

CHAPTER 19

Sustainable finance in Southeast Asia

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Swisa Ariyapruchoya and Ulrich Volz¹

Puey Ungphakorn Institute for Economic Research, Bank of Thailand; SOAS, IDOS and LSE

1 INTRODUCTION

Over the past few years, significant progress has been made in the development of financial infrastructure and promotion of sustainable finance activities in Southeast Asia, both at the level of individual member countries of the Association of Southeast Asian Nations (ASEAN) and collectively at the regional level.² Public and private efforts to develop sustainable finance reflect a growing awareness across the region of the vulnerability of Southeast Asian economies to climate and environmental change. Indeed, ASEAN countries are amongst the countries most vulnerable to the physical impacts of climate change, which cause significant risks also for macroeconomic and financial stability (Volz et al. 2020, Beirne et al. 2021). Moreover, ASEAN countries are also exposed to significant transitions risks (ibid.). All ASEAN countries have signed the Paris Agreement, and most have already committed to being carbon neutral by 2050.³

Although the entire region is vulnerable to climate-related risks, the development of sustainable finance activities has been uneven across ASEAN countries due to different levels of economic and financial development as well as differences in institutional capacities. The Covid-19 pandemic has also had significant impact on economic priorities, with many households across the region seeing a substantial drop in income and financial difficulties (Morgan et al. 2021). This has resulted in resources being reallocated to more immediate economic and social policies, impacting longer-term sustainable finance activities.

This chapter provides an overview of the overall state of sustainable finance activities and practices in the region, contextualises the challenges in scaling up sustainable finance and investment, and discusses the opportunities and actions that could be undertaken both individually and collectively. The chapter is structured as follows. Section 2 gives an overview of sustainable finance policies and frameworks that have been established

1 The views expressed in this chapter are those of the authors and should not be attributed to the Puey Ungphakorn Institute for Economic Research or the Bank of Thailand. The authors thank Sean Kidney and Phi Minh Nguyet for sharing the data for Figures 1-4.

2 The ASEAN members are Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam.

3 The governments of Cambodia, Laos, Malaysia, Singapore, Thailand and Vietnam have committed to achieving net zero emissions by 2050, while Myanmar and Indonesia are discussing such a commitment for 2050 and 2060, respectively.

in Southeast Asian countries and at the regional level. Section 3 reviews developments in sustainable financial markets across the region. Section 4 discusses policy challenges and provides recommendations for ASEAN countries to further align finance with sustainability objectives.

2 OVERVIEW OF SUSTAINABLE FINANCE POLICIES AND FRAMEWORKS IN SOUTHEAST ASIAN COUNTRIES

The ten member countries of ASEAN have both individually and collectively taken important steps in the last few years to develop an environment conducive to fostering sustainable finance activities as well as to encourage market practices and the expansion of related products and services.

2.1 Country-level initiatives

Due to the diversity of economic and financial development, related disparities in institutional capacities, but also differing economic priorities, there have been notable differences in the pace and scale at which sustainable finance activities have been undertaken in each ASEAN country. A review of countries (see Annex 1) reveals that seven of the ten ASEAN countries – namely Cambodia, Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam – have progressed substantially more in the area of sustainable finance than Brunei, Laos and Myanmar. The majority of countries adopted an industry-led approach whereby financial authorities worked with financial industry associations to incorporate principles of sustainable finance into business activities, as reflected in Singapore’s Guidelines on Responsible Financing in 2015, Cambodia’s Sustainable Finance Principles Statement of Intent in 2016, and Thailand’s Sustainable Banking Guidelines on Responsible Lending in 2019.

Capital markets have been a main focal area for the development of sustainable finance. The release of bond standards has been key in facilitating issuances of green, social and sustainability (GSS) bonds in the region. For example, Malaysia’s Sustainable Responsible Investment Framework led to the first sustainable *sukuk* (a sharia-compliant bond-like instrument) and first green *sukuk* issuances. Incentives to issue GSS bonds have been rolled out, with the Monetary Authority of Singapore’s launch of the world’s first grant schemes to support green and sustainability-linked loans or the Securities and Exchange Commission of Thailand’s waiver of approval and filing fees for GSS bonds. To further signal the commitment to enhancing sustainable debt markets, Indonesia, Malaysia, Singapore, and Thailand have issued sovereign green and sustainability bonds, with the Kingdom of Thailand’s sovereign sustainability bond being the first Thai bond to be listed on the Luxembourg Stock Exchange. Stock exchanges in Singapore and Thailand have also issued guidance on sustainability reporting, improving the transparency of operations, and enhancing the ability for market players to price climate and environment related risks. Across ASEAN, seven stock exchanges have joined the Sustainable Stock

Exchange initiative, a UN Partnership Programme supporting exchanges in enhancing performance on environmental, social and corporate governance (ESG) issues and encouraging sustainable investment.⁴

Regulatory authorities have taken a broader approach, targeting not only capital markets but also the banking and insurance sector. Financial authorities have issued initiatives intended to promote market practices through clear communication to market players with the inclusion of sustainability in strategic directions and industry guidelines, as well as through the issuance of key elements conducive to a sustainable financial system such as standards, taxonomies and disclosure. Financial authorities in Cambodia, Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam have all issued either roadmaps, initiatives, guidelines or action plans relating to the creation of a sustainable finance ecosystem. This includes close coordination between public and private players, the formation of mechanisms to enhance market practice such as a taxonomy or data environment, having effective incentives, as well as the enhancement of human capital. Indonesia and Malaysia have already developed taxonomies while Singapore has issued a consultation paper and Thailand and the Philippines are in the process of developing their own taxonomy frameworks.

Several ASEAN countries have started to develop reporting standards in line with the Financial Stability's Board Task Force on Climate-Related Financial Disclosures (TCFD). In 2020, the Bangko Sentral ng Philipinas (BSP) issued circulars requiring banks to disclose environmental and social risks in their annual reports, while in Malaysia the Joint Committee on Climate Change (JC3) released a TCFD application guide in 2022 outlining key recommendations as a practical resource to facilitate adoption of TCFD recommendations by the Malaysian financial industry.⁵ Thailand, meanwhile, plans to issue disclosure guidelines in line with the TCFD by the end of 2022 and states that it will require domestic systematically important banks to disclose information by 2024 (BOT 2022).

Several supervisors have also begun to assess the risks for financial systems from climate risks and to work on climate stress tests. In 2020, the BSP published a study on the impact of extreme weather episodes on the Philippine banking sector, using evidence from branch-level supervisory data (Bayangos et al. 2020). The study confirmed that extreme weather conditions adversely impact the banks, reflected by negative effects on the growth of deposits and loans, loan quality and profitability. The BSP has also started to work with the World Bank on a pilot climate stress-testing exercise on the banking system.⁶ In 2020, the Monetary Authority of Singapore (MAS) issued guidelines for banks on environmental risk management, including stress testing (MAS 2020).

