitment to fostering environmental responsibility. This trajectory is not only commendable but also essential in addressing the pressing global challenges around climate change.
- Furthermore, the growing emphasis on climate issues and the increasing adoption of the Task Force on Climate-Related Financial Disclosures (TCFD) framework within the region reflects an urgent need to address the climate crisis. Businesses are now recognising that green practices are not merely a moral imperative but also a strategic advantage, enabling them to mitigate risks and capitalise on emerging opportunities.
- In this context, businesses in ASEAN should consider going green as an integral part of their operational strategies, aligning with international best practices and the evolving regulatory environment. For example, companies can begin to assess current sustainability performance, monitor carbon emission levels, as well as automate GHG emissions and effective supply chain tracking for carbon accounting and reporting.
- By embracing green development, companies can not only safeguard their long-term viability but also contribute to a more environmentally responsible future for ASEAN and the world.

As we reach a pivotal moment for our planet,
will ASEAN's changemakers rise to the occasion?

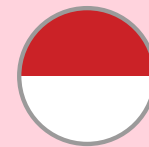
References

Sustainability reporting developments⁷ across ASEAN-6

- There has been a growing focus on sustainability and climate reporting by regulators across jurisdictions in ASEAN, with such requirements being implemented or scheduled. A number of countries are also starting to use the Task Force on Climate-Related Financial Disclosures (TCFD) framework for climate reporting.

Country	Net zero/Carbon neutral goals	Main bodies promoting sustainability reporting	Sustainability reporting requirements	Climate reporting	Mandatory assurance requirements (Yes / No)	Climate-related taxonomy
 Indonesia	2060	Financial Services Authority (Otoritas Jasa Keuangan)	Mandatory for banking corporations (from 2019) and listed companies (from 2020) in a phased approach	Not mandatory	No	Issued Indonesia Green Taxonomy
 Malaysia	As early as 2050	Bursa Malaysia (BM) Bank Negara Malaysia (BNM)	Mandatory for listed companies from 2016	Mandatory from 2025 for listed companies and 2024 for Financial Institutions (FIs)	No	Issued Climate Change and Principle-based Taxonomy for FIs and Sustainable and Responsible Investment Taxonomy for the Capital Market
 Philippines	Philippines has not set a formal net zero or carbon neutral target although it has made certain reduction pledges	Securities and Exchange Commission (SEC) Philippines	Mandatory for listed companies from 2019 on a 'comply or explain' approach (mandatory to comply from 2022 reporting period)	Not mandatory	No	Development of sustainable finance taxonomy (in the pipeline)
 Singapore	2050	Singapore Exchange (SGX) Accounting and Corporate Regulatory Authority (ACRA)	Mandatory sustainability reporting for listed companies from 2017 on a 'comply or explain' basis. Mandatory reporting on climate from 2022 (listed companies) on a 'comply or explain' basis; mandatory from 2023 2024 for specific industries.	Climate reporting is aligned to TCFD framework and is mandatory from 2022 (listed companies) on a 'comply or explain' basis; mandatory from 2023 2024 for specific industries.	SGX listed companies are required to subject sustainability reporting process to internal review. External assurance is encouraged.	Published fourth consultation paper on Coal Phase-Out Criteria under the Singapore-Asia Taxonomy
 Thailand	Carbon neutrality by 2050 and net zero by 2065	Stock Exchange of Thailand (SET)	Mandatory for listed companies from 2022	Not mandatory	No	Developing Green Taxonomy
 Vietnam	2050	SEC Thailand MOF Vietnam	Public companies are required to disclose ESG information in annual reports or stand-alone sustainability reports (certain information are not mandatory for FIs)	Not mandatory	No	Developing Green Taxonomy

The regional developments in this section have been largely drawn from *PwC's Sustainability Counts II 2023 report*.



- Since 2019, the Indonesia Financial Services Authority, also known as Otoritas Jasa Keuangan (OJK), requires FIs and Publicly Listed Companies (PLCs) to publish sustainability reports. Banks are also required to publish the Sustainable Finance Action Plan, comprising both short-term (one year) and long-term (five year) plans. Mandatory sustainability reporting was recommended to be carried out in phases. Reporting for financial service institutions (large banks and foreign banks) began in 2019; listed companies from 2020; and large credit unions and securities companies, along with PLCs with medium-scale assets, from 2022.
- OJK has also rolled out eight principles of sustainable finance in Indonesia:
 - Responsible Investment, Management of Environmental and Social Risks
 - Informative Communications
 - Development of Priority Sectors
 - Sustainable Business Strategy and Practice
 - Governance
 - Inclusiveness
 - Coordination and Collaboration
- In June 2021, the Indonesia Stock Exchange supported the use of the TCFD framework to help drive its green ambition in the country's capital market. As for carbon-related credits and taxes, the government-backed Indonesia Carbon Exchange, or IDX Carbon, was set up and operated by Indonesia Stock Exchange on 26 September 2023.