4 Indonesia Stock Exchange, Bursa Malaysia, Philippine Stock Exchange, Singapore Exchange, Stock Exchange of Thailand, Hanoi Stock Exchange, and Ho Chi Minh Stock Exchange.

5 The JC3 is co-chaired by Bank Negara Malaysia and the Securities Commission Malaysia and comprises Bursa Malaysia and 19 other industry participants.

6 The World Bank and the IMF have conducted climate stress tests for the Philippines' Financial Sector Assessment Program (Regelink, 2019, Hallegatte et al. 2022).

The MAS announced it would incorporate a range of thematic climate scenarios as part of its 2022 industry-wide stress test exercise (MAS 2022a). The Bank of Thailand also plans to run a climate stress test exercise with large financial institutions by the end of 2023 before expanding it to an industry-wide exercise in 2024 (BOT 2022). Bank Negara Malaysia (BNM) has developed an industry-wide climate risk stress testing exercise that it plans to run in 2024 (BNM 2022). In Indonesia, the central bank and financial supervisory authority have also started to work on climate stress tests.

More recently, to increase the impetus for sustainable finance, regulatory elements of sustainable finance are gradually being incorporated into policy frameworks, with a number of countries issuing directives to require financial institutions to integrate environmental and social risk management into their risk management frameworks (Philippines), promoting green property mortgages (Indonesia) or revising Basel Pillar 2 capital rules to include ESG factors in the risk assessment process (Thailand). Vietnam also requested credit institutions to report how they plan to achieve national green growth targets. BNM launched a Low Carbon Transition Facility to encourage and support SMEs to adopt sustainable practices for business resilience.

Although progress in local development of sustainable finance activities has been somewhat affected by the pandemic, there has been a move towards greater collaboration across ASEAN countries and beyond the region as countries emerge from the Covid-19 crisis, with a number of countries signing MOUs with the UK Government and central banks bilaterally engaging with proponents of sustainability practices such as the Banque de France, as seen in the case of the National Bank of Cambodia. The Banque de France also inaugurated its Asia-Pacific Representative Office in Singapore, where collaborative efforts include the area of green finance.

2.2 ASEAN-level initiatives

At the regional level, there has been steady progress in aligning priorities regarding climate change and a formal recognition by finance ministers and central bank governors that the long-term outlook for the region is contingent on how the region manages climate-related risks (AFMGM+3 2022). Although environmental issues have long been a part of ASEAN's agenda, this has been driven by the ASEAN Socio-Cultural Community (ASCC) Blueprint and, due to the specific nature of the issue, discussions have historically been the realm of environment-related agencies. The momentum of climate-related policy discussions by the economic and financial regulators under the economic pillar of ASEAN has built only relatively recently. This, in part, has been fuelled by the membership of seven regulatory bodies from six member countries to the Network of Central Banks and Supervisors for Greening the Financial System (NGFS).⁷

⁷ As of August 2022, seven financial regulators from six ASEAN member countries have joined the NGFS: Bank Indonesia, Bank Negara Malaysia, Bank of Thailand, Bangko Sentral ng Pilipinas, Monetary Authority of Singapore, National Bank of Cambodia, Otoritas Jasa Keuangan (Financial Services Authority Indonesia).

Under the economic pillar, working groups have traditionally been designed to reflect specific areas, namely, capital markets, banking, and insurance. Discussions and initiatives regarding sustainable finance have therefore progressed at different paces in these areas. The ASEAN Capital Markets Forum (ACMF), which comprises the capital markets regulators of all ASEAN countries, has been most active. In 2017, the ACMF released the ASEAN Green Bonds Standards as an effort to nurture this market and facilitate investment into green investments (ACMF 2018a).⁸ It subsequently released the ASEAN Social Bonds Standards (ACMF 2018b) and the ASEAN Sustainability Bonds Standards (ACMF 2018c) in 2018. In 2020, it published the ACMF Roadmap for ASEAN Sustainable Capital Markets and in 2021 the ASEAN SDG Bond Toolkit, which provides guidance on the key principles and processes for the issuance of bonds. These regulatory guidelines have been an important foundation for promoting the issuance of GSS-related bonds in the region and for guiding the direction of capital market development.

Banking and insurance regulators have had a slower start in comparison to their capital market peers. However, work on the development of key elements of a sustainable financial system and the launch of the ASEAN Sustainable Banking Initiative has gained traction, as reflected in the fourth Joint Statement of the ASEAN Finance Ministers' and Central Bank Governor's Meeting (AFMGM) in 2018,⁹ when the topic of sustainable finance was first mentioned (and given its own subsection) (AFMGM 2018). Since then, the subsection reporting on work regarding sustainable finance has expanded significantly and demonstrates that priority has been given to the development of an environment conducive to scaling up sustainable finance. In 2020, the ASEAN central banks published a report on *The Roles of ASEAN Central Banks in Managing Climate and Environment-related Risks*, asserting climate change to be a potential threat to the economy and their responsibilities in addressing sustainability-related issues (Anwar et al. 2020).

As sustainable finance is a cross-cutting issue, several collaborative working committees and task forces dedicated to developing key elements of sustainable finance have been established. One such example is the ASEAN Taxonomy Board, which brings together financial regulators from the capital markets, banking, and insurance sectors. The board was tasked with the development of the ASEAN Taxonomy, which is a principles-based framework designed to allow each member state flexibility to adapt it to their individual country's needs whilst being consistent with regional and global sustainability goals. The ASEAN Taxonomy is supposed to provide clarity as to how financial products should be labelled and will help prevent greenwashing. The first version of the ASEAN Taxonomy was released for public consultation in November 2021 and feedback will be incorporated into later versions of the document (ASEAN Taxonomy Board 2021).

8 The first version was issued in November 2017, the revised version in October 2018. The ASEAN Green Bond Standards are based on ICMA's Green Bond Principles.

9 The AFMGM comprises of ASEAN central bank governors and finance ministers and convenes once a year to receive updates and provide guidance and direction to the working committees in charge of financial policies. A joint statement is released upon conclusion of the meeting.