- In Malaysia, ESG reporting is required as a listing rule at the end of a financial year, for example, to disclose narrative statements of the management of economic, environmental, and social risks and opportunities in annual reports.
- The Sustainability Reporting Guide is also issued by Bursa Malaysia (BM), with three editions: in 2015, 2018 and then in 2022. Furthermore, the Securities Commission Malaysia (SC) has also included guidance to strengthen instances of board oversight and the integration of sustainability considerations in the strategy and operations of companies, according to the Malaysian Code on Corporate Governance in 2021.
- In 2021, BNM released the Climate Change and Principle-based Taxonomy (CCPT) to encourage the adoption of ESG principles in financial institutions. In June 2022, the Joint Committee on Climate Change (JC3) released the TCFD Application Guide for FIs. In September that same year, BM enhanced its sustainability reporting framework with requirements for climate change reporting for companies on Main and ACE markets, with implementation in a phased manner - beginning financial year ending on or after 31 December 2023.
- In December 2022, the Securities Commission Malaysia (SC) unveiled the Principles-Based Sustainable and Responsible Investment Taxonomy for the Malaysian Capital Market (SRI Taxonomy). This is aligned with the ASEAN Taxonomy for Sustainable Finance, version 1 (ASEAN Taxonomy), released in November 2021.
- SC and BNM are assessing companies' readiness to meet the technical screening criteria under the Version 2 of the ASEAN Taxonomy for Sustainability Financing released in March 2023, which is set to take effect in early 2024.
- BNM policy document on Climate Risk Management and Scenario Analysis (CRMSA) requires FIs to make climate-related disclosures aligned with TCFD together with financial reports for the financial year beginning 1 January 2024.





- In the Philippines, PLCs are required to report on their contributions to sustainability topics either through a report that adheres to internationally recognised sustainability reporting frameworks, or SEC Philippines' reporting template. These reports should be submitted together with the companies' annual report.
- The Sustainability Reporting Framework prescribed by the SEC Philippines is built on globally accepted standards and frameworks, particularly IFRS S1 (General Requirements for Disclosure of Sustainability-related Financial Information) and IFRS S2 (Climate-related Disclosures), GRI Sustainability Reporting Standards, IIRC Integrated Reporting Framework, the SASB Sustainability Accounting Standards, and TCFD recommendations.
- The SEC Philippines has been adopting a 'comply and explain' approach from the 2019 reporting period. However, beginning 2023 (2022 reporting period), all PLCs are mandated to comply with the Sustainability Reporting Guidelines set by the regulator.
- The SEC Philippines is also seeking to introduce voluntary and eventually mandatory reporting for non-listed companies, besides preparing to adopt the IFRS Sustainability Disclosure Standards that are being developed by the ISSB. The timeline and guidelines are under review and not yet finalised.
- Additionally, Philippines does not levy an explicit carbon price, but there are initiatives in the legislative branch to pursue a carbon tax and a carbon credit system.