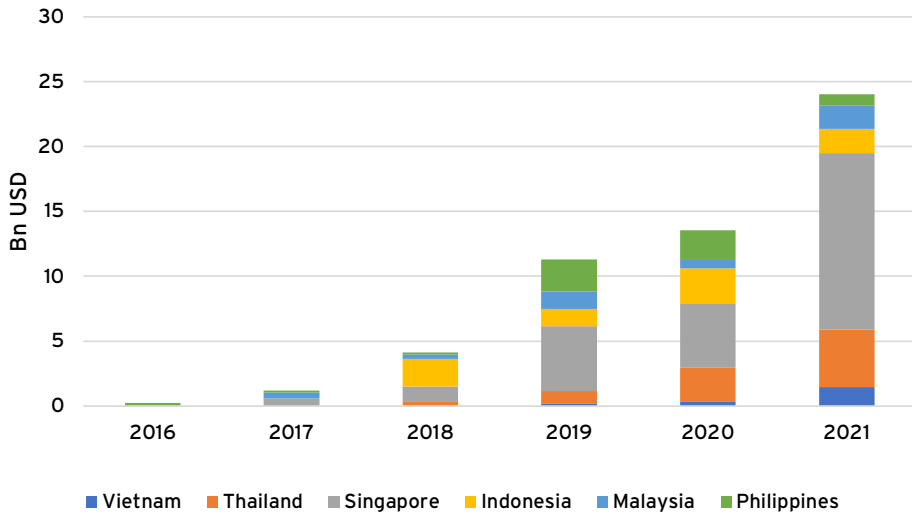
Additionally, as scaling up sustainable finance is dependent on the knowledge base and skillset of human resources, an ASEAN Learning Roadmap and Learning Curriculum on Sustainable Finance for both industry and regulatory players is being developed by the South East Asian Central Banks (SEACEN) Research and Training Centre, in collaboration with SOAS, University of London. Addressing sector-specific needs, the ASEAN Insurance Regulators Meeting (AIRM) is also developing capacity training and priority areas for the ASEAN Insurance Training and Research Institute (AITTRI).

In the next stage of development, as the number of initiatives and task forces increases, an ASEAN Green Map is being developed to ensure that there is a high-level perspective of actions and coordinated alignment in the region across banking, insurance, and capital markets (AFMGM 2022). Moreover, by the end of 2022, ASEAN will also be launching the ASEAN Sustainability Linked Bond Standards. This will complement the existing GSS bonds standards. To facilitate cross-border offerings of ASEAN sustainable and responsible funds through a 'green lane', ASEAN Sustainable and Responsible Fund Standards are also being developed.

3 SUSTAINABLE FINANCE MARKET OVERVIEW

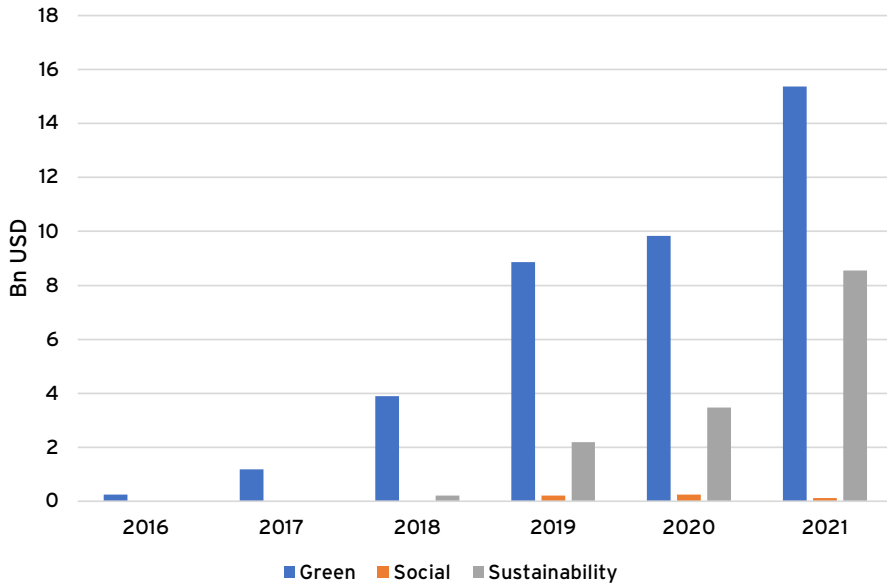
Given the number of policy initiatives in sustainable finance, the key question is how the financial sector has responded and whether these actions are having the desired outcomes and impact. Due to insufficient or inconsistent data across countries, it is a challenge to accurately measure the impact of the sustainable finance initiatives that have been implemented thus far (Augoyard et al. 2022). While there is generally little information regarding green or sustainable bank lending across ASEAN, information is available in the capital markets through the tracking of labelled GSS bonds. ASEAN issuance of GSS bonds as well as labelled GSS loans has grown each year to new record highs, with US\$24 billion of bonds and loans issued in 2021 (Figures 1 and 2) and an additional \$27.5 billion of sustainability-linked bonds and loans (Manuamorn et al. 2022). Green issuances, which is defined as those carrying a variant of the green label or where the net proceeds are verifiably green, account for 63.9% of all GSS issuances in ASEAN, followed by sustainability issuances with 35.5%. It is interesting to note that whilst sovereign issuances focused more on social and sustainability issues, non-financial corporate issuances mostly focused on green issuances (Manuamorn et al. 2022), with Singapore having the most GSS issuances within ASEAN (Figures 3 and 4).

FIGURE 1 ASEAN-6 ANNUAL GSS ISSUANCE, 2016-2021

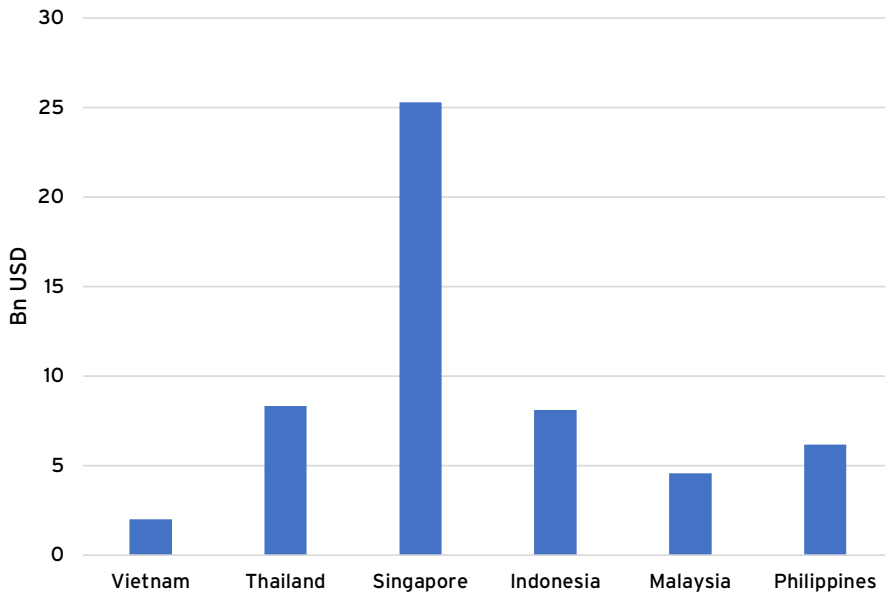


Source: Manuamorn et al. (2022).