- As part of the country's green transition journey, the Green Finance Industry Taskforce (GFIT) was convened by the Monetary Authority of Singapore (MAS) from November 2019 to April 2023. The GFIT set out to execute green initiatives, such as developing a taxonomy, improving climate-related disclosures, and enhancing environmental risk management practices. In fact, Singapore had implemented a carbon tax in January 2019, which was the first carbon pricing scheme in Southeast Asia.
- Building on the foundation laid out by GFIT, MAS worked together with the financial industry to establish the Singapore Sustainable Finance Association (SSFA), with a vision to build a vibrant ecosystem for green and transition finance. The SSFA will focus on initial plans to scale voluntary carbon markets, transition finance, and blended finance.
- In 2021, Singapore Exchange (SGX) released a phased approach to mandatory climate reporting, based on recommendations from the TCFD and a public consultation with the latter in the same year.
- The approach encompasses the type of baseline reporting practice required for specific financial years, such as mandatory climate reporting in 2022 for all listed issuers on a 'comply or explain' basis. In 2023, such reporting will become compulsory for industries such as financial, agriculture, and energy - among others. For the year 2024, the reporting requirement will be extended to more sectors, including materials and buildings, as well as transportation industries.
- Elsewhere, the Sustainability Reporting Advisory Committee (SRAC) was set up by the Accounting and Corporate Regulatory Authority (ACRA) and Singapore Exchange Regulation (SGX RegCo), to advise on the roadmap for sustainability reporting in the island. Starting from FY2025, SRAC recommends for listed issuers to report and align climate related disclosures with the International Sustainability Standards Board (ISSB). From FY2027, large non-listed companies with annual revenue of at least of S\$1 billion will be required to report.
- MAS recently launched its Finance for Net Zero Action Plan in April 2023, which strives to promote consistent and reliable climate data, engage financial institutions to foster sound environmental risk management practices, as well as to promote innovative green and transition financing solutions - among various strategic outcomes.
- In October 2023, Singapore established the eligibility criteria for International Carbon Credits under the Carbon Tax Regime.



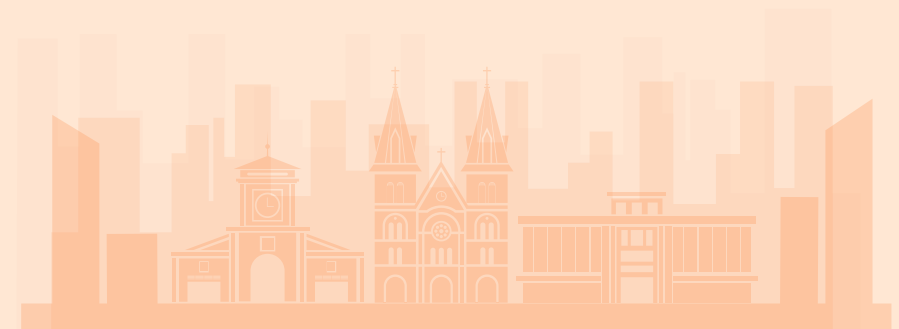


- The SEC Thailand Corporate Governance Code requires sustainability reporting with choices of framework; however, the GRI Standard is common following the Stock Exchange of Thailand's (SET) guidance. On 17 November 2021, SET announced its support for the TCFD.
- Since 2022, it is mandatory for all PLCs to report their ESG performance via the Form 56-1 One Report (effective from the financial period ending 31 December 2021). The submission must be within three months from the end of the financial report.
- SET provides knowledge regarding the impact of climate change on businesses, conducting a series of TCFD and Sustainable Development Goals (SDGs) workshops which aim to promote a better understanding of how to address the economic risks and opportunities resulting from climate change and raise the bar in line with TCFD international best practice of climate disclosures.
- Thailand has launched its own credit market (Thailand Voluntary Emission Reduction, T-VER) as well, plus the carbon tax will come into force next year. Additional impetus comes from the European Union's Carbon Border Adjustment Mechanism (CBAM), which will be applicable from October 2023 and will require importers of carbon intensive materials to pay for the carbon emissions embedded in their production.





- Vietnam's Ministry of Finance (MOF) requires public and listed companies to disclose their social and environmental impact, including greenhouse gas emissions, water consumption, and compliance with environmental protection laws, in the ESG portion of annual reports.
- Also required is a separate assessment report that is related to the firm's environmental and social responsibilities, as well as the company's corporate objectives pertaining to corporate environment and society sustainability. Public companies are encouraged to apply globally accepted reporting and disclosure standards while preparing their sustainability reports.
- In 2022, the Government issued Decree No. 06/2022/ND-CP that pertains to GHG reduction, ozone layer protection and carbon market development. Specifically, this signalled the intention to lay out a roadmap to build a national carbon market as well as provide a framework for reporting on GHG emissions - to create a database of GHG inventory. In relation to this, on the mitigation of greenhouse gas emissions and protection of the ozone layer, the carbon credit trading platform is expected to be fully operational.



Interviewee profiles



Herston Elton Powers
Co-founder and Managing Partner,
1982 Ventures

1982
VENTURES

1982 Ventures is the leading seed fund investing in FinTech start-ups in Southeast Asia. 1982 Ventures focuses on being the first port of call for FinTech founders and the first money in.



Aria Widyanto
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Amartha



Amartha is an Indonesian digital microfinance platform that offers working capital loans, digital financial services, and mentoring programmes to women-led micro and small and medium-sized enterprises (MSMEs) in rural areas of Indonesia.