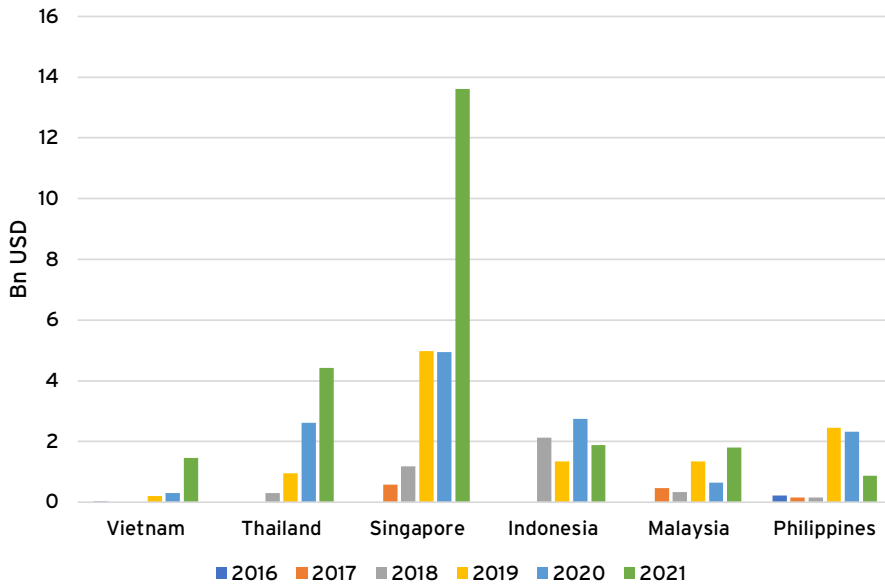
FIGURE 2 ASEAN-6 GSS ISSUANCES BY TYPE, 2016-2021



Source: Manuamorn et al. (2022).

FIGURE 3 CUMULATIVE ASEAN GSS ISSUANCES BY COUNTRY BY END-2021

Source: Manuamorn et al. (2022).

FIGURE 4 ANNUAL GSS ISSUANCE IN ASEAN-6 COUNTRIES, 2016-2021

Source: Manuamorn et al. (2022).

With regards to the banking sector, several surveys – including the most recent Sustainable Banking Assessment conducted by WWF Singapore, which surveyed 36 ASEAN banks (Nordheim et al. 2022) – demonstrate significant progress in the awareness and adoption of sustainable practices across the financial sector. Industry-issued guidelines on adopting sustainable finance practices demonstrate a general commitment to enhancing sustainable finance especially in Cambodia, Malaysia, Singapore and Thailand.

In Singapore, the MAS conducted a review of selected banks in 2021 to assess the pace of implementation as well as to benchmark practices, revealing different levels of maturity in environmental risk management practices (MAS 2022). This is similar in Thailand, where a few banks have taken concrete steps to incorporate sustainability into their business strategy. This includes the setting up of clear governance structures with dedicated sustainability committees, development of risk assessment tools and disclosure of ESG standards (Suthiwartnarueput 2021). Nevertheless, more progress needs to be achieved in this area and both Singapore and Thailand have issued consultative and directional papers detailing further steps.

Another indicator that reflects financial institutions' adoption is their commitment to international standards or principles. To date, only seven financial institutions from five countries in ASEAN – Indonesia (1), Malaysia (2), Myanmar (1), Philippines (1), and Thailand (2) – have signed up to the Principles of Responsible Banking (PRB), which is a framework created by the United Nations Environment Programme Finance Initiative (UNEP FI) to ensure that signatories' strategies and practices are in line with the Sustainable Development Goals and the Paris Agreement. With the exemption of Singapore, there is also only a small number of investors across ASEAN countries who have signed up to the UN Principles for Responsible Investment¹⁰ – Brunei Darussalam (1), Indonesia (5), Malaysia (15), Singapore (65), Thailand (3), and Vietnam (4).

4 POLICY CHALLENGES AND RECOMMENDATIONS

Sustainable finance frameworks – including for standards, taxonomies and disclosure – are being developed in most ASEAN countries, and most central banks and supervisors in the region have started to examine climate-related financial risks (Volz 2021). ASEAN banking and capital markets have also started to consider ESG risks and impacts, although sustainable lending and investment is still niche. And while progress has been made in fostering sustainable finance across ASEAN countries, progress is uneven and substantial challenges remain even in those jurisdictions that have advanced sustainable finance the most.

10 See <https://www.unpri.org>

Five out of the eight members that participated in a survey of ASEAN member states on challenges to addressing climate change conducted by the ASEAN Taxonomy Board (2021) highlighted a lack of funding and technical capacity gaps as the two biggest challenges, followed by a general lack of awareness and data. A recent survey by the Economic Research Institute for ASEAN and East Asia among borrowers and lenders on the barriers and risks that the private sector faces in scaling up low-carbon investments highlighted “incoherent policies that created a high-risk environment for investment, a lack of access to de-risking mechanisms, and insufficient capacity to communicate the opportunities amongst financial institutions and project developers” (Anbumozhi et al. 2019: i). Banks surveyed in Singapore cited a lack of readily available data that are reliable and comparable and robust methodologies to quantify financial impact, as well as a shortage of staff skilled in sustainable finance as major impediments to scale up sustainable finance (MAS 2022). It should be noted that Singapore has by far the most sophisticated financial sector in ASEAN, and that shortages in staff capacities for analysing sustainability risks and impacts are significantly larger in the other ASEAN countries, as is the lack of easily accessible and reliable data on ESG risks and impacts.

A substantial need for capacity building and training among central banks and financial supervisors in the region was also revealed in the second Asia Pacific Central Bank Sustainability Survey (Augoyard et al. 2022). Encouragingly, the survey, in which 26 central banks and supervisors across the Asia Pacific region took part in 2021, showed that considerably more attention is being paid to sustainability challenges compared to 2019, when the first survey was conducted (Durrani et al. 2020). However, while the survey showed that most central banks and supervisors in the region were planning to expand the roll-out of sustainable finance measures, it revealed major needs for capacity building and training to enable central banks and supervisors to adequately respond to the sustainability challenge. Developing the appropriate expertise among staff will be critical to ensuring that the right measures are implemented, and that central banks and supervisors can play their crucial roles in safeguarding macroeconomic and financial stability and supporting the transition to a low-carbon, resilient and more sustainable economy. Capacity building in both the private and the public sector regarding sustainability risks and impacts hence needs to be a priority. The less developed ASEAN countries in particular will benefit from international technical assistance and regional cooperation.

A further priority ought to be developing enabling policy and framework conditions in both the real economy and the financial sector to overcome existing barriers to facilitating investment in low-carbon, climate-resilient infrastructure. This will require unprecedented coordination between all stakeholders, including government, central banks and supervisors, finance sector associations and industry associations. Appropriate governance structures, laws and regulations need to be put in place, and better data frameworks need to be established that will enable access to relevant data so that both financial firms and supervisors can better assess sustainability risks and impacts and

formulate adequate policies and strategies for scaling up sustainable finance. To this end, the ASEAN central banks and supervisors should work together to harness the potential of digital technologies for mainstreaming sustainable finance practices (Dikau et al. 2022). In particular, they can help develop a better regional data infrastructure, for example through innovating open data platforms and open-source base algorithms, as well as through digital disclosure and reporting requirements.

REFERENCES

- ACMF – ASEAN Capital Markets Forum (2018a), *ASEAN Green Bond Standards*.
- ACMF (2018b), *ASEAN Social Bond Standards*.
- ACMF (2018c), *ASEAN Sustainability Bond Standards*.
- AFMGM – ASEAN Finance Ministers’ and Central Bank Governors’ Meeting (2018) “Joint Statement of the 4th ASEAN Finance Ministers’ and Central Bank Governors’ Meeting”, 6 April.
- AFMGM (2022), “Joint Statement of the 8th ASEAN Finance Ministers’ and Central Bank Governors’ Meeting (AFMGM)”, 8 April.
- AFMGM+3 – ASEAN+3 Finance Ministers’ and Central Bank Governors’ Meeting (2022), “Joint Statement of the 25th ASEAN+3 Finance Ministers’ and Central Bank Governors Meeting”, 12 May.
- Anbumozhi, V, M Locastro, D David, D Lutfiana and T F Rakhmah (2019), “Unlocking the Potentials of Private Financing for Low-carbon Energy Transition: Ideas and Solutions from ASEAN Markets”, ERIA Discussion Paper No. 313, Economic Research Institute for ASEAN and East Asia.
- Anwar, R S, M Mohamed, S M Hamzan et al. (2020), *Report on the Roles of ASEAN Central Banks in Managing Climate and Environment-related Risks*, ASEAN Central Banks and Monetary Authorities.
- ASEAN Taxonomy Board (2021), *ASEAN Taxonomy for Sustainable Finance, Version 1*.
- Augoyard, S, A Durrani, A Fenton and U Volz (2022), “Assessing the Effectiveness and Impact of Central Bank and Supervisory Policies in Greening the Financial System across the Asia-Pacific. Findings from the Second APAC Central Bank Sustainability Survey 2021”, IFC Bulletin No. 56, Bank for International Settlements.
- Bayangos, V B, R A D Cachuela and F L E Del Prado (2020), “Impact of Extreme Weather Episodes on the Philippine Banking Sector: Evidence Using Branch-Level Supervisory Data”, BSP Working Paper No. 2020-03, Bangko Sentral ng Philipinas.
- Beirne, J, N Renzhi and U Volz (2021), “Bracing for the Typhoon: Climate Change and Sovereign Risk in Southeast Asia”, *Sustainable Development* 29(3): 537-551.

BNM – Bank Negara Malaysia (2022), “2024 Climate Risk Stress Testing Exercise”, Discussion Paper.

BOT – Bank of Thailand (2022), “Transitioning towards Environmental Sustainability Under the New Thai Financial Landscape”, BOT Directional Paper on Financial Landscape.

Dikau, S and U Volz (2021), “Central Bank Mandates, Sustainability Objectives and the Promotion of Green Finance”, *Ecological Economics* 184, 107022.

Dikau, S, M Haahr and U Volz (2022), “Harnessing the Potential of Digital Finance for Financing Sustainable Development”, in D Schoenmaker and U Volz (eds), *Scaling Up Sustainable Finance and Investment in the Global South*, CEPR Press.

Durrani, A, M Rosmin and U Volz (2020), “The Role of Central Banks in Scaling Up Sustainable Finance – What Do Monetary Authorities in the Asia-Pacific Region Think?”, *Journal of Sustainable Finance & Investment* 10(2): 92-112.

Hallegatte, S, F Lipinsky, P Morales, H Oura, N Ranger, M G J Regelink and H J Reinders, H.J. (2022), “Bank Stress Testing of Physical Risks under Climate Change Macro Scenarios: Typhoon Risks to the Philippines”, IMF Working Paper 2022/163.

Manuamorn, O, P M Nguyet and K Tukiainen (2022), *ASEAN Sustainable Finance State of the Market 2021*, Climate Bonds Initiative.

MAS – Monetary Authority of Singapore (2020), *Guidelines on Environmental Risk Management (Banks)*.

MAS (2022), *Information Paper on Environmental Risk Management (Banks)*.

Morgan, P J and L Q Trinh (2021), “Impacts of COVID-19 on Households in ASEAN Countries and Their Implications for Human Capital Development”, ADBI Working Paper No. 1226, Asian Development Bank Institute.

Nordheim, A, A Sharma and E Goh (2022), *Sustainable Banking Assessment 2021*, WWF Singapore.

Regelink, M G J (2019), *Philippines Financial Sector Assessment Program: Climate Change and Environmental Risks and Opportunities*, World Bank.

Suthiwartnarueput, S (2021), “Creating a Resilient Future with Sustainable Banking”, speech from Sustainable Thailand 2021, 27 September.

Volz, U (2019), “Fostering Green Finance for Sustainable Development in Asia”, in U Volz, P J Morgan and N Yoshino (eds), *Routledge Handbook of Banking and Finance in Asia*, Routledge, pp 488-504.

Volz, U (2021), “Governing Sustainable Finance”, *Asian Bond Monitor*, June.

Volz, U, J Beirne, N Ambrosio Preudhomme, A Fenton, E Mazzacurati, N Renzhi and J Stampe (2020), *Climate Change and Sovereign Risk*, SOAS University of London, Asian Development Bank Institute, World Wide Fund for Nature Singapore, Four Twenty Seven.

ABOUT THE AUTHORS

Swisa Ariyapruchya is currently Section Head of Sustainability at the Puey Ungphakorn Institute for Economic Research (PIER), Bank of Thailand. Prior to joining PIER, she was Deputy Director of the Sustainable Banking Division at the Bank of Thailand and has worked in a broad range of central banking functions including Financial Landscape Development, Financial Inclusion, Financial Liberalization, and the Financial Markets. She holds an M.B.A. in Finance and Strategic Management from SASIN Graduate Institute of Business Administration, Chulalongkorn University and a bachelor's degree in Economics and Political Science from the University of Pennsylvania.