Natalie Lerthasitilp
Co-founder and CEO,
Carbonwize



Carbonwize is a carbon management platform, offering end-to-end solutions from carbon measurement, consultancy and verification. With Carbonwize, businesses can track carbon emissions easily, meet regulatory requirements and achieve net zero goals.



Cynthia Handriani Wijaya
Chief Corporate Officer,
Daya Selaras Group



Daya Selaras Group is a sustainable industrial hub operating a circular value chain that links their subsidiaries and partners in the waste paper recycling, industrial paper, corrugated carton and logistics sectors.



Edmund Ng
Co-founder and CEO,
DOXA



Doxa Connex is a collaborative trade platform bringing buyers, suppliers and financiers together. This enables procurement, payment and financing to be seamless, swift and secure. Reduce costs, improve cashflow today.



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HydroNeo



HydroNeo helps shrimp farmers in Asia make their operations more efficient, productive, and sustainable with the leading farm-embedded IoT Smart Farm System while developing the Aquaculture SuperApp to digitalise the whole value-chain.



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Partner,
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InnoVen Capital is Asia's leading venture debt platform providing debt capital to high-growth venture-backed startups with a portfolio of over 300 market leaders from a range of industry verticals in Asia.



Tan Yinglan
Founding Managing Partner,
Insignia Ventures Partners



Insignia Ventures Partners is an early-to-growth stage venture capital firm founded in 2017 investing in Southeast Asia's most influential technology companies. Portfolio companies include GoTo (IDX: GOTO), Appier (TSE: 4180), Carro, Ajaib, Fazz, Shipper, Tonik, Flip, Super, and many other technology market leaders.



James Tan
Managing Partner,
Quest Ventures



Quest Ventures is a top venture capital firm in Asia. Its portfolio of 100+ venture-backed companies operate in more than 150 cities across Asia, creating employment and advancement opportunities for more than 4,400 employees, while its Enterprise and ESG efforts directly impact thousands more.



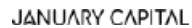
Grace Sai
Co-founder and CEO,
Unravel Carbon



Unravel Carbon is an AI-powered decarbonisation platform that helps companies measure, track, reduce, and report their carbon emissions. It measures a company's full supply chain carbon profile in seconds, generates reduction pathways and auto-populates regulatory disclosure reports.



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January Capital is an early-stage, venture capital firm that invests into technology-powered, second order businesses that are driving the digitisation of commerce and future of work in the Asia Pacific region.



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SoHo Capital



SoHo is APAC's leading merchant bank for Sustainability and FinTech. The firm's advisors consist of leading investment bankers, operating executives and policy makers.



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Vertex Ventures Southeast Asia and India invests in high-growth startups seeking their first round of institutional venture capital funding in Southeast Asia and India, with a primary focus on Singapore, India, Indonesia, Thailand and other emerging hubs of innovation across the region. It has a long and strong track record of investing in early-stage startups and building champions like Grab, Patsnap, 17Live, Nium, FirstCry, Licious, AsianParent, Validus, Warung Pintar, and others.



Weisheng Neo
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Qualgro is a leading tech venture capital (VC) firm in Southeast Asia, in areas such as Data, AI, and Software. We invest across Southeast Asia, mainly at Series A and B.



Benjamin Soh
Founder and Managing Director,
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STACS is Asia's leading ESG data and technology company. Its ESGpedia platform provides ESG data and digital solutions across multiple industries, for the financial sector, corporates, and SMEs to attain their ESG goals.

Down but not out: FinTechs ride funding slump

¹ The term 'funding' in this chapter includes all disclosed funding rounds categorized as 'pre-series 'early stage rounds', 'late stage rounds', 'private equity' and 'venture debt' provided on data platform Tracxn under its FinTech practice area. It does not include companies solely funded by grants, conventional debt, mergers and acquisitions, initial coin offerings (ICOs) and post-initial public offerings (IPOs). Our tabulations do not include investments into Grab and Gojek (as their core business is categorised as transportation and delivery).

² We have omitted Sky Mavis, which made the Top 10 list last year, from funding counts as it has been reclassified as a gaming tech firm under Tracxn's taxonomy.

Carbon conundrum: Green FinTechs rise to meet demand

³ GreenTech, defined as Sustainability Tech in Tracxn, refers to companies providing tech solutions or hardware to ensure financial inclusivity through the likes of microfinance and affordable housing, and in ensuring environmental sustainability.