Ulrich Volz is Professor of Economics and Director of the Centre for Sustainable Finance at SOAS, University of London. He is also a Senior Research Fellow at the German Institute of Development and Sustainability (IDOS), a Visiting Professor at the London School of Economics and Political Science (LSE), and an Honorary Professor at the University of Leipzig. He is a member of the CEPR Sustainable Finance Research and Policy Network and serves on the Sustainable Finance Advisory Committee of the German Federal Government and on the Advisory Panel of the Glasgow Financial Alliance for Net Zero. He was a member of the NGFS-INSPIRE Study Group on Biodiversity and Financial Stability and has acted as an advisor to several governments, central banks, international organisations and development agencies on matters of macroeconomic policy, sustainable finance and development.

ANNEX 1 SUSTAINABLE FINANCE POLICIES ACROSS SOUTHEAST ASIA

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| Brunei Darussalam | |
| 2016 | Autoriti Monetari Brunei Darussalam publishes Financial Sector Blueprint 2016-2025 |
| 2020 | Autoriti Monetari Brunei Darussalam establishes Sustainable Finance Task Force (SFTF) Ministry of Finance and Economy publishes "Towards a Dynamic and Sustainable Economy: Economic Blueprint for Brunei Darussalam" |
| Cambodia | |
| 2016 | Association of Banks in Cambodia (ABC) becomes member of the Sustainable Banking Network, issues Cambodian Sustainable Finance Principles-Statement of Intent and launches the Cambodian Sustainable Finance Initiative (CSFI) |
| 2017 | ABC signs a multi-party MoU with IFC and Mongolian Bankers Association to advance the concept of sustainable finance through a collaborative industry process and establishes the Sustainable Finance Committee |
| 2018 | ABC establishes the Sustainable Working Group to develop implementation guidelines |
| 2019 | ABC launches Cambodian Sustainable Finance Principles Implementation Guidelines (endorsed by the National Bank of Cambodia and Ministry of the Environment and adopted by 48 member banks) |
| 2020 | ABC conducts Banking Industry Survey on Sustainable Finance, runs training programme, and signs an MoU with the American Chamber of Commerce (AmCham) to promote sustainable finance National Bank of Cambodia joins the NGFS |
| 2022 | National Bank of Cambodia signs Memorandum of Cooperation with the Banque de France to promote capacity building in key areas of central banking expertise and sound financial systems |
| Indonesia | |
| 1998 | Bank Indonesia (BI) requires banks to conduct environmental impact assessments for large or high risk loans |
| 2005 | BI issues regulation on Asset Quality Rating for commercial banks requiring inclusion of environmental measures in assessments of business prospects |
| 2012 | Government issues Government Regulation on Social and Environmental Responsibility of Limited Liability Companies Otoritas Jasa Keuangan (OJK)/ Financial Services Authority becomes a founding member of the Sustainable Banking Network |
| 2013 | BI publishes Green Lending Model Guidelines for Mini Hydro Power Plant Projects |
| 2014 | OJK publishes Roadmap for Sustainable Finance in Indonesia 2015-2019 |
| 2015 | IFC, USAID, OJK publish Clean Energy Handbook for Financial Service Institutions OJK publishes Roadmap for Sustainable Finance in Indonesia 2015-2019 |

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| 2017 | <p>OJK introduces Sustainable Finance Umbrella Policy to provide guidance for definition and principles of sustainable finance as well as an action plan for banking, capital markets and non-banking sectors.</p> <p>OJK publishes a framework and regulation for green bond issuance in Indonesia</p> <p>OJK publishes Regulation on the Application of Sustainable Finance for Financial Services Companies, Issuers and Publicly Listed Companies to provide funding sources needed to achieve SDGs and to address climate change</p> <p>OJK establishes the Bali Center for Sustainable Finance to support sustainable development programme</p> |
| 2018 | <p>OJK and WWF establish the Indonesia Sustainable Finance Initiative (ISFI) to promote and implement inclusive sustainable finance practices</p> <p>OJK launches technical guidelines for banks on the implementation of OJK's Regulation on Sustainable Finance</p> <p>Government issues first sovereign global green sukuk (\$1.25billion)</p> |
| 2019 | <p>BI introduces policy on relaxation of the loan to value (LTV) for green property mortgages to provide incentives to facilitate the purchase of environmentally friendly properties</p> <p>Government issues second global green sukuk</p> <p>BI joins the NGFS</p> |
| 2020 | <p>OJK launches incentives to increase electric vehicle financing</p> <p>OJK joins the NGFS</p> <p>Indonesia Stock Exchange launches IDX ESG Leaders Index</p> |
| 2021 | <p>Indonesian G20 Presidency establishes Sustainable Finance Working Group (SFWG) with the Ministry of Finance and BI</p> <p>OJK launches the Sustainable Finance Roadmap Phase II (2021-2025) to accelerate the sustainable transformation of the financial services sector and establishment of sustainable finance task force</p> <p>OJK launches the Indonesia Banking Development Roadmap (2020-2025), Indonesia Financial Services Sector Masterplan (2021-2025) and the Indonesia Islamic Banking Development Roadmap (2020-2025)</p> <p>OJK publishes technical guidelines for securities companies</p> <p>OJK issues statement in support of the NGFS Glasgow Declaration</p> |
| 2022 | <p>Green Central Bank Framework</p> <p>OJK launches Indonesia Green Taxonomy Edition 1.0 to classify sustainable financing and investment activities</p> <p>Government issues regulation on the carbon market</p> |
| Lao PDR | |
| 2012 | Bank of Lao PDR becomes founding member of the Sustainable Banking Network |
| 2016 | Integration of sustainable finance policy into the National Green Growth Strategy of the Lao PDR till 2030 |
| Malaysia | |
| 2014 | <p>Launch of the Sustainable Responsible Investment (SRI) Framework</p> <p>Bursa Malaysia & FTSE Russell launch the FTSE4Good Bursa Malaysia Index</p> |

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| 2015 | First sustainable Sukuk launched |
| 2017 | First green Sukuk launched |
| 2018 | Bank Negara Malaysia (BNM) issues guidance to help Islamic banking institutions with implementation of value-based intermediation to create positive social impacts BNM joins the NGFS Bursa Malaysia issues Sustainability Reporting Guide |
| 2019 | BNM and the Securities Commission of Malaysia (SC) established the Joint Committee on Climate Change (JC3), a collaboration among industry players and regulators SC issues the Sustainable and Responsible Investment Roadmap BNM issues Value-based Intermediation Financing and Investment Impact Assessment Framework to guide implementation of impact-based risk management system and serves as a reference for incorporation of ESG risk considerations |
| 2020 | BNM issues Value-based Intermediation Financing and Investment Impact Assessment Framework Sectoral Guides on Palm Oil, Renewable Energy and Energy Efficiency BNM starts pilot implementation of a Climate Change and Principles-Based Taxonomy Capital Markets Malaysia (CMM) and Global Compact Network launch the Global Compact Network Malaysia Centre of Excellence (CoE) CMM launches the Malaysian Sustainable Finance Initiative (MSFI) to support capacity development for Malaysia's financial sector |
| 2021 | SC launches five-year capital market masterplan BNM publishes the Climate change and Principle-Based Taxonomy (CCPT) BNM provides support for the NGFS Glasgow Declaration MOF issues US\$800 million 10-year trust certificates as the world's first sovereign USD sustainability sukuk with proceeds used exclusively for green projects |
| 2022 | World Bank and BNM issue joint report on "An Exploration of Nature-Related Financial Risks in Malaysia" BNM launches a Low Carbon Transition Facility to encourage and support SMEs to adopt sustainable practices for business resilience JC3 releases the Task Force on Climate-related Financial Disclosures (TCFD) Application Guide for Malaysian Financial Institutions UK and Malaysia sign MOU to strengthen cooperation on climate and biodiversity action SC launches the Sustainable and Responsible Investment Linked (SRI-linked) Sukuk Framework to facilitate fundraising by companies addressing sustainability concerns BNM releases discussion paper outlining a framework for a climate risk stress testing exercise to take place in 2024 covering licensed banks and insurers |
| Myanmar | |
| 2019 | Government publishes the Myanmar Climate Change Strategy (2018-2030) coordinated by the Ministry of Natural Resources and Environmental Conservation with finance prioritised as an action area |
| Philippines | |
| 2008 | Government of Philippines publishes National Disaster Risk Reduction and Management Law |

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| 2011 | Securities and Exchange Commission issues Corporate Governance Guidelines for Companies Corporate Responsibility Act updated |
| 2013 | Bangko Sentral ng Philipinas (BSP) and Department of Environmental and Natural Resources of the Philippines join the Sustainable Banking Network |
| 2015 | Government of Philippines joint Catastrophe Risk Insurance Facility for Governments (Local Government Units Pool) |
| 2016 | Government issues Philippine Green Jobs Act to provide incentives to businesses that generate green jobs |
| 2018 | SEC adopts the ASEAN Green Bond Standards and issues Guidelines on the Issuance of Sustainability Bonds for the Philippines |
| 2019 | SEC issues Sustainability Reporting Guidelines for Publicly Listed Companies and Guidelines on the Issuance of Social Bonds and Sustainability Bonds BSP adopts the Sustainable Central Banking Program as one of its corporate strategies |
| 2020 | BSP issues a Sustainable Finance Framework requiring banks to integrate environmental and social risk management in their risk management frameworks BSP publishes study on the 'Impact of Extreme Weather Episodes on the Philippine Banking Sector: Evidence Using Branch-Level Supervisory Data' BSP joins the NGFS |
| 2021 | The Philippines Inter-Agency Technical Working Group for Sustainable Finance (ITSF) issues the Sustainable Finance Roadmap and Sustainable Finance Guiding Principles BSP issues Environment and Social Risk Management Framework |
| Singapore | |
| 2010 | Singapore Stock Exchange (SGX) publishes 'Guide to Sustainability Reporting for Listed Companies' |
| 2015 | Association of Banks in Singapore publishes Guidelines on Responsible Financing |
| 2017 | Monetary Authority of Singapore (MAS) launches Green Bond Grant Scheme to enable issuers to offset the additional costs of issuing green bonds MAS becomes founding member of the NGFS |
| 2019 | MAS expands scope of the Green Bond Grant Scheme to include social and sustainability bonds and renamed scheme as Sustainable Bond Grant Scheme (SBGS) MAS and UK sign agreements to deepen 1) connectivity between the financial centres 2) agree on a Partnership Arrangement on UK's Green Finance Initiative and 3) collaborate on skill development for financial services professionals with the Institute of Banking and Finance Singapore MAS sets up a US\$2billion green investments programme (GIP) to invest in public market investment strategies that have a strong green focus |

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| 2020 | <p>MAS publishes Green Finance Action Plan and three Guidelines on Environmental Risk Management for financial institutions (Guidelines on Environmental Risk Management for Banks, Guidelines on Environmental Risk Management for Insurers, and Guidelines on Environmental Risk Management for Asset Managers) and launches the MAS Global FinTech Innovation Challenge</p> <p>MAS expands SBGS with launch of world's first grant scheme to support green and sustainability-linked loans</p> <p>MAS launches Project Greenprint to deploy technology at different states of the supply chain to better monitor commitment to relevant green standards and requirements</p> <p>MAS, Singapore Management University and Imperial College Business School launch Singapore Green Finance Center (SGFC) as a centre of excellence to drive Asia-focused green finance research and talent development</p> |
| 2021 | <p>Green Finance Industry Taskforce (GFIT) issues 1) a detailed implementation guide for climate related disclosures by financial institutes serving as a framework to help banks assess eligible green trade finance transactions 2) a framework for green trade financing and working capital as a principle-based approach for banks to assess eligible green finance transactions 3) a whitepaper on scaling green finance in the real estate, infrastructure, fund management and transition sectors</p> <p>MAS partners with the industry to pilot four digital platforms under Project Greenprint: 1) Greenprint Common Disclosure Portal, 2) Greenprint Data Orchestrator, 3) Greenprint ESG Registry, 4) Greenprint Marketplace</p> <p>SGX launches Climate Impact X (CIX), a global carbon exchange and marketplace focused on carbon credits from nature-based solutions</p> |
| 2022 | <p>MAS Managing Director Ravi Menon appointed as new chair of the NGFS</p> <p>MAS publishes information papers on Environmental Risk Management for banks, insurers, and asset managers provide an overview of the progress made in implementing the Guidelines</p> <p>Government issues inaugural 50-year sovereign green bond</p> <p>GFIT publishes consultation paper on Green and Transition Taxonomy (2nd version)</p> <p>Government publishes Singapore Green Bond Framework for sovereign green bond issuances detailing intended use of green bond proceeds, governance structure, operational approach and commitment to post issuance allocation and reporting</p> <p>MAS publishes Sustainability Report 2021/2022 setting out strategy on climate resilience and environmental sustainability</p> |
| Thailand | |
| 2012 | <p>Stock Exchange Thailand (SET) and Securities and Exchange Commission of Thailand (SEC) publish Guidelines for Sustainability Reporting</p> <p>Thai Bankers Association becomes founding member of the Sustainable Banking Network</p> |
| 2013 | <p>SET issues Practice Guidelines for each industry group and encouraged listed firms to join the DJSI sustainability assessment</p> |
| 2014 | <p>SET publishes CSR Reporting Requirements</p> <p>SET joins UN Sustainable Stock Exchanges (SSE) Initiative as the first exchange in ASEAN committed to promoting sustainability in its capital markets</p> <p>SEC publishes Sustainability Development Roadmap for Listed Companies</p> |