⁴ *The UOB Business Outlook Study 2023* was conducted between 28 December 2022-20 January 2023 involving business decision makers from SMEs and Large Enterprises across key industry verticals. The statistic of more than 40 per cent of businesses adopting sustainable practices was obtained from 2,916 survey respondents from ASEAN-5 (excluding the Philippines).

⁵ The Scope system was developed by the World Resources Institute, through the Greenhouse Gas Protocol. Dividing emissions into groups - specifically Scopes 1, 2 and 3 - is designed to better measure progress when it comes to reporting and reducing emissions.

⁶ The UOB Sustainability Compass is an online tool that can generate a customised report based on a particular sector a company is in and its sustainability maturity stage. The report will provide businesses with clear and actionable steps, as well as recommend suitable sustainable financing solutions, to help chart their own sustainability journey.

Sustainability reporting developments across ASEAN-6

⁷ The regional developments in this section have been largely drawn from *PwC's Sustainability Counts II 2023 report*.

Taxonomy and definitions

Categories	Tracxn classification	Focus
Alternative Lending	Alternative Lending	Online lending platforms (including balance sheet lenders, marketplaces, P2P lenders as well as lead generators) and companies that enable online lending.
	Crowdfunding	Online platforms where people, organisations raise money from the masses, for various projects and causes.
Banking Tech	Banking Tech	Companies which provide Tech solutions primarily for banking industry including software, innovative hardware, and Tech-enabled services.
Blockchain in Financial Services	Blockchain in Financial Services	Companies which leverage the blockchain technology to cater to the financial sector. Also includes companies providing financial services related to NFTs.
Cryptocurrencies	Cryptocurrencies	All companies that provide bitcoin and other digital currency products and services.
Finance and Accounting Tech	Finance and Accounting Tech	Tools or software for automating functions of finance and accounting department of an organization.
InsurTech	Insurance IT	Companies which provide software products and data solutions primarily for the insurance industry.
	Internet First Insurance Platforms	Companies which provide tech platforms to consumers for purchasing and managing their insurance.
	Employer Insurance	Companies which provide employers with solutions for managing employee insurance benefits.

Categories	Tracxn classification	Focus
Investment Tech	Investment Tech	Companies offering platforms for retail and institutional investors to research and invest in multiple financial assets. Also includes companies offering solutions to financial institutions providing investment related services.
	RoboAdvisors	Companies that provide automated investment and advisory services with little or minimal human intervention. Also includes companies that provide white label robo advisory platforms/software.
	Wealth Management Platforms	Companies providing wealth management platforms.
Payments	Remittance	Companies providing cross-border money transfer solutions and services to consumers and enterprises.
	Forex Tech	Companies which provide tech solutions, including internet-first platforms and software for forex market which includes currency exchange and currency investments.
	Payments	Companies which participate in traditional web based and offline payment cycle. Also includes companies which provide alternative mode of payment, companies which support the payment companies in terms of security, analytics, platform etc.
	Mobile Payments	Companies offering solutions to make and (or) accept payment via mobile.
RegTech	RegTech	Companies offering a range of tech products primarily for financial institutions and regulators for efficient implementation and monitoring of financial regulations.

FinTech solutions are grouped by categories based on Tracxn's taxonomy for the FinTech practice area.

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FinTech/GreenTech enablers:
Amartha, Carbonwize, Doxa, HydroNeo, Stacs, Unravel Carbon

Others:
Daya Selaras Group, Kimly Construction



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Find out more at www.uobgroup.com



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The SFA is a cross-industry non-profit organisation. Its purpose is to support the development of the FinTech industry in Singapore and facilitate collaboration among the participants and stakeholders. The SFA is a member-based organisation with over 800+ members. It represents the full range of stakeholders in the FinTech industry, from early-stage innovative companies to large financial players and service providers.

In Singapore, we have more than 3,500 partners and staff to help resolve complex issues and identify opportunities for public, private and government organisations to progress. As part of the PwC network with over 364,000 people in 151 countries, we are among the leading professional services networks in the world focusing on helping organisations and individuals create the value they are looking for.

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To further its purpose, the SFA also partners with institutions and associations from Singapore and globally to cooperate on initiatives relating to the FinTech industry. Well-connected globally, the SFA has signed over 70 international Memorandum of Understanding (MoU) to lay the network for its members and ecosystem.

For more information visit <https://singaporefintech.org/>

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