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| 2018 | <p>SET launches SETTHSI Index</p> <p>SET issues Corporate Sustainability Guide for Thai Listed Companies</p> <p>SET & SEC: Enhanced ESG Disclosure Standards through 56-1 One Report</p> |
| 2019 | <p>Bank of Thailand (BOT) becomes a NGFS member</p> <p>BOT establishes working group with the Thai Banker's Association (TBA) and the TBA issues Sustainable Banking Guidelines on Responsible Lending</p> <p>IFC and BOT sign MoU to Accelerate Sustainable Finance in Thailand</p> <p>SEC issues Sustainability Development Roadmap for development of a sustainable finance ecosystem</p> <p>MOF, BOT, SEC, OIC and SET establishes Working Group on Sustainable Finance (WG-SF) under the Three Regulators Steering Committee</p> |
| 2020 | <p>MOF publishes the Sustainable Financing Framework and launches the Kingdom of Thailand's (KOT) Inaugural 15-year Sovereign Sustainability Bond worth USD3.45bn with KOT as first Thai issuer to be listed on LuxSE</p> <p>SEC publishes guidelines for issuing Green, Social and Sustainability bonds</p> <p>BOT announces sustainability as an integral part of all operations and as a strategic Challenge of the Bank's Strategic Plan 2020-2022</p> <p>Association of International Banks (AIB) sign onto the Sustainable Banking Guidelines on Responsible Lending</p> <p>BOT signs MoU with UK government, including consideration for the environment and risks from climate change</p> <p>SEC signs MoU with UK government to promote inclusive economic growth in the financial services sector</p> |
| 2021 | <p>WG - SF publishes Sustainable Finance Initiatives for Thailand</p> <p>BOT makes Sustainability Commitment in Support of the NGFS Glasgow Declaration</p> <p>BOT publishes revised Pillar 2 capital rules to include environmental, social and governance (ESG) factors in the risk assessment process (effective as of January 1, 2022)</p> <p>SEC publishes comprehensive guidance on issuance of sustainability-focused bonds</p> |
| 2022 | <p>BOT includes sustainable finance as part of the consultation paper on 'Repositioning Thailand's Financial Sector for a Sustainable Digital Economy'</p> <p>BOT issues directional paper on 'Transitioning towards Environmental Sustainability Under the New Thai Financial Landscape'</p> <p>TBA launches ESG declaration, a strong collective commitment to expediting sustainable development toward better and greener economy</p> |
| Viet Nam | |
| 2012 | <p>State Bank of Vietnam (SBV) and Vietnam Ministry of Natural Resources & Environment become founding member of the Sustainable Banking Network</p> |
| 2013 | <p>State Securities Commission of Vietnam (SSC) and IFC publish Handbook on Sustainability Reporting</p> |
| 2015 | <p>SBV issues Directive on Promoting Green Credit Growth and Managing Environmental and Social Risks in Credit Extension</p> <p>SBV publishes Action Plan of Banking Sector to Implement the National Green Growth Strategy until 2020</p> |

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| 2016 | SBV issues Circular on lending transactions of credit institutions and/or foreign bank branches with customers |
| 2017 | SBV renews commitment to implementing the Green Growth program and the program of preventing climate change SSC and Ho Chi Minh Stock Exchange (HOSE) and German International Cooperation (GIZ) launch Sustainable Development Index (VNSI) |
| 2018 | SBV publishes Green Banking Development Scheme and Action Plan of the banking sector as well as Handbook on Environmental and Social Risk Assessment for specific sectors Government issues Decree on Government Debt instruments, Corporate Bond Issuance including green bonds and Strategy to Develop the Banking Industry in Vietnam to 2025 which incorporates green credit development |
| 2019 | SSC develops Vietnam Corporate Governance Code of Best Practices (voluntary for public companies) |
| 2020 | Ministry of Finance issues circular providing guidelines on disclosure of information on the securities market, which require ESG reporting requirements for public and listed companies in Vietnam SBV issues official letter requesting credit institutions to report on how they plan to achieve national green growth targets |
| 2021 | SSC issues guidelines on 'How to Issue Green Bonds, Social Bonds, and Sustainability Bonds' |

Source: Compiled by authors, building on Volz (2019) and Dikau and Volz (2021).

ANNEX 2 ASEAN SUSTAINABLE FINANCE INITIATIVES

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| 2017 | ASEAN Capital Market Forum (ACMF) issues the ASEAN Green Bond Standards |
| 2018 | ACMF issues the ASEAN Social Bond Standards and ASEAN Sustainability Bond Standards |
| 2019 | ASEAN central banks establish a Taskforce on the Roles of Central Banks in Managing Climate and Environment-Related Risks to study the roles of central banks in managing climate and environment-related financial and macroeconomic risks |
| 2020 | <p>ASEAN Committee on Capital Market Development (WC-CMD) releases Report on Promoting Sustainable Finance in ASEAN</p> <p>ACMF publishes ACMF Roadmap for ASEAN Sustainable Capital Markets to provide actionable recommendations with strategic direction</p> <p>Task Force publishes Report on the Roles of ASEAN Central Banks in Managing Climate and Environment-Related Risks</p> |
| 2021 | <p>Taskforce established to study how ASEAN members can implement sustainable banking principles and the ASEAN Sustainable Banking Principles Initiative is approved</p> <p>Establishment of ASEAN Taxonomy Board, a close coordination between the ACMF, ASEAN Insurance Regulator's Meeting (AIRM), the Senior Level Committee on Financial Integration (SLC) and the WC-CMD</p> <p>Release of the ASEAN Taxonomy for Sustainable Finance - Version 1 and the ASEAN SDG Bond Toolkit: A Practical Guide to Issuing SDG bonds in ASEAN</p> |
| 2022 | <p>ADB and UK sign MOU to develop a US\$ 134 million trust fund to support ASEAN countries to scale up green financing: The UK-ASEAN Catalytic Green Finance Facility (ACGF) Trust Fund will leverage funds from the ASEAN Infrastructure Fund to accelerate green infrastructure in the region and help design governments stimulus programmes through the ACGF Green Recovery Fund</p> <p>Consultation on ASEAN Sustainable and Responsible Fund Standards and continued development of ASEAN Sustainability Linked Bond Standards</p> <p>Establishment of two workstreams under the Senior Level Committee Task Force (SLC-TF) to follow-up on the priority areas of capacity building for sustainable finance and the development of an ASEAN Green Map</p> <p>Development of an ASEAN Learning Roadmap and Learning Curriculum on Sustainable Finance by the South East Asian Central Banks (SEACEN) Research and Training Centre jointly with the Centre for Sustainable Finance at SOAS, University of London to provide ASEAN central banks and regulators with insights into the tools and approaches to assess and monitor environmental risk; design appropriate mitigation measures; and support the scaling up of sustainable finance</p> |

Source: Compiled by authors.

